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# Salesforce Spring '17 Release Notes

Salesforce, Spring '17

Blaze a trail to your customers





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# SALESFORCE SPRING '17 RELEASE NOTES

Spring '17 brings lots of your most-requested Lightning Experience usability enhancements to make your users even happier. We've built artificial intelligence right into the platform with Salesforce Einstein—try it out in the Sales cloud! Service Console, Knowledge, and reports and dashboards benefit from a bolt or two of Lightning. Community workspaces make your community management tasks even easier, and you can fine-tune your customizations and roll out new apps faster than ever. And we've got lots of new Trailhead content to help you and your users get the most of your Salesforce experience.

## IN THIS SECTION:

### [How to Use These Release Notes](#)

Our release notes offer brief, high-level descriptions of enhancements and new features. We include setup information, tips to help you get started, and best practices to ensure your continued success.

### [How and When Do Features Become Available?](#)

Some features in Spring '17 affect all users immediately after the release goes live. Consider communicating these changes to your users beforehand so that they're prepared. Other features require direct action by an administrator before users can benefit from the new functionality.

### [Supported Browsers](#)

Supported browsers for Salesforce vary depending on whether you use Salesforce Classic or Lightning Experience.

### [Salesforce Overall: Favorites, Console Apps, and More Actions](#)

Spring '17 gives you more reasons to love Lightning Experience. Customize your navigation experience with favorites, see multiple records on one screen with console apps, and access more global actions from anywhere in Lightning Experience.

### [Lightning Experience: A Modern and Intelligent User Experience](#)

Lightning Experience is a completely reimaged interface. Even better, it's built on our UI platform, so the experience can grow and evolve with your needs. Check out the new features and considerations in this release.

### [Salesforce Einstein: The World's Smartest CRM with Artificial Intelligence \(AI\) for Everyone](#)

Salesforce Einstein is AI built into the Salesforce platform. It delivers advanced AI capabilities to sales, service, marketing, and communities—and enables anyone to use clicks or code to build AI-powered apps that get smarter with every interaction. Now, everyone in every role and industry can use AI to be their best.

### [Sales: Artificial Intelligence, Expanded Sales Path, and Smarter Email](#)

Deliver high-impact Lightning Experience features that keep sales teams laser-focused on the leads and deals most likely to generate sales. Help reps develop strong customer relationships and integrate their email and calendars with Microsoft—and now with Gmail. For added productivity, your reps can prioritize calls and easily manage records using Kanban in even more ways.

### [Data.com: A New Name and New Features](#)

Data.com Clean rules are now called data integration rules, and they're more powerful and customizable. Rules now update non-US annual revenue data and picklist-based location data. When a data service receives new data, it refreshes your data too. Improve updates from data services by customizing mapping for data matching and updating.

### [Service: Lightning Hits the Console and Knowledge; Field Service Comes to iOS](#)

Zap! Lightning Experience has hit the Service Console. Enjoy its streamlined UI and the ease of customizing it with the drag-and-drop Lightning App Builder. Knowledge also gets a Lightning charge, with a unified Knowledge tab and standard record types replacing custom articles types. Field service comes to your technicians with an iOS app. And Open CTI comes to Lightning Console Apps, while Desktop CTI takes its final bow.

### [Analytics: Lightning Enhancements, One-Stop Data Manager, Personal Wave Home, New Charts, and More](#)

Drive decisions with insights from reports and dashboards and Wave Analytics. Lightning Experience reports and dashboards offer report subscriptions, dashboard sharing and following, and chart enhancements. Wave gets personal with one-stop shopping in Data Manager, the new personalized Wave home page, custom app navigation, new chart types, and much more.

### [Communities: Community Workspaces, Criteria-Based Audiences, Mobile Actions, and More](#)

The cool breeze of Spring '17 blows in some significant changes for Communities—from refreshed tools to fresh components. Community Workspaces centralizes access to *all* the tools you use to build, moderate, and manage your community, and Community Builder gives you more room to work. With criteria-based audiences, you can assign location and record type criteria to page variations to hit your target audience. And mobile actions make it easy to create, edit, and update Salesforce records directly from your mobile device.

### [Chatter: Company Highlights Feed, Create Custom Feeds, Customize Groups](#)

We redesigned the Chatter home page in Lightning Experience to give you more of what you want—customization. We introduced the Company Highlights feed, the ability to create your own feeds with streams, a list of your recently updated groups, and a way to share posts. You can also create custom groups for any use case and filter questions in group feeds in communities and Lightning Experience.

### [Files: Folders in Libraries \(Beta\), Attach Salesforce Files to Records, and Rename Files from the Related List](#)

We enhanced the files experience to get you more functionality with less friction. Freshen up your libraries by organizing your library files into folders (beta). Use Apex to customize file downloads for security and tracking. Work faster and better in Lightning Experience by attaching and renaming files right from the Files related list.

### [Mobile: Do More on the Go](#)

Salesforce mobile apps help your users stay productive throughout their busy days, no matter where they are. Salesforce1 offers improvements to tasks, enhanced charts, approvals, and many other sales features, so sales professionals can take care of even more business from their phones. Salesforce Authenticator gets a design update that makes it easier to read notifications at a glance. And introducing the new Field Service Lightning iOS mobile app, an all-in-one tool that puts everything your field service technicians need at their fingertips.

### [Financial Services Cloud: Client and Household Relationship Mapping, Alerts, Client Service Enhancements](#)

Advisors can now create, maintain, and visualize clients and households through new relationship groups. Get new client service enhancements, including alerts on a client's profile page and financial accounts to help advisors keep up with changes to client's financial accounts.

### [Health Cloud: Wave for Health Cloud: Risk Stratification, Lead-to-Patient Conversion, and More](#)

Optimize care coordination and proactively manage patients who are at risk with Wave dashboards. And we've made it super easy to take Salesforce leads and convert them into Health Cloud patient records. To top it off, we've added to the Health Cloud data model, and improved the performance of the Health Cloud console.

### [Customization: More Control Over Record Page Assignments and Flow Screens, Connect to External Services](#)

Now clicks take you further than ever. They get you more granular control over how you assign Lightning record pages to your users. They give you control over your flow screens – including a way to make them look like Lightning Experience. And although a little bit of code is involved, clicks make it easy to connect your org to external services.

### [Security and Identity: Easier Health Check, Chatter Encryption, OAuth for Connected Apps](#)

Security Health Check offers custom baselines to streamline the job of setting up security for your users and customers. You can encrypt Chatter posts and attachments, and protect Internet of Things devices with OAuth 2.0.

### [Deployment: Deployment Permission Dependency Now Selected Automatically](#)

The “Modify All Data” permission is now selected automatically when the “Deploy Change Sets” permission is selected.

### [Development: Create Your Own Salesforce App](#)

Whether you're using Lightning components, Visualforce, Apex, or our APIs with your favorite programming language, these enhancements to Force.com help you develop amazing applications, integrations, and packages for resale to other organizations.

### [Marketing: Tools to Engage Your Customers Like Never Before](#)

Marketing Cloud is the premier platform for delighting customers with 1:1 customer journeys. It enables you to build a single view of your customer-leveraging data from any source, and plan and optimize unique customer journeys based on your business objectives. Deliver personalized content across every channel and device at precisely the right time, and measure the impact of each interaction on your business so you can optimize your approach in real time and deliver better results.

### [Critical Updates: LockerService Changes, CSRF Protection for Visualforce Pages, and Masking Decoupled from Shield Platform Encryption](#)

This release includes two new critical updates. One changes how Visualforce pages implement CSRF protection for GET requests. The other decouples the “View Encrypted Data” permission from Shield Platform Encryption. In addition, the LockerService, approvals, and flow critical updates from Summer '16 have been postponed.

### [Help and Training](#)

We added walkthroughs and Trailhead modules and added and updated instructional videos. We also updated our Trust and Compliance documentation.

### [Other Salesforce Products](#)

## How to Use These Release Notes

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Our release notes offer brief, high-level descriptions of enhancements and new features. We include setup information, tips to help you get started, and best practices to ensure your continued success.

- We offer [PDF](#) and [HTML](#) versions.
- For the HTML version, your browser's settings determine the language you see. To change the language, scroll to the bottom, click **Change Language**, and select a language.
- The release notes include details about new and modified features, not known issues, which you can access from the [Salesforce Known Issues site](#).

 **Note:** Until the new release is available to you, links from release notes to Salesforce Help, implementation guides, developer guides, walkthroughs, and other documentation don't work. And sometimes, the links point to materials for the previous release. Some of our documentation has preview versions available several weeks before the release. To access the preview versions on [Salesforce Developers](#), select Preview from the Documentation Version dropdown list.

### IN THIS SECTION:

#### [Use Filters to Zero In on the News that Matters Most](#)

The filters narrow down the list of release notes on the right side of your screen, not the content on the left.

#### [Know What's in Salesforce Lightning Experience and What's in Salesforce Classic](#)

Everybody's excited about Salesforce Lightning Experience and everything it offers. But we also understand that lots of organizations will continue to use Salesforce Classic—either exclusively for a few releases or in tandem with Lightning Experience as it evolves.

#### [You Asked for It!](#)

We delivered the features you asked for on IdeaExchange.

#### [Other Resources](#)

In addition to these release notes, we provide other resources to get you up to speed quickly.

#### [Release Notes Changes](#)

Read about changes to the release notes, with the most recent changes first.

[Your Feedback Matters](#)

We know how important our documentation is to your company's success. We want to know what works for you and what doesn't.

## Use Filters to Zero In on the News that Matters Most

The filters narrow down the list of release notes on the right side of your screen, not the content on the left.

### Experience

See which features are available in Lightning Experience, Mobile, and Salesforce Classic.

### Edition

Which feature enhancements are available to you depends on your edition. Filter the release notes to show only enhancements that are available in your edition.

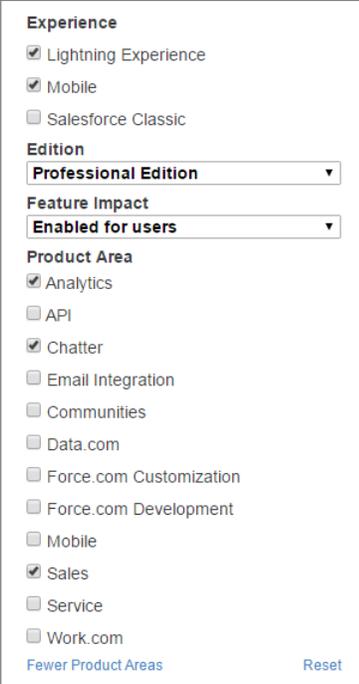
### Feature Impact

Some features require you to enable or configure them before users can get the benefits. As an admin, filter the release notes to focus on, or hide, just those features. Or maybe you want to see only the features that are enabled for your users automatically.

### Product Area

See only the products that your org uses. If your org does sales but not support, set up your release notes so that only the sales-related news appears.

To narrow down the list of release notes, click **Show Filters** on the right side of the screen.



The screenshot shows a filter panel with the following sections:

- Experience**
  - Lightning Experience
  - Mobile
  - Salesforce Classic
- Edition**
  - Professional Edition (dropdown menu)
- Feature Impact**
  - Enabled for users (dropdown menu)
- Product Area**
  - Analytics
  - API
  - Chatter
  - Email Integration
  - Communities
  - Data.com
  - Force.com Customization
  - Force.com Development
  - Mobile
  - Sales
  - Service
  - Work.com

At the bottom of the panel, there are two links: [Fewer Product Areas](#) and [Reset](#).

You can share your filtered list of release notes with anyone. Select filters, copy the URL, and then distribute that URL however you want.

## Know What's in Salesforce Lightning Experience and What's in Salesforce Classic

Everybody's excited about Salesforce Lightning Experience and everything it offers. But we also understand that lots of organizations will continue to use Salesforce Classic—either exclusively for a few releases or in tandem with Lightning Experience as it evolves.

One key to success during this time of transition is understanding what's available in one, both, or all the Salesforce experiences. To guide you, we've added experience information to these release notes at the highest level where that information applies: for entire clouds or for individual features within clouds. Let's look at three examples.

- Communities and *all* its features are currently available in Salesforce Classic *only*, so we tell you that in the Communities "Editions" table. It says "Available in: Salesforce Classic."
- Case Feed, a Service Cloud feature, is available in *both desktop experiences*, so its description says "This change applies to both Lightning Experience and Salesforce Classic."
- Opportunity Workspace, a new Sales Cloud feature, is available in Lightning Experience *only*, so its description says "This change applies to Lightning Experience only."

If a *key* feature is also available in Salesforce1, our mobile app, we mention that in the feature description. But you can also check the Mobile section for a complete list of what's new in Salesforce1.

## You Asked for It!

We delivered the features you asked for on IdeaExchange.

| IdeaExchange   | Idea delivered  |
|--|---|
| <b>Salesforce Overall</b>  |   |
| Searching for Contacts by Account Name   | Search for Contacts Using the Account Name                                      |
| Ability for Lightning to Support Lookup Filters                                  | Provide More Relevant Results with Dependent Lookup Filters                     |
| New Calendar Should Include Sharing, Filters, & Month View (partially delivered) | <a href="#">External Link: See a Monthly View of Your Calendar Events</a>       |
| <b>Lightning Experience</b>  |   |
| Allow customization of the Global Actions Menu in Lightning                      | Take More Actions from the Global Actions Menu                                  |
| <b>Sales</b>   |   |
| Lightning Experience - Include Orders & Order Products                           | Orders: Agreements for Delivering Products and Services in Lightning Experience |
| Enable Duplicate Management for Person Accounts                                  | Manage Duplicate Person Accounts  |
| Dynamic Record Merging   | Detect and Merge Duplicate Companies and Contacts in Lightning Experience       |
| Customize Columns on Step One of Merge Accounts                                  | Detect and Merge Duplicate Companies and Contacts in Lightning Experience       |

**IdeaExchange****Idea delivered**

|   |   |
|---|---|
| Customize Merge Contacts Columns in Step One                        | Detect and Merge Duplicate Companies and Contacts in Lightning Experience |
| Account Merge to Maintain Parent and Child Hierarchy                | Detect and Merge Duplicate Companies and Contacts in Lightning Experience |
| Merge Contacts Across Accounts                                      | Detect and Merge Duplicate Companies and Contacts in Lightning Experience |
| Redirect to Final Merged Account After Merge Accounts Wizard        | Detect and Merge Duplicate Companies and Contacts in Lightning Experience |
| Account Merge for Accounts with Data in Multiple Record Types       | Detect and Merge Duplicate Companies and Contacts in Lightning Experience |
| Merge My Accounts and Merge My Contacts Page Layout Options         | Detect and Merge Duplicate Companies and Contacts in Lightning Experience |
| We Want to See More Than 50 Lists for Merging Accounts and Contacts | Detect and Merge Duplicate Companies and Contacts in Lightning Experience |

**Data.com**

|  |  |
|--|--|
| Data.com Clean - Ability to Update Non-USD Revenue Account Field | Update Annual Revenue in Records That Use Non-USD Currency |
|--|--|

**Service**

|  |  |
|--|--|
| Omni-channel routing for Live Agent                            | Omni-Channel Routing for Chats is Generally Available                            |
| Ability to Search on Archived Articles                         | Search Archived Articles   |
| Knowledge Articles - Ability to change Article Types           | Knowledge Record Types: Record Types Take the Main Stage                         |
| Knowledge - Customize article formatting at Article Type level | Knowledge Record Types: Record Types Take the Main Stage                         |
| Search or Filter Articles by Author                            | Knowledge Search: Pre-filtering and Other Enhancements, Accessible from Anywhere |
| Article Management Views                                       | Streamline Your Screen with a Unified Knowledge Home Page and List Views         |
| Rating Knowledge Articles                                      | Thumbs Up to Knowledge Article Ratings   |
| Display total search count in Knowledge Base search            | 1, 2, 3... See How Many Results Are Found for a Search                           |
| Allow attaching multiple files to a Knowledgebase article      | Add Files to Knowledge Articles in a Snap  |
| Workflow Rules and Email Alerts for Knowledge                  | Knowledge: Say Hello to Lightning Knowledge (Beta)                               |

| <b>IdeaExchange</b>   | <b>Idea delivered</b>  |
|---|--|
| Salesforce Knowledge: Increase article attachment filename length           | Add Files to Knowledge Articles in a Snap                                    |
| Salesforce Knowledge: Allow more than one attachment                        | Add Files to Knowledge Articles in a Snap                                    |
| Ability to Rename Knowledge One TAB   | Streamline Your Screen with a Unified Knowledge Home Page and List Views     |
| Knowledge - Add Channels as optional columns to view                        | Knowledge Record Types: Record Types Take the Main Stage                     |
| Display number of articles in Knowledge One                                 | 1, 2, 3... See How Many Results Are Found for a Search                       |
| Allow users to vote on articles more than once                              | Thumbs Up to Knowledge Article Ratings                                       |
| Knowledge: Search by Channel  | Streamline Your Screen with a Unified Knowledge Home Page and List Views     |
| Add a View on Article Management page to show Articles Published by 'Me'    | Streamline Your Screen with a Unified Knowledge Home Page and List Views     |
| Edit button when viewing article  | Streamline Your Screen with a Unified Knowledge Home Page and List Views     |
| Allow reuse of fields across article types                                  | Knowledge Record Types: Record Types Take the Main Stage                     |
| Make it easy to view individual user's knowledge draft queue                | Streamline Your Screen with a Unified Knowledge Home Page and List Views     |
| Configure the Knowledge Article page layout                                 | Knowledge Record Types: Record Types Take the Main Stage                     |
| Allow Knowledge article fields to be expanded/collapsed                     | Standard Record Home: Get More from Your Articles with Five New Components   |
| <b>Mobile</b>   |  |
| Searching for Contacts by Account Name                                      | Search for Contacts Using the Account Name in Salesforce1                    |
| Ability for Lightning to Support Lookup Filters                             | Provide More Relevant Results with Dependent Lookup Filters                  |
| Make Campaigns and Campaign Members a High Priority for Adding to Lightning | Manage Campaign Members Statuses in Salesforce1 <i>(partially delivered)</i> |
| Allow the User to Create Orders and Order Products in Salesforce1           | Do More with Orders in Salesforce1   |
| Enable Duplicate Management for Person Accounts                             | Manage Duplicate Person Accounts in Salesforce1                              |
| <b>Customization</b>  |  |

**IdeaExchange****Idea delivered**


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 Items To Approve on Lightning Experience Homepage

Review Pending Approval Requests from Lightning Experience

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 Screen Layout in Visual Workflow / Flow Should Not Suck

Run Flows with a Lightning Skin (Generally Available)

**Development**


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 Allow Callouts from Chained Queueable Apex Jobs

Make Web Service Callouts from Chained Queueable Jobs

## Other Resources

In addition to these release notes, we provide other resources to get you up to speed quickly.

- [Release Readiness & Feature Adoption community](#). Join a community of Salesforce experts.
- [Release videos](#). Get quick video overviews of what's coming this release.
- [Release Overview](#). Create internal training for your users, review setup screens, and learn how to use features.
- [Release Readiness & Feature Focus Event Calendar](#). Register for expert hours and other events.
- [Release Readiness Live](#). Register and make the most of the new features.
- [Spring '17 Release](#). Check out the new features.
- [Prepare for Salesforce Releases](#). Get the Spring '17 Trailhead badge.
- [Maintenance Exams](#). Keep your certification updated.

## Release Notes Changes

Read about changes to the release notes, with the most recent changes first.

### May 3, 2017

**Support Ending for Several Microsoft® Applications**

Microsoft has extended support for Outlook 2007 beyond the previously announced retirement date. To stay aligned, we're extending support, too.

### April 19, 2017

**SalesforceA: More Resource Options for Android and iOS Users**

Announcing the general availability of SalesforceA version 3.1 for Android, and SalesforceA version 3.4 for iOS. The new apps are coming to Google Play and the App Store the week of April 24, 2017.

**Prepare Your Communities for TLS 1.0 Disablement**

Corrected the TLS 1.0 disablement deadline.

## April 12, 2017

### **Get More from Quotes**

Noted that the Quotes tab isn't available for users with Partner Community licenses in communities using the Salesforce Tabs + Visualforce template.

### **Find Hard-Coded URLs Hiding in Your Implementation**

Announced that Optimizer now identifies hard-coded URLs in your implementation.

### **Monitor Users' Login Activity with Optimizer**

Announced that Optimizer now identifies users who haven't logged into Salesforce in a while.

## April 5, 2017

### **Einstein Data Discovery: Find and Explain Insights in Your Data**

Einstein Data Discovery is now generally available.

### **Marketing: Tools to Engage Your Customers Like Never Before**

Updated links to Marketing Cloud release notes.

### **Optimize Scheduling with the Field Service Lightning Managed Package**

The Field Service Manage Package version 2.0 is now available.

### **New Service Wave Analytics Dashboard and Datasets Bring Live Agent and Omni-Channel Data Into Focus**

Dashboards, datasets added to Service Wave Analytics app.

## March 29, 2017

### **Search for Tasks and Events**

These changes apply to Lightning Experience and the Salesforce1 mobile browser app. The changes are not available in the Salesforce1 downloadable mobile app.

### **Setup Gets Its Own Tab in Lightning Experience**

The new tab that opens is called Setup, not All Setup.

## March 22, 2017

### **Feel Confident About Your Lightning Experience Readiness**

On March 21, we released more functionality for JavaScript buttons and links, and migration advice based on your users' profiles.

### **Withdrawn announcement about increasing the maximum number of external objects**

The limit is still 100 external objects per org.

### **Evaluate Profiles and Permission Sets with Salesforce Optimizer**

Announced that Optimizer now evaluates profiles and permission sets.

## March 15, 2017

### **Let Marketing and Sales Ops Users View Converted Leads**

Clarified information about where converted leads appear in Salesforce for users with the "View and Edit Converted Leads" permission.

### **Deprecated useAppcache Attribute in <aura:application>**

Browser vendors have deprecated AppCache so we've followed their lead.

## March 8, 2017

### **Detect and Merge Duplicate Companies and Contacts in Lightning Experience**

The potential duplicates card now shows only the number of duplicates and a link to a list of the duplicates. It no longer shows details of duplicate records. Also, the default duplicate alert is now the card only. You can still switch to the temporary toast message or display both alerts.

### **Save Time by Editing Inline in List Views (Generally Available)**

Added that reps can't edit inline if the list view uses filter logic.

### **Withdrawn announcement for Access Encrypted Data with Flows and Process Builder (Pilot)**

Removed release note about Encryption for Flows and Process Builder (Pilot). This pilot is not available in the Spring '17 release.

### **Control LMO Users' Access to Your Code in Subscriber Orgs with a New Permission**

The Author Apex user permission is no longer a prerequisite for the View and Debug Managed Apex permission. However, users need the Modify All Data permission to manage ISV Customer Debugger sessions in the LMO.

### **Long Text Areas in Custom Metadata Types (Pilot)**

Added that Long text area fields count toward the custom metadata 10 MB limit. 255 characters per long text area field count for a given type. Queries containing long text area fields count toward Apex governor limits.

## March 1, 2017

### **Package Lightning Bolt Solutions More Easily**

Availability of Lightning Bolt solutions on AppExchange is postponed until a later release.

### **Dive Deeper into Self-Service Communities Using Google Analytics**

Google Analytics is now supported in sandbox environments.

### **Customer Community Plus Licenses**

Updated the topic to indicate that users with Customer Community Plus licenses can no longer update case statuses.

### **See Intelligent Predictions and Timely Reminders About Deals with Opportunity Insights**

Added information about insight visibility. Prior opportunity owners and team members can still access related insights.

### **You Asked for It!**

Monthly calendar views are available as of Winter '17.

### **New and Changed Lightning Components**

Announced a change to the `lightning:inputRichText` component.

### **What's New in the Latest Salesforce1 Downloadable Apps**

Announcing the general availability of version 12.0 of the Salesforce1 downloadable apps for Android and iOS. Learn all about the new enhancements for your Android and iOS users.

### **Rename Your Connections**

Salesforce Authenticator v2.9 now lets you rename your accounts, and username associated with those accounts, directly in the app.

### **Set an Alphanumeric Passcode for Your Account Backup**

Salesforce Authenticator v2.9 now lets you back up your accounts using either an alphanumeric or four-digit passcode.

## February 22, 2017

### **Salesforce for Outlook Critical Update Required**

Salesforce has moved the TLS 1.0 disablement date to July 2017. Still, to avoid installation issues nearing the disablement date, we encourage you to update your users to Salesforce for Outlook v3.0.0 or later as soon as possible.

**Connect for Office: End of Support Pending, Customer Action Required by February 2017**

Connect for Office v1.8.1.6 is available for download. This version lets users continue working with Connect for Office after February 24, 2017. However, because support for this product ends in March 2017, we recommend that you move your users to an alternative product as soon as possible.

**Pardot: Improvements to Marketing Automation**

We made changes so that your Pardot users get new reporting options and permissions, look and feel updates, and more personalization choices.

**Communities Documentation: Spruced Up for Spring**

Updated a couple of broken links in the topic.

**Create Shortcuts to Your Top Salesforce Pages with Favorites**

Updated screenshots showing favorites.

**Why You Should Add the Files Related List to Your Page Layouts**

Updated details about the timing of this change, which will now go into effect after the Summer '17 release.

**Trailhead Modules**

Added more Trailhead modules and projects.

**Use Apex to Customize File Downloads**

Added a release note for this feature that was previously pilot and is now generally available.

## February 15, 2017

**New Versions of Wave for Sales, Wave for Service Apps—Now Generally Available**

Announcing new versions of Sales Wave, Service Wave apps with all-redesigned dashboards based on the new Wave dashboard designer.

**Field Label Changes on Campaigns**

Added information about field label changes that clarify which fields show information for a single campaign versus the campaign hierarchy.

**New Metadata Type for Custom Maps**

Added EclairGeoData to new metadata types.

**Withdrawal of Announcement about Question Filtering in Groups**

Removed release note about Question filtering in groups. Question filtering is not available to groups in the Spring '17 release.

**Access Encrypted Data in Your Flows (Pilot)**

Removed the release note announcing this change. This pilot is no longer available.

**Access Encrypted Data in Process Builder (Pilot)**

Removed the release note announcing this change. This pilot is no longer available.

**Changed Resource: Search Suggested Records**

Added a description and example of the ability to specify multiple objects in a `where` clause.

**Removed LockerService Restriction on instanceof in JavaScript**

The restriction on using the `instanceof` operator in JavaScript code has been removed due to some framework refactoring.

**New and Changed Lightning Components**

Added the `files` attribute to the `lightning:input` component.

**New Default Location for Tasks and Events in the Salesforce1 Navigation Menu**

The way Tasks and Events appear in the Salesforce1 navigation menu has changed. Unless these items are added directly to the navigation menu, they now automatically appear in the Recent section of the menu.

**Removal of Deprecated Apex Limits Methods (Critical Update) No Longer Enforced**

A critical update that removed access to deprecated Apex describe limits methods has encountered unforeseen problems and now is no longer enforced. Orgs that had already applied the “Remove Deprecated Limits Method” critical update will once more be able to access the describe limit methods.

**Chatter Stream No Longer Auto-Generated**

Removed information about automatic generation of a Chatter stream. There’s no longer an automatically generated Chatter stream for users who don’t create a stream of their own.

**February 8, 2017****New Order of Visualforce URL Parameters Affects Overrides**

Added considerations for creating Visualforce overrides based on a change to how Salesforce URLs are encoded.

**Why You Should Add the Files Related List to Your Page Layouts**

Added that the change applies to Lightning Experience only.

**What Does LockerService Affect?**

Corrected documentation for behavior of LockerService with Lightning Out.

**Removal of Deprecated Apex Limits Methods (Critical Update)**

Added information on critical update that removes deprecated Apex describe limits methods.

**February 1, 2017****Help and Training**

Added Help and Training section.

**Connect for Office: End of Support Pending, Customer Action Required by February 2017**

Connect for Office users are required to upgrade to the latest version to continue using the feature between February 24, 2017, and the feature’s end of support in March.

**Salesforce Lightning CLI Is No Longer Noisy By Default**

The default output now only shows errors so you can focus on bigger issues.

**Create Records Without the Clutter of Inline Visualforce and Calculated Fields**

Added information about which fields you’ll see when you create records in Lightning Experience.

**New fields and field value supported on the Network metadata type**

Added information about new fields and a newly supported value on the `type` field of the Network metadata type.

**Navigate to Custom Tabs More Easily with Friendly Tab URLs**

Custom tabs now have a more friendly URL structure that makes getting to them much easier.

**Manage Leads Faster in Lightning Experience**

Noted that the **Assign using active assignment rules** option only appears when creating or editing leads on a lead detail page layouts and not action layouts. Clarified that you can’t delete a custom field or change its type while it is included in Lead Custom Field Mapping. Clarified that you can’t uninstall a package that references a field included in Lead Custom Field Mapping.

**Highlights Panel and Custom Console Components Are Available for External Objects in the Salesforce Console in Salesforce Classic**

Clarified the enhancement description. Previously, external object detail page layouts didn’t support the highlights panel and custom console components.

**Bypass Triggers Feature Changed for Custom Objects**

Noted that even if **Bypass triggers** is selected in a data integration rule for a custom object, those triggers aren’t bypassed.

**Improve Your Salesforce Implementation with Optimizer**

Announced the release of Optimizer, a feature that helps administrators analyze and improve features in Salesforce.

**Salesforce Authenticator Sports a New Design**

Clarified that the new design applies to v2.8 and later.

**Salesforce Authenticator Notifications for iOS 10 Easier to Read**

Clarified that the new notifications applies to v2.8 and later.

**Admins Logging In as Users Can Be Subject to Two-Factor Authentication**

An admin can now require an admin or support user logging in as a user with the “Two-Factor Authentication for User Interface Logins” user permission to satisfy the 2FA requirement.

**Identity Verification Required for Two-Factor Authentication**

When changing an email address, identity verification is not required.

**Focus Your Community with Audience Targeting for Pages and Groups**

Removed references to city as part of location criteria. Location criteria include state, region or subdivision, and country.

**Consistent Email Footers for Emails Sent Through Gmail or Office 365**

Corrected information to indicate that this feature is not available in the Group Edition.

**Send Email Action Considerations**

Added information about using the new Send Email action.

**Send Email Action: Tailor Email to Match Your Business Processes**

Added information about how the new Send Email action automatically replaces the old action.

**Send Email from Anywhere**

Added information about the old and new Send Email action.

**Context-Sensitive Merge Fields and Person Account Support**

Added information about Person Account merge fields and associated templates.

**Calendar Visibility Is More Personal for Users, Faster for Admins**

Clarified visibility changes for user-created calendars.

**Import a Custom Security Baseline into Health Check (Beta)**

Custom Baseline for Health Check is a beta feature in this release. General availability, with complete documentation and support, is planned for a subsequent release. Previous versions of the release notes did not mention the feature was beta.

**Improve the Security of Your Page <Head> Markup**

Added allowed values for `xmlns` attribute in <Head> markup.

## January 25, 2017

**Feel Confident About Your Lightning Experience Readiness**

Added details about how the latest version of Readiness Check helps with your Lightning Experience rollout.

**Create Shortcuts to Your Top Salesforce Pages with Favorites**

Updated information about favorites so it's clear that favorites are supported in Lightning Experience and not in Salesforce1.

**Manage Leads Faster in Lightning Experience**

For orgs using the APEX version of Lead Convert, the new Lead Custom Field Mapping page appears in Setup for both Lightning Experience and Salesforce Classic. Added details about fields supported for custom lead field mapping for lead conversion. Noted that the **Assign using active assignment rules** option only appears when creating or editing leads on a lead detail page. Clarified that you can't delete a custom field or change its type while it is included in Lead Custom Field Mapping. Clarified that you can't uninstall a package that references a field included in Lead Custom Field Mapping.

### Task and Event Subject Fields Are Not Available as Inactive Values in Unrestricted Custom Picklists

You can't deactivate unrestricted picklist values for the Task.Subject or Event.Subject fields. The picklist values are deleted instead of deactivated.

### Changed Objects

Beginning with API version 39.0, there must now be a default `CampaignMemberStatus` defined for every campaign. At least one `CampaignMemberStatus` on each campaign must have a `hasResponded` value of `true`.

### Sales Features: Lightning Experience Considerations

You can't edit dependent picklist fields when adding or editing opportunity products.

### Why You Should Add the Files Related List to Your Page Layouts

Added a release note to explain how to prepare for a change to the Notes & Attachments related list.

### List Views in Lightning Experience Default to the Last One Viewed

Removed this entry. This feature has been removed from the Spring '17 release.

### Make Your Own Kanban View

Updated to specify that only currency fields can be selected for the Kanban view Summarize By setting.

### Fields Changed in Quotes Related Lists

Added information about changes to the fields that appear in the quotes related list on opportunities, contacts, and contracts.

### Setup Gets Its Own Tab in Lightning Experience

Added a release note to describe how the All Setup and Edit Object pages now open in a new tab.

## January 18, 2017

### Updated Documentation

Updated the formula function reference to use the categories returned by the API.

### View the Most Recently Used Patient List

Now, when you navigate from somewhere in the console back to the patient list page, the console displays the list you most recently worked in.

### Community Search Results Now Include All Question Posts

Searches now include results from all questions in the community, even if they haven't been tagged by a topic.

### Search for Contacts Using the Account Name

Updated to reflect that if you are using Contacts to Multiple Accounts, this feature searches across both direct and indirect account relationships for a contact. Contacts to Multiple Accounts isn't required to use this feature, however.

### Build Dynamic Picklists for Lightning Page Components with Apex

Now your Lightning component can expose a field as a picklist based on values in an Apex class that you create.

### New and Changed Lightning Components

Added a new method for the `lightning:input`, `lightning:select`, and `lightning:textarea` components.

### Debug Lightning Components on Every Page with Salesforce Lightning Inspector

Get component information from every Lightning page in your app, show components that initiated actions, and debug components running on Lightning Out.

### Knowledge: Say Hello to Lightning Knowledge (Beta)

Lightning Knowledge is available as a beta feature this release.

### Customize the Look and Feel of Flow Interviews with the REST API (Pilot)

Added information about what changed in the Flow Runtime REST API since the last release.

**Data.com: A New Name and New Features**

Announced name and feature changes for Data.com.

**Clean Rules Have a New Name**

Explained the reason for renaming Clean rules to data integration rules.

**Update Annual Revenue in Records That Use Non-USD Currency**

Described improvements to multi-currency updates based on data integration rules.

**Update Addresses in Records That Use State and Country Picklists**

Described improvements to state and country picklist updates based on data integration rules.

**Keep Your Data Current with Data Refresh**

Described the new data refresh feature for data integration rules.

**Customize Field Mapping for Data Integration Rules**

Clarified the explanation of customizable field mapping for data integration rules.

**Try Data Integration Rules in Your Org**

Described how to try out data integration rule setup.

## January 11, 2017

**Implement Your Own Rich-Text Editor with `lightning:inputRichText` (Beta)**

Added details for the new Lightning component.

**Available for Preview: New Versions of Wave for Sales, Wave for Service—Now in Beta**

Announcing beta versions of Sales Wave and Service Wave prebuilt apps with all-new dashboards built with Wave Dashboard Designer.

**Speed Up Your Components by Fixing Performance Warnings**

A few common performance anti-patterns in code prompt the Lightning Component framework to log warning messages to the browser console. Fix the warning messages to speed up your components!

**Banner Reminds You About LockerService**

Narrowed the audience for viewing the banner informing admins and developers about the LockerService critical update.

**Search: Lightning Experience Considerations**

Added Orders to the list of newly searchable objects in Lightning Experience. Also removed Order from the list of objects that aren't searchable in Lightning Experience.

**Introducing Lightning Console Apps (Beta)**

Lightning console apps are available as a beta feature this release.

## January 4, 2017

**Subscribe to Reports in Lightning Experience**

Noted that report subscriptions in Lightning Experience are available within seven days of the Spring '17 release.

**Understand the Differences Between Salesforce Classic and Lightning Experience Console Apps**

Clarified that person accounts are not supported in Lightning console apps.

**Considerations for Lightning Knowledge**

Moved Lightning Knowledge limitations to a new section.

**You Asked for It!**

Added Ideas that we delivered.

**Work Seamlessly Across All Your Salesforce Orgs—Cross-Org Connector with Write Support**

Added that lookup search is available for external lookup relationship fields whose parent external objects are associated with the cross-org adapter for Salesforce Connect.

**Supported Browsers**

Added that Salesforce Wave Analytics is supported on Microsoft Edge.

**Get Timely Alerts About Financial Accounts**

Clarified that alerts can help advisors keep up with information about their client financial accounts.

**Create Cases from Financial Accounts**

Clarified that creating a case from a financial account can help advisors see cases from the financial account page or the client's profile page.

**Server-Side Access Checks for Events**

It's easier to find access check failures for events with additional server-side access checks.

**New Apex Classes**

Added entries for the new VisualEditor namespace and its classes.

**SOAP API: Changed Calls**

Added that the `merge()` call now supports account hierarchies, "reports to" relationships, portal users, and person accounts.

## Your Feedback Matters

We know how important our documentation is to your company's success. We want to know what works for you and what doesn't.

- **Feedback forms:** As you're working with our documentation—whether it's in the Salesforce Help, release notes, or developer guides at Salesforce Developers—look for the feedback form and vote up or down. Add comments if you have them.
- **Twitter:** When you follow @salesforcedocs on Twitter, you receive notices whenever we publish new documentation or make significant updates to existing documentation. Tweet us at [@salesforcedocs](https://twitter.com/salesforcedocs).

## How and When Do Features Become Available?

Some features in Spring '17 affect all users immediately after the release goes live. Consider communicating these changes to your users beforehand so that they're prepared. Other features require direct action by an administrator before users can benefit from the new functionality.

## Supported Browsers

Supported browsers for Salesforce vary depending on whether you use Salesforce Classic or Lightning Experience.

| Feature   | Enabled for users   | Enabled for administrators/ developers | Requires administrator setup | Contact Salesforce to enable |
|---|---|--|------------------------------|------------------------------|
| <a href="#">Supported Browsers for Lightning Experience</a> |  |  |                              |                              |
| <a href="#">Supported Browsers for Salesforce Classic</a>   |  |  |                              |                              |

## Salesforce Overall

Spring '17 gives you more reasons to love Lightning Experience. Customize your navigation experience with favorites, see multiple records on one screen with console apps, and access more global actions from anywhere in Lightning Experience.

| Feature   | Enabled for users | Enabled for administrators/<br>developers | Requires administrator setup | Contact Salesforce to enable |
|---|-------------------|---|------------------------------|------------------------------|
| <b>Improve Your Salesforce Implementation with Optimizer (not immediately available)</b>                    |                   |   |                              |                              |
| <a href="#">Evaluate Profiles and Permission Sets with Salesforce Optimizer (not immediately available)</a> |                   | ✓   |                              |                              |
| <a href="#">Find Hard-Coded URLs Hiding in Your Implementation (not immediately available)</a>              |                   | ✓   |                              |                              |
| <a href="#">Monitor Users' Login Activity with Optimizer (not immediately available)</a>                    |                   | ✓   |                              |                              |
| <a href="#">Feel Confident About Your Lightning Experience Readiness (not immediately available)</a>        |                   | ✓   |                              |                              |
| <a href="#">Create Shortcuts to Your Top Salesforce Pages with Favorites</a>                                | ✓                 |   |                              |                              |
| <a href="#">Console Apps: Now in Lightning Experience (Beta)</a>  |                   |   | ✓                            |                              |
| <a href="#">Enhance Your Lightning Apps with the Utility Bar</a>  |                   |   | ✓                            |                              |
| <a href="#">Take More Actions from the Global Actions Menu</a>  | ✓                 |   |                              |                              |
| <a href="#">Use Person Accounts in Professional Edition</a>   |                   |   |                              | ✓                            |
| <a href="#">Rich-Text Editors Disabled When LockerService Critical Update Is Active</a>                     |                   |   | ✓                            |                              |
| <a href="#">Create Records Without the Clutter of Inline Visualforce and Calculated Fields</a>              | ✓                 |   |                              |                              |
| <b>Search</b>   |                   |   |                              |                              |
| <a href="#">Pick an Object and Search It from Anywhere</a>  | ✓                 |   |                              |                              |
| <a href="#">Provide More Relevant Results with Dependent Lookup Filters</a>                                 | ✓                 |   |                              |                              |

| Feature  | Enabled for users | Enabled for administrators/<br>developers | Requires administrator setup | Contact Salesforce to enable |
|--|-------------------|---|------------------------------|------------------------------|
| <a href="#">Search for Contacts Using the Account Name</a> | ✓                 |   |                              |                              |
| <a href="#">Knowledge: Enhanced Article Search (Beta)</a>  |                   | ✓   |                              |                              |
| <a href="#">Get Search Results for More Objects</a>        | ✓                 |   |                              |                              |

## Lightning Experience

Lightning Experience is a completely reimagined interface. Even better, it's built on our UI platform, so the experience can grow and evolve with your needs. Check out the new features and considerations in this release.

| Feature  | Enabled for users | Enabled for administrators/<br>developers | Requires administrator setup | Contact Salesforce to enable |
|--|-------------------|---|------------------------------|------------------------------|
| <b>Lightning Experience Features in This Release</b> |                   |   |                              |                              |
| <a href="#">General Enhancements</a>                 |                   |   | ✓                            |                              |
| <a href="#">Search</a>                               |                   |   | ✓                            |                              |
| <a href="#">Salesforce Einstein</a>                  |                   |   | ✓                            |                              |
| <a href="#">Core Sales</a>                           |                   |   | ✓                            |                              |
| <a href="#">Sales Productivity</a>                   |                   |   | ✓                            |                              |
| <a href="#">Google Integration (Beta)</a>            |                   |   | ✓                            |                              |
| <a href="#">Microsoft® Integration</a>               |                   |   | ✓                            |                              |
| <a href="#">Data.com</a>                             |                   |   | ✓                            |                              |
| <a href="#">Service</a>                              |                   |   | ✓                            |                              |
| <a href="#">Reports and Dashboards</a>               |                   |   | ✓                            |                              |
| <a href="#">Chatter</a>                              |                   |   | ✓                            |                              |
| <a href="#">Files</a>                                |                   |   | ✓                            |                              |
| <a href="#">Lightning App Builder</a>                |                   |   | ✓                            |                              |
| <a href="#">Salesforce Connect</a>                   |                   |   | ✓                            |                              |
| <a href="#">External Services (Beta)</a>             |                   | ✓   |                              |                              |
| <a href="#">Approvals</a>                            |                   |   | ✓                            |                              |
| <a href="#">Visual Workflow</a>                      |                   |   | ✓                            |                              |

| Feature  | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|--|-------------------|---|---------------------------------|------------------------------------|
| <b>Process Builder</b>   |                   |   | ✓                               |                                    |
| <b>Setup</b>   |                   |   | ✓                               |                                    |
| <b>Security and Identity</b>   |                   |   | ✓                               |                                    |
| <b>Development</b>   |                   |   | ✓                               |                                    |
| <b>What's Different or Not Available in Spring '17 Lightning Experience Features</b> |                   |   | ✓                               |                                    |

## Sales

Deliver high-impact Lightning Experience features that keep sales teams laser-focused on the leads and deals most likely to generate sales. Help reps develop strong customer relationships and integrate their email and calendars with Microsoft—and now with Gmail. For added productivity, your reps can prioritize calls and easily manage records using Kanban in even more ways.

| Feature  | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|--|-------------------|---|---------------------------------|------------------------------------|
| <b>Lightning Experience Resources</b>  |                   |   | ✓                               |                                    |
| <b>Core Sales Features</b>   |                   |   |                                 |                                    |
| <b>Accounts</b>  |                   |   |                                 |                                    |
| Visualize Account Relationships by Using Account Hierarchy in Lightning Experience | ✓                 |   |                                 |                                    |
| Get More Out of Person Accounts  |                   |   | ✓                               |                                    |
| <b>Contacts</b>  |                   |   |                                 |                                    |
| Continue to Be Impressed with Contacts to Multiple Accounts                        |                   |   | ✓                               |                                    |
| Stay-in-Touch Requests Retires in Summer '17                                       | ✓                 |   |                                 |                                    |
| <b>Leads</b>   |                   |   |                                 |                                    |
| Manage Leads Faster in Lightning Experience  | ✓                 |   |                                 |                                    |
| Let Marketing and Sales Ops Users View Converted Leads                             |                   |   | ✓                               |                                    |
| <b>Web-to-Lead</b>   |                   |   | ✓                               |                                    |
| <b>Campaigns</b>   |                   |   |                                 |                                    |

| Feature   | Enabled for users | Enabled for administrators/<br>developers | Requires administrator setup | Contact Salesforce to enable |
|---|-------------------|---|------------------------------|------------------------------|
| View Campaign Hierarchy Results in Lightning Experience                   |                   |   | ✓                            |                              |
| Manage Campaign Member Statuses in Lightning Experience                   |                   |   | ✓                            |                              |
| Manage Campaign Members Faster with Mass Actions in Lightning Experience  | ✓                 |   |                              |                              |
| Field Label Changes on Campaigns  | ✓                 |   |                              |                              |
| <b>Collaborative Forecasts</b>  | ✓                 |   |                              |                              |
| <b>Opportunities</b>  | ✓                 |   |                              |                              |
| <b>Orders</b>   | ✓                 |   |                              |                              |
| <b>Quotes</b>   |                   |   |                              |                              |
| Get More from Quotes  | ✓                 |   |                              |                              |
| Take Quote PDFs to the Next Level in Lightning Experience                 | ✓                 |   |                              |                              |
| <b>Path</b>   |                   |   |                              |                              |
| Path for Quotes and Custom Objects  | ✓                 |   |                              |                              |
| Path Pays Attention to Fields Required by the Page Layout                 | ✓                 |   |                              |                              |
| <b>Duplicate Management</b>   |                   |   |                              |                              |
| Detect and Merge Duplicate Companies and Contacts in Lightning Experience |                   |   | ✓                            |                              |
| Manage Duplicate Person Accounts  |                   |   | ✓                            |                              |
| <b>Productivity Features</b>  |                   |   |                              |                              |
| <b>Sales Console</b>  |                   |   | ✓                            |                              |
| <b>Lightning Voice</b>  |                   |   |                              |                              |
| Use Voicemail for Missed Calls  | ✓                 |   |                              |                              |
| See Call Quality at a Glance  | ✓                 |   |                              |                              |
| Organize Your Calls with a Call List (Beta)                               | ✓                 |   |                              |                              |
| Log Calls in the Activity Composer Automatically                          | ✓                 |   |                              |                              |
| Create Reports for Lightning Voice  |                   |   | ✓                            |                              |

| Feature  | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|--|-------------------|---|---------------------------------|------------------------------------|
| <b>Email</b>   |                   |   |                                 |                                    |
| Send Email Action: Tailor Email to Match Your Business Processes     |                   | ✓   |                                 |                                    |
| Send Email Using Org-Wide Email Addresses                            |                   | ✓   |                                 |                                    |
| Choose Among Multiple Email Addresses in the From Field              |                   | ✓   |                                 |                                    |
| Create More Record Associations with the Related To Lookup Field     | ✓                 |   |                                 |                                    |
| Save Time with Context-Sensitive Email Templates                     | ✓                 |   |                                 |                                    |
| Context-Sensitive Merge Fields and Person Account Support            | ✓                 |   |                                 |                                    |
| Consistent Email Footers for Emails Sent Through Gmail or Office 365 | ✓                 |   |                                 |                                    |
| Email Files as Attachments or Links: You Decide                      |                   | ✓   |                                 |                                    |
| <b>Tasks</b>   |                   |   |                                 |                                    |
| Create Follow-Up Tasks   | ✓                 |   |                                 |                                    |
| Use Recurring Tasks (Again and Again) in Lightning Experience        |                   |   | ✓                               |                                    |
| Save Time by Using Save and New in Tasks                             |                   | ✓   |                                 |                                    |
| Search for Tasks and Events  | ✓                 |   |                                 |                                    |
| Recurring Tasks Start and End Field Labels Have Changed              | ✓                 |   |                                 |                                    |
| <b>Related Lists</b>   |                   |   |                                 |                                    |
| Run Custom Mass Actions on Multiple Records in Related Lists         |                   |   | ✓                               |                                    |
| <b>List Views</b>  |                   |   |                                 |                                    |
| Save Time by Editing Inline in List Views (Generally Available)      | ✓                 |   |                                 |                                    |
| <b>Kanban</b>  |                   |   |                                 |                                    |
| See the Kanban View Everywhere                                       | ✓                 |   |                                 |                                    |
| Make Your Own Kanban View  | ✓                 |   |                                 |                                    |

| Feature   | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|---|-------------------|---|---------------------------------|------------------------------------|
| View Records by Record Type in the Kanban View  | ✓                 |   |                                 |                                    |
| <b>Sales Cloud Einstein</b>   |                   |   |                                 |                                    |
| <b>Automatically Add Emails and Events to Salesforce with Automated Activity Capture for Einstein</b> |                   |   | ✓                               |                                    |
| <b>Prioritize Your Leads with Predictive Lead Scoring</b>   |                   |   | ✓                               |                                    |
| <b>See Intelligent Predictions and Timely Reminders About Deals with Opportunity Insights</b>         |                   |   | ✓                               |                                    |
| <b>Get Smarter About Managing Relationships with Account Insights</b>                                 |                   |   | ✓                               |                                    |
| <b>Inbox</b>  |                   |   |                                 |                                    |
| <b>Automatically Add Emails and Events to Salesforce with Automated Activity Capture for Inbox</b>    |                   |   | ✓                               |                                    |
| <b>Boost Email Productivity with the Inbox Clients</b>  |                   |   | ✓                               |                                    |
| <b>Google Integration</b>   |                   |   |                                 |                                    |
| <b>Lightning for Gmail (Beta)</b>   |                   |   |                                 |                                    |
| Get More Done Directly from Gmail   |                   |   |                                 | ✓                                  |
| Einstein Brings Insights to Lightning for Gmail   |                   | ✓   |                                 |                                    |
| Rev Up Productivity with Enhanced Email   | ✓                 |   |                                 |                                    |
| Put Your Own Spin on Lightning for Gmail  |                   | ✓   |                                 |                                    |
| <b>Lightning Sync for Google</b>  |                   |   |                                 |                                    |
| Get Sales Reps' Contacts into Gmail™  |                   |   | ✓                               |                                    |
| See Who's Attending Meetings Booked from Google Calendar™ Directly from Salesforce                    | ✓                 |   |                                 |                                    |
| <b>Microsoft® Integration</b>   |                   |   |                                 |                                    |
| <b>Lightning for Outlook</b>  |                   |   |                                 |                                    |
| Get More Done Directly from Lightning for Outlook   | ✓                 |   |                                 |                                    |

| Feature   | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|---|-------------------|---|---------------------------------|------------------------------------|
| Einstein Brings Insights to Lightning for Outlook   | ✓                 |   |                                 |                                    |
| Tailor Content in Email Application Panes Even More   |                   |   | ✓                               |                                    |
| Welcome Service Cloud and Force.com Customers   |                   |   | ✓                               |                                    |
| <b>Lightning Sync for Microsoft® Exchange®</b>  |                   |   |                                 |                                    |
| See Who's Attending Meetings Booked from Microsoft Exchange® Calendars Directly from Salesforce             | ✓                 |   |                                 |                                    |
| <b>Skype for Salesforce (Beta)</b>  |                   |   |                                 |                                    |
|   |                   |   | ✓                               |                                    |
| <b>Salesforce for Outlook</b>   |                   |   |                                 |                                    |
| Critical Upgrade Required   | ✓                 |   |                                 |                                    |
| Support Ending for Several Microsoft® Applications  |                   |   | ✓                               |                                    |
| <b>Connect for Office</b>   |                   |   |                                 |                                    |
|   | ✓                 |   |                                 |                                    |
| <b>Pardot</b>   |                   |   |                                 |                                    |
| <b>Engagement Studio: New Reporting Options and Permissions</b>   |                   |   |                                 |                                    |
| Report on Bounces, Opt Outs, and Email Send Status from Engagement Programs                                 |                   | ✓   |                                 |                                    |
| Manage Access to Engagement Studio with New Permission Options  |                   | ✓   |                                 |                                    |
| <b>See Most Recent Activity First with Updated Engage Alerts</b>  |                   |   |                                 |                                    |
|   | ✓                 |   |                                 |                                    |
| <b>Pardot Classic Retires Spring '17</b>  |                   |   |                                 |                                    |
|   | ✓                 |   |                                 |                                    |
| <b>Improve Open Rates with Subject Line Personalization: Add Variable Tags and Advanced Dynamic Content</b> |                   |   |                                 |                                    |
|   | ✓                 |   |                                 |                                    |
| <b>Get Account Usage and Limits Info at a Glance with the Updated Account Page</b>                          |                   |   |                                 |                                    |
|   | ✓                 |   |                                 |                                    |
| <b>Other Changes in the Sales Cloud</b>   |                   |   |                                 |                                    |
| <b>Data Assessment Date Stamp Changed</b>   |                   |   |                                 |                                    |
|   | ✓                 |   |                                 |                                    |
| <b>Global Actions Added for Contracts and Orders</b>  |                   |   |                                 |                                    |
|   |                   | ✓   |                                 |                                    |

| Feature  | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|--|-------------------|---|---------------------------------|------------------------------------|
| Recently Scheduled Meetings Visible from Lightning Experience Home Without Browser Refresh | ✓                 |   |                                 |                                    |
| Calendar Navigation Buttons Moved in Lightning Experience                                  | ✓                 |   |                                 |                                    |
| Calendar Visibility Is More Personal for Users, Faster for Admins                          |                   |   |                                 |                                    |
| Cloud Scheduler is Being Retired   |                   |   | ✓                               |                                    |
| Rich-Text Editor for Notes Is Now Using Quill  | ✓                 |   |                                 |                                    |
| Business Processes Use Name Field to Evaluate Person Accounts                              | ✓                 |   |                                 |                                    |
| Easier to Use Merge Fields When Emailing Person Accounts in Lightning Experience           | ✓                 |   |                                 |                                    |
| Person Account Quick View Always Shows Account Info in Lightning Experience                | ✓                 |   |                                 |                                    |
| Account Autofill Now Called Automated Account Fields                                       | ✓                 |   |                                 |                                    |
| Sales Console Permissions Are Easier to Assign in Salesforce Classic                       |                   | ✓   |                                 |                                    |
| Lead Assignment Rules Visible in Lightning Experience                                      |                   |   | ✓                               |                                    |
| Fields Changed in Quotes Related Lists   | ✓                 |   |                                 |                                    |

## Data.com

Data.com Clean rules are now called data integration rules, and they're more powerful and customizable. Rules now update non-US annual revenue data and picklist-based location data. When a data service receives new data, it refreshes your data too. Improve updates from data services by customizing mapping for data matching and updating.

| Feature                     | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|-----------------------------|-------------------|---|---------------------------------|------------------------------------|
| Clean Rules Have a New Name |                   | ✓   |                                 |                                    |

| Feature  | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|--|-------------------|---|---------------------------------|------------------------------------|
| <a href="#">Update Annual Revenue in Records That Use Non-USD Currency</a>       |                   | ✓   |                                 |                                    |
| <a href="#">Update Addresses in Records That Use State and Country Picklists</a> |                   | ✓   |                                 |                                    |
| <a href="#">Keep Your Data Current with Data Refresh</a>                         |                   | ✓   |                                 |                                    |
| <a href="#">Customize Field Mapping for Data Integration Rules</a>               |                   | ✓   |                                 |                                    |
| <a href="#">Try Data Integration Rules in Your Org</a>                           |                   |   | ✓                               |                                    |
| <a href="#">Bypass Triggers Feature Changed for Custom Objects</a>               |                   | ✓   |                                 |                                    |

## Service

Zap! Lightning Experience has hit the Service Console. Enjoy its streamlined UI and the ease of customizing it with the drag-and-drop Lightning App Builder. Knowledge also gets a Lightning charge, with a unified Knowledge tab and standard record types replacing custom articles types. Field service comes to your technicians with an iOS app. And Open CTI comes to Lightning Console Apps, while Desktop CTI takes its final bow.

| Feature   | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|---|-------------------|---|---------------------------------|------------------------------------|
| <b>Service Console</b>  |                   |   |                                 |                                    |
| <a href="#">Meet the New Lightning Service Console (Beta)</a>                           |                   |   | ✓                               |                                    |
| <a href="#">Lightning Service Setup—Your Life Just Got a Whole Lot Easier! (Beta)</a>   |                   |   |                                 |                                    |
| <b>Knowledge</b>  |                   |   |                                 |                                    |
| <a href="#">Considerations for Lightning Knowledge</a>                                  |                   |   | ✓                               |                                    |
| <a href="#">Dip into Salesforce Classic for Lightning Knowledge Setup</a>               |                   |   | ✓                               |                                    |
| <a href="#">Simplified Access and Permissions with Lightning Knowledge</a>              |                   |   | ✓                               |                                    |
| <b>Knowledge Search: Pre-filtering and Other Enhancements, Accessible from Anywhere</b> |                   |   |                                 |                                    |
| <a href="#">Get More Context with Snippets in Article Top Results (Beta)</a>            | ✓                 |   |                                 |                                    |

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|--|-------------------|---|---------------------------------|------------------------------------|
| Search Archived Articles   | ✓                 |   |                                 |                                    |
| 1, 2, 3... See How Many Results Are Found for a Search   | ✓                 |   |                                 |                                    |
| <b>Streamline Your Screen with a Unified Knowledge Home Page and List Views</b>                          |                   |   | ✓                               |                                    |
| <b>Knowledge Record Types: Record Types Take the Main Stage</b>  |                   |   |                                 |                                    |
| Customize Page Layouts for Different Types of Articles   |                   |   | ✓                               |                                    |
| <b>Standard Record Home: Get More from Your Articles with Five New Components</b>                        |                   |   |                                 |                                    |
| Thumbs Up to Knowledge Article Ratings   |                   |   | ✓                               |                                    |
| Add Files to Knowledge Articles in a Snap  |                   |   | ✓                               |                                    |
| View Previous Knowledge Article Versions and Changes   |                   |   | ✓                               |                                    |
| View the Data Categories Assigned to a Knowledge Article   | ✓                 |   |                                 |                                    |
| Add Data Categories to a Knowledge Article   |                   |   | ✓                               |                                    |
| <b>Search, Attach, and Follow Articles, with the Knowledge Sidebar for the Lightning Service Console</b> |                   |   | ✓                               |                                    |
| <b>Field Service</b>   |                   |   |                                 |                                    |
| <b>The Field Service Lightning iOS Mobile App (Generally Available) (not immediately available)</b>      |                   |   | ✓                               |                                    |
| <b>Track Your Parts and Van Stock</b>  |                   |   | ✓                               |                                    |
| <b>Field Service Locations</b>   |                   |   | ✓                               |                                    |
| <b>Templates for Service Reports</b>   |                   |   | ✓                               |                                    |
| <b>Turn Off GPS Tracking at the User Profile Level</b>   |                   |   | ✓                               |                                    |
| <b>Set Fields for Suggested Knowledge Articles</b>   |                   |   | ✓                               |                                    |
| <b>Work Order Line Items Take Priority</b>   |                   |   | ✓                               |                                    |
| <b>Optimize Scheduling with the Field Service Lightning Managed Package</b>                              |                   |   | ✓                               |                                    |

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|--|-------------------|---|------------------------------|------------------------------|
| <b>CTI</b>   |                   |   |                              |                              |
| Use Open CTI in Lightning Console Apps                       |                   |   | ✓                            |                              |
| New Behavior for the Open CTI onNavigationChange Method      |                   | ✓   |                              |                              |
| Say Your Final Farewell to Desktop CTI                       | ✓                 |   |                              |                              |
| <b>Lightning Case Management</b>                             |                   |   |                              |                              |
| Compact Case Feed Gets a Makeover for Lightning Experience   | ✓                 |   |                              |                              |
| Case Assignment Checkbox Visible in Lightning Experience     |                   |   | ✓                            |                              |
| <b>Social Customer Service</b>                               |                   |   |                              |                              |
| Social Customer Service API Support                          |                   |   | ✓                            |                              |
| Social Post Detail Page Just Got a Little More Detailed      |                   |   | ✓                            |                              |
| Social Post Tab in Lightning                                 |                   |   | ✓                            |                              |
| Get More Accomplished Without Leaving the Case Feed          |                   |   | ✓                            |                              |
| Professional Edition Supported in Social Customer Service    |                   |   | ✓                            |                              |
| <b>Omni-Channel</b>  |                   |   |                              |                              |
| Omni-Channel Supervisor Is Generally Available               |                   |   |                              |                              |
| Assign Overflow Work to a User or Queue                      |                   |   |                              |                              |
| Omni-Channel Org Limits Raised                               |                   |   |                              |                              |
| Ping! New Sounds for Request and Disconnect Notifications    |                   |   |                              |                              |
| <b>Live Agent</b>  |                   |   |                              |                              |
| Omni-Channel Routing for Chats is Generally Available        |                   |   |                              |                              |
| Page Layouts for Active, Waiting, and Ended Chat Transcripts |                   |   |                              |                              |

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|--|-------------------|---|------------------------------|------------------------------|
| <a href="#">Customize Your Default Sidebar Lookup Component</a>  |                   |   |                              |                              |
| <a href="#">Customers Can Save Transcripts on iOS</a>  |                   |   |                              |                              |
| <a href="#">Use Clickable Links in Your Chats</a>  |                   |   |                              |                              |
| <a href="#">Ping! New Sounds for Request and Disconnect Notifications</a>                                |                   |   |                              |                              |
| <b>Snap-ins for Web</b>  |                   |   |                              |                              |
| <a href="#">Snap-ins Chat Graduates from Beta to Generally Available</a>                                 |                   |   | ✓                            |                              |
| <a href="#">Customize the Snap-ins Pre-Chat Form to Provide a Seamless Experience for Your Customers</a> |                   |   | ✓                            |                              |
| <a href="#">Customize Your Snap-ins Chat Widget to Reflect Your Company's Brand</a>                      |                   |   | ✓                            |                              |
| <a href="#">Snap-ins for Mobile Apps</a>   |                   |   | ✓                            |                              |
| <b>Other Changes</b>   |                   |   |                              |                              |
| <a href="#">Web-to-Case: Thwart Spammers with reCAPTCHA</a>  |                   |   | ✓                            |                              |
| <a href="#">Automatically Assign Cases to Queues When Customers Submit Cases via Email-to-Case</a>       |                   |   | ✓                            |                              |
| <a href="#">Call Center App Gets a New Name</a>  | ✓                 |   |                              |                              |
| <a href="#">Chatter Answers Retires in Winter '18</a>  | ✓                 |   |                              |                              |
| <a href="#">Lightning for Outlook and Lightning for Gmail (Beta) Welcome Service Cloud Customers</a>     |                   |   | ✓                            |                              |

## Analytics

Drive decisions with insights from reports and dashboards and Wave Analytics. Lightning Experience reports and dashboards offer report subscriptions, dashboard sharing and following, and chart enhancements. Wave gets personal with one-stop shopping in Data Manager, the new personalized Wave home page, custom app navigation, new chart types, and much more.

| Feature   | Enabled for users | Enabled for administrators/<br>developers | Requires administrator setup | Contact Salesforce to enable |
|---|-------------------|---|------------------------------|------------------------------|
| <b>Reports and Dashboards</b>   |                   |   |                              |                              |
| <a href="#">Subscribe to Reports in Lightning Experience (not immediately available)</a>      | ✔                 |   |                              |                              |
| <a href="#">Filter Reports via URL Parameters in Lightning Experience</a>                     | ✔                 |   |                              |                              |
| <a href="#">View Dashboards as Other People in Lightning Experience</a>                       | ✔                 |   |                              |                              |
| <a href="#">Share Dashboard Charts by Posting Them to Chatter in Lightning Experience</a>     |                   |   | ✔                            |                              |
| <a href="#">Expand Dashboard Components to Get the Big Picture in Lightning Experience</a>    | ✔                 |   |                              |                              |
| <a href="#">Follow Dashboards in Lightning Experience</a>                                     |                   |   | ✔                            |                              |
| <a href="#">Move Dashboards Between Folders in the Lightning Experience Dashboard Builder</a> | ✔                 |   |                              |                              |
| <a href="#">Add Funnel and Scatter Charts to Lightning Experience Dashboards</a>              | ✔                 |   |                              |                              |
| <a href="#">External Object Reports Have Fewer Limitations</a>                                | ✔                 |   |                              |                              |
| <a href="#">Other Enhancements to Reports and Dashboards in Lightning Experience</a>          | ✔                 |   |                              |                              |
| <b>Wave Analytics</b>   |                   |   |                              |                              |
| <b>Wave: Bring Your Data into Wave</b>  |                   |   |                              |                              |
| <a href="#">Monitor, Replicate, and Prepare in the Data Manager</a>                           |                   | ✔   |                              |                              |
| <a href="#">Prepare Datasets with Recipes (Generally Available)</a>                           |                   | ✔   |                              |                              |
| <a href="#">Get Better Results with Null Measure Handling</a>                                 |                   |   | ✔                            |                              |
| <a href="#">Extended Metadata Files on Dataset Edit Page Now Use XMD 2.0</a>                  |                   |   | ✔                            |                              |
| <b>Wave: Extend Wave Everywhere</b>   |                   |   |                              |                              |
| <a href="#">Customize Your Personal Analytics Home Page</a>                                   | ✔                 |   |                              |                              |

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|--|-------------------|---|---------------------------------|------------------------------------|
| Create Interactive Wave Apps for Your Customers                              | ✓                 |   |                                 |                                    |
| Elevate Productivity During Presentations with Annotations and Notifications | ✓                 |   |                                 |                                    |
| Seamlessly Integrate Wave into Salesforce with Wave Tabs                     | ✓                 |   |                                 |                                    |
| Embed Wave in Any Web Page or Web-Based App                                  |                   | ✓   |                                 |                                    |
| <b>Wave: Explore and Visualize</b>   |                   |   |                                 |                                    |
| Enhanced Compare Table Navigation  | ✓                 |   |                                 |                                    |
| Improved Pivot and Values Tables   | ✓                 |   |                                 |                                    |
| Explore New Filters and Functions  | ✓                 |   |                                 |                                    |
| Broaden Your Visualization Horizons with New Wave Charts                     | ✓                 |   |                                 |                                    |
| Enhanced Wave Charts   | ✓                 |   |                                 |                                    |
| <b>Wave: Design and Build</b>  |                   |   |                                 |                                    |
| Build Dashboards Faster with Widget Cloning and Step Replacement             | ✓                 |   |                                 |                                    |
| Automate Cross-Dataset Filtering with Connected Data Sources                 | ✓                 |   |                                 |                                    |
| Customize the Display Values for List and Toggle Widgets                     | ✓                 |   |                                 |                                    |
| Take Action on Multiple Table Records with a Single Click                    |                   | ✓   |                                 |                                    |
| Summarize Data Across Dimensions with Pivot Tables                           | ✓                 |   |                                 |                                    |
| Save and Package Images with Wave Apps                                       | ✓                 |   |                                 |                                    |
| Get Accurate Calculations with the New Null Measure Handling                 |                   |   |                                 | ✓                                  |
| Query Datasets and Salesforce Objects with New Step Types                    | ✓                 |   |                                 |                                    |
| Experience More Intuitive Controls for the Date Widget                       | ✓                 |   |                                 |                                    |
| Identify Steps with Descriptive Labels                                       | ✓                 |   |                                 |                                    |

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|---|-------------------|---|---------------------------------|------------------------------------|
| Take Advantage of Other Enhancements to Wave Dashboard Designer                                     | ✓                 |   |                                 |                                    |
| <b>Wave: Trend Data</b>   |                   |   |                                 |                                    |
| Configure Snapshot Schedule for Trending Reports  | ✓                 |   |                                 |                                    |
| Set Org-Wide Limits on Dataset Size for Trending Reports  | ✓                 |   |                                 |                                    |
| Group Columns with Boolean Values in Trending Dashboards  | ✓                 |   |                                 |                                    |
| <b>Wave: Accelerate with Prebuilt Wave Apps</b>   |                   |   |                                 |                                    |
| New Service Wave Analytics Dashboard and Datasets Bring Live Agent and Omni-Channel Data Into Focus | ✓                 |   |                                 |                                    |
| New Versions of Wave for Sales, Wave for Service Apps—Now Generally Available                       | ✓                 |   |                                 |                                    |
| Available for Preview: New Versions of Wave for Sales, Wave for Service—Now in Beta                 | ✓                 |   |                                 |                                    |
| Wave for Sales and Service Easier Than Ever to Create   | ✓                 |   |                                 |                                    |
| <b>Wave: Go Places with Wave Mobile</b>   |                   |   |                                 |                                    |
| Experience the Latest Wave for iOS  | ✓                 |   |                                 |                                    |
| Get the Latest for Wave Analytics for Android   | ✓                 |   |                                 |                                    |
| <b>Wave: Develop on the Platform</b>  |                   |   |                                 |                                    |
| Take Advantage of the Latest SAQL Functionality   |                   | ✓   |                                 |                                    |
| Review Updates to the REST API for Wave   |                   | ✓   |                                 |                                    |
| Migrate or Deploy Your Customizations with Packageable User XMD                                     |                   | ✓   |                                 |                                    |
| Package and Distribute Apps with Wave Templates (Beta)  |                   | ✓   |                                 |                                    |
| <b>Einstein Data Discovery</b>  |                   |   |                                 |                                    |
| <b>Set Up Einstein Data Discovery</b>   |                   |   |                                 | ✓                                  |

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|--|-------------------|---|---------------------------------|------------------------------------|
| <a href="#">Bring Your Data into Einstein Data Discovery</a>                           |                   |   | ✓                               |                                    |
| <a href="#">Find the Stories Buried in Your Data</a>                                   |                   |   | ✓                               |                                    |
| <a href="#">Better Understand Your Data Through Visualizations</a>                     |                   |   | ✓                               |                                    |
| <a href="#">Dig Deeper into the Data</a>   |                   |   | ✓                               |                                    |
| <a href="#">Share or Export the Story</a>  |                   |   | ✓                               |                                    |
| <a href="#">Display Einstein Data Discovery Recommendations in a Salesforce Object</a> |                   |   |                                 | ✓                                  |

## Communities

The cool breeze of Spring '17 blows in some significant changes for Communities—from refreshed tools to fresh components. Community Workspaces centralizes access to *all* the tools you use to build, moderate, and manage your community, and Community Builder gives you more room to work. With criteria-based audiences, you can assign location and record type criteria to page variations to hit your target audience. And mobile actions make it easy to create, edit, and update Salesforce records directly from your mobile device.

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|--|-------------------|---|---------------------------------|------------------------------------|
| <a href="#">It's Time to Update Your Pre-Winter '16 Template</a>                                   |                   |   | ✓                               |                                    |
| <a href="#">Prepare Your Communities for TLS 1.0 Disablement</a>                                   |                   |   | ✓                               |                                    |
| <a href="#">Server-Side Access Checks for Events Enforced for Custom Components in Communities</a> |                   |   | ✓                               |                                    |
| <b>LockerService</b>   |                   |   |                                 |                                    |
| <a href="#">LockerService for Communities Critical Update Replaced</a>                             |                   |   | ✓                               |                                    |
| <a href="#">Improve the Security of Your Page &lt;Head&gt; Markup</a>                              |                   | ✓   |                                 |                                    |
| <b>Usability and Design Improvements</b>   |                   |   |                                 |                                    |
| <a href="#">Community Workspaces: The New Center of Your Communities Universe</a>                  |                   |   | ✓                               |                                    |

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|---|-------------------|---|---------------------------------|------------------------------------|
| <a href="#">Community Builder Gets More Elbow Room</a>  |                   | ✓   |                                 |                                    |
| <a href="#">See What Goes Where with Better Visual Feedback While Building</a>                    |                   | ✓   |                                 |                                    |
| <a href="#">Gain Control of Each Page Layout with Theme Layout Types</a>                          |                   | ✓   |                                 |                                    |
| <a href="#">Find and Create Asset Files from Community Builder</a>                                |                   | ✓   |                                 |                                    |
| <a href="#">Quick Configuration for Custom Domains</a>  |                   |   | ✓                               |                                    |
| <a href="#">Reset Your Password the Easy Way</a>  | ✓                 |   |                                 |                                    |
| <a href="#">Control Capitalization of Titles in Your Community</a>                                |                   | ✓   |                                 |                                    |
| <a href="#">Focus Your Community with Audience Targeting</a>                                      |                   | ✓   |                                 |                                    |
| <a href="#">Package Lightning Bolt Solutions More Easily</a>                                      |                   | ✓   |                                 |                                    |
| <b>Community Templates</b>  |                   |   |                                 |                                    |
| <a href="#">Do More with Mobile in Template-Driven Communities</a>                                | ✓                 |   |                                 |                                    |
| <a href="#">Send Direct Messages in Communities (available within 24 hours after the release)</a> |                   |   | ✓                               |                                    |
| <a href="#">Add a Collaboration Feed to Your Articles</a>   | ✓                 |   |                                 |                                    |
| <a href="#">Leave No Question Unanswered in Your Community</a>                                    | ✓                 |   |                                 |                                    |
| <a href="#">See More Relevant Suggested Search Results</a>  | ✓                 |   |                                 |                                    |
| <a href="#">Community Search Results Now Include All Question Posts</a>                           |                   |   | ✓                               |                                    |
| <a href="#">Create Report and Dashboard List Views and Detail Pages</a>                           | ✓                 |   |                                 |                                    |
| <a href="#">Create New Records from Lookups</a>   | ✓                 |   |                                 |                                    |
| <a href="#">Tasks Now Available in Communities</a>  | ✓                 |   |                                 |                                    |

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|--|-------------------|---|---------------------------------|------------------------------------|
| See How Often a Topic Is Followed and Used                     | ✓                 |   |                                 |                                    |
| Simplified Guest User Access for Object Data in Communities    | ✓                 |   |                                 |                                    |
| Bookmarks Feed Comes To Community Builder                      |                   | ✓   |                                 |                                    |
| Customize Community Navigation with Nested Menu Items          |                   | ✓   |                                 |                                    |
| Harness the Power of Visualforce in Template-Based Communities |                   |   | ✓                               |                                    |
| Modify the Kanban View   | ✓                 |   |                                 |                                    |
| <b>Custom Lightning Components</b>                             |                   |   |                                 |                                    |
| Write Once, Reuse Everywhere: Support for force:hasRecordId    |                   | ✓   |                                 |                                    |
| Access Lightning Apps in Public Communities                    |                   | ✓   |                                 |                                    |
| Customize with Global Lightning Components and Events          |                   | ✓   |                                 |                                    |
| <b>Chatter and Files in Community Templates</b>                |                   |   |                                 |                                    |
| Sort by the Most Popular Posts in Your Community               | ✓                 |   |                                 |                                    |
| Filter Questions in Your Community in More Ways                | ✓                 |   |                                 |                                    |
| Share Posts in Your Community                                  | ✓                 |   |                                 |                                    |
| Use Keyboard Keys to Post to Your Community                    | ✓                 |   |                                 |                                    |
| Feeds Look and Feel Gets Refreshed in Your Community           | ✓                 |   |                                 |                                    |
| Manage Members with Greater Ease                               | ✓                 |   |                                 |                                    |
| User Profile Header Is More Streamlined                        | ✓                 |   |                                 |                                    |
| User Info on Hover Comes to Communities                        | ✓                 |   |                                 |                                    |
| Place Users' Reputation Levels Where You Want Them             |                   | ✓   |                                 |                                    |

| Feature  | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|--|-------------------|---|---------------------------------|------------------------------------|
| <a href="#">Customizable Groups Now Generally Available</a>  | ✓                 |   |                                 |                                    |
| <a href="#">Organize Your Groups List View Using Tiles</a>   | ✓                 |   |                                 |                                    |
| <b>Search, Reports, and Analytics</b>  |                   |   |                                 |                                    |
| <a href="#">Get More Granular Information with Improved Search Reporting</a>                         | ✓                 |   |                                 |                                    |
| <a href="#">Dive Deeper into Self-Service Communities Using Google Analytics</a>                     |                   |   | ✓                               |                                    |
| <a href="#">Create a Custom Report Type to See Click-Through Rates for Related Questions</a>         | ✓                 |   |                                 |                                    |
| <b>Moderation</b>  |                   |   |                                 |                                    |
| <a href="#">Get a Head Start with Preconfigured Moderation Rules</a>                                 |                   |   | ✓                               |                                    |
| <a href="#">Protect Your Community and Improve Productivity with Einstein Spam Detection (Pilot)</a> |                   |   | ✓                               |                                    |
| <b>Other Changes in Communities</b>  |                   |   |                                 |                                    |
| <a href="#">Create List Views in Communities</a>   |                   |   | ✓                               |                                    |
| <a href="#">Edit Records Inline in Communities</a>   | ✓                 |   |                                 |                                    |
| <a href="#">Refine Reputation to Reflect Meaningful Activity</a>                                     |                   |   | ✓                               |                                    |
| <a href="#">Article URLs Now Include the Record ID</a>   |                   | ✓   |                                 |                                    |
| <a href="#">Customer Community Plus Licenses</a>   |                   |   | ✓                               |                                    |
| <a href="#">Create More Communities in Your Salesforce Org</a>                                       |                   |   | ✓                               |                                    |
| <a href="#">Perform Mass Inline Edits in a Community</a>   | ✓                 |   |                                 |                                    |
| <a href="#">Stamp Your Users with a Specialty</a>  |                   |   | ✓                               |                                    |
| <a href="#">Communities Supports All Platform Languages</a>  |                   | ✓   |                                 |                                    |
| <a href="#">Back Button Support Now Available in Tabs in Template-Driven Communities</a>             | ✓                 |   |                                 |                                    |

| Feature                                   | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|---|-------------------|---|---------------------------------|------------------------------------|
| <a href="#">Communities Documentation</a> | ✓                 |   |                                 |                                    |

## Chatter

We redesigned the Chatter home page in Lightning Experience to give you more of what you want—customization. We introduced the Company Highlights feed, the ability to create your own feeds with streams, a list of your recently updated groups, and a way to share posts. You can also create custom groups for any use case and filter questions in group feeds in communities and Lightning Experience.

| Feature  | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|--|-------------------|---|---------------------------------|------------------------------------|
| <b>Feeds</b>   |                   |   |                                 |                                    |
| <a href="#">Lightning Chatter Home Page Gets a Makeover</a>                      | ✓                 |   |                                 |                                    |
| <a href="#">Create Custom Feeds with Chatter Streams</a>                         | ✓                 |   |                                 |                                    |
| <a href="#">All Company Feed Becomes Company Highlights, Powered by Einstein</a> | ✓                 |   |                                 |                                    |
| <a href="#">Shield Platform Encryption Comes To Chatter (Pilot)</a>              |                   |   |                                 | ✓                                  |
| <a href="#">Share Posts in Lightning Experience</a>                              | ✓                 |   |                                 |                                    |
| <a href="#">Live Comments Are Better Than Ever</a>                               | ✓                 |   |                                 |                                    |
| <a href="#">Use Keyboard Keystrokes to Post</a>                                  | ✓                 |   |                                 |                                    |
| <a href="#">Feeds Look and Feel Gets Refreshed</a>                               | ✓                 |   |                                 |                                    |
| <b>Groups</b>  |                   |   |                                 |                                    |
| <a href="#">Customizable Chatter Groups Now Generally Available</a>              |                   | ✓   |                                 |                                    |
| <a href="#">Organize Your Groups List View Using Tiles</a>                       | ✓                 |   |                                 |                                    |
| <a href="#">Invite External Users to Chatter Groups in Lightning Experience</a>  | ✓                 |   |                                 |                                    |

## Files

We enhanced the files experience to get you more functionality with less friction. Freshen up your libraries by organizing your library files into folders (beta). Use Apex to customize file downloads for security and tracking. Work faster and better in Lightning Experience by attaching and renaming files right from the Files related list.

| Feature  | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|--|-------------------|---|---------------------------------|------------------------------------|
| <a href="#">Organize Library Files in Folders (Beta)</a>                                       |                   |   | ✓                               |                                    |
| <a href="#">Add Salesforce Files to a Record from the Related List in Lightning Experience</a> | ✓                 |   |                                 |                                    |
| <a href="#">Why You Should Add the Files Related List to Your Page Layouts</a>                 |                   |   | ✓                               |                                    |
| <a href="#">Rename Files in Lightning Experience</a>   | ✓                 |   |                                 |                                    |
| <a href="#">Convert a Link to an External File into a Files Connect File Reference</a>         | ✓                 |   |                                 |                                    |
| <a href="#">Salesforce Files Sync Now Supports macOS Sierra</a>                                | ✓                 |   |                                 |                                    |
| <a href="#">Decide When to Send Files as Links</a>   |                   | ✓   |                                 |                                    |
| <a href="#">Use Apex to Customize File Downloads</a>   |                   | ✓   |                                 |                                    |

## Mobile

Salesforce mobile apps help your users stay productive throughout their busy days, no matter where they are. Salesforce1 offers improvements to tasks, enhanced charts, approvals, and many other sales features, so sales professionals can take care of even more business from their phones. Salesforce Authenticator gets a design update that makes it easier to read notifications at a glance. And introducing the new Field Service Lightning iOS mobile app, an all-in-one tool that puts everything your field service technicians need at their fingertips.

| Feature  | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|--|-------------------|---|---------------------------------|------------------------------------|
| <b>Salesforce1</b>   |                   |   |                                 |                                    |
| <a href="#">What's New in the Latest Salesforce1 Downloadable Apps</a>                       | ✓                 |   |                                 |                                    |
| <a href="#">Everything That's New in Salesforce1 This Release</a>                            |                   |   |                                 |                                    |
| <a href="#">Reminder that Salesforce1 Requires iOS 10 in Spring '17</a>                      | ✓                 |   |                                 |                                    |
| <a href="#">New Default Location for Tasks and Events in the Salesforce1 Navigation Menu</a> |                   | ✓   |                                 |                                    |

| Feature   | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|---|-------------------|---|---------------------------------|------------------------------------|
| Find and Open Custom Apps in Salesforce1 with iOS Spotlight Search                        | ✓                 |   |                                 |                                    |
| Go Straight to Person Accounts from Contact List Views in Salesforce1                     | ✓                 |   |                                 |                                    |
| See Lead Scores in Salesforce1  |                   |   | ✓                               |                                    |
| Do More with Orders in Salesforce1  | ✓                 |   |                                 |                                    |
| Get Better Access to Quotes in Salesforce1  | ✓                 |   |                                 |                                    |
| Create Follow-Up Tasks in Salesforce1   | ✓                 |   |                                 |                                    |
| Use Recurring Tasks in Salesforce1  |                   |   | ✓                               |                                    |
| Enhanced Charts Replace Legacy Charts in Salesforce1 (Phased Retirement)                  | ✓                 |   |                                 |                                    |
| See up to 200 Groupings on Enhanced Charts in Salesforce1                                 | ✓                 |   |                                 |                                    |
| View Bar + Line Combination Charts in Salesforce1   | ✓                 |   |                                 |                                    |
| Attach Files from Content Libraries to Posts with Salesforce1 for iOS                     | ✓                 |   |                                 |                                    |
| View Posts in Salesforce1 That Were Shared in Lightning Experience                        | ✓                 |   |                                 |                                    |
| Make Calls or Send Email from Profiles in Salesforce1                                     | ✓                 |   |                                 |                                    |
| Customize the Offline Cache in Salesforce1  | ✓                 |   |                                 |                                    |
| Unified Create and Edit Experience in Salesforce1 for Online and Offline Sessions         | ✓                 |   |                                 |                                    |
| New and Improved Web View Available in Salesforce1 for iOS                                | ✓                 |   |                                 |                                    |
| Go from External Apps Directly into Visualforce and Lightning Apps in Salesforce1 for iOS | ✓                 |   |                                 |                                    |
| <b>Salesforce Authenticator</b>   |                   |   |                                 |                                    |
| <b>Salesforce Authenticator Sports a New Design</b>                                       | ✓                 |   |                                 |                                    |
| <b>Salesforce Authenticator Notifications for iOS 10 Easier to Read</b>                   | ✓                 |   |                                 |                                    |

| Feature  | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|--|-------------------|---|---------------------------------|------------------------------------|
| <a href="#">Rename Your Connections</a>                                      |                   |   |                                 |                                    |
| <a href="#">Set an Alphanumeric Passcode for Your Account Backup</a>         | ✓                 |   |                                 |                                    |
| <a href="#">Field Service Lightning iOS (not immediately available)</a>      |                   |   | ✓                               |                                    |
| <a href="#">Salesforce Classic Mobile</a>                                    |                   | ✓   |                                 |                                    |
| <a href="#">SalesforceA: More Resource Options for Android and iOS Users</a> |                   |   |                                 |                                    |
| <a href="#">Check Your Lightning Experience Readiness with SalesforceA</a>   |                   |   |                                 |                                    |
| <a href="#">Kick Off Optimizer with SalesforceA</a>                          |                   |   |                                 |                                    |
| <a href="#">SalesforceA Connected App Splits into Two</a>                    |                   |   |                                 |                                    |

## Financial Services Cloud

Advisors can now create, maintain, and visualize clients and households through new relationship groups. Get new client service enhancements, including alerts on a client's profile page and financial accounts to help advisors keep up with changes to client's financial accounts.

| Feature   | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|---|-------------------|---|---------------------------------|------------------------------------|
| <a href="#">Add Businesses to Households</a>                    |                   |   |                                 |                                    |
| <a href="#">Create Relationship Groups with New Wizard</a>      |                   |   |                                 |                                    |
| <a href="#">Add an Individual Client to Multiple Households</a> |                   |   |                                 |                                    |
| <a href="#">Visualize Financial Relationships</a>               |                   |   |                                 |                                    |
| <a href="#">Get Timely Alerts About Financial Accounts</a>      |                   |   |                                 |                                    |
| <a href="#">Create Cases from Financial Accounts</a>            |                   |   |                                 |                                    |
| <a href="#">Sync Accounts and Contacts</a>                      |                   |   |                                 |                                    |
| <a href="#">Changed Financial Services Cloud Object</a>         |                   |   |                                 |                                    |
| <a href="#">Changed Financial Services Cloud Metadata</a>       |                   |   |                                 |                                    |

## Health Cloud

Optimize care coordination and proactively manage patients who are at risk with Wave dashboards. And we've made it super easy to take Salesforce leads and convert them into Health Cloud patient records. To top it off, we've added to the Health Cloud data model, and improved the performance of the Health Cloud console.

| Feature   | Enabled for users | Enabled for administrators/ developers | Requires administrator setup | Contact Salesforce to enable |
|---|-------------------|--|------------------------------|------------------------------|
| <a href="#">Manage Patient Risk with Wave for Health Cloud: Risk Stratification</a> |                   |  |                              | ✓                            |
| <a href="#">Seamlessly Convert Leads into Patients</a>                              |                   |  | ✓                            |                              |
| <a href="#">Faster Load Times for the Patient Timeline</a>                          |                   |  | ✓                            |                              |
| <a href="#">Health Cloud Has New Custom Objects</a>                                 |                   | ✓                                      |                              |                              |
| <a href="#">Health Cloud Metadata: New and Changed Types</a>                        |                   | ✓                                      |                              |                              |
| <a href="#">Console Performance Improvements</a>                                    | ✓                 |  |                              |                              |
| <a href="#">Create Precise Patient Lists with Advanced Patient Segmentation</a>     | ✓                 |  |                              |                              |
| <a href="#">View the Most Recently Used Patient List</a>                            | ✓                 |  |                              |                              |

## Customization

Now clicks take you further than ever. They get you more granular control over how you assign Lightning record pages to your users. They give you control over your flow screens – including a way to make them look like Lightning Experience. And although a little bit of code is involved, clicks make it easy to connect your org to external services.

| Feature   | Enabled for users | Enabled for administrators/ developers | Requires administrator setup | Contact Salesforce to enable |
|---|-------------------|--|------------------------------|------------------------------|
| <b>Lightning App Builder</b>  |                   |  |                              |                              |
| <a href="#">Assign Record Pages by App, Record Type, and Profile</a>            |                   | ✓                                      |                              |                              |
| <a href="#">Customize Person Account Pages</a>                                  |                   | ✓                                      |                              |                              |
| <a href="#">Build Dynamic Picklists for Lightning Page Components with Apex</a> |                   | ✓                                      |                              |                              |
| <a href="#">Customize Your Lightning Pages Even More with New Templates</a>     |                   | ✓                                      |                              |                              |

| Feature   | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|---|-------------------|---|---------------------------------|------------------------------------|
| <a href="#">Clone Salesforce Default Lightning Pages</a>  |                   | ✓   |                                 |                                    |
| <a href="#">Lightning App Builder New Page Wizard Is Restructured</a>   |                   | ✓   |                                 |                                    |
| <a href="#">Customize the Highlights Panel with More Action Buttons</a>   |                   | ✓   |                                 |                                    |
| <a href="#">Add the Related Record Component to Your Lightning Pages</a>  |                   | ✓   |                                 |                                    |
| <a href="#">Add the Related List Component to Your Lightning Pages</a>  |                   | ✓   |                                 |                                    |
| <a href="#">Customize How Related Lists Display on Lightning Pages</a>  |                   | ✓   |                                 |                                    |
| <a href="#">Power Up Your Lightning Pages with the Flow Component (Beta)</a>  |                   | ✓   |                                 |                                    |
| <a href="#">Display Pending Approval Requests on Home Pages</a>   |                   | ✓   |                                 |                                    |
| <a href="#">Add Skype to Lightning Record Pages (Beta)</a>  |                   |   | ✓                               |                                    |
| <a href="#">Rich Text Component Disabled When LockerService Critical Update Is Active</a>   |                   |   | ✓                               |                                    |
| <b>External Services (Beta)</b>   |                   |   |                                 |                                    |
| <a href="#">External Services Wizard Walks You Through Setup (Beta)</a>   |                   | ✓   |                                 |                                    |
| <a href="#">Easily Add a Schema to External Services (Beta)</a>   |                   | ✓   |                                 |                                    |
| <a href="#">Perform Repeatable Actions with Flows and External Services (Beta)</a>  |                   | ✓   |                                 |                                    |
| <b>Salesforce Connect</b>   |                   |   |                                 |                                    |
| <a href="#">Work Seamlessly Across All Your Salesforce Orgs—Cross-Org Connector with Write Support</a>  |                   |   | ✓                               |                                    |
| <a href="#">Highlights Panel and Custom Console Components Are Available for External Objects in the Salesforce Console in Salesforce Classic</a> |                   | ✓   |                                 |                                    |

| Feature   | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|---|-------------------|---|---------------------------------|------------------------------------|
| Improved External Lookup Relationship Fields—How Important Is a Name?   | ✓                 |   |                                 |                                    |
| Create Quick Actions for External Objects   |                   | ✓   |                                 |                                    |
| Improved Reports for External Objects   | ✓                 |   |                                 |                                    |
| <b>Approvals</b>  |                   |   |                                 |                                    |
| Review Pending Approval Requests from Lightning Experience  |                   | ✓   |                                 |                                    |
| Don't Worry About That Submit Button Anymore!   |                   |   | ✓                               |                                    |
| Select Next Approver from Lightning Experience and Salesforce1  | ✓                 |   |                                 |                                    |
| "Make Sure Records that Are Submitted Behind the Scenes Are Routed to the Right Approval Process" Critical Update Postponed |                   |   | ✓                               |                                    |
| <b>Visual Workflow</b>  |                   |   |                                 |                                    |
| Run Flows with a Lightning Skin (Generally Available)   |                   |   | ✓                               |                                    |
| Embed Your Flows in Lightning Pages (Beta)  |                   | ✓   |                                 |                                    |
| Now You See Me, Now You Don't: Dynamically Update Flow Screen Fields (Pilot)  |                   |   |                                 | ✓                                  |
| Customize the Look and Feel of Flow Interviews with the REST API (Pilot)  |                   |   |                                 | ✓                                  |
| More Context for Flow Errors  |                   | ✓   |                                 |                                    |
| Enforce Field-Level Security for All Flow Operations  |                   | ✓   |                                 |                                    |
| "Trust Percent Values in Flow sObject Variables Again" Critical Update Activates in Spring '17                              |                   |   | ✓                               |                                    |
| Display Flow Screens in Two Columns (Generally Available)   |                   |   | ✓                               |                                    |
| <b>Process Builder</b>  |                   |   |                                 |                                    |

| Feature   | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|---|-------------------|---|---------------------------------|------------------------------------|
| Process Builder Has Updated Icons   |                   | ✓   |                                 |                                    |
| <b>Picklist Administration</b>  |                   |   |                                 |                                    |
| Global Picklist Fields Now Have Their Own Record Type   |                   | ✓   |                                 |                                    |
| Add Global Picklist Fields to All Record Types  |                   | ✓   |                                 |                                    |
| Value Labels Are No Longer Tied to API Names  |                   | ✓   |                                 |                                    |
| Access Picklists with the Tooling API   |                   | ✓   |                                 |                                    |
| Task and Event Subject Fields Are Not Available as Inactive Values in Unrestricted Custom Picklists |                   |   | ✓                               |                                    |
| <b>AppExchange</b>  |                   |   |                                 |                                    |
| Get More Information with Streamlined AppExchange Listings  |                   | ✓   |                                 |                                    |
| Review AppExchange Offerings in Salesforce  |                   | ✓   |                                 |                                    |
| <b>General Setup</b>  |                   |   |                                 |                                    |
| See Your Lightning Record Page Assignments at a Glance  |                   | ✓   |                                 |                                    |
| Lightning for Outlook and Lightning for Gmail (Beta) Welcome Force.com Users                        |                   |   | ✓                               |                                    |
| Standard Permission Sets Make Your Life Easier  |                   | ✓   |                                 |                                    |
| Get More Control Over Customizing Actions for Contracts and Orders                                  |                   | ✓   |                                 |                                    |
| Eliminating JavaScript from Functions Increases Security  |                   | ✓   |                                 |                                    |
| Setup Gets Its Own Tab in Lightning Experience  |                   | ✓   |                                 |                                    |
| Navigate to Custom Tabs More Easily with Friendly Tab URLs  |                   | ✓   |                                 |                                    |

## Security and Identity

Security Health Check offers custom baselines to streamline the job of setting up security for your users and customers. You can encrypt Chatter posts and attachments, and protect Internet of Things devices with OAuth 2.0.

| Feature  | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|--|-------------------|---|---------------------------------|------------------------------------|
| <b>Authentication and Identity</b>   |                   |   |                                 |                                    |
| <b>Manage the Once Unmanageable OAuth Connected Apps</b>   |                   | ✔   |                                 |                                    |
| <b>Identity Verification Required for Two-Factor Authentication</b>                                      | ✔                 |   |                                 |                                    |
| <b>Admins Logging In as Users Can Be Subject to Two-Factor Authentication</b>                            |                   | ✔   |                                 |                                    |
| <b>Lightning Login Enhancements Available with Salesforce Authenticator Version 2.7.0</b>                | ✔                 |   |                                 |                                    |
| <b>Client Secret Can Be Optional in OAuth Web Server Authentication Flow (not immediately available)</b> |                   | ✔   |                                 |                                    |
| <b>Introducing Identity for the Internet of Things</b>   |                   |   |                                 |                                    |
| OAuth 2.0 Asset Token Flow for Securing Connected Devices (Generally Available)                          |                   | ✔   |                                 |                                    |
| OAuth 2.0 Authentication Flow for Applications on Limited Input Devices (not immediately available)      |                   | ✔   |                                 |                                    |
| <b>Customize Your Custom Authentication Provider</b>   |                   | ✔   |                                 |                                    |
| <b>Health Check</b>  |                   |   |                                 |                                    |
| <b>Import a Custom Security Baseline into Health Check (Beta)</b>  |                   | ✔   |                                 |                                    |
| <b>New Permission Required for Viewing and Managing Health Check</b>                                     |                   | ✔   |                                 |                                    |
| <b>Salesforce Shield</b>   |                   |   |                                 |                                    |
| <b>Platform Encryption: Encrypt Formula Fields and Chatter Posts</b>                                     |                   |   |                                 |                                    |
| Encryption Checks Go Faster  |                   |   |                                 |                                    |
| Retrieve Encrypted Data with Custom Formula Fields (Beta)  |                   |   |                                 |                                    |

| Feature  | Enabled for users | Enabled for administrators/<br>developers | Requires administrator setup | Contact Salesforce to enable |
|--|-------------------|---|------------------------------|------------------------------|
| Encrypt Your Data in Chatter (Pilot)   |                   |   |                              |                              |
| Turn Off Masking for Encrypted Data  |                   |   |                              |                              |
| Encrypt Search Index Files With a Dedicated Tenant Secret Type                         |                   |   |                              |                              |
| Search Index Encryption for Government Cloud   |                   |   |                              |                              |
| Embed Encryption in Analytics Cloud (Beta)   |                   |   |                              |                              |
| <b>Event Monitoring: Track Lightning Experience Adoption and Your Admins' Activity</b> |                   |   |                              |                              |
| Track User Actions in Lightning Experience with Event Log Files                        |                   | ✓   |                              |                              |
| See the Actions of Salesforce Administrators Who Logged In as Another User             |                   | ✓   |                              |                              |
| Prepare Your Org for UI Tracking Event Type Retirement                                 |                   | ✓   |                              |                              |
| <b>Other Changes</b>   |                   |   |                              |                              |
| <b>Browser Security Features Are Enabled on All Accounts</b>                           |                   |   |                              |                              |
| <b>Protect Against Cross-Site Scripting and Malicious Files</b>                        |                   |   |                              |                              |

## Deployment

The "Modify All Data" permission is now selected automatically when the "Deploy Change Sets" permission is selected.

| Feature   | Enabled for users | Enabled for administrators/<br>developers | Requires administrator setup | Contact Salesforce to enable |
|---|-------------------|---|------------------------------|------------------------------|
| <b>"Modify All Data" Permission Is Automatically Selected When "Deploy Change Sets" Is Selected</b> |                   | ✓   |                              |                              |

## Development

Whether you're using Lightning components, Visualforce, Apex, or our APIs with your favorite programming language, these enhancements to Force.com help you develop amazing applications, integrations, and packages for resale to other organizations.

| Feature   | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|---|-------------------|---|---------------------------------|------------------------------------|
| <b>Lightning Components</b>   |                   |   |                                 |                                    |
| Host Single-Page Apps Developed with Third-Party Frameworks Using lightning:container (Developer Preview) |                   | ✓   |                                 |                                    |
| Implement Your Own Rich-Text Editor with lightning:inputRichText (Beta)                                   |                   | ✓   |                                 |                                    |
| Server-Side Access Checks for Events  |                   | ✓   |                                 |                                    |
| New Lightning LockerService Informational Setup Page  |                   | ✓   |                                 |                                    |
| Banner Reminds You About LockerService  |                   | ✓   |                                 |                                    |
| LockerService Has Stricter Content Security Policy  |                   |   | ✓                               |                                    |
| Create CSP Trusted Sites to Access Third-Party APIs   |                   |   | ✓                               |                                    |
| Salesforce Lightning CLI Is No Longer Noisy By Default  |                   | ✓   |                                 |                                    |
| Use Unbound Expressions for One-Way Data Binding Between Components                                       |                   | ✓   |                                 |                                    |
| Speed Up Your Components by Fixing Performance Warnings   |                   | ✓   |                                 |                                    |
| Debug Lightning Components on Every Page with Salesforce Lightning Inspector                              |                   | ✓   |                                 |                                    |
| Customize the Look and Feel of Lightning Apps by Overriding Tokens (Developer Preview)                    |                   | ✓   |                                 |                                    |
| Share Lightning Apps with Non-Authenticated Users   |                   | ✓   |                                 |                                    |
| Find Component Markup Errors Faster with Improved Error Messages  | ✓                 |   |                                 |                                    |
| Create Lightning Components for Quick Actions in the Developer Console                                    |                   | ✓   |                                 |                                    |
| Lightning Data Service (Developer Preview)  |                   | ✓   |                                 |                                    |
| <b>Simplified Event Handling Across Base Lightning Components</b>   |                   |   |                                 |                                    |

| Feature  | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|--|-------------------|---|---------------------------------|------------------------------------|
| Handling the onactive Event  |                   | ✓   |                                 |                                    |
| Removed LockerService Restriction on instanceof in JavaScript                |                   | ✓   |                                 |                                    |
| Deprecated useAppcache Attribute in <aura:application>                       |                   | ✓   |                                 |                                    |
| New and Changed Lightning Components   |                   | ✓   |                                 |                                    |
| Changed Lightning Events   |                   | ✓   |                                 |                                    |
| New JavaScript API Methods   |                   | ✓   |                                 |                                    |
| <b>Visualforce</b>   |                   |   |                                 |                                    |
| Use the Lightning Design System in Visualforce Pages                         |                   |   | ✓                               |                                    |
| Reference Lightning Design System Assets with the \$Asset Global Variable    |                   |   | ✓                               |                                    |
| Add More Security to Your Visualforce Pages                                  |                   | ✓   |                                 |                                    |
| Allow CSRF Protection on GET Requests to Visualforce Pages (Critical Update) |                   |   | ✓                               |                                    |
| New Order of Visualforce URL Parameters Affects Overrides                    |                   |   | ✓                               |                                    |
| <b>Apex Code</b>   |                   |   |                                 |                                    |
| Apex Stub API Is Now Generally Available                                     |                   | ✓   |                                 |                                    |
| Monitor the Status of Apex Batch Jobs  |                   | ✓   |                                 |                                    |
| Only One Test Setup Method per Class is Allowed                              |                   | ✓   |                                 |                                    |
| Goodbye to instanceof Keyword Bugs   |                   | ✓   |                                 |                                    |
| Make Web Service Callouts from Chained Queueable Jobs                        |                   | ✓   |                                 |                                    |
| Maps of Populated SObject Fields Return Correct Values                       |                   | ✓   |                                 |                                    |
| Apex Has New Transaction Security Policy Testing Requirements                |                   | ✓   |                                 |                                    |
| <b>Apex: New and Changed Classes and Interfaces</b>                          |                   |   |                                 |                                    |

| Feature  | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|--|-------------------|---|---------------------------------|------------------------------------|
| New Apex Classes   |                   | ✓   |                                 |                                    |
| Changed Apex Interface   |                   | ✓   |                                 |                                    |
| <b>ConnectApi (Chatter in Apex)</b>  |                   |   |                                 |                                    |
| New and Changed Chatter in Apex Classes  |                   | ✓   |                                 |                                    |
| New and Changed Chatter in Apex Input<br>Classes                                   |                   | ✓   |                                 |                                    |
| New and Changed Chatter in Apex Output<br>Classes                                  |                   | ✓   |                                 |                                    |
| New and Changed Chatter in Apex Enums  |                   | ✓   |                                 |                                    |
| <b>API</b>   |                   |   |                                 |                                    |
| <b>New and Changed Objects</b>   |                   |   |                                 |                                    |
| New Objects  |                   | ✓   |                                 |                                    |
| Changed Objects  |                   | ✓   |                                 |                                    |
| <b>SOSL</b>  |                   |   |                                 |                                    |
| Changed Resource: FIND {SearchQuery}   |                   | ✓   |                                 |                                    |
| Highlight Matching Terms in Search Results<br>by Using the WITH HIGHLIGHT Clause   |                   | ✓   |                                 |                                    |
| <b>REST API</b>  |                   |   |                                 |                                    |
| Make Several Requests at Once with the<br>Composite Resource (Generally Available) |                   | ✓   |                                 |                                    |
| New Resources: Flows and Flow Interviews<br>(Pilot)                                |                   |   |                                 | ✓                                  |
| Changed Resource: Search for a String  |                   | ✓   |                                 |                                    |
| Changed Resource: Search Suggested<br>Records                                      |                   | ✓   |                                 |                                    |
| Removed Resource: FlexiPage  |                   |   |                                 |                                    |
| <b>SOAP API</b>  |                   |   |                                 |                                    |
| New, Changed, and Deprecated Calls   |                   | ✓   |                                 |                                    |
| <b>Chatter REST API</b>  |                   |   |                                 |                                    |
| New and Changed Chatter REST API<br>Resources                                      |                   | ✓   |                                 |                                    |

| Feature  | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|--|-------------------|---|---------------------------------|------------------------------------|
| New and Changed Chatter REST API Request Bodies                                      |                   | ✓   |                                 |                                    |
| New and Changed Chatter REST API Response Bodies                                     |                   | ✓   |                                 |                                    |
| <b>Reports and Dashboards REST API</b>   |                   |   |                                 |                                    |
| New Resource and Parameters: Report Types, lightningSubscribe                        |                   | ✓   |                                 |                                    |
| New Methods  |                   | ✓   |                                 |                                    |
| Changed Resources: Dashboard DescribedashboardMetadata and Dashboard Results         |                   | ✓   |                                 |                                    |
| <b>Lightning API—Developer Preview (available within 24 hours after the release)</b> |                   | ✓   |                                 |                                    |
| <b>Bulk API</b>  |                   |   |                                 |                                    |
| Bulk API Now Supports More Complex Queries   |                   | ✓   |                                 |                                    |
| Introducing Bulk API 2.0 (Pilot)   |                   |   |                                 | ✓                                  |
| <b>Messaging</b>   |                   |   |                                 |                                    |
| Deliver Customizable Events with Platform Events (Beta)                              |                   |   |                                 | ✓                                  |
| Easily Subscribe to Streaming API in Java with EMP Connector                         |                   | ✓   |                                 |                                    |
| <b>Tooling API</b>   |                   |   |                                 |                                    |
| Tooling API New and Changed Objects  |                   | ✓   |                                 |                                    |
| Tooling API Documentation Changes  |                   | ✓   |                                 |                                    |
| <b>Metadata API</b>  |                   | ✓   |                                 |                                    |
| <b>Data Services</b>   |                   |   |                                 |                                    |
| Required Fields for Custom BigObjects (Pilot)  |                   |   |                                 | ✓                                  |
| Define Composite Primary Keys for Custom BigObjects (Pilot)                          |                   |   |                                 | ✓                                  |
| BigObjects Offers Enhanced Query Capabilities (Pilot)                                |                   |   |                                 | ✓                                  |

| Feature   | Enabled for users | Enabled for administrators/<br>developers | Requires administrator<br>setup | Contact<br>Salesforce to<br>enable |
|---|-------------------|---|---------------------------------|------------------------------------|
| Enhancements to Async SOQL (Pilot)  |                   |   |                                 | ✓                                  |
| <b>Open CTI API</b>   |                   | ✓   |                                 |                                    |
| <b>Build AI-Powered Apps Fast (Pilot)</b>                                       |                   | ✓   |                                 |                                    |
| <b>Other API Changes</b>  |                   |   |                                 |                                    |
| Change to Data.com Terminology  |                   | ✓   |                                 |                                    |
| <b>Custom Metadata Types</b>  |                   |   |                                 |                                    |
| <b>Metadata Relationships Now Support Field Definition Relationships</b>        |                   | ✓   |                                 |                                    |
| <b>Long Text Areas in Custom Metadata Types (Pilot)</b>                         |                   |   |                                 | ✓                                  |
| <b>queryMore() Supported in Custom Metadata Types</b>                           |                   | ✓   |                                 |                                    |
| <b>Developer Console</b>  |                   |   |                                 |                                    |
| <b>Create Exception Classes in the Developer Console</b>                        |                   | ✓   |                                 |                                    |
| <b>See More Code Coverage Results in the Developer Console</b>                  |                   | ✓   |                                 |                                    |
| <b>Debugging</b>  |                   |   |                                 |                                    |
| <b>Debug Your Managed Packages in Subscriber Orgs</b>                           |                   | ✓   |                                 |                                    |
| <b>Set Discrete Trace Flag Durations</b>  |                   | ✓   |                                 |                                    |
| <b>ISVforce</b>   |                   |   |                                 |                                    |
| <b>Manage Packages Using Lightning Experience</b>                               |                   | ✓   |                                 |                                    |
| <b>Package Push Upgrades Deactivate New or Modified Remote Sites by Default</b> |                   | ✓   |                                 |                                    |
| <b>ISVforce: Updating Lightning and Salesforce Classic App Packages</b>         |                   |   |                                 |                                    |
| <b>Abort a Package Push Request Using an API</b>                                |                   | ✓   |                                 |                                    |
| <b>Debug Apex Code in Subscriber Orgs</b>                                       |                   | ✓   |                                 |                                    |

| Feature   | Enabled for users | Enabled for administrators/ developers  | Requires administrator setup | Contact Salesforce to enable |
|---|-------------------|---|------------------------------|------------------------------|
| <a href="#">Control LMO Users' Access to Your Code in Subscriber Orgs with a New Permission</a> |                   |  |                              |                              |

## Supported Browsers

Supported browsers for Salesforce vary depending on whether you use Salesforce Classic or Lightning Experience.

### IN THIS SECTION:

#### [Supported Browsers for Lightning Experience](#)

Lightning Experience is supported with Apple® Safari® version 9.x and 10.x on Mac OS X, and Microsoft® Edge for Windows® 10. The most recent stable versions of Mozilla® Firefox® and Google Chrome™ are also supported. Microsoft® Internet Explorer® version 11 is retiring beginning in Summer '16. If you're using Microsoft® Internet Explorer® versions 9–10, you're redirected to Salesforce Classic. There are some limitations.

#### [Supported Browsers for Salesforce Classic](#)

Salesforce Classic is supported with Microsoft® Internet Explorer® version 9, 10, and 11, Apple® Safari® version 8.x, 9.x, and 10.x on macOS, and Microsoft Edge for Windows® 10. The most recent stable versions of Mozilla® Firefox® and Google Chrome™ are also supported. There are some limitations.

## Supported Browsers for Lightning Experience

Lightning Experience is supported with Apple® Safari® version 9.x and 10.x on Mac OS X, and Microsoft® Edge for Windows® 10. The most recent stable versions of Mozilla® Firefox® and Google Chrome™ are also supported. Microsoft® Internet Explorer® version 11 is retiring beginning in Summer '16. If you're using Microsoft® Internet Explorer® versions 9–10, you're redirected to Salesforce Classic. There are some limitations.

 **Note:** You can't access Lightning Experience in a mobile browser. Instead, we recommend using the Salesforce1 app when you're working on a mobile device. For a list of supported mobile browsers on Salesforce1, see [Requirements for the Salesforce1 Mobile App](#).

### Microsoft Edge

Salesforce supports Microsoft Edge on Windows 10 for Lightning Experience. Note these restrictions.

- The HTML solution editor in Microsoft Edge isn't supported in Salesforce Knowledge.
- Microsoft Edge isn't supported for the Developer Console.

### Microsoft Internet Explorer version 11

 **Important:** Support for Internet Explorer 11 to access Lightning Experience is retiring beginning in Summer '16.

- You can continue to use IE11 to access Lightning Experience until December 16, 2017.
- If you opt into Extended Support for IE11, you can continue to use IE11 to access Lightning Experience until December 31, 2020.
- This change doesn't impact Salesforce Classic or users of orgs with Communities.

### EDITIONS

Lightning Experience is available in: **Group, Professional, Enterprise, Performance, Unlimited, and Developer** Editions

For more details about this change, see [Retirement of Support for Accessing Lightning Experience Using Microsoft Internet Explorer version 11](#).

If you use Internet Explorer, we recommend using the latest version that Salesforce supports. Apply all Microsoft software updates. Note these restrictions.

- The full Salesforce site is supported in Internet Explorer 11 on Windows 8 and 8.1 for touch-enabled laptops with standard keyboard and mouse inputs only. There is no support for mobile devices or tablets where touch is the primary means of interaction. Use the Salesforce1 mobile browser app instead.
- The HTML solution editor in Internet Explorer 11 is not supported in Salesforce Knowledge.
- The Compatibility View feature in Internet Explorer isn't supported.
- Changing the compatibility parsing mode of the browser, for example, by using the `X-UA-Compatibility` header, isn't supported.
- Internet Explorer 11 isn't supported for the Developer Console.
- Internet Explorer 11 isn't supported for Lightning Console Apps.
- Drag and drop of files into feed comments isn't supported in Internet Explorer.

For configuration recommendations, see [Internet Explorer Settings](#).

#### **Mozilla® Firefox®, most recent stable version**

Salesforce makes every effort to test and support the most recent version of Firefox. For configuration recommendations, see [Firefox](#).

#### **Google Chrome™, most recent stable version**

Chrome applies updates automatically. Salesforce makes every effort to test and support the most recent version. There are no configuration recommendations for Chrome.

 **Note:** The latest stable version of Google Chromium™ is supported.

#### **Apple® Safari® version 9.x, and 10.x on Mac OS X**

There are no configuration recommendations for Safari.

Safari isn't supported for Salesforce Wave Analytics.

## Wave Analytics Supported Browsers

Browser support is available for Microsoft Edge, Microsoft Internet Explorer version 11, and the most recent stable versions of Mozilla Firefox and Google Chrome.

## Recommendations and Requirements for All Browsers

- For all browsers, enable JavaScript, cookies, and TLS 1.2. If TLS 1.2 isn't available, enable TLS 1.1. Browsers that don't support TLS 1.1 or TLS 1.2 won't be able to access Salesforce after we deactivate TLS 1.0. Deactivation has already occurred in sandbox orgs and concludes with production orgs on July 22, 2017.
- The minimum screen resolution required to support all Salesforce features is 1024 x 768. Lower screen resolutions don't always properly display Salesforce features such as Report Builder and Page Layout Editor.
- For Mac OS users on Apple Safari or Google Chrome, make sure that the system setting `Show scroll bars` is set to **Always**.
- Some third-party Web browser plug-ins and extensions can interfere with the functionality of Chatter. If you experience malfunctions or inconsistent behavior with Chatter, disable the Web browser's plug-ins and extensions and try again.

## Supported Browsers for Salesforce Classic

Salesforce Classic is supported with Microsoft® Internet Explorer® version 9, 10, and 11, Apple® Safari® version 8.x, 9.x, and 10.x on macOS, and Microsoft Edge for Windows® 10. The most recent stable versions of Mozilla® Firefox® and Google Chrome™ are also supported. There are some limitations.

### EDITIONS

Salesforce Classic available in: **All Editions**



**Note:** Using Salesforce Classic in a mobile browser isn't supported. Instead, we recommend using the Salesforce1 app when you're working on a mobile device. To see the mobile browsers that are supported for Salesforce1, check out [Requirements for the Salesforce1 Mobile App](#).

### Microsoft Edge

Salesforce supports Microsoft Edge on Windows 10 for Salesforce Classic. Note these restrictions.

- The HTML solution editor in Microsoft Edge isn't supported in Salesforce Knowledge.
- Microsoft Edge isn't supported for the Developer Console.

### Microsoft Internet Explorer versions 9, 10, and 11

If you use Internet Explorer, we recommend using the latest version that Salesforce supports. Apply all Microsoft software updates. Note these restrictions.

- If you use Internet Explorer, confirm that you have TLS 1.1 and TLS 1.2 enabled. For more information, see [Enabling TLS 1.1 and TLS 1.2 in Internet Explorer](#).
- Internet Explorer 8 has limited support. Salesforce supports Internet Explorer 8 on Windows 7 only, with TLS 1.1 and/or TLS 1.2 enabled.
- The full Salesforce site is supported in Internet Explorer 9, 10, and 11 on Windows 8 and 8.1 for touch-enabled laptops with standard keyboard and mouse inputs only. There is no support for mobile devices or tablets where touch is the primary means of interaction. Use the Salesforce1 mobile browser app instead.
- The HTML solution editor in Internet Explorer 11 is not supported in Salesforce Knowledge.
- Both Compatibility Mode and the Compatibility View in Internet Explorer aren't supported.
- The Metro version of Internet Explorer 10 isn't supported.
- Internet Explorer 11 isn't supported for the Developer Console.
- Community Templates for Self-Service supports Internet Explorer 9 and above for desktop users and Internet Explorer 11 and above for mobile users.
- Internet Explorer 9 isn't supported for Salesforce Wave Analytics.
- Internet Explorer 9 and 10 aren't supported for the Lightning App Builder.
- Internet Explorer 9 and 10 aren't supported for Process Builder.
- Internet Explorer 9 users don't have browser-based spell check.
- Dragging and dropping files into feed comments isn't supported in Internet Explorer.

For configuration recommendations, see [Internet Explorer Settings](#).



**Note:** Salesforce Classic support for Microsoft® Internet Explorer® versions 7 and 8 is discontinued as of Summer '15.

### Mozilla Firefox, most recent stable version

Salesforce makes every effort to test and support the most recent version of Firefox.

- Mozilla Firefox is supported for desktop users only for Community Templates for Self-Service.

For configuration recommendations, see [Firefox](#).

### Google Chrome, most recent stable version

Chrome applies updates automatically. Salesforce makes every effort to test and support the most recent version. There are no configuration recommendations for Chrome.

Chrome isn't supported for the Console Tab (however, the Salesforce Console is supported).

### Apple Safari versions 8.x, 9.x, and 10.x on Mac OS X

There are no configuration recommendations for Safari. Apple Safari on iOS isn't supported for the full Salesforce site.

Safari isn't supported for:

- Salesforce Console in Salesforce Classic
- Salesforce Wave Analytics

## Wave Analytics Supported Browsers

Browser support is available for Microsoft Edge, Microsoft Internet Explorer versions 10 and 11 and the most recent stable versions of Mozilla Firefox and Google Chrome.

## Recommendations and Requirements for All Browsers

- For all browsers, enable JavaScript, cookies, and TLS 1.2. If TLS 1.2 isn't available, enable TLS 1.1. Browsers that don't support TLS 1.1 or TLS 1.2 won't be able to access Salesforce after we deactivate TLS 1.0. Deactivation has already occurred in sandbox orgs and concludes with production orgs on July 22, 2017.
- The minimum screen resolution required to support all Salesforce features is 1024 x 768. Lower screen resolutions don't always properly display Salesforce features such as Report Builder and Page Layout Editor.
- For Mac OS users on Apple Safari or Chrome, make sure the system setting `Show scroll bars` is set to **Always**.
- Some third-party Web browser plug-ins and extensions can interfere with the functionality of Chatter. If you experience malfunctions or inconsistent behavior with Chatter, disable the Web browser's plug-ins and extensions and try again.

Some features in Salesforce—and some desktop clients, toolkits, and adapters—have their own browser requirements. For example:

- Internet Explorer is the only supported browser for:
  - Standard mail merge
  - Installing Salesforce Mobile Classic on a Windows Mobile device
  - Connect Offline
- For the best experience with the enhanced page layout editor, use Firefox.
- For the best experience on machines with 8 GB of RAM in the Salesforce console, use Chrome.
- Browser requirements also apply for uploading multiple files on Chatter.

## Salesforce Overall: Favorites, Console Apps, and More Actions

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Spring '17 gives you more reasons to love Lightning Experience. Customize your navigation experience with favorites, see multiple records on one screen with console apps, and access more global actions from anywhere in Lightning Experience.

### IN THIS SECTION:

#### [Improve Your Salesforce Implementation with Optimizer](#)

Ever wonder how you can streamline your Salesforce implementation, simplify Salesforce for your users, and increase feature adoption? With Optimizer, you can! Optimizer lets you run an automated, programmatic analysis of your sandbox or production environments. Then, we send you an Optimizer report that provides concrete recommendations for how you can improve Salesforce for your company. Optimizer is available at the end of January.

### [Feel Confident About Your Lightning Experience Readiness](#)

Just as we're always adding new features to Lightning Experience, we're adding to the list of customizations that you can evaluate using the Lightning Experience Readiness Check. Make sure to evaluate your readiness again after March 21, when we're releasing new functionality, giving you even more insight into where you stand with Lightning Experience. And if you're still feeling skittish about acting on our recommendations, sign up for a free consultation with a Lightning Experience expert to get more advice. This change applies to both Lightning Experience and Salesforce Classic.

### [Create Shortcuts to Your Top Salesforce Pages with Favorites](#)

If you're familiar with customizing tab sets in Salesforce Classic, you'll appreciate the way you can personalize your Lightning Experience navigation with favorites. This feature is new in Lightning Experience.

### [Console Apps: Now in Lightning Experience \(Beta\)](#)

Are you ready to celebrate? Because we are. Console apps are now available in Lightning Experience. Create console apps for your users to let them view multiple records on one screen and easily access utilities and the critical record details they need—all in Lightning Experience. Lightning console apps are available only to Sales Cloud and Service Cloud users. To prevent unexpected issues, don't give other users access to Lightning console apps. Previously, the console was only available in Salesforce Classic.

### [Enhance Your Lightning Apps with the Utility Bar](#)

The utility bar gives your users quick access to common productivity tools, like Notes and Recent Items. It appears as a fixed footer that users can access to open utilities in docked panels. Under the covers, utilities harness the power of Lightning components. You can add a utility bar to any Lightning app, including standard and console apps. Previously, you could only add or customize a utility bar using the API. This feature is new in Lightning Experience.

### [Take More Actions from the Global Actions Menu](#)

Create records, log calls, take notes, and launch canvas, Visualforce, and Lightning component actions from anywhere in Lightning Experience. The Global Actions menu (+) now displays nearly all global actions from the Salesforce1 and Lightning Experience Actions section of the global publisher layout. This change applies to Lightning Experience only.

### [Use Person Accounts in Professional Edition](#)

Dear Professional Edition users, please meet our good friend Person Accounts. Maybe you've heard of each other. Well, now you can start working together to store information about individuals who function like businesses. This change applies to Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app.

### [Rich-Text Editors Disabled When LockerService Critical Update Is Active](#)

In Lightning Experience, Salesforce1, and template-based Communities, you can't use rich-text editors or edit fields with rich text when the LockerService critical update is active in sandboxes and Developer Edition orgs. Rich-text editors and fields in production orgs continue to function normally even when LockerService is activated. Also, LockerService has no effect in Salesforce Classic or Lightning Out, which includes usage of Lightning components in Visualforce.

### [Create Records Without the Clutter of Inline Visualforce and Calculated Fields](#)

You've spoken and we've been listening. Based on feedback from customers and partners, you'll no longer see Visualforce pages, formula fields, and roll-up summary fields when you create a record. It's everything you need and nothing you don't. This change applies to Lightning Experience only.

### [Search: Smart Tools Take You to the Right Results](#)

Our increasingly flexible search capabilities get you where you need to go in Salesforce, fast. Already know which object you're looking for? Zoom in on it first thing, before entering your search terms. Contacts are easier to find when you know which account they're connected to. If it's Knowledge articles you seek, we've got more filtering options and article snippets in Top Results. Admin-defined dependent lookup filters in Lightning Experience help streamline workflows. And, as you've come to expect in each release, more objects are searchable.

## Improve Your Salesforce Implementation with Optimizer

Ever wonder how you can streamline your Salesforce implementation, simplify Salesforce for your users, and increase feature adoption? With Optimizer, you can! Optimizer lets you run an automated, programmatic analysis of your sandbox or production environments. Then, we send you an Optimizer report that provides concrete recommendations for how you can improve Salesforce for your company. Optimizer is available at the end of January.

To start your evaluation, kick off Optimizer, and sit back and relax while it completes its analysis. After that's finished, we email you a personalized Optimizer report with advice and recommendations about what you need to do to improve a variety of features in your implementation.

But before you kick off your evaluation, learn about which features and customizations that Optimizer evaluates. That way, you know which features and customizations are covered, and which you still need to review for yourself.

Happy optimizing!

### IN THIS SECTION:

#### [Evaluate Profiles and Permission Sets with Salesforce Optimizer](#)

Optimizer now evaluates profiles and process rules in your implementation to determine how you can improve these features for your users. For example, if you have a profile or permission set that isn't assigned to any user, Optimizer flags it and recommends how to fix the problem. This feature is available mid-March.

#### [Find Hard-Coded URLs Hiding in Your Implementation](#)

Optimizer now evaluates your implementation to find hard-coded URLs. Hard-coded URLs can cause links to break when you make changes to your org, preventing users from finding the resources they need. Optimizer does the hunting for you and flags hard-coded references across your implementation. This feature is available mid-April.

#### [Monitor Users' Login Activity with Optimizer](#)

Optimizer now lets you know if your users regularly log in to Salesforce. Optimizer looks at your users' login activity and then flags users that haven't logged in recently or never activated their accounts. This information helps you determine if you can deactivate certain users to protect your data and streamline your implementation. This feature is available mid-April.

### SEE ALSO:

[Salesforce Help: Improve Your Salesforce Implementation with Optimizer](#)

## Evaluate Profiles and Permission Sets with Salesforce Optimizer

Optimizer now evaluates profiles and process rules in your implementation to determine how you can improve these features for your users. For example, if you have a profile or permission set that isn't assigned to any user, Optimizer flags it and recommends how to fix the problem. This feature is available mid-March.

### EDITIONS

Available in: **Professional, Enterprise, Performance, Unlimited, and Developer Editions**

### EDITIONS

Available in: **Professional, Enterprise, Performance, Unlimited, and Developer Editions**

## Find Hard-Coded URLs Hiding in Your Implementation

Optimizer now evaluates your implementation to find hard-coded URLs. Hard-coded URLs can cause links to break when you make changes to your org, preventing users from finding the resources they need. Optimizer does the hunting for you and flags hard-coded references across your implementation. This feature is available mid-April.

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## Monitor Users' Login Activity with Optimizer

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### EDITIONS

Available in: **Professional, Enterprise, Performance, Unlimited, and Developer** Editions

## Feel Confident About Your Lightning Experience Readiness

Just as we're always adding new features to Lightning Experience, we're adding to the list of customizations that you can evaluate using the Lightning Experience Readiness Check. Make sure to evaluate your readiness again after March 21, when we're releasing new functionality, giving you even more insight into where you stand with Lightning Experience. And if you're still feeling skittish about acting on our recommendations, sign up for a free consultation with a Lightning Experience expert to get more advice. This change applies to both Lightning Experience and Salesforce Classic.

Have you checked your Salesforce implementation lately to see whether you're ready for Lightning Experience? Even if you've checked your readiness in the past, check it again to see what's new.

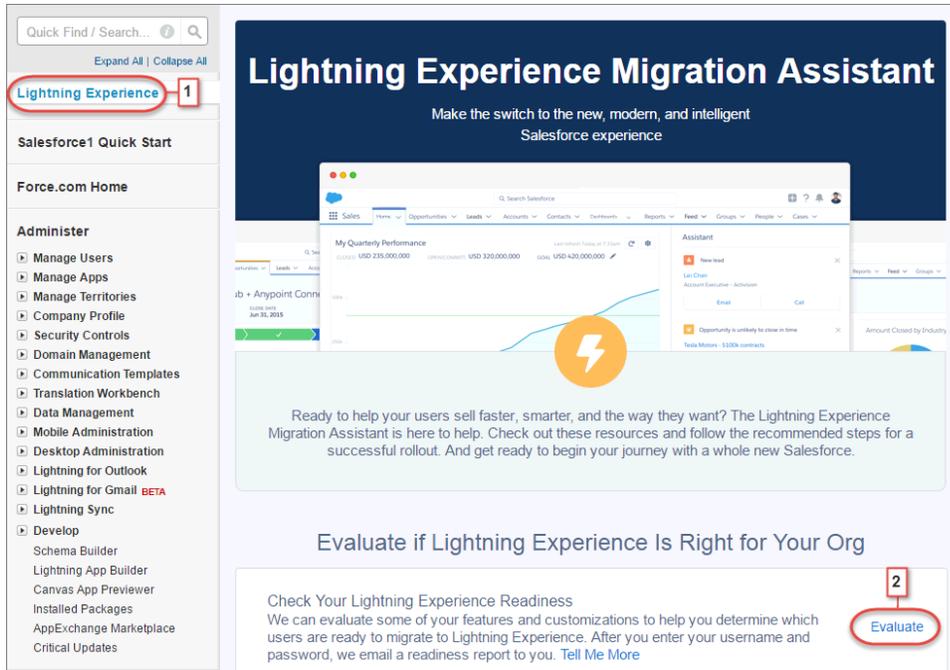
Starting in Spring '17, you can assess your AppExchange packages and more of your related lists. We're also offering more support for developing your rollout strategy, by providing feature usage details and access to free consultations with Lightning Experience experts.

On March 21, we released more functionality. That includes more precise recommendations about how to modify certain JavaScript buttons and links, and advice on who's ready to migrate based on your users' profiles.

Kick off the readiness check from Salesforce Setup. Click **Lightning Experience > Evaluate**.

### EDITIONS

Available in: **Professional, Enterprise, Performance, Unlimited, and Developer** Editions



Next, you get an email with a personalized readiness report, which includes recommendations on how to migrate your Salesforce implementation to Lightning Experience. Your email also includes an invitation to sign up for a free consultation with a Lightning Experience expert, who helps you act on our recommendations.

To see what we've started evaluating since your last check, take a look at "See If You're Ready for Lightning Experience with the Readiness Check" in the Salesforce Help.

And stay tuned to learn about more features and customizations the check starts evaluating in the coming months.

#### SEE ALSO:

[Salesforce Help: Evaluate Your Lightning Experience Readiness \(can be outdated or unavailable during release preview\)](#)

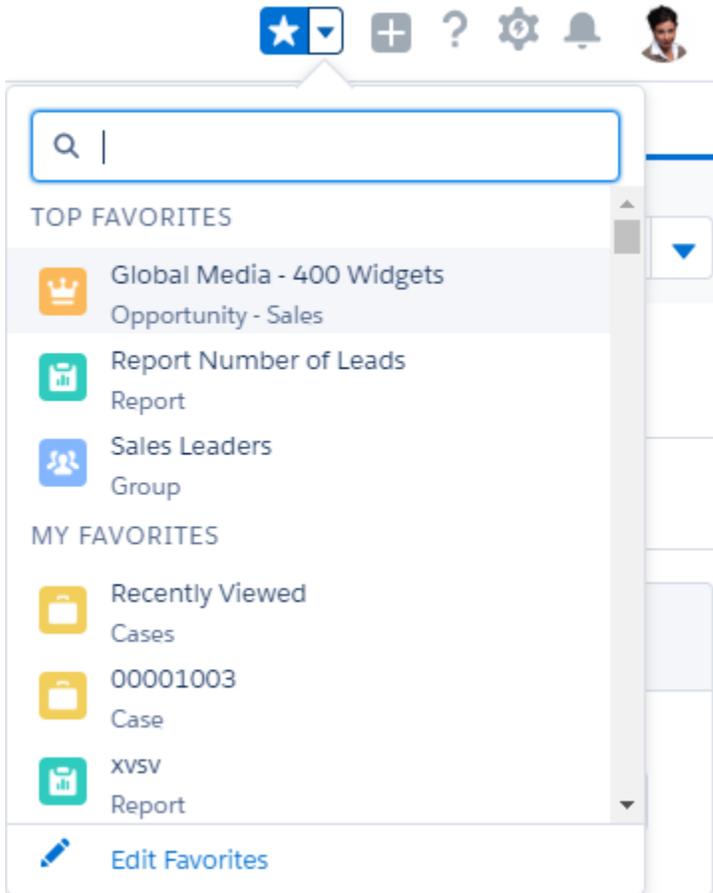
## Create Shortcuts to Your Top Salesforce Pages with Favorites

If you're familiar with customizing tab sets in Salesforce Classic, you'll appreciate the way you can personalize your Lightning Experience navigation with favorites. This feature is new in Lightning Experience.

Favorites let you quickly access important records, lists, groups, dashboards, and other frequently used pages in Salesforce. They're similar to bookmarks in a web browser but better because your favorites are available no matter which browser or computer you use to log into Lightning Experience.

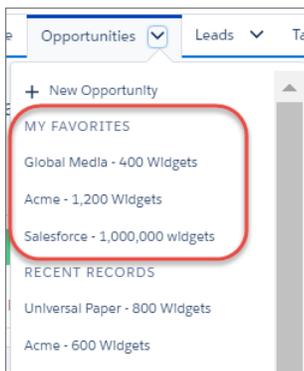
Click the star (  ) to add the current page—for example, all open leads—to your favorites. A highlighted star means you're on a favorite page. To remove a favorite, click the highlighted star.

Your saved favorites are just a click away in your favorites list, where you can find and manage all your favorites.



Each favorite shows the name, record type, and the app name (when the favorite isn't in your current app). When you open a favorite that's in a different app, you switch to that app.

The navigation bar also provides quick access to frequently used favorites in your current app for certain items, like opportunities.



**Tip:** You'll see your top favorites in the navigation bar and in your favorites list after you start using favorites.

Keep these considerations in mind when working with favorites.

- You can have up to 200 favorites, which support these types of content.

- Record home for standard and custom objects (including Visualforce overrides of these record views)
- Lists
- Dashboards
- Reports
- Chatter groups

 **Note:** You can't favorite list views on the Reports, Dashboards, Files, Tasks, and Notes tabs. You also can't favorite Visualforce overrides of list views and individual Chatter posts.

- You can't favorite things in Console apps and setup pages, but you can still access your favorites from these areas.
- Only individual users can manage favorites. They can't be shared or edited by Salesforce admins.

## Console Apps: Now in Lightning Experience (Beta)

Are you ready to celebrate? Because we are. Console apps are now available in Lightning Experience. Create console apps for your users to let them view multiple records on one screen and easily access utilities and the critical record details they need—all in Lightning Experience. Lightning console apps are available only to Sales Cloud and Service Cloud users. To prevent unexpected issues, don't give other users access to Lightning console apps. Previously, the console was only available in Salesforce Classic.

 **Note:** This release contains a beta version of Lightning console apps, which means it's a high-quality feature with known limitations. Lightning console apps aren't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features.

### EDITIONS

Available in Salesforce Classic and Lightning Experience

Available in: **Professional, Enterprise, Performance, Unlimited, and Developer** Editions with Sales Cloud and Service Cloud

### IN THIS SECTION:

#### [Introducing Lightning Console Apps \(Beta\)](#)

You and your console users will love the console in Lightning Experience. Thanks to the Lightning platform, creating and customizing a console app is easier and more powerful. This feature is new in Lightning Experience.

#### [Customize Your Console App Record Pages with Lightning App Builder](#)

To go with your snazzy new Lightning console apps, we've created new Lightning components and a new Lightning page template. Now your console users can be as efficient and productive as they were in Salesforce Classic. Want to know the most awesome part? You can do all this customization with clicks, not code! This feature is new in Lightning Experience.

#### [Get Your Tab History in Lightning Console Apps](#)

We know that your users have a lot to keep track of. We also know that users love the History component used in Salesforce Classic consoles. So we're happy to bring you the History utility in Lightning console apps. Console users can see their recently visited workspace tabs and subtabs from the console utility bar. This feature is new in Lightning Experience.

#### [Understand the Differences Between Salesforce Classic and Lightning Experience Console Apps \(Beta\)](#)

Although Lightning console apps include many of the features that make Lightning apps great for you and your users, they also lack some of the features of Salesforce Classic console apps.

### [View and Manage Your Console Apps in New Ways](#)

Your org can now have two types of console apps—console apps created in Salesforce Classic and console apps created in Lightning Experience. We want to remind you where to access and manage these different console apps, because it's different for each type. This change applies to both Lightning Experience and Salesforce Classic.

## Introducing Lightning Console Apps (Beta)

You and your console users will love the console in Lightning Experience. Thanks to the Lightning platform, creating and customizing a console app is easier and more powerful. This feature is new in Lightning Experience.

 **Note:** This release contains a beta version of Lightning console apps, which means it's a high-quality feature with known limitations. Lightning console apps aren't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features.

Use console apps to give your users a productivity boost, allowing them to edit and reference multiple records at once. When a user chooses a record from a related list, it opens as a tab in the console. When a user opens a related record, it opens as a subtab. Console apps remember tabs, so that when a user navigates away from the page, they don't lose any time when they come back.

Console apps in Lightning Experience have much of the same console functionality that you're used to with Salesforce Classic, such as the three-column layout and pinned tabs, but updated with the styling of Lightning Experience. You can also customize Lightning console apps with Lightning pages and components, thanks to the flexibility of the Lightning platform.

For Sales and Service, we're providing out-of-the-box console apps. These apps are located in the App Launcher under Sales Console and Service Console. You can also create your own console apps in Lightning Experience.

To create a console app or customize one of ours, from Setup enter `App` in the `Quick Find` box and select **App Manager**. From the App Manager, you can edit the Salesforce-provided console apps or create your own with the New Lightning App wizard.

Creating a Lightning console app is similar to creating any Lightning app. In the wizard, you can customize an application's color and branding, add components to its utility bar, choose which items to appear, and decide which users have access. Once you've saved a console app, you can't edit it to use standard navigation.

 **Note:** Lightning console apps don't yet have full parity with Salesforce Classic console apps. For example, some features in Salesforce Classic console apps, such as keyboard shortcuts and macros, aren't available in Lightning console apps.

You can't migrate Salesforce Classic console apps to Lightning Experience.

SEE ALSO:

[Standard Service Console App](#)

[Standard Sales Console App](#)

[Understand the Differences Between Salesforce Classic and Lightning Experience Console Apps \(Beta\)](#)

## Customize Your Console App Record Pages with Lightning App Builder

To go with your snazzy new Lightning console apps, we've created new Lightning components and a new Lightning page template. Now your console users can be as efficient and productive as they were in Salesforce Classic. Want to know the most awesome part? You can do all this customization with clicks, not code! This feature is new in Lightning Experience.

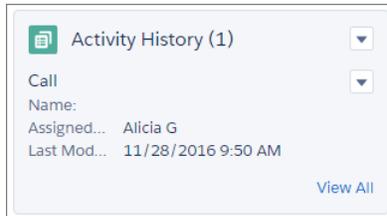
Giving your console users the record details they need most is easy. Use the Lightning App Builder to drag and drop Lightning components onto record pages, and set component properties to display the details you want.

Head over to the Lightning App Builder to check out the components.

 **Tip:** Drop these components onto a record page that uses the new Three Columns template. This template provides the same page layout that your Salesforce Classic console users are familiar with.

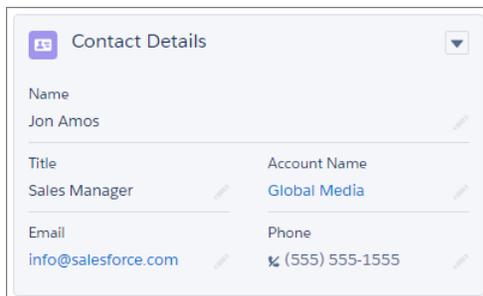
### Related List

This component displays a single related list for a record, including lists from a parent record.



### Related Record

This component displays details for related records, including parent records.



### SEE ALSO:

[Add the Related List Component to Your Lightning Pages](#)

[Add the Related Record Component to Your Lightning Pages](#)

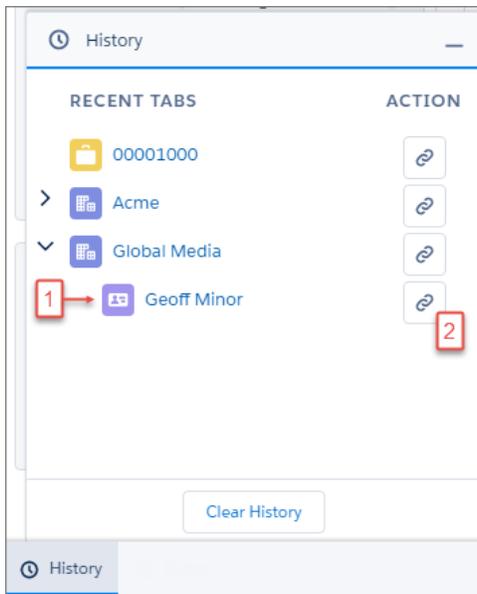
[Customize Your Lightning Pages Even More with New Templates](#)

## Get Your Tab History in Lightning Console Apps

We know that your users have a lot to keep track of. We also know that users love the History component used in Salesforce Classic consoles. So we're happy to bring you the History utility in Lightning console apps. Console users can see their recently visited workspace tabs and subtabs from the console utility bar. This feature is new in Lightning Experience.

 **Tip:** The new, out-of-the-box Service Console and Sales Console apps include the History utility.

When you create or edit a Lightning console app, you can add the History utility to the utility bar. After your app is saved, console users can see their history for subtabs in context of the workspace tabs they've visited (1) and copy links in one click (2). If a tab name is updated, like when a user updates a contact's name, the history list is updated, too.



**Note:** You can use the History utility only in Lightning console apps, not in Lightning apps with standard navigation. You can't change the History properties, such as the label and icon.

Keep these things in mind when working with the utility.

- The list can display up to 10 primary tabs at a time, with 10 subtabs under each primary tab.
- Workspace tabs are listed in the order last visited, with the most recent at the top. Subtabs are listed under their workspace tabs in the order first opened.
- If you copy a subtab link, the record opens as a workspace tab.
- If you copy a link and want to share it with other users, make sure that they are logged in to Salesforce before opening the link. Otherwise, the link directs them to the home page instead of the specific record.

SEE ALSO:

[Enhance Your Lightning Apps with the Utility Bar](#)

## Understand the Differences Between Salesforce Classic and Lightning Experience Console Apps (Beta)

Although Lightning console apps include many of the features that make Lightning apps great for you and your users, they also lack some of the features of Salesforce Classic console apps.

**Note:** This release contains a beta version of Lightning console apps, which means it's a high-quality feature with known limitations. Lightning console apps aren't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features.

You can't migrate Salesforce Classic console apps to Lightning Experience. Many features in Salesforce Classic console apps aren't available in Lightning console apps, including but not limited to:

- Keyboard shortcuts
- Multi-monitor
- Pinned lists
- Macros
- Live Agent
- Javascript APIs, such as the Integration Toolkit

### Visualforce

Visualforce is available in Lightning console apps as beta, which means it's a high-quality feature with known limitations. Lightning console apps support Lightning pages using the Visualforce Lightning component, as well as Visualforce mass actions. Visualforce overrides in pages displayed in Lightning console apps are not supported, and Visualforce components in utility bar items are not supported.

### Person Accounts

Person accounts aren't supported in Lightning console apps.

- When navigating to a person account from a contact field (such as the Name field on an activity), the person account record can open as both an account and a contact. If this happens, simply close the contact tab.
- Person accounts don't have the same three-column layout as business accounts. Use the Lightning App Builder to create the desired layout, and then assign it to appropriate console app and the person account record type.

### Forecasting

The forecasting object isn't supported in Lightning console apps.

### Salesforce Knowledge

Some Knowledge sidebar actions don't work in Lightning console apps, including attaching PDF files, adding article contents to case emails, and adding article community URLs. You also can't perform authoring actions in the sidebar. The Knowledge footer is not supported in Lightning Experience.

SEE ALSO:

[Assign Record Pages by App, Record Type, and Profile](#)

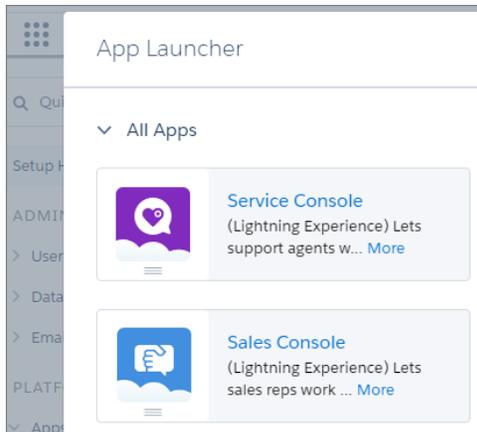
## View and Manage Your Console Apps in New Ways

Your org can now have two types of console apps—console apps created in Salesforce Classic and console apps created in Lightning Experience. We want to remind you where to access and manage these different console apps, because it's different for each type. This change applies to both Lightning Experience and Salesforce Classic.

In short: All console apps appear in the Lightning Experience App Launcher, but only Salesforce Classic console apps appear in the Salesforce Classic app menu. To manage a console app, use Setup in the user-interface the app was created in. Keep reading for more details.

### Lightning Experience

- To access console apps, use the Lightning Experience App Launcher.



- To manage Lightning console apps, use the App Manager page in Lightning Experience Setup.

The screenshot shows the 'Lightning Experience App Manager' page in Setup. It displays a table of 12 items, sorted by App Type and filtered by TabSet Type. The table includes columns for App Name, Developer Name, Description, Last Modified, App Type, and Visible in Lightning Experience. A red box highlights the 'Edit' and 'Delete' buttons in the actions column for the 'Sales Console' row.

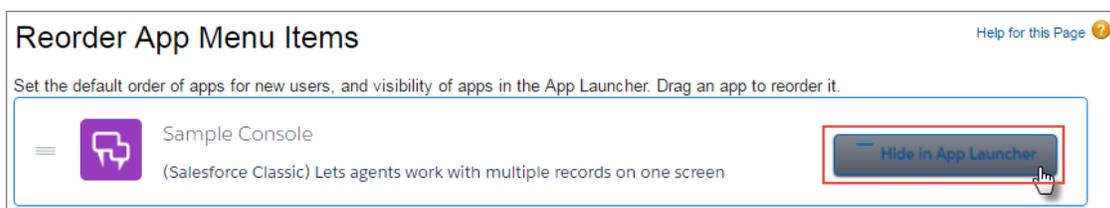
|   | APP NAME           | DEVELOPER NAME        | DESCRIPTION   | LAST MOD...    | APP TYPE ↓ | VISIBLE IN LIG... |                |
|---|--------------------|-----------------------|---|----------------|------------|-------------------|----------------|
| 1 | Test App           | Test_App_Console      | Test app - still work in progress                       | 11/28/2016 ... | Lightning  | ✓                 | ▼              |
| 2 | Sales Console      | LightningSalesConsole | (Lightning Experience) Lets sales reps work with mul... | 11/2/2016 1... | Lightning  | ✓                 | Edit<br>Delete |
| 3 | Service Console    | LightningService      | (Lightning Experience) Lets support agents work wit...  | 11/28/2016 ... | Lightning  | ✓                 | ▼              |
| 4 | Sales              | LightningSales        | Manage your sales process with accounts, leads, op...   | 10/26/2016 ... | Lightning  | ✓                 | ▼              |
| 5 | Salesforce Chatter | Chatter               | The Salesforce Chatter social network, including pro... | 10/26/2016 ... | Classic    | ✓                 | ▼              |

### Salesforce Classic

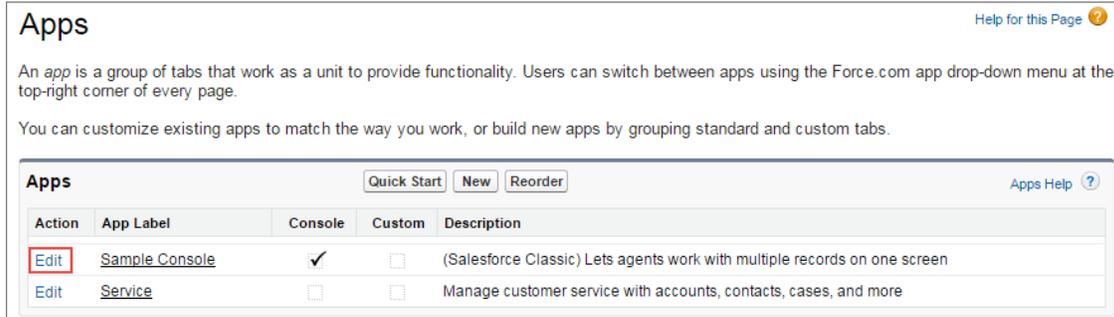
- To access Salesforce Classic console apps, use the app menu in Salesforce Classic or the App Launcher in Lightning Experience. When you launch the app from the App Launcher, your console app is opened in a new tab.



- To remove a Salesforce Classic console app from the Lightning Experience App Launcher, hide the app on the App Menu page in Salesforce Classic Setup. You can also remove access to the console for individual users.



- To manage console apps, go to the Apps page in Salesforce Classic Setup.



## Enhance Your Lightning Apps with the Utility Bar

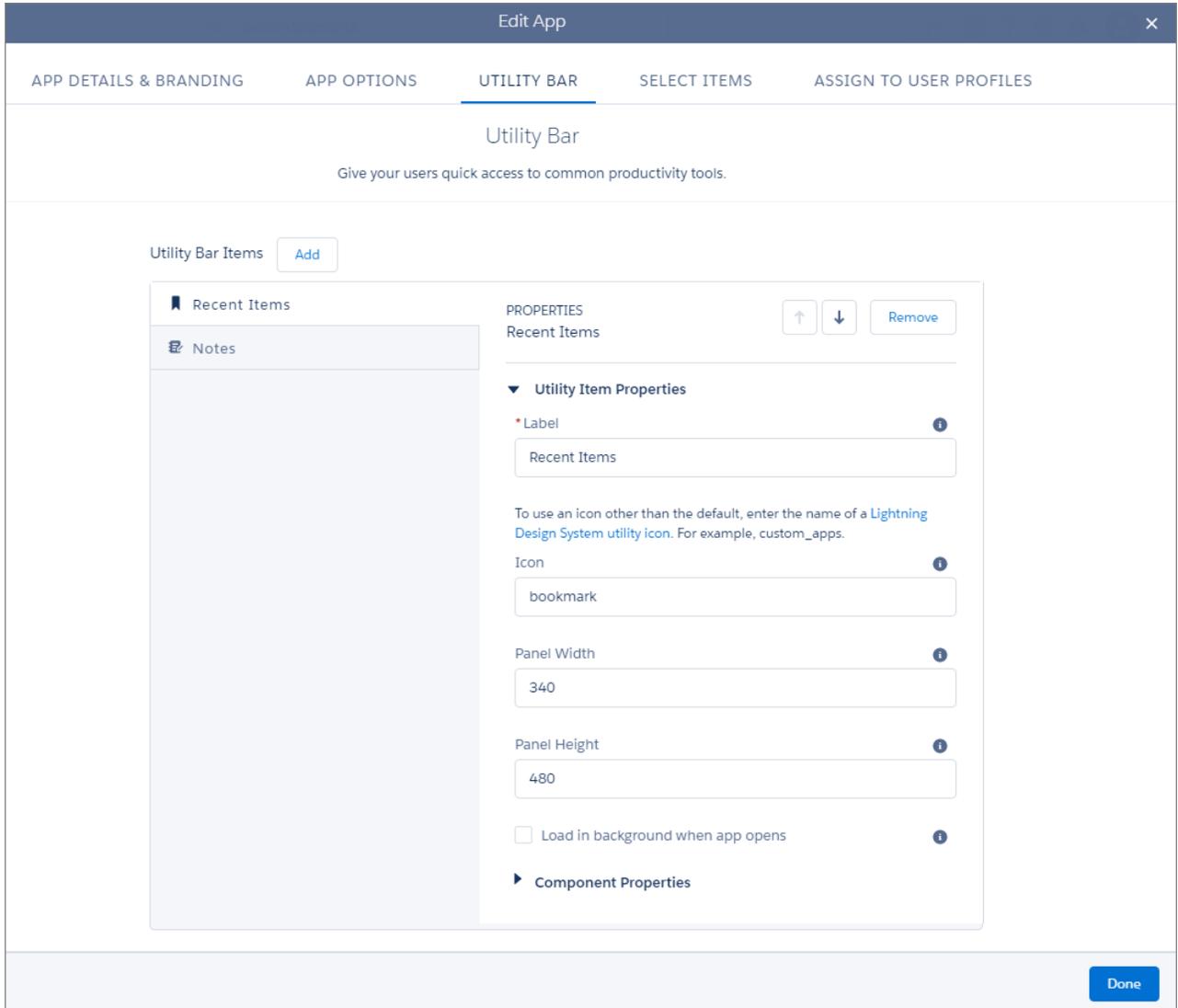
The utility bar gives your users quick access to common productivity tools, like Notes and Recent Items. It appears as a fixed footer that users can access to open utilities in docked panels. Under the covers, utilities harness the power of Lightning components. You can add a utility bar to any Lightning app, including standard and console apps. Previously, you could only add or customize a utility bar using the API. This feature is new in Lightning Experience.

Does the utility bar sound familiar? That's because it combines the best features from home page components in Salesforce Classic and the footer in Salesforce Classic console apps.

You select which Lightning components you want to add to a utility bar and specify their properties. You can specify how big the utility panel is and what label and icon you want to display in the utility bar. To add a utility bar to your Lightning app, edit the app from the App Manager page in Setup.

 **Tip:** If you're setting up a Lightning console app, add the History utility to show users their recently visited primary tabs and subtabs. The History utility works in Lightning console apps only.

Here's a utility bar configured with Recent Items and Notes.



Here's what the utility bar looks like in your app.

| CASE NUMBER | CONTACT NAME  | SUBJECT          | STATUS    | PRIORITY | DATE/TIME OP... | CASE OWNER ... |
|-------------|---------------|------------------|-----------|----------|-----------------|----------------|
| 1           | Jon Amos      | Sample Case: ... | Escalated | High     | 10/26/2016 1... | AGoolsby       |
| 2           | Edward Stamos | Sample Case 2... | New       | High     | 10/26/2016 1... | AGoolsby       |
| 3           | Edward Stamos | Sample Case 3... | On Hold   | Low      | 10/26/2016 1... | AGoolsby       |
| 4           | Jon Amos      | Sample Case: ... | New       | Medium   | 11/16/2016 1... | AGoolsby       |
| 5           | Jon Amos      | Sample Case: ... | New       | Medium   | 11/16/2016 1... | AGoolsby       |
| 6           |               | Broken Router    | New       | Medium   | 11/22/2016 1... | AGoolsby       |

We recommend adding no more than 10 utilities to a utility bar. And keep the labels for your utilities short and sweet so that your users can quickly find what they need.

**Note:** The utility bar doesn't support Visualforce pages or components.

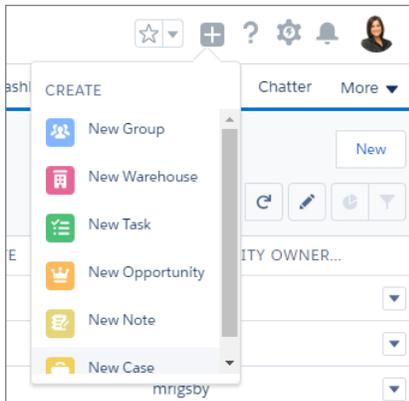
SEE ALSO:

[Introducing Lightning Console Apps \(Beta\)](#)

[Get Your Tab History in Lightning Console Apps](#)

## Take More Actions from the Global Actions Menu

Create records, log calls, take notes, and launch canvas, Visualforce, and Lightning component actions from anywhere in Lightning Experience. The Global Actions menu (+) now displays nearly all global actions from the Salesforce1 and Lightning Experience Actions section of the global publisher layout. This change applies to Lightning Experience only.



### EDITIONS

Quick actions available in:  
**Group, Professional, Enterprise, Performance, Unlimited, Contact Manager, and Developer** Editions

Custom canvas actions available in: **Professional** (with Force.com Canvas enabled), **Enterprise, Performance, Unlimited,** and **Developer** Editions

You might have noticed that we said “nearly all.” The Global Actions menu doesn’t support the standard Chatter actions Post, File, Poll, Link, Question, and Thanks.

## Use Person Accounts in Professional Edition

Dear Professional Edition users, please meet our good friend Person Accounts. Maybe you’ve heard of each other. Well, now you can start working together to store information about individuals who function like businesses. This change applies to Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app.

By default, Salesforce accounts are business accounts, which store information about companies. But if you work directly with consumers, you need your accounts to store information about individual people—details like first and last names. That’s what person accounts do.

Person accounts must be enabled by Salesforce. After they’re enabled, they can’t be disabled.

### EDITIONS

Available in **Professional, Enterprise, Performance, Unlimited, and Developer Editions**

SEE ALSO:

[Get More Out of Person Accounts](#)

[Salesforce Help: Enable Person Accounts \(can be outdated or unavailable during release preview\)](#)

## Rich-Text Editors Disabled When LockerService Critical Update Is Active

In Lightning Experience, Salesforce1, and template-based Communities, you can’t use rich-text editors or edit fields with rich text when the LockerService critical update is active in sandboxes and Developer Edition orgs. Rich-text editors and fields in production orgs continue to function normally even when LockerService is activated. Also, LockerService has no effect in Salesforce Classic or Lightning Out, which includes usage of Lightning components in Visualforce.

This change enables your Salesforce admin to test LockerService and Content Security Policy updates in its entirety before they are automatically enabled in Summer '17. Rest assured that the limitation is only temporary for Spring '17. We’re removing this limitation before LockerService is activated for all orgs in Summer '17.

To deactivate the critical update, from Setup, click **Critical Updates**, and click **Deactivate** on the critical update labeled “Enable Lightning LockerService Security”.

The following features are impacted for sandboxes and Developer Edition orgs when the LockerService critical update is active.

 **Note:** When using rich-text editors in impacted features, a message informs you of this change: “Rich-text editing is disabled because the LockerService critical update is activated. Your Salesforce admin can deactivate the LockerService critical update in Setup.”

### Chatter feed

The publisher is disabled in Lightning Experience. You can switch to Salesforce Classic to write a post in the Chatter publisher.

### Chatter Questions

The publisher is disabled in Lightning Experience and Salesforce1. You can switch to Salesforce Classic to post a question.

### Community Builder

The Rich Content Editor is disabled in Community Builder. In the community, any component that contains a rich-text editor, such as the Feed component, is disabled.

### Email Composer

The HTML Body field in the email composer is disabled in Lightning Experience. You can switch to Salesforce Classic to send rich-text email from a record.

**Groups**

The Information field is read-only in Lightning Experience and Salesforce1. You can switch to Salesforce Classic to edit this field on a group.

**Knowledge**

The rich-text editor fields in Lightning Knowledge are read-only. You can switch to Salesforce Classic to write a Knowledge article.

**Lightning App Builder**

The Rich Text component is read-only. The rich text editor in the component properties pane doesn't render.

**Rich text area fields**

Custom fields with the rich text area data type are read-only in Lightning Experience and Salesforce1. You can switch to Salesforce Classic to edit these fields.

**Sales Path**

When creating or editing a path, the Guidance for Success field is disabled. However, guidance added before the LockerService is activated still appears in the opportunity and lead workspaces when your sales reps are updating the stages.

**Lightning components**

`ui:inputRichText` and `forceChatter:feed` components are disabled in Lightning Experience, Salesforce1, and standalone apps. Use the LockerService-compliant `lightning:inputRichText` instead. For more information, see [Implement Your Own Rich-Text Editor with lightning:inputRichText \(Beta\)](#).



**Note:** Notes is now compliant with LockerService. You can continue to use Notes when the LockerService critical update is active. It's the same look and feel as before, but the toolbar appears slightly different because it now uses the Lightning Design System icons.

## SEE ALSO:

- [Known Issue: Rich-Text Editors are disabled when LockerService is enabled for sandbox and DE orgs](#)
- [LockerService Has Stricter Content Security Policy](#)
- [Rich Text Component Disabled When LockerService Critical Update Is Active](#)

## Create Records Without the Clutter of Inline Visualforce and Calculated Fields

You've spoken and we've been listening. Based on feedback from customers and partners, you'll no longer see Visualforce pages, formula fields, and roll-up summary fields when you create a record. It's everything you need and nothing you don't. This change applies to Lightning Experience only.

If you configure inline Visualforce and calculated fields to display on a record's page layout, you'll see them when viewing the record details, inline editing, editing, and cloning. You won't see them when you create a record, though.

## Search: Smart Tools Take You to the Right Results

Our increasingly flexible search capabilities get you where you need to go in Salesforce, fast. Already know which object you're looking for? Zoom in on it first thing, before entering your search terms. Contacts are easier to find when you know which account they're connected to. If it's Knowledge articles you seek, we've got more filtering options and article snippets in Top Results. Admin-defined dependent lookup filters in Lightning Experience help streamline workflows. And, as you've come to expect in each release, more objects are searchable.

## EDITIONS

Available in: **All Editions**  
**except Database.com**

## IN THIS SECTION:

[Pick an Object and Search It from Anywhere](#)

We've added another shortcut option to the instant results dropdown. When you know which object you want to search, start typing the name of the object in the search box. You have the option to limit your search to that object. This change applies to Lightning Experience only.

[Provide More Relevant Results with Dependent Lookup Filters](#)

Make it easier for users to find the record they want by displaying fewer yet more targeted results with dependent filters. Dependent lookup filters are admin-defined filters for lookups that reference fields on the current record. For example, an admin adds a filter so that the case **Contact** field only shows contacts from the **Account Name** field selection on the same record. This change applies to Lightning Experience and all versions of the Salesforce1 mobile app.

[Search for Contacts Using the Account Name](#)

Find the right person, right away. Simply enter a contact and account name when you search. This change applies to Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app.

[Knowledge: Enhanced Article Search \(Beta\)](#)

We've given Knowledge search some love, and we think you'll love how easy it is to find the articles you need. See that search box at the top of every page? It's your new Knowledge search portal, upgraded with advanced article search options that filter out results you don't need. Also, article snippets appear on the Top Results page, so users can see at a glance which results are most relevant. These changes apply to Lightning Experience only.

[Get Search Results for More Objects](#)

Events (Calendar), Orders, Quotes, and Tasks are now searchable. This change applies to Lightning Experience and all versions of the Salesforce1 mobile app.

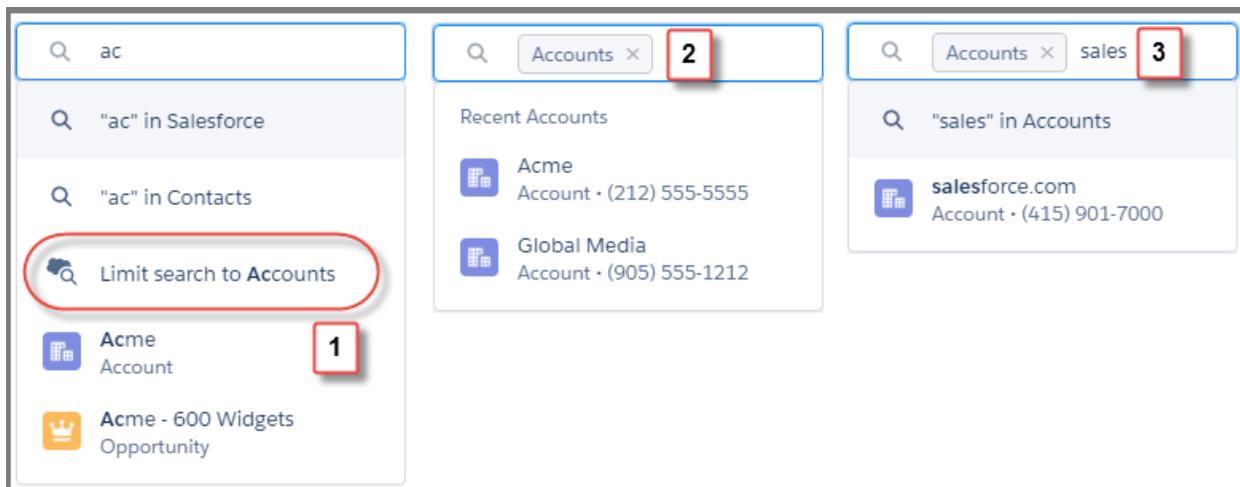
## Pick an Object and Search It from Anywhere

We've added another shortcut option to the instant results dropdown. When you know which object you want to search, start typing the name of the object in the search box. You have the option to limit your search to that object. This change applies to Lightning Experience only.

For example, suppose you're on a contact's page and want to search for an account. Start typing "accounts" in the search box, then choose the option to limit your search to Accounts (1). The Accounts object appears in the search box (2), and the instant results dropdown updates to show only Account records. Enter your search term (3).

## EDITIONS

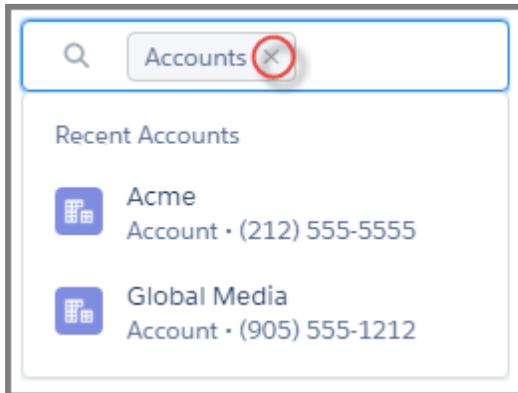
Available in: **All Editions**  
**except** Database.com



If you don't see what you're looking for in the dropdown, press Enter to go to the object's search results page.

You can do this from anywhere in the app. Think of all the saved clicks!

Subsequent searches are limited to the selected object until you navigate away from the search results page or remove the object by clicking the **X**.



This feature works only for your most frequently used objects, objects in the navigation bar, and Chatter. You can search one object at a time.

 **Note:** To search calendar items, enter "events."

SEE ALSO:

[Instant Results in Lightning Experience](#)

## Provide More Relevant Results with Dependent Lookup Filters

Make it easier for users to find the record they want by displaying fewer yet more targeted results with dependent filters. Dependent lookup filters are admin-defined filters for lookups that reference fields on the current record. For example, an admin adds a filter so that the case **Contact** field only shows contacts from the **Account Name** field selection on the same record. This change applies to Lightning Experience and all versions of the Salesforce1 mobile app.

Because users only see related records, associating records is quicker and less error-prone. However, more filters aren't always better. To avoid over-constraining results, consider making the filters more generic or optional, or continue using related lookup filters, which are already available.

Use same process as in Salesforce Classic to add or edit filters. To get there:

1. From Setup, enter *Object Manager* in the Quick Find box, then select **Object Manager**.
2. Select an object from the **Label** column.
3. From the **Fields & Relationships** section, select a lookup field from the **Field Label** column.
4. Above **Field Information**, click **Edit**.
5. From the **Lookup Filter** section, use the **Show Filter Settings** drop-down to edit or add filters.

### EDITIONS

Available in: **All Editions**  
**except Database.com**

Dependent or related lookup filters you've defined appear in Lightning Experience and all versions of the Salesforce1 mobile app.

SEE ALSO:

[Dependent Lookups](#)

[Define Lookup Filters](#)

[Find Object Management Settings in Lightning Experience](#)

## Search for Contacts Using the Account Name

Find the right person, right away. Simply enter a contact and account name when you search. This change applies to Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app.

 **Note:** This feature is not immediately available. The feature becomes available on a rolling basis throughout the release.

It's easier than ever to find a contact. Enter a first or last name, or both, plus the account name. Contacts that match the search terms and relate the specified account are returned.

### EDITIONS

Available in: **All Editions**  
**except Database.com**

| Search Term           | Returned Contact | Related Account |
|-----------------------|------------------|-----------------|
| <i>Mia Acme</i>       | Mia Adams        | Acme Industries |
| <i>Mike Smith ABC</i> | Mike Smith       | ABC Company     |

Although not required to use the feature, if you're using Contacts to Multiple Accounts, this feature searches across both direct and indirect account relationships for a contact.

## Knowledge: Enhanced Article Search (Beta)

We've given Knowledge search some love, and we think you'll love how easy it is to find the articles you need. See that search box at the top of every page? It's your new Knowledge search portal, upgraded with advanced article search options that filter out results you don't need. Also, article snippets appear on the Top Results page, so users can see at a glance which results are most relevant. These changes apply to Lightning Experience only.

### EDITIONS

Available in: **All Editions**  
**except Database.com**

SEE ALSO:

[Knowledge Search: Pre-filtering and Other Enhancements, Accessible from Anywhere](#)

[Get More Context with Snippets in Article Top Results \(Beta\)](#)

## Get Search Results for More Objects

Events (Calendar), Orders, Quotes, and Tasks are now searchable. This change applies to Lightning Experience and all versions of the Salesforce1 mobile app.

Calendar appears as Events in the search results list and in instant results.

SEE ALSO:

[Searchable Fields by Object in Lightning Experience](#)

## Lightning Experience: A Modern and Intelligent User Experience

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Lightning Experience is a completely reimagined interface. Even better, it's built on our UI platform, so the experience can grow and evolve with your needs. Check out the new features and considerations in this release.

### EDITIONS

Available in: **Group, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

IN THIS SECTION:

[Lightning Experience Features in This Release](#)

Here's the list of the powerful features and enhancements that make Lightning Experience the go-to interface for selling smarter and faster. Use this list to quickly access the details about each feature. Some Lightning Experience features, including enhancements to accounts and Chatter, are available within 24 hours after the Spring '17 release. Otherwise, there's no wait.

[What's Different or Not Available in Spring '17 Lightning Experience Features](#)

For new Lightning Experience features and enhancements, review these topics to see if any functionality that's critical to your business is limited or unavailable in this release. While reviewing this list, remember that your users can always access features not yet supported in the new interface by temporarily switching to Salesforce Classic.

## Lightning Experience Features in This Release

Here's the list of the powerful features and enhancements that make Lightning Experience the go-to interface for selling smarter and faster. Use this list to quickly access the details about each feature. Some Lightning Experience features, including enhancements to accounts and Chatter, are available within 24 hours after the Spring '17 release. Otherwise, there's no wait.

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[Data.com](#)

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[Reports and Dashboards](#)

[Chatter](#)

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[Approvals](#)  
[Visual Workflow](#)  
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[Setup](#)  
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[Development](#)

## General Enhancements

### Feel Confident About Your Lightning Experience Readiness

Just as we're always adding new features to Lightning Experience, we're adding to the list of customizations that you can evaluate using the Lightning Experience Readiness Check. Make sure to evaluate your readiness again after March 21, when we're releasing new functionality, giving you even more insight into where you stand with Lightning Experience. And if you're still feeling skittish about acting on our recommendations, sign up for a free consultation with a Lightning Experience expert to get more advice.

### Create Shortcuts to Your Top Salesforce Pages with Favorites

If you're familiar with customizing tab sets in Salesforce Classic, you'll appreciate the way you can personalize your Lightning Experience navigation with favorites.

### Console Apps: Now in Lightning Experience (Beta)

Are you ready to celebrate? Because we are. Console apps are now available in Lightning Experience. Create console apps for your users to let them view multiple records on one screen and easily access utilities and the critical record details they need—all in Lightning Experience. Lightning console apps are available only to Sales Cloud and Service Cloud users. To prevent unexpected issues, don't give other users access to Lightning console apps.

### Enhance Your Lightning Apps with the Utility Bar

The utility bar gives your users quick access to common productivity tools, like Notes and Recent Items. It appears as a fixed footer that users can access to open utilities in docked panels. Under the covers, utilities harness the power of Lightning components. You can add a utility bar to any Lightning app, including standard and console apps. Previously, you could only add or customize a utility bar using the API.

### Take More Actions from the Global Actions Menu

Create records, log calls, take notes, and launch canvas, Visualforce, and Lightning component actions from anywhere in Lightning Experience. The Global Actions menu (+) now displays nearly all global actions from the Salesforce1 and Lightning Experience Actions section of the global publisher layout.

### Use Person Accounts in Professional Edition

Dear Professional Edition users, please meet our good friend Person Accounts. Maybe you've heard of each other. Well, now you can start working together to store information about individuals who function like businesses.

### Get More Information with Streamlined AppExchange Listings

We simplified AppExchange listings so that you can view key product details with fewer clicks. On listings that include a package, you see more about what the package contains, such as the number of components that can be used in Lightning App Builder.

### Review AppExchange Offerings in Salesforce

You can now share feedback on apps, Lightning components, and consulting services from the integrated AppExchange experience. Previously, if you wanted to write or interact with reviews, we directed you to the AppExchange website.

### Navigate to Custom Tabs More Easily with Friendly Tab URLs

Custom tabs now have a more friendly URL structure that makes getting to them much easier.

## Search

### Pick an Object and Search It from Anywhere

We've added another shortcut option to the instant results dropdown. When you know which object you want to search, start typing the name of the object in the search box. You have the option to limit your search to that object.

### Provide More Relevant Results with Dependent Lookup Filters

Make it easier for users to find the record they want by displaying fewer yet more targeted results with dependent filters. Dependent lookup filters are admin-defined filters for lookups that reference fields on the current record. For example, an admin adds a filter so that the case **Contact** field only shows contacts from the **Account Name** field selection on the same record.

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### Get Search Results for More Objects

Events (Calendar), Orders, Quotes, and Tasks are now searchable.

## Salesforce Einstein

### Sales Cloud Einstein: A Smarter Sales Process at Every Step Powered by Artificial Intelligence (AI)

AI for sales is here. With Sales Cloud Einstein, your team's sales productivity is supercharged with key predictions, intelligent recommendations, and timely automation.

## Core Sales

### Get More Out of Person Accounts

Person accounts is now available in Professional Edition. Plus, the person account Lightning Page is now customizable. We've added fuller support with Contacts to Multiple Accounts, the option to prevent sales teams from creating duplicate person account records, and more.

### Visualize Account Relationships by Using Account Hierarchy in Lightning Experience

Account hierarchy gives your sales team a bird's-eye view of the relationships between parent and subsidiary accounts. This feature is now available to Lightning Experience users with a bonus: You can customize hierarchy columns to show the information that's most useful to your sales teams.

### Continue to Be Impressed with Contacts to Multiple Accounts

We know that your reps love being able to relate a single contact to more than one account. We love it too, and have made it better still. We're rolling out fuller person account support, custom actions, process builder and workflow support, and more.

### Manage Leads Faster in Lightning Experience

Apply assignment rules when marketing creates leads, mass-update lead statuses, and map custom lead fields to contacts, accounts, and opportunities for lead conversion.

### Let Marketing and Sales Ops Users View Converted Leads

Assign the new "View and Edit Converted Leads" permission to let marketing and sales operations users view converted leads. Users can also edit converted leads.

**View Campaign Hierarchy Results in Lightning Experience**

Quickly see how your campaigns are organized, and view the individual and aggregated campaign results for every campaign in your hierarchy.

**Manage Campaign Member Statuses in Lightning Experience**

Let your marketing users set up and manage the member status values for each campaign when you add the Campaign Member Statuses related list to Campaign page layouts.

**Manage Campaign Members Faster with Mass Actions in Lightning Experience**

The Campaign Member related list now lets marketing reps add members to campaigns, mass-update members, remove, and clone members with just a few clicks.

**Collaborative Forecasts: Sales Projections in Lightning Experience**

Show your reps how sales numbers measure up in a period while taking advantage of everything Lightning Experience has to offer. Help teams project sales revenue and quantities from the opportunity pipeline, including opportunity splits and custom opportunity currency fields, without switching to Salesforce Classic.

**Opportunities: Opportunity Products in Lightning Experience**

Sales reps can save time by adding up to 50 products to opportunities in one go, and editing up to 200 simultaneously.

**Orders: Agreements for Delivering Products and Services in Lightning Experience**

Give your teams more bells and whistles with the ability to track requests for products and services in Lightning Experience.

**Global Actions Added for Contracts and Orders**

Global actions are available for the Contract and Order objects, so you have more control over customizing actions for these objects.

**Get More from Quotes**

Show your teams' quotes side by side for easy comparison and access. Let reps search for the quotes they want to review and delete unneeded quote PDFs. Help teams track quote-related sales activity and the stages that their quotes are in. And let reps add multiple products to quotes at the same time.

**Take Quote PDFs to the Next Level in Lightning Experience**

Make it easy for your teams to email customers the latest quotes without switching to Salesforce Classic. And let your teams attach multiple quotes and other documents so that customers can compare them side by side.

**Fields Changed in Quotes Related Lists**

To improve performance, we've made some changes to the fields that appear in the quotes related list on opportunities, contacts, and contracts.

**Sales Path: Feature Renamed and Expanded**

Same great feature now with a new name—Path—to reflect its expanded availability.

**Easier to Use Contact Merge Fields When Emailing Person Accounts**

When reps use merge fields in an email to a person account, all person account merge fields now show up in the merge field search results. Previously, only account merge fields appeared in the search results, but now contact merge fields are returned, too.

**Account Autofill Now Called Automated Account Fields**

Automated Account Fields is the new name for the account feature that displays US-based companies in the Account Name field as sales reps enter information. Reps can select a suggested company from the list, making it easier to create business accounts.

**Detect and Merge Duplicate Companies and Contacts in Lightning Experience**

Help your sales teams maintain great relationships with customers, and keep your accounts and contacts clutter free. By displaying duplicate records, you can stop a sales rep from inadvertently spoiling a customer relationship—and wreaking havoc on your data. If you've already given your reps permission to merge records in Salesforce Classic, now they can also merge records in Lightning Experience. A consistent interface across accounts, contacts, and leads simplifies duplicate management for everyone.

### Manage Duplicate Person Accounts

Do you struggle to manage person accounts because your sales team unknowingly creates duplicates? Help is here. New matching rules and duplicate rules for person accounts extend duplicate management functionality already available for leads, contacts, and business accounts.

## Sales Productivity

### Inbox: Productivity Tools That Connect Email and Calendar to Salesforce

Let your sales team integrate their email and calendar with Salesforce using features that automatically log emails and events and increase productivity on every email.

### Sales Console: Multiple Records on One Screen in Lightning Experience (Beta)

Your sales reps just got a whole lot better at their jobs. Thanks to the new Lightning Sales Console app, your team has all the tools at their fingertips to prospect leads, close deals, and manage relationships.

### Lightning Voice: Voicemail and Call Quality

We've added a few key features to Voice, including personal voicemail and the ability to see call quality with ease.

### Save Time by Editing Inline in List Views (Generally Available)

Your reps can breeze through record updates in Lightning Experience with Lightning Edit in list views. Reps can modify a record without opening it, right from the list view. And in lookup fields, they can search for and create records on the fly.

### Save Time with Context-Sensitive Email Templates

When selecting an email template, only templates that apply to the first email recipient or the item in the Related To field are displayed.

### Kanban: Expanded Availability and More Settings

Effectively monitor work using the Kanban-style visual layout in more places.

### Consistent Email Footers for Emails Sent Through Gmail or Office 365

Email sent via Gmail or Office 365 can contain an organization-wide footer. You can choose whether to include this footer.

### Send Email Action: Tailor Email to Match Your Business Processes

We've replaced the Email Composer with the Send Email action. You can customize Send Email actions to work the way your business works, by adding and removing fields or specifying predefined values. Add the Send Email action to any activity-enabled object.

### Send Email from Anywhere

Add the Send Email action to any activity-enabled object, including custom objects, and you can send email from anywhere in Lightning Experience.

### Send Error-Free Emails by Predefining Fields

Predefine fields to customize the Send Email quick action for your business processes and reduce entry errors.

### Send Email Using Org-Wide Email Addresses

You can select org-wide addresses in the From dropdown, except for Salesforce Inbox users.

### Choose Among Multiple Email Addresses in the From Field

When you use the Send Email action and Salesforce Inbox, you can select from which connected account to send the email. Select the best email address to match your business processes. For example, an HR rep could choose "recruit@company.com" to respond to a job request.

### Create More Record Associations with the Related To Lookup Field

Choose what the email is related to, such as a campaign, and also choose who the email recipient is, such as a person on a campaign. The content of the Related To field affects available merge fields and templates and also associates the email activity with the record. As a result of the association, you can see the campaign email when you're looking at the person's record.

### Save Time with Context-Sensitive Email Templates

When selecting an email template, only templates that apply to the first email recipient or the item in the Related To field are displayed.

### Context-Sensitive Merge Fields and Person Account Support

Merge fields are typically used when creating a template. When choosing a merge field, the list of possible merge fields displays the appropriate fields for the first email recipient or the item in the Related To field. If a Person Account is in the Related To field, the list now displays all the Person Account merge fields.

### Consistent Email Footers for Emails Sent Through Gmail or Office 365

Email sent via Gmail or Office 365 can contain an organization-wide footer. You can choose whether to include this footer.

### Email Files as Attachments or Links: You Decide

Control email size by setting size limits on attachments or allowing only links to files. New settings let you choose the most efficient methods to improve deliverability.

### Create Follow-Up Tasks

Create a follow-up task, and remember what's next on your to-do list. The new follow-up task uses the original tasks' information from the Subject, Assigned to, Name, and Related To fields. The due date is blank, but defaults to today when you click in the field.

### Use Recurring Tasks (Again and Again) in Lightning Experience

Sales professionals rely on recurring tasks to schedule their predictable activities, like creating the next day's prospect list or updating the weekly sales meeting agenda. Tasks can repeat daily, weekly, monthly, or yearly, and start on any day you choose. Set when the task ends, or calculate the latest date automatically. Now your Lightning Experience users can create and track recurring tasks without switching to Salesforce Classic.

### Save Time by Using Save and New in Tasks

Why make creating a task a task? The Save and New feature creates a new task based on the old task. The new task has the same entries in the Subject, Name, Assigned To, and Related To fields.

### Search for Tasks and Events

Tasks and events now appear in global search results.

## Google Integration (Beta)

### Lightning for Gmail (Beta)

#### Get More Done Directly from Gmail

Give your sales teams access to Salesforce content right where they work. That way, they can efficiently manage their sales pipeline and drive more deals to close without switching between Salesforce and Gmail.

#### Einstein Brings Insights to Lightning for Gmail

Give your sales teams decision-driving data in Lightning for Gmail with Einstein. If you've set up with Einstein, your sales reps can use account and opportunity insights to prioritize their work while they tackle their emails.

#### Rev Up Productivity with Enhanced Email

Want to help your sales reps stay on top of their emails as well as their important deals? Turn on Enhanced Email with Lightning for Gmail for your reps, so they can relate emails to relevant Salesforce records quickly and easily.

#### Put Your Own Spin on Lightning for Gmail

Do your sales teams want to zero in on records other than accounts, contacts, opportunities, leads, or cases? Are they eager to work with functionality that your company customized? Make Lightning for Gmail more relevant for sales reps by selecting the kinds of Salesforce records reps see and work with when they're in Gmail.

## Lightning Sync for Google (Beta)

### Get Sales Reps' Contacts into Gmail™

Help your sales reps get up-to-date contact information for their prospects. Set up reps to sync Salesforce contacts to Google Contacts using Lightning Sync. That way, reps can work in Gmail™ to build relationships with prospects, and not lose time maintaining records in both systems.

### See Who's Attending Meetings Booked from Google Calendar™ Directly from Salesforce

If your company uses Lightning Sync with Google Calendar™, your sales team can see which prospects, customers, and colleagues are attending their meetings directly from Salesforce.

## Microsoft® Integration

### Lightning for Outlook

#### Get More Done Directly from Lightning for Outlook

Your sales teams can drill down for more details on a Salesforce record right from Lightning for Outlook. In addition to a record's detail page, reps get to see its Chatter feed, activity timeline, and related lists. But, we didn't stop there. Lightning for Outlook now supports inline editing, so reps can modify records without having to switch between Salesforce and Outlook.

#### Einstein Brings Insights to Lightning for Outlook

Give your sales teams decision-driving data in Lightning for Outlook with Einstein. If you've set up with Einstein, your sales reps can use account and opportunity insights to prioritize their work while they tackle their emails.

#### Tailor Content in Email Application Panes Even More

If your sales reps love working with customized functionality in Lightning for Outlook, we've got great news for you. Developers can now design custom Lightning components that leverage email content, or an event's description, start date, end date, participants, and location.

### Lightning Sync for Microsoft Exchange

#### See Who's Attending Meetings Booked from Microsoft Exchange® Calendars Directly from Salesforce

If your company uses Lightning Sync with Microsoft Exchange, your sales team can see which prospects, customers, and coworkers are attending their meetings directly from Salesforce.

### Salesforce for Outlook

#### Critical Upgrade Required on page 160

To avoid service disruption, all Salesforce for Outlook users must be working on version 3.0.0 or later by July 2017. Make sure that your sales teams upgrade as soon as possible to work through any installation issues before July.

#### Support Ending for Several Microsoft® Applications

To offer your sales reps compatibility with the latest Microsoft applications, Salesforce for Outlook is ending support for retired Microsoft applications, like Internet Explorer® 9, Internet Explorer® 10, Exchange 2007 and Outlook 2007. Move your reps off these applications soon to avoid issues.

## Data.com

### Data.com: A New Name and New Features

Data.com Clean rules are now called data integration rules, and they're more powerful and customizable. Rules now update non-US annual revenue data and picklist-based location data. When a data service receives new data, it refreshes your data too. Improve updates from data services by customizing mapping for data matching and updating.

### Clean Rules Have a New Name

Clean rules are now called data integration rules. The new name differentiates rule-based updates from Data.com Clean, which is based on Clean jobs. Some data integration rules require a Data.com Clean license, and others don't.

### Update Annual Revenue in Records That Use Non-USD Currency

Make your data as global as the economy. Data integration rules provided by Data.com can update annual revenue data in your records, even if the record currency isn't in US dollars.

### Update Addresses in Records That Use State and Country Picklists

Standardizing account addresses using state and country picklists helps ensure data quality. Now you can use state and country picklists in accounts and still get the latest address data. The Company Info for Accounts data integration rule updates accounts even if they use state and country picklists.

### Keep Your Data Current with Data Refresh

Fresh means *fresh*. Data integration rules update your records from a data service, but what happens when the data service itself gets updated data? With data refresh, you can keep your org updated as data services receive updates. Based on your choices, data refresh continually applies data integration rules to existing records.

### Customize Field Mapping for Data Integration Rules

Customized field mapping lets you control how data integration rules match and update your records with external data. Each data integration rule has separate match and update mappings, which you can view and change in Setup.

### Try Data Integration Rules in Your Org

Try the new data integration rule features in your org's sandbox. Along the way, you can see the new Setup location and the new steps for configuring updates.

### Bypass Triggers Feature Changed for Custom Objects

We changed how the bypass triggers feature works for custom objects. Now even if **Bypass triggers** is selected in a data integration rule for a custom object, those triggers aren't bypassed.

## Service

### Meet the New Lightning Service Console (Beta)

The Service Console is now in Lightning Experience. You and your service agents can take advantage of all the awesomeness that Lightning Experience has to offer. Service agents will love the updated user interface and easy-to-use Lightning components, and you'll love the ability to customize the console in just a few clicks. Yes, just a few clicks! To get you up and running in the console quickly, we're giving you an out-of-the-box app called Service Console that you can customize to your heart's content.

### Use Open CTI in Lightning Console Apps

Last release we gave you Open CTI for Lightning Experience. This release we have even better news. You can now use Open CTI for Lightning Experience in Lightning console apps, including the Service Console.

### New Behavior for the Open CTI onNavigationChange Method

The listener invoked by the `onNavigationChange` method now behaves differently depending on which type of app you're in—standard or console.

### Call Center App Gets a New Name

To better align with the future direction of the Service Cloud, we've renamed the Call Center app to Service. You can access this app in Salesforce Classic using the app menu and in Lightning Experience using the App Launcher.

### Knowledge: Say Hello to Lightning Knowledge (Beta)

Knowledge has taken the leap to Lightning Experience, giving you a high-powered yet streamlined way to manage your knowledge base. With Lightning Knowledge, you get the benefits of standard objects that work just like other objects in Salesforce. Lightning Knowledge is best for orgs new to Knowledge or for existing orgs that can easily consolidate to one article type, have few data categories, and use single-language mode. This change applies to Lightning Experience only.

## Reports and Dashboards

### Subscribe to Reports in Lightning Experience

You know that report you check when you arrive in the office every Monday morning? Why not have it emailed to you every Monday at 8:00 AM instead? Subscribe to up to five reports and receive refreshed report results by email on a schedule you set: daily, weekly, or monthly. Report subscriptions in Lightning Experience are available within seven days of the Spring '17 release.

### Filter Reports via URL Parameters in Lightning Experience

No need to futz with filters! Pass URL parameters to set filter values in Lightning Experience reports. When linking to reports or when bookmarking a report, add filter value parameters to the URL to customize how the report filters when opened. For example, bookmark your opportunities report and add a filter value parameter to specify whether you see *New Business* or *Existing Business*.

### View Dashboards as Other People in Lightning Experience

Say that your sales people can only view their own opportunities, but you'd like to review all opportunities closed in the last quarter. Create a dashboard and let people view the dashboard as you (or anyone else who can see all opportunities). When your sales people open the dashboard, they see info about all opportunities instead of only their opportunities. Their data access in Salesforce remains unchanged. They can only see more data in your dashboard.

### Share Dashboard Charts by Posting Them to Chatter in Lightning Experience

Start the conversation by sharing images of dashboard charts on Chatter.

### Expand Dashboard Components to Get the Big Picture in Lightning Experience

Open a dashboard component in a window so you can see all the details.

### Follow Dashboards in Lightning Experience

Instead of regularly opening a dashboard to take note of changes, follow a dashboard to get updates in your Chatter feed. After you enable feed tracking on dashboards, your users can follow dashboards by opening one up and clicking **Follow**.

### Move Dashboards Between Folders in the Lightning Experience Dashboard Builder

If your org is using Enhanced Analytics Folder Sharing for Reports and Dashboards, folders govern who has access to the reports and dashboards saved inside. (If your org was created after the Summer '13 Salesforce release, you already have Enhanced Analytics Folder Sharing.) To move a dashboard from one folder to another, open the Properties menu in the Lightning Experience Dashboard Builder.

### Add Funnel and Scatter Charts to Lightning Experience Dashboards

We've made funnel and scatter charts available in the dashboard component editor. Add a funnel chart to show relative measured amounts by stage. For example, funnel charts are ideal for showing how opportunities move through stages. Add a scatter chart to display one or two groupings of report data plus summaries. Scatter charts are useful for identifying trends across large datasets.

### External Object Reports Have Fewer Limitations

We removed some previous limitations, hopefully before you even encountered them. The improvements affect reports that include external object relationships or use the cross-org adapter for Salesforce Connect.

### Other Enhancements to Reports and Dashboards in Lightning Experience

In addition to this release's major features, we've made some small-but-notable improvements to Reports and Dashboards.

## Chatter

### Lightning Chatter Home Page Gets a Makeover

A lot is happening in the left column of the Lightning Chatter Home page. The All Company feed is now called Company Highlights and serves up a dynamic list of the most popular posts from your entire company (Top Posts). Under Company Highlights, we introduce a new feature called Streams. Create up to five custom feeds that each combines posts from up to 25 of your most useful sources. Under your list of Streams, you now have quick access to five of your most recently updated groups.

### Create Custom Feeds with Chatter Streams

Now you can put together the information that's most useful to you in your own custom feeds with Chatter streams. Create up to five Chatter streams that combine posts from different feeds and different feed types. Combine feeds from people, groups, and records, like your accounts, opportunities, and cases.

### All Company Feed Becomes Company Highlights, Powered by Einstein

Your All Company feed is now named Company Highlights. The Company Highlights feed incorporates Einstein artificial intelligence (AI) to bring you a ranked view of what's trending in your org (Top Posts). Now you can easily catch up on the hottest news from across your company.

### Shield Platform Encryption Comes To Chatter (Pilot)

We're running a public pilot for Shield Platform Encryption for Chatter. Encryption for Chatter enables you to encrypt sensitive data when it's stored, and not just when it's transmitted over a network. Encryption for Chatter isn't ready for production, but you can safely try it out in a *dedicated* sandbox environment.

### Share Posts in Lightning Experience

When someone posts something you'd like more people to see, you can share it with your followers. If you like, you can add your own introductory remarks before you post.

### Live Comments Are Better Than Ever

We enhanced live comments for better usability. For example, an animation now shows you when people are commenting. Right by that animation is a list of up to three people who are actively typing comments.

### Use Keyboard Keystrokes to Post

Power users can use the keyboard to complete posts and comments. On Windows, enter content and press Ctrl+Enter. On macOS, press either Control+Enter or Command+Enter.

### Feeds Look and Feel Gets Refreshed

We're continuing the work of conforming all our platforms to the same usability standards. In this release, we changed the likes bar. Now it shows you a count and lists the names of up to three people who liked the post.

## Files

### Organize Library Files in Folders (Beta)

You asked for folders, and we delivered. In Lightning Experience, you can create, rename, and delete folders to organize the files in your libraries.

### Add Salesforce Files to a Record from the Related List in Lightning Experience

Increase productivity by attaching Salesforce Files to a record, right from the files card. No Chatter? No problem! You can attach Files Connect files and library files too.

### Rename Files in Lightning Experience

Do you have file namer's remorse? Now you can easily rename a file in Lightning Experience.

### Convert a Link to an External File into a Files Connect File Reference

Post the hyperlink of an external Files Connect Google Drive file in Chatter, and it automatically becomes a Files Connect file reference. The icon and the file title appear under the body of your post.

## Lightning App Builder

### Assign Record Pages by App, Record Type, and Profile

Now you can customize your users' experience even more granularly by creating custom record pages and assigning them by app, record type, and user profile. Give your sales managers a different view of opportunities than your sales reps. Configure nonprofit account pages differently than standard business account pages.

### **Customize Person Account Pages**

In Summer '16, we gave person accounts its own page in the Lightning App Builder, but you couldn't edit it. Now you can! So go ahead and customize those person account pages.

### **Customize Your Console App Record Pages with Lightning App Builder**

To go with your snazzy new Lightning console apps, we've created new Lightning components and a new Lightning page template. Now your console users can be as efficient and productive as they were in Salesforce Classic. Want to know the most awesome part? You can do all this customization with clicks, not code!

### **Customize Your Lightning Pages Even More with New Templates**

You now have more templates to choose from, increasing your page design options. We've added three app page templates and five record page templates. The app page templates adjust dynamically between Lightning Experience and Salesforce1.

### **Clone Salesforce Default Lightning Pages**

You can now create a Lightning Page in two different ways. Use a template to create an empty page that you can fill with the components you want. Or you can clone the system default page to create a page prepopulated with standard components. This feature is available for Home, Record, and Email Application pages.

### **Build Dynamic Picklists for Lightning Page Components with Apex**

Now you can expose a component property as a picklist when the component is configured in the Lightning App Builder. The picklist's values are provided by an Apex class that you create.

### **Add the Related Record Component to Your Lightning Pages**

Give your users the record details they need most. Use the Related Record component to customize your Lightning pages and display the details of a related record, including the parent record, on any record page.

### **Add the Related List Component to Your Lightning Pages**

We want you to get exactly what you want on your Lightning pages. Instead of displaying all the related lists for a record, you now get to pick exactly which list you want with the new Related List component.

### **Customize How Related Lists Display on Lightning Pages**

Use a new attribute on the Related Lists component to choose whether to display related list items in a list or as tiles on your custom Lightning Pages. If you put the Related Lists component in a narrow region on the page, the list items display only as tiles.

### **Rich Text Component Disabled When LockerService Critical Update Is Active**

In sandboxes and Developer Edition orgs, if you have the LockerService critical update active, the Rich Text component becomes read-only in the Lightning App Builder.

### **Power Up Your Lightning Pages with the Flow Component (Beta)**

Welcome a new component to the Lightning App Builder. Use the Flow component to embed active flows in your Lightning Page.

### **Display Pending Approval Requests on Home Pages**

Use the new Items to Approve component to display approval requests that your users haven't responded to yet. This component is supported only on Home pages.

### **Customize the Highlights Panel with More Action Buttons**

Make your record highlights more useful by including up to 10 action buttons on the highlights panel. Previously, the limit was three. We updated the label to reflect this change, and renamed the option for displaying the highlights panel in a compact view.

### **Add Skype to Lightning Record Pages (Beta)**

A new Skype for Business component is available for the Lightning App Builder. Add it to your record pages to get Skype controls that let you see who's online, initiate audio and video calls, and chat. To add this component, Skype for Salesforce (Beta) must be set up for your org. To use the component, the record page must include at least one email field.

## Salesforce Connect

### Work Seamlessly Across All Your Salesforce Orgs—Cross-Org Connector with Write Support

Writable external objects are available with the cross-org adapter for Salesforce Connect. Now your users and developers can create, update, and delete records that are stored in connected Salesforce orgs.

### Create Quick Actions for External Objects

Quick actions are now available for external objects in Lightning Experience. Previously, external objects supported quick actions only in Salesforce Classic.

### Improved Reports for External Objects

We removed some previous limitations, hopefully before you even encountered them. The improvements affect reports that include external object relationships or use the cross-org adapter for Salesforce Connect.

## External Services (Beta)

### External Services: Connect to Salesforce Using a Wizard, Schema, and Flow (Beta)

Use External Services to connect your Salesforce org to a service of your choice. Invoke methods based on the external source via a flow. Import data from the service into Salesforce. You can do all this with the help of an easy-to-use wizard. This feature is new in Lightning Experience.

## Approvals

### Review Pending Approval Requests from Lightning Experience

Gone are the days when approvers had to dig through notifications or try to remember with which record an approval request was associated. With the new Items to Approve component in the Lightning App Builder and the Approval Requests navigation bar item, approvers using Lightning Experience can review their pending approval requests in one place.

### Don't Worry About That Submit Button Anymore!

Raise your hand if you've ever activated an approval process and forgotten to add the Submit for Approval button to the object's page layout. Happens to everyone. So we decided to remove that step and automatically add the button to all the associated page layouts when you activate an approval process.

### Select Next Approver from Lightning Experience and Salesforce1

If you have approval processes that require a user to select the next approver, they're now supported in Lightning Experience and Salesforce1. Previously, only Salesforce Classic let users select the next approver manually.

### Business Processes Use Name Field to Evaluate Person Accounts

Triggers, validation rules, flows, approvals, workflow, and Process Builder evaluate person accounts more effectively.

### "Make Sure Records that Are Submitted Behind the Scenes Are Routed to the Right Approval Process" Critical Update Postponed

This critical update, released in Summer '16, was scheduled for auto-activation in Winter '17, but has been postponed to Spring '18.

## Visual Workflow

### Run Flows with a Lightning Skin (Generally Available)

Have you ever wanted your flows to look better? So have we. When you enable this feature, all your URL-based flows render using the Lightning runtime instead of the Classic runtime.

### Embed Your Flows in Lightning Pages (Beta)

We're rolling out a Flow component for the Lightning App Builder. You can now add flows to any Lightning Page—App pages, Record pages, and Home pages alike.

### **Now You See Me, Now You Don't: Dynamically Update Flow Screen Fields (Pilot)**

The fewer times your users have to click **Next**, the better. If you agree, keep reading! Use field rules to control when to show or hide particular screen fields. Turn your flows into guided UIs that respond to users' inputs and selections. Save your users time by showing only what they need when they need it.

### **Business Processes Use Name Field to Evaluate Person Accounts**

Triggers, validation rules, flows, approvals, workflow, and Process Builder evaluate person accounts more effectively.

### **Display Flow Screens in Two Columns (Generally Available)**

When you build flows that collect lots of information, their screens can render as a never-ending skinny column of fields. Break up the layout of those screens by rendering specific flows in two columns.

## Process Builder

### **Business Processes Use Name Field to Evaluate Person Accounts**

Triggers, validation rules, flows, approvals, workflow, and Process Builder evaluate person accounts more effectively.

### **Process Builder Has Updated Icons**

The next time you open Process Builder, check out our new icons. We swapped out the old ones for Salesforce Lightning Design System icons, so now we match the rest of Lightning Experience.

## Setup

### **See Your Lightning Record Page Assignments at a Glance**

We gave the Lightning Record Pages related list in the Object Manager a makeover. Now you can easily see whether your custom Lightning record pages are assigned as org or app defaults or assigned to apps, record types, and profiles. We added a View Page Assignments button to the related list to get more details about which custom Lightning pages are assigned to specific apps, record types, and profiles.

### **Setup Gets Its Own Tab in Lightning Experience**

Setup Gets Its Own Tab in Lightning Experience

## Security and Identity

### **Authentication and Identity: Enhanced Verification Requirements, More OAuth Options, Connected Apps Enhancements**

We've added the ability to manage security policies for all the OAuth connected apps that users in your org are running. We've introduced additional verification requirements for users and admins, and new OAuth flows that provide identity for connected devices in the Internet of Things. Also, for those implementing their own authentication provider, we've extended the plug-in to support customized error handling and refresh tokens.

### **Health Check: Import Custom Baselines and Assign New Permissions**

We've introduced new permissions for Health Check, as well as the ability to import custom baselines into the tool.

## Development

### **Use the Lightning Design System in Visualforce Pages**

Use the `<apex:slds>` element to incorporate the Lightning Design System in your Visualforce pages and align them with the styling of Lightning Experience. This component is a streamlined alternative to uploading the Lightning Design System as a static resource and using it in your Visualforce pages.

**Create Exception Classes in the Developer Console**

You can now create Apex classes that extend `System.Exception` in the Developer Console. Previously, creating classes whose names contained `Exception` resulted in an error.

**See More Code Coverage Results in the Developer Console**

You can now view all your code coverage results in the Developer Console, even when you have more than 2,000 Apex classes and triggers. Previously, the Developer Console displayed only up to 2,000 rows of code coverage results.

**Lightning API—Developer Preview**

Use Lightning API to create native mobile apps and custom web apps with your own branding and look and feel. A single REST request returns enough metadata, layout information, and data to display, edit, or create a record! Lightning API supports most objects that are available in Lightning Experience.

**Custom Metadata Types: Relationship Field Enhancements, Long Text Areas**

Build better apps than ever before with custom metadata types which let you base your apps on types of metadata rather than just data. Do even more with the features you've been waiting for, including metadata relationships to field definitions and long text areas in custom metadata types.

**Manage Packages Using Lightning Experience**

You can now create and manage packages using Lightning Experience, just like you always could in Salesforce Classic.

**Debug Apex Code in Subscriber Orgs**

Each License Management Org can use one free ISV Customer Debugger session at a time. The ISV Customer Debugger is part of the Apex Debugger, which is part of the Force.com IDE plug-in for Eclipse and is normally a paid feature. The Apex Debugger can be used only in sandbox orgs, so you can initiate debugging sessions only from a customer's sandbox.

**Control LMO Users' Access to Your Code in Subscriber Orgs with a New Permission**

Previously, you could control License Management Org (LMO) users' access to obfuscated code in subscriber orgs with the Author Apex permission. The View and Debug Managed Apex permission now controls this access. Users with only the Author Apex permission can no longer view obfuscated code in subscriber orgs.

## What's Different or Not Available in Spring '17 Lightning Experience Features

For new Lightning Experience features and enhancements, review these topics to see if any functionality that's critical to your business is limited or unavailable in this release. While reviewing this list, remember that your users can always access features not yet supported in the new interface by temporarily switching to Salesforce Classic.

 **Note:** For the full list of feature gaps and limitations in Lightning Experience, see "What are the Gaps Between Lightning Experience and Salesforce Classic" in the Salesforce Help.

**EDITIONS**

Available in: **Group, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

**IN THIS SECTION:**

[Data Access and Views: Lightning Experience Considerations](#)

[Search: Lightning Experience Considerations](#)

[Sales Features: Lightning Experience Considerations](#)

[Productivity Features: Lightning Experience Considerations](#)

[Customer Service Features: Lightning Experience Considerations](#)

[Reports and Dashboards: Lightning Experience Considerations](#)

[Chatter and Communities: Lightning Experience Considerations](#)

[Data Import and Management: Lightning Experience Considerations](#)

[Point-and-Click Customization: Lightning Experience Considerations](#)

## Data Access and Views: Lightning Experience Considerations

Learn about the issues to expect when using List Views in Lightning Experience.

### No Support for Inline Editing of Dependent Picklists

You can inline edit list views that contain dependent picklist fields. However, you can't edit the dependent picklist field, only the other fields in the list view.

### Kanban View

- Records in a state or status that is inactive aren't included in the Kanban view.
- Summaries can only be created for currency fields.
- Records are only displayed if the field selected for **Group By** is included on the page layout.
- If a record has a null value for the **Group By** field, it won't appear in the Kanban view.
- Subtabs are created for record types if the **Group By** field is included on the record type's page layout, and the record type has records associated with it.
- Opportunities can't be grouped by the `Forecast Category` field.
- Contracts can't be grouped by the `Owner Expiration Notice` field.

## Search: Lightning Experience Considerations

Learn about the issues to expect when searching in Lightning Experience.

### Searchable Objects

These objects aren't searchable in Lightning Experience: Attachment, Coaching, Community, Contract Line Item, D&B Company, Document, Discussion, Entitlement, Goal, Idea, Live Chat Transcript, Macro, Metric, Performance Cycle, Question, Quick Text, Resource Absence, Reward Fund, Reward Fund Type, Salesforce CRM Content, Self-Service User, Service Contract, Service Resource Skill, Service Territory Member, Skill, Solution, Topic, User, and Work Order Line Item.

## Sales Features: Lightning Experience Considerations

Learn about the issues that your Sales team can encounter in Lightning Experience.

### Collaborative Forecasts

- Collaborative Forecasts isn't accessible from Setup. Switch to Salesforce Classic to set up and configure Collaborative Forecasts.
- On the forecasts page:
  - Viewing product family forecasts isn't available.
  - Viewing quota attainment information isn't available.
  - You can drill down and up within the forecast hierarchy, but "Jump to" isn't available.
  - Opportunity split details don't appear in the opportunities summary.
  - The processing indicator isn't available.
  - You can't adjust the column width.

### Contracts

The Draft and Activated status picklist values are required. To show users different labels for these picklist values, use Translation Workbench. You can also add other status picklist values.

## Orders

- The Order History and Order Product History related lists aren't available.
- You can't add or edit multiple line items in the Order Products related list at the same time.
- You can't create reduction orders or select products to reduce.
- When you clone an order with products, the products aren't cloned. Clone the order, and then add products as needed to the new order.
- Status picklist values aren't filtered based on an order's status, so all status values appear in the picklist.
- The Draft and Activated status picklist values are required. To show users different labels for these picklist values, use Translation Workbench. You can also add other status picklist values.

## Opportunity Products

You can't edit dependent picklist fields when adding or editing opportunity products.

## Productivity Features: Lightning Experience Considerations

Learn about the issues to expect when using Salesforce productivity tools in Lightning Experience. Some Salesforce features aren't available in the new user interface. And some features don't have full parity with what's available in Salesforce Classic.

Users can't create recurring tasks with the "every weekday" interval in LEX. We don't recommend editing tasks with this interval in LEX because the edit page doesn't show the current recurrence details. To create or edit tasks that repeat every weekday, users should switch to SF Classic.

### Tasks that Repeat Every Weekday

Users can't create recurring tasks with the "every weekday" frequency in Lightning Experience. We don't recommend editing tasks with this interval in Lightning Experience because the edit page doesn't show the current recurrence details.

To create or edit tasks that repeat every weekday, switch to Salesforce Classic.

## Microsoft and Google Integration

### Lightning Sync

You can't see event attendees that sync from your Microsoft or Google Calendar in Lightning Experience.

## Customer Service Features: Lightning Experience Considerations

Learn about the issues to expect if your org uses customer service tools. In general, Service Cloud data and features aren't supported in this release of Lightning Experience. Salesforce Console for Service, Knowledge, and cases are supported but don't have full parity with what's available in Salesforce Classic.

## Salesforce Console for Service

 **Note:** Lightning console apps don't yet have full parity with Salesforce Classic console apps. For example, some features in Salesforce Classic console apps, such as keyboard shortcuts and macros, aren't available in Lightning console apps.

You can't migrate Salesforce Classic console apps to Lightning Experience.

## Lightning Knowledge

Lightning Knowledge doesn't yet have full parity with Classic Knowledge. The following limitations apply to Lightning Knowledge:

**Important considerations before enabling Lightning Knowledge**

- After you enable Lightning Knowledge, you can't disable it. We recommend testing Lightning Knowledge in your Sandbox org first.
- You can have only one article type when enabling Lightning Knowledge. Currently, there are no migration tools to assist in merging your article types. To enable Lightning Knowledge, migrate your articles to one article type and disable or delete your other article types.
- Lightning Knowledge currently doesn't support multiple language mode or translation.
- We recommend using Lightning Knowledge only if you have fewer than 300 data categories. If you have more than 300 data categories, you may experience slower performance.
- For articles with more than 30 versions, the versions above 30 will show in Salesforce Classic, but not in Lightning Experience.
- Setup for Lightning Knowledge remains in Salesforce Classic. After Lightning Knowledge is enabled, a new setup node Knowledge Object Setup appears to manage Knowledge record types, fields, page layouts, and validation rules.
- After you enable Lightning Knowledge, the 'ArticleType' field is no longer accessible via SOQL (or the API). This can impact custom code that queries for the 'ArticleType' field.

**General usage limitations for Lightning Knowledge**

- You currently can't import or export with record types.
- You can't currently assign articles or delete archived articles in Lightning Knowledge.
- You can't use article actions with public groups when Lightning Knowledge is enabled. This is replaced by new user profile permissions.
- You currently can't remove a published article while editing it. Instead, the article remains published while you edit the new version as a draft.
- You can't use mass actions (such as mass archiving and mass publishing) with Lightning Knowledge.
- For list views, you must specify one language and one publishing status on all Knowledge list views, otherwise you won't see any records in your list view. We don't support multiple-selection on PublishStatus or Language, or the "IN" and "OR" operators in list view filters.
- Data categories can't be shown in Knowledge list views.
- The customized record home flexipage isn't supported with Lightning Knowledge.
- We don't support external data sources in Knowledge search in Lightning Knowledge.
- You can't see vote information in the new ratings component unless there's an online version for the article. This affects article drafts and archived articles, because all online versions are removed when an article is archived.
- Most Knowledge actions aren't available in the Lightning Process Builder.

**Console limitations for Lightning Knowledge**

- The Knowledge footer is not in the Lightning Service Console.
- The following actions aren't available in the Knowledge Sidebar for the Lightning Service Console: attach as a PDF, attach as a PDF to case email, insert article contents to case email, insert Article Community URL, and insert article URL to case publishers. Standard article actions including editing, publishing, and archiving, are also not available.

**Limitations in Salesforce Classic after enabling Lightning Knowledge**

- Multiple Languages mode can't be enabled after Lightning Knowledge is enabled.
- Page Layouts selections for Actions and Related lists don't reflect in Salesforce Classic.
- Page Layouts don't display in 2 columns in Salesforce Classic.
- Some actions, such as Change Record Type, aren't available in Salesforce Classic.

- Knowledge list views aren't available in Salesforce Classic.
- You can't perform a search by Knowledge record type in Salesforce Classic.
- You can't perform a search by archived articles in Salesforce Classic, except in Article Management.
- Files in Lightning Experience don't display in Salesforce Classic, and files in Salesforce Classic don't display in Lightning Experience.

#### Limitations for using Lightning Knowledge with other Salesforce products

- File attachments in your Classic Knowledge implementation don't transfer to Lightning Knowledge. After migrating your articles to Lightning Knowledge, add the Files related list to your page layout and use the Files related list on each article to migrate your files.
- You can't detach or remove a file from the Files component after it has been associated with an Article. When the file is shared with a record via the record feed, the workaround is to delete the feed post. Read [Delete Files and Links from Feeds](#) to learn more about removing files.
- Currently, the only way to remove an attached file from an article is to delete the file from File home.
- Reporting with record types is not currently supported in Lightning Knowledge.
- All rich text editors are currently disabled when LockerService is enabled. If you're using Lightning Knowledge in Sandbox or a Developer Edition org, we recommend turning off LockerService in Lightning Experience. If you're using Lightning Knowledge in your production org, we recommend that you don't enable LockerService in Lightning Experience.
- The rich text editor is limited for Lightning Knowledge. The following rich text editor features aren't currently supported in Lightning Knowledge: smart links, tables, show source, anchors, videos, and fonts are limited.
- Lightning Knowledge isn't currently supported with Communities.
- Lightning Knowledge isn't currently supported with Salesforce1.

## Reports and Dashboards: Lightning Experience Considerations

Learn about the issues to expect when using reports and dashboards in Lightning Experience.

#### Subscribe to Reports

In Lightning Experience, users can subscribe to reports, but can't set notification conditions and can only receive report results via email.

#### Follow Dashboards

In Lightning Experience, users can't follow dashboard components. Users only see dashboard feed activity (like posts) in their Lightning Experience feed.

To follow dashboard components, users must unfollow the dashboard in Lightning Experience, switch to Salesforce Classic, and then follow the dashboard in Salesforce Classic.

## Chatter and Communities: Lightning Experience Considerations

Learn about the issues to expect when your users collaborate in Lightning Experience using Chatter or Salesforce Communities. Some collaboration features aren't supported. And some features don't have full parity with what's available in Salesforce Classic.

#### Following

The count of things a user is following in Salesforce Classic includes both users and records. In Lightning Experience, this count only includes users.

#### Sharing Posts

Users can share posts with followers, but they can't share posts with groups.

There's no menu option to share a link in Lightning Experience. Share links manually. That is, navigate to the post's detail view (by clicking its date/time information), copy the detail view URL, and paste that into the publisher.

**Filter and Sort Feeds**

Users can filter group feeds in any way except by Fewer Updates.

## Data Import and Management: Lightning Experience Considerations

**Differences in the User Interface for Viewing Duplicates and Merging**

In Lightning Experience, duplicate alerts are displayed on the record home page for an account, contact, or lead. In Salesforce Classic, duplicate alerts are displayed on a record home page, on an object home page, or in a related list, depending on the object.

**Contacts Associated with Portal Users**

When you use Lightning Experience to merge contacts associated with portal users, the portal user status isn't shown during merging. The merged record retains the portal user status of the master record. When you use Salesforce Classic to merge contacts associated with portal users, the portal user status is shown during merging. You choose the portal status you want to retain in the merged record.

**No Support for Merging Person Accounts**

Lightning Experience doesn't support merging of person accounts.

**No Support for Merging Accounts with Relationship Groups**

Because relationship groups aren't supported in Lightning Experience, you can't merge accounts associated with relationship groups.

## Point-and-Click Customization: Lightning Experience Considerations

Many of your point-and-click customizations work seamlessly in Lightning Experience. But some customizations don't apply or aren't supported in the new interface.

**Rich-Text Editors Disabled When LockerService Critical Update Is Active**

In Lightning Experience, Salesforce1, and template-based Communities, you can't use rich-text editors or edit fields with rich text when the LockerService critical update is active in sandboxes and Developer Edition orgs.

# Salesforce Einstein: The World's Smartest CRM with Artificial Intelligence (AI) for Everyone

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Salesforce Einstein is AI built into the Salesforce platform. It delivers advanced AI capabilities to sales, service, marketing, and communities—and enables anyone to use clicks or code to build AI-powered apps that get smarter with every interaction. Now, everyone in every role and industry can use AI to be their best.

Here's the list of Einstein features that help make Salesforce the world's smartest CRM.

**Sales Cloud Einstein: A Smarter Sales Process at Every Step Powered by Artificial Intelligence (AI)**

AI for sales is here. With Sales Cloud Einstein, your team's sales productivity is supercharged with key predictions, intelligent recommendations, and timely automation.

**Build AI-Powered Apps Fast (Pilot)**

With the Predictive Vision Service, developers can harness the power of image recognition to build AI-powered apps. Without a data science degree! You can train deep-learning models to recognize and classify images at scale with the Predictive Vision Service REST API. Leverage pre-trained classifiers, or train your own custom classifiers to solve a vast array of specialized image-recognition use cases. Developers can bring the power of image recognition to CRM and third-party applications so that end users across sales, service, and marketing can discover new insights about their customers and predict outcomes that lead to smarter decisions.

### Leave No Question Unanswered in Your Community

Let community members help each other by highlighting questions that haven't been answered. Community members, managers, moderators, and even customer support can then easily see the most viewed unanswered questions and jump in. Drop the Salesforce Einstein-powered Unanswered Questions component on any page. The component shows the top unanswered questions based on the view count from across the community. As questions are answered, they are removed from view.

### Protect Your Community and Improve Productivity with Einstein Spam Detection (Pilot)

Your community is the place customers go to get answers and talk to other customers. It's also the place where your customers get to know you. The last thing you want is spam getting in the way, but it can be hard to keep up. Enter Einstein Spam Detection. Einstein Spam Detection steps in and monitors your customer community for spam using real community moderator activity as a guide.

### All Company Feed Becomes Company Highlights, Powered by Einstein

Your All Company feed is now named Company Highlights. The Company Highlights feed incorporates Einstein artificial intelligence (AI) to bring you a ranked view of what's trending in your org (Top Posts). Now you can easily catch up on the hottest news from across your company. This change applies to Lightning Experience only.

### Trailhead: Get Smart with Salesforce Einstein

Get started learning about AI and how it can transform your CRM with smart predictions, intelligent recommendations, and timely automation.

### Einstein Data Discovery: Find and Explain Insights in Your Data

Einstein Data Discovery discovers relevant facts and themes in your data without you having to build sophisticated software and statistical models. When it has finished analyzing your data, Einstein Data Discovery generates unbiased answers, explanations, and recommendations to learn what, why, and how to act on it. It presents results in a way that is easy for business users to understand. Now anyone can tap into the power of data science and do statistical and predictive analytics.

## Sales: Artificial Intelligence, Expanded Sales Path, and Smarter Email

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Deliver high-impact Lightning Experience features that keep sales teams laser-focused on the leads and deals most likely to generate sales. Help reps develop strong customer relationships and integrate their email and calendars with Microsoft—and now with Gmail. For added productivity, your reps can prioritize calls and easily manage records using Kanban in even more ways.

### IN THIS SECTION:

#### [Lightning Experience Resources: Readiness Check and Feature Optimization](#)

If you're teetering on the fence about whether to migrate from Salesforce Classic, we're here to give you a gentle push with helpful resources. We make it easier for you to get your sales teams working with our latest and greatest features in Lightning Experience. These resources are available to customers working from both Salesforce Classic and Lightning Experience.

#### [Core Sales Features: Sales Guidance, Orders, and Other Features](#)

Guide your sales reps as they work through contracts, quotes, and other processes developed from custom objects. Get your reps to manage orders, see converted leads, and read news on their contacts. All these core features come with Lightning Experience, and some with Salesforce Classic and Salesforce1.

#### [Productivity Features: Voicemail Support, Mass Actions, and Other Efficiencies](#)

In Lightning Experience, get your sales reps to work multiple records on one screen, compose email with grace, and edit records in-line. Also, organize records using Kanban in new ways.

#### [Sales Cloud Einstein: A Smarter Sales Process at Every Step Powered by Artificial Intelligence \(AI\)](#)

AI for sales is here. With Sales Cloud Einstein, your team's sales productivity is supercharged with key predictions, intelligent recommendations, and timely automation. This feature is new in Lightning Experience.

#### [Inbox: Productivity Tools That Connect Email and Calendar to Salesforce](#)

Let your sales team integrate their email and calendar with Salesforce using features that automatically log emails and events and increase productivity on every email. This feature is new in both Lightning Experience and Salesforce Classic.

#### [Google Integration: More Access to Salesforce Directly from Gmail™ and Google Calendar™ \(Beta\)](#)

Do your sales reps live in Google applications like Gmail and Google Calendar, but want to get sales data from emails, contacts, and events into Salesforce easily? Want no more: We're introducing Lightning for Gmail (Beta), which lets reps view relevant Salesforce records from their Gmail inboxes and relate emails to Salesforce records. Lightning Sync for Google (Beta) also adds functionality. Now reps can sync contacts from Gmail to Salesforce, and meeting attendee details automatically sync from Google Calendar to Salesforce.

#### [Microsoft® Integration: More Custom Components and Saved Skype Chats](#)

Help your reps maximize their Salesforce productivity directly from their Microsoft email and calendars. Let your reps initiate audio and video calls, see who's online, and start chats—all with Skype for Salesforce.

#### [Pardot: Improvements to Marketing Automation](#)

We made changes so that your Pardot users get new reporting options and permissions, look and feel updates, and more personalization choices. These changes apply to Salesforce Classic only.

#### [Other Changes in the Sales Cloud](#)

Learn about other changes we've made to improve usability.

## Lightning Experience Resources: Readiness Check and Feature Optimization

If you're teetering on the fence about whether to migrate from Salesforce Classic, we're here to give you a gentle push with helpful resources. We make it easier for you to get your sales teams working with our latest and greatest features in Lightning Experience. These resources are available to customers working from both Salesforce Classic and Lightning Experience.

To help you deliver those great features, we give you resources so that you don't go at it alone.

### Feel Confident About Your Lightning Experience Readiness

Just as we're always adding new features to Lightning Experience, we're adding to the list of customizations that you can evaluate using the Lightning Experience Readiness Check. Make sure to evaluate your readiness again after March 21, when we're releasing new functionality, giving you even more insight into where you stand with Lightning Experience. And if you're still feeling skittish about acting on our recommendations, sign up for a free consultation with a Lightning Experience expert to get more advice.

To learn more, see [Feel Confident About Your Lightning Experience Readiness](#) in the release notes.

### Optimize Sales Features for Lightning Experience

Get your sales teams to improve selling relationships and close more deals. The trail [Optimize Sales Features for Lightning Experience](#) includes these modules to help you set up key features for the best selling experience.

|  |  |   |
|--|--|---|
|  <p>1 hr<br/>2 UNITS</p> <p><b>Lightning Experience for Sales</b></p> <p>Drive adoption of sales features through customizations that work best for your company.</p> <p>Intermediate   Admin</p>     |  <p>30 mins<br/>2 UNITS</p> <p><b>Sales Path &amp; Workspaces</b></p> <p>Guide your reps through opportunity stages with helpful assistance and an optimized page layout.</p> <p>Intermediate   Admin</p> |  <p>30 mins<br/>2 UNITS</p> <p><b>Sales Productivity</b></p> <p>Boost rep productivity with an activity timeline and integrated email.</p> <p>Intermediate   Admin</p> |
|  <p>25 mins<br/>2 UNITS</p> <p><b>Products, Quotes, &amp; Contracts</b></p> <p>Configure price books, templates, and contracts to help your sales reps sell products.</p> <p>Intermediate   Admin</p> |  <p>1 hr 30 mins<br/>3 UNITS</p> <p><b>Sales Reports for Lightning Experience</b></p> <p>Set up reports and dashboards for your sales managers, reps, and execs.</p> <p>Intermediate   Admin</p>          |   |

## Core Sales Features: Sales Guidance, Orders, and Other Features

Guide your sales reps as they work through contracts, quotes, and other processes developed from custom objects. Get your reps to manage orders, see converted leads, and read news on their contacts. All these core features come with Lightning Experience, and some with Salesforce Classic and Salesforce1.

### IN THIS SECTION:

#### [Accounts: Account Hierarchy in Lightning Experience and Expanded Person Account Support](#)

Account hierarchy has come to Lightning Experience. And person accounts are more useful than ever.

#### [Contacts: More Improvements to Contacts to Multiple Accounts and No More Stay-in-Touch Requests](#)

We've made big improvements to Contacts to Multiple Accounts. And we're still retiring Stay-in-Touch requests.

#### [Leads: Lightning Experience Improvements and Access to Converted Leads](#)

Manage leads faster, map custom fields for lead conversion, and give marketing and sales ops users the flexibility to see their converted leads.

#### [Web-to-Lead: reCAPTCHA Web Form Validation](#)

Frustrate spammers and improve the quality of your sales teams' leads with the reCAPTCHA widget. The reCAPTCHA widget requires interested customers to select a checkbox before they can submit an inquiry about your product. Enabling spam filtering lets sales reps focus on actual prospects, and not on spam leads.

#### [Campaigns: Hierarchies, Member Statuses, and Mass Actions in Lightning Experience](#)

Understand campaign hierarchy results and mass-update campaign members in Lightning Experience. Manage campaign member statuses in Lightning Experience and Salesforce1.

#### [Collaborative Forecasts: Sales Projections in Lightning Experience](#)

Show your reps how sales numbers measure up in a period while taking advantage of everything Lightning Experience has to offer. Help teams project sales revenue and quantities from the opportunity pipeline, including opportunity splits and custom opportunity currency fields, without switching to Salesforce Classic. This feature is new in Lightning Experience.

[Opportunities: Opportunity Products in Lightning Experience](#)

Sales reps can save time by adding up to 50 products to opportunities in one go, and editing up to 200 simultaneously.

[Orders: Agreements for Delivering Products and Services in Lightning Experience](#)

Give your teams more bells and whistles with the ability to track requests for products and services in Lightning Experience. This feature is new in Lightning Experience.

[Quotes: Enhancements to Pricing of Products and Services](#)

Experience improved quote management with the new Quotes tab, searchable quotes, enhanced PDF and email features, and new views.

[Sales Path: Feature Renamed and Expanded](#)

Same great feature now with a new name—Path—to reflect its expanded availability. This change applies to Lightning Experience and to opportunities in all versions of the Salesforce1 mobile app.

[Duplicate Management: Accounts, Contacts, and Person Accounts](#)

Here's more aspirin for your duplicate management headaches. You can now detect and merge duplicate accounts and contacts in Lightning Experience. Use new rules to detect and prevent duplicates of person account records.

## Accounts: Account Hierarchy in Lightning Experience and Expanded Person Account Support

Account hierarchy has come to Lightning Experience. And person accounts are more useful than ever.

### IN THIS SECTION:

[Visualize Account Relationships by Using Account Hierarchy in Lightning Experience](#)

Account hierarchy gives your sales team a bird's-eye view of the relationships between parent and subsidiary accounts. This feature is now available to Lightning Experience users with a bonus: You can customize hierarchy columns to show the information that's most useful to your sales teams. This change applies to Lightning Experience only.

[Get More Out of Person Accounts](#)

Person accounts is now available in Professional Edition. Plus, the person account Lightning Page is now customizable. We've added fuller support with Contacts to Multiple Accounts, the option to prevent sales teams from creating duplicate person account records, and more.

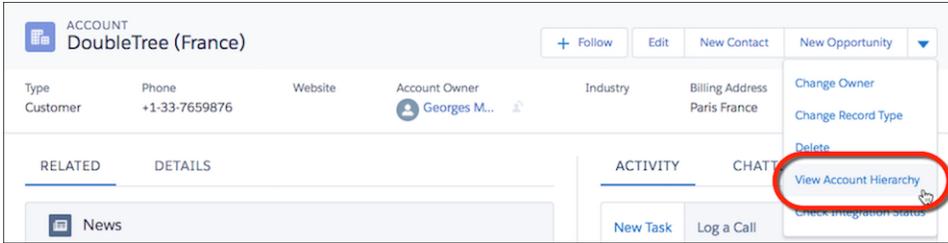
## Visualize Account Relationships by Using Account Hierarchy in Lightning Experience

Account hierarchy gives your sales team a bird's-eye view of the relationships between parent and subsidiary accounts. This feature is now available to Lightning Experience users with a bonus: You can customize hierarchy columns to show the information that's most useful to your sales teams. This change applies to Lightning Experience only.

On account record pages, the Actions dropdown menu includes the View Account Hierarchy action unless you customized the Salesforce1 and Lightning Experience Actions section of the account page layout before Spring '17. In that case, add the action to your account page layout.

### EDITIONS

Available in: **Group, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions



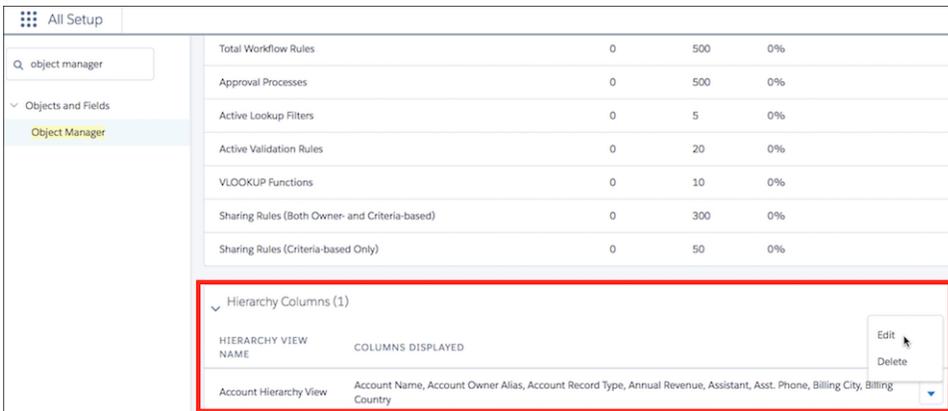
Your users can expand or collapse parts of a hierarchy as they navigate it. They can view up to 2,000 accounts from each point where they enter a hierarchy.

ACCOUNT > DOUBLETREE (FRANCE)

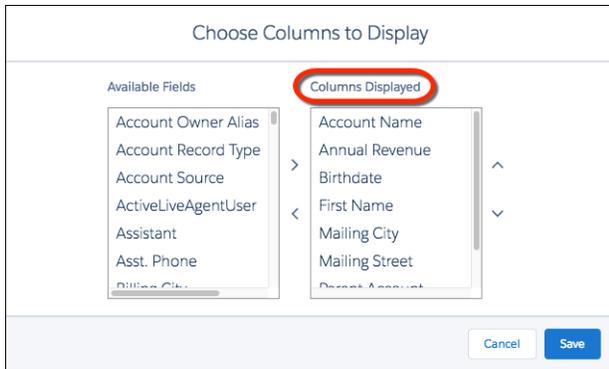
### Account Hierarchy

| ACCOUNT NAME                         | ANNUAL REVENUE | BIRTHDATE | FIRST NAME |
|--------------------------------------|----------------|-----------|------------|
| ▼ Hilton Inc                         | \$125,876,987  |           |            |
| > Canopy                             | \$1,456,543    |           |            |
| > Conrad                             | \$4,765,789    |           |            |
| > Curio                              | \$4,766,123    |           |            |
| ▼ DoubleTree                         | \$5,672,341    |           |            |
| > DoubleTree (Canada)                | \$987,654      |           |            |
| > <b>CURRENT</b> DoubleTree (France) | \$109,876      |           |            |
| > DoubleTree (Germany)               | \$564,123      |           |            |
| > DoubleTree (Italy)                 | \$1,765,432    |           |            |

By default, account hierarchies display the same columns as the Recently Viewed Accounts standard list view. But if the hierarchy columns don't show the information that your sales reps need, you can customize them independently of the list view. In Setup, in the **Quick Find** box, enter *Object Manager* and then click **Object Manager**. In Account, click **Hierarchy Columns**, and then edit the columns.



Under Columns Displayed, add or remove fields.



## SEE ALSO:

[Actions in Lightning Experience](#)

## Get More Out of Person Accounts

Person accounts is now available in Professional Edition. Plus, the person account Lightning Page is now customizable. We've added fuller support with Contacts to Multiple Accounts, the option to prevent sales teams from creating duplicate person account records, and more.

## SEE ALSO:

[Use Person Accounts in Professional Edition](#)

[Customize Person Account Pages](#)

[Continue to Be Impressed with Contacts to Multiple Accounts](#)

[Manage Duplicate Person Accounts](#)

[Go Straight to Person Accounts from Contact List Views in Salesforce1](#)

[Business Processes Use Name Field to Evaluate Person Accounts](#)

[Easier to Use Merge Fields When Emailing Person Accounts in Lightning Experience](#)

[Person Account Quick View Always Shows Account Info in Lightning Experience](#)

### EDITIONS

Available in: **Professional, Enterprise, Performance, Unlimited, and Developer Editions**

## Contacts: More Improvements to Contacts to Multiple Accounts and No More Stay-in-Touch Requests

We've made big improvements to Contacts to Multiple Accounts. And we're still retiring Stay-in-Touch requests.

## IN THIS SECTION:

[Continue to Be Impressed with Contacts to Multiple Accounts](#)

We know that your reps love being able to relate a single contact to more than one account. We love it too, and have made it better still. We're rolling out fuller person account support, custom actions, process builder and workflow support, and more. These changes apply to Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app.

[Stay-in-Touch Requests Retires in Summer '17](#)

In case you haven't heard, Stay-in-Touch Requests is scheduled for retirement in Summer '17. This change applies to Salesforce Classic only.

## Continue to Be Impressed with Contacts to Multiple Accounts

We know that your reps love being able to relate a single contact to more than one account. We love it too, and have made it better still. We're rolling out fuller person account support, custom actions, process builder and workflow support, and more. These changes apply to Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app.

### Person Accounts

Last release we let sales reps create indirect relationships between persons accounts and business accounts. Now, reps can create indirect relationships between person accounts and contacts.

From Setup in Salesforce Classic, add the Related Contacts related list to the person account page layouts that your reps use.

### Custom Actions, Buttons, and Links

Define custom actions, buttons, and links on the Account Contact Relationship object. For example, add a custom action to the Related Accounts related list that lets users create a case that applies to the account-contact relationship.

Be aware of the limitations regarding custom actions and buttons.

- Custom actions must be specific to the Account Contact Relationship object. Global actions aren't supported.
- You can create actions that update records or invoke Lightning components or Visualforce pages. However, you can't create actions that create records.
- You can't create actions that send emails or log calls because the Account Contact Relationship object can't have activities associated to it.
- You can't override the default actions on the Account Contact Relationship object.
- Only custom actions that are created on the Contact object can use the Account Contact Relationship object as a target object.
- Chatter standard actions aren't available because the Account Contact Relationship object doesn't include a Chatter feed.
- The Account Contact Relationship object supports custom buttons, but a custom button on a list view can't have a Visualforce page as the content source.

### Business Processes

You can use workflow and Process Builder with the Account Contact Relationship object to create automated business processes. For example, create a workflow rule that sends an email to an account owner when someone changes the direct account-contact relationship for an account.

SEE ALSO:

[Salesforce Help Set Up Contacts to Multiple Accounts \(can be outdated or unavailable during release preview\)](#)

## Stay-in-Touch Requests Retires in Summer '17

In case you haven't heard, Stay-in-Touch Requests is scheduled for retirement in Summer '17. This change applies to Salesforce Classic only.

Be sure to stay in touch with its retirement plans by checking out [frequently asked questions](#).

### EDITIONS

Available in: **Contact Manager, Group, Professional, Enterprise, Unlimited, and Developer Editions**

### EDITIONS

Available in all editions

## Leads: Lightning Experience Improvements and Access to Converted Leads

Manage leads faster, map custom fields for lead conversion, and give marketing and sales ops users the flexibility to see their converted leads.

### EDITIONS

Available in: **Group, Professional, Enterprise, Performance, Unlimited, and Developer** Editions

### IN THIS SECTION:

#### [Manage Leads Faster in Lightning Experience](#)

Apply assignment rules when marketing creates leads, mass-update lead statuses, and map custom lead fields to contacts, accounts, and opportunities for lead conversion. This feature is new in Lightning Experience.

#### [Let Marketing and Sales Ops Users View Converted Leads](#)

Assign the new "View and Edit Converted Leads" permission to let marketing and sales operations users view converted leads. Users can also edit converted leads. This change applies to Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app.

## Manage Leads Faster in Lightning Experience

Apply assignment rules when marketing creates leads, mass-update lead statuses, and map custom lead fields to contacts, accounts, and opportunities for lead conversion. This feature is new in Lightning Experience.

### Lead Assignment Rules

When adding leads, marketing and sales users can now have them automatically assigned using lead assignment rules by selecting **Assign using active assignment rules** in Lightning Experience. This option only appears when creating or editing leads from a lead record page layout, and not from an action layout.

### Lead Mass Updates

Sales reps can now update the status of multiple leads by selecting records in leads list views and clicking **Change Status**.

### Custom Field Mapping for Lead Conversion

In Setup, you map custom lead fields to custom fields on accounts, contacts, and opportunities to populate these fields automatically when sales reps convert leads. For orgs using the APEX version of Lead Convert, a new and improved Lead Custom Field Mapping page appears in Setup for both Lightning Experience and Salesforce Classic. To determine whether your org uses APEX Lead Convert, in Setup, enter *Lead Settings* in the **Quick Find** box, then click **Lead Settings**. If you see the **Require Validation for Converted Leads** option, your org uses APEX Lead Convert.

 **Note:** Orgs that still use the older PLSQL version of Lead Convert continue to see the older Lead Custom Field Mapping page.

When mapping custom lead fields for lead conversion with the new Lead Custom Field Mapping page, keep these considerations in mind.

- A custom lead field can map to custom account, contact, and opportunity fields simultaneously.
- Each target field can have only one source field mapped to it.
- You can't delete a field that's included in Lead Custom Field Mapping. To delete a field, remove its mapping first.
- You can't change the field type of a field that's included in Lead Custom Field Mapping. To change a field's type, remove its mapping first.
- You can't uninstall a package that references fields included in Lead Custom Field Mapping. Remove any mappings of referenced fields before uninstalling the package.

To map custom lead fields in Lightning Experience Setup, enter *Object Manager* in the **Quick Find** box and then click **Object Manager**. Click **Lead** and then click **Map Lead Fields**.

## Let Marketing and Sales Ops Users View Converted Leads

Assign the new "View and Edit Converted Leads" permission to let marketing and sales operations users view converted leads. Users can also edit converted leads. This change applies to Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app.

Previously, users with both the "Set Audit Fields upon Record Creation" and "Update Records with Inactive Owners" permission were able to view and update converted leads. Those permissions no longer grant access to converted leads. To let marketing and sales operations users access converted leads, assign them the "View and Edit Converted Leads" permission instead.

The locations where converted leads appear depends on the interface you are using.

| Where can I see converted leads?                                 | Lightning Experience | Salesforce Classic | Salesforce1 |
|--|----------------------|--------------------|-------------|
| Recent Items list  |                      | ✓                  |             |
| Recent Records list in the Global Navigation tab                 | ✓                    |                    |             |
| Global Search Results  | ✓                    | ✓                  |             |
| Global Search Most Recently Used list                            | ✓                    |                    |             |
| Recently Viewed list views                                       | ✓                    | ✓                  | ✓           |
| Campaign Member related list (only leads added after conversion) | ✓                    | ✓                  |             |
| Custom Lead lookup fields  | ✓                    | ✓                  | ✓           |
| Lead reports   | ✓                    | ✓                  | ✓           |
| Recent Records on Home page                                      | ✓                    |                    |             |

You can't unconvert leads.

## Web-to-Lead: reCAPTCHA Web Form Validation

Frustrate spammers and improve the quality of your sales teams' leads with the reCAPTCHA widget. The reCAPTCHA widget requires interested customers to select a checkbox before they can submit an inquiry about your product. Enabling spam filtering lets sales reps focus on actual prospects, and not on spam leads.

### EDITIONS

Available in: Salesforce Classic and Lightning Experience

Available in: **Professional, Enterprise, Performance, Unlimited, and Developer** Editions

Thanks for contacting our company. Please provide your contact info and your inquiry, and a sales representative will contact you.

Contact Name

Email

Phone

Product

Inquiry

I'm not a robot  reCAPTCHA  
Privacy - Terms

## SEE ALSO:

[External Link: Google reCAPTCHA](#)

[Salesforce Help: Generate Leads from Your Website for Your Sales Teams \(can be outdated or unavailable during release preview\)](#)

## Campaigns: Hierarchies, Member Statuses, and Mass Actions in Lightning Experience

Understand campaign hierarchy results and mass-update campaign members in Lightning Experience. Manage campaign member statuses in Lightning Experience and Salesforce1.

## IN THIS SECTION:

[View Campaign Hierarchy Results in Lightning Experience](#)

Quickly see how your campaigns are organized, and view the individual and aggregated campaign results for every campaign in your hierarchy. This change applies to Lightning Experience only.

[Manage Campaign Member Statuses in Lightning Experience](#)

Let your marketing users set up and manage the member status values for each campaign when you add the Campaign Member Statuses related list to Campaign page layouts. This change applies to Lightning Experience and all versions of the Salesforce1 mobile app.

[Manage Campaign Members Faster with Mass Actions in Lightning Experience](#)

The Campaign Member related list now lets marketing reps add members to campaigns, mass-update members, remove, and clone members with just a few clicks. This change applies to Lightning Experience only.

[Field Label Changes on Campaigns](#)

Because campaign hierarchy results are now visible on campaigns in Lightning Experience, some field labels on Campaigns have changed to make it clearer which fields show results for a single campaign versus the entire hierarchy. This change applies to Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app.

## EDITIONS

Available in: **Professional, Enterprise, Performance, Unlimited, and Developer** Editions

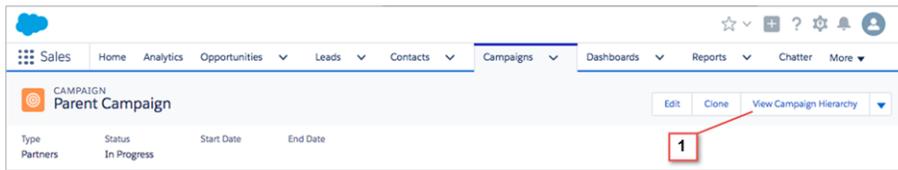
### View Campaign Hierarchy Results in Lightning Experience

Quickly see how your campaigns are organized, and view the individual and aggregated campaign results for every campaign in your hierarchy. This change applies to Lightning Experience only.

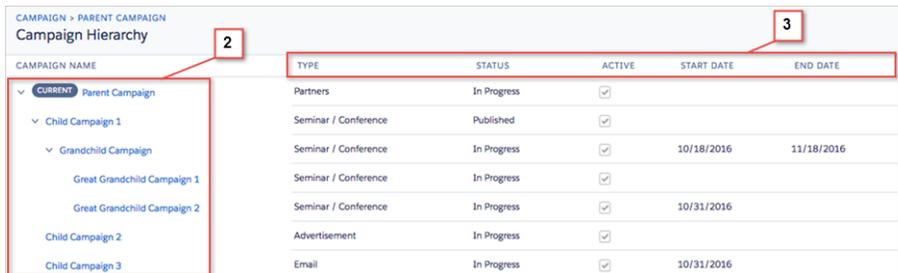
Your marketing department can create a campaign hierarchy to group individual campaigns into specific marketing programs or initiatives. For example, let's say you have a marketing program aimed at developers that contains an email campaign, a series of seminars, and a set of web ads. Your hierarchy might look like this.

- Developer Campaigns
  - Email Campaign
  - Seminar Series
    - Coding for Scale
    - Coding for Speed
  - Web Advertisements

In Lightning Experience, seeing how campaigns are organized is easy. From any campaign, click **View Campaign Hierarchy** (1).

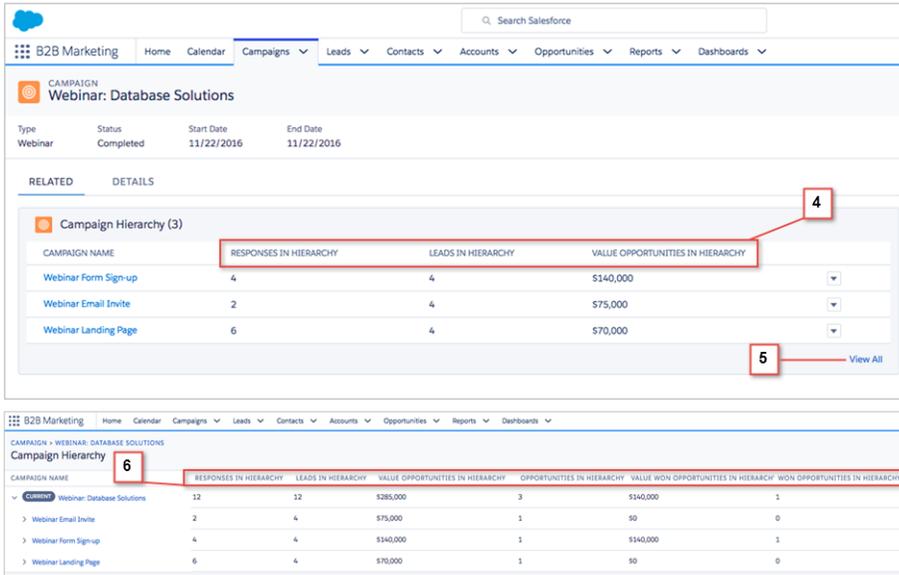


The Campaign Hierarchy preview shows the parent-child relationships within your marketing program (2), along with key information about each campaign (3).



Admins choose which fields to show in the preview using the Object Manager in Setup. For more information, see [Find Object Management Settings](#).

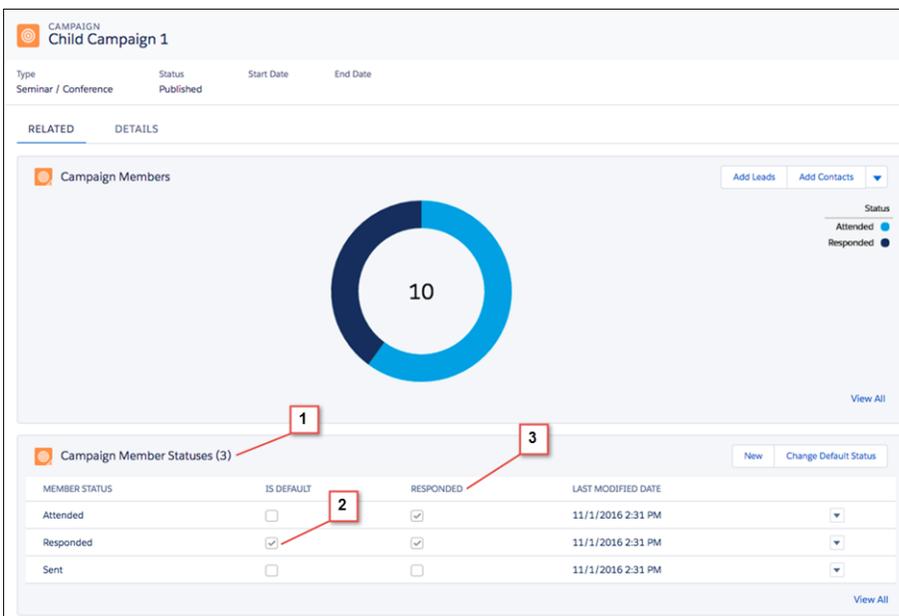
On campaign detail pages, marketing reps also see the Campaign Hierarchy related list. Here they can see the results of child campaigns (4), including responses, leads, and the value of opportunities. Clicking **View All** (5) displays the results for the current campaign and its children, along with the fields added to the Campaign Hierarchy related list layout in Setup (6).



## Manage Campaign Member Statuses in Lightning Experience

Let your marketing users set up and manage the member status values for each campaign when you add the Campaign Member Statuses related list to Campaign page layouts. This change applies to Lightning Experience and all versions of the Salesforce1 mobile app.

The Campaign Member Statuses related list (1) in Lightning Experience lets marketing users create customized member status values for different types of campaigns. If they want to use different values for a webinar campaign and an email campaign, they can add the appropriate values to each campaign. They can also choose a default member status (2) for each campaign and decide which statuses indicate a response (3) by the campaign member.



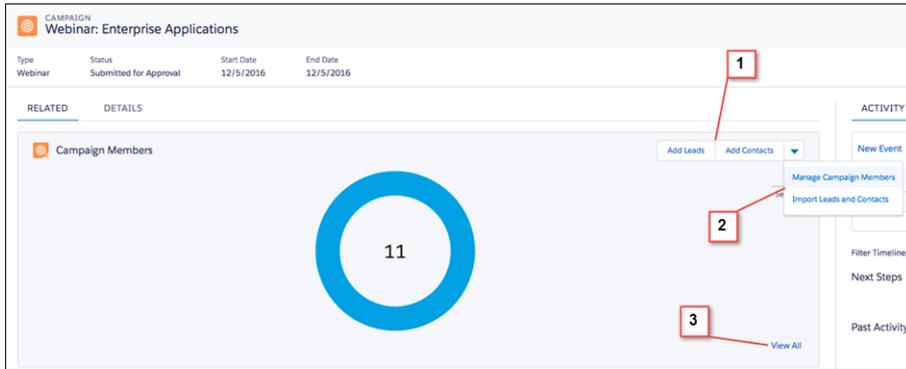
Add the Campaign Member Statuses related list to Campaign page layouts using the Object Manager in Setup.

In Salesforce Classic, marketing users continue to manage campaign member statuses by clicking **Advanced Set Up** on campaign detail pages.

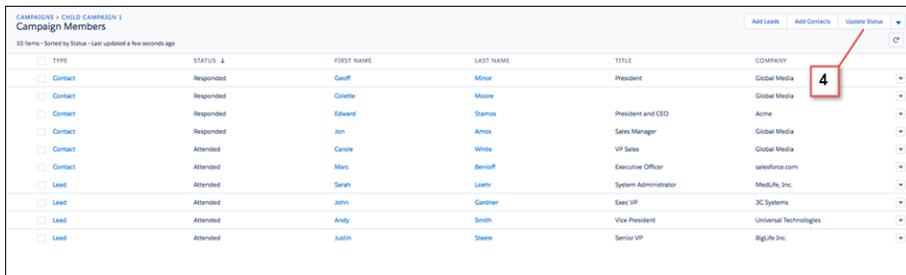
## Manage Campaign Members Faster with Mass Actions in Lightning Experience

The Campaign Member related list now lets marketing reps add members to campaigns, mass-update members, remove, and clone members with just a few clicks. This change applies to Lightning Experience only.

On Campaign detail pages, the Campaign Members related list contains new actions for adding existing leads or contacts to a campaign. By clicking **Add Leads** or **Add Contacts** (1), reps can select multiple records from any lead or contact list view to add to the campaign. The actions for updating and importing members with the Data Import Wizard are now in the Actions dropdown menu (2).



When a reps clicks **View All** (3) on the related list, the user can select multiple campaign members to update or remove from the campaign (4).



To clone a campaign member, reps click the campaign member name in the list and then click **Clone**.

## Field Label Changes on Campaigns

Because campaign hierarchy results are now visible on campaigns in Lightning Experience, some field labels on Campaigns have changed to make it clearer which fields show results for a single campaign versus the entire hierarchy. This change applies to Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app.

These field labels have been updated.

| Label in Winter '17     | Label in Spring '17           |
|-------------------------|-------------------------------|
| Total Leads             | Leads in Campaign             |
| Converted Leads         | Converted Leads in Campaign   |
| Total Contacts          | Contacts in Campaign          |
| Total Responses         | Responses in Campaign         |
| Num Total Opportunities | Opportunities in Campaign     |
| Num Won Opportunities   | Won Opportunities in Campaign |

| Label in Winter '17           | Label in Spring '17                 |
|-------------------------------|-------------------------------------|
| Total Value Opportunities     | Value Opportunities in Campaign     |
| Total Value Won Opportunities | Value Won Opportunities in Campaign |

## Collaborative Forecasts: Sales Projections in Lightning Experience

Show your reps how sales numbers measure up in a period while taking advantage of everything Lightning Experience has to offer. Help teams project sales revenue and quantities from the opportunity pipeline, including opportunity splits and custom opportunity currency fields, without switching to Salesforce Classic. This feature is new in Lightning Experience.

### EDITIONS

Available in: **Professional** (no custom field forecasts), **Enterprise, Performance, Unlimited,** and **Developer** Editions

Opportunity Splits available in: **Performance** and **Developer** Editions and in **Enterprise** and **Unlimited** Editions with the Sales Cloud

The screenshot displays the 'Forecasts' page for user Nate Silver. At the top, the 'Forecasts' tab is selected (3). Below the user profile (5), a summary table (1) shows forecasts for 'Total: 3 Months' and individual months (October, November, December FY 2016). The summary table has columns for 'CLOSED ONLY' and 'COMMIT FORECAST'. Below this, an 'Opportunities' table (2) lists several opportunities with columns for Name, Account Name, Amount, Quantity, Close Date, Stage, and Probability (%). A settings dropdown menu (4) is open, showing options for 'RANGE' (Set Forecast Range), 'DISPLAY OPTIONS' (Show Quota Column), and 'FORECAST TYPE' (Opportunity Quantity, Opportunity Revenue, Revenue).

- Reps see a summary of sales forecasts (1) and related opportunities (2) by clicking the Forecasts tab (3).
- Take advantage of the forecasts page's faster performance.
- Reps select forecast type, currency, period range, and quota display options from one dropdown list (4).
- Show a rep's user profile photo next to the rep's name (5).

From Setup, use App Manager to add a Forecasts tab for your users, and you're ready to go!

SEE ALSO:

[Sales Features: Lightning Experience Considerations](#)

## Opportunities: Opportunity Products in Lightning Experience

Sales reps can save time by adding up to 50 products to opportunities in one go, and editing up to 200 simultaneously.

Previously, sales reps could add only one product at a time. In Spring '17, we've enhanced the product selector so that when reps click Add Product in Lightning Experience, they can add multiple products.

### EDITIONS

Available in Lightning Experience in: **Group, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

The screenshot shows the 'Add Products' dialog for 'Price Book: 2017 Deals'. At the top, there is a search bar labeled '1' with the text 'Search Products...'. Below the search bar, there are five product selection cards: 'AG Casing - Large (Double)', 'AG Casing - Medium (Single)', 'AG Casing - Mini', 'AG Connector K8-55/64', and 'AG Connector K8-7/64'. A red box labeled '3' highlights the 'X' icon on the 'AG Connector K8-7/64' card. Below the cards, it says '5 items selected'. A table below shows the selected products with columns for 'PRODUCT NAME', 'PRODUCT CODE', 'LIST PRICE', 'PRODUCT DESCRIPTION', and 'PRODUCT FAMILY'. A red box labeled '2' highlights the green checkmark in the first row of the table. At the bottom right, there are 'Cancel' and 'Next' buttons.

| PRODUCT NAME               | PRODUCT CODE | LIST PRICE  | PRODUCT DESCRIPTION                    | PRODUCT FAMILY |
|----------------------------|--------------|-------------|--|----------------|
| AG Casing - Mini           | case-001     | \$4,000.00  | Fits original Mini AG Unit (not t...   |                |
| AG Casing - Small (Single) | case-003-1   | \$4,000.00  | Fits Small antigrav units -- for si... |                |
| AG Connector K8-55/64      | agc-k8-5564  | \$274.00    | Connects to 55/64 outlets.             | None           |
| AG Connector K8-7/64       | agc-k8-764   | \$259.00    | Connects to 7/64 outlets.              | None           |
| Antigrav Unit - Large      | agu-0005     | \$27,999.00 | 1000-3000 kg of lift.                  | None           |

Sales reps can perform multiple product searches (1) without losing their previous selections. Sales reps can select multiple products (2) to add to the opportunity, and remove selected products (3). If reps forget to select a product, they can return to add more products without losing changes they've made to line item details.

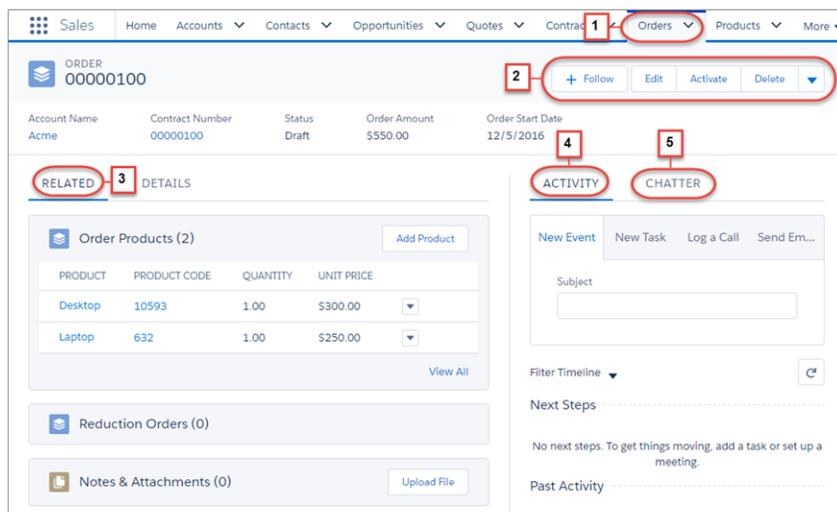
## Orders: Agreements for Delivering Products and Services in Lightning Experience

Give your teams more bells and whistles with the ability to track requests for products and services in Lightning Experience. This feature is new in Lightning Experience.

### EDITIONS

Orders are available in: **Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

Reduction orders are available in: **Enterprise, Performance, Unlimited,** and **Developer** Editions



- Click the Orders tab to see orders list views (1).
- Manage an order (2).
- Work with order products, reduction orders, notes, attachments, and more (3).
- Manage email, events, logged calls, and tasks in the activity timeline (4). Unique to Lightning Experience.
- Use Chatter with Orders and Order Products to collaborate during the order management process. Share information, updates, and documents, and monitor status and key field changes on order records (5). To monitor order and order product fields via Chatter, enable feed tracking for the fields that you want to track.
- Get the big picture with Kanban. Unique to Lightning Experience.

### SEE ALSO:

[Sales Features: Lightning Experience Considerations](#)

[Do More with Orders in Salesforce1](#)

[Idea Exchange: Lightning Experience - Include Orders & Order Products](#)

## Quotes: Enhancements to Pricing of Products and Services

Experience improved quote management with the new Quotes tab, searchable quotes, enhanced PDF and email features, and new views.

### IN THIS SECTION:

#### [Get More from Quotes](#)

Show your teams' quotes side by side for easy comparison and access. Let reps search for the quotes they want to review and delete unneeded quote PDFs. Help teams track quote-related sales activity and the stages that their quotes are in. And let reps add multiple products to quotes at the same time. Feature availability differs between Lightning Experience and Salesforce Classic.

#### [Take Quote PDFs to the Next Level in Lightning Experience](#)

Make it easy for your teams to email customers the latest quotes without switching to Salesforce Classic. And let your teams attach multiple quotes and other documents so that customers can compare them side by side. These changes apply to Lightning Experience only.

### SEE ALSO:

[Get Better Access to Quotes in Salesforce 1](#)

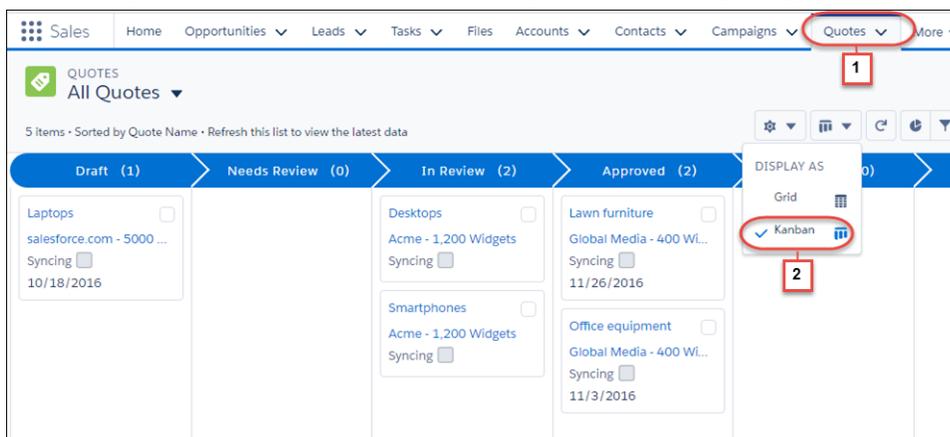
### EDITIONS

Available in: **Performance** and **Developer** Editions

In Sales Cloud, also available in: **Professional**, **Enterprise**, and **Unlimited** Editions

## Get More from Quotes

Show your teams' quotes side by side for easy comparison and access. Let reps search for the quotes they want to review and delete unneeded quote PDFs. Help teams track quote-related sales activity and the stages that their quotes are in. And let reps add multiple products to quotes at the same time. Feature availability differs between Lightning Experience and Salesforce Classic.



- See all your quotes listed together (1).
- Get the big picture with Kanban (2). Unique to Lightning Experience.

- View and manage quote line items (3) and quote PDFs (4).
- Create quote PDFs, email quotes, and manage quote syncing (5).
- Manage email, events, logged calls, and tasks in the activity timeline (6). Unique to Lightning Experience.
- Use Chatter to collaborate during the quote management process. Share information, updates, and documents, and monitor status and key field changes on quote records (7). To monitor quote and quote product fields via Chatter, enable feed tracking for the fields that you want to track.
- Add Path (setup required) to track quotes throughout your sales process (8). Unique to Lightning Experience.

The Quotes tab isn't available for users with Partner Community licenses in communities using the Salesforce Tabs + Visualforce template. They can access quotes from other locations in the Salesforce UI, such as from opportunities. Quotes aren't supported in Lightning communities.

#### SEE ALSO:

- [Take Quote PDFs to the Next Level in Lightning Experience](#)
- [Path for Quotes and Custom Objects](#)

### Take Quote PDFs to the Next Level in Lightning Experience

Make it easy for your teams to email customers the latest quotes without switching to Salesforce Classic. And let your teams attach multiple quotes and other documents so that customers can compare them side by side. These changes apply to Lightning Experience only.

#### SEE ALSO:

- [Salesforce Help: Enable Quotes \(can be outdated or unavailable during release preview\)](#)
- [Get More from Quotes](#)

## Sales Path: Feature Renamed and Expanded

Same great feature now with a new name—Path—to reflect its expanded availability. This change applies to Lightning Experience and to opportunities in all versions of the Salesforce1 mobile app.

To enable Path, or set up a new path, from Setup, enter *Path Settings* in the *Quick Find* box.

### IN THIS SECTION:

#### [Path for Quotes and Custom Objects](#)

Help your users move faster through your business process by adding Path to your quotes and custom objects. This change applies to Lightning Experience only.

#### [Path Pays Attention to Fields Required by the Page Layout](#)

Users are now prompted to enter data into fields required by the page layout when updating records in a path. Previously, users could move a record to the next step without completing fields required by the page layout. This change applies to Lightning Experience and to opportunities in all versions of the Salesforce1 mobile app.

### EDITIONS

Available in Lightning Experience in: **Group, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

## Path for Quotes and Custom Objects

Help your users move faster through your business process by adding Path to your quotes and custom objects. This change applies to Lightning Experience only.

Visually display the steps in a process, highlight key fields, and provide guidance such as handy links, policy information, and tips to users at each step.

When setting up a path, choose which of the object's picklist steps in the path are based on. For example, if you're creating a path for a custom object called Build Out with picklist fields Percent Complete and Build Stage, choose which field to base your path on. After activating the path, add it to page layout.

## Path Pays Attention to Fields Required by the Page Layout

Users are now prompted to enter data into fields required by the page layout when updating records in a path. Previously, users could move a record to the next step without completing fields required by the page layout. This change applies to Lightning Experience and to opportunities in all versions of the Salesforce1 mobile app.

## Duplicate Management: Accounts, Contacts, and Person Accounts

Here's more aspirin for your duplicate management headaches. You can now detect and merge duplicate accounts and contacts in Lightning Experience. Use new rules to detect and prevent duplicates of person account records.

### IN THIS SECTION:

#### [Detect and Merge Duplicate Companies and Contacts in Lightning Experience](#)

Help your sales teams maintain great relationships with customers, and keep your accounts and contacts clutter free. By displaying duplicate records, you can stop a sales rep from inadvertently spoiling a customer relationship—and wreaking havoc on your data. If you've already given your reps permission to merge records in Salesforce Classic, now they can also merge records in Lightning Experience. A consistent interface across accounts, contacts, and leads simplifies duplicate management for everyone. This feature is new in Lightning Experience only.

### EDITIONS

Available in: **Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

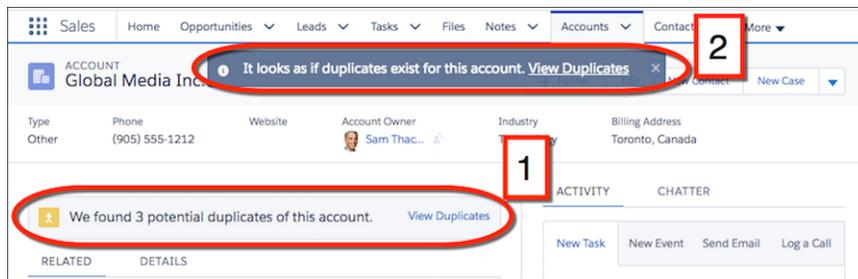
### Manage Duplicate Person Accounts

Do you struggle to manage person accounts because your sales team unknowingly creates duplicates? Help is here. New matching rules and duplicate rules for person accounts extend duplicate management functionality already available for leads, contacts, and business accounts. This change applies to Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app.

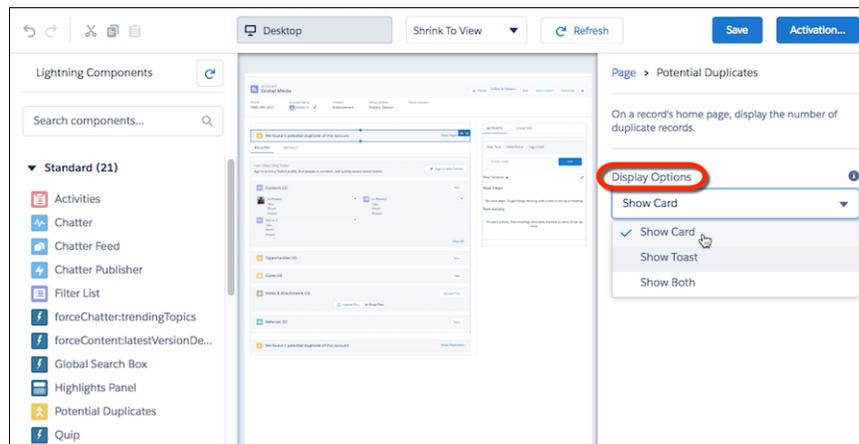
## Detect and Merge Duplicate Companies and Contacts in Lightning Experience

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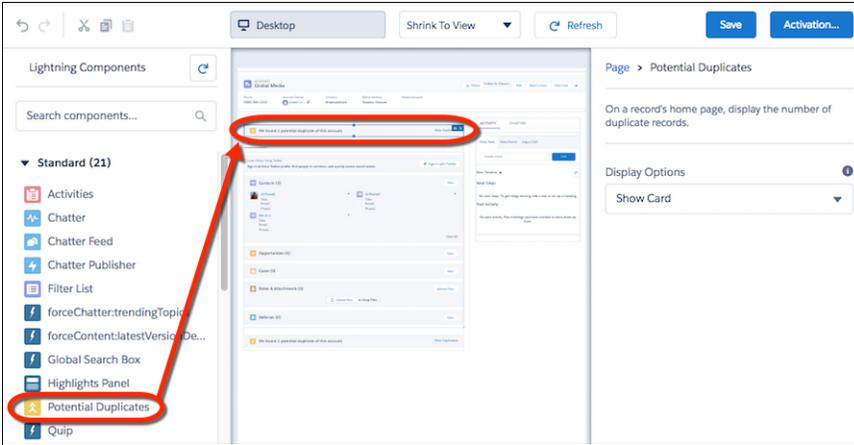
When you enable duplicate and matching rules, a potential duplicates card (1) on record home pages alerts sales reps to duplicates. You can switch to a temporary toast message (2) or display both alerts.



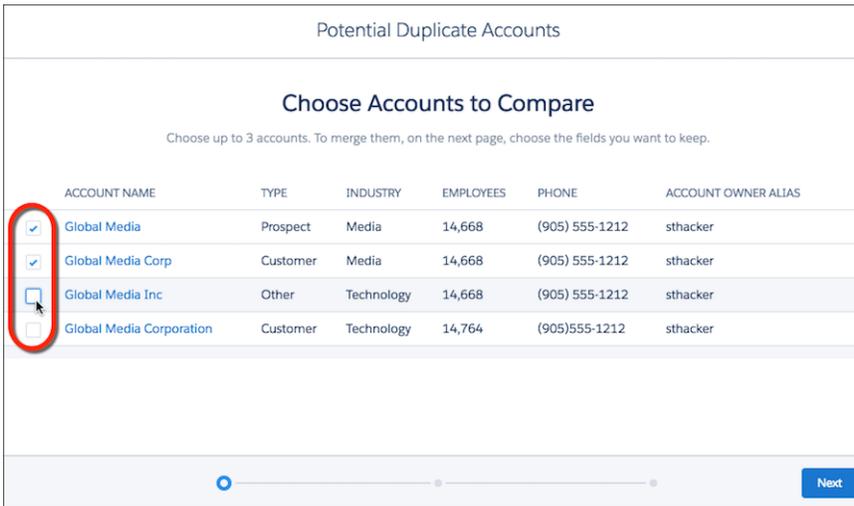
1. In Setup, in the Quick Find box, enter *App Builder* and then click **Lightning App Builder**.
2. If desired, select a different option to alert sales reps to duplicates.



3. On the Accounts or Contacts page, add the Potential Duplicates component.



Sometimes the list of duplicates by itself is all the information a sales rep needs. But a rep who has permission to merge duplicates can choose up to three records to merge.



Before merging, the rep can choose the correct value for each field.

Potential Duplicate Accounts

### Compare Accounts

When you merge, the master record is updated with the values you choose, and relationships to other items are shifted to the master record.

|                 | Global Media<br><a href="#">Select All</a>     | Global Media Corp.<br><a href="#">Select All</a> | Global Media Inc.<br><a href="#">Select All</a>    |
|-----------------|--|--|--|
| MASTER RECORD ⓘ | <input checked="" type="radio"/> Use as master | <input type="radio"/> Use as master              | <input type="radio"/> Use as master                |
| PHONE           | <input type="radio"/> (905) 555-1212           | <input checked="" type="radio"/> 905552121       | <input type="radio"/> (905) 555-1212               |
| ACCOUNT NAME    | <input type="radio"/> Global Media             | <input type="radio"/> Global Media Corp.         | <input checked="" type="radio"/> Global Media Inc. |

Back ✓ ○ ○ Next

**IN THIS SECTION:**

[Considerations for Detecting and Merging Duplicate Companies and Contacts in Lightning Experience](#)  
When you merge duplicate account or contact records, keep these primary considerations in mind.

**SEE ALSO:**

[Idea Exchange: Dynamic Record Merging](#)  
[Idea Exchange: Customize Columns on Step One of Merge Accounts](#)  
[Idea Exchange: Customize Merge Contacts Columns in Step One](#)  
[Idea Exchange: Account Merge to Maintain Parent and Child Hierarchy](#)  
[Idea Exchange: Merge Contacts Across Accounts](#)  
[Idea Exchange: Redirect to Final Merged Account After Merge Accounts Wizard](#)  
[Idea Exchange: Account Merge for Accounts with Data in Multiple Record Types](#)  
[Idea Exchange: Merge My Accounts and Merge My Contacts Page Layout Options](#)  
[Idea Exchange: We Want to See More Than 50 Lists for Merging Accounts and Contacts](#)

**Considerations for Detecting and Merging Duplicate Companies and Contacts in Lightning Experience**

When you merge duplicate account or contact records, keep these primary considerations in mind.

**Account Hierarchy**

In Lightning Experience, you can choose the parent account to retain. In Salesforce Classic, the merged account retains the account hierarchy from the master record.

**No Support for Merging Person Accounts in Lightning Experience**

Lightning Experience doesn't support merging of person accounts.

**Primary Account**

In Lightning Experience, you can merge contacts that have different primary accounts unless the contact is associated with a portal user. In Salesforce Classic, you can merge only contacts that have the same primary account. The primary account is the account listed in the `Account Name` field on the contact record.

## Redundant Relationships

If you try to merge contacts that are indirectly related to the same account, Salesforce displays a message suggesting that you remove the redundant relationship. On contact records, indirect relationships are managed from the Related Accounts related list.

## Portal Users

When you use Lightning Experience to merge contacts associated with portal users, the portal user status isn't shown during merging. The merged record retains the portal user status of the master record. When you use Salesforce Classic to merge contacts associated with portal users, the portal user status is shown during merging. You choose the portal status you want to retain in the merged record. In both Lightning Experience and Salesforce Classic, the master contact must be associated with a portal user. The merged contact retains the portal user status of the master contact. If a non-master contact is associated with a portal user, that user is deactivated.

## Related Items, Chatter Feeds, and Attachments

When duplicate records are related to items such as campaigns or activities, Salesforce relates the items to the merged record, with some exceptions. Chatter feeds are retained from the master record only. Attachments in Chatter feeds are retained in Salesforce but aren't associated with the merged record. To associate the dropped files with the merged record, find them in Files home (in Lightning Experience) or the Files tab (in Salesforce Classic). Then add them to the Files related list on the merged record.

## SEE ALSO:

[Salesforce Help: Guidelines and Considerations for Merging Duplicate Accounts \(can be outdated or unavailable during release preview\)](#)

[Salesforce Help: Considerations for Merging Duplicate Contacts \(can be outdated or unavailable during release preview\)](#)

[Data Import and Management: Lightning Experience Considerations](#)

## Manage Duplicate Person Accounts

Do you struggle to manage person accounts because your sales team unknowingly creates duplicates? Help is here. New matching rules and duplicate rules for person accounts extend duplicate management functionality already available for leads, contacts, and business accounts. This change applies to Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app.

To use the new rules, enable person accounts, and then activate the rules in Setup in Lightning Experience or Salesforce Classic.

| Rule Name                              | Description                                | Object         | Matching Rule                         | Active | Last Modified By | Last Modified Date |
|--|--|----------------|---------------------------------------|--------|------------------|--------------------|
| Standard Account Duplicate Rule        | Duplicate rule for account records.        | Account        | Standard Account Matching Rule        | ✓      | sthaacker        | 12/9/2016          |
| Standard Contact Duplicate Rule        | Duplicate rule for contact records.        | Contact        | Standard Contact Matching Rule        | ✓      | sthaacker        | 12/9/2016          |
| Standard Lead Duplicate Rule           | Duplicate rule for lead records.           | Lead           | Standard Lead Matching Rule           | ✓      | sthaacker        | 12/9/2016          |
| Standard Person Account Duplicate Rule | Duplicate rule for person account records. | Person Account | Standard Person Account Matching Rule | ✓      | sthaacker        | 12/13/2016         |

## SEE ALSO:

[Idea Exchange: Enable Duplicate Management for Person Accounts](#)

## Productivity Features: Voicemail Support, Mass Actions, and Other Efficiencies

In Lightning Experience, get your sales reps to work multiple records on one screen, compose email with grace, and edit records in-line. Also, organize records using Kanban in new ways.

### IN THIS SECTION:

#### [Sales Console: Multiple Records on One Screen in Lightning Experience \(Beta\)](#)

Your sales reps just got a whole lot better at their jobs. Thanks to the new Lightning Sales Console app, your team has all the tools at their fingertips to prospect leads, close deals, and manage relationships. This feature is new in Lightning Experience.

#### [Lightning Voice: Voicemail and Call Quality](#)

We've added a few key features to Voice, including personal voicemail and the ability to see call quality with ease. These changes apply to Lightning Experience only.

#### [Email: New Send Email Action and Other Features to Increase Productivity](#)

We've replaced the Email Composer with the customizable Send Email action to make it easy for users to follow your business processes. Send email more efficiently using org-wide email addresses. Control how your email attachments are sent and stored. These changes apply to Lightning Experience only.

#### [Tasks: Follow-Up and Recurring Tasks](#)

Stay on task with tasks. With just two clicks, create a follow-up task. Setting up recurring tasks—daily, weekly, monthly, and yearly—is just as easy, so there's no reason to forget that weekly status report for your boss. And when a co-worker clicks **Save and New** when creating a task, the next task already has some of the same information. That's a great way to save time, so that you can spend more time on your tasks.

#### [Related Lists: Mass Actions](#)

Related lists in Lightning Experience are more powerful than ever. We added mass actions for list views in Winter '17. In Spring '17, we're expanding mass action functionality to related lists.

#### [List Views: Inline Editing](#)

Reps can get more done with fewer clicks when working from list views. Edit record values in a list view with impunity now that inline edit is generally available.

#### [Kanban: Expanded Availability and More Settings](#)

Effectively monitor work using the Kanban-style visual layout in more places.

## Sales Console: Multiple Records on One Screen in Lightning Experience (Beta)

Your sales reps just got a whole lot better at their jobs. Thanks to the new Lightning Sales Console app, your team has all the tools at their fingertips to prospect leads, close deals, and manage relationships. This feature is new in Lightning Experience.

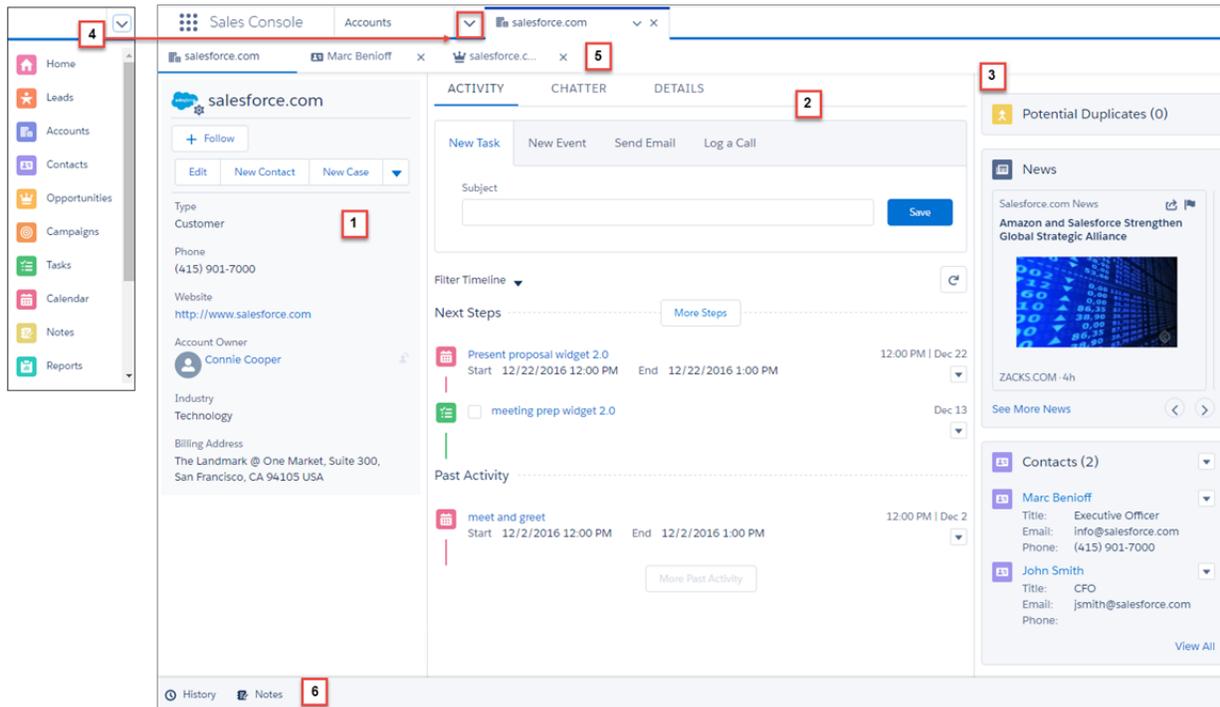
 **Note:** This release contains a beta version of Lightning console apps, which means it's a high-quality feature with known limitations. Lightning console apps aren't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features.

### EDITIONS

Available in Lightning Experience

Available in: **Professional, Enterprise, Performance, Unlimited, and Developer** Editions with Sales Cloud

We've provided a standard console app called Sales Console. It comes equipped to get everyone—from inside sales reps to relationship managers—ready for the console life. Here's what you get in the standard Sales Console app.



- A navigation-friendly three-column layout for the objects you rely on most—accounts, contacts, leads, and opportunities. The layout includes the record's key details in the highlights panel (1), the familiar workspace (2), and useful related lists (3).
- Other go-to objects and features—including campaigns, tasks, reports, and more—are easily accessible (4).
- Intuitive tab and subtab navigation (5).
- A preconfigured utility bar with History (6). If Notes is enabled, it appears in the utility bar, too.

But don't forget to customize your Sales Console app. From Setup, use the App Manager to:

- Add your own branding.
- Add other items your teams need to access in the console.
- Configure the utility bar so reps can easily access productivity tools like Voice.
- Modify the default user profile assignments to make sure the right people have access to Sales Console. Sales Console is automatically assigned all standard and custom user profiles.

 **Note:** Lightning console apps are available only to Sales Cloud and Service Cloud users. To prevent unexpected issues, don't give other users access to Lightning console apps.

Finally, use the Lightning App Builder to customize specific page layouts. For example, if you use Pardot, you'll need to add the Engagement History component to the appropriate page layouts.

-  **Note:** Lightning console apps don't yet have full parity with Salesforce Classic console apps. For example, some features in Salesforce Classic console apps, such as keyboard shortcuts and macros, aren't available in Lightning console apps. You can't migrate Salesforce Classic console apps to Lightning Experience.

## SEE ALSO:

- [Get Your Tab History in Lightning Console Apps](#)
- [Customize Your Console App Record Pages with Lightning App Builder](#)
- [Enhance Your Lightning Apps with the Utility Bar](#)
- [View and Manage Your Console Apps in New Ways](#)
- [Understand the Differences Between Salesforce Classic and Lightning Experience Console Apps \(Beta\)](#)

## Lightning Voice: Voicemail and Call Quality

We've added a few key features to Voice, including personal voicemail and the ability to see call quality with ease. These changes apply to Lightning Experience only.

-  **Note:** For now, we support outgoing calls to the U.S. and Canada only.

## IN THIS SECTION:

### [Use Voicemail for Missed Calls](#)

No need to fret over missed calls! Lightning Voice now supports personal voicemail. Sales reps can see the calls they've missed and play voicemail messages directly in Salesforce. This change applies to Lightning Experience only.

### [See Call Quality at a Glance](#)

Can you hear me now? Your reps now see the real-time status of the network bandwidth quality for calls placed with Lightning Voice. This change applies to Lightning Experience only.

### [Organize Your Calls with a Call List \(Beta\)](#)

If your sales reps place a lot of calls each day, it can be tough for them to keep track of the calls they need to make. Your reps can now keep a running list of the calls they need to make in a single, convenient place. This change applies to Lightning Experience only.

### [Log Calls in the Activity Composer Automatically](#)

Logging calls is even easier now that your sales reps can log calls automatically. Simply select Auto-log to add the call details to the activity timeline without manual input. This change applies to Lightning Experience only.

### [Create Reports for Lightning Voice](#)

See information about Voice usage in reports, such as call duration, frequency, and popular call recipients. Use the Report Builder to create useful reports about Lightning Voice. To see voice reports, create a custom report type with the primary object set to VoiceCalls. This change applies to Lightning Experience only.

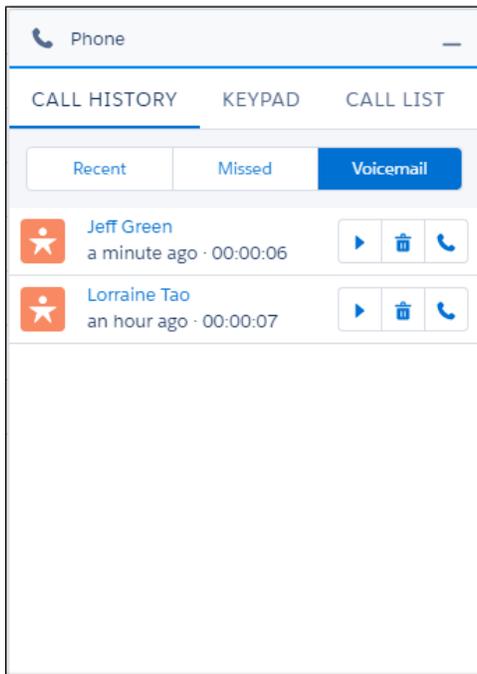
### EDITIONS

Voice is available for an additional cost in **Professional, Enterprise, Performance, and Unlimited** Editions

## Use Voicemail for Missed Calls

No need to fret over missed calls! Lightning Voice now supports personal voicemail. Sales reps can see the calls they've missed and play voicemail messages directly in Salesforce. This change applies to Lightning Experience only.

Sales reps can now store up to 20 voicemail messages in Salesforce. Reps are notified about voicemail messages in the notifications window, and they can play messages in the call panel.

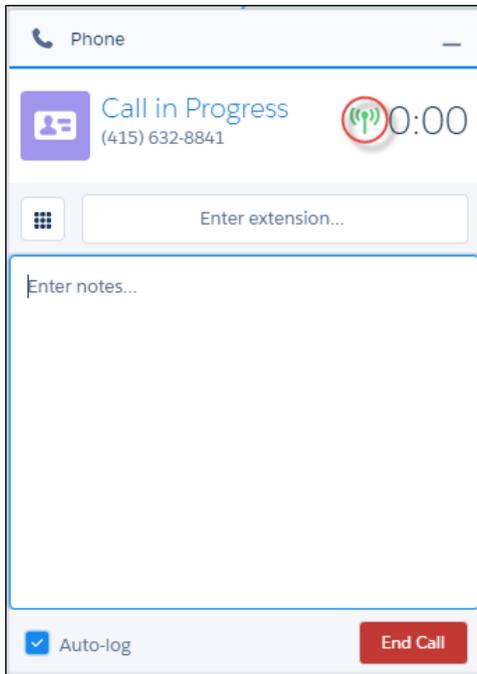


Voicemail messages are limited to two minutes. The messages are saved as files in Salesforce, and they count toward your files storage quota.

Enable voicemail from the Voice Settings page in Setup.

### See Call Quality at a Glance

Can you hear me now? Your reps now see the real-time status of the network bandwidth quality for calls placed with Lightning Voice. This change applies to Lightning Experience only.



## Organize Your Calls with a Call List (Beta)

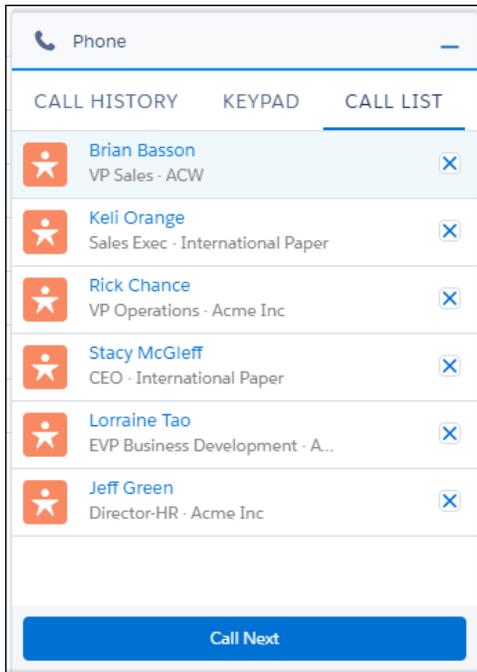
If your sales reps place a lot of calls each day, it can be tough for them to keep track of the calls they need to make. Your reps can now keep a running list of the calls they need to make in a single, convenient place. This change applies to Lightning Experience only.

-  **Note:** This release contains a beta version of the call list, which means it's a high-quality feature with known limitations. The call list feature isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features. You can provide feedback and suggestions for this feature in the [IdeaExchange](#).

To create a call list, select leads from the lead page, and click **Create Call List**.

| LEADS  |                   |                |                    |                   |             |       |  | New              | Import | Add to Campaign |
|--|-------------------|----------------|--------------------|-------------------|-------------|-------|--|------------------|--------|-----------------|
| All Leads  |                   |                |                    |                   |             |       |  | Settings         | Grid   | Refresh         |
| 4 items selected                                 |                   |                |                    |                   |             |       |  | Change Status    |        |                 |
|  |                   |                |                    |                   |             |       |  | Create Call List |        |                 |
| NAME   | TITLE             | PHONE          | COMPANY            | EMAIL             | LEAD STATUS | OWN   |  |                  |        |                 |
| <input checked="" type="checkbox"/> Keli Orange  | Sales Exec        | (314) 123-4667 | International P... | keliorange@int... | Open        | AUser |  |                  |        |                 |
| <input checked="" type="checkbox"/> Jeff Green   | Director-HR       | (415) 632-8841 | Acme Inc           | jeff.green@ac...  | Open        | AUser |  |                  |        |                 |
| <input type="checkbox"/> Brian Basson            | VP Sales          | (415) 536-7990 | AWC                | brian@awc.com     | Open        | AUser |  |                  |        |                 |
| <input checked="" type="checkbox"/> Lorraine Tao | EVP Business D... | (510) 333-4444 | AWC                |                   | Open        | AUser |  |                  |        |                 |
| <input checked="" type="checkbox"/> Rick Chance  | VP Operations     | (415) 555-6677 | Acme Inc           |                   | Open        | AUser |  |                  |        |                 |

The prioritized list of leads appears in the call panel.



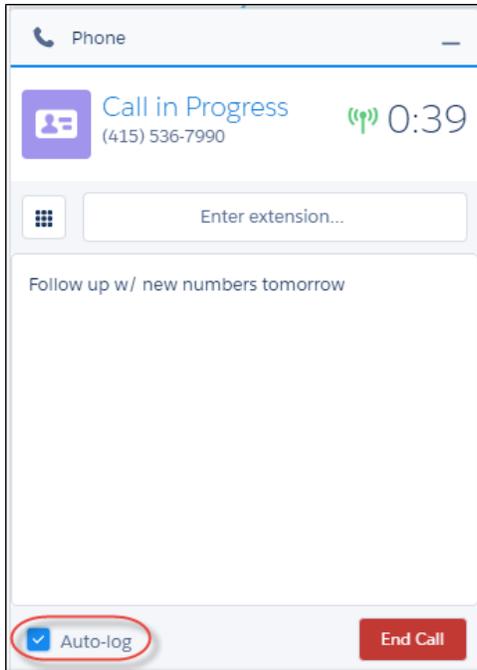
Click **Call Next** to dial the number at the top of the list and automatically open the related lead record.

The call list is currently limited to leads, and only one call list is available at a time. When reps create a new call list, it replaces the information in the previous call list.

Enable call lists from the Voice Settings page in Setup.

### Log Calls in the Activity Composer Automatically

Logging calls is even easier now that your sales reps can log calls automatically. Simply select Auto-log to add the call details to the activity timeline without manual input. This change applies to Lightning Experience only.



## Create Reports for Lightning Voice

See information about Voice usage in reports, such as call duration, frequency, and popular call recipients. Use the Report Builder to create useful reports about Lightning Voice. To see voice reports, create a custom report type with the primary object set to VoiceCalls. This change applies to Lightning Experience only.

SEE ALSO:

[Create a Custom Report Type](#)

## Email: New Send Email Action and Other Features to Increase Productivity

We've replaced the Email Composer with the customizable Send Email action to make it easy for users to follow your business processes. Send email more efficiently using org-wide email addresses. Control how your email attachments are sent and stored. These changes apply to Lightning Experience only.

### EDITIONS

Available in: **Group, Professional, Enterprise, Performance, Unlimited, and Developer** Editions

IN THIS SECTION:

[Send Email Action: Tailor Email to Match Your Business Processes](#)

We've replaced the Email Composer with the Send Email action. You can customize Send Email actions to work the way your business works, by adding and removing fields or specifying predefined values. Add the Send Email action to any activity-enabled object. This change applies to Lightning Experience only.

[Send Email Using Org-Wide Email Addresses](#)

You can select org-wide addresses in the From dropdown, except for Salesforce Inbox users. This change applies to Lightning Experience only.

### [Choose Among Multiple Email Addresses in the From Field](#)

When you use the Send Email action and Salesforce Inbox, you can select from which connected account to send the email. Select the best email address to match your business processes. For example, an HR rep could choose "recruit@company.com" to respond to a job request. This change applies to Lightning Experience only.

### [Create More Record Associations with the Related To Lookup Field](#)

Choose what the email is related to, such as a campaign, and also choose who the email recipient is, such as a person on a campaign. The content of the Related To field affects available merge fields and templates and also associates the email activity with the record. As a result of the association, you can see the campaign email when you're looking at the person's record. This change applies to Lightning Experience only.

### [Save Time with Context-Sensitive Email Templates](#)

When selecting an email template, only templates that apply to the first email recipient or the item in the Related To field are displayed. This change applies to Lightning Experience only.

### [Context-Sensitive Merge Fields and Person Account Support](#)

Merge fields are typically used when creating a template. When choosing a merge field, the list of possible merge fields displays the appropriate fields for the first email recipient or the item in the Related To field. If a Person Account is in the Related To field, the list now displays all the Person Account merge fields. This change applies to Lightning Experience only.

### [Consistent Email Footers for Emails Sent Through Gmail or Office 365](#)

Email sent via Gmail or Office 365 can contain an organization-wide footer. You can choose whether to include this footer. This change applies to Lightning Experience only.

### [Email Files as Attachments or Links: You Decide](#)

Control email size by setting size limits on attachments or allowing only links to files. New settings let you choose the most efficient methods to improve deliverability. This change applies to both Lightning Experience and Salesforce Classic.

## Send Email Action: Tailor Email to Match Your Business Processes

We've replaced the Email Composer with the Send Email action. You can customize Send Email actions to work the way your business works, by adding and removing fields or specifying predefined values. Add the Send Email action to any activity-enabled object. This change applies to Lightning Experience only.



**Important:** We've automatically replaced the previous email composer (the **Send an Email** standard button) with the new Send Email action on unchanged Global layouts, as well as Account, Opportunity, Lead, Contact, and Campaign layouts.

When isn't the action replaced?

- If a quick action with the API name SendEmail already exists, it isn't replaced with the new action.
- The new action isn't added to a Global layout if actions have been added or removed from the layout, or if the Account, Opportunity, Lead, Contact, or Campaign layouts don't inherit from the Global layout.
- The new action also isn't added to the Account, Opportunity, Lead, Contact, or Campaign layouts if the previous email composer isn't present.



**Note:** If the Send Email action is required, add the Send Email action to the Salesforce1 and Lightning Experience Actions section of the layout.

You can customize Send Email actions to work the way your business works.

 **Example:** To customize the Send Email action for an Applicant custom object used by recruiters, remove the To, Cc, and Bcc fields. Instead, automatically specify the email recipient.

Because an object can have multiple Send Email actions, you can set up two Send Email actions for your recruiters: a Send Email action called Recruit and another called Welcome. The Welcome Send Email action includes fields for information on joining your company. Your company's recruiters can send emails more efficiently, with consistent, on-target content.

#### IN THIS SECTION:

##### [Send Email Action Considerations](#)

Before working with the Send Email action, be aware of these limitations.

##### [Send Email from Anywhere](#)

Add the Send Email action to any activity-enabled object, including custom objects, and you can send email from anywhere in Lightning Experience. This change applies to Lightning Experience only.

##### [Send Error-Free Emails by Predefining Fields](#)

Predefine fields to customize the Send Email quick action for your business processes and reduce entry errors. This change applies to Lightning Experience only.

#### SEE ALSO:

[Salesforce Help: Add Actions to Global Publisher Layouts \(can be outdated or unavailable during release preview\)](#)

[Knowledge Article: Send Email Setup Guide: Using Lightning Experience Email](#)

## Send Email Action Considerations

Before working with the Send Email action, be aware of these limitations.

- You can't add custom fields or rename existing fields in the Send Email action.
- The From field is required.
  -  **Note:** If the From field is not in the Send Email action layout, it must be predefined.
- HTML Body content is required; Text Body content is only supported on the Case-specific Send Email action.
  -  **Note:** If the HTML Body field is not in the Send Email Action layout, it must be predefined.
- If you start an email from inline mode, the email can't be popped out into the docked composer. However, if you start an email from the Global Actions menu, the email uses the docked composer.
- Org-wide email addresses can't be used with Salesforce Inbox.
- The Send Email action is not available in Communities.
- The Related To field cannot be set to Cases in the global Send Email action.

#### Predefined Values

- The To, Cc, and Bcc fields only accept email addresses as predefined values.
- Emails sent with only email addresses specified aren't associated with Salesforce records.
- Related To can be predefined only for an entity-specific quick action, not a global quick action.
- Predefined values aren't supported in Reply/Forward or emails initiated from Assistant or Opportunity Insights.

- If Compliance Bcc is enabled, predefined values for the Bcc field are ignored. If Auto Bcc is enabled, predefined values for the Bcc field are appended to the Auto Bcc address.

### Reply/Forward and Email in Opportunity Insights

Reply/Forward and email functionality depends on the following criteria:

- The global Send Email action is on the Global layout, in the Salesforce1 and Lightning Experience Actions section.
- Either the Subject or Body field must be on the layout.
- The user has the Send Email permission.
- The Org-wide Pref "Access to Send Email" isn't set to All Emails.

### Cases

- Only the Case-specific Send Email action can be added to Cases.
- Turn on Email-to-Case to enable the Case-specific Send Email action on Cases.
- You can't send emails associated to Cases from the Global Actions menu.

## Send Email from Anywhere

Add the Send Email action to any activity-enabled object, including custom objects, and you can send email from anywhere in Lightning Experience. This change applies to Lightning Experience only.

When you add the Send Email action to the Global layout, it appears in the Global Actions menu (the + button in the upper right) and in the Activity Publisher for all objects that inherit from the Global layout.

Either the Global or the object-specific Send Email action can be added directly to the actions section on the layout of any activity-enabled object.

If the Send Email action is not displayed on an object, confirm that the object is activity-enabled.

Emails sent from the Send Email action use the character encoding specified in the user settings.

For transition reasons, the previous email composer is still visible in the layout editor. However, we plan to remove it in the Summer '17 release.

How can you tell them apart?

The old action is labeled Send an Email, with the name SendEmail and an action type of Standard Button.

|               |                              |
|---------------|------------------------------|
| Send an Email | Sharing                      |
| Send Em       | Label: Send an Email         |
| Send Em       | Name: SendEmail              |
| Send Em       | Action Type: Standard Button |
| Send Text     | Thanks                       |

The new action is labeled Send Email, with the same name of SendEmail and an action type of Quick Action.

|               |                           |
|---------------|---------------------------|
| Send an Email | Sharing                   |
| Send Email    | Submit for                |
| Send Em       | Label: Send Email         |
| Send Em       | Name: SendEmail           |
| Send Text     | Action Type: Quick Action |
|               | Create Feed Item: Yes     |

SEE ALSO:

[Create Global Quick Actions](#)

## Send Error-Free Emails by Predefining Fields

Predefine fields to customize the Send Email quick action for your business processes and reduce entry errors. This change applies to Lightning Experience only.

For example, when responding to a customer email, you can standardize the subject line to say “Thanks for your inquiry”.

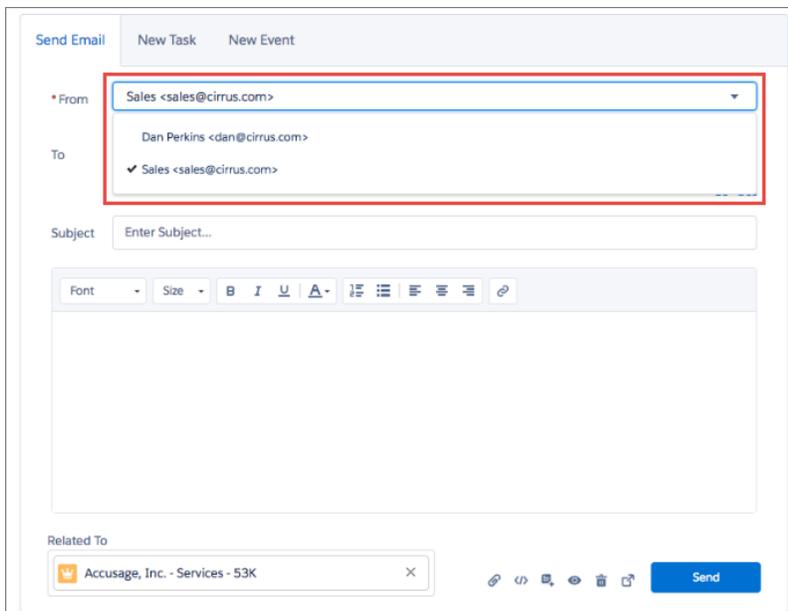
## Send Email Using Org-Wide Email Addresses

You can select org-wide addresses in the From dropdown, except for Salesforce Inbox users. This change applies to Lightning Experience only.

Some companies use an org-wide email address, such as sales@company.com, for their outgoing emails. You can set up as many email addresses as you need. For example, you might also want to use recruit@company.com for your HR department and service@company.com for your service department.

## Choose Among Multiple Email Addresses in the From Field

When you use the Send Email action and Salesforce Inbox, you can select from which connected account to send the email. Select the best email address to match your business processes. For example, an HR rep could choose “recruit@company.com” to respond to a job request. This change applies to Lightning Experience only.



The screenshot shows the 'Send Email' quick action interface in Salesforce. At the top, there are tabs for 'Send Email', 'New Task', and 'New Event'. Below the tabs, the 'From' field is a dropdown menu with a red border around it. The dropdown is open, showing three options: 'Sales <sales@cirrus.com>', 'Dan Perkins <dan@cirrus.com>', and 'Sales <sales@cirrus.com>' (which has a checkmark). Below the 'From' field is the 'To' field, which contains 'Dan Perkins <dan@cirrus.com>' and 'Sales <sales@cirrus.com>' (with a checkmark). Below the 'To' field is the 'Subject' field with the placeholder text 'Enter Subject...'. Below the subject field is a rich text editor with a toolbar containing options for Font, Size, Bold, Italic, Underline, Text Color, Background Color, Bulleted List, Numbered List, Indent, and Link. Below the rich text editor is the 'Related To' field, which contains 'Accusage, Inc. - Services - 53K'. At the bottom right of the interface is a blue 'Send' button.

 **Example:** Dan can choose to send the email as if it were coming from him or as if it were coming from the sales department.

## Create More Record Associations with the Related To Lookup Field

Choose what the email is related to, such as a campaign, and also choose who the email recipient is, such as a person on a campaign. The content of the Related To field affects available merge fields and templates and also associates the email activity with the record. As a result of the association, you can see the campaign email when you're looking at the person's record. This change applies to Lightning Experience only.

Email activity is automatically associated with the Contacts, Leads, or Users you specify in the recipient list. Therefore, you can't select those objects in the Related To field. You also can't select any object that is not activity-enabled.

## Save Time with Context-Sensitive Email Templates

When selecting an email template, only templates that apply to the first email recipient or the item in the Related To field are displayed. This change applies to Lightning Experience only.

Beneath the heading, the list of email templates shows you which items the list is filtering on.

The screenshot shows a 'Select Template' dialog box. At the top, it says 'Choose a Template for:' followed by two filters: 'Anaco Limited' and 'Barry Brown'. Below this is a search bar and a table of templates. The table has columns for NAME, DESCRIPTION, CREATED BY, CREATED DATE, and ACTION. The templates listed are:

| NAME                              | DESCRIPTION                      | CREATED BY  | CREATED DATE | ACTION |
|-----------------------------------|----------------------------------|-------------|--------------|--------|
| contact template                  | some description updated! again! | Dan Perkins | 2016-11-08   | Del    |
| Person Account only               |                                  | Dan Perkins | 2016-11-03   | Del    |
| account template only             |                                  | Dan Perkins | 2016-11-03   | Del    |
| Person Account Template           | Person Account                   | Dan Perkins | 2016-11-01   | Del    |
| Account Template with merge field |                                  | Dan Perkins | 2016-10-24   | Del    |

At the bottom right of the dialog is a 'Cancel' button.

You can create and use email templates on all activity-enabled objects, such as Quotes, Orders, and Contracts, including custom objects. Email templates for person accounts and company accounts appear together as account-specific templates.



**Example:** A software sales rep working on an opportunity gets an email from the customer asking about the new version of software. The rep can choose either a software upgrade email template or a generic contact email template for the reply.

## Context-Sensitive Merge Fields and Person Account Support

Merge fields are typically used when creating a template. When choosing a merge field, the list of possible merge fields displays the appropriate fields for the first email recipient or the item in the Related To field. If a Person Account is in the Related To field, the list now displays all the Person Account merge fields. This change applies to Lightning Experience only.

This example shows an email template with a Person Account as the primary recipient and as the Related To. The address merge fields include the addresses for the contact, organization, personal account, and user.

## Consistent Email Footers for Emails Sent Through Gmail or Office 365

Email sent via Gmail or Office 365 can contain an organization-wide footer. You can choose whether to include this footer. This change applies to Lightning Experience only.

While footers can also be configured in Gmail or Office 365, it can be easier to use the organization-wide footer in all emails sent from Salesforce. For example, if changing the email footer settings at your company requires a lengthy approval process, use the Salesforce footer instead.

In Salesforce, change the setting Add footer to emails sent through external email services.

### EDITIONS

Available in: **Professional, Enterprise, Performance, Unlimited, and Developer Editions**

## Email Files as Attachments or Links: You Decide

Control email size by setting size limits on attachments or allowing only links to files. New settings let you choose the most efficient methods to improve deliverability. This change applies to both Lightning Experience and Salesforce Classic.

In Salesforce Classic, anyone who sends email can deny access to the emailed files at any time, even after delivery.

SEE ALSO:

[Decide When to Send Files as Links](#)

## Tasks: Follow-Up and Recurring Tasks

Stay on task with tasks. With just two clicks, create a follow-up task. Setting up recurring tasks—daily, weekly, monthly, and yearly—is just as easy, so there's no reason to forget that weekly status report for your boss. And when a co-worker clicks **Save and New** when creating a task, the next task already has some of the same information. That's a great way to save time, so that you can spend more time on your tasks.

### EDITIONS

Available in: **Group, Professional, Enterprise, Performance, Unlimited, and Developer** Editions

IN THIS SECTION:

### [Create Follow-Up Tasks](#)

Create a follow-up task, and remember what's next on your to-do list. The new follow-up task uses the original tasks' information from the Subject, Assigned to, Name, and Related To fields. The due date is blank, but defaults to today when you click in the field. This feature is new in Lightning Experience.

### [Use Recurring Tasks \(Again and Again\) in Lightning Experience](#)

Sales professionals rely on recurring tasks to schedule their predictable activities, like creating the next day's prospect list or updating the weekly sales meeting agenda. Tasks can repeat daily, weekly, monthly, or yearly, and start on any day you choose. Set when the task ends, or calculate the latest date automatically. Now your Lightning Experience users can create and track recurring tasks without switching to Salesforce Classic. This feature is new in Lightning Experience.

### [Save Time by Using Save and New in Tasks](#)

Why make creating a task a task? The Save and New feature creates a new task based on the old task. The new task has the same entries in the Subject, Name, Assigned To, and Related To fields. This change applies to Lightning Experience only.

### [Search for Tasks and Events](#)

Tasks and events now appear in global search results. This change applies to Lightning Experience and the Salesforce1 mobile browser app.

### [Recurring Tasks Start and End Field Labels Have Changed](#)

We've changed some field labels on recurring tasks, so they're consistent with events and easier to tell from standalone tasks. Previously, recurring task labels were "Start Date" and "End Date." Now, they are "Recurrence Start" and "Recurrence End." The API names for these labels (`RecurrenceStartDateOnly` and `RecurrenceEndDateOnly`) remain the same. This change applies to both Lightning Experience and Salesforce Classic.

## Create Follow-Up Tasks

Create a follow-up task, and remember what's next on your to-do list. The new follow-up task uses the original tasks' information from the Subject, Assigned to, Name, and Related To fields. The due date is blank, but defaults to today when you click in the field. This feature is new in Lightning Experience.

The **Create Follow-Up Task** action is automatically included in the set of predefined Salesforce1 and Lightning Experience actions on Task page layouts. If you've overridden the Salesforce1 and Lightning Experience Actions section on any of your org's Task page layouts, manually add the **Create Follow-Up Task** action from the Salesforce1 & Lightning Actions palette.

SEE ALSO:

[Create Follow-Up Tasks in Salesforce1](#)

## Use Recurring Tasks (Again and Again) in Lightning Experience

Sales professionals rely on recurring tasks to schedule their predictable activities, like creating the next day's prospect list or updating the weekly sales meeting agenda. Tasks can repeat daily, weekly, monthly, or yearly, and start on any day you choose. Set when the task ends, or calculate the latest date automatically. Now your Lightning Experience users can create and track recurring tasks without switching to Salesforce Classic. This feature is new in Lightning Experience.

Generally, recurring tasks work the same in Lightning Experience as they do in Salesforce Classic. However, the option to repeat a task every weekday isn't available in Lightning Experience. Instead, switch to Salesforce Classic to create or edit a series with this interval.

In Lightning Experience, users create recurring tasks via the **New Task** button on tasks lists. Creating recurring tasks using a **New Task** quick action isn't supported.

Each task that's created as part of a recurring series appears in the user's task list. To view, edit, or delete the entire series, select any one of the recurring tasks then select **View Series** from the action menu. When viewing the series, users can update details for all tasks in the series or delete the entire series.

## Set Up Recurring Tasks for Lightning Experience

Confirm these settings in Setup.

- Add the `Create Recurring Series of Tasks` field to the Task Detail section of your org's Task page layouts.
- If the Salesforce1 and Lightning Experience Actions section on a Task page layout has been overridden, make sure that the **Delete Series** and **View Series** actions from the Salesforce1 & Lightning Actions palette are included in the section. Add these actions if they're not already there.

SEE ALSO:

[Use Recurring Tasks in Salesforce1](#)

## Save Time by Using Save and New in Tasks

Why make creating a task a task? The Save and New feature creates a new task based on the old task. The new task has the same entries in the Subject, Name, Assigned To, and Related To fields. This change applies to Lightning Experience only.

The Save and New action replaces the standard Lightning Experience Save and New, which can no longer be accessed.

## Search for Tasks and Events

Tasks and events now appear in global search results. This change applies to Lightning Experience and the Salesforce1 mobile browser app.

## Recurring Tasks Start and End Field Labels Have Changed

We've changed some field labels on recurring tasks, so they're consistent with events and easier to tell from standalone tasks. Previously, recurring task labels were "Start Date" and "End Date." Now, they are "Recurrence Start" and "Recurrence End." The API names for these labels (`RecurrenceStartDateOnly` and `RecurrenceEndDateOnly`) remain the same. This change applies to both Lightning Experience and Salesforce Classic.

## Related Lists: Mass Actions

Related lists in Lightning Experience are more powerful than ever. We added mass actions for list views in Winter '17. In Spring '17, we're expanding mass action functionality to related lists.

### IN THIS SECTION:

#### [Run Custom Mass Actions on Multiple Records in Related Lists](#)

Remember those brilliant custom buttons that you created in Salesforce Classic by using Visualforce? With the ability to select multiple records in a Lightning Experience related list, those buttons take on new life. Watch your reps' productivity soar when they click a button to perform a custom mass action on several records at once. This change applies to Lightning Experience only.

### EDITIONS

Available in: **Contact Manager, Personal, Group, Professional, Enterprise, Performance, Unlimited, and Developer** Editions

## Run Custom Mass Actions on Multiple Records in Related Lists

Remember those brilliant custom buttons that you created in Salesforce Classic by using Visualforce? With the ability to select multiple records in a Lightning Experience related list, those buttons take on new life. Watch your reps' productivity soar when they click a button to perform a custom mass action on several records at once. This change applies to Lightning Experience only.

**View All** records on a related list to access that list's mass action buttons.

## List Views: Inline Editing

Reps can get more done with fewer clicks when working from list views. Edit record values in a list view with impunity now that inline edit is generally available.

### IN THIS SECTION:

#### [Save Time by Editing Inline in List Views \(Generally Available\)](#)

Your reps can breeze through record updates in Lightning Experience with Lightning Edit in list views. Reps can modify a record without opening it, right from the list view. And in lookup fields, they can search for and create records on the fly. This change applies to Lightning Experience only.

### EDITIONS

Available in: **Contact Manager, Personal, Group, Professional, Enterprise, Performance, Unlimited, and Developer** Editions

## Save Time by Editing Inline in List Views (Generally Available)

Your reps can breeze through record updates in Lightning Experience with Lightning Edit in list views. Reps can modify a record without opening it, right from the list view. And in lookup fields, they can search for and create records on the fly. This change applies to Lightning Experience only.

For example, when updating a contact's account in a list view, the rep can start typing the account name and get a preview of the results. Or, the rep can choose to create an account from within the list view.

|    | NAME                                     | ACCOUNT NAME ↑                   | PHONE          |
|----|--|----------------------------------|----------------|
| 1  | <input type="checkbox"/> Ethan Reynolds  | 3M Company                       | (326) 979-2818 |
| 2  | <input type="checkbox"/> Leanne Tomlin   | Abbot Inc.                       | (212) 555-5555 |
| 3  | <input type="checkbox"/> Logan Wood      | Abbott Laboratories              | (627) 428-6086 |
| 4  | <input type="checkbox"/> Luke Cobb       | AbitibiBowater                   | (923) 858-2569 |
| 5  | <input type="checkbox"/> Edward Stamos   | <input type="text" value="con"/> | 5-5555         |
| 6  | <input type="checkbox"/> Thomas Moss     | A                                | 22-2876        |
| 7  | <input type="checkbox"/> Theo Fletcher   | A                                | 76-1541        |
| 8  | <input type="checkbox"/> Jayden Haynes   | A                                | 90-8624        |
| 9  | <input type="checkbox"/> Daniel Kennedy  | A                                | 32-8315        |
| 10 | <input type="checkbox"/> Thomas Wolfe    | A                                | 17-8013        |
| 11 | <input type="checkbox"/> Thomas Norman   | A                                | 17-8466        |
| 12 | <input type="checkbox"/> Jayden Kramer   | A                                | 17-2772        |
| 13 | <input type="checkbox"/> Jayden McDonald | A                                | 26-4597        |

Reps can edit only one field at a time, but they can save changes to fields on multiple records at once. Editing inline is different from doing a “mass action.” Both are done from list views, and both are efficient. But with inline editing, you’re saving a change to fields on one or more records. A mass action is selecting records and then clicking a button to do something with those records—for example, add them to a campaign.

Most standard and custom fields are editable inline. For fields that aren’t editable, the lock (🔒) appears in the cell.

No special permissions are required for inline editing. But as always, reps can edit only the records that they have access to. Also, reps can’t edit inline if the list view uses filter logic.

SEE ALSO:

[Lightning Experience Features in This Release](#)

## Kanban: Expanded Availability and More Settings

Effectively monitor work using the Kanban-style visual layout in more places.

IN THIS SECTION:

[See the Kanban View Everywhere](#)

Display records visually by switching to the Kanban view on (almost) any list view. Simply select

**Kanban** from the  menu.

### EDITIONS

Available in Lightning Experience in: **Group, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

[Make Your Own Kanban View](#)

Are your sales reps tired of organizing their leads by status? Want to organize them by industry instead? We get it! Now reps can configure any Kanban view on the fly, selecting the fields on which to create columns and summaries.

[View Records by Record Type in the Kanban View](#)

No more filtering by record types just to load up the Kanban view. Easily switch between record types using subtabs.

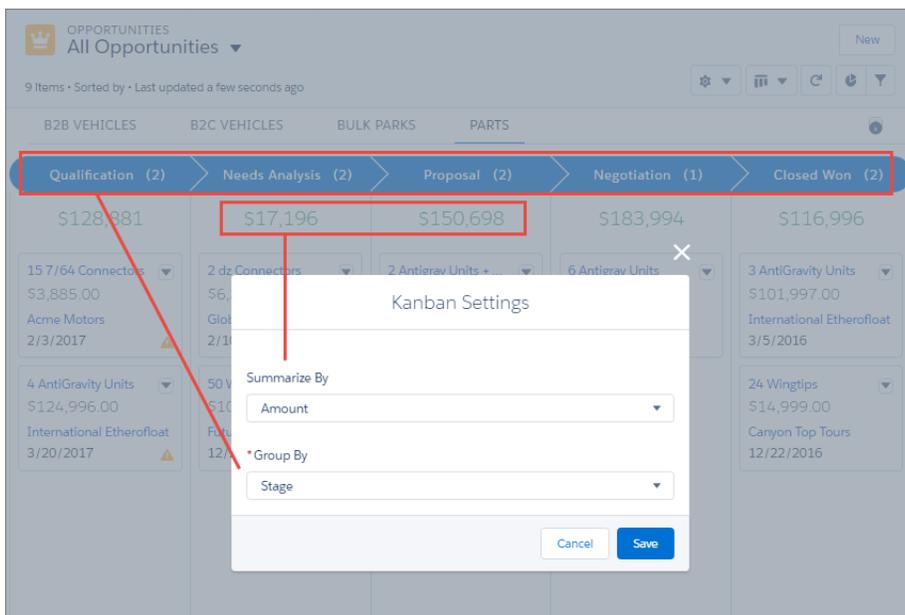
## See the Kanban View Everywhere

Display records visually by switching to the Kanban view on (almost) any list view. Simply select **Kanban** from the  menu.

The Kanban view isn't available on a few objects, such as knowledge and tasks.

## Make Your Own Kanban View

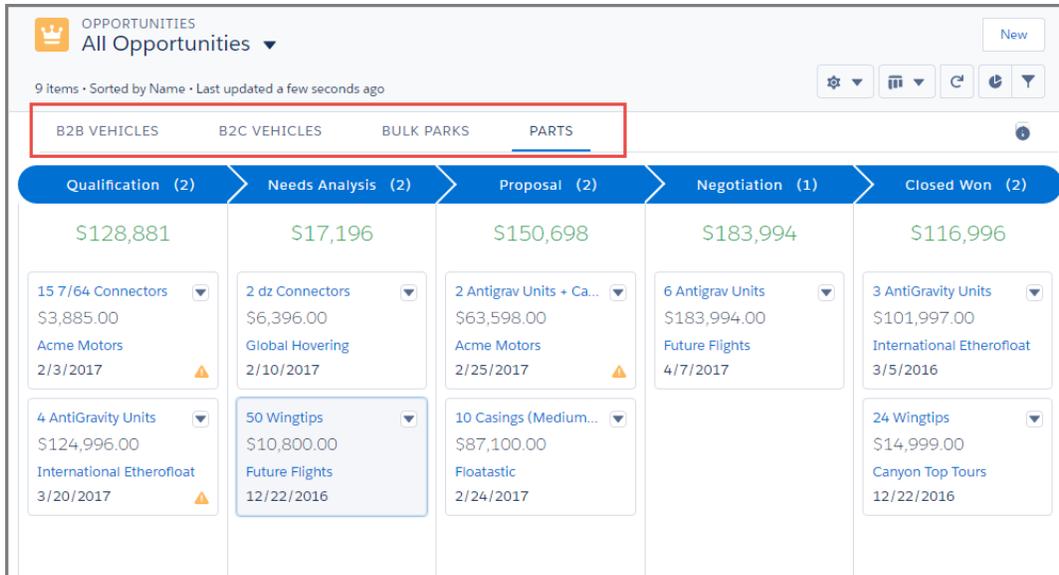
Are your sales reps tired of organizing their leads by status? Want to organize them by industry instead? We get it! Now reps can configure any Kanban view on the fly, selecting the fields on which to create columns and summaries.



On the Kanban view, click **List View Controls**, then select **Kanban Settings**. Select a currency field to summarize, or select **None** to remove the summary from the Kanban view. Select a picklist to group by to determine how your records are organized into columns.

## View Records by Record Type in the Kanban View

No more filtering by record types just to load up the Kanban view. Easily switch between record types using subtabs.



## Sales Cloud Einstein: A Smarter Sales Process at Every Step Powered by Artificial Intelligence (AI)

AI for sales is here. With Sales Cloud Einstein, your team’s sales productivity is supercharged with key predictions, intelligent recommendations, and timely automation. This feature is new in Lightning Experience.

 **Note:** Some services and subscriptions include this feature for an extra cost. For pricing details, contact your Salesforce account executive.

Sales Cloud Einstein is your own data science department that learns from your team’s sales activities and CRM data. Einstein helps your team identify the best leads, convert opportunities more efficiently, and retain customers with ease. Sales Cloud Einstein includes a host of key AI-powered features that let your team increase productivity at every step of the sales process.

### EDITIONS

Available for an extra cost in: **Enterprise**, **Performance**, and **Unlimited** Editions

| Feature                    | What It Does   | Where It Appears   | How It Helps   |
|----------------------------|--|--|--|
| Automated Activity Capture | Adds your team’s emails and events to related records.                                 | Account, Contact, Lead, Opportunity, and Person Account records  | Track sales-related activity on records and generate insights. |
| Lead Insights              | Scores leads from 1–99 based on how likely they are to convert.                        | Lead records<br>List views   | Prioritize leads and determine where to focus efforts.         |
| Opportunity Insights       | Provides predictions, smart follow-ups, and key moments related to your opportunities. | Home page<br>Opportunity records<br>Opportunity list views<br>Lightning for Outlook<br>Lightning for Gmail | Use relevant updates to win more deals.                        |

| Feature          | What It Does   | Where It Appears   | How It Helps  |
|------------------|--|--|---|
| Account Insights | Highlights key business developments about accounts. | Home page<br>Account records<br>Lightning for Outlook<br>Lightning for Gmail | Stay informed about developments that affect customers. |

 **Note:** Insights display in English only.

#### IN THIS SECTION:

##### [Automatically Add Emails and Events to Salesforce with Automated Activity Capture for Einstein](#)

Say goodbye to logging. Say hello to smarter selling. With Automated Activity Capture, Einstein users can connect their email and calendar to Salesforce. Then, their emails and events are automatically added to related Salesforce records and used by Einstein to generate insights. This feature is new in Lightning Experience.

##### [Prioritize Your Leads with Predictive Lead Scoring](#)

Use artificial intelligence (AI) to score your leads by how well they fit your company's successful conversion patterns. Let your sales team prioritize leads by lead score. See which fields influence each lead score most. This feature is new in both Lightning Experience and Salesforce Classic.

##### [See Intelligent Predictions and Timely Reminders About Deals with Opportunity Insights](#)

Let artificial intelligence help your sales reps win more deals. With Opportunity Insights, Einstein users get predictions about which deals are likely to be won, reminders to follow up, and notifications when key moments in a deal take place. This feature is new in Lightning Experience.

##### [Get Smarter About Managing Relationships with Account Insights](#)

Let artificial intelligence help your sales team maintain their relationships with customers. With Account Insights, your team stays informed about key business developments that affect their customers. This feature is new in Lightning Experience.

#### SEE ALSO:

[Salesforce Help: Considerations for Setting Up Sales Cloud Einstein](#)

[Salesforce Help: Set Up Sales Cloud Einstein](#)

[Salesforce Help: Sales Cloud Einstein Overview](#)

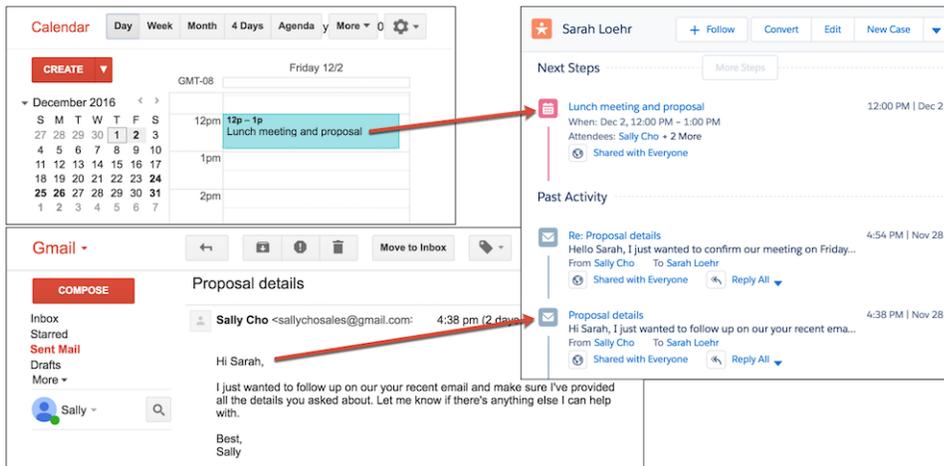
[Salesforce Einstein](#)

[Lightning Experience: A Modern and Intelligent User Experience](#)

## Automatically Add Emails and Events to Salesforce with Automated Activity Capture for Einstein

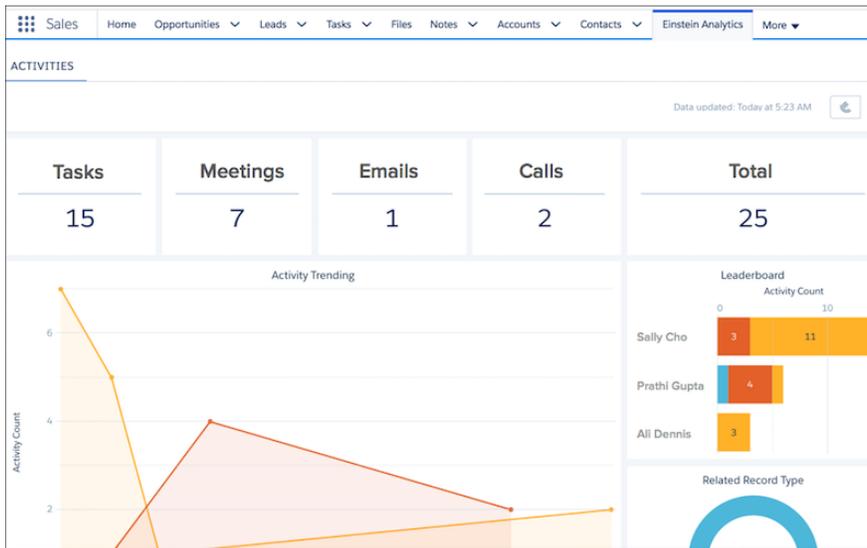
Say goodbye to logging. Say hello to smarter selling. With Automated Activity Capture, Einstein users can connect their email and calendar to Salesforce. Then, their emails and events are automatically added to related Salesforce records and used by Einstein to generate insights. This feature is new in Lightning Experience.

After you set up Einstein, Salesforce asks Einstein users to connect their Google™ or Microsoft® Office 365® account to Salesforce. Then, on accounts, contacts, leads, opportunities, and person accounts, they see their related emails and events. They also see related emails and events from others on their team.



To ensure privacy, each user can control which emails and events are added to Salesforce and who sees them. From personal settings, users enter *Settings* in the Quick Find box, then click **Settings** under Automated Activity Capture.

To easily track sales activities, we've included activity reports that provide a summary of key activities, including those added with Automated Activity Capture. Each org gets five Wave app permission set licenses. If you assign the permission set license to a user, they can access the activity reports from the Einstein Analytics tab.



Automated Activity Capture is also available as part of Inbox. For more information, see [Inbox: Productivity Tools That Connect Email and Calendar to Salesforce](#).

SEE ALSO:

- [Salesforce Help: Considerations for Setting Up Sales Cloud Einstein](#)
- [Salesforce Help: Set Up Sales Cloud Einstein](#)
- [Salesforce Help: Automated Activity Capture Limitations](#)
- [Salesforce Help: Connect Your Email and Calendar to Salesforce with Automated Activity Capture](#)

## Prioritize Your Leads with Predictive Lead Scoring

Use artificial intelligence (AI) to score your leads by how well they fit your company's successful conversion patterns. Let your sales team prioritize leads by lead score. See which fields influence each lead score most. This feature is new in both Lightning Experience and Salesforce Classic.

Einstein Predictive Lead Scoring uses a combination of data science and machine learning to discover the patterns of lead conversion in your business, and predict which leads to prioritize. By using machine learning, Predictive Lead Scoring provides a simpler, faster, and more accurate solution than traditional rules-based lead-scoring approaches.

The lead score field is available in list views in Salesforce Classic. In Lightning Experience, the lead score field is available in list views, reports, dashboards, and lead detail pages. On detail pages in Lightning Experience, the lead score appears in the Einstein component. The component also shows sales reps which lead fields have the greatest positive (1) or negative (2) influence on its score. Fields that aren't listed in the Einstein component still influence the score, but less than the fields listed. The Einstein component also lets reps send an email to the lead and, if you have Lightning Voice set up, call the lead.

The screenshot shows the lead detail page for Ms. Lisa Harvey. The Einstein component displays a lead score of 87. The top 5 predictive factors are:

- Title is **Exec VP**. (1)
- Company is **specified**. (1)
- Industry is **Aerospace & Defense**.
- Phone numbers are **valid**. (2)
- Lead Source is **Other**.

When you or your users add the Score field to list views, hovering over a score (1) displays the insights (2) behind the score. When sales reps focus on leads with higher scores, they're likely to convert more of them to opportunities. The lock (3) indicates that the score is read-only.

The screenshot shows a list view of leads. The lead with a score of 87 is highlighted. The Einstein component is shown hovering over the score, displaying the same predictive factors as in the previous screenshot. A lock icon (3) is visible next to the score field.

Predictive Lead Scoring periodically reanalyzes your historical leads and updates the scores for your current leads accordingly.

The Predictive Lead Scoring Dashboard includes reports that show key lead score metrics for your org.

- Average Lead Score by Lead Source
- Conversion Rate by Lead Score
- Lead Score Distribution: Converted and Lost Opportunities

To assign leads to sales reps based on lead score, create APEX lead assignment rules using lead score as a criteria.

In Salesforce Classic, the Score field is available in lead list views and page layouts. To set up Predictive Lead Scoring, enter *Lead Insights* in the **Quick Find** box and then select **Lead Insights**.

SEE ALSO:

[Salesforce Help: Considerations for Setting Up Sales Cloud Einstein](#)

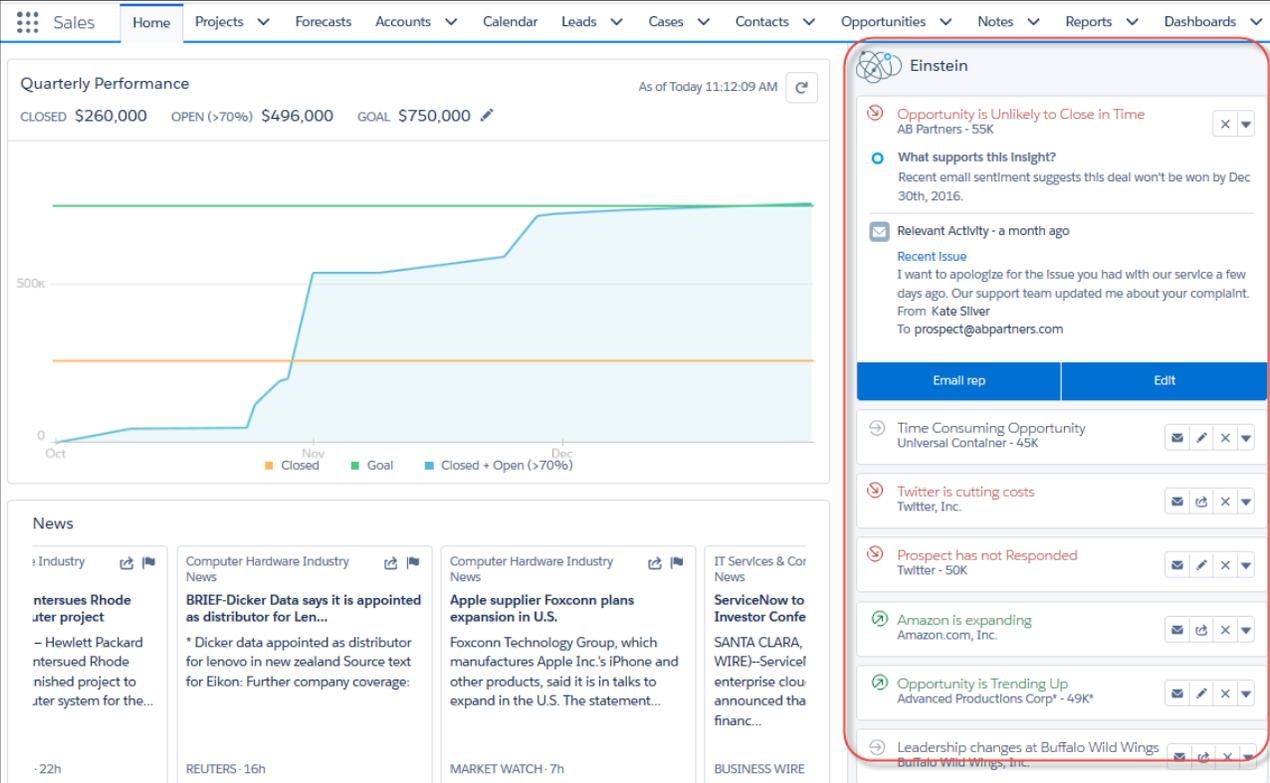
[Salesforce Help: Set Up Sales Cloud Einstein](#)

[Leads](#)

## See Intelligent Predictions and Timely Reminders About Deals with Opportunity Insights

Let artificial intelligence help your sales reps win more deals. With Opportunity Insights, Einstein users get predictions about which deals are likely to be won, reminders to follow up, and notifications when key moments in a deal take place. This feature is new in Lightning Experience.

 **Note:** For now, account- and opportunity-related insights are available in English only.

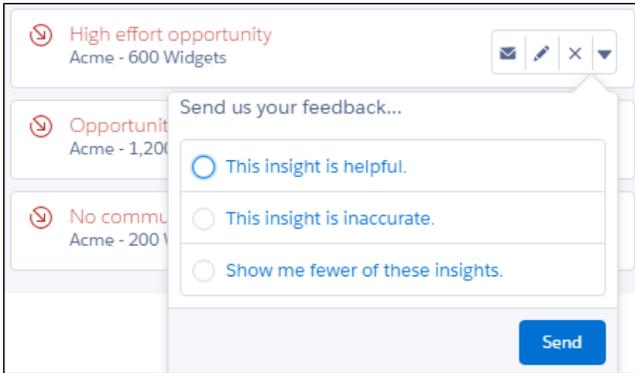


The screenshot displays the Salesforce Lightning Experience Home page. The top navigation bar includes tabs for Sales, Home, Projects, Forecasts, Accounts, Calendar, Leads, Cases, Contacts, Opportunities, Notes, Reports, and Dashboards. The main content area is divided into several sections:

- Quarterly Performance:** A line chart showing performance from October to December. Metrics include CLOSED \$260,000, OPEN (>70%) \$496,000, and GOAL \$750,000. The chart shows a significant increase in performance starting in November, reaching the goal by December.
- News:** A grid of news articles from various sources, including Industry, Computer Hardware Industry, and IT Services & Cor News. Articles include "ntersues Rhode uter project", "BRIEF-Dicker Data says it is appointed as distributor for Len...", "Apple supplier Foxconn plans expansion in U.S.", "ServiceNow to Investor Confe", "Amazon is expanding", and "Leadership changes at Buffalo Wild Wings".
- Einstein Insights Sidebar:** A vertical sidebar on the right side of the page, highlighted with a red border. It contains several insights:
  - Opportunity is Unlikely to Close in Time:** AB Partners - 55K. Recent email sentiment suggests this deal won't be won by Dec 30th, 2016.
  - What supports this insight?:** Recent email sentiment suggests this deal won't be won by Dec 30th, 2016.
  - Relevant Activity - a month ago:** Recent Issue: I want to apologize for the Issue you had with our service a few days ago. Our support team updated me about your complaint. From Kate Silver To prospect@abpartners.com.
  - Time Consuming Opportunity:** Universal Container - 45K.
  - Twitter is cutting costs:** Twitter, Inc.
  - Prospect has not Responded:** Twitter - 50K.
  - Amazon is expanding:** Amazon.com, Inc.
  - Opportunity is Trending Up:** Advanced Productions Corp\* - 49K\*.
  - Leadership changes at Buffalo Wild Wings:** Buffalo Wild Wings, Inc.

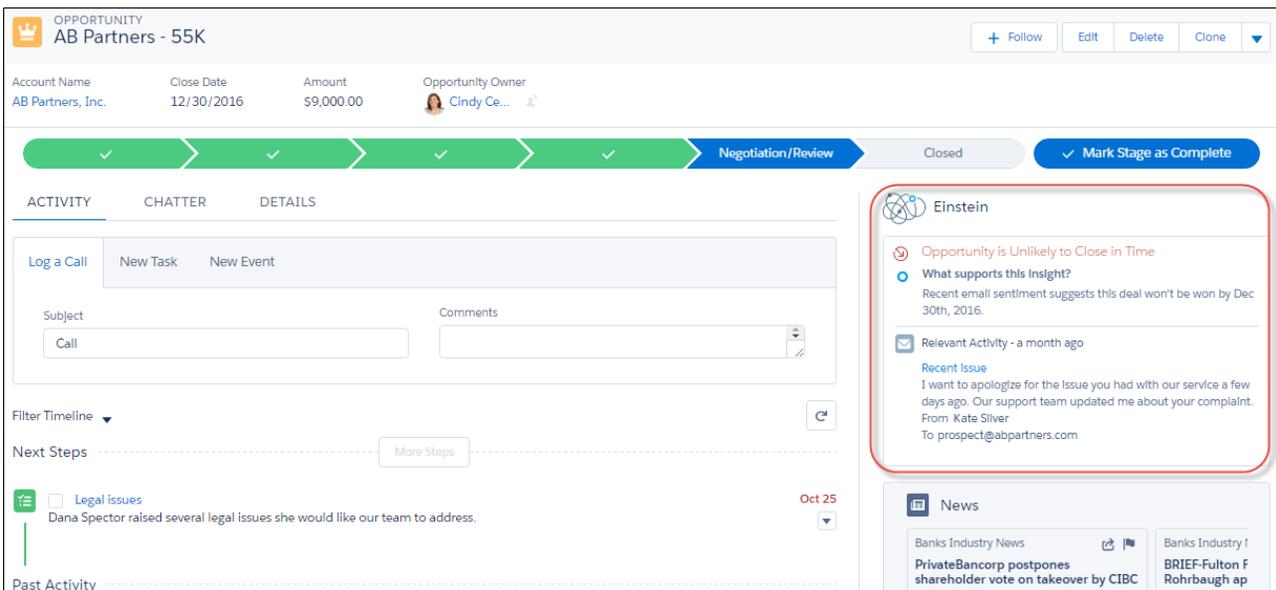
Opportunity Insights offers notifications about different opportunities precisely when they're needed on the Home page, opportunity records, and in list views.

Sales reps can see all the insights related to their deals on the Home page. The Home page also features relevant actions related to different opportunities, such as the ability to edit an opportunity's close date or email a contact who hasn't responded to a request. Reps can also dismiss insights or leave feedback about the relevance of individual insights.



 **Note:** To see the email action on insights, you must create an email global quick action. For more information, see [Send Email from Anywhere](#).

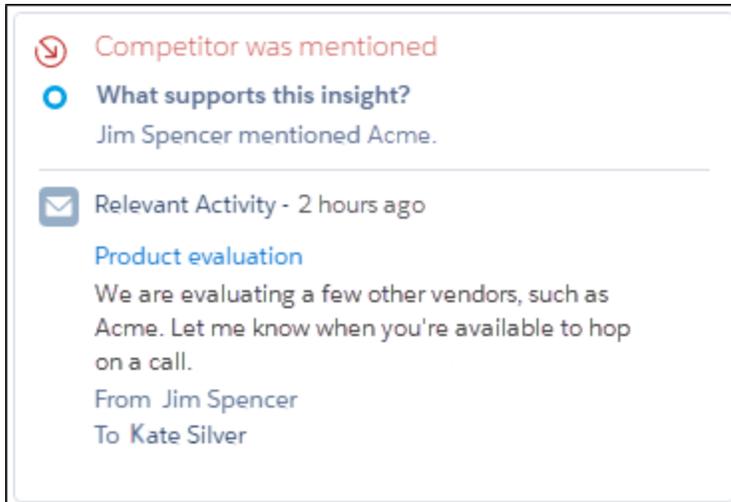
On an opportunity record, reps can see all insights related to an opportunity.



You can also customize list views to show insights.

Opportunity Insights is available with Lightning for Outlook and Lightning for Gmail.

Each insight offers details about why it's shown, tying it to relevant metrics.



Three different types of insights are available.

- Deal Predictions—See predictions based on recent activity and existing opportunity data, such as whether a deal is more or less likely to close, or if a deal seems unlikely to close in time.
- Follow-Up Reminders—Get reminders to follow up when a contact hasn't responded in a while, or if there hasn't been any communication related to an important opportunity for a significant period of time.
- Key Moments—Get notified when key moments related to a deal take place, such as when a contact mentions a competitor or is leaving their company.

Insights are visible to Einstein users with the proper record and activity access, which might include:

- Opportunity owners
- Opportunity team members
- Direct managers of opportunity owners and team members

If the opportunity owners or team members are changed, prior owners and team members can still access related insights. Additionally, all Einstein users that have permission to view an opportunity can see the related insights on the record's detail page.

 **Tip:** Many opportunity-related insights are derived from your reps' activities, such as emails and events. If an insight comes from a private email, the insight is public, but the email content is not displayed. The activity owner determines the privacy settings. So to get the most out of Opportunity Insights, encourage your reps to set their **Sharing Setting for All Emails and Events** option to Everyone.

SEE ALSO:

[Salesforce Help: Considerations for Setting Up Sales Cloud Einstein](#)

[Salesforce Help: Set Up Sales Cloud Einstein](#)

[Opportunities](#)

[Lightning for Outlook](#)

[Lightning for Gmail](#)

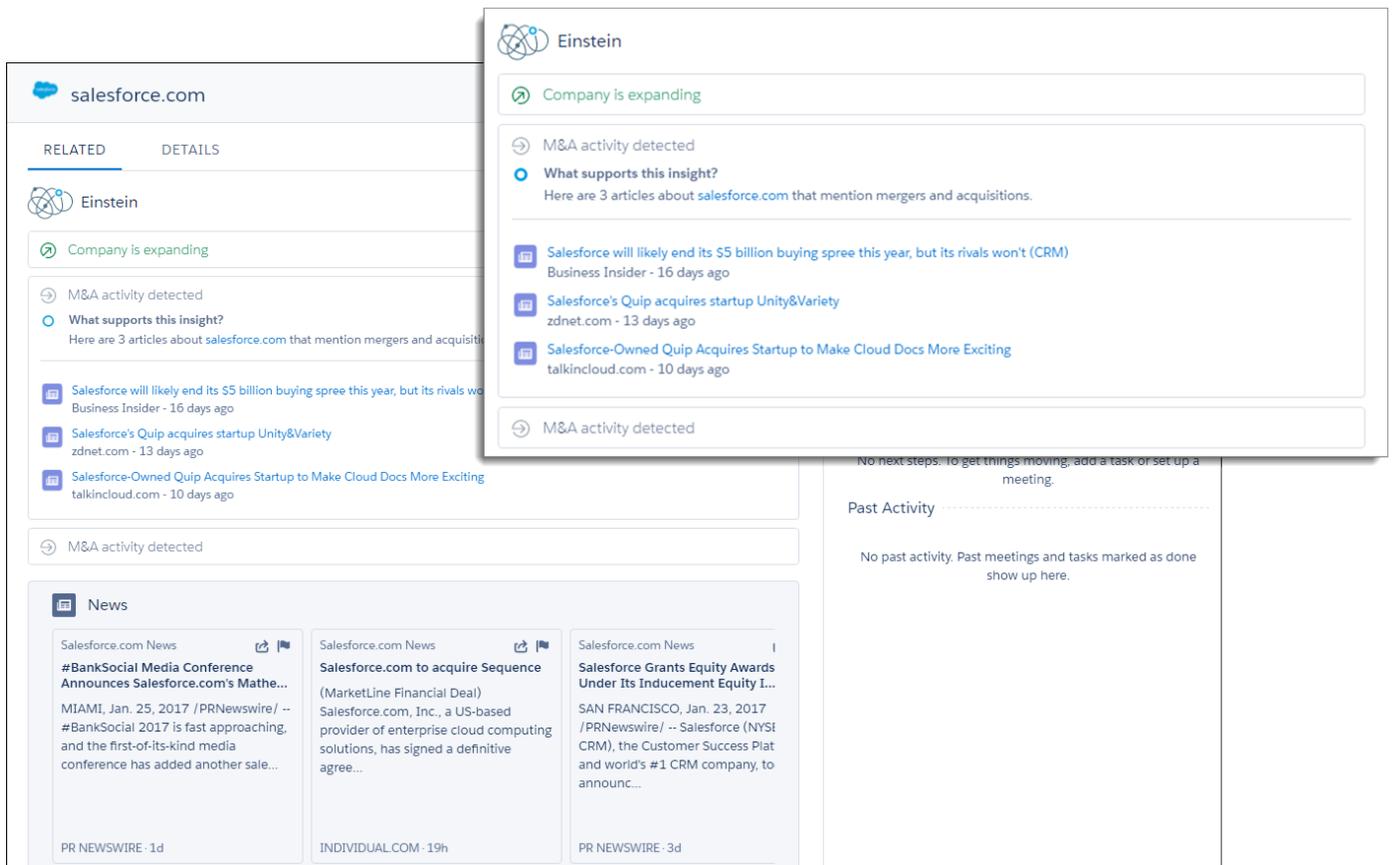
## Get Smarter About Managing Relationships with Account Insights

Let artificial intelligence help your sales team maintain their relationships with customers. With Account Insights, your team stays informed about key business developments that affect their customers. This feature is new in Lightning Experience.

 **Note:** For now, account- and opportunity-related insights are available in English only.

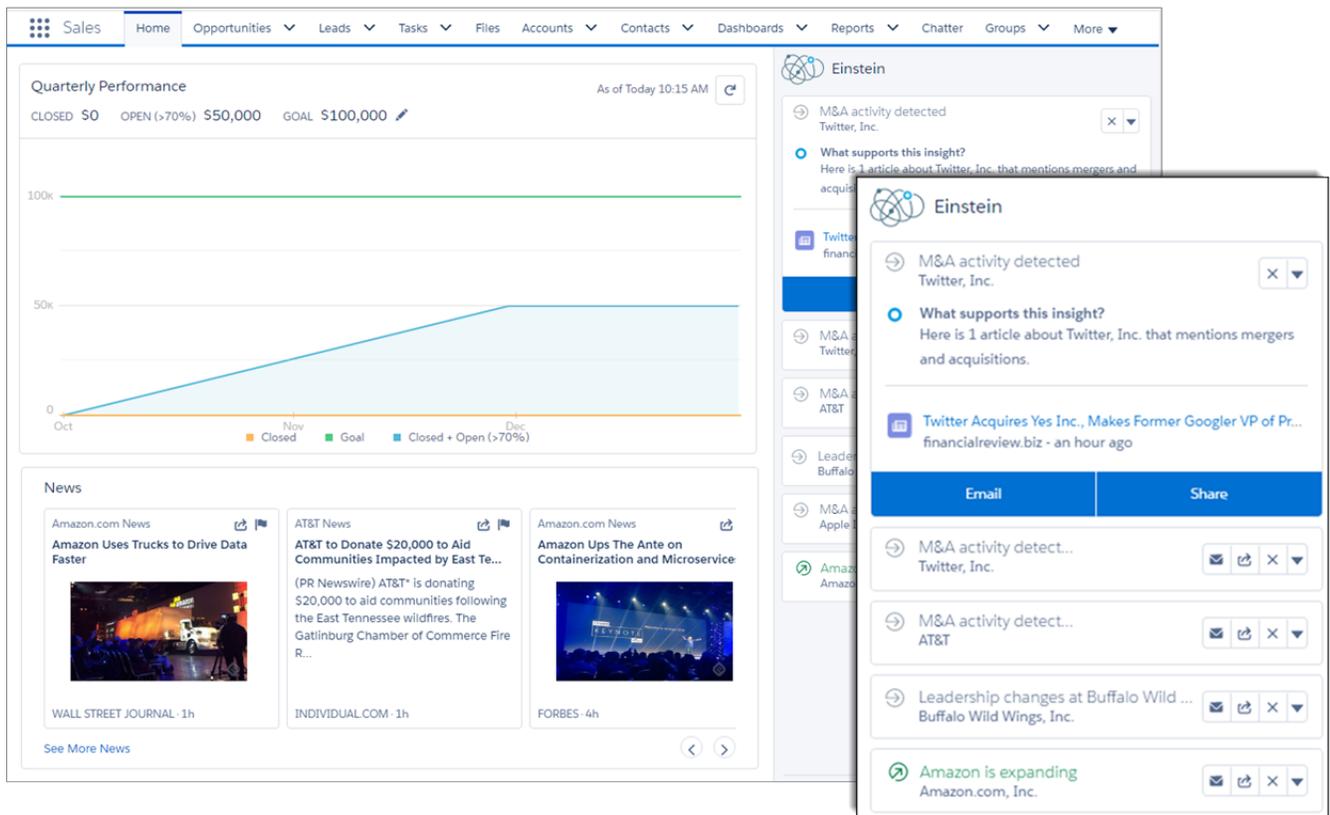
Knowing what's impacting their customers' companies gives your sales team an edge when deciding whether customers are open to sales. Is the company expanding? Changing executive leadership? Acquiring competitors? Account Insights provides news articles from reputable sources that give your team the complete picture.

Insights appear in the Einstein component on account records and the Home page.



The screenshot displays the Salesforce Einstein interface for account insights. The sidebar on the left shows the 'Einstein' component with a 'Company is expanding' insight. The main content area is divided into two sections: 'Company is expanding' and 'M&A activity detected'. The 'Company is expanding' section includes a sub-section 'What supports this insight?' with three news articles: 'Salesforce will likely end its \$5 billion buying spree this year, but its rivals won't (CRM)', 'Salesforce's Quip acquires startup Unity&Variety', and 'Salesforce-Owned Quip Acquires Startup to Make Cloud Docs More Exciting'. The 'M&A activity detected' section also shows a news article. Below the insights is a 'News' section with three news items. To the right, a 'Past Activity' section shows 'No past activity. Past meetings and tasks marked as done show up here.'

On account records, the account's key fields (including `Account Name` and `Website`) determine which insights are returned. Each record shows up to three insights, and each insight shows up to three of the most relevant articles. All Einstein users with access to the record can see the insights.



On the Home page, Einstein users see insights based on the accounts they own and the accounts of which they're an account team member. A user's manager also has access to these insights. Each insight shows up to three of the most relevant articles. Users can email insights to others or share them with users and groups through Chatter. Users can also dismiss insights or leave feedback about the relevance of individual insights.

Account Insights is available with Lightning for Outlook and Lightning for Gmail.

#### SEE ALSO:

[Salesforce Help: Considerations for Setting Up Sales Cloud Einstein](#)

[Salesforce Help: Set Up Sales Cloud Einstein](#)

[Accounts](#)

[Lightning for Outlook](#)

[Lightning for Gmail](#)

## Inbox: Productivity Tools That Connect Email and Calendar to Salesforce

Let your sales team integrate their email and calendar with Salesforce using features that automatically log emails and events and increase productivity on every email. This feature is new in both Lightning Experience and Salesforce Classic.

 **Note:** Some services and subscriptions include this feature for an extra cost. For pricing details, contact your Salesforce account executive.

### IN THIS SECTION:

#### [Automatically Add Emails and Events to Salesforce with Automated Activity Capture for Inbox](#)

Say goodbye to logging. Say hello to smarter selling. With Automated Activity Capture, Inbox users can connect their email and calendar to Salesforce. Then, their emails and events are automatically added to related Salesforce records. This feature is new in Lightning Experience.

#### [Boost Email Productivity with the Inbox Clients](#)

Help your sales reps sell smarter without leaving their inbox. With the Inbox clients, on every email, they can see relevant Salesforce data, schedule meetings more quickly, and receive intelligent reminders to follow up. This feature is new in both Lightning Experience and Salesforce Classic.

### SEE ALSO:

[Salesforce Help: Considerations for Setting Up Inbox](#)

[Salesforce Help: Set Up Inbox](#)

[Salesforce Help: Inbox Overview](#)

[Lightning Experience: A Modern and Intelligent User Experience](#)

## Automatically Add Emails and Events to Salesforce with Automated Activity Capture for Inbox

Say goodbye to logging. Say hello to smarter selling. With Automated Activity Capture, Inbox users can connect their email and calendar to Salesforce. Then, their emails and events are automatically added to related Salesforce records. This feature is new in Lightning Experience.

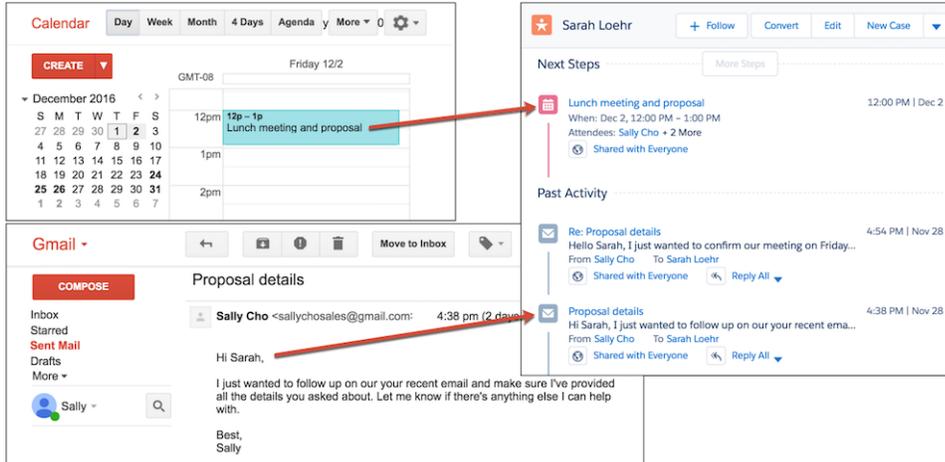
After you set up Inbox, Salesforce asks Inbox users to connect their Google™ or Microsoft® Office 365® account to Salesforce. Then, on accounts, contacts, leads, opportunities, and person accounts, they see their related emails and events. They also see related emails and events from others on their team.

### EDITIONS

Available for an extra cost in various user experiences and Salesforce editions, depending on the Inbox feature. For more information, consult each feature.

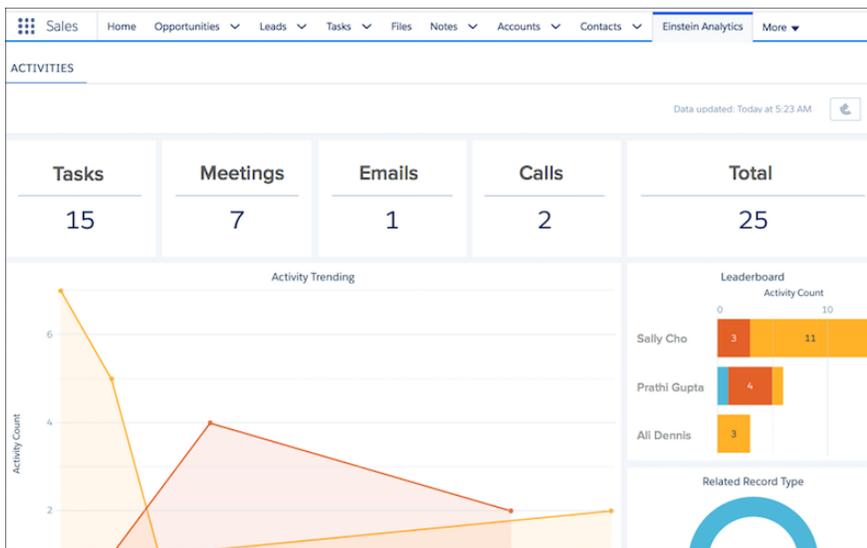
### EDITIONS

Available for an extra cost with Inbox in: **Enterprise**, **Performance**, and **Unlimited** Editions



To ensure privacy, each user can control which emails and events are added to Salesforce and who sees them. From personal settings, users enter *Settings* in the Quick Find box, then click **Settings** under Automated Activity Capture.

To easily track sales activities, we've included activity reports that provide a summary of key activities, including those added with Automated Activity Capture. Each org gets five Wave app permission set licenses. If you assign the permission set license to a user, they can access the activity reports from the Einstein Analytics tab.



Automated Activity Capture is also available as part of Sales Cloud Einstein. For more information, see [Sales Cloud Einstein: A Smarter Sales Process at Every Step Powered by Artificial Intelligence \(AI\)](#).

SEE ALSO:

- [Salesforce Help: Considerations for Setting Up Inbox](#)
- [Salesforce Help: Set Up Inbox](#)

## Boost Email Productivity with the Inbox Clients

Help your sales reps sell smarter without leaving their inbox. With the Inbox clients, on every email, they can see relevant Salesforce data, schedule meetings more quickly, and receive intelligent reminders to follow up. This feature is new in both Lightning Experience and Salesforce Classic.

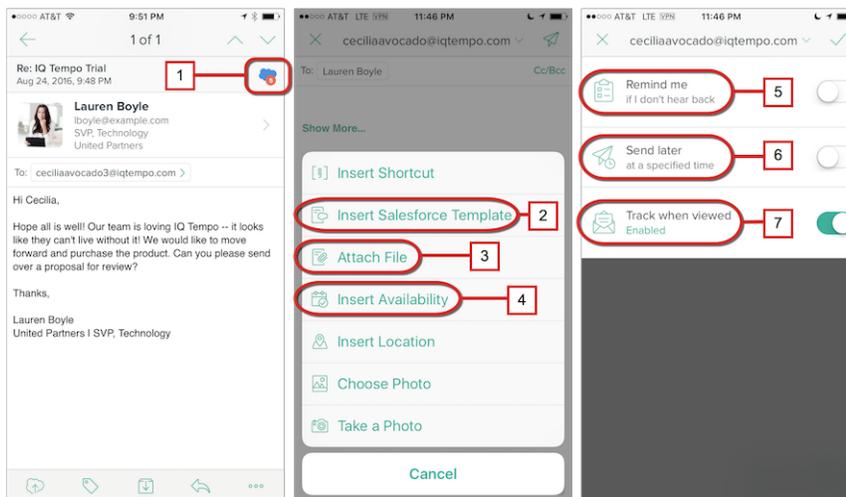
After you set up Inbox, Inbox users can install any or all Inbox clients. During installation, users connect their email and calendar to Salesforce.

With the Inbox clients, users can:

- Surface, create, and manage relevant Salesforce leads, contacts, opportunities, and tasks on every email (1)
- Use templates (2) and quick attachments (3) to efficiently reply to prospects
- Schedule meetings faster by adding availability (4) to emails and letting customers book the best time with one click
- Get follow-up reminders(5)
- Use Send Later (6) to schedule exactly when customers receive a message
- Get notified when someone opens a message (7)
- Manually log emails in Salesforce (if Automated Activity Capture isn't enabled for the org)
- Control who can see emails that have been added to Salesforce by Automated Activity Capture

### EDITIONS

Available for an extra cost with Inbox in: **Contact Manager, Group, Professional, Enterprise, Performance, and Unlimited Editions**



To support common Google™ and Microsoft® email platforms for desktop and mobile devices, we offer several Inbox clients.

| Inbox Client  | Supported Email Accounts  |
|---|---|
| Gmail™ Extension for Chrome™  | Gmail   |
| Add-in for Outlook®<br>(Works with Outlook web apps and Outlook 2013 and later) | Microsoft Office 365<br>Microsoft Exchange 2013 and later           |
| Standalone Mobile Email App for iOS™ Devices                                    | Gmail<br>Microsoft Office 365®<br>Microsoft Exchange 2010 and later |

| Inbox Client                                     | Supported Email Accounts   |
|--|--|
| Standalone Mobile Email App for Android™ Devices | Gmail<br>Microsoft Office 365<br>Microsoft Exchange 2010 and later |

## SEE ALSO:

[Salesforce Help: Considerations for Setting Up Inbox](#)

[Salesforce Help: Set Up Inbox](#)

## Google Integration: More Access to Salesforce Directly from Gmail™ and Google Calendar™ (Beta)

Do your sales reps live in Google applications like Gmail and Google Calendar, but want to get sales data from emails, contacts, and events into Salesforce easily? Want no more: We're introducing Lightning for Gmail (Beta), which lets reps view relevant Salesforce records from their Gmail inboxes and relate emails to Salesforce records. Lightning Sync for Google (Beta) also adds functionality. Now reps can sync contacts from Gmail to Salesforce, and meeting attendee details automatically sync from Google Calendar to Salesforce.

## IN THIS SECTION:

[Lightning for Gmail: Salesforce and Gmail™ Integration to Manage Deals Better \(Beta\)](#)

If your company uses Gmail™, Lightning for Gmail is just the solution for you. Our latest email integration feature lets sales reps work with Salesforce records directly from Gmail. This feature is available to be managed from both Lightning Experience and Salesforce Classic

[Lightning Sync for Google \(Beta\): More Sync Functionality and More Google Event Details in Salesforce](#)

Now you can get your sales reps' contacts into Gmail™ easily. In addition, reps can see their Google Calendar™ meeting attendees directly from Salesforce. This change applies to both Lightning Experience and Salesforce Classic.

### Lightning for Gmail: Salesforce and Gmail™ Integration to Manage Deals Better (Beta)

If your company uses Gmail™, Lightning for Gmail is just the solution for you. Our latest email integration feature lets sales reps work with Salesforce records directly from Gmail. This feature is available to be managed from both Lightning Experience and Salesforce Classic

 **Note:** This release contains a beta version of Lightning for Gmail, which means it's a high-quality feature with known limitations. Lightning for Gmail isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features. You can provide feedback and suggestions for this feature in the [IdeaExchange](#).

After you enable it, your Gmail users can download the beta version of Lightning for Gmail from the Chrome web store. Within Gmail, reps can log in to Lightning for Gmail with their Salesforce credentials. They can search, view, and edit relevant Salesforce records right next to their emails—without ever leaving Gmail!

In this release, we provide support to customers with Sales Cloud, Service Cloud, or Force.com licenses.

## EDITIONS

Available in: Salesforce Classic and Lightning Experience

Available in: **Group, Professional, Enterprise, Performance, Unlimited, and Developer** Editions

## IN THIS SECTION:

[Get More Done Directly from Gmail](#)

Give your sales teams access to Salesforce content right where they work. That way, they can efficiently manage their sales pipeline and drive more deals to close without switching between Salesforce and Gmail.

[Einstein Brings Insights to Lightning for Gmail](#)

Give your sales teams decision-driving data in Lightning for Gmail with Einstein. If you've set up with Einstein, your sales reps can use account and opportunity insights to prioritize their work while they tackle their emails.

[Rev Up Productivity with Enhanced Email](#)

Want to help your sales reps stay on top of their emails as well as their important deals? Turn on Enhanced Email with Lightning for Gmail for your reps, so they can relate emails to relevant Salesforce records quickly and easily.

[Put Your Own Spin on Lightning for Gmail](#)

Do your sales teams want to zero in on records other than accounts, contacts, opportunities, leads, or cases? Are they eager to work with functionality that your company customized? Make Lightning for Gmail more relevant for sales reps by selecting the kinds of Salesforce records reps see and work with when they're in Gmail.

## Get More Done Directly from Gmail

Give your sales teams access to Salesforce content right where they work. That way, they can efficiently manage their sales pipeline and drive more deals to close without switching between Salesforce and Gmail.

From Lightning for Gmail, your sales team members can:

- View Salesforce contacts, leads, accounts, opportunities, and cases relevant to the Gmail messages they received or sent (1).
- Search for custom object records, and create a Salesforce record using actions available to them (2). With the inline editing feature, they can also modify records without leaving Gmail.

The screenshot displays the Gmail interface with the Salesforce integration sidebar. The sidebar is titled "Search Salesforce" and contains a search bar (labeled '2') and a list of records categorized into People, Accounts, Opportunities, and Cases. A red box labeled '1' highlights the search bar area. The main email content shows a message from Damien Joly to Alex Liu, dated Jul 28, with a subject line "Re: Planet Fitness question". The email body contains the following text:

Hi Alex,

Thanks for introducing your solution to the team and going over their questions.

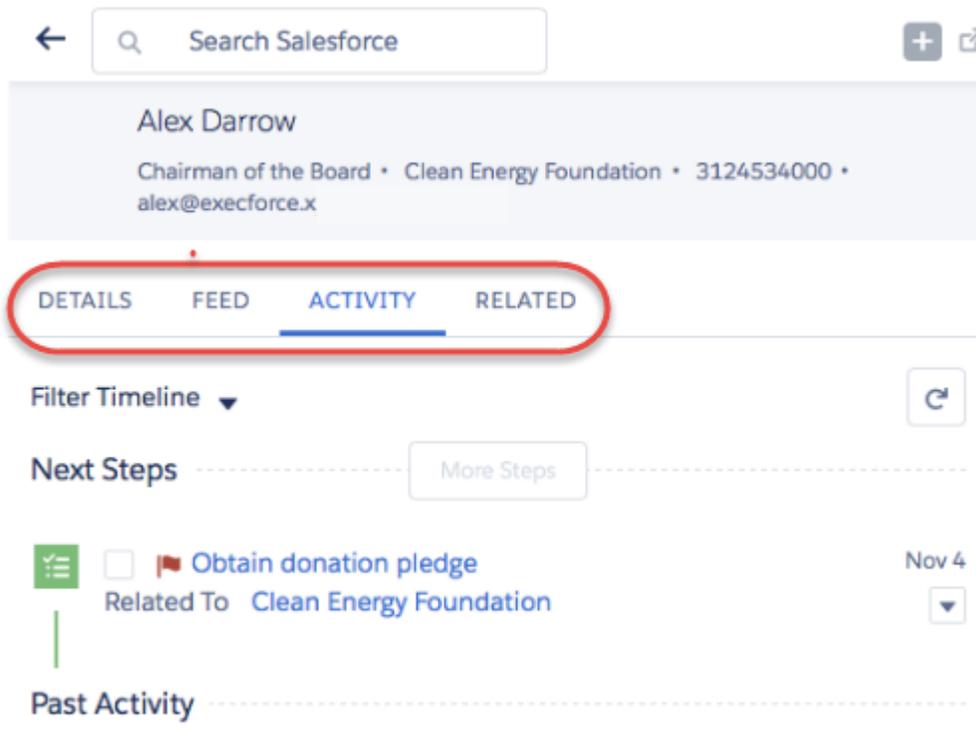
I have collected a bunch of follow-up questions. Would it make sense to organize a call and discuss them over? I am available next week on Tuesday at 2 pm PST.

Let me know,  
Damien

The sidebar shows the following records:

- People:** Alex Liu
- Accounts:** Sriram Patel (Account Name: Coca Cola), Coca Cola (Phone: 3006004321, Billing Address: 1 coca-cola plaza, Atlanta, , GA, 30313)
- Opportunities:** South Africa - Exceptional Delivery (Account Name: Coca Cola, Close Date: 9/22/2016), Additional Flavors (Account Name: Coca Cola, Close Date: 6/14/2017)
- Cases:** Get travel approval for trip to Rio, Brazil (Priority: Medium, Status: On Hold), Special Palette for Shipment (Priority: Medium, Status: New)

- Drill down for more details on a Salesforce record right from Lightning for Gmail. In addition to a record's detail page, reps get to see its Chatter feed, activity timeline, and related

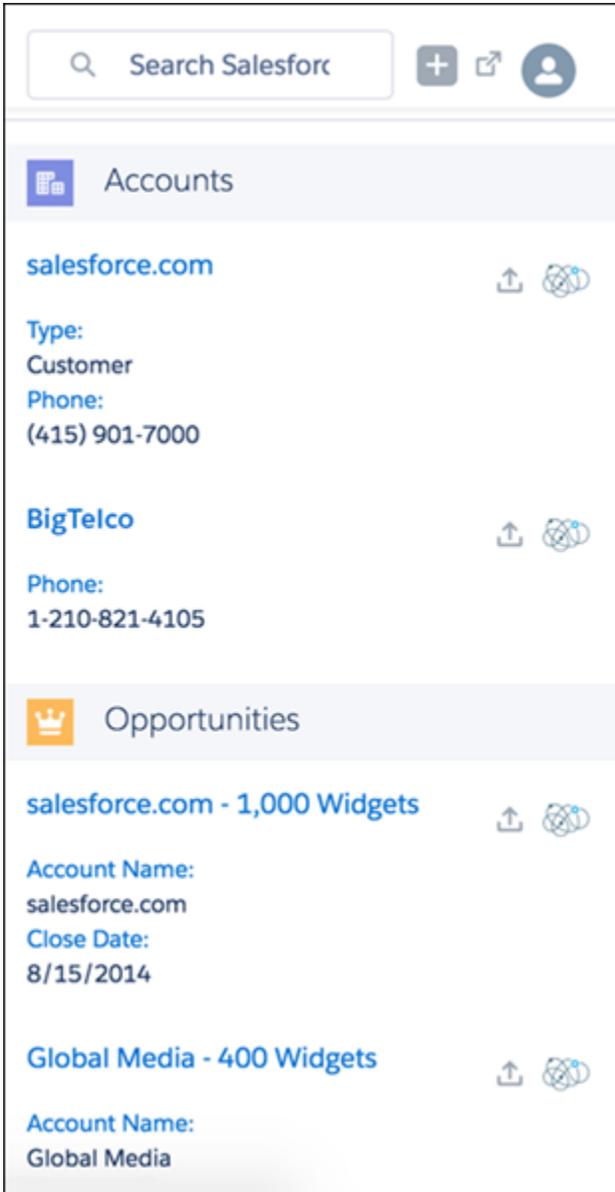


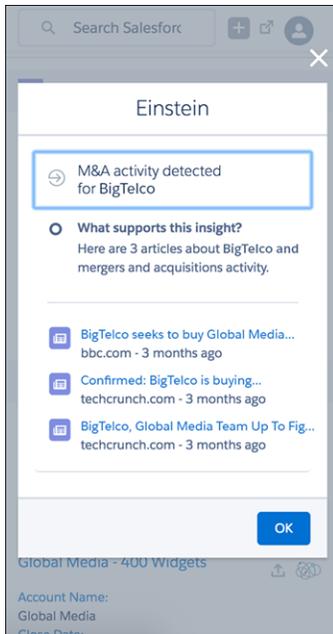
lists.

- View and relate Salesforce records to Google Calendar events and emails.

## Einstein Brings Insights to Lightning for Gmail

Give your sales teams decision-driving data in Lightning for Gmail with Einstein. If you've set up with Einstein, your sales reps can use account and opportunity insights to prioritize their work while they tackle their emails.





SEE ALSO:

[Sales Cloud Einstein](#)

## Rev Up Productivity with Enhanced Email

Want to help your sales reps stay on top of their emails as well as their important deals? Turn on Enhanced Email with Lightning for Gmail for your reps, so they can relate emails to relevant Salesforce records quickly and easily.

With Enhanced Email, when reps relate an email to a relevant account, opportunity, case, custom object, or contact, all contacts, leads, and users on the email are automatically related. Even better, the emails are added to Salesforce as Email Message records. So, reps can view emails in rich text format from Salesforce. Emails get to keep their personality in Salesforce and appear with their bold, italic, underlined, and colored characters, and their lists and tables intact. When you enable Enhanced Email for your reps, they can also add attachments to relevant Salesforce records.

To let sales reps experience Enhanced Email with Lightning for Gmail, first verify that Enhanced Email is enabled for your organization. Then, enable Enhanced Email for this feature from the Lightning for Gmail Settings page.

Before turning on Enhanced Email for Lightning for Gmail, there are some considerations to think about.

SEE ALSO:

[Enhanced Email with Lightning for Gmail \(can be outdated or unavailable during release preview\)](#)

## Put Your Own Spin on Lightning for Gmail

Do your sales teams want to zero in on records other than accounts, contacts, opportunities, leads, or cases? Are they eager to work with functionality that your company customized? Make Lightning for Gmail more relevant for sales reps by selecting the kinds of Salesforce records reps see and work with when they're in Gmail.

EDITIONS

Available in all editions

Set up your reps with customized email application panes using App Builder. Add standard components that your reps use most, like accounts, contacts, or cases. Or work with your Salesforce developers to include custom Lightning components that reflect your company's custom processes and workflows. You can also leverage awesome components that you find on AppExchange.

From App Builder, drag and drop the standard or custom components that you want users to work with, or change component properties. You can also rearrange components so that reps can focus on the most important things first.

When you're finished, roll out email application panes to reps by assigning them to the right user profiles. Create multiple panes, and assign them to different user profiles to give team members in unique roles different experiences.

## Lightning Sync for Google (Beta): More Sync Functionality and More Google Event Details in Salesforce

Now you can get your sales reps' contacts into Gmail™ easily. In addition, reps can see their Google Calendar™ meeting attendees directly from Salesforce. This change applies to both Lightning Experience and Salesforce Classic.

 **Note:** This release contains a beta version of Lightning Sync for Google, which means it's a high-quality feature with known limitations. Lightning Sync for Google isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features. You can provide feedback and suggestions for Lightning Sync for Google in the [Lightning Sync Success Community](#).

### EDITIONS

Available in: **Professional, Enterprise, Performance, Unlimited, and Developer Editions**

#### IN THIS SECTION:

##### [Get Sales Reps' Contacts into Gmail™](#)

Help your sales reps get up-to-date contact information for their prospects. Set up reps to sync Salesforce contacts to Google Contacts using Lightning Sync. That way, reps can work in Gmail™ to build relationships with prospects, and not lose time maintaining records in both systems. This change applies to both Lightning Experience and Salesforce Classic.

##### [See Who's Attending Meetings Booked from Google Calendar™ Directly from Salesforce](#)

If your company uses Lightning Sync with Google Calendar™, your sales team can see which prospects, customers, and colleagues are attending their meetings directly from Salesforce. This change applies to Salesforce Classic only.

## Get Sales Reps' Contacts into Gmail™

Help your sales reps get up-to-date contact information for their prospects. Set up reps to sync Salesforce contacts to Google Contacts using Lightning Sync. That way, reps can work in Gmail™ to build relationships with prospects, and not lose time maintaining records in both systems. This change applies to both Lightning Experience and Salesforce Classic.

Set up Lightning Sync to sync Google contacts with the help of your Google admin. First, your Google admin gives Salesforce access to Google contacts from your company's Google for Work account so that the applications can communicate. Then, set up reps to sync contacts from their Lightning Sync configurations in Salesforce.

Reps start to see their Salesforce contacts sync to a group called “Salesforce Sync,” which Lightning Sync creates in Google Contacts. Reps can access Salesforce Sync from Gmail, as well.

#### SEE ALSO:

[Salesforce Help: Prepare Your Google for Work Account for Lightning Sync \(can be outdated or unavailable during release preview\)](#)

[Salesforce Help: Define Sync Settings for Sales Reps Using Lightning Sync for Google \(can be outdated or unavailable during release preview\)](#)

## See Who’s Attending Meetings Booked from Google Calendar™ Directly from Salesforce

If your company uses Lightning Sync with Google Calendar™, your sales team can see which prospects, customers, and colleagues are attending their meetings directly from Salesforce. This change applies to Salesforce Classic only.

Meeting attendees and their responses sync to Salesforce automatically when:

- The event organizer is set up to sync events with Lightning Sync.
- The event attendees’ email addresses match contacts, leads, or user profiles in Salesforce.

No additional setup is required to get meeting attendees to start syncing.

If you set up some team members to sync events and not others, there are some event sync limitations you should be aware of. To learn more, see “Event Attendee Sync” in the Salesforce Help.

#### USER PERMISSIONS

To see Google Calendar event attendees on Salesforce events:

- “Create” on events

AND

The event organizer must be assigned to an active Lightning Sync configuration with event sync enabled

## Microsoft® Integration: More Custom Components and Saved Skype Chats

Help your reps maximize their Salesforce productivity directly from their Microsoft email and calendars. Let your reps initiate audio and video calls, see who’s online, and start chats—all with Skype for Salesforce.

#### IN THIS SECTION:

[Lightning for Outlook: More Productivity and Increased Customization with Lightning App Builder](#)

Sales reps can view and work with more Salesforce content directly from Lightning for Outlook. We’ve also expanded the Microsoft® Outlook® context developers can use to build custom Lightning App Builder components. This feature is available to be managed from both Lightning Experience and Salesforce Classic.

[Lightning Sync for Microsoft® Exchange: More Microsoft Event Details in Salesforce](#)

Your sales reps’ meeting attendees sync from reps’ Microsoft® Exchange-based calendars to Salesforce. This change applies to Salesforce Classic only.

[Skype for Salesforce \(Beta\): Saved Chats, More Editions, and Lightning App Builder](#)

Help your sales reps work more efficiently using Skype for Salesforce. It now includes a chat-saving feature and is available in more Salesforce editions. You can even add Skype to standard and custom record pages.

[Salesforce for Outlook: Required Upgrade and System Requirements](#)

To continue using Salesforce for Outlook, it’s critical that your sales reps upgrade to our latest version, and that reps’ system meet our latest requirements, which we’ve revised for Spring ‘17.

[Connect for Office: End of Support Pending, Customer Action Required by February 2017](#)

By February 24, 2017, customers are required to upgrade to Connect for Office v1.8.1.6 to continue using that product. However, with end of support pending in early March 2017, we recommend that you migrate your sales reps to an alternative product now.

## Lightning for Outlook: More Productivity and Increased Customization with Lightning App Builder

Sales reps can view and work with more Salesforce content directly from Lightning for Outlook. We've also expanded the Microsoft® Outlook® context developers can use to build custom Lightning App Builder components. This feature is available to be managed from both Lightning Experience and Salesforce Classic.

### IN THIS SECTION:

#### [Get More Done Directly from Lightning for Outlook](#)

Your sales teams can drill down for more details on a Salesforce record right from Lightning for Outlook. In addition to a record's detail page, reps get to see its Chatter feed, activity timeline, and related lists. But, we didn't stop there. Lightning for Outlook now supports inline editing, so reps can modify records without having to switch between Salesforce and Outlook.

#### [Einstein Brings Insights to Lightning for Outlook](#)

Give your sales teams decision-driving data in Lightning for Outlook with Einstein. If you've set up with Einstein, your sales reps can use account and opportunity insights to prioritize their work while they tackle their emails.

#### [Tailor Content in Email Application Panes Even More](#)

If your sales reps love working with customized functionality in Lightning for Outlook, we've got great news for you. Developers can now design custom Lightning components that leverage email content, or an event's description, start date, end date, participants, and location.

#### [Welcome Service Cloud and Force.com Customers](#)

Lightning for Outlook is now available to more folks. In this release, we extend support to customers with Service Cloud or Force.com licenses.

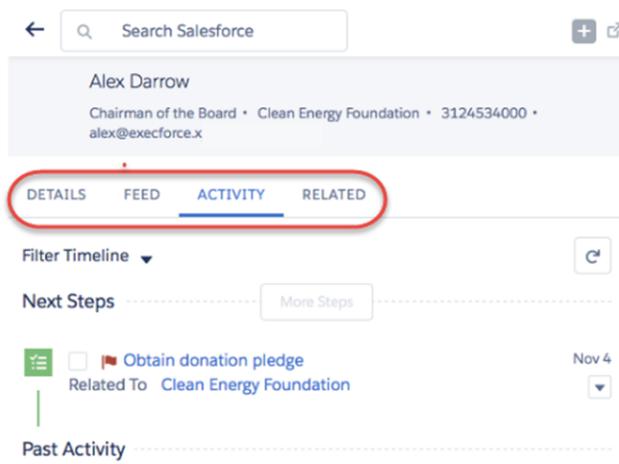
### EDITIONS

Available in: Salesforce Classic and Lightning Experience

Available with Sales Cloud, Service Cloud, and Force.com in: **Group, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

## Get More Done Directly from Lightning for Outlook

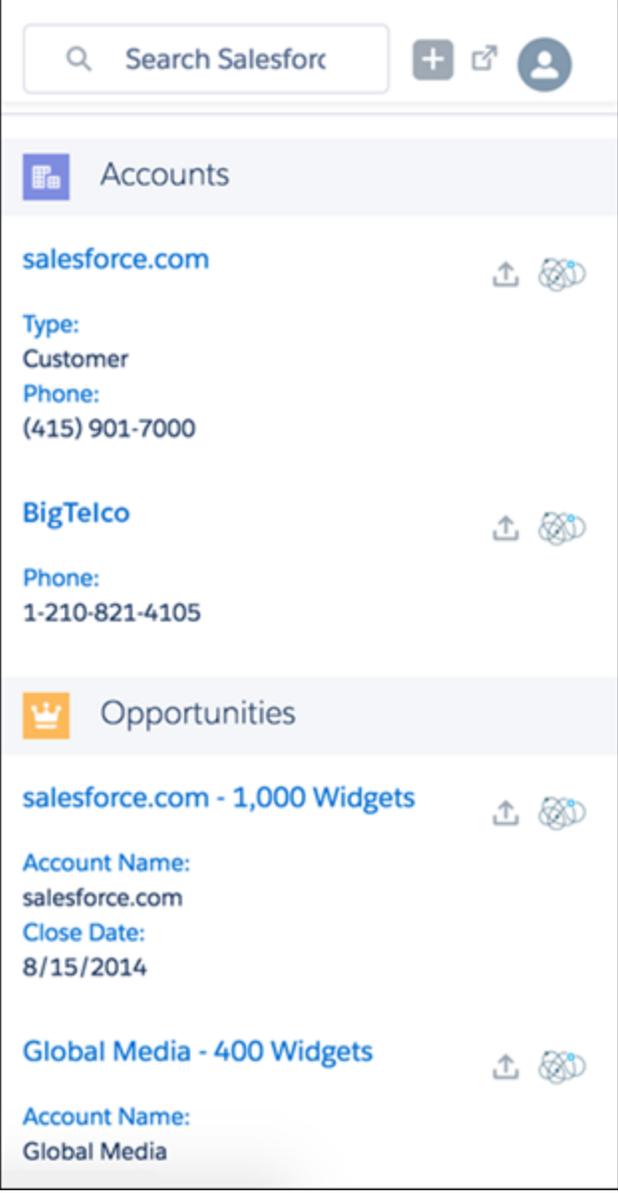
Your sales teams can drill down for more details on a Salesforce record right from Lightning for Outlook. In addition to a record's detail page, reps get to see its Chatter feed, activity timeline, and related lists. But, we didn't stop there. Lightning for Outlook now supports inline editing, so reps can modify records without having to switch between Salesforce and Outlook.



 **Example:** Let's say Chris, a sales rep, just received an email that a customer is ready to close a deal. Chris can review recent activity for that customer in the activity timeline, update the Opportunity Sales stage, and post the great news on Chatter—all from Lightning for Outlook.

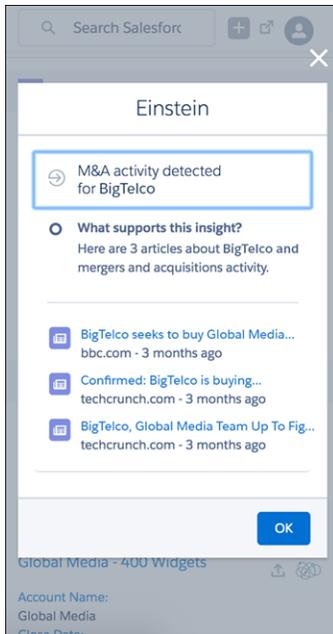
## Einstein Brings Insights to Lightning for Outlook

Give your sales teams decision-driving data in Lightning for Outlook with Einstein. If you've set up with Einstein, your sales reps can use account and opportunity insights to prioritize their work while they tackle their emails.



The screenshot displays the Salesforce Lightning interface for Outlook. At the top, there is a search bar labeled "Search Salesforce" with a magnifying glass icon, and three icons: a plus sign, a share icon, and a user profile icon. Below the search bar, the "Accounts" section is highlighted with a blue header and a building icon. It lists two accounts: "salesforce.com" and "BigTelco". Each account entry includes a name, a "Type" or "Phone" field, and two icons (an upward arrow and a network icon). The "Opportunities" section is highlighted with an orange header and a crown icon. It lists two opportunities: "salesforce.com - 1,000 Widgets" and "Global Media - 400 Widgets". Each opportunity entry includes a name, an "Account Name" field, and a "Close Date" field. The "Close Date" for the first opportunity is "8/15/2014".

| Section       | Item Name                      | Type / Phone                    | Close Date               |
|---------------|--------------------------------|---------------------------------|--------------------------|
| Accounts      | salesforce.com                 | Customer<br>(415) 901-7000      |                          |
|               | BigTelco                       | Phone:<br>1-210-821-4105        |                          |
| Opportunities | salesforce.com - 1,000 Widgets | Account Name:<br>salesforce.com | Close Date:<br>8/15/2014 |
|               | Global Media - 400 Widgets     | Account Name:<br>Global Media   |                          |



SEE ALSO:

[Sales Cloud Einstein](#)

## Tailor Content in Email Application Panes Even More

If your sales reps love working with customized functionality in Lightning for Outlook, we've got great news for you. Developers can now design custom Lightning components that leverage email content, or an event's description, start date, end date, participants, and location.

 **Example:** For example, let's suppose Dan, your sales rep, receives a confirmation email for an upcoming Salesforce event. Want to make Dan's travel planning easier? Here's how your Salesforce developers can help. With a bit of developer magic, Dan can review the weather forecast for the event—right from a custom Lightning component in Lightning for Outlook. The outlook is sunny for Dan.

SEE ALSO:

[Salesforce Help: Customize Lightning for Outlook for Your Sales Reps \(can be outdated or unavailable during release preview\)](#)

[Salesforce Help: Create Components for Lightning for Outlook and Lightning for Gmail \(Beta\) \(can be outdated or unavailable during release preview\)](#)

## Welcome Service Cloud and Force.com Customers

Lightning for Outlook is now available to more folks. In this release, we extend support to customers with Service Cloud or Force.com licenses.

## Lightning Sync for Microsoft® Exchange: More Microsoft Event Details in Salesforce

Your sales reps' meeting attendees sync from reps' Microsoft® Exchange-based calendars to Salesforce. This change applies to Salesforce Classic only.

### IN THIS SECTION:

See [Who's Attending Meetings Booked from Microsoft Exchange® Calendars Directly from Salesforce](#)

If your company uses Lightning Sync with Microsoft Exchange, your sales team can see which prospects, customers, and coworkers are attending their meetings directly from Salesforce. This change applies to Salesforce Classic only.

### EDITIONS

Available in: **Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

## See Who's Attending Meetings Booked from Microsoft Exchange® Calendars Directly from Salesforce

If your company uses Lightning Sync with Microsoft Exchange, your sales team can see which prospects, customers, and coworkers are attending their meetings directly from Salesforce. This change applies to Salesforce Classic only.

Meeting attendees and their responses sync to Salesforce automatically when:

- The event organizer is set up to sync events with Lightning Sync.
- The event attendees' email addresses match contacts, leads, or user profiles in Salesforce.

No additional setup is required to get meeting attendees to start syncing.

If you set up some team members to sync events and not others, there are some event sync limitations you should be aware of. To learn more, see "Event Attendee Sync" in the Salesforce Help.

### USER PERMISSIONS

To see Microsoft Exchange calendar event attendees on Salesforce events:

- "Create" on events

AND

The event organizer must be assigned to an active Lightning Sync configuration with event sync enabled

## Skype for Salesforce (Beta): Saved Chats, More Editions, and Lightning App Builder

Help your sales reps work more efficiently using Skype for Salesforce. It now includes a chat-saving feature and is available in more Salesforce editions. You can even add Skype to standard and custom record pages.

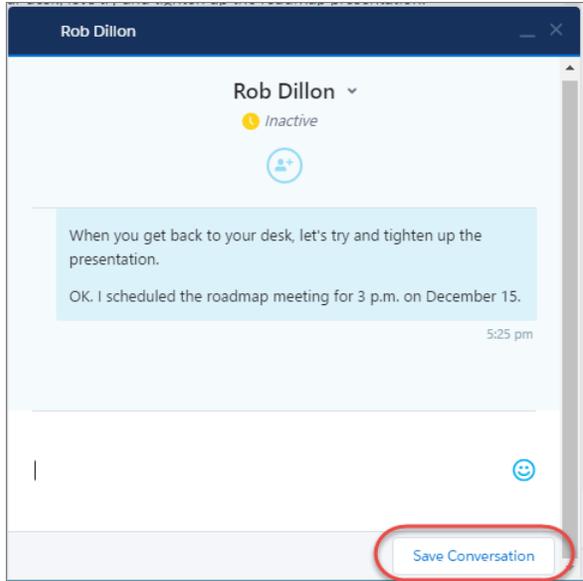
### Save Chats Quickly and Easily

Let your reps save important chats as notes from the Skype window. Reps access saved chats from the Notes tab in Salesforce.

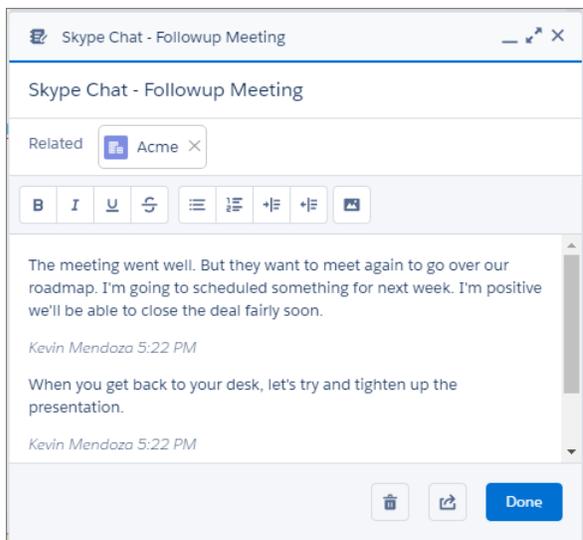
1. Click **Save Conversation**.

### EDITIONS

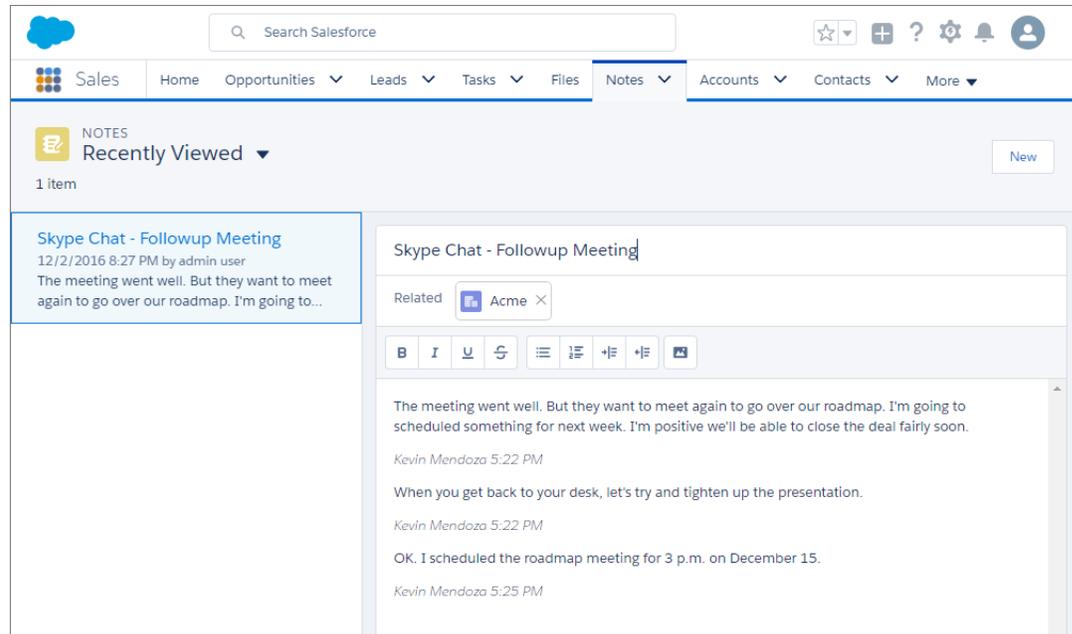
Available in: **Developer, Enterprise, Performance, Professional,** and **Unlimited** Editions



2. If you want, add a title and text.



3. Access saved chats from the Notes tab in Salesforce.



### Unleash Skype for Salesforce onto More Users

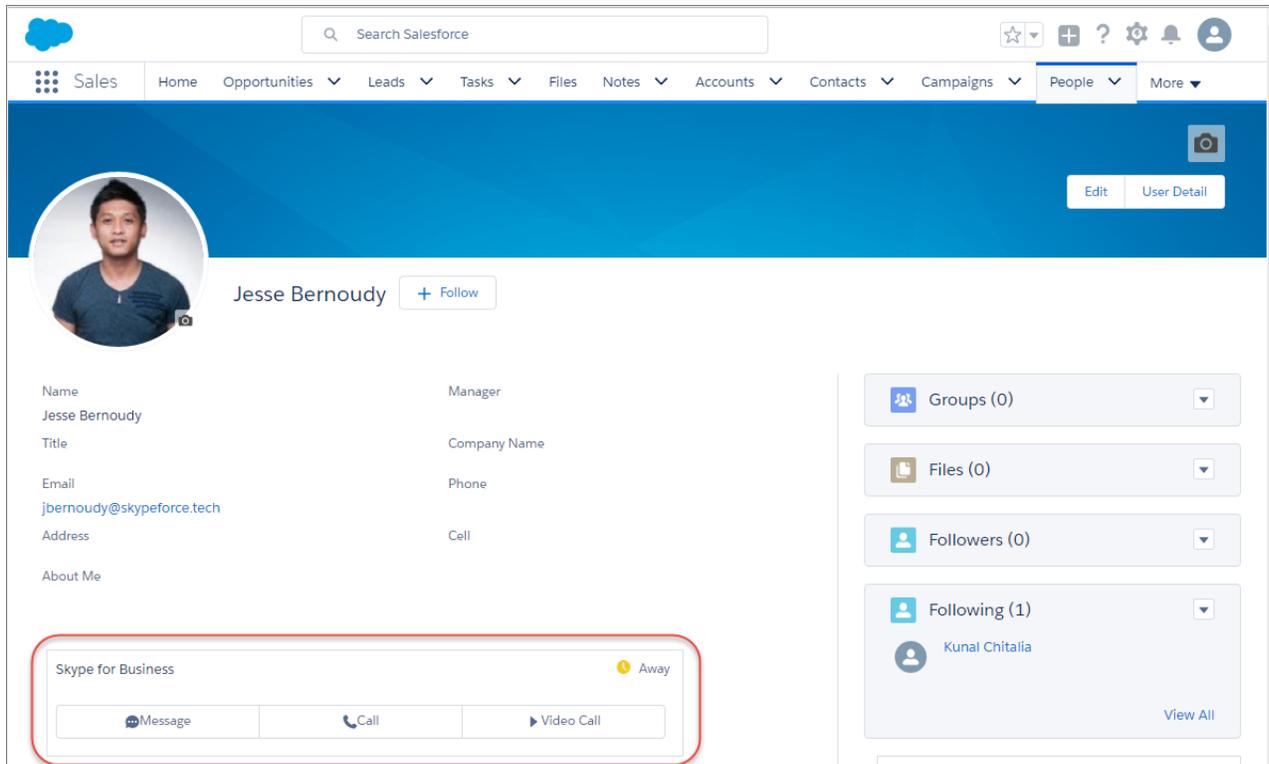
Skype for Salesforce is now available in Developer, Performance, and Personal Editions.

To help your sales teams communicate more efficiently, start with [Enable Skype for Salesforce](#) (can be outdated or unavailable during release preview).

### Help Reps Communicate More Efficiently Throughout Lightning Experience

See who's online, chat, and initiate audio and video calls. You impress your sales teams when you add Skype for Salesforce features to standard and custom record pages using the Lightning App Builder.

With the Lightning App Builder, add the Skype for Business component to any standard or custom record page that includes an email field. Here, the component is on a standard record page.



## SEE ALSO:

[Salesforce Help: Skype for Salesforce \(Beta\) \(can be outdated or unavailable during release preview\)](#)

[Salesforce Help: Enable Skype for Salesforce \(can be outdated or unavailable during release preview\)](#)

[Add Skype to Lightning Record Pages \(Beta\)](#)

## Salesforce for Outlook: Required Upgrade and System Requirements

To continue using Salesforce for Outlook, it's critical that your sales reps upgrade to our latest version, and that reps' system meet our latest requirements, which we've revised for Spring '17.

### EDITIONS

Available in all editions

## IN THIS SECTION:

#### [Critical Upgrade Required](#)

To avoid service disruption, all Salesforce for Outlook users must be working on version 3.0.0 or later by July 2017. Make sure that your sales teams upgrade as soon as possible to work through any installation issues before July.

#### [Support Ending for Several Microsoft® Applications](#)

To offer your sales reps compatibility with the latest Microsoft applications, Salesforce for Outlook is ending support for retired Microsoft applications, like Internet Explorer® 9, Internet Explorer® 10, Exchange 2007 and Outlook 2007. Move your reps off these applications soon to avoid issues.

## Critical Upgrade Required

To avoid service disruption, all Salesforce for Outlook users must be working on version 3.0.0 or later by July 2017. Make sure that your sales teams upgrade as soon as possible to work through any installation issues before July.

When Salesforce disables TLS 1.0 encryption protocol in July 2017, Salesforce for Outlook v2.9.3 and earlier no longer function. Reps working from those versions can't sync their Outlook items to Salesforce, nor can they work with their Salesforce records from the side panel.

In addition to upgrading reps, make sure that they meet all Salesforce for Outlook requirements for TLS 1.1 and 1.2 compatibility.

If you're not sure which Salesforce for Outlook versions your reps are working from, you can check from Salesforce.

### SEE ALSO:

[Knowledge Article: Prepare Your Org to Continue Using Salesforce for Outlook After TLS 1.0 Disablement](#)

[Knowledge Article: Salesforce Disabling TLS 1.0](#)

[Salesforce Help: Track the Versions of Salesforce for Outlook Your Users Run \(can be outdated or unavailable during release preview\)](#)

## Support Ending for Several Microsoft® Applications

To offer your sales reps compatibility with the latest Microsoft applications, Salesforce for Outlook is ending support for retired Microsoft applications, like Internet Explorer® 9, Internet Explorer® 10, Exchange 2007 and Outlook 2007. Move your reps off these applications soon to avoid issues.

Support for Internet Explorer 9 and 10 ends as of the Spring '17 release. At that time, all reps have to move to Internet Explorer 11. Otherwise, Salesforce content could render incompletely when reps create Salesforce records from Outlook using Side Panel Publisher.

Support for Exchange 2007 and Outlook 2007 ends when Microsoft retires support for those products. Upon retirement, reps must run Exchange and Outlook 2016, 2013, or 2010 to continue using Salesforce for Outlook. Otherwise, reps' items don't sync between Outlook and Salesforce, and the side panel stops working.

Microsoft has scheduled Exchange 2007 retirement for April 2017, and extended Outlook 2007 retirement to October 2017.

### SEE ALSO:

[Salesforce Help: Salesforce for Outlook System Requirements \(can be outdated or unavailable during release preview\)](#)

## Connect for Office: End of Support Pending, Customer Action Required by February 2017

By February 24, 2017, customers are required to upgrade to Connect for Office v1.8.1.6 to continue using that product. However, with end of support pending in early March 2017, we recommend that you migrate your sales reps to an alternative product now.

If your sales reps use Connect for Office, we've reached out to you directly to announce that the product will no longer be supported starting on March 4, 2017.

Connect for Office includes:

- Microsoft Word Add-In that lets reps create templates using Salesforce data for mail merge
- Microsoft Excel Add-In that lets reps access Salesforce reports with Microsoft Excel

In addition to the pending end of support, Connect for Office v1.8.1.5 will no longer meet security certificate requirements after February 24, 2017. To avoid service disruption, we recommend that you either upgrade your reps to Connect for Office v1.8.1.6, or migrate reps to an alternative product before February 24. See the articles linked below for more details on alternative products.

### EDITIONS

Available in: Salesforce Classic

Available in: **All Editions**

Sales reps can download Connect for Office v1.8.1.6 from their personal settings by clicking **Desktop Add-Ons > Connect for Office**.

#### SEE ALSO:

[Knowledge Article: End of Support for Excel Add-In from Connect for Office in March 2017](#)

[Knowledge Article: End of Support for Word Add-In from Connect for Office and Standard Mail Merge in March 2017](#)

[Salesforce Help: Connect for Office Release Notes](#)

## Pardot: Improvements to Marketing Automation

We made changes so that your Pardot users get new reporting options and permissions, look and feel updates, and more personalization choices. These changes apply to Salesforce Classic only.

#### EDITIONS

Available in: **Professional, Enterprise, Performance, Unlimited,** and **Developer Editions**

#### IN THIS SECTION:

[Engagement Studio: New Reporting Options and Permissions](#)

Get more control over options for using Engagement Studio.

[See Most Recent Activity First with Updated Engage Alerts](#)

An updated look and feel for Engage Alerts creates a more consistent experience for users and makes sure the latest alerts are always visible. Updated browser support means that Engage Alerts works beautifully across modern browsers.

[Pardot Classic Retires Spring '17](#)

The Pardot Classic UI retires Spring '17. If you're still using Pardot Classic, you will be switched to our new UI on February 13, 2017. New Pardot Style has an updated look and feel, streamlined navigation, and is more consistent with Lightning Experience. Don't worry, Pardot functionality is not affected by this update.

[Improve Open Rates with Subject Line Personalization: Add Variable Tags and Advanced Dynamic Content](#)

We've added the ability to easily personalize your Pardot email subject lines with the Advanced Subject Line Composer. Whether you're sending out an email in multiple languages or about multiple products, now you can create one email with dynamic content in the subject line and reach your subscribers with the right message.

[Get Account Usage and Limits Info at a Glance with the Updated Account Page](#)

A new tabbed browsing experience and account usage display make it easier than ever to view and edit your Pardot settings and manage your accounts feature usage.

## Engagement Studio: New Reporting Options and Permissions

Get more control over options for using Engagement Studio.

#### IN THIS SECTION:

[Report on Bounces, Opt Outs, and Email Send Status from Engagement Programs](#)

New reporting options give you key metrics on Email Send action Report Cards and program .csv exports. The Email Send drilldown report now shows detailed email send statuses for prospects.

[Manage Access to Engagement Studio with New Permission Options](#)

New Engagement Studio permission options provide you with more control over which user roles have the ability to view Engagement Programs and reporting.

## Report on Bounces, Opt Outs, and Email Send Status from Engagement Programs

New reporting options give you key metrics on Email Send action Report Cards and program .csv exports. The Email Send drilldown report now shows detailed email send statuses for prospects.

Enhancements to Engagement Program reports let you view email bounces and opt outs from any Email Send action Report Card in programs started on or after November 1, 2016. Program .csv exports now include the number of opt outs and the bounce rate for individual emails in the program.

We've also added a new Email Status column to the Email Send Tooltips drilldown report. This column displays the actual status of the email send for each prospect.

SEE ALSO:

[Salesforce Pardot Help: Engagement Program Reporting](#)

## Manage Access to Engagement Studio with New Permission Options

New Engagement Studio permission options provide you with more control over which user roles have the ability to view Engagement Programs and reporting.

We've added two new permission options to the Engagement Studio User Role settings. Before, users could have either full Create/Edit access or no access to Engagement Studio. The *View* option provides a read-only view of all Engagement Programs and reports, and the *Delete* option allows users to delete Engagement Programs.

The default Admin and Marketing user roles have full access. The Sales Manager role has View access only, which allows users to view reporting. Sales users have no access. If your account has custom user roles, you can assign the *View* and *Delete* permissions to any custom role.

SEE ALSO:

[Salesforce Pardot Help: Custom User Roles](#)

[Salesforce Pardot Help: What roles should I select for my users?](#)

## See Most Recent Activity First with Updated Engage Alerts

An updated look and feel for Engage Alerts creates a more consistent experience for users and makes sure the latest alerts are always visible. Updated browser support means that Engage Alerts works beautifully across modern browsers.

Sliders are now called *Columns*, Marketing Actions are now called *Engagement Activity*, activities are grouped, and cards are displayed vertically with the most recent activities at the top of columns.

We've also updated which browsers we support. IE 11+, Edge, and the latest versions of Chrome, Firefox, and Safari are now supported.

SEE ALSO:

[Salesforce Pardot Help: Using Engage Alerts](#)

## Pardot Classic Retires Spring '17

The Pardot Classic UI retires Spring '17. If you're still using Pardot Classic, you will be switched to our new UI on February 13, 2017. New Pardot Style has an updated look and feel, streamlined navigation, and is more consistent with Lightning Experience. Don't worry, Pardot functionality is not affected by this update.

## Improve Open Rates with Subject Line Personalization: Add Variable Tags and Advanced Dynamic Content

We've added the ability to easily personalize your Pardot email subject lines with the Advanced Subject Line Composer. Whether you're sending out an email in multiple languages or about multiple products, now you can create one email with dynamic content in the subject line and reach your subscribers with the right message.

Use the Advanced Subject Line Composer to select from existing variable tags. We've also added support for Advanced Dynamic Content blocks in email subject lines. Just use the Advanced Subject Line Composer to insert existing Dynamic Content blocks as well.

The Advanced Subject Line Composer is available in the Building and Sending tabs of Email Flow.

SEE ALSO:

[Salesforce Pardot Help: Advanced Dynamic Content Overview](#)

[Salesforce Pardot Help: Variable Tags Overview](#)

## Get Account Usage and Limits Info at a Glance with the Updated Account Page

A new tabbed browsing experience and account usage display make it easier than ever to view and edit your Pardot settings and manage your accounts feature usage.

The Account tab includes account and Product and Service Notification settings. The Usage and Limits tab displays your account's usage stats and any limits for each Pardot feature. The My Profile tab includes your user information and personal settings. No more endless scrolling to manage your settings!

| Feature                | Usage                  | Limit               | Utilization |
|------------------------|------------------------|---------------------|-------------|
| Mailable Database      | 101 mailable prospects | 10,000              | 1.01%       |
| Automation Rules       | 8 automation rules     | 150                 | 5.33%       |
| Landing Pages          | 10 landing pages       | Unlimited           |             |
| Forms                  | 9 forms                | Unlimited           |             |
| Form Handlers          | 2 form handlers        | Unlimited           |             |
| Drip Programs          | 1 drip program         | Unlimited           |             |
| # Files                | 13 files               | Unlimited           |             |
| File Storage           | 24 MBs                 | 10,240              | 0.24%       |
| Custom Objects         | 1 custom object        | 1 (Upgrade Options) | 100%        |
| Page Actions           | 2 page actions         | 100                 | 2%          |
| SEO Keyword Monitoring | 1 keyword              | 1,000               | 0.1%        |
| Competitor Monitoring  | 1 competitor           | 100                 | 1%          |

### SEE ALSO:

[Salesforce Pardot Help: Account Settings Reference](#)

[Salesforce Pardot Help: How do I check my account usage and features?](#)

## Other Changes in the Sales Cloud

Learn about other changes we've made to improve usability.

### IN THIS SECTION:

#### [Data Assessment Date Stamp Changed](#)

On the data assessment summary page, the line noting the last update now reads "Last updated [date]". Previously, it read "(Last Updated on [date])". This change applies to Lightning Experience only.

#### [Global Actions Added for Contracts and Orders](#)

Global actions are available for the Contract and Order objects, so you have more control over customizing actions for these objects. This change applies to both Lightning Experience and Salesforce Classic.

#### [Recently Scheduled Meetings Visible from Lightning Experience Home Without Browser Refresh](#)

If you've got one billion browser tabs open on your desktop, welcome to the club. But let's celebrate the little victories: When sales reps add events to their calendars, reps can see those events from other browser tabs when they navigate to Lightning Experience Home. No refreshing? How refreshing. This change applies to Lightning Experience only.

### [Calendar Navigation Buttons Moved in Lightning Experience](#)

But it's good news, we promise. Because now the buttons used to navigate between calendar weeks or months are in the same place as buttons on other records, like opportunities or leads. And the same place as buttons on custom pages built with the Lightning Design System. This change applies to Lightning Experience only.

### [Calendar Visibility Is More Personal for Users, Faster for Admins](#)

When a user creates a calendar view from an object, only the user can see the calendar. Previously, anyone above the user in the hierarchy, or anyone with the "View All Data" permission, could see—and—delete, the calendar. This extensive visibility could cause slow response times. This change applies to Lightning Experience only.

### [Cloud Scheduler is Being Retired](#)

Cloud Scheduler began phased retirement in Winter '17. This change applies to Salesforce Classic only.

### [Rich-Text Editor for Notes Is Now Using Quill](#)

We've replaced the rich-text editor used in Notes, the Salesforce note-taking app. We're now using the Quill editor. The toolbar buttons for the Quill editor have a slightly different visual appearance, but the functionality is the same as before. This change applies to Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app.

### [Business Processes Use Name Field to Evaluate Person Accounts](#)

Triggers, validation rules, flows, approvals, workflow, and Process Builder evaluate person accounts more effectively. This change applies to both Lightning Experience and Salesforce Classic.

### [Easier to Use Merge Fields When Emailing Person Accounts in Lightning Experience](#)

When reps use merge fields in an email to a person account, all person account merge fields now show up in the merge field search results. Previously, only account merge fields appeared in the search results, but now contact merge fields are returned, too. This change applies to Lightning Experience only.

### [Person Account Quick View Always Shows Account Info in Lightning Experience](#)

When hovering over a person account link, the quick view always displays account information. Previously, contact info was displayed if the person account link was in a field that represented a contact (for example, the Name or Related Contact field). This change applies to Lightning Experience only.

### [Account Autofill Now Called Automated Account Fields](#)

Automated Account Fields is the new name for the account feature that displays US-based companies in the Account Name field as sales reps enter information. Reps can select a suggested company from the list, making it easier to create business accounts. This change applies to Lightning Experience only.

### [Sales Console Permissions Are Easier to Assign in Salesforce Classic](#)

A standard permission set is now available for the Sales Console in Salesforce Classic. Standard permission sets save you time when working with permission set licenses. When you purchase the Sales Console permission set license, you can immediately assign the permission set to users.

### [Lead Assignment Rules Visible in Lightning Experience](#)

Salespeople can now see the Lead Assignment checkbox on new leads in Lightning Experience. This change applies to Lightning Experience only.

### [Fields Changed in Quotes Related Lists](#)

To improve performance, we've made some changes to the fields that appear in the quotes related list on opportunities, contacts, and contracts. These changes apply to both Lightning Experience and Salesforce Classic.

## Data Assessment Date Stamp Changed

On the data assessment summary page, the line noting the last update now reads “Last updated [date]”. Previously, it read “(Last Updated on [date])”. This change applies to Lightning Experience only.

### EDITIONS

Available in Lightning Experience in: **Professional, Enterprise, Performance, and Unlimited** Editions

## Global Actions Added for Contracts and Orders

Global actions are available for the Contract and Order objects, so you have more control over customizing actions for these objects. This change applies to both Lightning Experience and Salesforce Classic.

We added the Quick Actions in the Salesforce Classic Publisher section to the page layout editor for Contracts and Orders and made global actions available there.

SEE ALSO:

[Salesforce Help: How Actions Are Ordered in Lightning Experience \(can be outdated or unavailable during release preview\)](#)

### EDITIONS

Contracts are available in **Performance** and **Developer** Editions and in **Professional, Enterprise, and Unlimited** Editions with the Sales Cloud

Orders are available in: **Professional, Enterprise, Performance, Unlimited, and Developer** Editions

## Recently Scheduled Meetings Visible from Lightning Experience Home Without Browser Refresh

If you've got one billion browser tabs open on your desktop, welcome to the club. But let's celebrate the little victories: When sales reps add events to their calendars, reps can see those events from other browser tabs when they navigate to Lightning Experience Home. No refreshing? How refreshing. This change applies to Lightning Experience only.

### EDITIONS

Available in: **Developer, Enterprise, Group, Performance, Professional, and Unlimited** Editions

## Calendar Navigation Buttons Moved in Lightning Experience

But it's good news, we promise. Because now the buttons used to navigate between calendar weeks or months are in the same place as buttons on other records, like opportunities or leads. And the same place as buttons on custom pages built with the Lightning Design System. This change applies to Lightning Experience only.

Why did we do that? Because when your reps' buttons are always in the same place, they're easier to find. Streamlining our design lets reps navigate Salesforce quickly.

### EDITIONS

Available in: **Group, Professional, Enterprise, Performance, Unlimited, and Developer** Editions

## Calendar Visibility Is More Personal for Users, Faster for Admins

When a user creates a calendar view from an object, only the user can see the calendar. Previously, anyone above the user in the hierarchy, or anyone with the “View All Data” permission, could see—and—delete, the calendar. This extensive visibility could cause slow response times. This change applies to Lightning Experience only.

### EDITIONS

Available in: **Enterprise, Unlimited, and Developer** Editions

## Cloud Scheduler is Being Retired

Cloud Scheduler began phased retirement in Winter '17. This change applies to Salesforce Classic only.

Cloud Scheduler is unavailable in Salesforce orgs created in Winter '17 or later. If you enabled Cloud Scheduler before Winter '17, it remains available in your org until Winter '18.

**Important:** Cloud Scheduler is unavailable in Salesforce orgs created in Winter '17 or later. If you enabled Cloud Scheduler before Winter '17, it remains available in your org until Winter '18. However, if you remove the **New Meeting Request** button, you can't add it back.

For more information, see [Cloud Scheduler to begin phased retirement with Winter '17](#).

### EDITIONS

Available in: **All Editions** Except **Personal Edition** and **Database.com**

## Rich-Text Editor for Notes Is Now Using Quill

We've replaced the rich-text editor used in Notes, the Salesforce note-taking app. We're now using the Quill editor. The toolbar buttons for the Quill editor have a slightly different visual appearance, but the functionality is the same as before. This change applies to Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app.

### EDITIONS

Notes available in Lightning Experience in: **Professional, Enterprise, Performance, Unlimited, and Developer** Editions

Notes available in Salesforce Classic in: **Contact Manager, Group, Professional, Enterprise, Performance, Unlimited, and Developer** Editions

## Business Processes Use Name Field to Evaluate Person Accounts

Triggers, validation rules, flows, approvals, workflow, and Process Builder evaluate person accounts more effectively. This change applies to both Lightning Experience and Salesforce Classic.

Previously, an account-related process that used the `Name` field looked only at business accounts, even when the person account's first and last names matched the rule criteria. Now, a process that uses the `Name` field looks at person accounts.

If you prefer processes continue to ignore person accounts, add the `IsPersonAccount` field to the criteria so that person accounts are excluded.

### SEE ALSO:

[Process Builder: Lightning Icons and Encrypted Data](#)

[Approvals: Consistency Across All Salesforce Experiences](#)

### EDITIONS

Person Accounts and Process Builder available in: **Professional, Enterprise, Performance, Unlimited, and Developer** Editions

Flow, Approvals, and Workflow available in: **Enterprise, Performance, Unlimited, and Developer** Editions

## Easier to Use Merge Fields When Emailing Person Accounts in Lightning Experience

When reps use merge fields in an email to a person account, all person account merge fields now show up in the merge field search results. Previously, only account merge fields appeared in the search results, but now contact merge fields are returned, too. This change applies to Lightning Experience only.

## Person Account Quick View Always Shows Account Info in Lightning Experience

When hovering over a person account link, the quick view always displays account information. Previously, contact info was displayed if the person account link was in a field that represented a contact (for example, the `Name` or `Related Contact` field). This change applies to Lightning Experience only.

## Account Autofill Now Called Automated Account Fields

Automated Account Fields is the new name for the account feature that displays US-based companies in the Account Name field as sales reps enter information. Reps can select a suggested company from the list, making it easier to create business accounts. This change applies to Lightning Experience only.

### EDITIONS

Available in: **Group, Professional, Enterprise, Performance, Unlimited, and Developer** Editions

## Sales Console Permissions Are Easier to Assign in Salesforce Classic

A standard permission set is now available for the Sales Console in Salesforce Classic. Standard permission sets save you time when working with permission set licenses. When you purchase the Sales Console permission set license, you can immediately assign the permission set to users.

### SEE ALSO:

[Standard Permission Sets Make Your Life Easier](#)

## Lead Assignment Rules Visible in Lightning Experience

Salespeople can now see the Lead Assignment checkbox on new leads in Lightning Experience. This change applies to Lightning Experience only.

Previously, the Lead Assignment Checkbox wasn't visible in Lightning Experience. To allow salespeople to trigger assignment rules manually when leads are created or edited, add the Lead Assignment Checkbox to the lead layout page.

SEE ALSO:

[Salesforce Help: Guidelines for Using the Enhanced Page Layout Editor \(can be outdated or unavailable during release preview\)](#)

### EDITIONS

Available in: **Enterprise, Performance, Unlimited,** and **Developer** Editions

## Fields Changed in Quotes Related Lists

To improve performance, we've made some changes to the fields that appear in the quotes related list on opportunities, contacts, and contracts. These changes apply to both Lightning Experience and Salesforce Classic.

In Winter '17 and earlier, the quotes related list on opportunities, contacts, and contracts included Discount and Grand Total fields.

In Spring '17, we removed those fields and added Subtotal and Total Price fields. The Discount and Grand Total fields still appear on the quote line item record home.

- Subtotal is the line item's sales price multiplied by the quantity and minus the discount.
- Total Price is the total of the quote line items after discounts and before taxes and shipping.
- Discount is the difference between the sum of the QuoteLineItem record's Subtotal and the sum of the QuoteLineItem record's Discount totals. Expressed as a percentage.
- Grand Total is the total price of the quote plus shipping and taxes.

### EDITIONS

Available in: **Performance** and **Developer** Editions

In Sales Cloud, also available in: **Professional, Enterprise, and Unlimited** Editions

## Data.com: A New Name and New Features

Data.com Clean rules are now called data integration rules, and they're more powerful and customizable. Rules now update non-US annual revenue data and picklist-based location data. When a data service receives new data, it refreshes your data too. Improve updates from data services by customizing mapping for data matching and updating.

IN THIS SECTION:

### [Clean Rules Have a New Name](#)

Clean rules are now called data integration rules. The new name differentiates rule-based updates from Data.com Clean, which is based on Clean jobs. Some data integration rules require a Data.com Clean license, and others don't.

### [Update Annual Revenue in Records That Use Non-USD Currency](#)

Make your data as global as the economy. Data integration rules provided by Data.com can update annual revenue data in your records, even if the record currency isn't in US dollars.

### EDITIONS

Available in: Salesforce Classic and Lightning Experience

Company Info for Accounts and Company Info for Leads rules require a Data.com Premium Clean license.

Available in: **Professional, Enterprise, Performance,** and **Unlimited** Editions

### [Update Addresses in Records That Use State and Country Picklists](#)

Standardizing account addresses using state and country picklists helps ensure data quality. Now you can use state and country picklists in accounts and still get the latest address data. The Company Info for Accounts data integration rule updates accounts even if they use state and country picklists.

### [Keep Your Data Current with Data Refresh](#)

Fresh means *fresh*. Data integration rules update your records from a data service, but what happens when the data service itself gets updated data? With data refresh, you can keep your org updated as data services receive updates. Based on your choices, data refresh continually applies data integration rules to existing records.

### [Customize Field Mapping for Data Integration Rules](#)

Customized field mapping lets you control how data integration rules match and update your records with external data. Each data integration rule has separate match and update mappings, which you can view and change in Setup.

### [Try Data Integration Rules in Your Org](#)

Try the new data integration rule features in your org's sandbox. Along the way, you can see the new Setup location and the new steps for configuring updates.

### [Bypass Triggers Feature Changed for Custom Objects](#)

We changed how the bypass triggers feature works for custom objects. Now even if **Bypass triggers** is selected in a data integration rule for a custom object, those triggers aren't bypassed.

## Clean Rules Have a New Name

Clean rules are now called data integration rules. The new name differentiates rule-based updates from Data.com Clean, which is based on Clean jobs. Some data integration rules require a Data.com Clean license, and others don't.

Although Clean rules are now called data integration rules, the names of individual rules haven't changed. For example, the rule for updating accounts with data from Data.com is still called Company Info for Accounts. To see a list of rules available for your org, from Setup, enter *Data Integration Rules* in the Quick Find box, and then click **Data Integration Rules**. The **Data Integration Rules** list view appears.

 **Note:** Each data integration rule still has its own licensing and purchase requirements. Some rules require a license. Some rules are part of a data package that you purchase. Some rules, such as the geocode address rules provided by Data.com, are free.

#### SEE ALSO:

- [Update Annual Revenue in Records That Use Non-USD Currency](#)
- [Update Addresses in Records That Use State and Country Picklists](#)
- [Customize Field Mapping for Data Integration Rules](#)
- [Keep Your Data Current with Data Refresh](#)
- [Try Data Integration Rules in Your Org](#)

#### EDITIONS

Available in: Salesforce Classic and Lightning Experience

Company Info for Accounts and Company Info for Leads rules require a Data.com Premium Clean license.

Available in: **Professional, Enterprise, Performance, and Unlimited** Editions

## Update Annual Revenue in Records That Use Non-USD Currency

Make your data as global as the economy. Data integration rules provided by Data.com can update annual revenue data in your records, even if the record currency isn't in US dollars.

In the Company Info for Accounts and Company Info for Leads rules, the Data.com Annual Revenue field is converted from US dollars to the record currency using the conversion rate defined for your org. This feature is available in orgs that use multiple currencies. It's not available in orgs that use a single non-US dollar currency.

 **Note:** To enable this feature, make sure that the following currencies are active in your org's currency table:

- US dollars
- Currency of the records you want to update

### SEE ALSO:

[Idea Exchange: Data.com Clean - Ability to Update Non-USD Revenue Account Field Clean Rules Have a New Name](#)  
[Update Addresses in Records That Use State and Country Picklists](#)  
[Customize Field Mapping for Data Integration Rules](#)  
[Keep Your Data Current with Data Refresh](#)  
[Try Data Integration Rules in Your Org](#)

## Update Addresses in Records That Use State and Country Picklists

Standardizing account addresses using state and country picklists helps ensure data quality. Now you can use state and country picklists in accounts and still get the latest address data. The Company Info for Accounts data integration rule updates accounts even if they use state and country picklists.

Accounts can have state and country values that aren't included in the standard state and country picklists provided by Salesforce. You can add Data.com values to your org's state and country picklists.

### SEE ALSO:

[Knowledge Article: Data.com: List of States and Countries available from Data.com](#)  
[Clean Rules Have a New Name](#)  
[Update Annual Revenue in Records That Use Non-USD Currency](#)  
[Customize Field Mapping for Data Integration Rules](#)  
[Keep Your Data Current with Data Refresh](#)  
[Try Data Integration Rules in Your Org](#)

### EDITIONS

Available in: Salesforce Classic and Lightning Experience

Company Info for Accounts and Company Info for Leads rules require a Data.com Premium Clean license.

Available in: **Professional, Enterprise, Performance,** and **Unlimited** Editions

### EDITIONS

Available in: Salesforce Classic and Lightning Experience

Company Info for Accounts and Company Info for Leads rules require a Data.com Premium Clean license.

Available in: **Professional, Enterprise, Performance,** and **Unlimited** Editions

## Keep Your Data Current with Data Refresh

Fresh means *fresh*. Data integration rules update your records from a data service, but what happens when the data service itself gets updated data? With data refresh, you can keep your org updated as data services receive updates. Based on your choices, data refresh continually applies data integration rules to existing records.

To ensure that this feature is available for a rule, select the rule setting **Update all records after this rule is activated or saved**.

 **Note:** Some data integration rules don't support data refresh. For example, data refresh isn't available with the geocode data integration rules provided by Data.com.

SEE ALSO:

- [Clean Rules Have a New Name](#)
- [Update Annual Revenue in Records That Use Non-USD Currency](#)
- [Update Addresses in Records That Use State and Country Picklists](#)
- [Customize Field Mapping for Data Integration Rules](#)
- [Try Data Integration Rules in Your Org](#)

### EDITIONS

Available in: Salesforce Classic and Lightning Experience

Company Info for Accounts and Company Info for Leads rules require a Data.com Premium Clean license.

Available in: **Professional, Enterprise, Performance,** and **Unlimited** Editions

## Customize Field Mapping for Data Integration Rules

Customized field mapping lets you control how data integration rules match and update your records with external data. Each data integration rule has separate match and update mappings, which you can view and change in Setup.

The easiest way to learn about customized field mapping is to see your customization options.

From Setup, enter *Data Integration Rules* in the Quick Find box, and then click a rule. On the rule's detail page, click **Edit Field Mapping**. The Field Mapping detail page appears.



The header shows the name of the data integration rule (1). In the example, the rule is Company Info for Accounts, which is provided by Data.com.



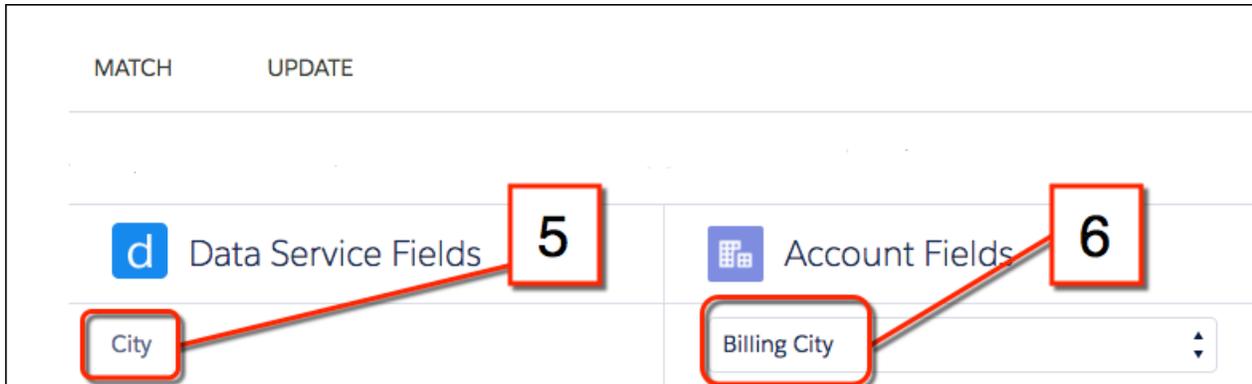
### EDITIONS

Available in: Salesforce Classic and Lightning Experience

Company Info for Accounts and Company Info for Leads rules require a Data.com Premium Clean license.

Available in: **Professional, Enterprise, Performance,** and **Unlimited** Editions

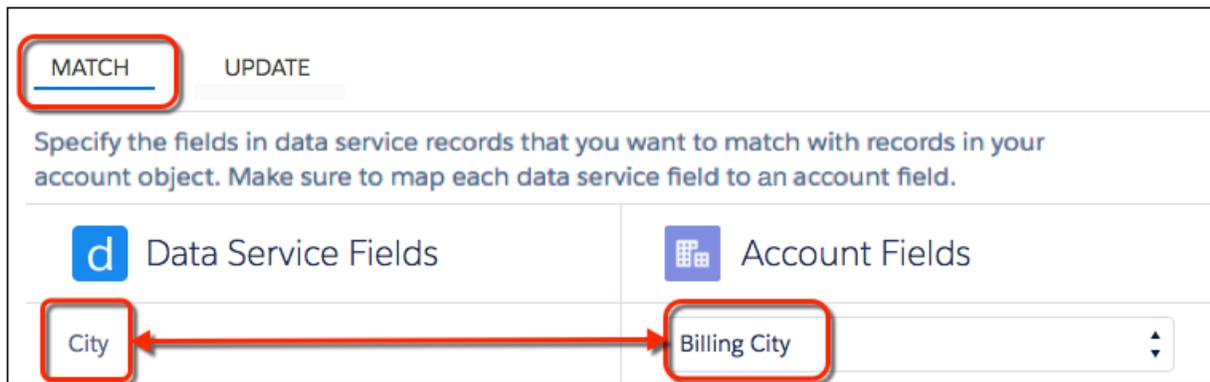
The tab bar (2) lets you choose between match and update customization. Regardless of the tab, the page shows a data service field list (3) and a field list for the object associated with the rule (4). In this example, the rule is Company Info for Accounts, so the object field list shows account fields.



A mapping describes the relationship between lists of data service fields and fields on your records (in this case, accounts). The mapping consists of pairs of fields. Each pair has one field on data service records (5) and one field on account records (6). For example, the data service field City is paired with the account field Billing City.

Notice that you can't change the data service field, but you can change the account field. In this example, you have to pair City with an account field. Currently, City is paired with Billing City. However, you can choose another account field. For example, you can pair City with Shipping City instead of Billing City.

## Match



The match mapping is a search filter. The data service uses the filter to search for records in your data that match data service records. Each pair is compared. When all of them match, your records can be updated with data from data service records.

The data service field list contains the minimum set of fields that the service considers necessary to make a match. If a data service offers data for different objects, the Data Service Fields column lists a different set of fields for each object. For example, a data service that offers data for accounts and leads can have one field list for accounts and a different one for leads.

## Update

The update mapping controls what data is copied from the data service record to your record. Each field in the data service record updates its paired field in your record. In the example, Data.com provides data in the City field. During the update, the value of City is copied to the Billing City field in the matched account record. If you choose the Shipping City account field, the update copies City to Shipping City.

The list of data service fields includes fields for all the data that the service offers for your records. You can't change the data service fields, but you can change the record fields. If a data service offers data for different objects, the Data Service Fields column lists a different set of fields for each object. For example, a data service that updates both accounts and leads can have one field list for accounts and a different one for leads.

## Considerations

The match field list and the update field list for a data integration rule can contain different fields. For example, the data service can match your records based on company name and location, and then update your records with financial data.

The data service copies data only when:

- The field value in your record is blank or null.
- The field types of the data service field and your record's field are compatible.
- The scale and precision of the data service field and your record's field are compatible.

SEE ALSO:

[Clean Rules Have a New Name](#)

[Update Annual Revenue in Records That Use Non-USD Currency](#)

[Update Addresses in Records That Use State and Country Picklists](#)

[Keep Your Data Current with Data Refresh](#)

[Try Data Integration Rules in Your Org](#)

## Try Data Integration Rules in Your Org

Try the new data integration rule features in your org's sandbox. Along the way, you can see the new Setup location and the new steps for configuring updates.

The steps for setting up rules have changed.

1. To set up data integration rules, from Setup, enter *Data Integration Rules* in the Quick Find box, and then click **Data Integration Rules**.
2. To edit a rule, click its name to show the rule detail page, and then click **Edit Rule Settings**.
3. If you see the Activate button, the rule is inactive. To activate the rule, click **Activate**.

The rule is now active. When you add or update a record in an object associated with the rule, Data Integration updates the record with data from the rule's data service. For example, suppose that you activate the Geocodes for Lead Address rule provided by Data.com. When you add or update a lead, Data Integration updates the lead with geocode information based on the lead's address.

If you're using Salesforce Classic, update the page layouts for the object associated with the rule.

For example, to activate the Geocodes for Lead Address rule, update the lead page layout. Add the Data Integration Rules related list to the layout so that your users can see the update status for their lead records.

### SEE ALSO:

- [Clean Rules Have a New Name](#)
- [Update Annual Revenue in Records That Use Non-USD Currency](#)
- [Update Addresses in Records That Use State and Country Picklists](#)
- [Keep Your Data Current with Data Refresh](#)
- [Customize Field Mapping for Data Integration Rules](#)

## Bypass Triggers Feature Changed for Custom Objects

We changed how the bypass triggers feature works for custom objects. Now even if **Bypass triggers** is selected in a data integration rule for a custom object, those triggers aren't bypassed.

In Winter '17 and earlier, if **Bypass triggers** was selected in a data integration rule for a custom object, those triggers were bypassed.

### SEE ALSO:

- [Salesforce Help: Review Triggers and Workflow Rules for Data.com Compatibility](#)

### EDITIONS

Available in: Salesforce Classic and Lightning Experience

Company Info for Accounts and Company Info for Leads rules require a Data.com Premium Clean license.

Available in: **Professional, Enterprise, Performance,** and **Unlimited** Editions

### EDITIONS

Available in: Salesforce Classic and Lightning Experience

Company Info for Accounts and Company Info for Leads rules require a Data.com Premium Clean license.

Available in: **Professional, Enterprise, Performance,** and **Unlimited** Editions

# Service: Lightning Hits the Console and Knowledge; Field Service Comes to iOS

Zap! Lightning Experience has hit the Service Console. Enjoy its streamlined UI and the ease of customizing it with the drag-and-drop Lightning App Builder. Knowledge also gets a Lightning charge, with a unified Knowledge tab and standard record types replacing custom articles types. Field service comes to your technicians with an iOS app. And Open CTI comes to Lightning Console Apps, while Desktop CTI takes its final bow.

## EDITIONS

Available in: **Professional, Enterprise, Performance, Unlimited,** and **Developer Editions**

## IN THIS SECTION:

### [Console: Lightning Strikes the Service Console \(Beta\)](#)

We've got some great news. The Salesforce Console is now part of Lightning Experience! We're giving you an out-of-the-box Service Console app, a streamlined setup flow just for service-related features, and even more bells and whistles. Previously, the console was available only in Salesforce Classic.

### [Knowledge: Say Hello to Lightning Knowledge \(Beta\)](#)

Knowledge has taken the leap to Lightning Experience, giving you a high-powered yet streamlined way to manage your knowledge base. With Lightning Knowledge, you get the benefits of standard objects that work just like other objects in Salesforce. Lightning Knowledge is best for orgs new to Knowledge or for existing orgs that can easily consolidate to one article type, have few data categories, and use single-language mode. This change applies to Lightning Experience only.

### [Field Service: Outstanding in Your Field](#)

Technicians, rejoice! The Field Service mobile app for iOS (Generally Available) is your all-in-one solution. Take your onsite service to the next level with parts and van stock tracking, service appointment status, work order priority, and reporting.

### [CTI: Support in Lightning Console and the Final Goodbye to Desktop CTI](#)

You can now use Open CTI in the new console in Lightning Experience. One of the Open CTI methods has a small behavior change. And finally, we say goodbye to Desktop CTI.

### [Lightning Case Management](#)

Resolving customer issues and managing cases in Lightning keeps getting better and better! This release provides a revamped compact case feed so that agents can quickly see the case progression. The Case Assignment checkbox is now visible on the case page layout so that agents can trigger assignment rules when creating and editing cases. These changes apply to Lightning Experience only.

### [Social Customer Service: Seamless Support](#)

Use the Chatter REST API to set up Social Customer Service in your org, do and discover more on the social post detail page, reply and direct message with ease on the case feed, and connect your API enabled Professional edition org with Social Customer Service.

### [Omni-Channel: Supercharge Your Supervisors; Enjoy Increased Limits](#)

Put real-time insights at your support supervisors' fingertips with Omni-Channel Supervisor (Generally Available). We've also raised Omni-Channel org limits, and you can set a default user or queue for to assign work to when your org reaches the limits. Plus, some notification sounds have been improved. This change applies to Salesforce Classic only.

### [Live Agent: Route Chats on Omni-Channel, and Enjoy Updated Chat Transcripts and Features](#)

Like other Omni-routed work, Live Agent chats routed with Omni-Channel can be sized and prioritized by queue, and the Live Chat Transcript is created when the chat's requested. Plus, customers can save chat transcripts on iOS, chats now display live hyperlinks, and some notification sounds have been improved. This change applies to Salesforce Classic only.

### [Snap-ins for Web: Bring the Power of Service Cloud Components to Your Website](#)

Ever wish you could add nifty Service Cloud features like chat directly to your website or to a mobile browser? Snap-ins let you embed Service Cloud components into your web pages so that you can provide contextual support to your customers.

### [Snap-ins for Mobile Apps](#)

We've added some great features to our Snap-ins SDKs for iOS and Android to make your mobile apps even better. With case deflection, solve your users' problems before they even need to create cases. Build knowledge bases customized for specific user profiles so that users get the right information for their needs. We've also improved Live Agent Chat and SOS so that you can provide even better real-time support to your customers.

### [Other Changes in Service Cloud](#)

Learn about other changes we've made in the Service Cloud.

## Console: Lightning Strikes the Service Console (Beta)

We've got some great news. The Salesforce Console is now part of Lightning Experience! We're giving you an out-of-the-box Service Console app, a streamlined setup flow just for service-related features, and even more bells and whistles. Previously, the console was available only in Salesforce Classic.

Available in: **Professional, Enterprise, Performance, Unlimited**, and **Developer** Editions with Service Cloud



**Note:** This release contains a beta version of Lightning console apps, which means it's a high-quality feature with known limitations. Lightning console apps aren't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features.

Lightning console apps are available only to Sales Cloud and Service Cloud users. To prevent unexpected issues, don't give other users access to Lightning console apps.

### IN THIS SECTION:

#### [Meet the New Lightning Service Console \(Beta\)](#)

The Service Console is now in Lightning Experience. You and your service agents can take advantage of all the awesomeness that Lightning Experience has to offer. Service agents will love the updated user interface and easy-to-use Lightning components, and you'll love the ability to customize the console in just a few clicks. Yes, just a few clicks! To get you up and running in the console quickly, we're giving you an out-of-the-box app called Service Console that you can customize to your heart's content.

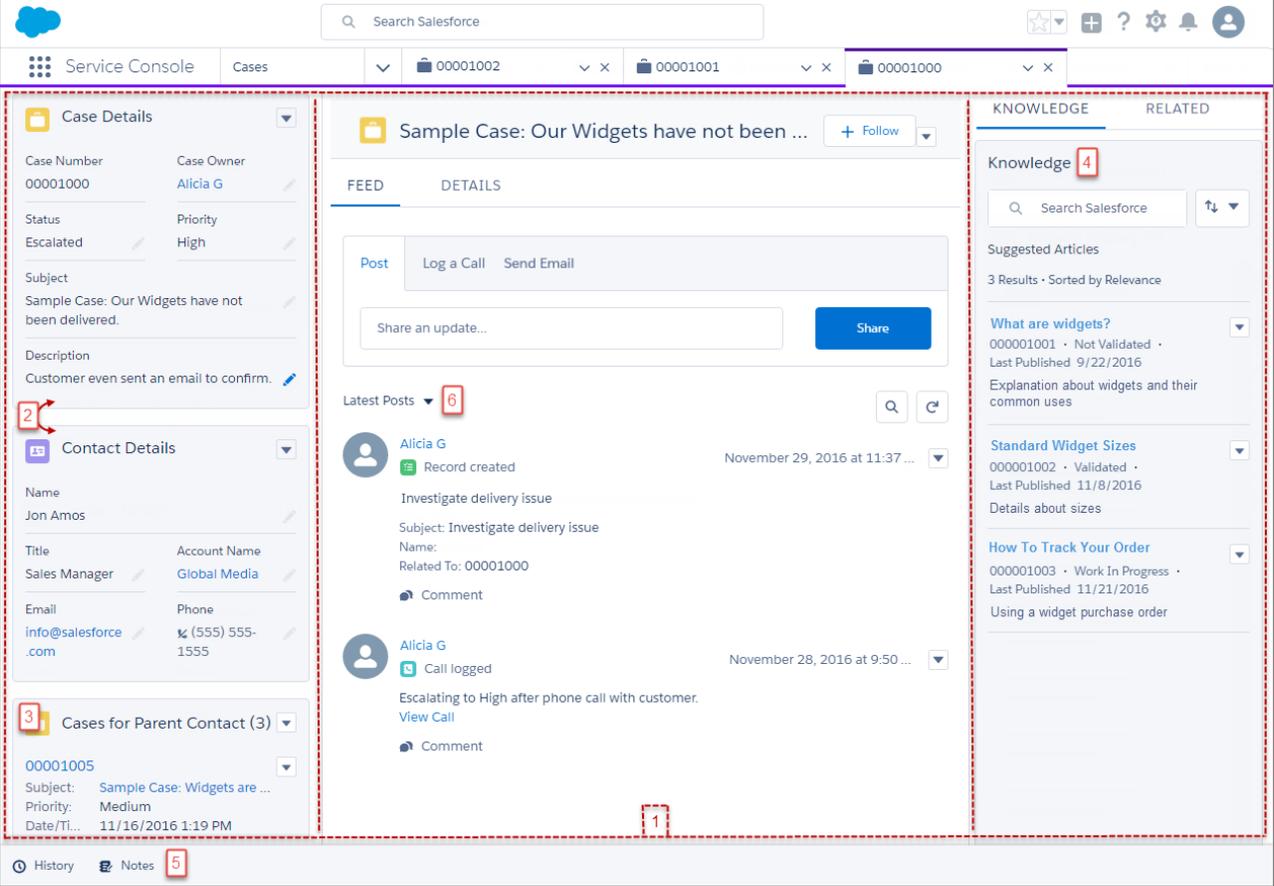
#### [Lightning Service Setup—Your Life Just Got a Whole Lot Easier! \(Beta\)](#)

Setup. Fun like a root canal, right? Service Cloud is a powerful tool with so many features that setup can seem daunting, especially if you're new to the product. "Which feature do we set up first? Can we enable our Facebook pages? How do we add users to the Service Cloud app?" Thanks to Lightning Service Setup, those days of doubt are in the rearview mirror.

## Meet the New Lightning Service Console (Beta)

The Service Console is now in Lightning Experience. You and your service agents can take advantage of all the awesomeness that Lightning Experience has to offer. Service agents will love the updated user interface and easy-to-use Lightning components, and you'll love the ability to customize the console in just a few clicks. Yes, just a few clicks! To get you up and running in the console quickly, we're giving you an out-of-the-box app called Service Console that you can customize to your heart's content.

 **Note:** This release contains a beta version of Lightning console apps, which means it's a high-quality feature with known limitations. Lightning console apps aren't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features.



The screenshot displays the Salesforce Service Console interface. The top navigation bar includes the Salesforce logo, a search bar, and several tabs for different cases (00001002, 00001001, 00001000). The main content area is divided into three columns:

- Left Column:** Contains 'Case Details' (Case Number: 00001000, Case Owner: Alicia G, Status: Escalated, Priority: High, Subject: Sample Case: Our Widgets have not been delivered, Description: Customer even sent an email to confirm.), 'Contact Details' (Name: Jon Amos, Title: Sales Manager, Account Name: Global Media, Email: info@salesforce.com, Phone: (555) 555-1555), and 'Cases for Parent Contact (3)' (Case: 00001005, Subject: Sample Case: Widgets are ..., Priority: Medium, Date/Time: 11/16/2016 1:19 PM).
- Middle Column:** Shows a case feed for 'Sample Case: Our Widgets have not been ...'. It includes a 'FEED' section with a 'Post' button and options to 'Log a Call' or 'Send Email'. Below this is a 'Latest Posts' section with 6 posts, including one from Alicia G on November 29, 2016, and another on November 28, 2016.
- Right Column:** Features a 'KNOWLEDGE' sidebar with a search bar and 'Suggested Articles' section. Articles include 'What are widgets?', 'Standard Widget Sizes', and 'How To Track Your Order'.

Red dashed boxes and numbers 1-6 highlight specific features: 1 (bottom bar), 2 (Case Details), 3 (Cases for Parent Contact), 4 (Knowledge sidebar), 5 (Notes utility), and 6 (Feed posts).

Here's what the Service Console app comes with.

- Preconfigured Lightning page for cases that uses a three-column layout (1) that includes Related Record components (2), Related List components (3), and the [Knowledge sidebar](#) (4)
- Preconfigured utility bar with History and Notes (5)
- [Compact case feed](#) (6)

 **Note:** To see and use the Notes utility, Notes must be enabled in your org. To see and use the Knowledge sidebar, Lightning Knowledge must be enabled in your org.

Ready to customize? You'll be happy to know that customizing a console in Lightning Experience is a breeze. From Setup, use the App Manager to:

- Add your own branding
- Add other items, such as products and contracts (the Service Console app includes accounts, contacts, cases, opportunities, and leads by default)
- Add other utilities, such as an Open CTI softphone

- Assign the app to the appropriate user profiles, like your service agent profiles

Want to customize even more? To update Lightning pages, head over to the Lightning App Builder to drag and drop components on a page.

Remember that you can customize the Service Console app we give you, or you can create your own Lightning console app from scratch.

Want to roll out the Service Console quickly? To help you set up Service Cloud features, we've created [Service-specific setup flows](#). These setup flows guide you through setting up Email-to-Case and integrating Facebook and Twitter into your console.

 **Note:** Lightning console apps don't yet have full parity with Salesforce Classic console apps. For example, some features in Salesforce Classic console apps, such as keyboard shortcuts and macros, aren't available in Lightning console apps.

You can't migrate Salesforce Classic console apps to Lightning Experience.

We know that consoles are powerful apps, and we're working on bringing that power into Lightning Experience. As we catch up to parity with Salesforce Classic consoles, for now, the Lightning Service Console is best for small- and medium-sized businesses. To learn about what's coming in Lightning Experience, check out our [Lightning Experience Roadmap](#).

#### SEE ALSO:

[Customize Your Console App Record Pages with Lightning App Builder](#)

[Enhance Your Lightning Apps with the Utility Bar](#)

[Get Your Tab History in Lightning Console Apps](#)

[View and Manage Your Console Apps in New Ways](#)

[Understand the Differences Between Salesforce Classic and Lightning Experience Console Apps \(Beta\)](#)

## Lightning Service Setup—Your Life Just Got a Whole Lot Easier! (Beta)

Setup. Fun like a root canal, right? Service Cloud is a powerful tool with so many features that setup can seem daunting, especially if you're new to the product. "Which feature do we set up first? Can we enable our Facebook pages? How do we add users to the Service Cloud app?" Thanks to Lightning Service Setup, those days of doubt are in the rearview mirror.

 **Note:** This release contains a beta version of Lightning Service Setup, which means it's a high-quality feature with known limitations. Lightning Service Setup isn't generally available in documentation or press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features.

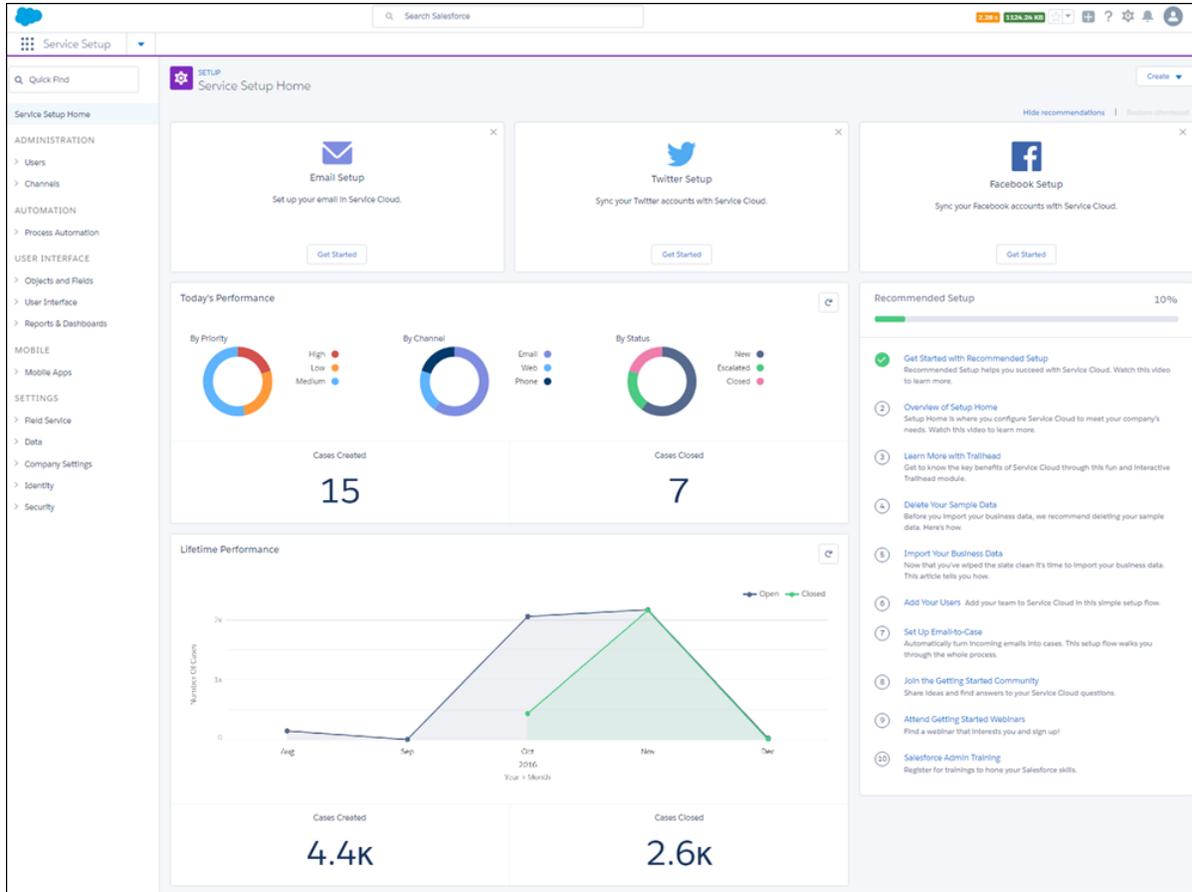
We now offer easy-to-follow setup flows, an intuitive setup tree displaying the most essential nodes, and a performance metrics dashboard. If you prefer a guided step-by-step experience, we've even got a Recommended Setup to help you get started.

Plus, let's not forget Service Console, Service Cloud's new Lightning console app. We hope you enjoy the new aesthetic, but if you prefer Salesforce Classic, hey, that works too!

 **Note:** Keep in mind that changes you make in Lightning Service Setup (Beta) affect Salesforce Classic, and vice versa.

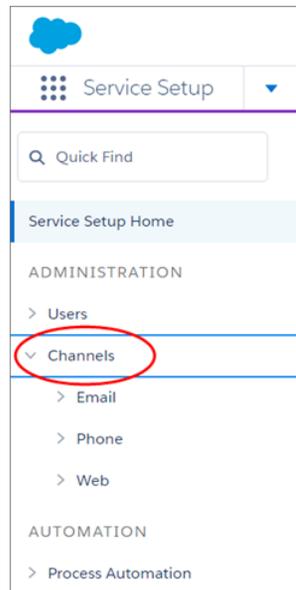
To get started with Lightning Service Setup, click the setup gear icon and select **Service Setup**.

Here's what the Lightning Service Setup home page looks like:

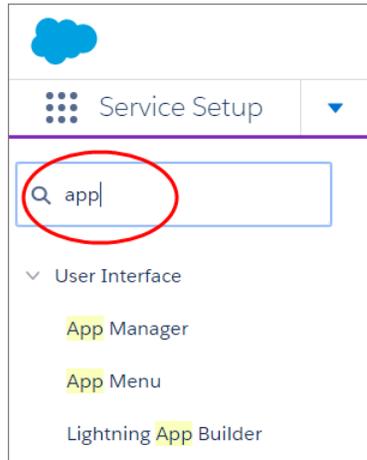


**Setup Home: Have a Look Around!**

Explore branches of the setup tree and check out all the features at your disposal. Notice that we've pared down the setup tree! Not all Service-related setup nodes are exposed in the Service Setup tree. Click the nodes to get where you want to go.



Otherwise, Quick Find gets you there in a jiffy. Just type in the Quick Find box to find the feature you're looking for.



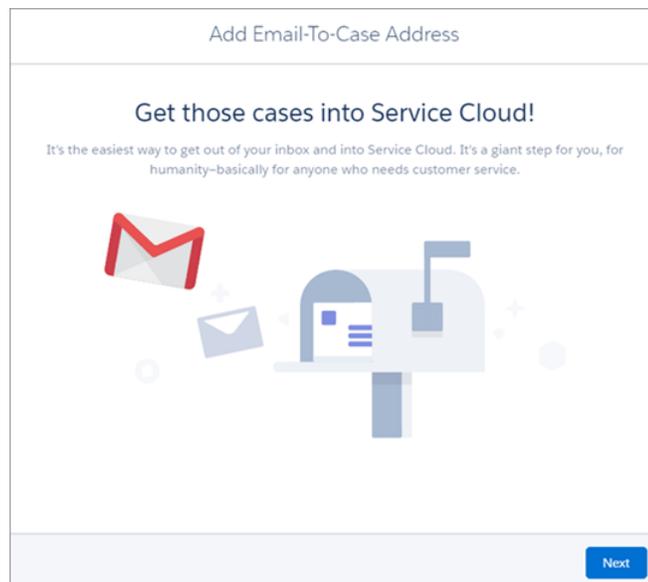
### Guided Setup Flows

Maybe you want customer emails automatically turned into cases. Maybe you want Facebook posts and Tweets automatically turned into cases. Sound good? With guided setup flows you just follow a few simple prompts and your email and social channels are up and running, ready to field customer queries.

You can start a setup flow by clicking here:



Opening Email Setup takes you right into a setup flow.



## Recommended Setup

Whether you're a Service Cloud newbie or a seasoned veteran, Recommended Setup is a fun and efficient way to get ready for customer success. In 10 simple steps you can set up key features, learn more about the power of Service Cloud, and get plugged into the Salesforce community!

### Recommended Setup 60%



- ✓ **Get Started with Recommended Setup**  
Recommended Setup helps you succeed with Service Cloud. Watch this video to learn more.
- ✓ **Overview of Setup Home**  
Setup Home is where you configure Service Cloud to meet your company's needs. Watch this video to learn more.
- ✓ **Learn More with Trailhead**  
Get to know the key benefits of Service Cloud through this fun and interactive Trailhead module.
- ✓ **Delete Your Sample Data**  
Before you import your business data, we recommend deleting your sample data. Here's how.
- ✓ **Import Your Business Data**  
Now that you've wiped the slate clean it's time to import your business data. This article tells you how.
- ✓ **Add Your Users** Add your team to Service Cloud in this simple setup flow.
- 7 **Set Up Email-to-Case**  
Automatically turn incoming emails into cases. This setup flow walks you through the whole process.
- 8 **Join the Getting Started Community**  
Share ideas and find answers to your Service Cloud questions.
- 9 **Attend Getting Started Webinars** Find a webinar that interests you and sign up!
- 10 **Salesforce Admin Training** Register for trainings to hone your Salesforce skills.

## Performance

Setup Home also offers a performance dashboard to monitor your service metrics. See how your email and social channels are doing, analyze call center spikes, and view up-to-the-minute caseload stats—all from Lightning Service Setup!



## Knowledge: Say Hello to Lightning Knowledge (Beta)

Knowledge has taken the leap to Lightning Experience, giving you a high-powered yet streamlined way to manage your knowledge base. With Lightning Knowledge, you get the benefits of standard objects that work just like other objects in Salesforce. Lightning Knowledge is best for orgs new to Knowledge or for existing orgs that can easily consolidate to one article type, have few data categories, and use single-language mode. This change applies to Lightning Experience only.

**Note:** This release contains a beta version of Lightning Knowledge, which means it's a high-quality feature with [known limitations](#) on page 89. Lightning Knowledge isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features.

### IN THIS SECTION:

#### [Considerations for Lightning Knowledge](#)

Lightning Knowledge has some limitations. Consider the following as you decide whether to enable Lightning Knowledge. This change applies to Lightning Experience only.

#### [Dip into Salesforce Classic for Lightning Knowledge Setup](#)

Although your Knowledge work is in Lightning Experience, setup and administration tasks are in Salesforce Classic. When you make the leap to Lightning, your setup experience in Salesforce Classic changes. This change applies to Lightning Experience only.

#### [Simplified Access and Permissions with Lightning Knowledge](#)

For Lightning Knowledge, you don't assign article actions with public groups. Access and permissions are now based on record types, not article types, and there are new CRUD values and profile permissions. This change applies to Lightning Experience only.

#### [Knowledge Search: Pre-filtering and Other Enhancements, Accessible from Anywhere](#)

Use search in Lightning Experience to perform a Knowledge search, and use advanced search to pare down your potential results. Read snippets of top results before you click, search archived articles, and see the results count in the Knowledge tab and sidebar. This change applies to Lightning Experience only.

#### [Streamline Your Screen with a Unified Knowledge Home Page and List Views](#)

Everything you need, all in one place. Search, view, author, and manage articles on a single Knowledge home page. Plus, enjoy all the benefits of list views in Knowledge. This change applies to Lightning Experience only.

### EDITIONS

Available in: Salesforce Classic, Lightning Experience

Salesforce Knowledge is available in **Performance** and **Developer** Editions and in **Unlimited** Edition with the Service Cloud.

Salesforce Knowledge is available for an additional cost in: **Professional**, **Enterprise**, and **Unlimited** Editions.

### [Knowledge Record Types: Record Types Take the Main Stage](#)

When you enable Lightning Knowledge, record types replace article types to distinguish different types of articles. For each record type, you can customize its page layout and compact layout to control what displays for different types of articles or user profiles. You can also share fields and define Workflow across record types. This change applies to Lightning Experience only.

### [Standard Record Home: Get More from Your Articles with Five New Components](#)

Knowledge record types give you a standard record home for articles. We've added five components in the standard record home for Knowledge articles: Ratings, Files, Versions, Data Category Viewer, and Data Category Chooser. You can configure your standard record home through page layouts and compact page layouts, but you can't customize where the components appear. This change applies to Lightning Experience only.

### [Search, Attach, and Follow Articles, with the Knowledge Sidebar for the Lightning Service Console](#)

Keep agents connected to your Knowledge base while they're working in the console with the new Knowledge sidebar. Agents can see suggested articles for the case they're viewing or perform a search to find more articles. They can use the sidebar to track articles and attach them to cases. This change applies to Lightning Experience only.

## Considerations for Lightning Knowledge

Lightning Knowledge has some limitations. Consider the following as you decide whether to enable Lightning Knowledge. This change applies to Lightning Experience only.

- When you enable Lightning Knowledge, you can't disable it.
- Lightning Knowledge isn't ready for orgs with multiple article types. If you have multiple article types in Classic Knowledge, manually migrate your articles to one article type, delete or disable the other article types, and then enable Lightning Knowledge. No migration tools are available for this process.
- Lightning Knowledge doesn't support multiple languages and translation.
- We recommend using Lightning Knowledge only if you have fewer than 300 data categories. If you have more, you can experience slower performance.
- Lightning Knowledge isn't currently supported with Communities.
- File attachments in your Classic Knowledge implementation don't transfer to Lightning Knowledge. To attach files after migrating your articles to Lightning Knowledge, use the Files related list on each article.
- Setup for Lightning Knowledge remains in Salesforce Classic. After Lightning Knowledge is enabled, a new setup node called Knowledge Object Setup appears to manage Knowledge record types, fields, page layouts, and validation rules.
- All rich text editors are disabled when LockerService is enabled. If you're using Lightning Knowledge in sandbox or a Developer Edition org, we recommend turning off LockerService in Lightning Experience. If you're using Lightning Knowledge in your production org, we recommend that you don't enable LockerService in Lightning Experience.

### EDITIONS

Available in: Salesforce Classic, Lightning Experience

Salesforce Knowledge is available in **Performance** and **Developer** Editions and in **Unlimited** Edition with the Service Cloud.

Salesforce Knowledge is available for an additional cost in: **Professional**, **Enterprise**, and **Unlimited** Editions.

### SEE ALSO:

[Customer Service Features: Lightning Experience Considerations](#)

## Dip into Salesforce Classic for Lightning Knowledge Setup

Although your Knowledge work is in Lightning Experience, setup and administration tasks are in Salesforce Classic. When you make the leap to Lightning, your setup experience in Salesforce Classic changes. This change applies to Lightning Experience only.

Enabling Lightning Knowledge is as simple as checking a box. But Lightning Knowledge is a one-way ticket: You can't go back to Classic Knowledge. We recommend enabling Lightning Knowledge in your sandbox org first to test it out.

Here's how to move to Lightning Knowledge.

1. Make sure that your org meets all the prerequisites. You must have only one article type, be in single language mode, and have no more than 300 data categories.
2. From Setup, enter *Knowledge* in the *Quick Find* box and click **Knowledge Settings**.
3. Under General Settings, select **Enable Lightning Knowledge**.

 **Important:** After you enable Lightning Knowledge, you can't go back to Classic Knowledge. Only enable Lightning Knowledge if you're prepared to permanently move Knowledge to Lightning Experience.

4. Click **Save**.

## Simplified Access and Permissions with Lightning Knowledge

For Lightning Knowledge, you don't assign article actions with public groups. Access and permissions are now based on record types, not article types, and there are new CRUD values and profile permissions. This change applies to Lightning Experience only.

You control access and permissions to Knowledge articles and actions using CRUD values, profile permissions, and page layouts. We've added two CRUD values to Knowledge that you might have seen for other Salesforce objects: View All and Modify All. We've also added two new profile permissions: Publish Articles and Archive Articles.

Plus, some article actions have changed to allow more specific permissions to be granted. For example, in Classic Knowledge, you could grant permission to delete draft articles and archived articles only with an article action. In Lightning Knowledge, deleting drafts and deleting archived articles are two separate actions.

Remember that all users who are working with Knowledge must have a Knowledge User license.

## Knowledge Search: Pre-filtering and Other Enhancements, Accessible from Anywhere

Use search in Lightning Experience to perform a Knowledge search, and use advanced search to pare down your potential results. Read snippets of top results before you click, search archived articles, and see the results count in the Knowledge tab and sidebar. This change applies to Lightning Experience only.

Search Knowledge wherever you are in Lightning Experience.

1. In the search box at the top of the page, begin typing *knowledge*. Search starts recommending content and options for scoping search to specific objects.
2. Select **Limit Search to Knowledge**.
3. Optionally, click **Advanced Search** to pre-filter your results. Selected filters appear in the search box.
4. Enter your search terms.
5. Press Enter to run the search.

### IN THIS SECTION:

#### [Get More Context with Snippets in Article Top Results \(Beta\)](#)

Excerpts from Knowledge Articles on the Top Results page help users find what they're looking for faster. Top Results shows the best matches for your most frequently used objects. It's also the first page users land on when performing a Salesforce search. This change applies to Lightning Experience only.

### Search Archived Articles

When you perform a Knowledge search, you can set a filter to limit your results to archived articles. Keep in mind that you can select only one publishing status filter (published, draft, or archived) at a time. This change applies to Lightning Experience only.

### 1, 2, 3... See How Many Results Are Found for a Search

When you perform a Knowledge search in global search or the new Knowledge sidebar for the Lightning Service Console, you can see how many results were found. Knowing helps you know when you need to change or expand your search terms or filters. This change applies to Lightning Experience only.

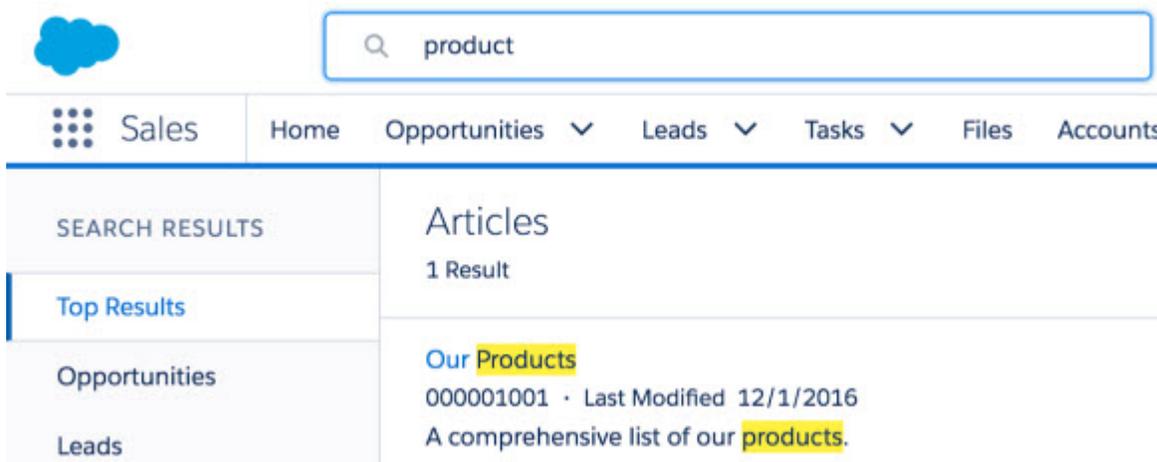
## Get More Context with Snippets in Article Top Results (Beta)

Excerpts from Knowledge Articles on the Top Results page help users find what they're looking for faster. Top Results shows the best matches for your most frequently used objects. It's also the first page users land on when performing a Salesforce search. This change applies to Lightning Experience only.

### EDITIONS

Available in: **All Editions**  
**except Database.com**

 **Note:** This release contains a beta version of Knowledge Article Snippets in Top Results, which means it's a high-quality feature with known limitations. Knowledge Article Snippets in Top Results isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features.



The layout is similar to the results page for the Knowledge Article search results page. Users can't sort results.

## Search Archived Articles

When you perform a Knowledge search, you can set a filter to limit your results to archived articles. Keep in mind that you can select only one publishing status filter (published, draft, or archived) at a time. This change applies to Lightning Experience only.

## 1, 2, 3... See How Many Results Are Found for a Search

When you perform a Knowledge search in global search or the new Knowledge sidebar for the Lightning Service Console, you can see how many results were found. Knowing helps you know when you need to change or expand your search terms or filters. This change applies to Lightning Experience only.

## Streamline Your Screen with a Unified Knowledge Home Page and List Views

Everything you need, all in one place. Search, view, author, and manage articles on a single Knowledge home page. Plus, enjoy all the benefits of list views in Knowledge. This change applies to Lightning Experience only.

Lightning Knowledge has one centralized home page instead of two tabs for Knowledge (searching and viewing articles) and Article Management (authoring, editing, and translating articles).

Plus, you can do several authoring actions without leaving Knowledge home. Allow other Knowledge users to access these actions using standard user permissions. You can also make these actions available on the record home with page layouts.

### List Views

Use the same list views you enjoy elsewhere in Salesforce for your Lightning Knowledge base. Customize your list views to select which fields to display and sort with.

By default, you have list views for drafts, published articles, and archived articles. For custom list views, you can't choose fields that aren't on the article record, so you can't use data categories, ratings, view count, and cases.

 **Important:** You must specify one language and one publishing status on each Knowledge list view. Otherwise you can't see records in your list view. We don't support multiple-selection on PublishStatus or Language. List view filters don't support the "IN" and "OR" operators.

### Authoring Actions

Quickly access authoring actions in Knowledge home using the drop-down next to each article. Administrators, agents, and internal employees with the correct permissions can perform these actions.

On published articles, you can:

- Create an article
- Archive an article
- Edit an article as a new draft

On draft articles, you can:

- Create an article
- Publish a draft
- Delete an article
- Edit an article

On archived articles, you can:

- Create an article
- Restore an archived article

 **Note:** These authoring actions are also available in the record home. Simply add them to your record type page layouts.

## Knowledge Record Types: Record Types Take the Main Stage

When you enable Lightning Knowledge, record types replace article types to distinguish different types of articles. For each record type, you can customize its page layout and compact layout to control what displays for different types of articles or user profiles. You can also share fields and define Workflow across record types. This change applies to Lightning Experience only.

Don't worry if someone set a record type for an article that doesn't fit. Add the Change Record Type action to your record type page layout. Then, users with the correct permissions can change an article's record type to another record type that they have access to. The Knowledge user's user profile determines the displayed page layout, so the fields shown can change when the record type is changed.

 **Note:** After you've enabled Lightning Knowledge and created record types for your articles, you can also view your record types in Salesforce Classic. You can set up Lightning Knowledge record types and page layouts only in Salesforce Classic Setup.

#### IN THIS SECTION:

##### [Customize Page Layouts for Different Types of Articles](#)

For each Knowledge record type, you can customize the fields, actions, and related lists for each record type and user profile. This change applies to Lightning Experience only.

## Customize Page Layouts for Different Types of Articles

For each Knowledge record type, you can customize the fields, actions, and related lists for each record type and user profile. This change applies to Lightning Experience only.

For each record type, you can select page layouts by profile or choose to apply one layout to all profiles.

**Step 2. Assign page layouts**

|                                      |                           |
|--------------------------------------|---------------------------|
| <b>Knowledge Article Record Type</b> | General Knowledge Article |
| <b>Record Type Name</b>              | General_Knowledge_Article |
| <b>Description</b>                   | General Knowledge article |

Select the page layout that users with this profile see for records with this record type. After saving, choose the picklist values that are available with this record type.

Apply one layout to all profiles    Knowledge Article Layout ▼  
 Apply a different layout for each profile

| Profile:               | Page Layout                |
|------------------------|----------------------------|
| Chatter External User  | Knowledge Article Layout ▼ |
| Chatter Free User      | Knowledge Article Layout ▼ |
| Chatter Moderator User | Knowledge Article Layout ▼ |
| Contract Manager       | Knowledge Article Layout ▼ |
| Marketing User         | Knowledge Article Layout ▼ |
| Read Only              | Knowledge Article Layout ▼ |
| Solution Manager       | Knowledge Article Layout ▼ |
| Standard User          | Knowledge Article Layout ▼ |
| System Administrator   | Knowledge Article Layout ▼ |

In Classic Knowledge, you can customize only the fields. With Lightning Knowledge, you can customize fields, actions, and related lists. That's a lot more personalization for your customers and Knowledge users!

## Standard Record Home: Get More from Your Articles with Five New Components

Knowledge record types give you a standard record home for articles. We've added five components in the standard record home for Knowledge articles: Ratings, Files, Versions, Data Category Viewer, and Data Category Chooser. You can configure your standard record home through page layouts and compact page layouts, but you can't customize where the components appear. This change applies to Lightning Experience only.

Knowledge articles are now consistent with other objects in Salesforce, replacing the custom record home in Classic Knowledge. Configure your standard record home page layout in Salesforce Classic Setup.

KNOWLEDGE

## Email to Case overview

| Version Number | Language | Publication Status | Last Modified Date | Last Published Date | Article Number |
|----------------|----------|--------------------|--------------------|---------------------|----------------|
| 3              | English  | Published          | 11/8/2016 3:14 PM  | 10/27/2016 12:13 PM | 000001152      |

**DETAILS**    RELATED    VERSIONS

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▼ Information

**Summary**  
Automatically turn emails from your customers into cases in Salesforce to track and resolve customer cases quickly.

**Next Review Date** ⓘ

**Answer**  
*Available in: Salesforce Classic and Lightning Experience*

Email-to-Case and On-Demand Email-to-Case are available in: **Professional, Enterprise, Performance, Unlimited, and Developer Editions.**

There are two versions of Email-to-Case:

- Email-to-Case, which uses an agent on your machine
- On-Demand Email-to-Case, which uses Salesforce Apex email services

Each version supports a different business case.

| Details  | Email-to-Case  | On-Demand Email-to-Case   |
|--|--|---|
| <b>Business case:</b>  | Keep email traffic <i>inside</i> your network's firewall and accept emails larger than 25 MB                 | Keep email traffic <i>outside</i> your network's firewall and refuse emails larger than 25 MB |
| <b>Set up:</b>   | Requires you to download and install the Email-to-Case agent on your local machine to turn emails into cases | Requires you to set up Salesforce Apex email services to turn emails into cases               |
| <b>Maximum number of emails converted to cases each day:</b>         | 2,500  | Number of user licenses multiplied by 1,000, up to a daily maximum of 1,000,000               |
| <b>Email size limit, including header, message, and attachments:</b> | Over 25 MB   | Under 25 MB   |

**See Also:**  
[Set Up Email-to-Case](#)  
[Set Up On-Demand Email-to-Case](#)

The move to a standard record home means that you get to enjoy what you already use with other Salesforce records, like the related list tab, details tab, and compact layouts. These are all based on the fields you set in your page layouts and compact page layouts. You can set page layouts per user profile and per record type.

#### IN THIS SECTION:

##### [Thumbs Up to Knowledge Article Ratings](#)

With the new ratings component, your agents, internal employees, and customers can see how others have rated an article and add their rating to the mix. Plus, agents and customers can now change their rating on an article. This change applies to Lightning Experience only.

##### [Add Files to Knowledge Articles in a Snap](#)

In Lightning Knowledge, the file selector replaces the custom Knowledge File fields in Classic Knowledge. This change applies to Lightning Experience only.

### [View Previous Knowledge Article Versions and Changes](#)

You don't have to leave an article's record home to see its version history and the changes that were made. From the versions component, get a high-level view of the changes, or click through to see the complete article. This change applies to Lightning Experience only.

### [View the Data Categories Assigned to a Knowledge Article](#)

See how articles have been tagged with the Data Category Viewer. You can expand and collapse data categories and subcategories for a high-level or granular view. This change applies to Lightning Experience only.

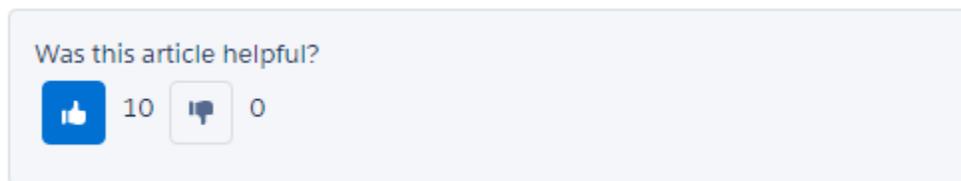
### [Add Data Categories to a Knowledge Article](#)

Change the data categories on an article draft right from the Data Category Viewer. Anyone with the "Edit" permission on Knowledge can change the data categories for an article draft. Select individual subcategories, or a group. You can add up to 8 data categories per data category group per article. This change applies to Lightning Experience only.

## Thumbs Up to Knowledge Article Ratings

With the new ratings component, your agents, internal employees, and customers can see how others have rated an article and add their rating to the mix. Plus, agents and customers can now change their rating on an article. This change applies to Lightning Experience only.

When you switch to Lightning Experience and view a published article, you can see the ratings component.



Change your mind? Change your vote! Simply click the rating you really wanted to switch it.

## Add Files to Knowledge Articles in a Snap

In Lightning Knowledge, the file selector replaces the custom Knowledge File fields in Classic Knowledge. This change applies to Lightning Experience only.

Add files to articles the same way you add files to other Salesforce records. Add the Files related list in your record type page layouts using Salesforce Classic Setup.

 **Note:** File attachments in your Classic Knowledge implementation don't transfer to Lightning Knowledge. To attach files after migrating your articles to Lightning Knowledge, use the Files related list on each article.

## View Previous Knowledge Article Versions and Changes

You don't have to leave an article's record home to see its version history and the changes that were made. From the versions component, get a high-level view of the changes, or click through to see the complete article. This change applies to Lightning Experience only.

And don't worry—you can't lose your place when browsing previous article versions. The versions component clearly labels which version you're viewing and which version is a draft (if there is one).

To make article version history and field changes available to users:

1. From Salesforce Classic Setup, enter *Knowledge* in the *Quick Find* box and click **Knowledge Object Setup**.

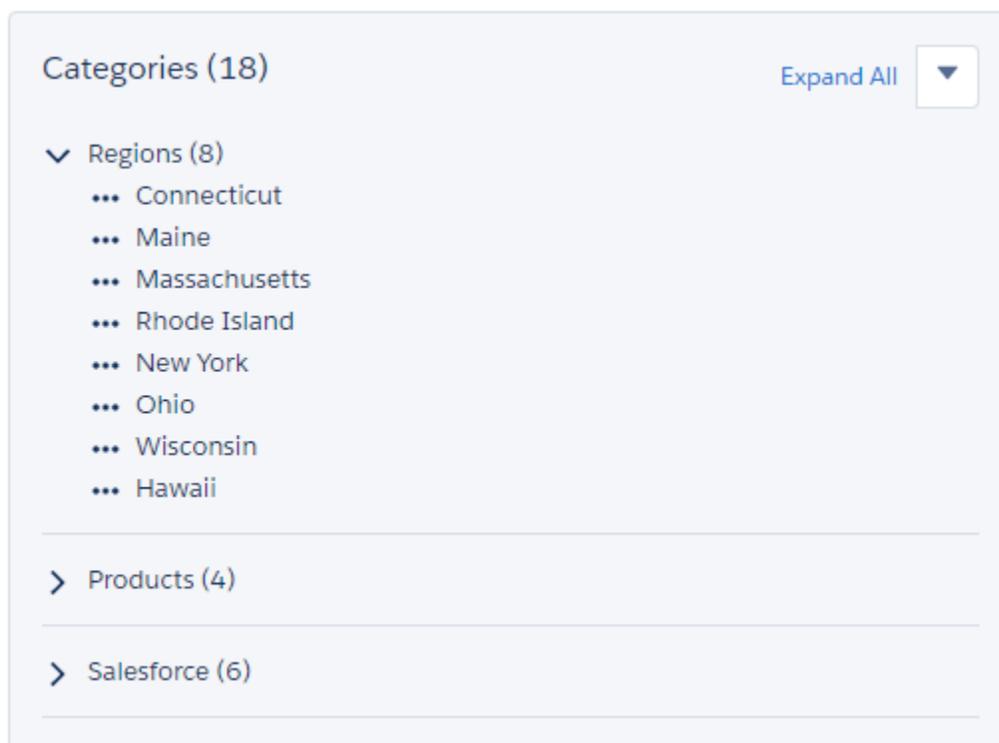
2. Under Knowledge Base Edit, click **Edit**.
3. Select **Track Field History**. This option makes article history information available to users.
4. Click **Save**.
5. From Knowledge Object Setup, click **Select Set History Tracking**. This option makes version field changes available to users.
6. Select the values you want to track.
7. Click **Save**.

Make the versions component visible to Knowledge users with user profiles. Knowledge users must have "Read" on Knowledge to see the versions component.

 **Note:** You can see up to 30 versions of an article in the versions component. To see more versions, view the article's version history in Salesforce Classic.

## View the Data Categories Assigned to a Knowledge Article

See how articles have been tagged with the Data Category Viewer. You can expand and collapse data categories and subcategories for a high-level or granular view. This change applies to Lightning Experience only.



## Add Data Categories to a Knowledge Article

Change the data categories on an article draft right from the Data Category Viewer. Anyone with the "Edit" permission on Knowledge can change the data categories for an article draft. Select individual subcategories, or a group. You can add up to 8 data categories per data category group per article. This change applies to Lightning Experience only.

## Search, Attach, and Follow Articles, with the Knowledge Sidebar for the Lightning Service Console

Keep agents connected to your Knowledge base while they're working in the console with the new Knowledge sidebar. Agents can see suggested articles for the case they're viewing or perform a search to find more articles. They can use the sidebar to track articles and attach them to cases. This change applies to Lightning Experience only.

The Knowledge sidebar is automatically included in the Lightning Service Console app. To add the sidebar to a custom Lightning console app, use Lightning App Builder to create a custom record page, and add Knowledge to your selected items.

By the way, the Knowledge sidebar isn't limited to console apps. You can add it to the Case record home in Lightning Experience using Lightning App Builder.

With the Knowledge sidebar, agents can use Knowledge while they work on cases.

### Suggested Articles

Without running a search, agents get suggested articles delivered right to their Knowledge sidebar.

### Search and Sort Your Results

Perform a Knowledge search and use the advanced search option to narrow the results to the kinds of articles that you want to see.

To sort the results, click the sort icon and select a sort option from the list. You can sort your search results by relevance, publish date, last modified date (for article drafts), A to Z, and Z to A. Suggested articles are always sorted by relevance.

When you select a sort order for your results, it stays selected when you perform another search. The sort order returns to relevance if you return to the suggested articles or select a new case.

### Attach and Remove Articles

Agents can attach articles to cases and remove them using the drop-down next to any article.

### Follow and Unfollow Articles

Agents can follow and unfollow an article using the drop-down next to the article. When an agent follows an article, changes to the article are shown in the agent's Chatter feed. Administrators, agents, and internal employees with read access to Knowledge can follow articles, and they can follow articles in any state such as published or draft.

## Field Service: Outstanding in Your Field

Technicians, rejoice! The Field Service mobile app for iOS (Generally Available) is your all-in-one solution. Take your onsite service to the next level with parts and van stock tracking, service appointment status, work order priority, and reporting.

To access Salesforce's field service features, enable Field Service Lightning. Enter *Field Service Settings* in the Quick Find box in Setup. Click **Field Service Settings**, and then select **Enable Field Service Lightning**. To learn more about how to set up Field Service Lightning, see [Field Service Lightning Help](#) (can be outdated or unavailable during release preview).

 **Note:** Users need a Field Service Lightning permission set license to access field service features other than work orders. Work orders don't require a special permission set license.

### IN THIS SECTION:

#### [The Field Service Lightning iOS Mobile App \(Generally Available\)](#)

Take your field service operation to the next level with the Field Service Lightning iOS mobile app. Technicians can harness the wealth of data, scheduling and automation tools, and customizability of your Salesforce org to get work done quickly from anywhere. And offline-first design means that technicians can always do their job, even without internet access. More productive technicians means happier customers!

### EDITIONS

Field Service Lightning features managed packages are available in: **Enterprise**, **Performance**, **Unlimited**, and **Developer** Editions with the Service Cloud. Work orders are also available in **Professional** Edition.

[Track Your Parts and Van Stock](#)

Track multiple aspects of your parts and van stock such as, which parts are available where, which parts are required for a work type, and which parts were consumed for a work order.

[Field Service Locations](#)

Sort your Field Service locations into vans, warehouses, customer sites, or whatever suits your organization and track parts available at each.

[Templates for Service Reports](#)

Help your technicians make your customers happy with fast service reports delivered to their inboxes. Technicians can capture signatures and finish appointments with service reports.

[Turn Off GPS Tracking at the User Profile Level](#)

Need GPS tracking on for all your technicians except a few? Now you can turn off GPS tracking with a user profile.

[Set Fields for Suggested Knowledge Articles](#)

From the Field Service Settings page, you can set which fields on work orders and work order line items are used to suggest relevant articles.

[Work Order Line Items Take Priority](#)

You can prioritize the work order line items on your work orders so your dispatchers and technicians know which items to do first.

[Optimize Scheduling with the Field Service Lightning Managed Package](#)

The Field Service Lightning managed package version 2.0 is available. The package builds on Salesforce's standard field service features to deliver a rich, highly customizable experience for dispatchers and technicians. You can download the package if you have the Service Cloud and a Field Service license.

## The Field Service Lightning iOS Mobile App (Generally Available)

Take your field service operation to the next level with the Field Service Lightning iOS mobile app. Technicians can harness the wealth of data, scheduling and automation tools, and customizability of your Salesforce org to get work done quickly from anywhere. And offline-first design means that technicians can always do their job, even without internet access. More productive technicians means happier customers!

 **Note:** You need a Field Service Lightning Mobile permission set license to use the Field Service Lightning iOS mobile app.

 **Important:** The Field Service Lightning iOS mobile app will be available from the Apple App Store the week of 2/13/17.

This all-in-one field service solution empowers technicians to:

- View their schedule of assignments.
- Use Salesforce data to check on work orders, reach contacts, verify addresses, and more.
- Create and edit records to log work and create follow up appointments.
- Capture signatures from customers for completed work.
- Use Chatter to collaborate with other technicians, managers, and dispatchers and even customers.
- Track updates with push notifications.
- View Salesforce Knowledge articles to complete tricky tasks.
- Track van inventory and parts consumed to complete jobs.

### EDITIONS

Field Service Lightning features are available in: **Enterprise**, **Performance**, **Unlimited**, and **Developer** Editions with the Service Cloud.

### Field Service Lightning iOS Mobile App Requirements

Before getting started with the Field Service Lightning iOS mobile app you must first enable field service in your org, install the Field Service Lightning Mobile App connected app package in your org, and assign permission set licenses to field service users. Refer to the See Also section for more details about the requirements for the Field Service Lightning iOS mobile app.

### Customize the Field Service Lightning iOS Mobile App

Flexible design means you can configure the Field Service mobile app to meet your company's unique field service needs.

- Prominently display key fields with layouts.
- Empower users with quick actions.
- Provide Salesforce Knowledge articles to technicians.
- Capture signatures from customers for completed work.
- Communicate with partners and customers using Chatter.
- Keep tabs on service resources with resource geolocation tracking.
- Set the calendar range of the work schedule.
- Brand the app with company colors.

### Get the Field Service Lightning iOS Mobile App on Your Mobile Device

Deploying the app to your technicians is as simple as downloading it from Apple's App Store from the mobile device.

1. Open the App Store on your iOS device.
2. Press the Search tab. Enter *Field Service Lightning* and press **Search**.
3. Locate the app called **Field Service Lightning** by Salesforce, and push **+GET**, then **INSTALL**.

SEE ALSO:

[Salesforce Help: The Field Service Lightning Mobile App \(can be outdated or unavailable during release preview\)](#)

## Track Your Parts and Van Stock

Track multiple aspects of your parts and van stock such as, which parts are available where, which parts are required for a work type, and which parts were consumed for a work order.

Parts and Van Stock consists of the Product Item object and three related lists: Required Products, Consumed Products, and Product Item Transactions.

- The Product Item object associates a product with a [location](#).
- The Required Products related list is added to the work order or work order line item to track parts needed of a job type.
- The Consumed Products related list is added to the work order or work order line item to track the parts used to complete the work.
- The Product Item Transactions related list is added to the Product Item object to track the use and restock of the product at its location.
- The existing Product object has four new fields:
  - External Data Source: Lookup field to an external source
  - External Id: Text field for the product's public identifier
  - Display URL: Product web address up to 1000 characters
  - Quantity Unit of Measure: Picklist of measurement

We enhanced Product data model to account for Unit of Measure and External datasource. There are four fields we added to Product: External Id, External DataSource, Display URL and Unit Of Measure.

### Product Items

Product Items associate your parts to your [service locations](#), such as vans, warehouses, and work sites.

| 1                   | 2            | 3        | 4                 |       |
|---------------------|--------------|----------|-------------------|-------|
| PRODUCT ITEM NUMBER | PRODUCT NAME | LOCATION | QUANTITY ON HA... |       |
| 1                   | PI-0001      | Screws   | Technician Van A  | 90.00 |
| 2                   | PI-0002      | Screws   | BT location       | 0.00  |
| 3                   | PI-0003      | Laptop   | LandMark          | 0.00  |

On the Product Item tab, you can:

1. Click the product's item number to go to the product item detail page. There you'll find the [Product Item Transactions](#) related list.
2. Click the product's name to go to the product's detail page, which includes the related price book.
3. Click the part's location to go to the [location's](#) detail page.
4. View the part quantity at the location.

You can also create, edit, and delete product Items.

### Products Required

Products Required is a related list of parts needed for a work type, work order, or work order line item.

| PRODUCT REQUIRED | QUANTITY REQUIRED |  |
|------------------|-------------------|--|
| phones           | 2.00              |  |
| Laptop           | 50.00             |  |

You can create, edit, and delete required parts from the related list.

### Products Consumed

Products Consumed is a related list of parts used to complete work order or work order line item.

| PRODUCT CONSUMED NU... | PRODUCT ITEM | QUANTITY CONSUMED | UNIT PRICE |  |
|------------------------|--------------|-------------------|------------|--|
| PC-002                 |              | 1.00              | \$10.00    |  |
| PC-001                 | PI-0001      | 10.00             |            |  |

You can create, edit, and delete consumed parts from the related list. When parts are recorded as consumed, their quantity on hand is decreased accordingly on the [Product Item](#).

### Product Item Transaction

Product Item Transaction is a related list of actions taken on the product item.

| Product Item Transaction (3)    |                  |          |
|---------------------------------|------------------|----------|
| PRODUCT ITEM TRANSACTION NUMBER | TRANSACTION TYPE | QUANTITY |
| T-047                           | Adjusted         | -10.00   |
| T-002                           | Consumed         | -10.00   |
| T-001                           | Replenished      | 100.00   |

[View All](#)

Product item transactions are:

- Replenished: When the quantity of the part is created at its location.
- Consumed: When parts are consumed to complete a work order or work order line item. The technician updates the products consumed related list on the work order or work order line item.
- Adjusted: When there is a discrepancy. Adjustments are made by editing the product item quantity on hand.



**Example:** Product Items connect your service parts to your service locations. Products Required allows you to suggest parts needed for work types. Products Consumed connects the parts needed to complete a work order successfully. While Product Item Transaction tracks the part restock flow.

## Field Service Locations

Sort your Field Service locations into vans, warehouses, customer sites, or whatever suits your organization and track parts available at each.

Your service locations can be as large as a warehouse or as small as a tool box. They can be your client sites or your service vans. They vary in size, location, and what they contain, and they are unique to your company. Salesforce Field Service lets you create locations to fit your needs.

Add the Location Type and Inventory Location and Mobile fields to your location page layouts.

**LOCATION**  
Technician Van A

[Edit](#) [Delete](#) [Clone](#) [▼](#)

Location Type  
Van

[Change Owner](#)

RELATED    **DETAILS**

---

▼ **Information**

|   |  |
|---|--|
| Name<br>Technician Van A                                  | Visitor Address  |
| Location Type<br>Van                                      | Time Zone  |
| Inventory Location<br><input checked="" type="checkbox"/> | Driving Directions                                     |
| Description<br>Van for Field Tech                         | Mobile Location<br><input checked="" type="checkbox"/> |
| Parent Location   |  |

- You can set up Location Types according to your company's needs. For example, configure one large warehouse and a fleet of service vans, or a store room and tool boxes carried by technicians.
- You can set up multiple addresses and address types. For example, a customer's shipping address may be different from the physical address.

- You can associate multiple accounts with one location. For example, a shopping center location may have multiple customer accounts.
- Locations marked as Inventory Location can be connected to Product Items, which represents the part stored at that location.
- The Mobile Location field identifies locations that can travel.

You can add Product Item as a related list to view which parts are at that location. You can also add the Addresses and Associated Locations related list to track related addresses and other account locations.

| PRODUCT ITEM NUMBER | PRODUCT NAME | QUANTITY ON HAND | QUANTITY UNIT OF MEASURE |
|---------------------|--------------|------------------|--------------------------|
| PI-0009             | Desktops     | 1.00             | Each                     |
| PI-0001             | Screws       | 100.00           | Each                     |

The Product Item Number and Product Name take you to the corresponding detail page.

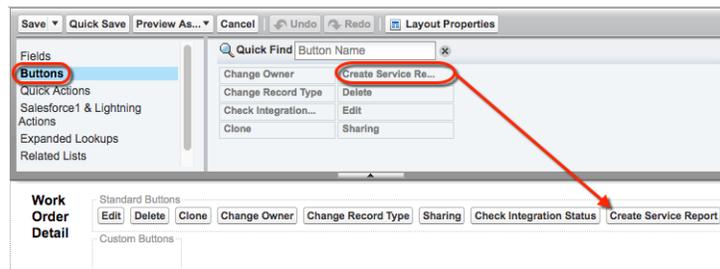
Service Resources and Assets can also be associated with mobile locations. For example, you can associate technicians with their vans.

## Templates for Service Reports

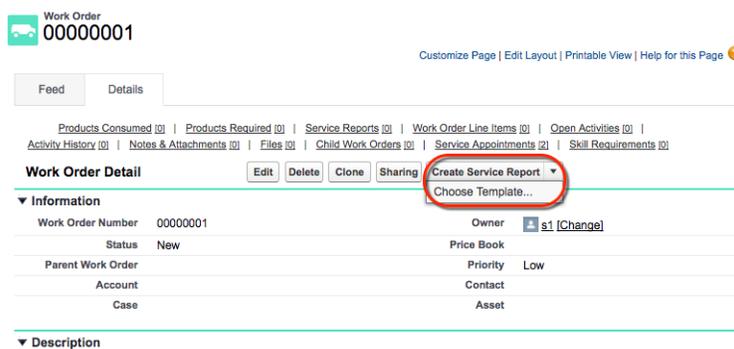
Help your technicians make your customers happy with fast service reports delivered to their inboxes. Technicians can capture signatures and finish appointments with service reports.

Our standard templates allow your technicians and dispatchers to create reports for work orders, work order line items, and service appointments and email them directly to the customer. You can create variations to meet the needs of your organization.

On the page layouts of Work Orders, Work Order Line Items, and Service Appointments, add the button **Create Service Report**.



Now technicians and dispatchers can access and send the reports from the object.



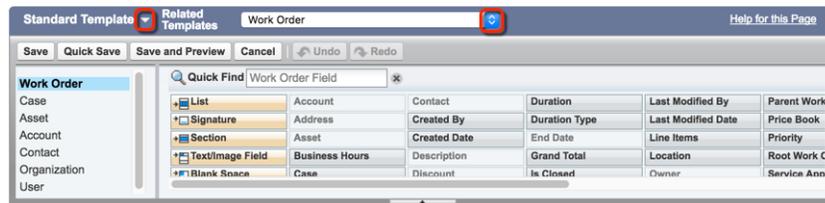
They can choose from the standard template for the object (work order, work order line item, or service appointment) or a custom one. The standard template has general account and contact information, details specific to the object, such as service appointment times, parts consumed, and customer and technician signatures.

The report is saved to its object detail page and, if selected, emailed to the customer.

You can adjust the standard template or create one according to your company's needs.

1. From Setup enter *Service Report* in the Quick Find box, then click **Service Report Templates** under Field Service.
2. Click **New** or **Edit** next to a report template you'd like to adjust.
3. If you are creating a template, select an existing template as its base and give it a name.
4. On the Service Report Template create page, add the fields to the appropriate sections.

You can also change templates and their related objects.



5. Click **Save**.

 **Note:** When you preview the report template, it shows the system administrator profile view. Depending on field-level security settings, other profiles may not see all fields. The data shown is simulated, except for images and rich text.

## Turn Off GPS Tracking at the User Profile Level

Need GPS tracking on for all your technicians except a few? Now you can turn off GPS tracking with a user profile.

If your org has tracking turned on at the org level, but a few technicians need it off, add the `Exclude Technician from Geolocation Tracking` permission on their user profile.

## Set Fields for Suggested Knowledge Articles

From the Field Service Settings page, you can set which fields on work orders and work order line items are used to suggest relevant articles.

1. From Setup enter *Field Service* in the Quick Find box, then select **Field Service Settings** under Field Service.
2. In the work order and work order line item field lists, select which fields you want the search engine to use when suggesting relevant articles from your knowledge base.
3. Click **Save**.

## Work Order Line Items Take Priority

You can prioritize the work order line items on your work orders so your dispatchers and technicians know which items to do first.

To set and view the status of a work order line item's priority, add the priority field to your work order line item page layout. Priority values are low, medium, high, and critical.

## Optimize Scheduling with the Field Service Lightning Managed Package

The Field Service Lightning managed package version 2.0 is available. The package builds on Salesforce's standard field service features to deliver a rich, highly customizable experience for dispatchers and technicians. You can download the package if you have the Service Cloud and a Field Service license.

The managed package comes with:

- **Scheduling and Optimization:** With a robust toolbox of work rules and scheduling policies, the scheduling engine optimizes resource assignments, considering skills, location, and your business objectives.
- **Dispatcher Console:** With appointment lists, scheduling actions, Gantt chart, and an interactive map, the console gives dispatchers and supervisors a bird's-eye view of all service appointments.
- **Administration App:** A one-stop-shop for integrating and maintaining scheduling policies, global actions, sharing tools, and optimization rules.
- **Automatic user permission setup and updates:** Set up your field service user permissions and keep them updated with the click of a button.

The Field Service Lightning Dispatcher Console lets dispatchers seamlessly manage and monitor your mobile workforce to improve the efficiency and productivity in the field. Now you can ensure that the right job is routed to the right mobile employee, and immediately see alerts for issues that need attention and take action. The Dispatcher Console helps you automatically schedule bulk jobs with just one click, and track and monitor the service delivery in real time on a map or Gantt chart to give you better visibility and control of what's happening in the field.

Version 2.0 has new features such as, Fix Overlaps, Fill-in Schedule, and Street Level Routing along with usability improvements. The Fix Overlaps feature identifies conflicting appointments and reschedules them accordingly. The Fill-in Schedule feature makes use of those last-minute cancellation gaps in your schedule so your mobile workforce isn't left twiddling their thumbs. Street Level Routing, which is in Beta, calculates more realistic travel times.

## CTI: Support in Lightning Console and the Final Goodbye to Desktop CTI

You can now use Open CTI in the new console in Lightning Experience. One of the Open CTI methods has a small behavior change. And finally, we say goodbye to Desktop CTI.

### IN THIS SECTION:

#### [Use Open CTI in Lightning Console Apps](#)

Last release we gave you Open CTI for Lightning Experience. This release we have even better news. You can now use Open CTI for Lightning Experience in Lightning console apps, including the Service Console.

#### [New Behavior for the Open CTI onNavigationChange Method](#)

The listener invoked by the `onNavigationChange` method now behaves differently depending on which type of app you're in—standard or console. This change applies to Lightning Experience only.

#### [Say Your Final Farewell to Desktop CTI](#)

The time has come. Desktop CTI, also known as the CTI Toolkit, has reached the end of its life. The Desktop CTI is no longer supported, and any adapters built on Desktop CTI will stop working (based on TLS 1.0 disablement). To continue using CTI functionality, migrate to Open CTI.

### EDITIONS

Available in: **Professional, Enterprise, Performance, Unlimited, and Developer Editions**

## Use Open CTI in Lightning Console Apps

Last release we gave you Open CTI for Lightning Experience. This release we have even better news. You can now use Open CTI for Lightning Experience in Lightning console apps, including the Service Console.

For more information, see the *Open CTI Developer Guide*.

### SEE ALSO:

[Open CTI Developer Guide: Why Your UI Matters](#)

[Open CTI Developer Guide: Methods for Lightning Experience](#)

## New Behavior for the Open CTI `onNavigationChange` Method

The listener invoked by the `onNavigationChange` method now behaves differently depending on which type of app you're in—standard or console. This change applies to Lightning Experience only.

In a standard Lightning app, the method registers a function that is called when a user navigates between browser tabs or windows and the document comes back into focus. If the document doesn't come back into focus, the listener isn't invoked. For example, the listener is invoked when a user navigates away from a browser tab and then comes back to the tab.

In a console Lightning app, the method registers a function that is called when a user navigates between primary tabs and subtabs in a console, or when the document comes back into focus when a user navigates between browser tabs or windows.

### SEE ALSO:

[Open CTI Developer Guide: onNavigationChange for Lightning Experience](#)

## Say Your Final Farewell to Desktop CTI

The time has come. Desktop CTI, also known as the CTI Toolkit, has reached the end of its life. The Desktop CTI is no longer supported, and any adapters built on Desktop CTI will stop working (based on TLS 1.0 disablement). To continue using CTI functionality, migrate to Open CTI.

### SEE ALSO:

[Knowledge Article: CTI Toolkit Retirement FAQ](#)

[Open CTI Developer Guide](#)

## Lightning Case Management

Resolving customer issues and managing cases in Lightning keeps getting better and better! This release provides a revamped compact case feed so that agents can quickly see the case progression. The Case Assignment checkbox is now visible on the case page layout so that agents can trigger assignment rules when creating and editing cases. These changes apply to Lightning Experience only.

### IN THIS SECTION:

[Compact Case Feed Gets a Makeover for Lightning Experience](#)

We've enhanced the compact case feed to make it easier for busy agents to quickly understand the case progression at a glance. This change applies to Lightning Experience only.

### EDITIONS

Available in: **Enterprise**,  
**Performance**, **Unlimited**,  
and **Developer** Editions

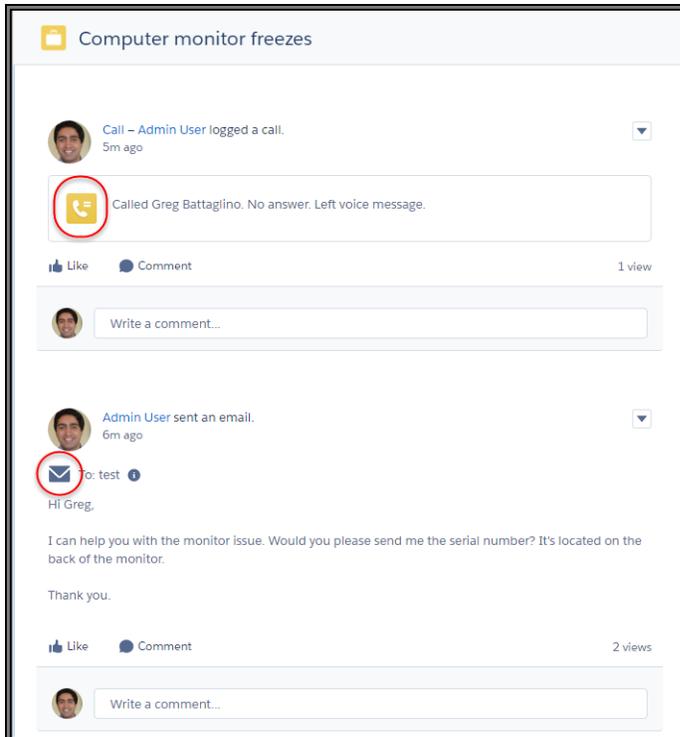
### Case Assignment Checkbox Visible in Lightning Experience

Support agents now can see the Case Assignment checkbox on new cases in Lightning Experience. This change applies to Lightning Experience only.

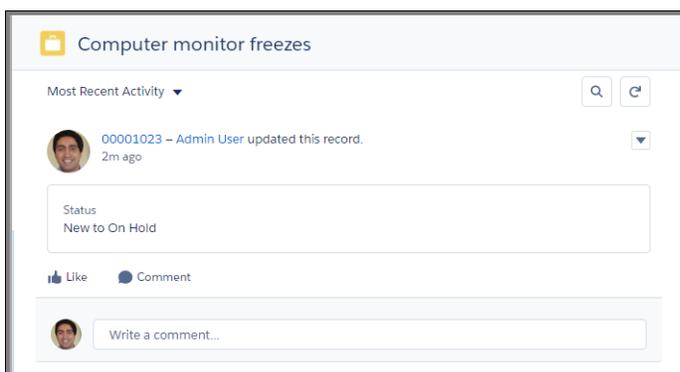
## Compact Case Feed Gets a Makeover for Lightning Experience

We've enhanced the compact case feed to make it easier for busy agents to quickly understand the case progression at a glance. This change applies to Lightning Experience only.

### Distinguish Feed Items at a Glance with Colorful Icons



### Quickly See What's Changed When Records Are Created or Updated



## Case Assignment Checkbox Visible in Lightning Experience

Support agents now can see the Case Assignment checkbox on new cases in Lightning Experience. This change applies to Lightning Experience only.

Previously, the Case Assignment Checkbox wasn't visible in Lightning Experience. To allow agents to trigger assignment rules manually when cases are created or edited, add the Case Assignment checkbox to the case layout page.

SEE ALSO:

[Salesforce Help: Guidelines for Using the Enhanced Page Layout Editor \(can be outdated or unavailable during release preview\)](#)

## Social Customer Service: Seamless Support

Use the Chatter REST API to set up Social Customer Service in your org, do and discover more on the social post detail page, reply and direct message with ease on the case feed, and connect your API enabled Professional edition org with Social Customer Service.

IN THIS SECTION:

### [Social Customer Service API Support](#)

Use the Chatter REST API to enable (or disable) Social Customer Service in your org, monitor your social accounts, get social network authorization information, retrieve a user's social accounts, and start social posts flowing.

### [Social Post Detail Page Just Got a Little More Detailed](#)

From a social post detail page you can, triage the post, view the available social accounts, click into the social handles, see the status of the post and, in the related list, click the title to see the post content.

### [Social Post Tab in Lightning](#)

Along with being available in Lightning, the Social Post tab has mass actions, allowing you to triage posts in bulk, icons to easily identify the provider, and a clickable Content field to see a post's content.

### [Get More Accomplished Without Leaving the Case Feed](#)

Now in Lightning Service Console, when you hit reply or retweet in a case feed, the social customer service publisher is activated and pre-populated.

### [Professional Edition Supported in Social Customer Service](#)

If you have an API enabled org, you can enable Social Customer Service.

## Social Customer Service API Support

Use the Chatter REST API to enable (or disable) Social Customer Service in your org, monitor your social accounts, get social network authorization information, retrieve a user's social accounts, and start social posts flowing.

New methods are available in the Chatter REST API to work with Social Customer Service.

- **readTermsOfService:** This method returns the terms of service URL, and information about who has accepted it. The Terms of Service must be accepted before using any other setup API endpoints. This method is exposed in Apex.
- **acceptTermsOfService:** This method accepts the terms of service. This method is exposed in Apex.
- **enableSocialCustomerService:** This method enables Social Customer Service in your org. This method is not exposed in Apex.
- **disableSocialCustomerService:** This method disables Social Customer Service from your org. This method is not exposed in Apex.
- **getSocialCustomerServiceConfig:** This method retrieves the current Social Customer Service configuration. This method is not exposed in Apex.
- **initializeSocialCustomerServiceConfig:** This method fills in any missing configuration values with acceptable defaults. Use this method if configuration values were deleted. This method is not exposed in Apex.
- **setSocialCustomerServiceConfig:** This method updates your Social Customer Service configuration with parameters. This method is not exposed in Apex.

- **getSocialNetworkAuthData:** This method returns you to the login URL for a social network after you've added an account for SCS to manage. This method must be used with the GET managed-social-accounts call.
- **getManagedSocialAccounts** This method retrieves a list of all the accounts and pages managed by a social network user. This method is not exposed in Apex.
- **ExternalSocialAccounts:** This method adds a user's pages and accounts as social accounts and starts the flow of inbound social posts for this account. This method is not exposed in Apex.

## Social Post Detail Page Just Got a Little More Detailed

From a social post detail page you can, triage the post, view the available social accounts, click into the social handles, see the status of the post and, in the related list, click the title to see the post content.

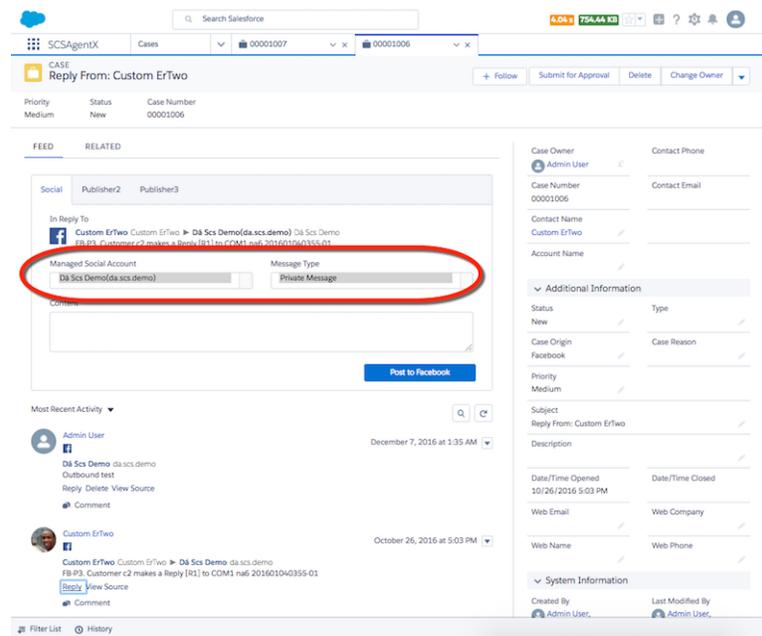
## Social Post Tab in Lightning

Along with being available in Lightning, the Social Post tab has mass actions, allowing you to triage posts in bulk, icons to easily identify the provider, and a clickable Content field to see a post's content.

## Get More Accomplished Without Leaving the Case Feed

Now in Lightning Service Console, when you hit reply or retweet in a case feed, the social customer service publisher is activated and pre-populated.

 **Note:** Automatic activation and pre-population is not available in Salesforce Mobile.



To direct-message a customer in Twitter, the customer must be following your social account.

## Professional Edition Supported in Social Customer Service

If you have an API enabled org, you can enable Social Customer Service.

## Omni-Channel: Supercharge Your Supervisors; Enjoy Increased Limits

Put real-time insights at your support supervisors' fingertips with Omni-Channel Supervisor (Generally Available). We've also raised Omni-Channel org limits, and you can set a default user or queue for to assign work to when your org reaches the limits. Plus, some notification sounds have been improved. This change applies to Salesforce Classic only.

### IN THIS SECTION:

#### [Omni-Channel Supervisor Is Generally Available](#)

Omni-Channel Supervisor brings real-time operational intelligence, all in a handy tab in the Salesforce Console. Information about your Omni-Channel agents, queues, and work is streamed live into the panel. Yes, you read that right: live. You see waiting times, open work, and more in real time. This change applies to Salesforce Classic only.

#### [Assign Overflow Work to a User or Queue](#)

You don't have to miss out on work that's created after your org reaches Omni-Channel limits. Set a user or queue to receive work until Omni-Channel is ready to use again. This change applies to Salesforce Classic only.

#### [Omni-Channel Org Limits Raised](#)

The Omni-Channel party continues as we "raise the roof" to 5,000 maximum queued work items per hour and 30,000 maximum pending routing requests. This change applies to Salesforce Classic only.

### EDITIONS

Available in: Salesforce Classic

Omni-Channel is available in: **Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

### [Ping! New Sounds for Request and Disconnect Notifications](#)

Your team might notice new notification sounds in Live Agent and Omni-Channel. Request (push) and disconnect sounds have changed, but incoming and outgoing chat sounds remain the same. This change applies to Salesforce Classic only.

## Omni-Channel Supervisor Is Generally Available

Omni-Channel Supervisor brings real-time operational intelligence, all in a handy tab in the Salesforce Console. Information about your Omni-Channel agents, queues, and work is streamed live into the panel. Yes, you read that right: live. You see waiting times, open work, and more in real time. This change applies to Salesforce Classic only.

Omni-Channel Supervisor updates continuously to reflect the latest data, so you always know how your support center's doing.

Supervisors can check the health of their call center using the Agents, Queues, and Work tabs. They can survey the landscape and see what's open and active, who's assigned to what, and other details, such as open capacities and average wait times for customers.

| AGENT           | STATUS                                 | ACTION        | TIME IN STATE | TIME SINCE LOGIN | TIME SINCE LAST ACCEPT | CHANNELS | ASSIGNED QUEUES  | WORK ITEMS | WORKLOAD | CAPACITY |
|-----------------|--|---------------|---------------|------------------|------------------------|----------|--|------------|----------|----------|
| Agent Awesome   | Online<br>since Aug 5, 2016 2:57:02 PM | Change Status | 16 s          | 16 s             | 16 s                   | ★ 🗨️ 📄   | Case Queue, Order Queue                                | 1          | 1 / 1    | 100%     |
| Agent Casey     | Online<br>since Aug 5, 2016 2:57:07 PM | Change Status | 12 s          | 12 s             | --                     | ★ 🗨️ 📄   | Case Queue, Order Queue                                | 0          | 0 / 1    | 0%       |
| Agent Colleen   | Online<br>since Aug 5, 2016 2:57:06 PM | Change Status | 13 s          | 13 s             | 12 s                   | ★ 🗨️ 📄   | Case Lead Queue, Case Queue, Order Queue               | 1          | 1 / 1    | 100%     |
| Agent Kumar     | Online<br>since Aug 5, 2016 2:57:05 PM | Change Status | 14 s          | 14 s             | --                     | ★ 🗨️ 📄   | Case Lead Queue, Order Queue                           | 0          | 0 / 1    | 0%       |
| Agent Nicholas  | Online<br>since Aug 5, 2016 2:57:01 PM | Change Status | 18 s          | 18 s             | 18 s                   | ★ 🗨️ 📄   | Case Lead Queue, Order Queue                           | 1          | 1 / 1    | 100%     |
| Agent Scott     | Online<br>since Aug 5, 2016 2:57:08 PM | Change Status | 11 s          | 11 s             | --                     | ★ 🗨️ 📄   | Hybrid Queue, Order Queue                              | 0          | 0 / 1    | 0%       |
| Agent Super     | Online<br>since Aug 5, 2016 2:57:04 PM | Change Status | 15 s          | 15 s             | --                     | ★ 🗨️ 📄   | Hybrid Queue, Order Queue                              | 0          | 0 / 1    | 0%       |
| Agent Ted       | Online<br>since Aug 5, 2016 2:57:09 PM | Change Status | 10 s          | 10 s             | --                     | ★ 🗨️ 📄   | Hybrid Queue, Order Queue                              | 0          | 0 / 1    | 0%       |
| Nicolas d'André | Online<br>since Aug 5, 2016 2:57:01 PM | Change Status | 18 s          | 18 s             | 16 s                   | ★ 🗨️ 📄   | Case Lead Queue, Case Queue, Hybrid Queue, Order Queue | 2          | 2 / 3    | 67%      |
| Super Awesome   | Online<br>since Aug 5, 2016 2:57:04 PM | Change Status | 14 s          | 14 s             | 14 s                   | ★ 🗨️ 📄   | Case Lead Queue, Hybrid Queue, Order Queue             | 1          | 1 / 1    | 100%     |

Plus, they can drill down for more detail about a specific agent, work, or queue, or take a look at the agent timeline for a more visual way of checking up on their team.

The screenshot shows the 'Agent Timeline' for 'Super Awesome' on August 5, 2016. The interface includes a search bar, navigation tabs (Agents, Queues, Work), and a status bar showing 'Online since Aug 10, 2016 11:18:21 AM' and 'Current Capacity: 0 / 1'. The timeline shows several work items, including 'Case Closed' items at 2:54 PM, 2:59 PM, 3:11 PM, 3:13 PM, and 3:16 PM. A 'Case' popup is displayed over the 2:59 PM item, showing details like 'Contact Name', 'Status: New', 'Case Origin: Web', 'Priority: Medium', 'Subject: My router is not working', and 'Description'.

In every tab, they can use sorting and filtering to focus what's on the screen and get what they need faster.

The screenshot shows the 'Agent Summary' tab with a table of agents. The table has columns for Agent, Status, Action, Time in State, Time since Login, Time since Last Accept, Channels, Assigned Queues, Work Items, Workload, and Capacity. The 'Status' column has a dropdown menu open showing 'Online', 'Busy', and 'All'. The 'Time since Last Accept' column is highlighted with a red box.

| AGENT           | STATUS | ACTION        | TIME IN STATE | TIME SINCE LOGIN | TIME SINCE LAST ACCEPT | CHANNELS | ASSIGNED QUEUES  | WORK ITEMS | WORKLOAD | CAPACITY |
|-----------------|--------|---------------|---------------|------------------|------------------------|----------|--|------------|----------|----------|
| Agent Casey     | Online | Change Status | 1 min 30 s    | 1 min 30 s       | --                     | ★ 🗨 📧    | Case Queue, Order Queue                                | 0          | 0 / 1    | 0%       |
| Agent Ted       | Online | Change Status | 1 min 28 s    | 1 min 28 s       | 1 min 27 s             | ★ 🗨 📧    | Hybrid Queue, Order Queue                              | 1          | 1 / 1    | 100%     |
| Agent Scott     | Online | Change Status | 1 min 29 s    | 1 min 29 s       | 1 min 29 s             | ★ 🗨 📧    | Hybrid Queue, Order Queue                              | 1          | 1 / 1    | 100%     |
| Agent Colleen   | Online | Change Status | 1 min 31 s    | 1 min 31 s       | 1 min 31 s             | ★ 🗨 📧    | Case Lead Queue, Case Queue, Order Queue               | 1          | 1 / 1    | 100%     |
| Agent Kumar     | Online | Change Status | 1 min 32 s    | 1 min 32 s       | 1 min 32 s             | ★ 🗨 📧    | Case Lead Queue, Order Queue                           | 1          | 1 / 1    | 100%     |
| Super Awesome   | Online | Change Status | 1 min 33 s    | 1 min 33 s       | 1 min 32 s             | ★ 🗨 📧    | Case Lead Queue, Hybrid Queue, Order Queue             | 1          | 1 / 1    | 100%     |
| Agent Super     | Online | Change Status | 1 min 34 s    | 1 min 34 s       | 1 min 33 s             | ★ 🗨 📧    | Hybrid Queue, Order Queue                              | 1          | 1 / 1    | 100%     |
| Nicolas d'André | Online | Change Status | 1 min 36 s    | 1 min 36 s       | 1 min 34 s             | ★ 🗨 📧    | Case Lead Queue, Case Queue, Hybrid Queue, Order Queue | 3          | 3 / 3    | 100%     |
| Agent Nicholas  | Online | Change Status | 1 min 36 s    | 1 min 36 s       | 1 min 35 s             | ★ 🗨 📧    | Case Lead Queue, Order Queue                           | 1          | 1 / 1    | 100%     |

SEE ALSO:

[Salesforce Help: Omni-Channel Supervisor \(can be outdated or unavailable during release preview\)](#)

## Assign Overflow Work to a User or Queue

You don't have to miss out on work that's created after your org reaches Omni-Channel limits. Set a user or queue to receive work until Omni-Channel is ready to use again. This change applies to Salesforce Classic only.

You set the Overflow Assignee in your Routing Configuration. Make sure that:

- The user or queue you set has access to the object types that the Omni-Channel queue handles
- All Omni-Channel queues in a bulk operation (such as changing the status or owner for multiple requests) use a routing configuration with an overflow assignee

Overflow assignment doesn't work if these conditions aren't met.

## Omni-Channel Org Limits Raised

The Omni-Channel party continues as we "raise the roof" to 5,000 maximum queued work items per hour and 30,000 maximum pending routing requests. This change applies to Salesforce Classic only.

SEE ALSO:

[Salesforce Help: Salesforce Features and Edition Limits \(can be outdated or unavailable during release preview\)](#)

## Ping! New Sounds for Request and Disconnect Notifications

Your team might notice new notification sounds in Live Agent and Omni-Channel. Request (push) and disconnect sounds have changed, but incoming and outgoing chat sounds remain the same. This change applies to Salesforce Classic only.

## Live Agent: Route Chats on Omni-Channel, and Enjoy Updated Chat Transcripts and Features

Like other Omni-routed work, Live Agent chats routed with Omni-Channel can be sized and prioritized by queue, and the Live Chat Transcript is created when the chat's requested. Plus, customers can save chat transcripts on iOS, chats now display live hyperlinks, and some notification sounds have been improved. This change applies to Salesforce Classic only.

IN THIS SECTION:

### [Omni-Channel Routing for Chats is Generally Available](#)

Route Live Agent chats with Omni-Channel to prioritize and size chats alongside other work and take advantage of Omni-Channel's powerful routing system. This change applies to Salesforce Classic only.

### [Page Layouts for Active, Waiting, and Ended Chat Transcripts](#)

For chats routed with Omni-Channel, the Live Chat Transcript covers the entire chat lifecycle, starting from the chat request. You can customize page layouts based on the chat's state: Waiting, Active, or Ended. That way, your support staff has just the information they need at each phase of the chat. This change applies to Salesforce Classic only.

### [Customize Your Default Sidebar Lookup Component](#)

A default sidebar lookup component for the Salesforce Console is now created for you when you create your first **Omni** chat button. This change applies to Salesforce Classic only.

### EDITIONS

Available in: Salesforce Classic

Live Agent is available in: **Performance** Editions and in **Developer** Edition orgs that were created after June 14, 2012

Live Agent is available in: **Unlimited** Edition with the Service Cloud

Live Agent is available for an additional cost in: **Enterprise** and **Unlimited** Editions

### Customers Can Save Transcripts on iOS

Your customers can now save the chat transcript on iOS devices when the chat has ended. They click **Save Chat** to open the transcript in the Notes app. Then, they can save their transcript in Notes or copy-and-paste to move the text somewhere else. This change applies to Salesforce Classic only.

### Use Clickable Links in Your Chats

Sometimes customers want to share the web page or Knowledge article they're viewing with their agent. Your agents are busy enough—they don't have time to copy and paste. The links that your customers share in a chat now appear as hyperlinks for the agent in both the chat and the chat transcript. Previously, hyperlinks were available only for chats sent from agents to customers. This change applies to Salesforce Classic only.

### Ping! New Sounds for Request and Disconnect Notifications

Your team might notice new notification sounds in Live Agent and Omni-Channel. Request (push) and disconnect sounds have changed, but incoming and outgoing chat sounds remain the same. This change applies to Salesforce Classic only.

## Omni-Channel Routing for Chats is Generally Available

Route Live Agent chats with Omni-Channel to prioritize and size chats alongside other work and take advantage of Omni-Channel's powerful routing system. This change applies to Salesforce Classic only.

Instead of using Skills to route chats to the best-fit agent, select **Omni** as your button's routing type and use your Omni-Channel queues instead. With Omni-Channel routing, your chats are prioritized relative to each other and to your other channels. Plus, you can change the size and priority of your chats by updating the routing configuration settings for your chat queues.

And there's even more to love with Omni-Channel routing for chats, including consolidated notifications for chat agents, more reporting options using Agent Work, and Omni-Channel Supervisor for chat supervisors.

SEE ALSO:

[Salesforce Help: Compare Live Agent and Omni-Channel Routing for Chats \(can be outdated or unavailable during release preview\)](#)

## Page Layouts for Active, Waiting, and Ended Chat Transcripts

For chats routed with Omni-Channel, the Live Chat Transcript covers the entire chat lifecycle, starting from the chat request. You can customize page layouts based on the chat's state: Waiting, Active, or Ended. That way, your support staff has just the information they need at each phase of the chat. This change applies to Salesforce Classic only.

The page layouts are created automatically when you create your first **Omni** chat button, so all you have to do is customize and assign them.

## Customize Your Default Sidebar Lookup Component

A default sidebar lookup component for the Salesforce Console is now created for you when you create your first **Omni** chat button. This change applies to Salesforce Classic only.

For chats routed through Omni-Channel, attached records move from the paper clip to the chat transcript. Customize the default sidebar lookup component to make it even easier for agents to attach records to the chat transcript.

1. From Setup, enter *Live Agent* in the **Quick Find** box, then select **Live Chat Transcripts > Page Layouts**.
2. Click **Edit** next to the Live Chat Transcript (In Progress) Page Layout.
3. Click **Custom Console Components**.

4. Under Primary Tab Components, adjust your objects and settings. Don't move the component to the left sidebar, because chats appear on the left side.
5. Click **Save**.

## Customers Can Save Transcripts on iOS

Your customers can now save the chat transcript on iOS devices when the chat has ended. They click **Save Chat** to open the transcript in the Notes app. Then, they can save their transcript in Notes or copy-and-paste to move the text somewhere else. This change applies to Salesforce Classic only.

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Sometimes customers want to share the web page or Knowledge article they're viewing with their agent. Your agents are busy enough—they don't have time to copy and paste. The links that your customers share in a chat now appear as hyperlinks for the agent in both the chat and the chat transcript. Previously, hyperlinks were available only for chats sent from agents to customers. This change applies to Salesforce Classic only.

## Ping! New Sounds for Request and Disconnect Notifications

Your team might notice new notification sounds in Live Agent and Omni-Channel. Request (push) and disconnect sounds have changed, but incoming and outgoing chat sounds remain the same. This change applies to Salesforce Classic only.

## Snap-ins for Web: Bring the Power of Service Cloud Components to Your Website

Ever wish you could add nifty Service Cloud features like chat directly to your website or to a mobile browser? Snap-ins let you embed Service Cloud components into your web pages so that you can provide contextual support to your customers.

### EDITIONS

Available in: **Enterprise**, **Performance**, **Unlimited**, and **Developer** Editions

### IN THIS SECTION:

#### [Snap-ins Chat Graduates from Beta to Generally Available](#)

Snap-ins Chat is ready for prime time! It now provides key customization features. You can customize the pre-chat form based on your company's needs. You can also customize the colors and font used in the chat widget so that the chat experience reflects your company's branding and image.

#### [Customize the Snap-ins Pre-Chat Form to Provide a Seamless Experience for Your Customers](#)

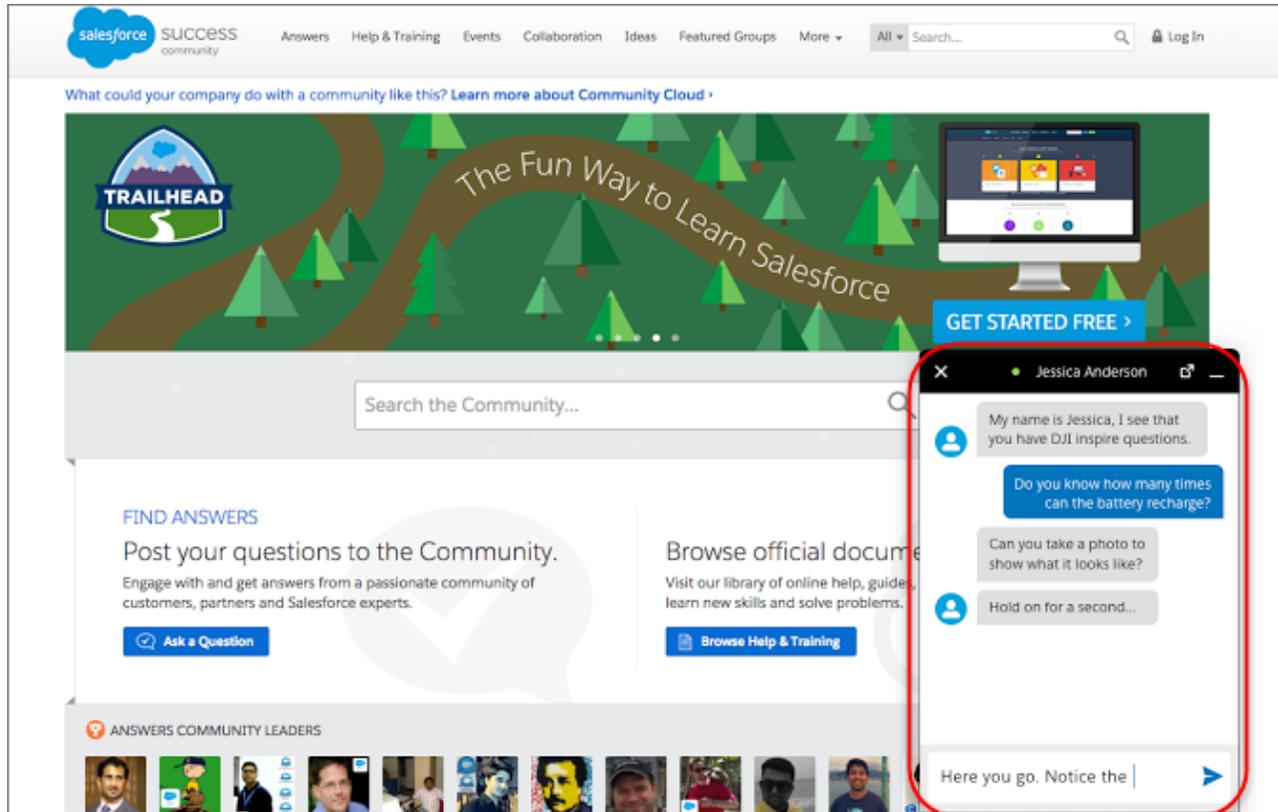
Create a pre-chat form that addresses your different business needs and associates customer information with Salesforce records, like leads, cases, and contacts. You can also customize the fields used on the form.

#### [Customize Your Snap-ins Chat Widget to Reflect Your Company's Brand](#)

Specify your company's primary and accent colors so that the Snap-ins chat button and widget match your company's branding and image. Select the chat body text font to reflect your branding.

## Snap-ins Chat Graduates from Beta to Generally Available

Snap-ins Chat is ready for prime time! It now provides key customization features. You can customize the pre-chat form based on your company's needs. You can also customize the colors and font used in the chat widget so that the chat experience reflects your company's branding and image.



- ✔ **Note:** Administrators must use Lightning Experience to access the Snap-ins Chat setup pages. However, other users in the org aren't required to have access to or use Lightning Experience with Snap-ins Chat.
- ! **Important:** If you used the Snap-ins Chat beta, upgrade your Snap-ins Chat deployment so that you can use the pre-chat form and enjoy the improvements to Snap-ins Chat.

SEE ALSO:

- [Knowledge Article: Upgrade Snap-ins Chat from Beta to GA \(can be outdated or unavailable during release preview\)](#)
- [Salesforce Help: Snap-ins Chat \(can be outdated or unavailable during release preview\)](#)
- [Salesforce Help: Set Up Snap-ins Chat for Your Website \(can be outdated or unavailable during release preview\)](#)

## Customize the Snap-ins Pre-Chat Form to Provide a Seamless Experience for Your Customers

Create a pre-chat form that addresses your different business needs and associates customer information with Salesforce records, like leads, cases, and contacts. You can also customize the fields used on the form.

**Associate Sales Inquiries with Lead Records**

If customers use chat to ask questions about sales, design a form that gathers customer contact information and relates it to leads in Salesforce.

**Associate Service Inquiries with Cases and Contacts Records**

If customers use chat for service inquiries, design a pre-chat form that creates cases and contacts so that agents can easily resolve customer issues.

**Associate Other Inquiries with Contacts Records**

If customers use chat for other requests, design a form that creates only contacts based on the customer information so that the right department can follow up.

| RECORD  | FIELDS    | REQUIRED                            |
|---------|-----------|-------------------------------------|
| Contact | Full Name | ✓                                   |
|         | Email     | <input checked="" type="checkbox"/> |
| Case    | Subject   | <input type="checkbox"/>            |

Customize the fields displayed in the pre-chat form:

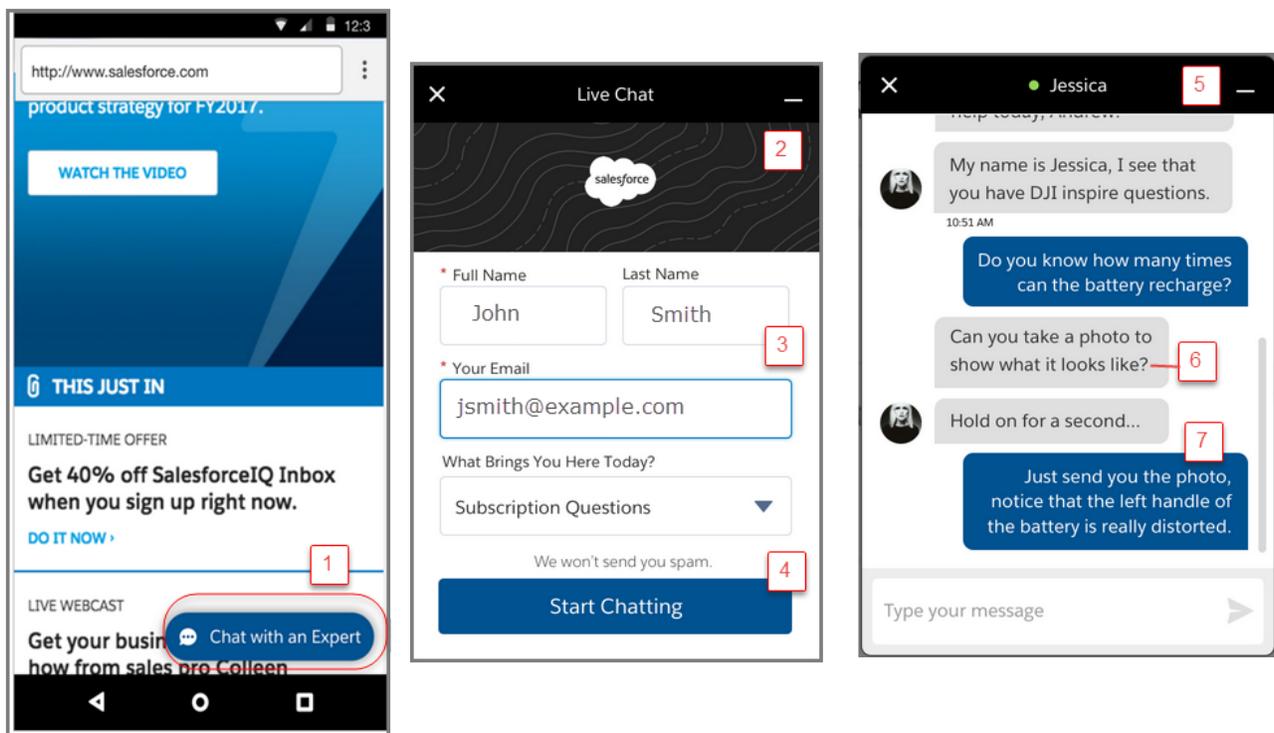
1. Make field required. If Salesforce requires a field to create a record, then the field is automatically required.
2. Move fields up and down.
3. Add or remove fields from the form. If Salesforce requires a field to create a record, then you can't delete the field.

SEE ALSO:

[Salesforce Help: Customize the Pre-Chat Form \(can be outdated or unavailable during release preview\)](#)

## Customize Your Snap-ins Chat Widget to Reflect Your Company's Brand

Specify your company's primary and accent colors so that the Snap-ins chat button and widget match your company's branding and image. Select the chat body text font to reflect your branding.



You can customize the appearance of many elements of the Snap-ins Chat widget, including:

1. Call to Action button colors, like "Chat with an Expert"
2. Pre-chat form image backdrop color
3. Input field focus color
4. Start Chat button color
5. Navigation bar color
6. Chat text font

## 7. Chat text color

### SEE ALSO:

[Salesforce Help: Customize the Branding and Appearance of Your Snap-ins Chat Widget \(can be outdated or unavailable during release preview\)](#)

## Snap-ins for Mobile Apps

We've added some great features to our Snap-ins SDKs for iOS and Android to make your mobile apps even better. With case deflection, solve your users' problems before they even need to create cases. Build knowledge bases customized for specific user profiles so that users get the right information for their needs. We've also improved Live Agent Chat and SOS so that you can provide even better real-time support to your customers.

The iOS and Android SDKs are both generally available. They provide features for Knowledge, Case Management, Live Agent Chat, and SOS.

To learn more, visit the [Snap-ins for Mobile Apps](#) site.

### EDITIONS

Available in: **Enterprise**, **Unlimited**, and **Developer Editions**

## Other Changes in Service Cloud

Learn about other changes we've made in the Service Cloud.

### IN THIS SECTION:

#### [Web-to-Case: Thwart Spammers with reCAPTCHA](#)

Add reCAPTCHA to your Web-to-Case form to make it easy for customers to contact your company while making it difficult for spambots to waste service agents' time. The reCAPTCHA widget requires customers to select a checkbox before they can create a case. Enabling spam filtering lets customer service agents focus on resolving real customer issues, and not on spam cases. This change applies to both Lightning Experience and Salesforce Classic.

#### [Automatically Assign Cases to Queues When Customers Submit Cases via Email-to-Case](#)

Automatically assign cases to support queues when customers submit cases using Email-to-Case, so that service agents can quickly triage and respond to new cases. When you configure an Email-to-Case routing address, select a queue to assign cases to. This change applies to both Lightning Experience and Salesforce Classic.

#### [Call Center App Gets a New Name](#)

To better align with the future direction of the Service Cloud, we've renamed the Call Center app to Service. You can access this app in Salesforce Classic using the app menu and in Lightning Experience using the App Launcher.

#### [Chatter Answers Retires in Winter '18](#)

Start planning that retirement party for Chatter Answers! After years of faithful service helping users find answers to their pressing questions, Chatter Answers is calling it quits in Winter '18. Salesforce will no longer support Chatter Answers, and users of Chatter Answers will no longer be able to post, answer, comment, or view any of the existing Chatter Answers data. Chatter Answers is passing the torch to Chatter Questions, an eager young thing ready to take up the self-service mantle.

#### [Lightning for Outlook and Lightning for Gmail \(Beta\) Welcome Service Cloud Customers](#)

In this release, we extend support for Lightning for Outlook and Lightning for Gmail to customers with Service Cloud licenses.

## Web-to-Case: Thwart Spammers with reCAPTCHA

Add reCAPTCHA to your Web-to-Case form to make it easy for customers to contact your company while making it difficult for spambots to waste service agents' time. The reCAPTCHA widget requires customers to select a checkbox before they can create a case. Enabling spam filtering lets customer service agents focus on resolving real customer issues, and not on spam cases. This change applies to both Lightning Experience and Salesforce Classic.

### EDITIONS

Available in: Salesforce Classic and Lightning Experience

Available in: **Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

Thanks for contacting Customer Support. Please provide your contact info and a description of the problem, and a support agent will contact you.

Contact Name

Email

Phone

Product

Description

I'm not a robot  reCAPTCHA  
Privacy - Terms

SEE ALSO:

[External Link: Google reCAPTCHA](#)

[Salesforce Help: Generate Web-to-Case HTML Code](#) (can be outdated or unavailable during release preview)

## Automatically Assign Cases to Queues When Customers Submit Cases via Email-to-Case

Automatically assign cases to support queues when customers submit cases using Email-to-Case, so that service agents can quickly triage and respond to new cases. When you configure an Email-to-Case routing address, select a queue to assign cases to. This change applies to both Lightning Experience and Salesforce Classic.

When you assign cases to a user or queue via the routing address, your selection overrides the default case owner that's specified on the Support Settings page.

Previously, assigning cases to queues was supported only for Outlook routing addresses, not for Email-to-Case routing addresses.

### EDITIONS

Available in: **Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

**SETUP**  
Email-to-Case

## Email-to-Case Routing Information Help for this Page ?

**Email Address Edit**

**Routing Information** ! = Required Information

Source: Email2Case

Routing Name:

Email Address:

**Email Settings**

Save Email Headers:  i

Accept Email From:

**Task Settings**

Create Task from Email:  i

Task Status:  i

**Case Settings**

Case Owner:   i

Case Priority:

Case Origin:

**SEE ALSO:**

[Salesforce Help: Configure Routing Addresses for Email-to-Case and On-Demand Email-to-Case \(can be outdated or unavailable during release preview\)](#)

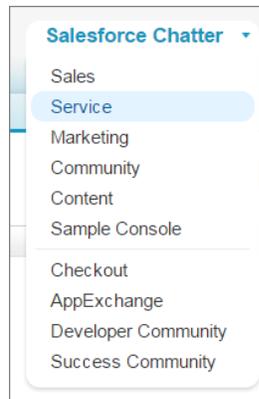
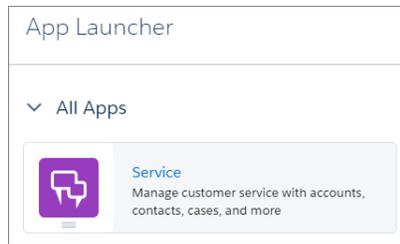
[Salesforce Help: Routing Address Settings for Email-to-Case and On-Demand Email-to-Case \(can be outdated or unavailable during release preview\)](#)

## Call Center App Gets a New Name

To better align with the future direction of the Service Cloud, we've renamed the Call Center app to Service. You can access this app in Salesforce Classic using the app menu and in Lightning Experience using the App Launcher.

In Lightning Experience:

In Salesforce Classic:



## Chatter Answers Retires in Winter '18

Start planning that retirement party for Chatter Answers! After years of faithful service helping users find answers to their pressing questions, Chatter Answers is calling it quits in Winter '18. Salesforce will no longer support Chatter Answers, and users of Chatter Answers will no longer be able to post, answer, comment, or view any of the existing Chatter Answers data. Chatter Answers is passing the torch to Chatter Questions, an eager young thing ready to take up the self-service mantle.

SEE ALSO:

[Knowledge Article: Chatter Answers Retirement FAQ](#)

## Lightning for Outlook and Lightning for Gmail (Beta) Welcome Service Cloud Customers

In this release, we extend support for Lightning for Outlook and Lightning for Gmail to customers with Service Cloud licenses.

SEE ALSO:

[Salesforce Help: Lightning for Outlook: Set Up Sales Reps to Experience Salesforce from Microsoft® Outlook® \(can be outdated or unavailable during release preview\)](#)

## Analytics: Lightning Enhancements, One-Stop Data Manager, Personal Wave Home, New Charts, and More

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Drive decisions with insights from reports and dashboards and Wave Analytics. Lightning Experience reports and dashboards offer report subscriptions, dashboard sharing and following, and chart enhancements. Wave gets personal with one-stop shopping in Data Manager, the new personalized Wave home page, custom app navigation, new chart types, and much more.

IN THIS SECTION:

[Reports and Dashboards: Better Interaction with Your Data](#)

Lightning Experience gets even better with report subscriptions, better Chatter integration for dashboards, new funnel and scatter charts, other enhancements.

### Wave Analytics: Easier, Personal Insights

Wave gets personal, with more of what you need to quickly get insights from your data. Data prep is your recipe for success for data integration. The new Wave home brings personalized analytics to you with pinned apps and notifications. Create custom navigation within apps, and annotate dashboards in presentation mode. Enjoy the many enhancements to creating Wave assets, like bubble charts, pivot tables, and connected datasets, plus new features for trend in Wave, like scheduling.

### Einstein Data Discovery: Find and Explain Insights in Your Data

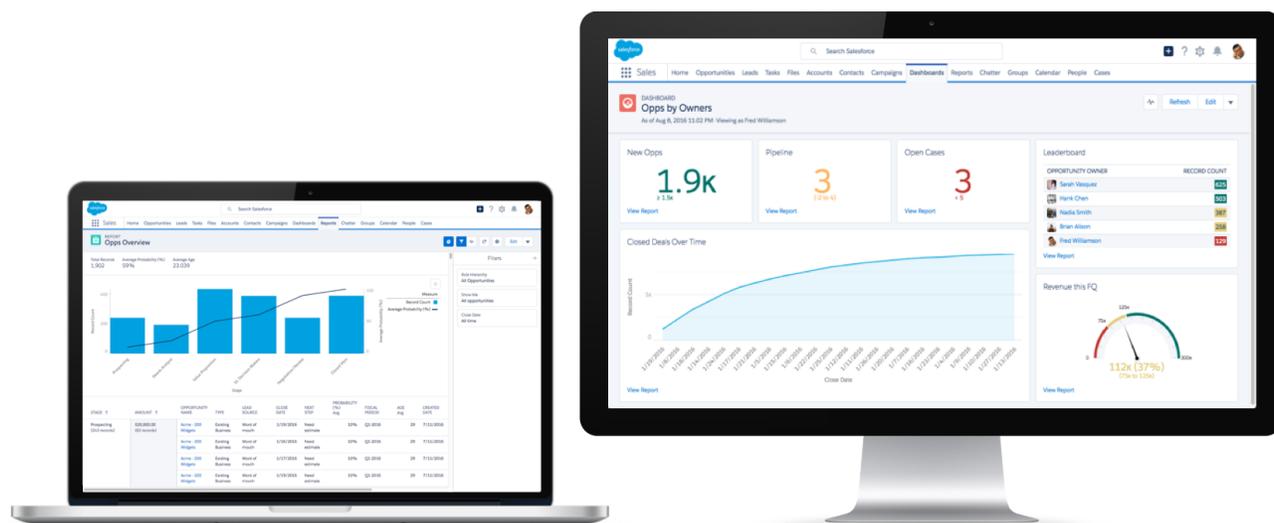
Einstein Data Discovery discovers relevant facts and themes in your data without you having to build sophisticated software and statistical models. When it has finished analyzing your data, Einstein Data Discovery generates unbiased answers, explanations, and recommendations to learn what, why, and how to act on it. It presents results in a way that is easy for business users to understand. Now anyone can tap into the power of data science and do statistical and predictive analytics.

## Reports and Dashboards: Better Interaction with Your Data

Lightning Experience gets even better with report subscriptions, better Chatter integration for dashboards, new funnel and scatter charts, other enhancements.

### EDITIONS

Available in: **Group, Professional, Enterprise, Performance, Unlimited, and Developer** Editions



### IN THIS SECTION:

#### Subscribe to Reports in Lightning Experience

You know that report you check when you arrive in the office every Monday morning? Why not have it emailed to you every Monday at 8:00 AM instead? Subscribe to up to five reports and receive refreshed report results by email on a schedule you set: daily, weekly, or monthly. Report subscriptions in Lightning Experience are available within seven days of the Spring '17 release. This feature is new in Lightning Experience.

### [Filter Reports via URL Parameters in Lightning Experience](#)

No need to futz with filters! Pass URL parameters to set filter values in Lightning Experience reports. When linking to reports or when bookmarking a report, add filter value parameters to the URL to customize how the report filters when opened. For example, bookmark your opportunities report and add a filter value parameter to specify whether you see *New Business* or *Existing Business*. This feature is new in Lightning Experience.

### [View Dashboards as Other People in Lightning Experience](#)

Say that your sales people can only view their own opportunities, but you'd like to review all opportunities closed in the last quarter. Create a dashboard and let people view the dashboard as you (or anyone else who can see all opportunities). When your sales people open the dashboard, they see info about all opportunities instead of only their opportunities. Their data access in Salesforce remains unchanged. They can only see more data in your dashboard. This feature is new in Lightning Experience.

### [Share Dashboard Charts by Posting Them to Chatter in Lightning Experience](#)

Start the conversation by sharing images of dashboard charts on Chatter. This feature is new in Lightning Experience.

### [Expand Dashboard Components to Get the Big Picture in Lightning Experience](#)

Open a dashboard component in a window so you can see all the details. This feature is new in Lightning Experience.

### [Follow Dashboards in Lightning Experience](#)

Instead of regularly opening a dashboard to take note of changes, follow a dashboard to get updates in your Chatter feed. After you enable feed tracking on dashboards, your users can follow dashboards by opening one up and clicking **Follow**. This feature is new in Lightning Experience.

### [Move Dashboards Between Folders in the Lightning Experience Dashboard Builder](#)

If your org is using Enhanced Analytics Folder Sharing for Reports and Dashboards, folders govern who has access to the reports and dashboards saved inside. (If your org was created after the Summer '13 Salesforce release, you already have Enhanced Analytics Folder Sharing.) To move a dashboard from one folder to another, open the Properties menu in the Lightning Experience Dashboard Builder. This feature is new in Lightning Experience.

### [Add Funnel and Scatter Charts to Lightning Experience Dashboards](#)

We've made funnel and scatter charts available in the dashboard component editor. Add a funnel chart to show relative measured amounts by stage. For example, funnel charts are ideal for showing how opportunities move through stages. Add a scatter chart to display one or two groupings of report data plus summaries. Scatter charts are useful for identifying trends across large datasets. This feature is new in Lightning Experience.

### [External Object Reports Have Fewer Limitations](#)

We removed some previous limitations, hopefully before you even encountered them. The improvements affect reports that include external object relationships or use the cross-org adapter for Salesforce Connect. This change applies to both Lightning Experience and Salesforce Classic.

### [Other Enhancements to Reports and Dashboards in Lightning Experience](#)

In addition to this release's major features, we've made some small-but-notable improvements to Reports and Dashboards. These changes apply to Lightning Experience only.

## Subscribe to Reports in Lightning Experience

You know that report you check when you arrive in the office every Monday morning? Why not have it emailed to you every Monday at 8:00 AM instead? Subscribe to up to five reports and receive refreshed report results by email on a schedule you set: daily, weekly, or monthly. Report subscriptions in Lightning Experience are available within seven days of the Spring '17 release. This feature is new in Lightning Experience.

To start a report subscription, open a report and click **Subscribe**. Specify when to receive the report, and then go about your business. When you need the report data, it's waiting for you in your inbox.

### USER PERMISSIONS

To subscribe to reports in Lightning Experience:

- "Run Reports"

AND

"Subscribe to Reports"

The screenshot shows the Salesforce Reports interface. A report titled "Opp Overview" is displayed in the background. The report table has columns for "TYPE", "LEAD SOURCE", and "AMOUNT Sum". The "TYPE" column lists "Existing Business" for all rows. The "LEAD SOURCE" column lists "Word of mouth" for all rows. The "AMOUNT Sum" column shows values such as \$20,000.00, \$40,000.00, \$70,000.00, and \$20,000.00. A summary row at the bottom shows "Total Records: 129", "Total Amount: \$10,000,000.00", and "Average Amount: \$50,000.00".

An "Edit Subscription" dialog box is open in the foreground. It has a title bar with a close button (X). The dialog contains the following fields:

- Schedule**
  - Frequency: Radio buttons for "Daily", "Weekly" (selected), and "Monthly".
  - Days: A row of buttons for "Su", "M" (selected), "Tu", "W", "Th", "F", and "Sa".
  - Time (America/Los Angeles): A dropdown menu showing "10:00 PM".
- Text: "After subscribing, you'll receive refreshed report results by email."
- Buttons: "Cancel" and "Save".

The background report table also includes a "Filters" panel on the right side with options like "Show Me My opportunities" and "Close Date All time".

SEE ALSO:

[Reports and Dashboards](#)

## Filter Reports via URL Parameters in Lightning Experience

No need to futz with filters! Pass URL parameters to set filter values in Lightning Experience reports. When linking to reports or when bookmarking a report, add filter value parameters to the URL to customize how the report filters when opened. For example, bookmark your opportunities report and add a filter value parameter to specify whether you see *New Business* or *Existing Business*. This feature is new in Lightning Experience.

Periodically throughout your day you check your opportunities report, and after opening it, you always edit a filter to show New Business or Existing Business. (The Type filter includes both New Business and Existing Business by default.)

Instead of loading the report, editing the filter, and reloading the report, create two bookmarks. One with a filter value parameter for New Business, and one with a filter value parameter for Existing Business. Take note of the opportunities report URL.

```
https://na1.salesforce.com/one/one.app#/sObject/00OR000000PCHYMA4/view?t=1479844235107
```

Edit the URL to set the Type filter value to New Business by appending the parameter `&fv0=New%20Business`. The full, bookmarked URL reads:

```
https://na1.salesforce.com/one/one.app#/sObject/00OR000000PCHYMA4/view?t=1479844235107&fv0=New%20Business
```

Let's take a closer look at what the parameter means.

- `&` — Denotes a new parameter in the URL. If no other parameters are present in the URL, then substitute `?` in place of `&`.
- `fv0` — The `fv` stands for "filter value," and is the name of the parameter. The `0` is the numerical order in which the filter appears in the report. (The first filter is 0, the second filter is 1, the third is 2, and so forth.) Standard filters don't count in this order, and can't be filtered using URL parameters, although they appear as the first three filters on any report. To set the value of the fifth filter in the report, specify `fv4`. In our example, we're filtering the first field filter in the report, the Type filter.

The order in which filters appear in Lightning Experience on the report run page isn't necessarily the order that filters appear in the report. Locked filters are listed beneath unlocked filters on the run page, but aren't necessarily ordered after all the unlocked filters. To see the order of filters in your report, refer to their order in the Report Builder. Alternatively, make a GET call to `/services/data/v39.0/analytics/reports/<report ID>/describe` and note their order in the JSON response.

- `=New%20Business` — Specifies that the Type filter value is New Business.

The parameter value must be URI encoded, which means certain characters (such as spaces) must be written in a format that URLs can understand. In our example, the space (`'`) between "New" and "Business" becomes `%20` when URI encoded.

When you navigate to your opportunity report through the URL with a filter value parameter, the report opens filtered and ready to read.

The screenshot shows a Salesforce report interface. The URL in the browser is `https://na1.salesforce.com/one/one.app#/sObject/00OR000000PCHYMA4/view?t=1479857188845&fv0=New%20Business`. The report title is "Opps Overview" and it displays summary statistics: Total Records (830), Average Probability (69%), and Average Age (102.375). The main table lists opportunities with columns for Stage, Amount, Opportunity Name, Type, Lead Source, Close Date, Next Step, Probability, and Fiscal Period. A red arrow points from the URL parameter `&fv0=New%20Business` to a filter in the "Filters" sidebar that reads "Type equals New Business". Other filters include "Role Hierarchy: All Opportunities", "Show Me: All opportunities", "Close Date: All time", "Amount: greater than '3,000'", and "Locked Filters: Probability (%) greater than 9%".

Take note of these limitations to setting filter values via the URL.

- Only field filters support edits from URL parameters. Standard filters (role hierarchy filters, scope filters, date filters), cross filters, and row limit filters aren't supported. Standard, cross, and row limit filters don't count when listing filters — `fv0` is the first field filter.
- Chart filters aren't supported.
- Filter operators (like `equals` and `greater than`) can't be modified via URL parameters.
- You can't change the field being filtered via URL parameters.
- You can't add new filters to reports using filter value URL parameters. You can only modify existing filters.
- You can't delete filters from reports using filter value URL parameters. Setting a blank value filters by no text or numerals, but doesn't remove the filter.

SEE ALSO:

[Reports and Dashboards](#)

## View Dashboards as Other People in Lightning Experience

Say that your sales people can only view their own opportunities, but you'd like to review all opportunities closed in the last quarter. Create a dashboard and let people view the dashboard as you (or anyone else who can see all opportunities). When your sales people open the dashboard, they see info about all opportunities instead of only their opportunities. Their data access in Salesforce remains unchanged. They can only see more data in your dashboard. This feature is new in Lightning Experience.

To specify whom folks view a dashboard as, click **Edit** > . In the Properties window, choose who you want dashboard readers to view the dashboard as:

- **Me** — Dashboard readers see data in the dashboard according to your access to data.

For example, if you can only see Opportunities in Canada, then dashboard readers only see data about Opportunities in Canada.

- **A specified user** — Dashboard readers see data in the dashboard according to the data access level of whomever you specify. For example, if you choose someone who can see Opportunities from any country, then dashboard readers see data about Opportunities from all countries.
- **The logged in user** — Dashboard readers see data as themselves, according to their own access to data.

Optionally, select **Allow dashboard viewers to change this (dynamic dashboard)** to enable a reader with appropriate user permissions to choose who they view the dashboard as. With the “View My Team’s Dashboards” user permission, the reader can view the dashboard as themselves or as anyone beneath them in the role hierarchy. With the “View All Data” user permission, the reader can view the dashboard as anyone.

Remember, when you specify whom people view the dashboard as, they see data as though they were that person. Make sure that you aren't revealing sensitive data to too broad an audience.

In Lightning Experience, you can now edit, clone, and delete dynamic dashboards that were created in Salesforce Classic.

SEE ALSO:

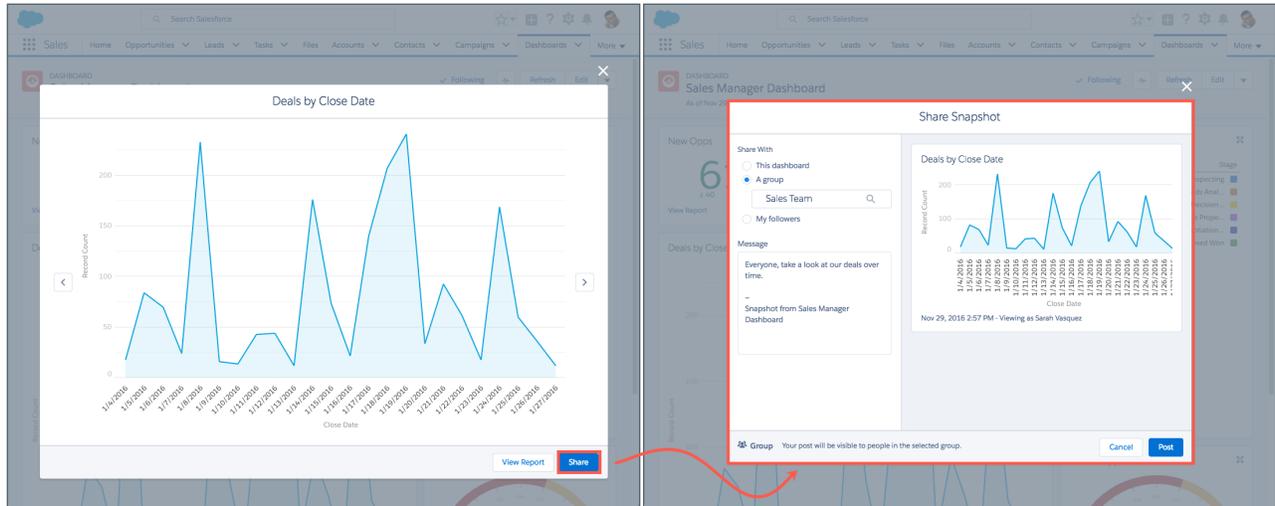
[Salesforce Help: Choose a Running User in Salesforce Classic Reports and Dashboards](#)

## Share Dashboard Charts by Posting Them to Chatter in Lightning Experience

Start the conversation by sharing images of dashboard charts on Chatter. This feature is new in Lightning Experience.

After enabling feed tracking on dashboards, your users can post snapshots of dashboard charts on the dashboard's feed. Select **Enable Dashboard Component Snapshots** from the Reports and Dashboards Settings page in Setup to allow users to post charts to group feeds, or to their own Chatter feed. If you don't enable feed tracking, users can post charts to the dashboard's feed, ensuring that only people with access to the dashboard see the chart. Posting a chart to a person's or group's feed allows someone without access to the dashboard to see the chart.

After sharing the chart, mention people and groups by commenting on your post.



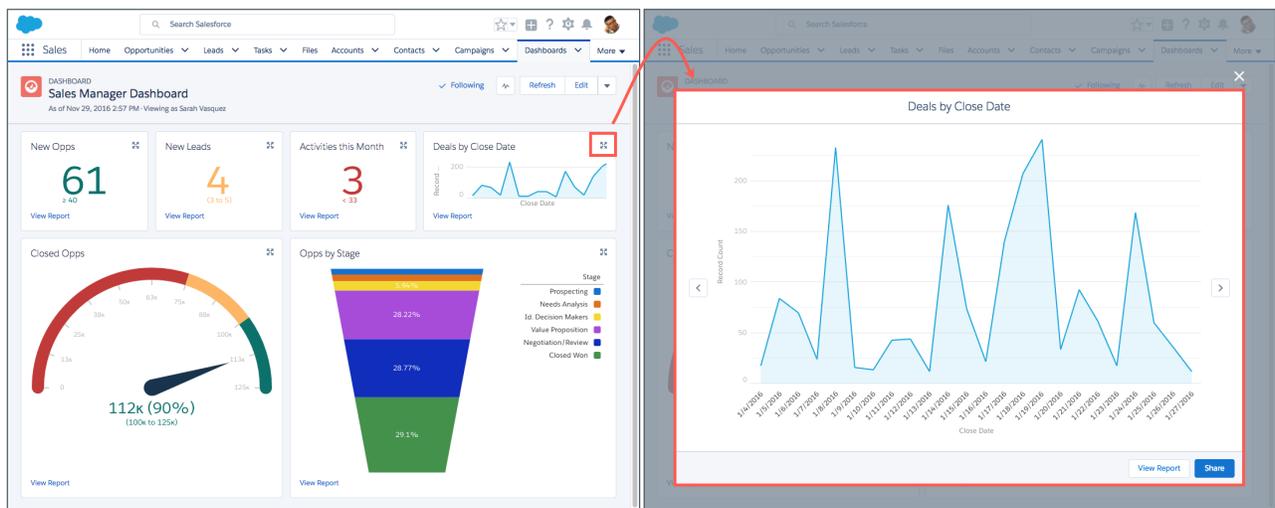
SEE ALSO:

- [Salesforce Help: Feed Tracking](#)
- [Reports and Dashboards](#)

## Expand Dashboard Components to Get the Big Picture in Lightning Experience

Open a dashboard component in a window so you can see all the details. This feature is new in Lightning Experience.

Click  to see a larger version of the component.



SEE ALSO:

- [Reports and Dashboards](#)

## Follow Dashboards in Lightning Experience

Instead of regularly opening a dashboard to take note of changes, follow a dashboard to get updates in your Chatter feed. After you enable feed tracking on dashboards, your users can follow dashboards by opening one up and clicking **Follow**. This feature is new in Lightning Experience.

In Lightning Experience, users can't follow dashboard components. Users only see dashboard Feed activity (like posts) in their Lightning Experience feed.

To follow dashboard components, users must unfollow the dashboard in Lightning Experience, switch to Salesforce Classic, and then follow the dashboard in Salesforce Classic. When followed dashboard components cross a threshold (such as a breakpoint between segment ranges in a gauge chart), they alert followers by posting to their feeds.

SEE ALSO:

[Salesforce Help: Feed Tracking](#)

[Reports and Dashboards](#)

## Move Dashboards Between Folders in the Lightning Experience Dashboard Builder

If your org is using Enhanced Analytics Folder Sharing for Reports and Dashboards, folders govern who has access to the reports and dashboards saved inside. (If your org was created after the Summer '13 Salesforce release, you already have Enhanced Analytics Folder Sharing.) To move a dashboard from one folder to another, open the Properties menu in the Lightning Experience Dashboard Builder. This feature is new in Lightning Experience.

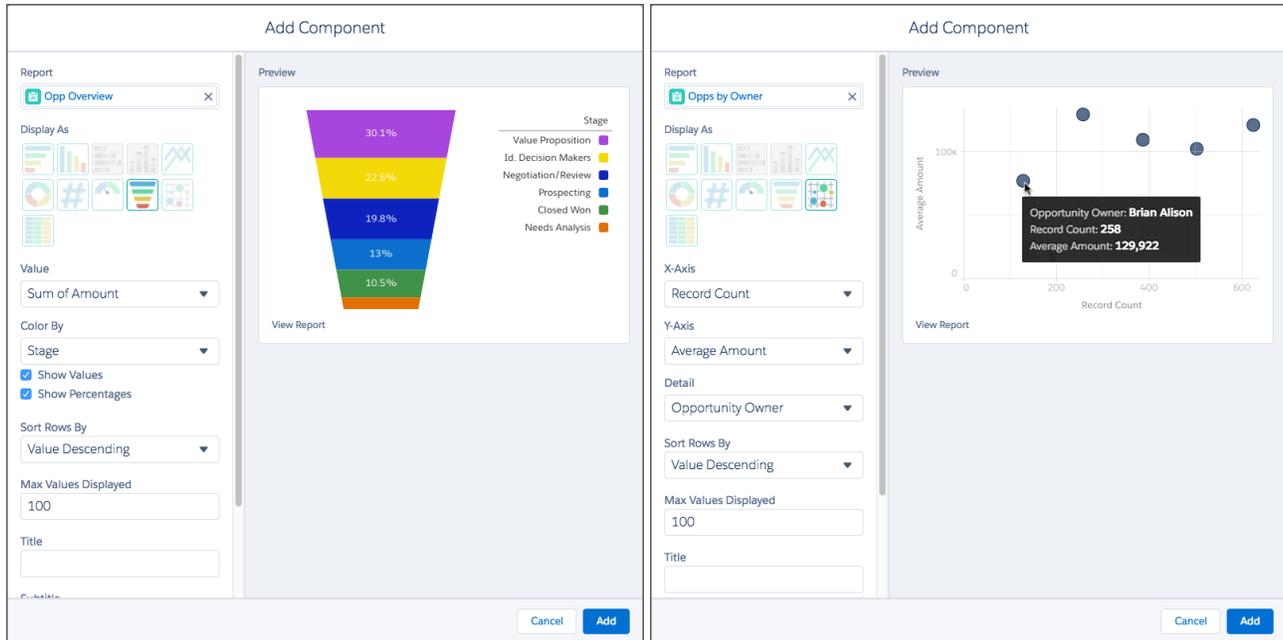
The screenshot shows a 'Properties' dialog box for configuring a dashboard component. The title is 'Properties'. It features three input sections: a required 'Name' field with the text 'Sales Overview', an optional 'Description' field, and a required 'Folder' field with a search icon. Below the search field, two folder options are listed: 'Private Dashboards' and 'Company Dashboards'. At the bottom right, there are 'Cancel' and 'Save' buttons.

SEE ALSO:

[Salesforce Help: Turn On Enhanced Sharing for Reports and Dashboards](#)  
[Reports and Dashboards](#)

## Add Funnel and Scatter Charts to Lightning Experience Dashboards

We've made funnel and scatter charts available in the dashboard component editor. Add a funnel chart to show relative measured amounts by stage. For example, funnel charts are ideal for showing how opportunities move through stages. Add a scatter chart to display one or two groupings of report data plus summaries. Scatter charts are useful for identifying trends across large datasets. This feature is new in Lightning Experience.



SEE ALSO:

[Reports and Dashboards](#)

## External Object Reports Have Fewer Limitations

We removed some previous limitations, hopefully before you even encountered them. The improvements affect reports that include external object relationships or use the cross-org adapter for Salesforce Connect. This change applies to both Lightning Experience and Salesforce Classic.

When you run reports that reference external objects via lookup, external lookup, and indirect lookup relationships, you no longer receive empty values for those relationship fields. Previously, reports returned empty values when external object relationship fields weren't Salesforce IDs or the name fields of parent objects.

With the cross-org adapter for Salesforce Connect, a report callout no longer fails if its URL exceeds 2 KB. A large callout is split into multiple HTTP calls, with each URL less than 2 KB. Report callouts for other Salesforce Connect adapters already behave this way.

### EDITIONS

Available in: **Developer** Edition

Available for an extra cost in: **Enterprise, Performance,** and **Unlimited** Editions

SEE ALSO:

[Salesforce Help: Report Considerations for Salesforce Connect—All Adapters](#)

[Salesforce Help: External Object Relationships](#)

## Other Enhancements to Reports and Dashboards in Lightning Experience

In addition to this release's major features, we've made some small-but-notable improvements to Reports and Dashboards. These changes apply to Lightning Experience only.

### Dashboard Component Charts and Tables Display Up to 200 Groupings

Charts and tables in dashboard components display twice as many groupings as they did before. Previously, 100 groupings per component displayed. Now, see up to 200 groupings.

**Sort Data in Dashboard Component Charts and Tables**

Sort data by label or value ascending or descending.

**Edit, Clone, and Delete Dynamic Dashboards in the Lightning Experience Dashboard Builder**

In Lightning Experience, you can now edit, clone, and delete dynamic dashboards that were created in Salesforce Classic.

**Lightning Experience Dashboard Filters Persist**

Previously, if you set a dashboard filter and then closed the dashboard, the next time you opened the dashboard it would open unfiltered. Now, when you set a dashboard filter and then close the dashboard, the next time you open the dashboard it opens filtered.

**Edit Dashboard Descriptions from the Properties Menu in the Lightning Experience Dashboard Builder**

To edit a dashboard's description, edit the dashboard and then open the properties menu by clicking  .

**View Combo Charts That Include Line Charts**

Previously, if a combo chart included a line chart, then there were some display differences between Salesforce Classic and Lightning Experience. In Lightning Experience:

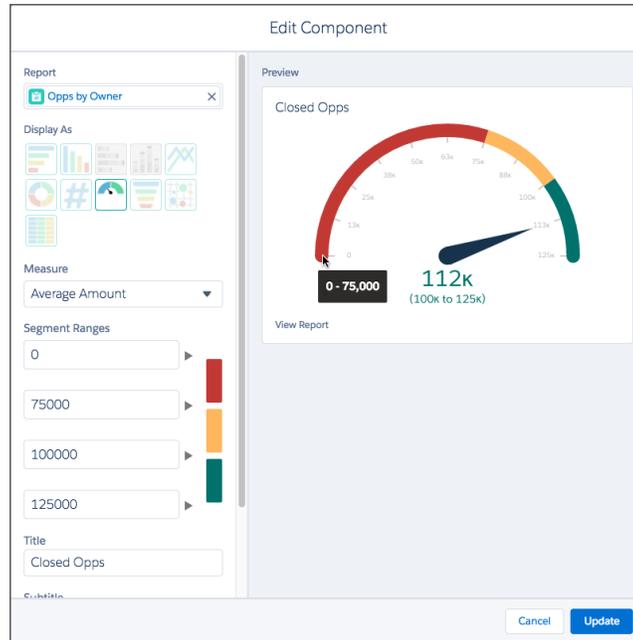
- Combination charts including both a stacked vertical bar chart and a line chart only showed the stacked vertical bar chart. The line chart wasn't drawn.
- Combination charts with two groupings and a line chart displayed differently in Lightning Experience than they did in Salesforce Classic. In Lightning Experience, the line chart depicted both groupings. In Salesforce Classic, the line chart depicted one grouping (the first one).
- A vertical combination chart with two groupings, two measures, and a line chart displayed as a bar chart in Lightning Experience. The bar chart displayed two groupings, but the measure depicted by the line chart wasn't shown.

Now, Lightning Experience displays combo charts that include line charts just like they appear in Salesforce Classic.

To add a combo chart to a dashboard, or to edit one, switch to Salesforce Classic.

**Get More Info from Gauge Charts**

Read gauge charts more easily thanks to a redesign which adds values to markers on your gauge charts. Hover over a gauge segment to get more info about it. Previously, gauge charts only included values at segment thresholds and segments didn't give additional information when hovered over.



SEE ALSO:

[Reports and Dashboards](#)

## Wave Analytics: Easier, Personal Insights

Wave gets personal, with more of what you need to quickly get insights from your data. Data prep is your recipe for success for data integration. The new Wave home brings personalized analytics to you with pinned apps and notifications. Create custom navigation within apps, and annotate dashboards in presentation mode. Enjoy the many enhancements to creating Wave assets, like bubble charts, pivot tables, and connected datasets, plus new features for trend in Wave, like scheduling.

IN THIS SECTION:

[Wave: Bring Your Data into Wave](#)

Get your data into Wave, just the way you want it, with replication and recipes in the data manager. Take advantage of full support for the latest version of extended metadata, plus better null handling for measures.

[Wave: Extend Wave Everywhere](#)

Personalize your Wave experience by pinning apps and tracking notifications on your own Analytics home page. Create custom navigation paths through Wave apps to let your team experience them the way you designed. Annotate and set notifications in dashboards while in presentation mode.

[Wave: Explore and Visualize](#)

Explore your data more easily with improved navigation and user experience, plus new functions, filters, and chart types.

[Wave: Design and Build](#)

Build dashboards more efficiently in Wave designer with connected datasets, more powerful filters, bulk actions, and pivot table support.

### EDITIONS

Available for an extra cost in **Enterprise, Performance,** and **Unlimited** Editions. Also available in **Developer** Edition.

### [Wave: Trend Data](#)

Schedule refreshes of your trended dashboards, and control impacts to data storage.

### [Wave: Accelerate with Prebuilt Wave Apps](#)

Analytics keeps getting faster and easier with continual enhancements to Wave apps, including a smart configuration wizard that makes app creation more reliable and Wave Templates (Beta) that let you package your own apps for distribution.

### [Wave: Go Places with Wave Mobile](#)

Take Wave with you with the latest version of the iOS or Android app.

### [Wave: Develop on the Platform](#)

The Wave platform continues to grow with additional REST API support, new SAQL functions, and Wave Templates.

## Wave: Bring Your Data into Wave

Get your data into Wave, just the way you want it, with replication and recipes in the data manager. Take advantage of full support for the latest version of extended metadata, plus better null handling for measures.

### IN THIS SECTION:

#### [Monitor, Replicate, and Prepare in the Data Manager](#)

The one-stop shop for all your dataset needs is now available for Wave Analytics in all orgs. What's more, it's now the permanent home of the data monitor. Monitor all your jobs and dataflows, view and edit your replications, and prepare your data with recipes. All in one place!

#### [Prepare Datasets with Recipes \(Generally Available\)](#)

Preparing data in Wave Analytics just got a whole lot easier. Dataset recipes are now generally available and come with a slew of new features. Take data in an existing dataset or replication and clean up or remove fields, and add fields from other datasets or replications. In addition, you can now filter rows, add calculations and bucket fields, and edit your recipe steps inline. When you run the recipe, you get a new dataset with just the data you need. And remember, still no JSON required!

#### [Get Better Results with Null Measure Handling](#)

Wave now supports null values in measures, instead of replacing nulls with zeros. Good news for all your calculated averages and minimum values! Learn more about how this feature works and what you need to consider before you turn it on.

#### [Extended Metadata Files on Dataset Edit Page Now Use XMD 2.0](#)

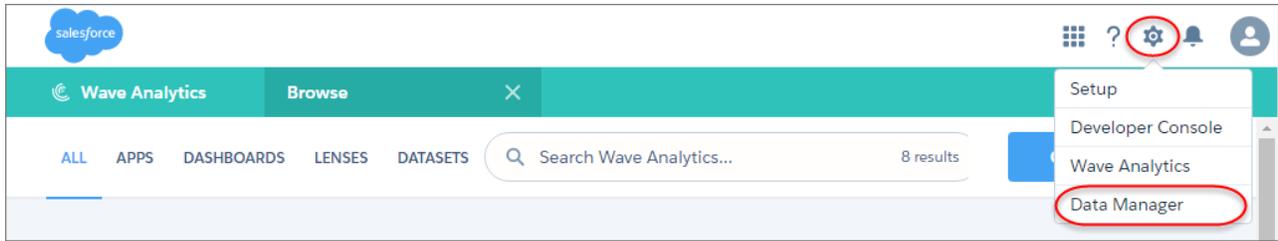
Extended metadata (XMD) files added through a dataset edit page now use XMD 2.0 syntax instead of XMD 1.1, and individual XMD files are now limited to 5 MB. Learn how this affects your existing XMD files, and what you need to do with new files that you upload.

## Monitor, Replicate, and Prepare in the Data Manager

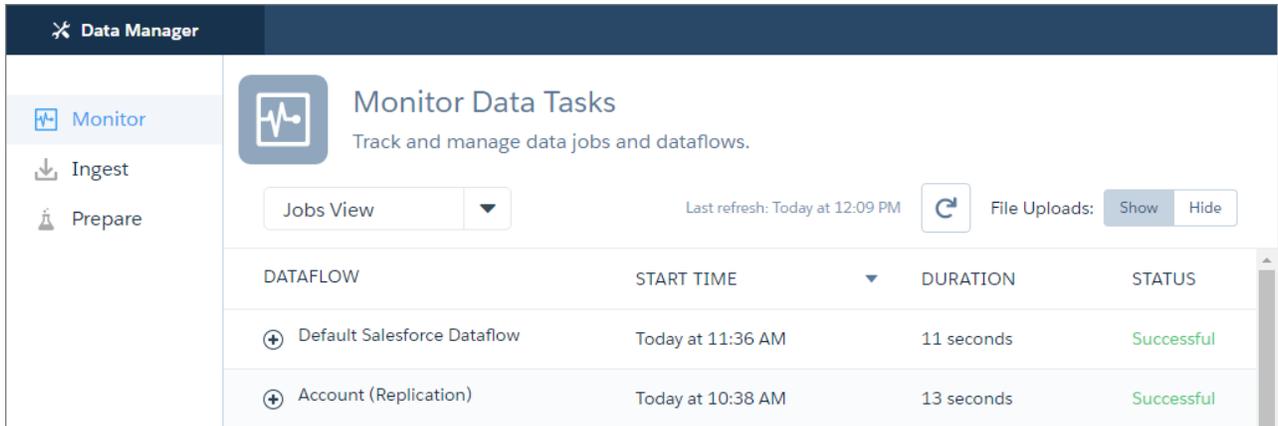
The one-stop shop for all your dataset needs is now available for Wave Analytics in all orgs. What's more, it's now the permanent home of the data monitor. Monitor all your jobs and dataflows, view and edit your replications, and prepare your data with recipes. All in one place!

The data manager was introduced in the Winter '17 release, but was only available when you enabled replication or used the data prep beta feature. Now it's available in all orgs.

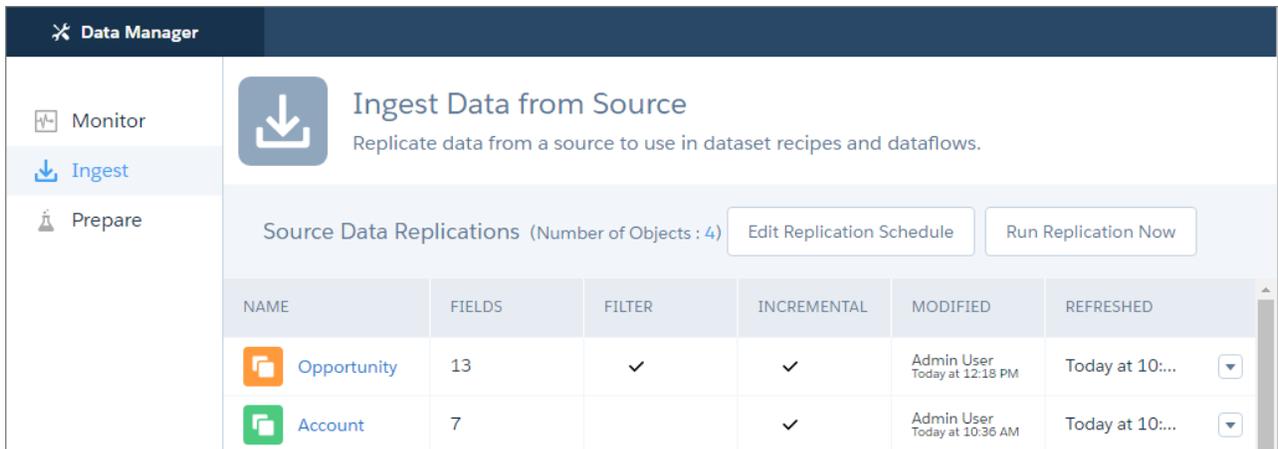
Open the data manager in Wave from the gear icon. Notice that the data monitor is no longer available from this menu—it's now an integral part of the data manager.



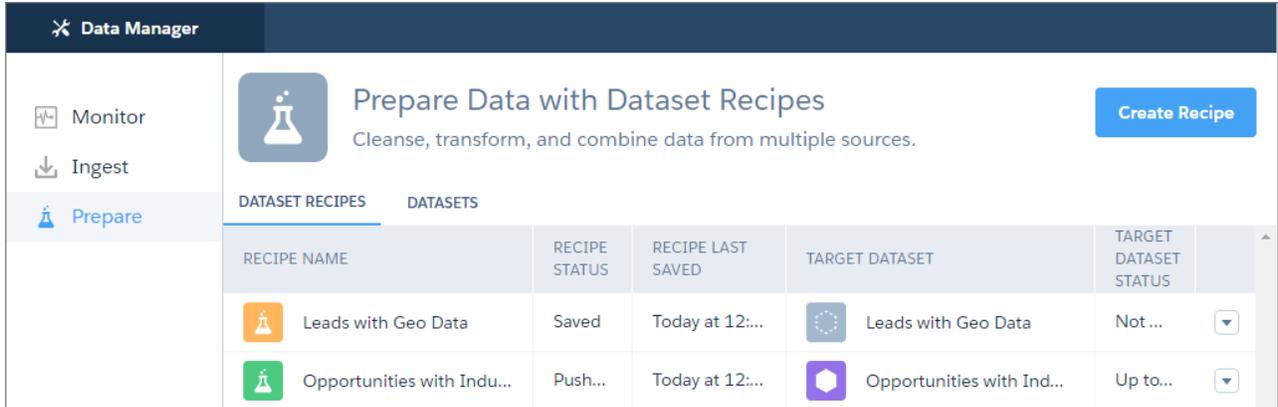
The data manager opens on the Monitor tab, as this is likely the reason for most of your visits. Here you can track and manage all your jobs and dataflows, just as you did in the data monitor.



Your replications now have their own space—on the new Ingest tab. If you have enabled replication in Wave, view and update replication settings here, and schedule and run your replications.



Create and manage your dataset recipes on the Prepare tab, and get easy access to all the datasets available for preparation.



**Data Manager**

**Prepare Data with Dataset Recipes**  
Cleanse, transform, and combine data from multiple sources. [Create Recipe](#)

Monitor  
Ingest  
**Prepare**

**DATASET RECIPES**   DATASETS

| RECIPE NAME  | RECIPE STATUS | RECIPE LAST SAVED | TARGET DATASET   | TARGET DATASET STATUS |
|--|---------------|-------------------|--|-----------------------|
|  Leads with Geo Data        | Saved         | Today at 12:...   |  Leads with Geo Data       | Not ...               |
|  Opportunities with Indu... | Push...       | Today at 12:...   |  Opportunities with Ind... | Up to...              |

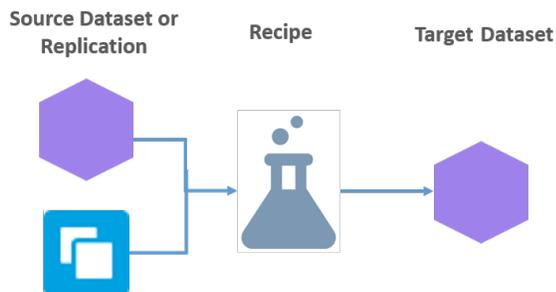
## Prepare Datasets with Recipes (Generally Available)

Preparing data in Wave Analytics just got a whole lot easier. Dataset recipes are now generally available and come with a slew of new features. Take data in an existing dataset or replication and clean up or remove fields, and add fields from other datasets or replications. In addition, you can now filter rows, add calculations and bucket fields, and edit your recipe steps inline. When you run the recipe, you get a new dataset with just the data you need. And remember, still no JSON required!

Data preparation with recipes was introduced as a beta feature in the Winter '17 release, but is now generally available and already turned on for you in Wave.

## What Is a Dataset Recipe?

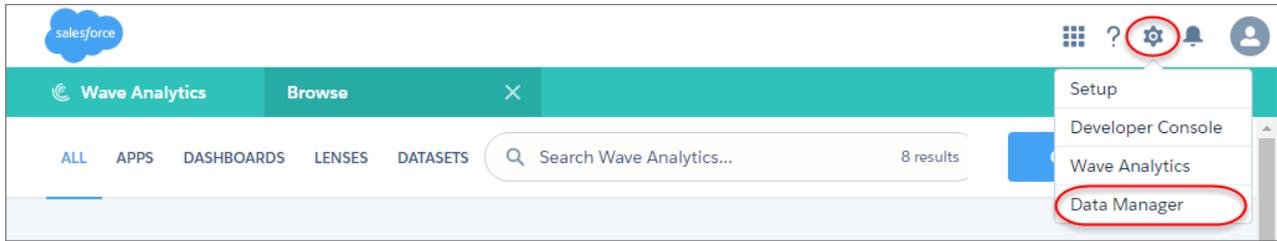
A dataset recipe is a saved set of transformations, or steps, to perform on a specific source dataset or replication. When you run a recipe, it applies the transformations and outputs the results to a new target dataset. You can schedule a recipe to run on a recurring basis to keep your target dataset up to date.



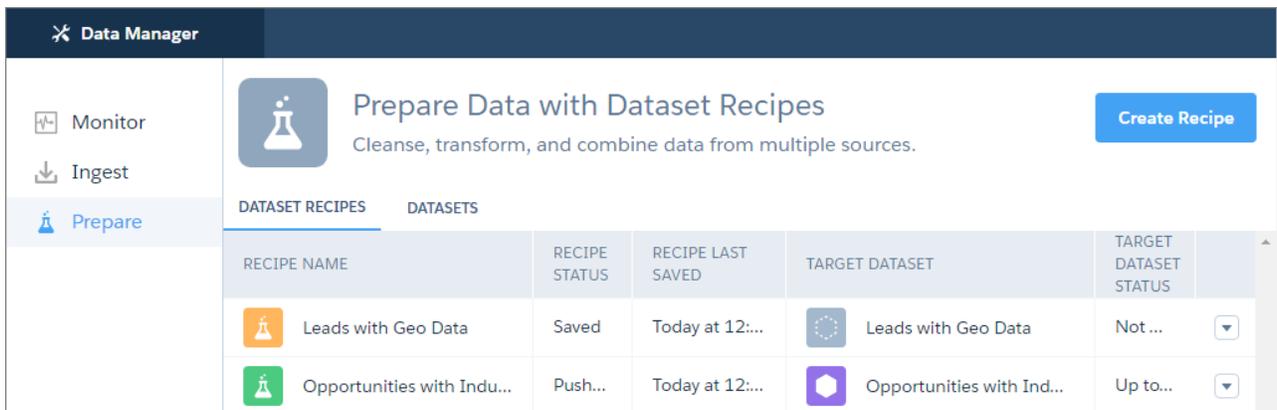
Use a recipe to combine data from different sources, and modify field values to ensure consistency in the new dataset you create. You can use the new dataset as a standalone dataset for exploration or dashboard creation, or in your dataflows or other recipes.

## Create a Dataset Recipe

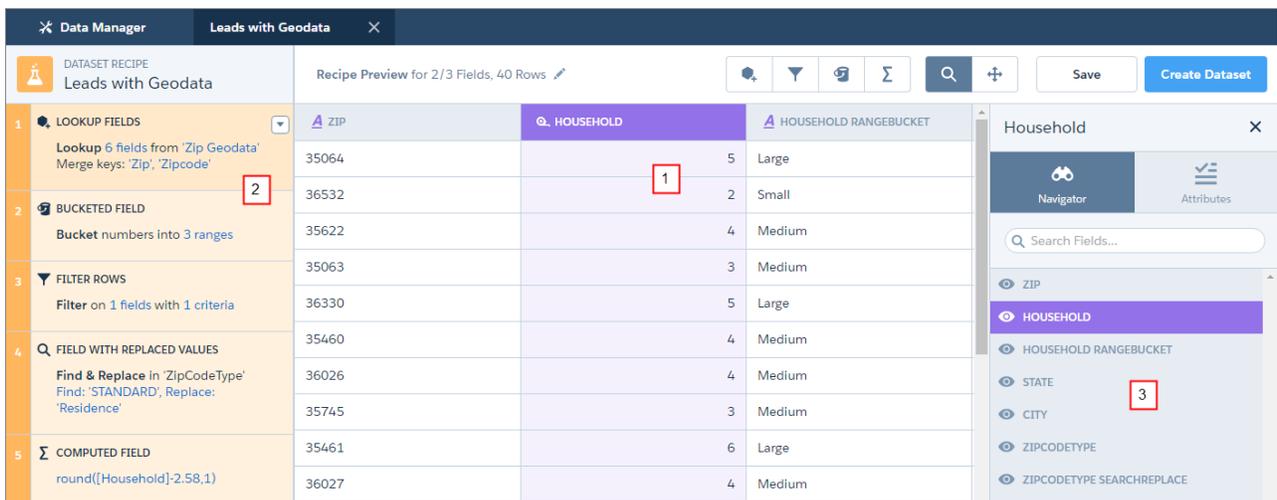
You create, run, schedule, and manage your recipes all in one place—the data manager.



Head to the Prepare tab of the data manager, where you can access your existing recipes and datasets.



Go to any dataset or replication in the data manager to create a recipe for it, or click **Create Recipe** to select your source data and get started. All your data preparation takes place on a single dataset recipe page, so all the tools you need are close at hand.



The recipe preview (1) gives you a real-time preview of your data as you prepare it. If you're feeling overwhelmed by too many fields or rows, click the  above the preview to change what you see. As you work on your data, your changes appear as recipe steps in the left pane (2). When you can't find a field, use the field navigator in the right pane (3) to search for a field. If you see a field that you don't need in your preview, click the  to hide it. You can toggle the field navigator on and off with the  button at the top of the page.

 **Note:** The recipe preview displays up to 100 fields. Modify the preview or hide fields to ensure that you can see just the fields you are preparing. When you later create the dataset, you can select all the fields you want for the new dataset.

## Prepare the Data

Your data preparation tools are all there for you at the top of the recipe page:

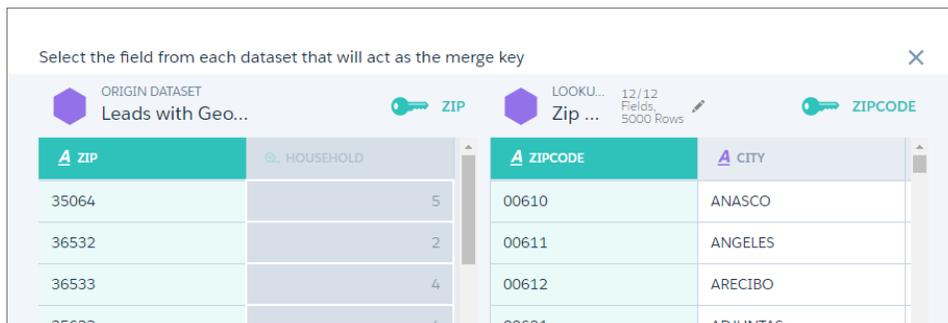


Let's say you have a US Leads dataset that you are preparing for use in a marketing dashboard. Here's what you can do.

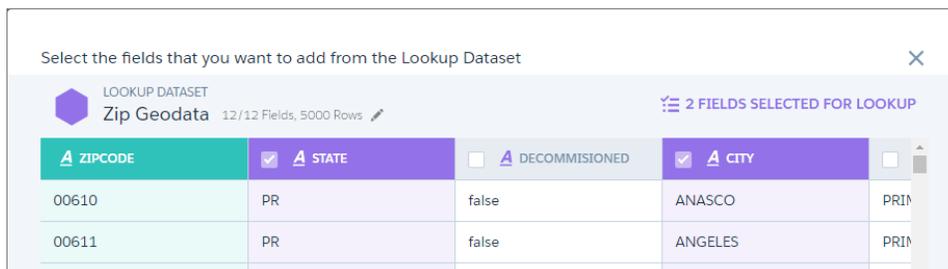


Add fields from a lookup dataset or replication. Using a merge key field to match rows in your recipe with rows in your lookup, select the lookup fields you want to bring into your recipe.

For example, join a geodata dataset to your leads dataset using the zip code as a merge key.



Then select the geodata fields.

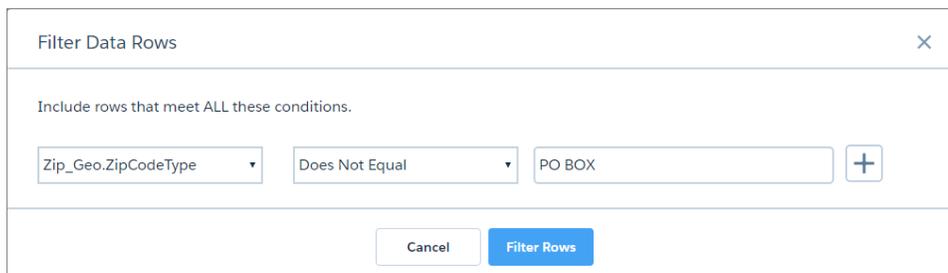


**Note:** You can add fields from up to 10 datasets or replications. The lookup dataset preview can display up to 100 fields. Modify the preview or hide fields to ensure that you can see just the fields that you need. When you later create the dataset, you can select all the lookup fields you want for the new dataset.



Filter the rows in your recipe.

For example, filter out leads that have a PO box zip code.





Add a field to bucket values from a specified dimension or measure field.

For example, add a field to categorize leads according to the number of people in the household.

✕

### Enter numeric ranges for new bucketed field

Range for "Household"

■ Range 1 <

Add>>

■ Range 2  -

Add>>

■ Range 3 ≥



Add a formula field to calculate new values from measures in your recipe using arithmetic operators and math functions.

For example, calculate how the household size for each lead compares to the national average.

✕

### Define the formula for your new Formula Field

Formula Field Name

Formula



Transform values in a specified dimension field. You can change case, split values using a delimiter, truncate values, or replace values with new ones.

For example, change category values to match the values that marketing uses.

**Find & Replace** Apply

Find

Replace

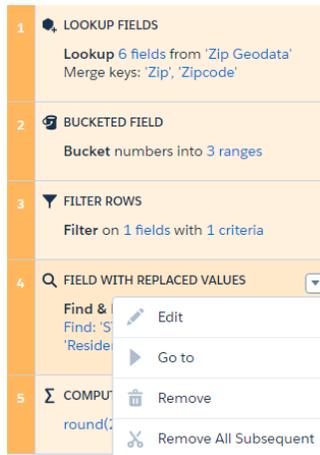
## Navigate Your Changes

As you prepare your data, each change you make appears as a recipe step on the left. Don't worry if you don't get it right the first time. You can revisit each step to make changes.

Hover and click  to see options.

Go to takes you back and forward to see your data at different steps.

Edit lets you make changes. Make changes to formula fields and transformations inline!



1 LOOKUP FIELDS  
Lookup 6 fields from 'Zip Geodata'  
Merge keys: 'Zip', 'Zipcode'

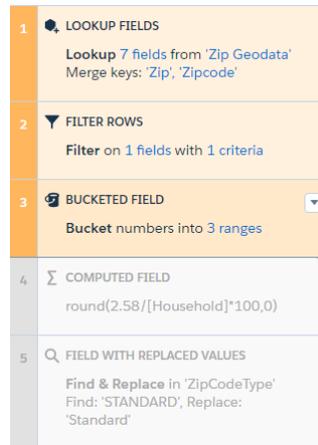
2 BUCKETED FIELD  
Bucket numbers into 3 ranges

3 FILTER ROWS  
Filter on 1 fields with 1 criteria

4 FIELD WITH REPLACED VALUES  
Find & Replace in 'ZipCodeType'  
Find: 'STANDARD', Replace: 'Standard'

5 COMPUTED FIELD  
round(2.58/[Household]\*100,0)

Dropdown menu for step 4:  
Edit  
Go to  
Remove  
Remove All Subsequent



1 LOOKUP FIELDS  
Lookup 7 fields from 'Zip Geodata'  
Merge keys: 'Zip', 'Zipcode'

2 FILTER ROWS  
Filter on 1 fields with 1 criteria

3 BUCKETED FIELD  
Bucket numbers into 3 ranges

4 COMPUTED FIELD  
round(2.58/[Household]\*100,0)

5 FIELD WITH REPLACED VALUES  
Find & Replace in 'ZipCodeType'  
Find: 'STANDARD', Replace: 'Standard'



1 LOOKUP FIELDS  
Lookup 7 fields from 'Zip Geodata'  
Merge keys: 'Zip', 'Zipcode'

2 FILTER ROWS  
Filter on 1 fields with 1 criteria

3 BUCKETED FIELD  
Bucket numbers into 3 ranges

4 COMPUTED FIELD  
round(2.58/[Household]\*100,0)

5 FIELD WITH REPLACED VALUES  
Find & Replace in 'ZipCodeType'  
Find: 'STANDARD', Replace: 'Standard'

Inline editor for step 4:  
round(2.58/[Household]\*100,0)  
Cancel Save

 **Note:** A recipe can have up to 100 recipe steps.

## Create the Dataset

You can save the recipe at any time to come back to it later. When the recipe is complete, click **Create Dataset**.

 **Note:** A recipe run counts toward your limit of 24 dataflow runs per day. For example, in an org using the Sales Wave app, a user dataflow, and two recipes, there are four separate dataflows. If you schedule each one to run every six hours, you reach the daily limit. Consider this limit when you schedule a recipe.

## Get Better Results with Null Measure Handling

Wave now supports null values in measures, instead of replacing nulls with zeros. Good news for all your calculated averages and minimum values! Learn more about how this feature works and what you need to consider before you turn it on.

### Why Is Null Measure Handling Important?

When you create or update a dataset, through your dataflow or a CSV upload for example, any blank measure values in your data need to be replaced with concrete values. Wave uses the default values specified in your dataflow or CSV metadata file to replace blank values. Previously, this default had to be a numeric value, usually 0, and when no default value was set, Wave used 0.

However, replacing blank values with zeros can be problematic for a number of reasons. Consider this example of data with customer satisfaction scores, where some customers have not responded.

**Source Data**

| Customer            | CSAT     |
|---------------------|----------|
| Customer 1          | 3        |
| Customer 2          |          |
| Customer 3          | 4        |
| Customer 4          |          |
| Customer 5          | 5        |
| <b>Average CSAT</b> | <b>4</b> |
| <b>Min CSAT</b>     | <b>3</b> |

**Dataset with Zeros for Blanks**

| Customer            | CSAT       |
|---------------------|------------|
| Customer 1          | 3          |
| Customer 2          | 0          |
| Customer 3          | 4          |
| Customer 4          | 0          |
| Customer 5          | 5          |
| <b>Average CSAT</b> | <b>2.4</b> |
| <b>Min CSAT</b>     | <b>0</b>   |

Calculated values such as average and minimum are correct in the source data, but when blank values are replaced with zeros when the dataset is created, the resulting calculations are incorrect. Here the zeros are included in the calculation.

Enabling null measure handling lets you specify defaults using the special "null" value in your dataflows and CSV metadata files. When no default value is specified, Wave replaces blanks with null values. When you create the customer CSAT dataset using null measures, the average and minimum calculations are correct.

**Source Data**

| Customer            | CSAT     |
|---------------------|----------|
| Customer 1          | 3        |
| Customer 2          |          |
| Customer 3          | 4        |
| Customer 4          |          |
| Customer 5          | 5        |
| <b>Average CSAT</b> | <b>4</b> |
| <b>Min CSAT</b>     | <b>3</b> |

**Dataset with Nulls for Blanks**

| Customer            | CSAT     |
|---------------------|----------|
| Customer 1          | 3        |
| Customer 2          | null     |
| Customer 3          | 4        |
| Customer 4          | null     |
| Customer 5          | 5        |
| <b>Average CSAT</b> | <b>4</b> |
| <b>Min CSAT</b>     | <b>3</b> |

**Enable Null Measure Handling**

Null measure handling is enabled in orgs created after the Spring '17 release and cannot be disabled.

When you enable null measure handling in an existing org, you must take additional steps to ensure that the upgrade goes smoothly. If you choose to enable the feature, you can't disable it. For this reason, first contact Salesforce Customer Support to evaluate your org.

Additional steps are necessary in existing orgs because null measure handling can't retroactively change zeros to nulls, if those zeros have previously replaced blank values. This behavior can result in datasets containing a mixture of zeros coming explicitly from the source data, zeros replacing blank values, and nulls. Aggregate calculations in such datasets continue to be incorrect.

Let's look at example opportunity data extracted incrementally before null measure handling is enabled. Again, aggregate calculations are not accurate.

**Source Data**

| Opportunity        | Amount           |
|--------------------|------------------|
| Opportunity 1      | 10,000.00        |
| Opportunity 2      |                  |
| Opportunity 3      | 30,000.00        |
| Opportunity 4      | 0.00             |
| Opportunity 5      | 40,000.00        |
| <b>Average Amt</b> | <b>20,000.00</b> |

**Dataset with Zeros for Blanks, Null Measure Handling Is OFF**

| Opportunity        | Amount           |
|--------------------|------------------|
| Opportunity 1      | 10,000.00        |
| Opportunity 2      | 0.00             |
| Opportunity 3      | 30,000.00        |
| Opportunity 4      | 0.00             |
| Opportunity 5      | 40,000.00        |
| <b>Average Amt</b> | <b>16,000.00</b> |

If you enable null measure handling and run an incremental extract that includes a new opportunity with a blank amount, the blank is now replaced with a null. However, aggregate calculations are still not accurate because of the mixture of zero replacements and nulls.

**Source Data**

| Opportunity        | Amount           |
|--------------------|------------------|
| Opportunity 1      | 10,000.00        |
| Opportunity 2      |                  |
| Opportunity 3      | 30,000.00        |
| Opportunity 4      | 0.00             |
| Opportunity 5      | 40,000.00        |
| New Opportunity    |                  |
| <b>Average Amt</b> | <b>20,000.00</b> |

**Dataset with Zeros and Nulls for Blanks, Null Measure Handling Is ON**

| Opportunity        | Amount           |
|--------------------|------------------|
| Opportunity 1      | 10,000.00        |
| Opportunity 2      | 0.00             |
| Opportunity 3      | 30,000.00        |
| Opportunity 4      | 0.00             |
| Opportunity 5      | 40,000.00        |
| New Opportunity    | null             |
| <b>Average Amt</b> | <b>16,000.00</b> |

For this reason, it is important to take these steps, after enabling null measure handling.

1. Update your existing dataflow definition files to use null instead of 0 in `defaultvalue` attributes for measure fields.
2. Create new instances of long-lived datasets used as a source for dataflows, using a `defaultvalue` of null for measure fields. Long-lived datasets are typically reference datasets that are not updated through a dataflow and used to augment data in other datasets. For example, you might use a geolocation dataset to augment lead information based on zip codes.
3. If you have incrementally built datasets in which the source data is no longer available, use a custom dataflow to manually convert 0 values to null. Incrementally built datasets are datasets that are created over time by appending rows, such as logs.

In addition, reimplement `delta` transformations in your dataflows using the `computeRelative` transformation. The delta transformation is not supported when null measure handling is enabled, and dataflows containing delta transformations fail.

**Important:** If you are considering enabling null measure handling, read [Enable Null Measure Handling](#) for more information about the steps to take.

When Salesforce makes null measure handling available in your org, you can enable it from Setup. Enter *Wave Analytics* in the Quick Find box, then click **Settings**. Select **Enable null measure handling in Wave Analytics**, and then click **Save**.

## How Null Measure Handling Changes the Behavior of Dataflow Transformations

When you enable null measure handling, your existing dataflows and CSV uploads continue to work. However, consider these behavior changes.

|                   |  |
|-------------------|--|
| append            | Wave can append datasets with different measure fields. For example, if one dataset has an Amount field that is not present in a second dataset, the new dataset created after the append has an Amount field containing nulls in rows from the second dataset. Without null measure handling, appending datasets is not possible when measure fields are different.   |
| augment           | When the key in the left dataset is null or has no match in the right dataset, Wave appends columns from the right dataset and inserts nulls for dimensions and measures. Without null measure handling, Wave inserts zeros for measures.  |
| computeExpression | <p>The <code>defaultValue</code> attribute for a computed field accepts a value of null. For example:</p> <pre> "SQLNode": {   "action": "computeExpression",   "parameters": {     "source": "extractOpp",     "mergeWithSource": true,     "computedFields": [       {         "name": "Amount2",         "type": "Numeric",         "precision": 18,         "defaultValue": "null",         "scale": 5,         "saqlExpression": "Amount+Amount"       }     ]   } } </pre>   |
| computeRelative   | <p>The <code>defaultValue</code> attribute for a computed field accepts a value of null. When a value can't be calculated, such as when <code>previous()</code> or <code>next()</code> has no value, Wave uses this default. For example:</p> <pre> "computeTrending": {   "action": "computeRelative",   "parameters": {     "partitionBy": ["OpportunityId"],     "orderBy": [       {         "name": "CreatedDate",         "direction": "asc"       }     ],     "computedFields": [       {         "name": "AmountPrev",         "defaultValue": "null",         "expression": {           "sourceField": "Amount",           "offset": "previous()",           "default": "null"         }       }     ]   } } </pre> |

|            |  |
|------------|--|
| delta      | This transformation is not supported when null measure handling is enabled and dataflows containing delta transformations fail. Reimplement delta transformations in your dataflows using the <code>computeRelative</code> transformation (see <a href="#">Enable Null Measure Handling</a> ).   |
| dim2mea    | The <code>measureDefault</code> parameter accepts a value of null. Wave uses this value when it can't convert a dimension to a valid numeric value. When no default is specified, Wave uses a value of null. For example: <pre> "Create_Measure_From_Dimension": {   "action": "dim2mea",   "parameters": {     "dimension": "StageVal__c",     "measure": "StageValue",     "measureDefault": "null",     "source": "Extract_Opportunities"   } } </pre>              |
| sfdcDigest | The <code>defaultValue</code> attribute for a field accepts a value of null. When no default is specified, wave uses a value of null. For example: <pre> Sample Sfdc-digest :{   "Extract_Opportunities": {     "action": "sfdcDigest",     "parameters": {       "object": "Opportunity",       "fields": [         {           "name": "Amount",           "defaultValue": "null",           "precision":18           "scale":2         }       ]     }   } } </pre> |
| Update     | Wave can update non-null values with nulls.  |

## Extended Metadata Files on Dataset Edit Page Now Use XMD 2.0

Extended metadata (XMD) files added through a dataset edit page now use XMD 2.0 syntax instead of XMD 1.1, and individual XMD files are now limited to 5 MB. Learn how this affects your existing XMD files, and what you need to do with new files that you upload.

XMD 2.0 uses the same parameters as XMD 1.1, but it has a different structure where each field has a block of parameters. In addition, some of these parameters have been renamed, and new parameters have been introduced.

Wave converts existing XMD files added through a dataset edit page to the new syntax. If it can't convert a file, you see an error message when you open the dataset edit page.

Whenever you upload a new XMD file, Wave validates the syntax and file size, returning an error if either are invalid.

We recommend that you review your existing XMD files on dataset edit pages. If you see an XMD file with an error, follow these steps to ensure that the file is using the correct syntax.

1. Download the file from the dataset edit page and create a copy as a backup.
2. Convert the file syntax to XMD 2.0.
3. Upload the converted file in the dataset edit page, and check for errors.

Read [Update a Dataset's Extended Metadata](#) for help with these steps.

## Wave: Extend Wave Everywhere

Personalize your Wave experience by pinning apps and tracking notifications on your own Analytics home page. Create custom navigation paths through Wave apps to let your team experience them the way you designed. Annotate and set notifications in dashboards while in presentation mode.

### IN THIS SECTION:

#### [Customize Your Personal Analytics Home Page](#)

Welcome to your personal Analytics home! The new home page gives you the power to focus a spotlight directly on the analytics relevant for you. Pin the apps you use most, and track the progress of notifications that you've set.

#### [Create Interactive Wave Apps for Your Customers](#)

Wave apps are now the place to run Wave. Generate a custom navigation within each app to expose the right dashboards to the right users.

#### [Elevate Productivity During Presentations with Annotations and Notifications](#)

The new Wave app presentations provide Wave's interactive and collaborative features.

#### [Seamlessly Integrate Wave into Salesforce with Wave Tabs](#)

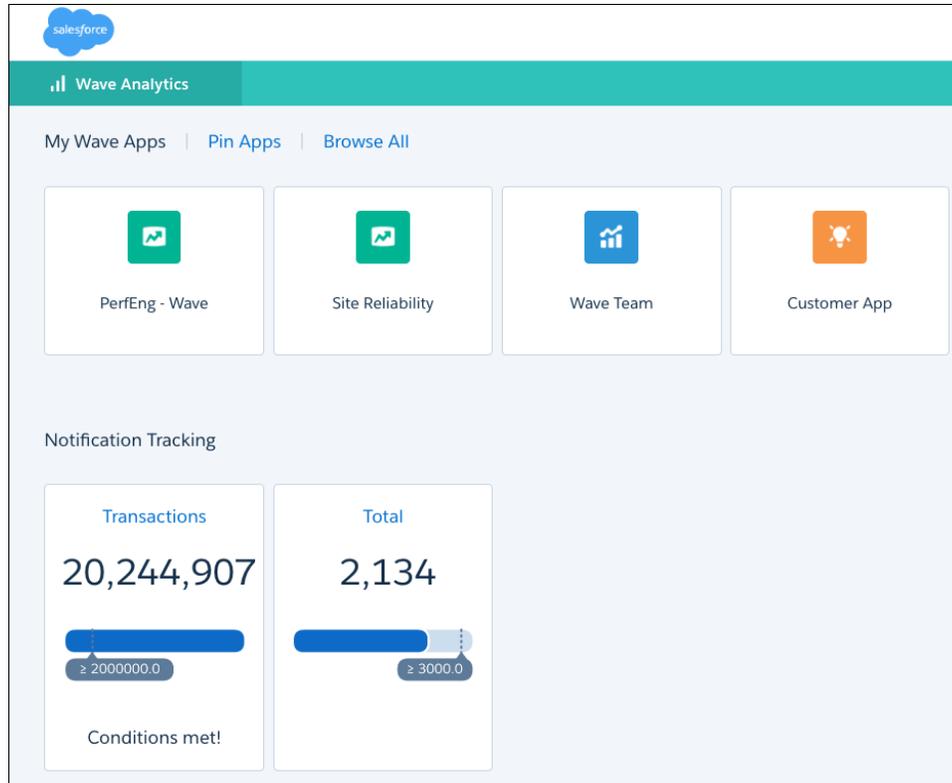
Now you can access your personal Analytics home and run Wave apps from a tab within Salesforce.

#### [Embed Wave in Any Web Page or Web-Based App](#)

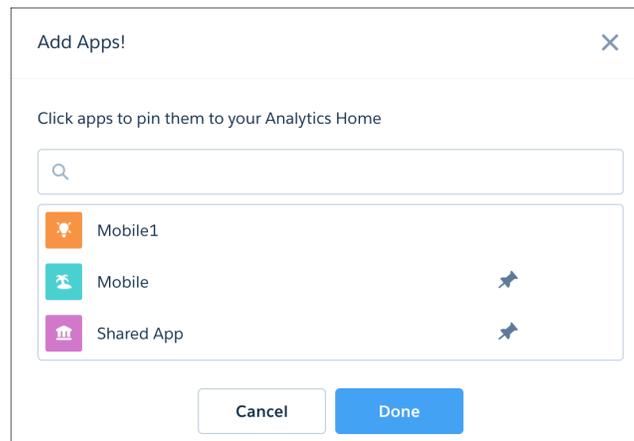
By specifying your trusted sites in the new Wave Analytics whitelist, you can include embedded Wave dashboards in websites and apps outside of Salesforce servers.

## Customize Your Personal Analytics Home Page

Welcome to your personal Analytics home! The new home page gives you the power to focus a spotlight directly on the analytics relevant for you. Pin the apps you use most, and track the progress of notifications that you've set.



The first time that you click the new Wave Analytics tab, you're prompted to pin your favorite Wave apps. Click **Pin Apps** to select the apps that you want to access regularly. Apps appear on your Wave Analytics home in the order that you pinned them.



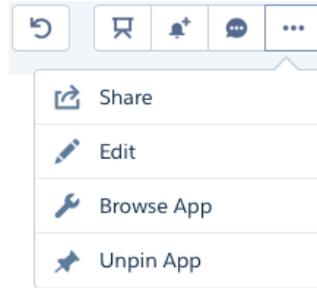
The lower part of the home page tracks the progress on the notifications that you've set. Notifications are created on number widgets in your dashboards. All your active notifications appear on your Analytics home page.

To view the organized lists of assets that you're familiar with from the previous version of Wave, click **Browse All**.

## Create Interactive Wave Apps for Your Customers

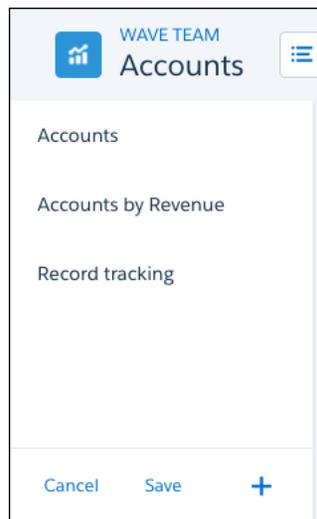
Wave apps are now the place to run Wave. Generate a custom navigation within each app to expose the right dashboards to the right users.

Clicking an app opens it in presentation mode, displaying the first dashboard on your navigation list. To view the contents of the app, select **Browse App** from the menu.



To open the navigation panel, click the navigation icon (☰). The panel lists the available dashboards. Click a dashboard to start it.

If you're the manager of an app, click **Organize** to set up the app. You can change the presentation order by sliding dashboards up or down, and click dashboard names to hide or show them.



Click the plus sign to add dashboards from the browse view of the app. Click **Save** to retain the navigation for your app, and then share the app with your customers.

## Elevate Productivity During Presentations with Annotations and Notifications

The new Wave app presentations provide Wave's interactive and collaborative features.

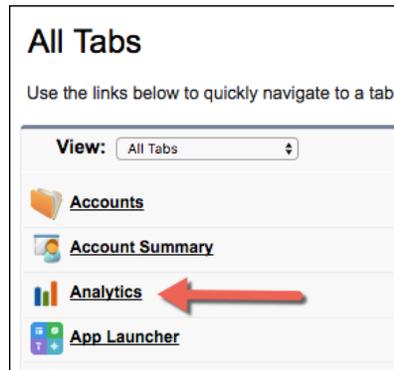


You can share, download, access the dashboard designer, set notifications, and collaborate in a dashboard's feed with annotations. In addition, presentations no longer use hidden dropdown controls. The controls and navigation are always available.

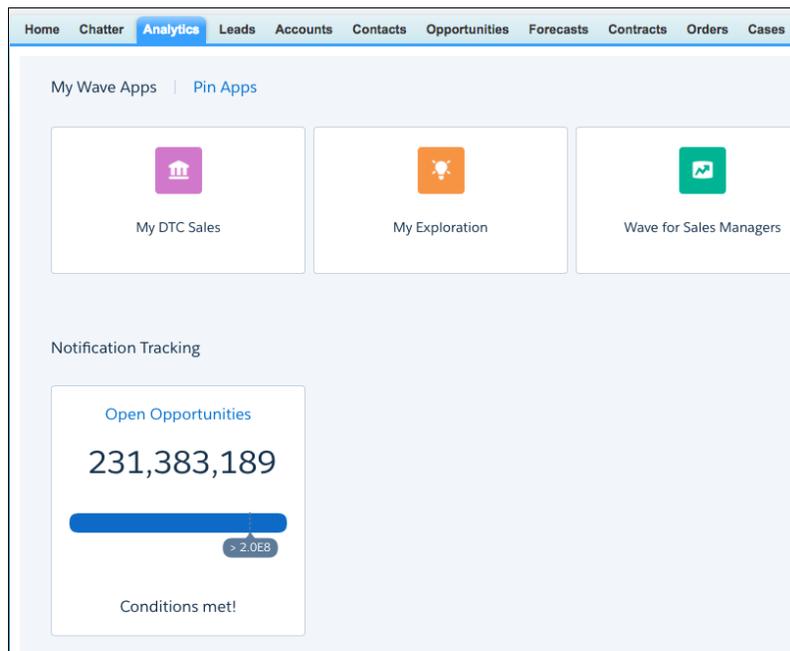
## Seamlessly Integrate Wave into Salesforce with Wave Tabs

Now you can access your personal Analytics home and run Wave apps from a tab within Salesforce.

The Analytics tab is available in new Wave-enabled orgs.



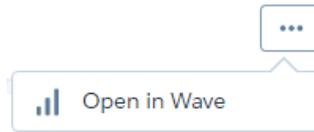
In existing orgs, set up the Analytics tab as you would any new tab.



Wave in the Analytics tab can include these Wave features:

- Annotations, notifications, and full-screen presentation
- Sharing and downloading options
- Links to other Wave assets
- Record actions menu

- Link to native Wave (available for Wave users but not Community users)



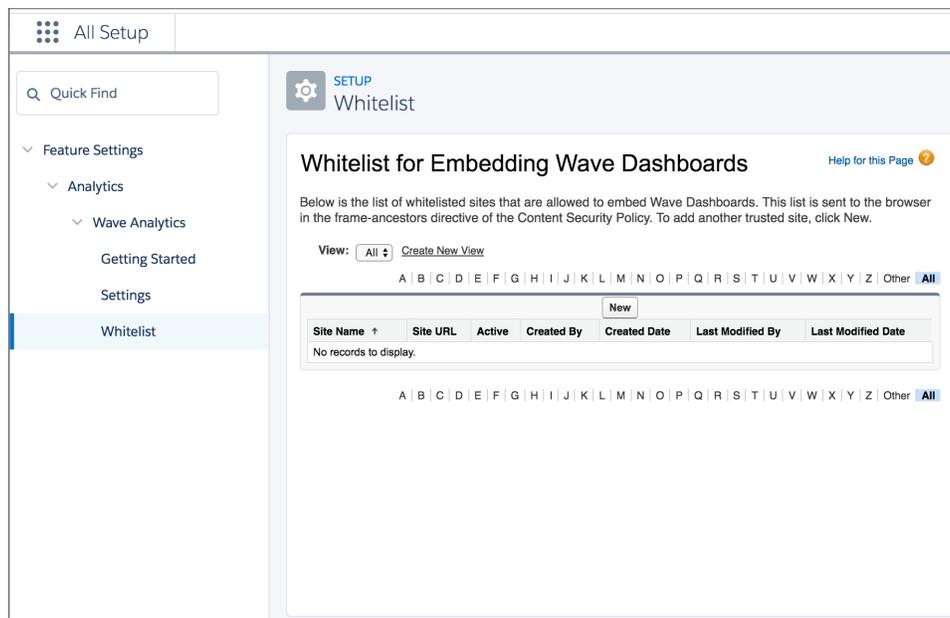
## Embed Wave in Any Web Page or Web-Based App

By specifying your trusted sites in the new Wave Analytics whitelist, you can include embedded Wave dashboards in websites and apps outside of Salesforce servers.

First, add a Wave dashboard component to your site, using [Visualforce embedding](#), [Lightning App Builder](#), or Lightning Out. This code sample shows how to add a Wave dashboard component via Lightning Out.

```
$Lightning.use("wave:waveApp", function() {
    $Lightning.createComponent("wave:waveDashboard", {
        dashboardId: "0FKxx00000006bOGAQ"
    }, "app");
}, url, accessToken)
```

Second, set up a whitelist using the Content Security Policy (CSP). From Setup, enter *whitelist* in the Quick Find box, and then select **Whitelist** under Wave Analytics.



Click **New** and enter the information for your site.

**Whitelisted Site Edit** [Help for this Page](#) ?

Enter a frame ancestor site. This site will be whitelisted in the frame-ancestor directive in the Content Security Policy header.

**Whitelisted Site Edit**

Site Name

Site URL

Description

Active

The whitelist for embedded Wave includes the following by default:

- \*.salesforce.com:\*
- \*.force.com:\*
- Your org's custom domain.

## Wave: Explore and Visualize

Explore your data more easily with improved navigation and user experience, plus new functions, filters, and chart types.

### IN THIS SECTION:

#### [Enhanced Compare Table Navigation](#)

Quickly and easily create new columns and navigate between existing ones using clicks or keystrokes.

#### [Improved Pivot and Values Tables](#)

The values and pivot tables now allow you to copy values directly from cells. The values table also supports column-based sorting and has a summary row.

#### [Explore New Filters and Functions](#)

Two new filter conditions allow you to include or exclude nulls from range-based measures. And a whole new group of SQL functions has joined the party to expand your aggregation choices.

#### [Broaden Your Visualization Horizons with New Wave Charts](#)

Use radars, trees, and bubbles to visualize your business. These new charts, along with other new types such as matrix and multi-metric timeline charts, add to your options for visualizing any kind of data.

#### [Enhanced Wave Charts](#)

From predictive lines to scaled axes, customizable label sizes to better handling of null values, Wave charts continue to expand the boundaries of utility and flexibility.

## Enhanced Compare Table Navigation

Quickly and easily create new columns and navigate between existing ones using clicks or keystrokes.

You can navigate columns in the column editor using arrow buttons or your keyboard's left and right arrow keys.

|                  |  | A             | B             | C                      |
|------------------|--|---------------|---------------|------------------------|
| PRODUCT_CATEGORY | PRODUCT_NAME                                 | COUNT OF ROWS | SUM OF PROFIT | PROFIT (LOSS) PER SALE |
| Furniture        | 12-1/2 Diameter Round Wall Clock             | 12            | 2,687.3685    | \$223.95               |
|                  | 36X48 HARDFLOOR CHAIRMAT                     | 2             | -813.262      | -\$406.63              |
|                  | 3M Hangers With Command Adhesive             | 4             | 45.7125       | \$11.43                |
|                  | 3M Polarizing Light Filter Sleeves           | 5             | 626.0546      | \$125.21               |
|                  | 3M Polarizing Task Lamp with Clamp Ar...     | 10            | 5,100.9404    | \$510.09               |
|                  | 6" Cubicle Wall Clock, Black                 | 5             | -325.1779     | -\$65.04               |
|                  | 9-3/4 Diameter Round Wall Clock              | 7             | -173.5256     | -\$24.79               |
|                  | Advantus Employee of the Month Certifi...    | 7             | 468.4434      | \$66.92                |
|                  | Advantus Panel Wall Acrylic Frame            | 2             | 4,903.3071    | \$2,451.65             |
|                  | Advantus Panel Wall Certificate Holder - ... | 5             | -45.0217      | -\$9                   |
|                  | Aluminum Document Frame                      | 15            | -442.7878     | -\$29.52               |

When you reach the right-most column, the right arrow button becomes an add-column button. You can click the add-column button or use your keyboard's Enter key to add a new formula column.

|                  |  | A             | B             | C                      |
|------------------|--|---------------|---------------|------------------------|
| PRODUCT_CATEGORY | PRODUCT_NAME                                 | COUNT OF ROWS | SUM OF PROFIT | PROFIT (LOSS) PER SALE |
| Furniture        | 12-1/2 Diameter Round Wall Clock             | 12            | 2,687.3685    | \$223.95               |
|                  | 36X48 HARDFLOOR CHAIRMAT                     | 2             | -813.262      | -\$406.63              |
|                  | 3M Hangers With Command Adhesive             | 4             | 45.7125       | \$11.43                |
|                  | 3M Polarizing Light Filter Sleeves           | 5             | 626.0546      | \$125.21               |
|                  | 3M Polarizing Task Lamp with Clamp Ar...     | 10            | 5,100.9404    | \$510.09               |
|                  | 6" Cubicle Wall Clock, Black                 | 5             | -325.1779     | -\$65.04               |
|                  | 9-3/4 Diameter Round Wall Clock              | 7             | -173.5256     | -\$24.79               |
|                  | Advantus Employee of the Month Certifi...    | 7             | 468.4434      | \$66.92                |
|                  | Advantus Panel Wall Acrylic Frame            | 2             | 4,903.3071    | \$2,451.65             |
|                  | Advantus Panel Wall Certificate Holder - ... | 5             | -45.0217      | -\$9                   |
|                  | Aluminum Document Frame                      | 15            | -442.7878     | -\$29.52               |

You can also add columns directly from the compare table using the new add-column menu.

cells (formula) Group Subgroup

Profit (Loss) Per Sale by Product\_Category and Product\_Name + Group [Menu] [Settings] [Columns]

Filter

| PRODUCT_CATEGORY | PRODUCT_NAME                                 | COUNT OF ROWS | SUM OF PROFIT | PROFIT (LOSS) PER SALE |
|------------------|--|---------------|---------------|------------------------|
| Furniture        | 12-1/2 Diameter Round Wall Clock             | 12            | 2,687.3685    | \$223.95               |
|                  | 36X48 HARDFLOOR CHAIRMAT                     | 2             | -813.262      | -\$406.63              |
|                  | 3M Hangers With Command Adhesive             | 4             | 45.7125       | \$11.43                |
|                  | 3M Polarizing Light Filter Sleeves           | 5             | 626.0546      | \$125.21               |
|                  | 3M Polarizing Task Lamp with Clamp Ar...     | 10            | 5,100.9404    | \$510.09               |
|                  | 6" Cubicle Wall Clock, Black                 | 5             | -325.1779     | -\$65.04               |
|                  | 9-3/4 Diameter Round Wall Clock              | 7             | -173.5256     | -\$24.79               |
|                  | Advantus Employee of the Month Certifi...    | 7             | 468.4434      | \$66.92                |
|                  | Advantus Panel Wall Acrylic Frame            | 2             | 4,903.3071    | \$2,451.65             |
|                  | Advantus Panel Wall Certificate Holder - ... | 5             | -45.0217      | -\$9                   |

Choose **Add Formula Column** to add a column and open the column editor.

Use the new **Close** button to exit the column editor without applying changes to the column.

### Improved Pivot and Values Tables

The values and pivot tables now allow you to copy values directly from cells. The values table also supports column-based sorting and has a summary row.

Wave Analytics Browse New Lens

rows columns

Raw Data Description, Challenger, PenaltyType, YardLineDirection, OffenseTeam, IsTwoPoint...

Filter

Display Totals Off On

Show SAQL Off On

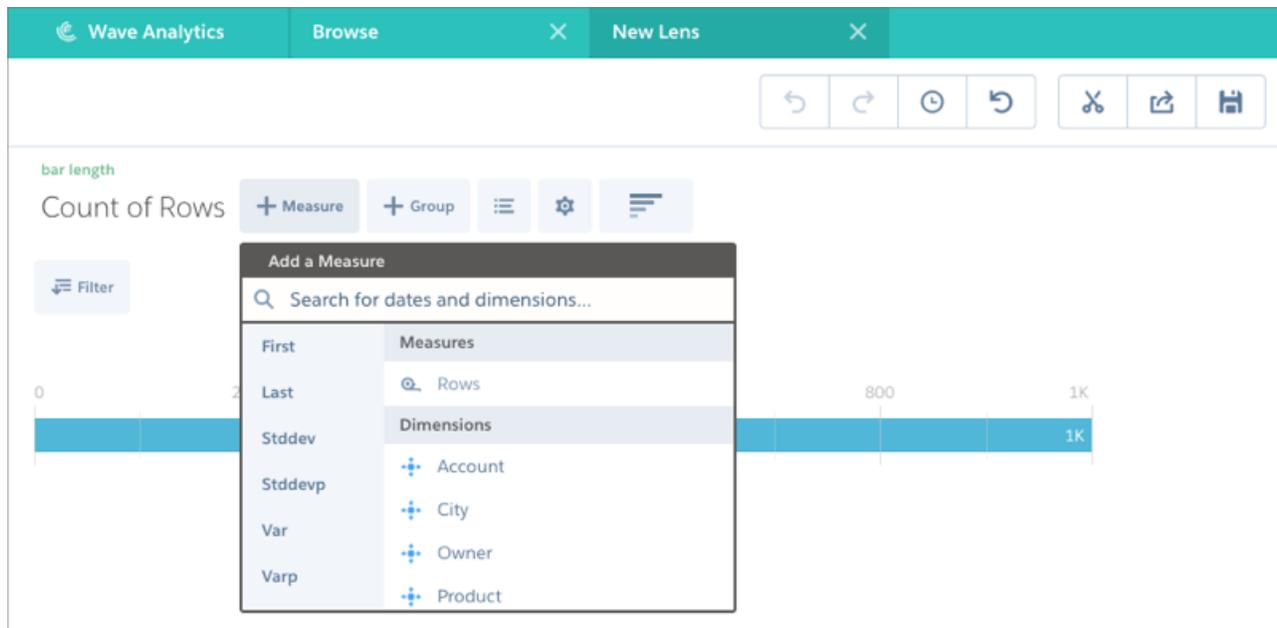
| #       | DESCRIPTION                             | CHALLENGER | PENALTYTYPE       | YARDLINEDIRECTION | OFFENSETEAM | ISTWOPOINTCONVERSIONSUCCESSFUL | QUARTER | ISNOPLAY |
|---------|---|------------|-------------------|-------------------|-------------|--------------------------------|---------|----------|
| Summary | -                                       | -          | -                 | -                 | -           | 45                             | 119,507 | 2,627    |
| 1       | 7-C.CATANZARO EXTRA POINT IS GOOD...    | -          | DEFENSIVE OFFSIDE | OPP               | ARI         | 0                              | 2       | 0        |
| 2       | 7-C.CATANZARO KICKS 60 YARDS FROM...    | -          | -                 | OWN               | ARI         | 0                              | 2       | 0        |
| 3       | (11:47) 23-C.JOHNSON LEFT TACKLE TO...  | -          | -                 | OPP               | ARI         | 0                              | 4       | 0        |
| 4       | (1:45) 3-C.PALMER PASS SHORT LEFT TO... | -          | -                 | OPP               | ARI         | 0                              | 1       | 0        |
| 5       | (4:13) 23-C.JOHNSON RIGHT TACKLE T...   | -          | -                 | OWN               | ARI         | 0                              | 3       | 0        |
| 6       | (3:31) 23-C.JOHNSON UP THE MIDDLE ...   | -          | -                 | OWN               | ARI         | 0                              | 3       | 0        |
| 7       | (9:12) (SHOTGUN) 3-C.PALMER PASS SH...  | -          | -                 | OWN               | ARI         | 0                              | 3       | 0        |

## Explore New Filters and Functions

Two new filter conditions allow you to include or exclude nulls from range-based measures. And a whole new group of SAQL functions has joined the party to expand your aggregation choices.

Two new filter conditions allow you to include or exclude nulls from range-based measures. Use **Is Null** to return all nulls in a specified range. Use **Is Not Null** to exclude all nulls from results in a specified range.

New SAQL aggregate functions give you more ways to aggregate measures: **first()**, **last()**, **median()**, **stddev()** (standard deviation), **stddevp()** (population standard deviation), **var()** (variance), **varp()** (population variance).



And if you use the Wave dashboard designer's query builder to create steps, the new roomier version gives you a better view of the charts or tables you create.

## Broaden Your Visualization Horizons with New Wave Charts

Use radars, trees, and bubbles to visualize your business. These new charts, along with other new types such as matrix and multi-metric timeline charts, add to your options for visualizing any kind of data.

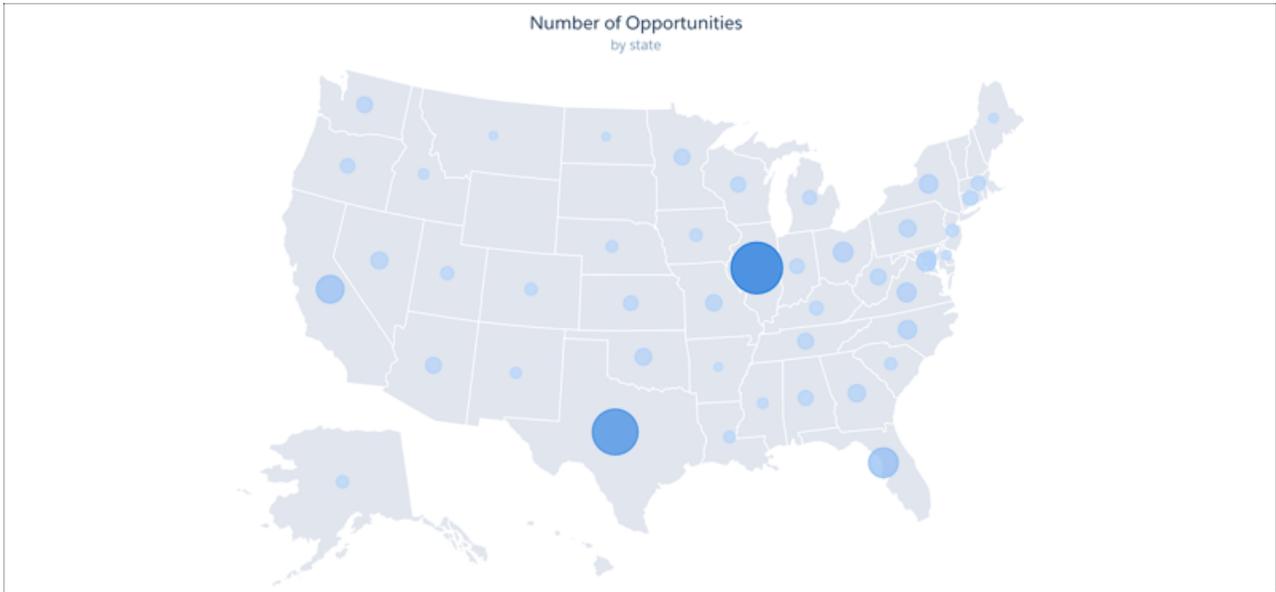
Use radar charts to display a small dataset with one dimension and at least three measure columns. For example, compare the year's quarterly numbers for contracts signed, total contract amount, and average contract amount.



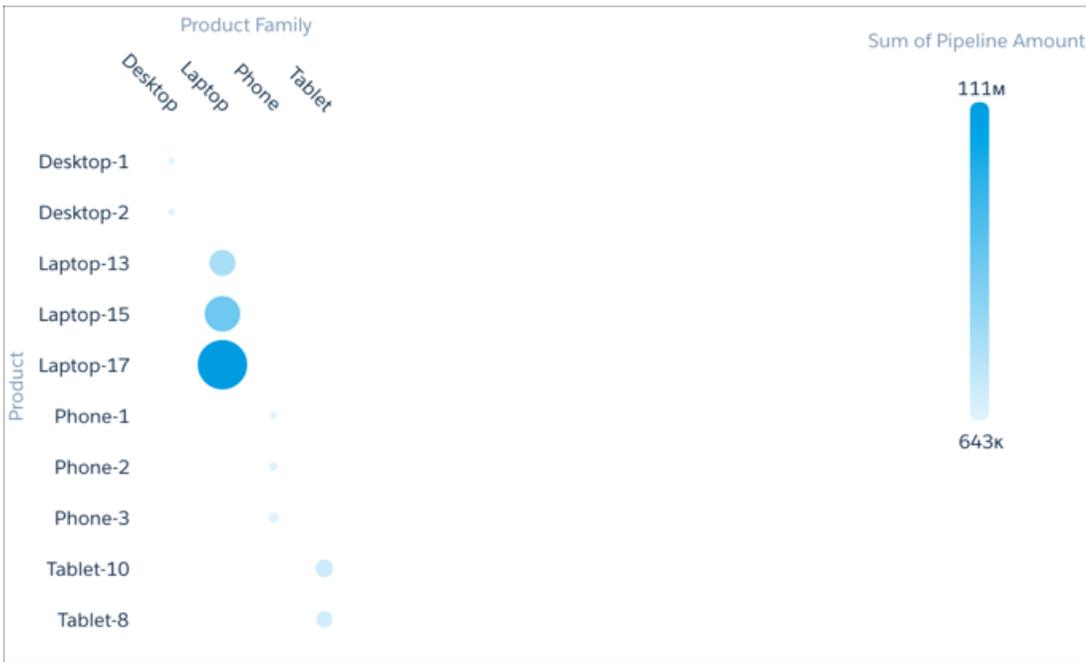
Use tree maps to visualize hierarchical quantitative data, where containing rectangles designate relationship with color, and "leaf" rectangles represent quantity using area. For example, you can show the number of opportunities by city in each state.



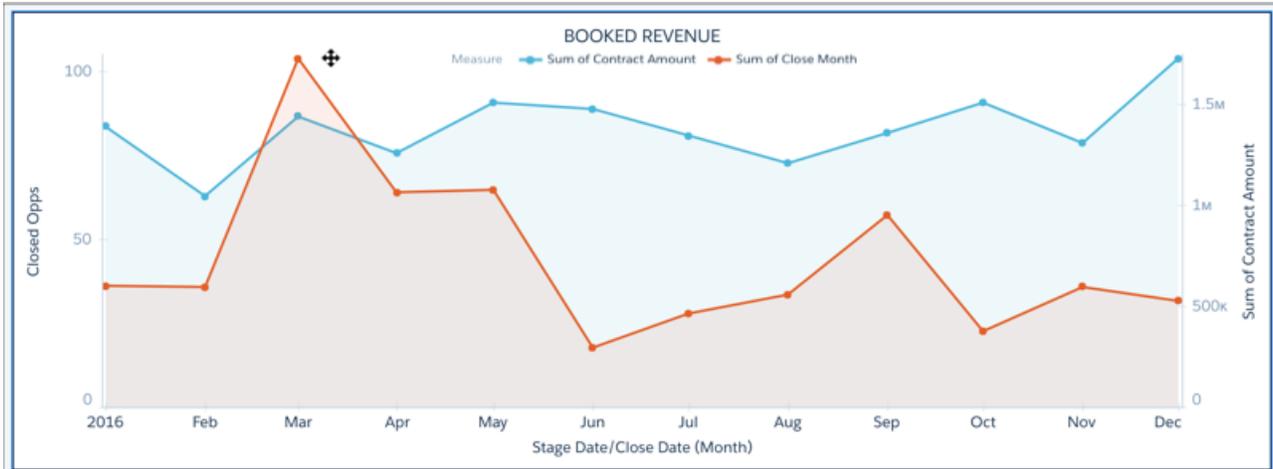
Like map charts, bubble maps use visual cues to indicate measure values in specified geographical areas. For example, you can show the relative number of opportunities in each state.



Use matrix charts (new to Wave dashboard designer) to create a table that represents measures visually, allowing you to quickly spot extreme values. For example, show which product families are generating the most opportunities.



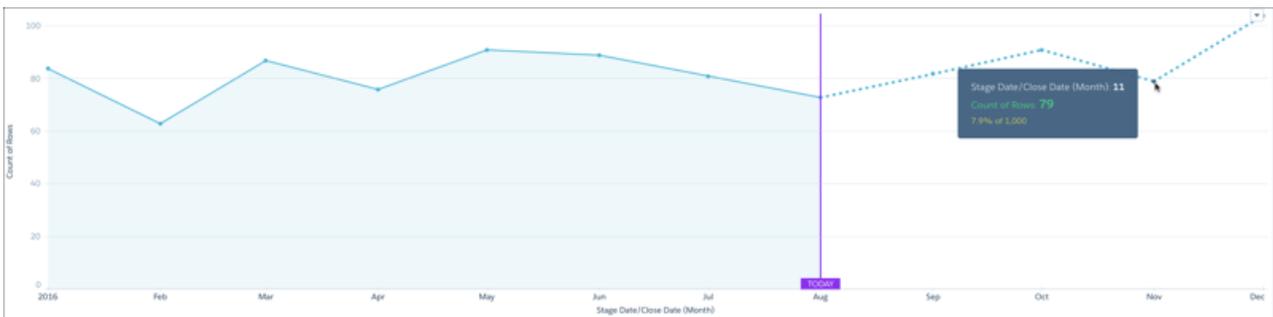
With multi-metric timeline charts, you can simultaneously compare multiple measures over time, all with one visualization. For example, you can plot monthly closed opportunities along with total contract value.



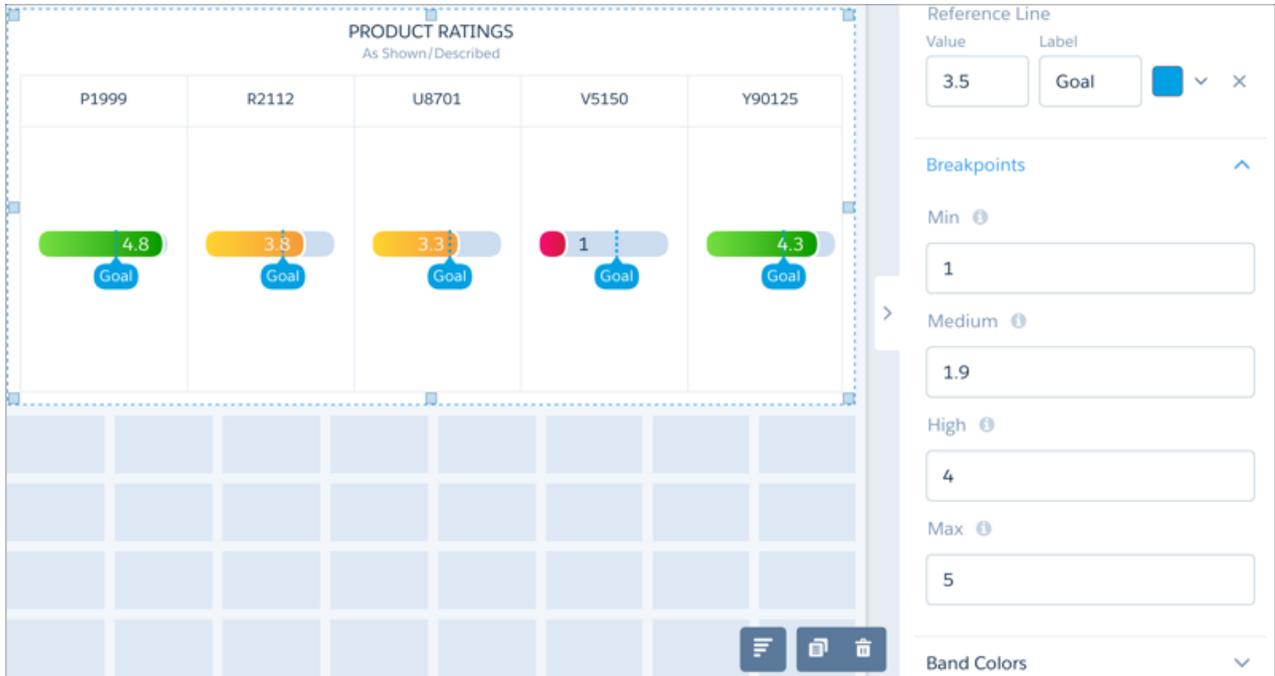
### Enhanced Wave Charts

From predictive lines to scaled axes, customizable label sizes to better handling of null values, Wave charts continue to expand the boundaries of utility and flexibility.

Need to drive home the point that your data is looking into the future? Look no further than adding a predictive line to your timeline chart. You set the date at which the timeline leaves existing data behind and uses predicted data to chart its course.



Speaking of the future, you can now set goals on flat gauges using reference lines.



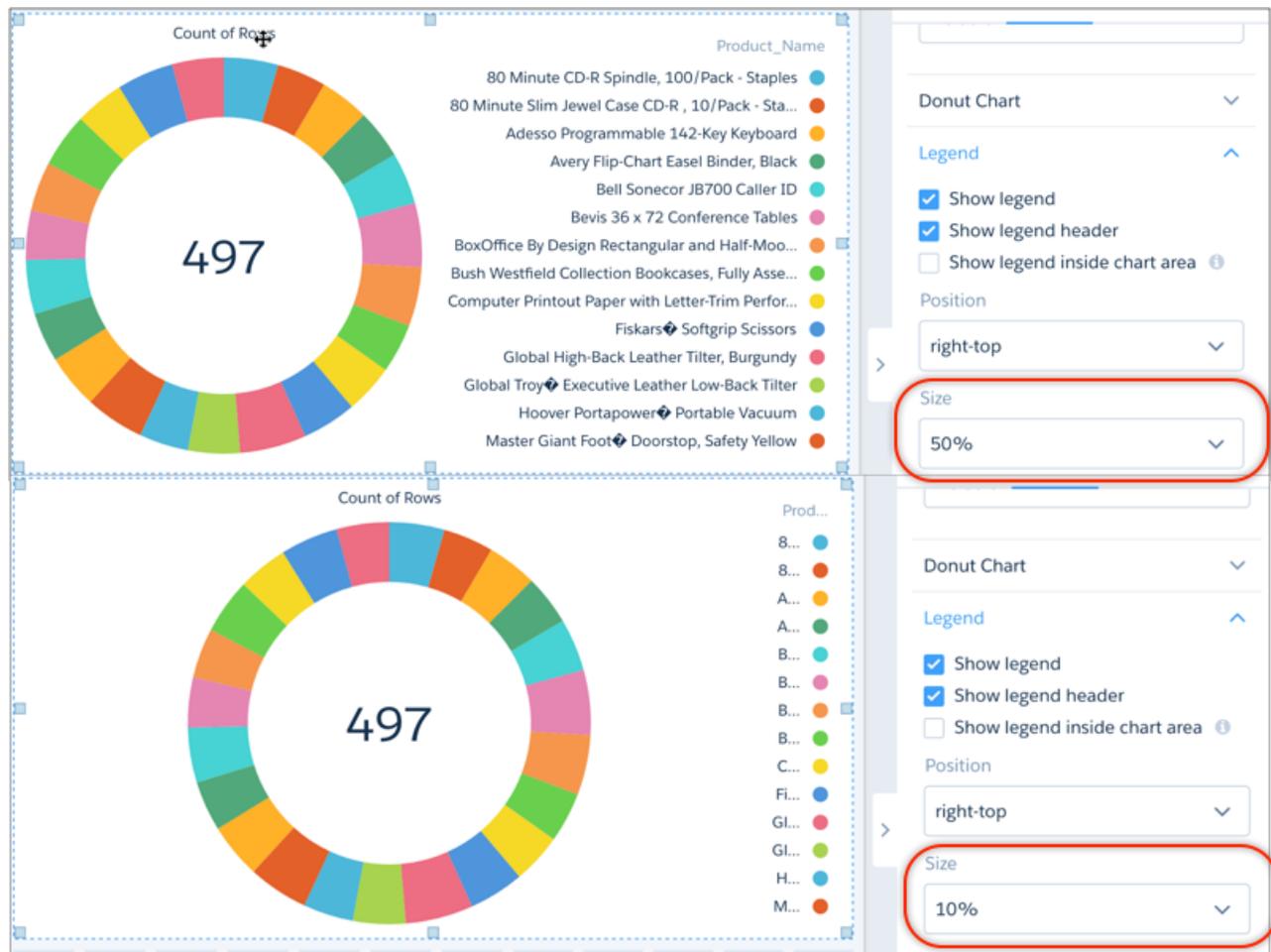
Improving the readability of your charts is even easier with custom label spacing and a log-style scale for vertical axes. Your finished chart could start out being a bit difficult to read:



But with some help from log-like scaling, it can become a star performer:



Control the size of legend text in charts to make it more readable, or keep it out of the way, with the legend sizing menu.



Other improvements include allowing screen readers to read all data points in a chart and indicating nulls with hyphens.

## Wave: Design and Build

Build dashboards more efficiently in Wave designer with connected datasets, more powerful filters, bulk actions, and pivot table support.

### IN THIS SECTION:

#### [Build Dashboards Faster with Widget Cloning and Step Replacement](#)

Clone widgets to create similar looking components in a Wave dashboard. For example, quickly create three number widgets and swap out their steps to show total open, total won, and total lost opportunity amounts. You can also clone chart widgets and change the chart type to get a different view of the same results.

#### [Automate Cross-Dataset Filtering with Connected Data Sources](#)

By default, steps from the same dataset are faceted—automatically filtering each other. To facet steps from different datasets or even static steps in a Wave designer dashboard, connect them. Previously, you had to modify JSON and use bindings to facet these steps.

#### [Customize the Display Values for List and Toggle Widgets](#)

You can now configure list and toggle widgets to show values from multiple fields. For example, a list widget can show sales rep and region, with values like SalesRepA-West, SalesRepB-West, and SalesRepC-North—allowing you to filter on both fields. You can also display measures as part of the value, and format the display.

#### [Take Action on Multiple Table Records with a Single Click](#)

You can create custom bulk actions that apply to all records shown in a table widget of a Wave designer dashboard. Use bulk actions to update records or perform an action on each of them. For example, if the table shows patients who haven't seen their doctor in two years, the bulk action can email each of them a reminder.

#### [Summarize Data Across Dimensions with Pivot Tables](#)

You can now display a table widget as a pivot table in a Wave designer dashboard. The widget pivots the table based on the last defined grouping. The grouping must be defined on a single dimension.

#### [Save and Package Images with Wave Apps](#)

You can now use Wave designer to upload images for image widgets and backgrounds. Wave designer saves them to an image gallery associated with the dashboard's app. The maximum file size for an image is 2 GB. If you package a Wave dashboard, Wave now includes images.

#### [Get Accurate Calculations with the New Null Measure Handling](#)

Calculations now ignore null measures. Previously, they were counted as zeroes. If all values in a calculation are null, the result is also null. As a result, your widgets might show different results. A null measure now appears as a dash in the Wave designer and explorer.

#### [Query Datasets and Salesforce Objects with New Step Types](#)

Wave designer dashboards support more step types, which allow you to query Salesforce objects and datasets.

#### [Experience More Intuitive Controls for the Date Widget](#)

You can configure the date widget to show fiscal and calendar years as well as the relative and absolute date ranges. While the dashboard is in preview mode, the date widget offers a more intuitive design for selecting absolute and relative dates.

#### [Identify Steps with Descriptive Labels](#)

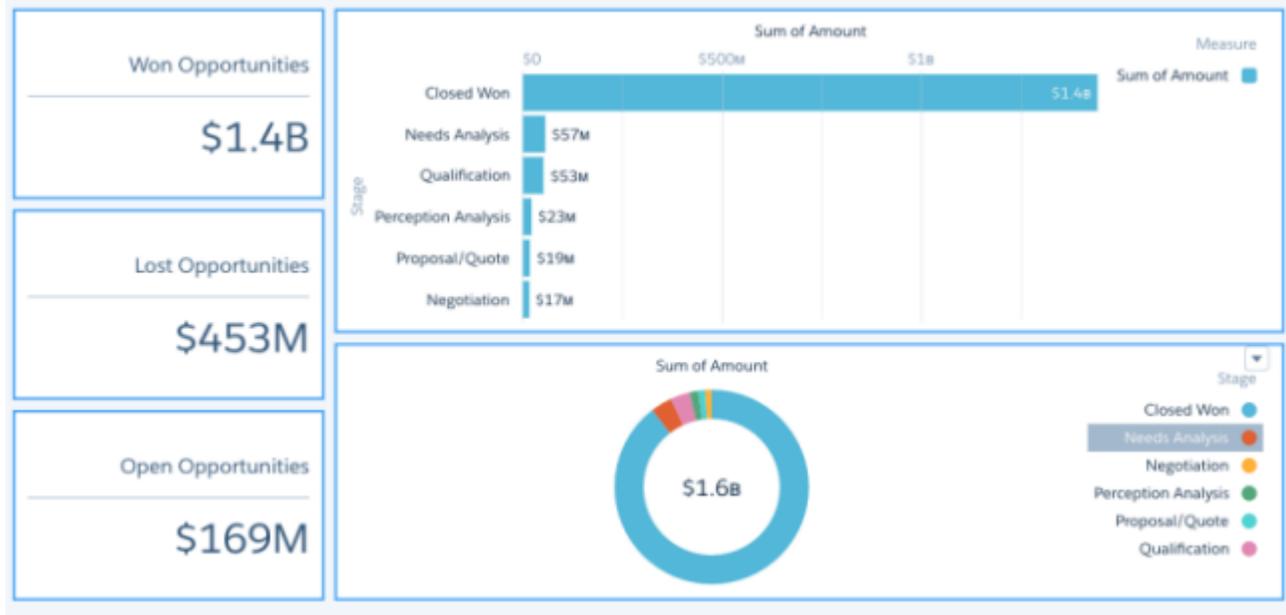
Make it easier to work with steps by giving them a descriptive label. For example, "Won Opportunity Amount" is more informative than the default ID "Amount\_1." Specify the label when you create the step because Wave generates the step ID based on the label. After creating the step, you can change the label but not the ID, unless you edit the JSON. Step IDs are required when working in the dashboard JSON, like when defining bindings.

#### [Take Advantage of Other Enhancements to Wave Dashboard Designer](#)

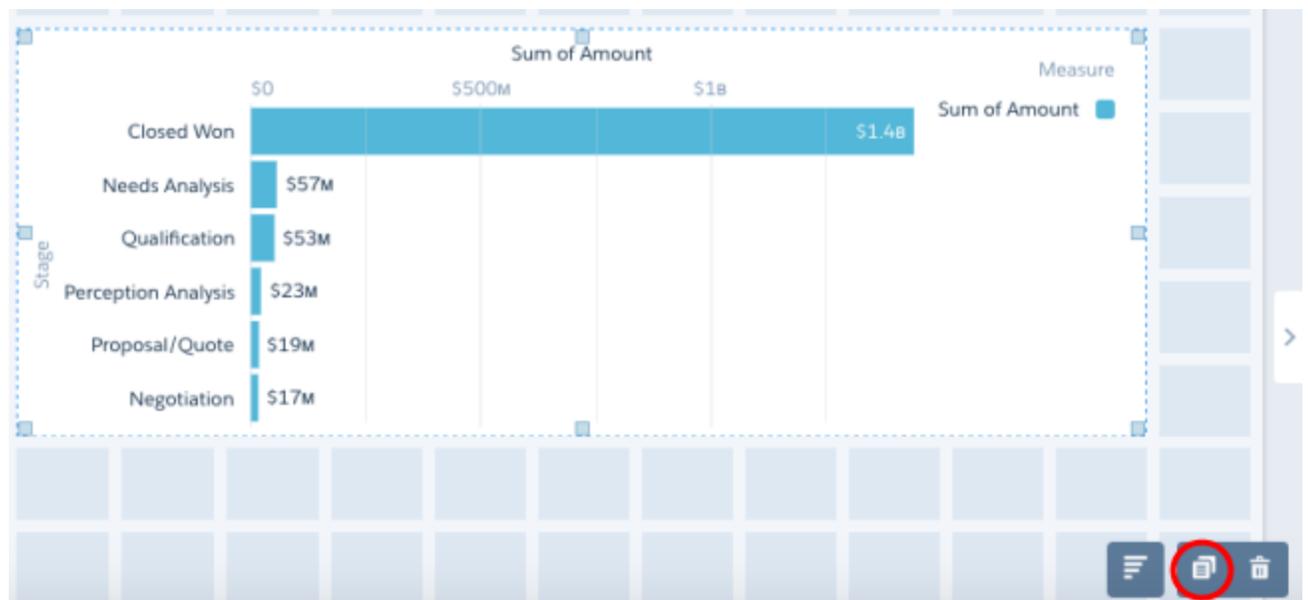
Do more with Wave designer. Package more parts of the dashboard. Apply descriptive labels to steps. Customize the Wave designer grid.

## Build Dashboards Faster with Widget Cloning and Step Replacement

Clone widgets to create similar looking components in a Wave dashboard. For example, quickly create three number widgets and swap out their steps to show total open, total won, and total lost opportunity amounts. You can also clone chart widgets and change the chart type to get a different view of the same results.



1. Click  to edit the dashboard.
2. To clone a widget:
  - Select the widget. You can clone any widget, except date or range.



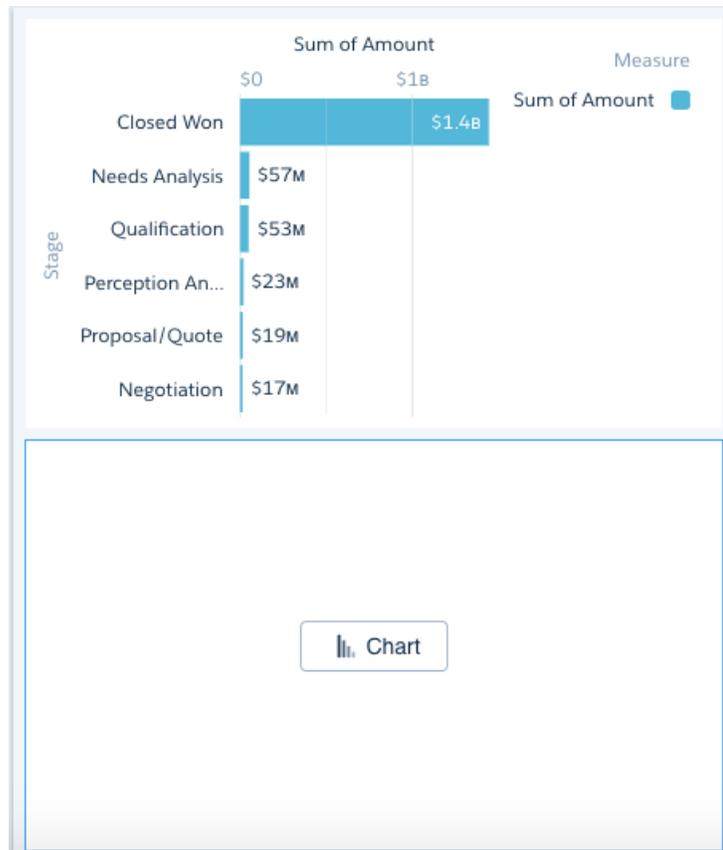
- Click .

Wave places a copy of the widget in the bottom of the dashboard. The cloned widget references the same step.

3. To change the step of a widget:

- a. Click  to open the step action menu.
- b. Click .

Wave removes the step, resulting in an empty widget.



- c. Add another step to the widget.

4. Save the dashboard.

## Automate Cross-Dataset Filtering with Connected Data Sources

By default, steps from the same dataset are faceted—automatically filtering each other. To facet steps from different datasets or even static steps in a Wave designer dashboard, connect them. Previously, you had to modify JSON and use bindings to facet these steps.

 **Note:** You can't connect static steps that specify date and measure ranges.

1. Click  to edit the dashboard.
2. Click  and then select **Connect Data Sources**.
3. Click **New Connection**.

### New Connection ✕

Connection Name

Data Source 1

Choose Data Source 1

Connects To

Data Source 2

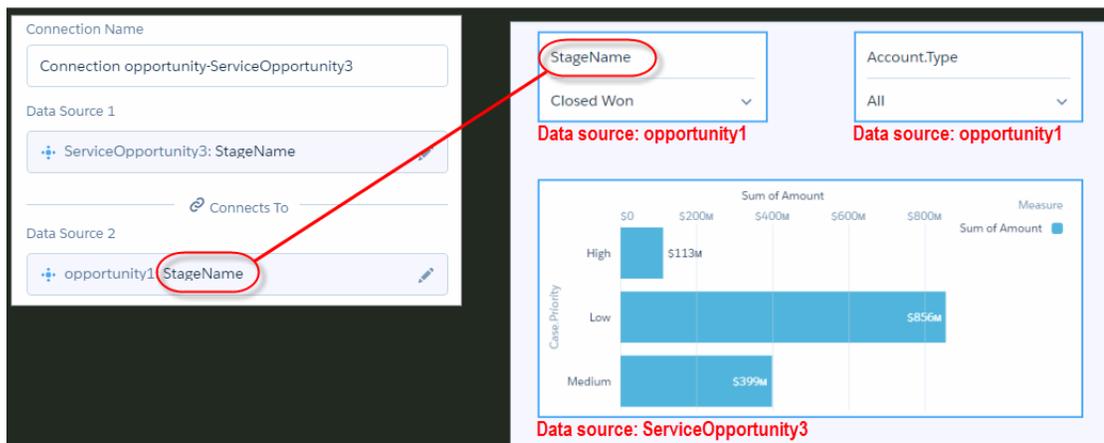
Choose Data Source 2

Back

Save

4. Enter a name for the connection.
5. Click **Choose Data Source 1** to select the first data source. For each data source, select a dataset or a static step used in the dashboard.
6. Choose one field from the data source so that Wave can match records between the specified sources.

 **Note:** Faceting only works on the fields used to define the connection. For example, the connection in the following screenshot is based on the StageName field. As a result, the StageName list widget is faceted to the bar chart. If a selection is made in the Account.Type list widget, faceting doesn't happen—the results are not filtered. To enable faceting on the Account.Type field, define another connection based on this field using the same data sources.



The screenshot shows the 'New Connection' configuration on the left and a resulting dashboard on the right. In the configuration, 'Data Source 1' is 'ServiceOpportunity3: StageName' and 'Data Source 2' is 'opportunity1: StageName'. The 'StageName' field in both is circled in red. A red arrow points from this field to the 'StageName' dropdown in the dashboard. The dashboard shows a bar chart titled 'Sum of Amount' with 'Case Priority' on the y-axis and 'Sum of Amount' on the x-axis. The bars represent High (\$113M), Low (\$856M), and Medium (\$399M). The 'StageName' dropdown is set to 'Closed Won' and is also circled in red. The 'Account.Type' dropdown is set to 'All'. Red text labels identify the data sources for each widget: 'Data source: opportunity1' for the StageName dropdown and 'Data source: ServiceOpportunity3' for the bar chart.

| Case Priority | Sum of Amount |
|---------------|---------------|
| High          | \$113M        |
| Low           | \$856M        |
| Medium        | \$399M        |

7. Click **Choose Data Source 2** to select the second source, and then choose a field.

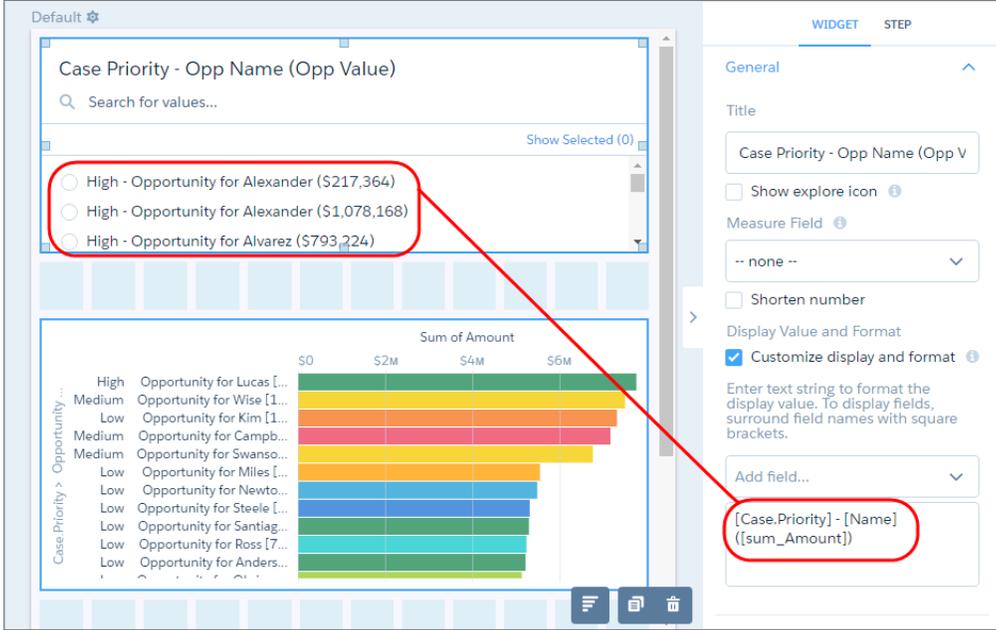
8. To add another data source, click **Add Data Source**. This option appears after you connect two data sources.
9. Click **Save**.

 **Note:** If you previously added a dataset and dimension to a static step definition to facet it with another step, Wave creates a data source connection between them. It also removes the dataset and dimension from the step definition.

## Customize the Display Values for List and Toggle Widgets

You can now configure list and toggle widgets to show values from multiple fields. For example, a list widget can show sales rep and region, with values like SalesRepA-West, SalesRepB-West, and SalesRepC-North—allowing you to filter on both fields. You can also display measures as part of the value, and format the display.

To customize the display values, click **Customize display and format** in the widget properties. From the **Add field...** dropdown, select a grouping or measure defined in the step query. You can insert more characters directly into the editor box to format the display. For instance, you can add parentheses to enclose the measure value as shown here.



The screenshot shows the Wave Analytics interface. On the left, a list widget titled 'Case Priority - Opp Name (Opp Value)' displays three items: 'High - Opportunity for Alexander (\$217,364)', 'High - Opportunity for Alexander (\$1,078,168)', and 'High - Opportunity for Alvarez (\$793,224)'. Below the list is a horizontal bar chart titled 'Sum of Amount' with a scale from \$0 to \$6M. On the right, the 'WIDGET STEP' configuration panel is open. The 'Display Value and Format' section has the 'Customize display and format' checkbox checked. The 'Add field...' dropdown is set to '[Case.Priority] - [Name] ([sum\_Amount])'.

## Take Action on Multiple Table Records with a Single Click

You can create custom bulk actions that apply to all records shown in a table widget of a Wave designer dashboard. Use bulk actions to update records or perform an action on each of them. For example, if the table shows patients who haven't seen their doctor in two years, the bulk action can email each of them a reminder.

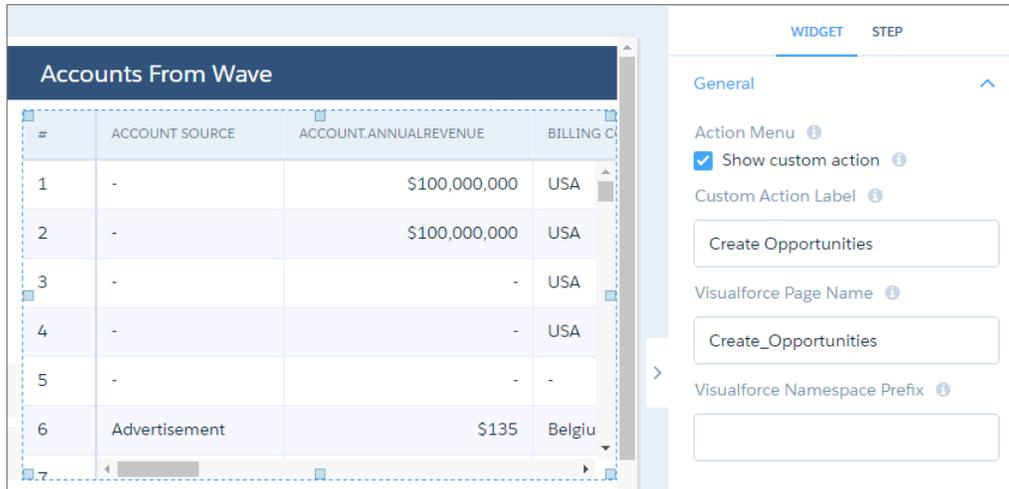
Wave doesn't support bulk actions on table widgets that are built on `static` or `sql` step types.

To add a bulk action to a table widget:

1. In a Visualforce page, define the logic that the bulk action performs.
2. Configure the following widget properties to display the bulk action in the table widget's action menu.

| Property           | Description  |
|--------------------|--|
| Show Custom Action | Select to display the bulk action in the widget's action menu. |

| Property                     | Description   |
|------------------------------|---|
| Custom Action Label          | Label for the action in the action menu.  |
| Visualforce Page Name        | API name of the Visualforce page where you defined the logic for the bulk action. |
| Visualforce Namespace Prefix | Optional. Namespace prefix specified for the Visualforce page.                    |



The bulk action appears in the action menu of the table widget.

**Note:** This widget-level action menu is different from the record-level action menu that you can access from a record.



For more information, see [“Configure Bulk Actions on Table Records.”](#)

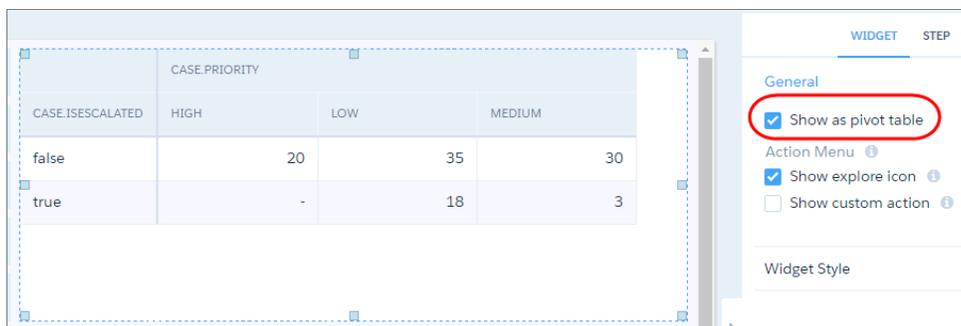
### Summarize Data Across Dimensions with Pivot Tables

You can now display a table widget as a pivot table in a Wave designer dashboard. The widget pivots the table based on the last defined grouping. The grouping must be defined on a single dimension.

The following table pivots on the Priority grouping.

|                     | PRIORITY     |               |              |
|---------------------|--------------|---------------|--------------|
| STAGE               | HIGH         | LOW           | MEDIUM       |
| Closed Lost         | \$1,436,163  | \$51,214,534  | \$19,697,035 |
| Closed Won          | \$22,078,755 | \$151,381,085 | \$83,735,126 |
| Needs Analysis      | \$1,035,203  | \$37,006,802  | \$12,008,182 |
| Negotiation         | \$3,986,982  | \$11,130,635  | -            |
| Perception Analysis | \$945,768    | \$11,152,438  | \$2,295,603  |

To display a table widget as a pivot table, select **Show as pivot table.** This option appears only if the step query contains a grouping.

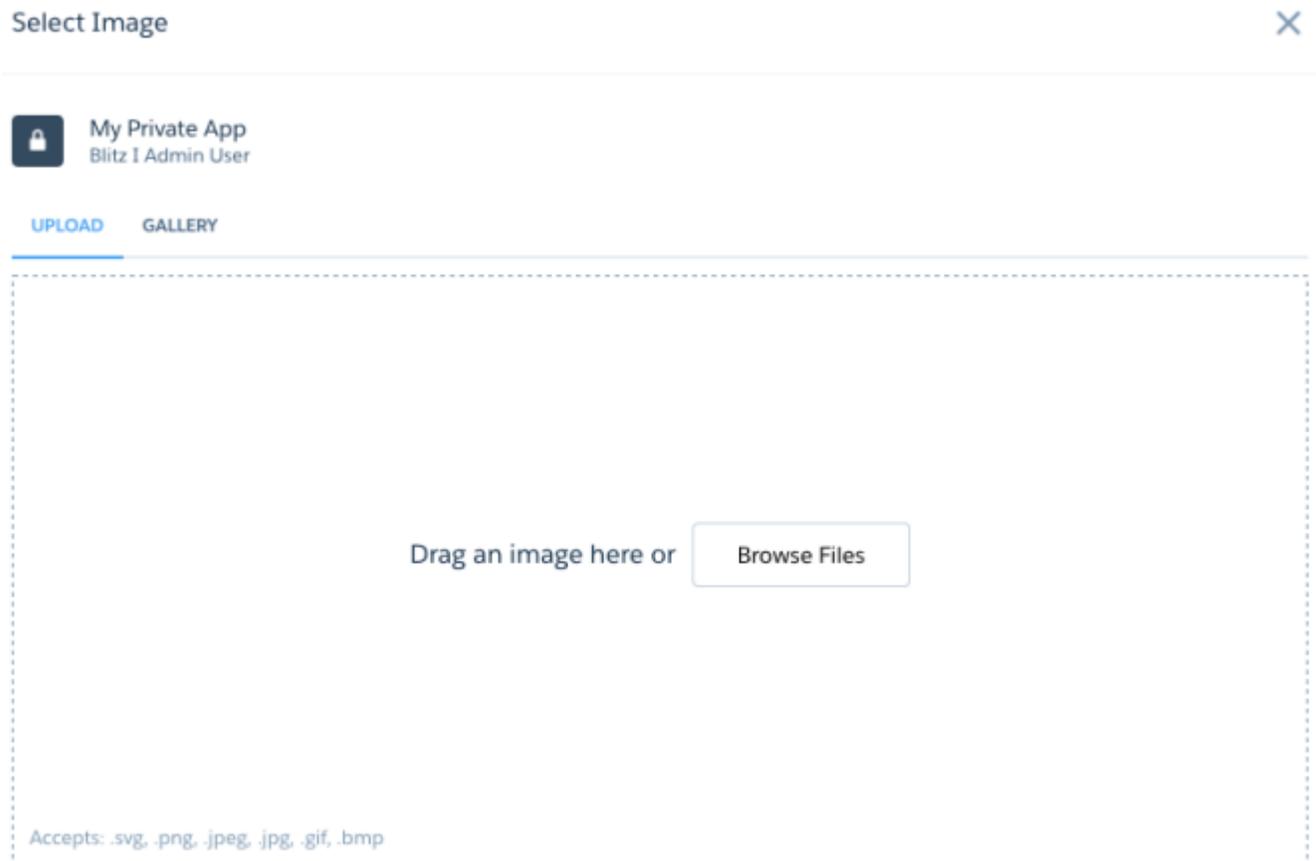


## Save and Package Images with Wave Apps

You can now use Wave designer to upload images for image widgets and backgrounds. Wave designer saves them to an image gallery associated with the dashboard's app. The maximum file size for an image is 2 GB. If you package a Wave dashboard, Wave now includes images.

To upload an image, you need the "Create and Edit Wave Analytics Dashboards" and "Create Wave Analytics Apps" user permissions.

When you need an image, you can upload one or use an existing one from the gallery.



If you previously added images using the document ID, those images continue to work. The document ID is visible, but not editable, in the user interface. To replace these images, remove them and pick a new image from the image gallery.

## Get Accurate Calculations with the New Null Measure Handling

Calculations now ignore null measures. Previously, they were counted as zeroes. If all values in a calculation are null, the result is also null. As a result, your widgets might show different results. A null measure now appears as a dash in the Wave designer and explorer.

Null measure handling is enabled in orgs created during or after the Spring '17 release—it can't be disabled. For information about enabling null measure handling in an existing org, see [Get Better Results with Null Measure Handling](#).

## Query Datasets and Salesforce Objects with New Step Types

Wave designer dashboards support more step types, which allow you to query Salesforce objects and datasets.

You can manually define the following new step types in the dashboard JSON. You can't use these step types in compact form.

### **saql** Step Type

Use the `saql` step type for special cases when querying a Wave dataset. With this step type, you can write a custom SAQL query to create derived fields in a values table. You can specify dimensions without groupings. Also, you can bind the dataset name or entire query. For example, you can bind this step type to a static step that provides different SAQL queries or datasets.

Here's an example of the JSON syntax for a `saql` step.

```
"Oppty2ProdSAQL": {
  "type": "saql",
  "label": "Oppty2ProdSAQL",
  "query": "q = load \"Goppty\";
           q = group q by id;
           q = foreach q generate id as 'id',
                                   first('Account') as 'Account',
                                   sum(Oppty_Amount) as 'sum_Oppty_Amount';",
  "isFacet": true,
  "useGlobal": true,
  "selectMode": "single"
}
```

 **Tip:** For the query to return dimensions that aren't included in groupings, use the `first()` function. In the example, because there's a unique id for each opportunity record, the first retrieved account for each ID is the right account—it's actually the only account. If there were duplicate IDs for an opportunity, the query would assign the wrong account to all subsequent opportunities after the first one.

| Property               | Description   |
|------------------------|---|
| <code>type</code>      | Step type. Set to <code>saql</code> .   |
| <code>label</code>     | Step label.   |
| <code>query</code>     | SAQL query. For more information about SAQL queries, see <a href="#">Wave Analytics SAQL Reference</a> .  |
| <code>isFacet</code>   | Enables this step to facet and be faceted by other steps. Faceting is when a selection in a widget filters other steps in the dashboard. By default, steps from the same dataset are faceted. To facet steps from different datasets, connect the data sources. The <code>autofilter</code> property is not required to enable faceting for these step types. |
| <code>useGlobal</code> | Apply global filters to this step.  |

## soql Step Type

Use to directly query Salesforce objects—both standard and custom—to get Salesforce data that's not available in datasets. You can also query external objects created with an OData adapter for Salesforce Connect. For more information about using Salesforce Connect to access external data, see the [Salesforce Connect](#) online help. The user viewing the dashboard must have access to the object and fields queried by the `soql` step.

Here's an example of the JSON syntax for a `soql` step.

```
"soql": {
  "type": "soql",
  "query": "SELECT Name from ACCOUNT",
  "strings": ["Name"],
  "numbers": [],
  "groups": [],
  "selectMode": "single"
}
```

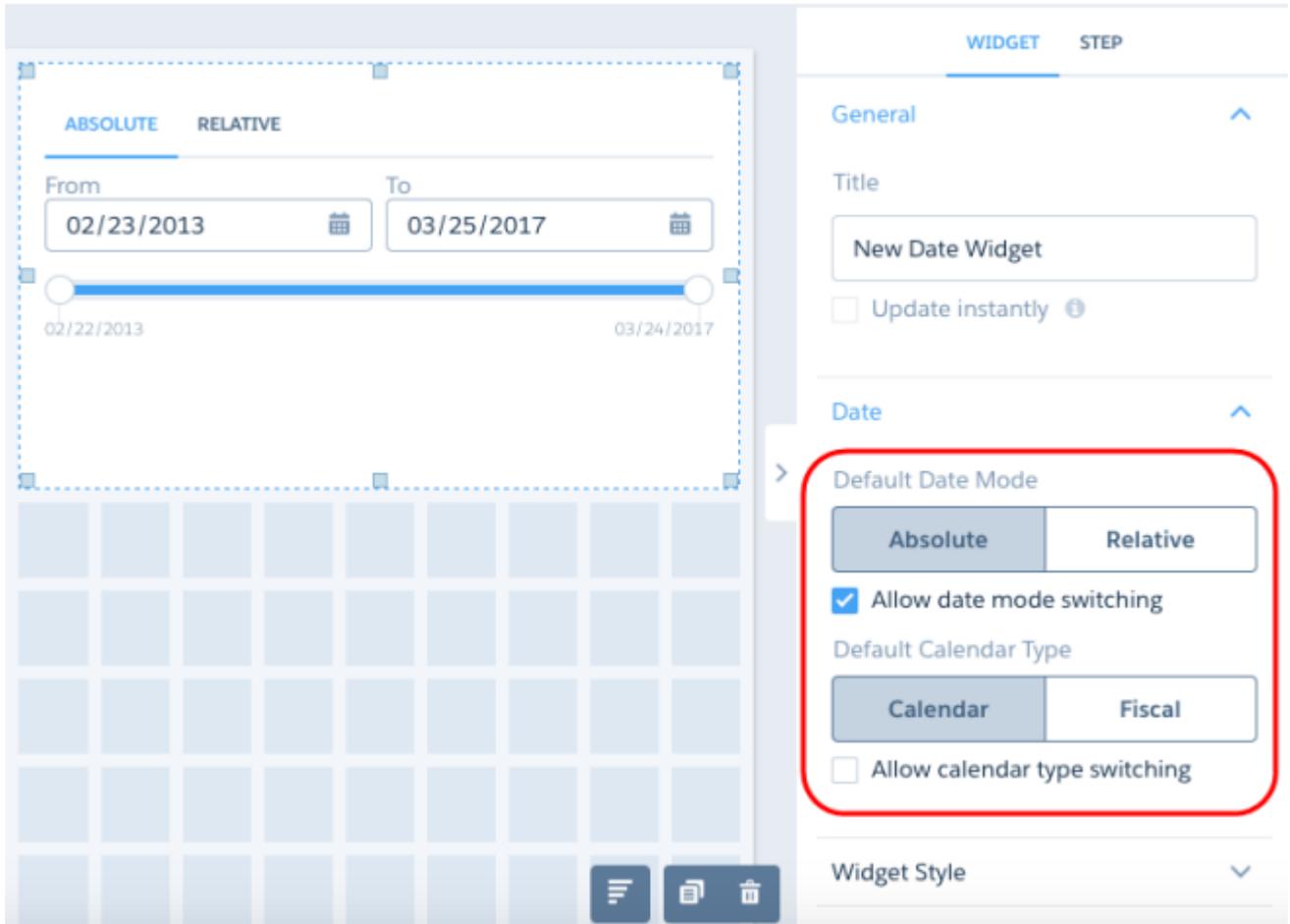
| Property | Description   |
|----------|---|
| type     | Step type. Set to <code>soql</code> .   |
| label    | Step label.   |
| query    | SOQL query. For more information about SOQL queries, see <a href="#">Force.com SOQL and SOSL Reference</a> .  |
| strings  | Flags the specified fields as non-grouping dimensions. For example, you can flag a field as a dimension for a values table in which no groupings are allowed. |
| numbers  | Flags the specified fields as measures.   |
| groups   | Flags the specified fields as groupings. For example, you can flag a field as a grouping for a pivot table or chart.  |

The `isFacet` and `useGlobal` properties don't apply to this step type. You can use a binding to filter other steps based on a selection in a `soql` step.

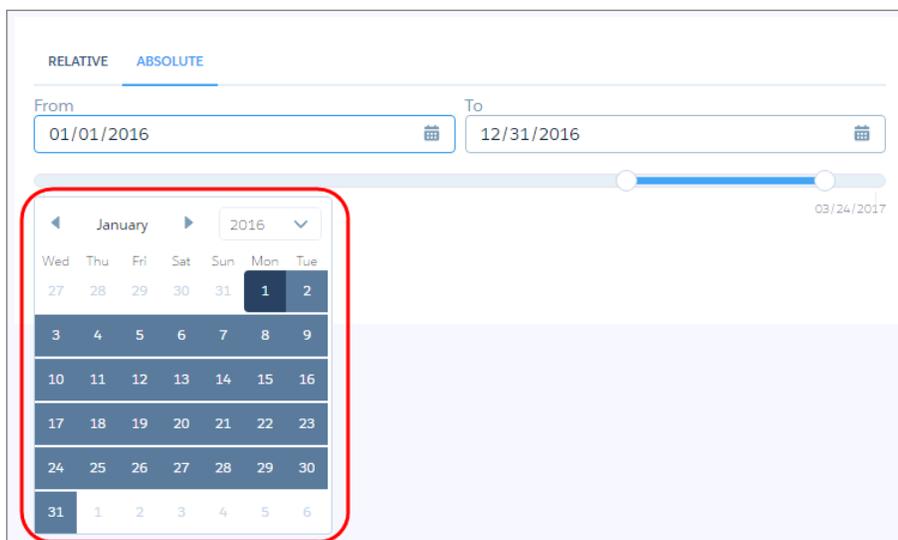
 **Note:** You can also optionally specify the "strings", "numbers", and "groups" step properties for static steps. Specify these properties to apply a static step to a widget that requires groupings or measures.

## Experience More Intuitive Controls for the Date Widget

You can configure the date widget to show fiscal and calendar years as well as the relative and absolute date ranges. While the dashboard is in preview mode, the date widget offers a more intuitive design for selecting absolute and relative dates.



While previewing a dashboard, you can quickly scroll through years and months when selecting an absolute date. Previously, you had to enter the date or use the slider to pick a date.



In relative date mode, the new, intuitive design allows you to select dates relative today, where today is based on UTC. You can also type in your own values for the range.

## Identify Steps with Descriptive Labels

Make it easier to work with steps by giving them a descriptive label. For example, “Won Opportunity Amount” is more informative than the default ID “Amount\_1.” Specify the label when you create the step because Wave generates the step ID based on the label. After creating the step, you can change the label but not the ID, unless you edit the JSON. Step IDs are required when working in the dashboard JSON, like when defining bindings.

The label appears when you clip a step, when you create a step from a widget wizard, and, as shown below, in the step panel.



**Note:** You don't get the option to add the step label when you use a widget wizard to create the step for a list, toggle, date, or range widget.

## Take Advantage of Other Enhancements to Wave Dashboard Designer

Do more with Wave designer. Package more parts of the dashboard. Apply descriptive labels to steps. Customize the Wave designer grid.

Wave designer contains the following enhancements.

- Dashboards created in or after Spring '17 are fully packageable. Link widgets and images are now included in packages. To enable this feature, you can no longer delete assets (like images, dashboards, lenses) that other assets reference. To delete them, you must first remove the reference. This new behavior applies only to assets that you create from this release onwards. Previously, you could delete referenced assets, which would cause errors in the dashboard.
- Control the size of widgets by selecting the “fine” row height for the Wave designer grid. When using this option, the vertical spacing is set to 0 and can't be changed. Wave determines the default size of a widget based on number of columns and the row height to ensure that the widgets are readable and retain their relative sizes.
- Change the color of the designer grid and the gutter that appears when the device's screen size is wider than the maximum width of the dashboard.

- Specify horizontal alignment options for number and text widgets.
- Use bindings to dynamically set the dataset name in the `load` statement of a SAQL query. You can also use them to replace the entire string for a query as shown here.

```
"query": "{{cell(static_1.selection, 0, \"query\")}.asString()"
```

Given the `static_1` step with the following values:

```
values: [
  {query: "q = load \"opp\"; ..."}
  {query: "q = load \"account\"; ..."}
]
```

## Wave: Trend Data

Schedule refreshes of your trended dashboards, and control impacts to data storage.

### IN THIS SECTION:

#### [Configure Snapshot Schedule for Trending Reports](#)

Use the new scheduling configuration to set the frequency of your trending dashboard updates. Put trending on your schedule by choosing daily, weekly, or monthly updates using relative or specific days.

#### [Set Org-Wide Limits on Dataset Size for Trending Reports](#)

Admins can now control the impact that trending datasets have on general org-wide limits. Use these limits, available on the Wave Analytics Settings page, to prevent trending datasets from taking too large of a bite out of your available data storage.

#### [Group Columns with Boolean Values in Trending Dashboards](#)

Trending dashboards now surface Boolean data as both a measure column and a dimension column, so you can group and filter these values.

## Configure Snapshot Schedule for Trending Reports

Use the new scheduling configuration to set the frequency of your trending dashboard updates. Put trending on your schedule by choosing daily, weekly, or monthly updates using relative or specific days.

Intuitive scheduling controls are part of the flow for creating the trending dashboard.

Similar scheduling controls are available when trending from Salesforce Lightning and Salesforce Classic.

## Set Org-Wide Limits on Dataset Size for Trending Reports

Admins can now control the impact that trending datasets have on general org-wide limits. Use these limits, available on the Wave Analytics Settings page, to prevent trending datasets from taking too large of a bite out of your available data storage.

Use the **Max number of rows per snapshot** option to control the maximum number of rows that a trended report can have when a snapshot is taken. If the report exceeds the limit, the snapshot is not taken and an error email is sent to the user.

Use the **Max total number of rows in a trended dataset** option to limit the maximum number of rows that the Wave dataset containing the snapshots can have. If the dataset exceeds the limit, the oldest snapshot is deleted from the dataset.

These limits don't apply to admin users.

## Group Columns with Boolean Values in Trending Dashboards

Trending dashboards now surface Boolean data as both a measure column and a dimension column, so you can group and filter these values.

Previously, trending dashboards surfaced Boolean values as measures. You could add them as numbers, for example, but not group them.

## Wave: Accelerate with Prebuilt Wave Apps

Analytics keeps getting faster and easier with continual enhancements to Wave apps, including a smart configuration wizard that makes app creation more reliable and Wave Templates (Beta) that let you package your own apps for distribution.

### IN THIS SECTION:

[New Service Wave Analytics Dashboard and Datasets Bring Live Agent and Omni-Channel Data Into Focus](#)

We just added the chat dashboard and Omni-Channel datasets to Service Wave Analytics so the app can give you a more complete picture of Service Cloud performance.

[New Versions of Wave for Sales, Wave for Service Apps—Now Generally Available](#)

The Sales Wave Analytics and Service Wave dashboards are now easier to use and more powerful than ever since they're built with the new Wave dashboard designer.

[Available for Preview: New Versions of Wave for Sales, Wave for Service—Now in Beta](#)

We're in the middle of making Sales Wave Analytics and Service Wave even more powerful and easier to use with dashboards built using the Wave Dashboard Designer.

[Wave for Sales and Service Easier Than Ever to Create](#)

The enhanced configuration wizard checks Salesforce data to assure you can successfully create an app.

### SEE ALSO:

[Package and Distribute Apps with Wave Templates \(Beta\)](#)

## New Service Wave Analytics Dashboard and Datasets Bring Live Agent and Omni-Channel Data Into Focus

We just added the chat dashboard and Omni-Channel datasets to Service Wave Analytics so the app can give you a more complete picture of Service Cloud performance.

### USER PERMISSIONS

To use Wave apps:

- "Use Analytics Cloud Templated Apps"
- Additional permission as specified for each app

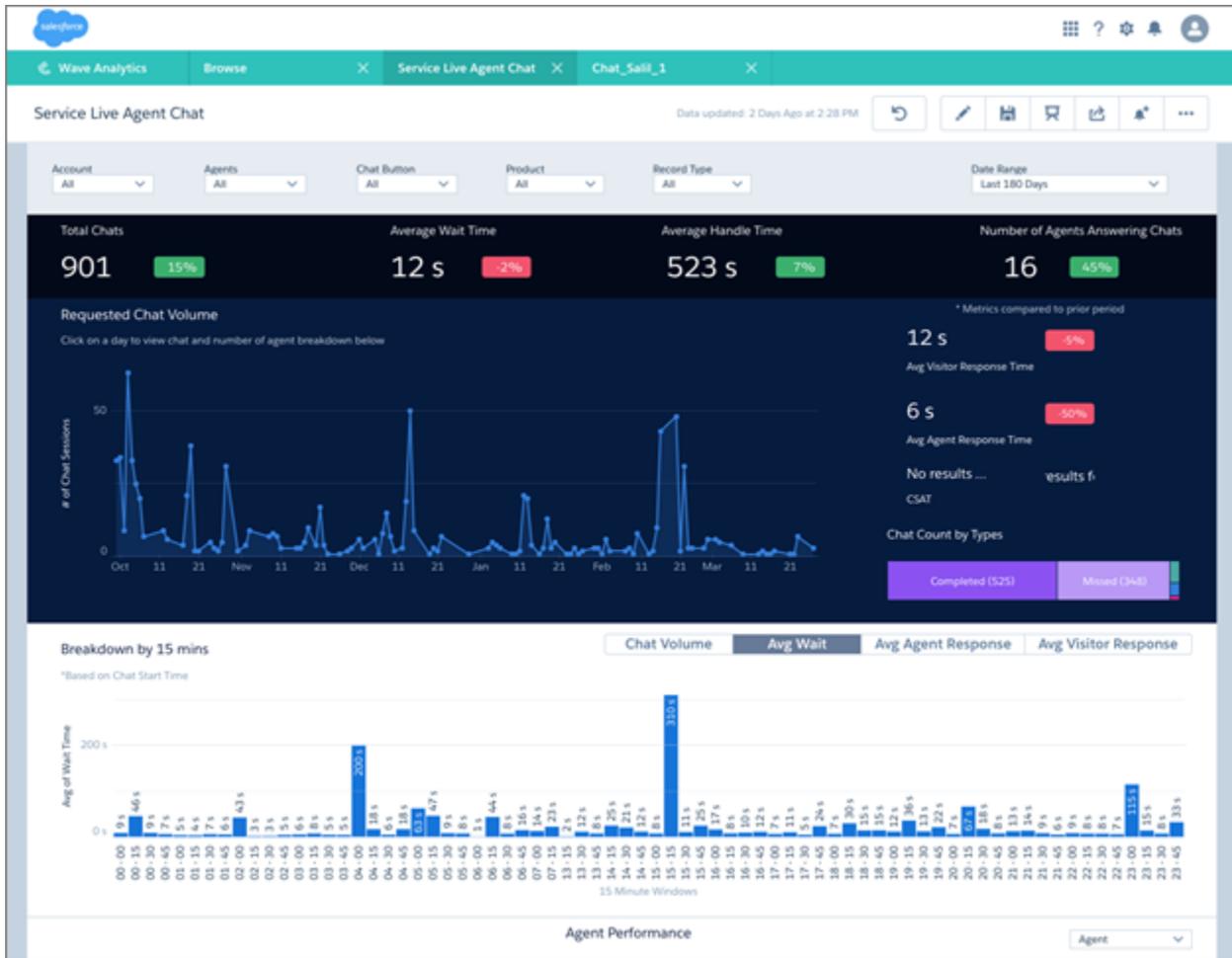
To create and manage Wave apps:

- "Manage Analytics Cloud Templated Apps"
- "Edit Wave Analytics Dataflows"

### USER PERMISSIONS

To use the Service Wave Analytics app:

- "Use Analytics Cloud Templated Apps"
- "Access Service Cloud Analytics Templates and Apps"



In our continuing efforts to make prebuilt Wave apps work the way customers prefer, Service Wave now lets you analyze Live Agent chat and Omni-Channel work item routing data.

The Service Agent Live Chat dashboard gives service managers instant insight into chat trends. The dashboard shows how your team uses chats throughout the day to resolve support cases so you can make more informed staffing decisions based on demand and capacity. It also helps you understand the impact of your chat channel on your service business. To create the dashboard, your org needs to use LiveAgent for chat. The app's configuration wizard gives you the option of creating the dashboard and related datasets, which are constructed from LiveAgent data.

If your team uses Omni-Channel to track service work items, the configuration wizard also gives you the option of adding data from Omni-Channel objects. This includes data about the assignments your agents work on, including the queue, channel, status, and speed to answer.

Start getting the benefits of the latest additions to Service Wave by [creating or updating the app](#) today.

## New Versions of Wave for Sales, Wave for Service Apps—Now Generally Available

The Sales Wave Analytics and Service Wave dashboards are now easier to use and more powerful than ever since they're built with the new Wave dashboard designer.

Sales Wave Analytics and Service Wave Analytics help your entire sales team unlock the full power of Salesforce data. The new versions make it easier than ever to build winning sales and service teams. With dashboards built using the new Wave dashboard designer, the apps make it easier to customize dashboards, give you more power to drill into data, and let you use Wave notifications and annotations.

You now have the choice between two versions of each app:

- The latest version, with all-new dashboards built with the new Wave dashboard designer, for new customers and those seeking the latest Wave technology.
- Classic version, the original version of the app with dashboards built using the original dashboard designer, for existing customers who want to retain their current Sales Wave Analytics and Service Wave experiences.

When you create an app, you can choose from two templates. For Sales Wave Analytics, choose either **Sales Wave Analytics** for the latest version or **Sales Wave Analytics (Classic)** for the previous version. For Service Wave, choose either **Service Wave Analytics** or **Service Wave Analytics (Classic)**. You can create and maintain apps using either version. Using the newest version does not overwrite existing dashboards. That means you can explore the new version of the app and still retain any customizations you made to your existing apps.

### Sales Wave Analytics Latest Version Enhancements

The new version of Sales Wave Analytics gives executives their own view into sales KPIs with three new dashboards just for them.

- Executive Pipeline Performance highlights pipeline KPIs so you can see what's coming and stay ahead with new business.
- Executive Sales Performance gives you both the big picture and fine-grained detail about current bookings—all in one place.
- Executive Service Performance keeps you up to the minute on how your team is servicing its accounts, if you use Service Cloud in the same org as Sales Cloud.

The new Lead Analysis dashboard helps sales leaders focus on lead conversion rate by slicing and dicing leads by region and type to spot business trends.

Wave for Sales also includes all-new versions of existing dashboards for sales managers, reps, and operations staff.

### What's New in Service Wave

All Service Wave desktop and mobile dashboards have been redesigned and built using the new dashboard designer and optimized according to customer input. That includes special sidebars that service agents can embed in the service console or any other Salesforce page.

Dashboards now include conditional formatting that highlights changes in key metrics. We've added metrics that use complex formulas, such as a bottom-quartile CSAT score and Erlang C formula on call metrics.

With its all-new dashboards and other enhancements, the new version of the app makes it easier than ever to build a winning service team.

#### USER PERMISSIONS

To use the Wave for Sales app:

- "Use Analytics Cloud Templated Apps"
- "Access Sales Cloud Analytics Templates and Apps"

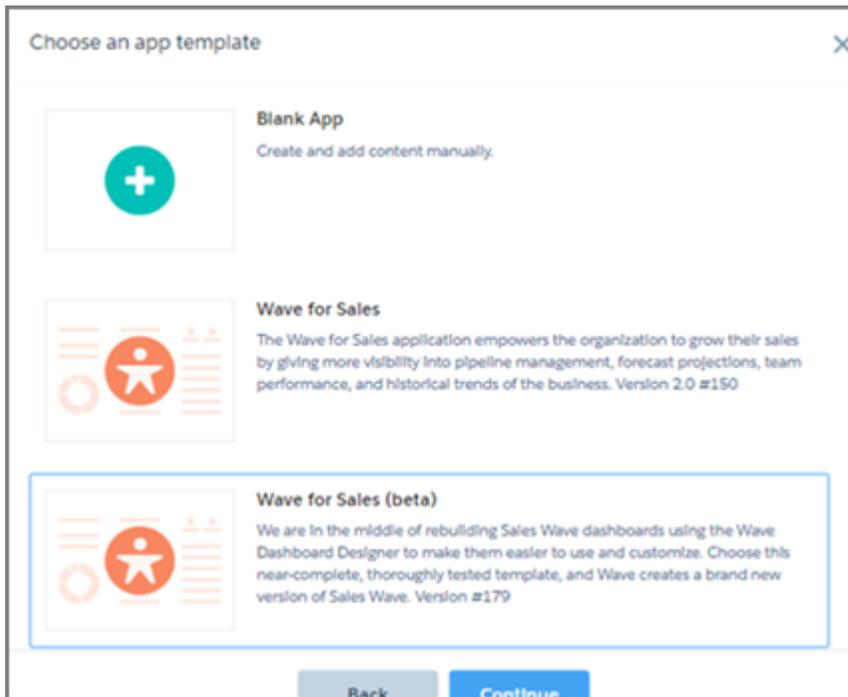
To use the Wave for Service app:

- "Use Analytics Cloud Templated Apps"
- "Access Service Cloud Analytics Templates and Apps"

## Available for Preview: New Versions of Wave for Sales, Wave for Service—Now in Beta

We're in the middle of making Sales Wave Analytics and Service Wave even more powerful and easier to use with dashboards built using the Wave Dashboard Designer.

Even though we're not done yet, you can take an early look at the nearly complete, thoroughly tested new versions of our prebuilt apps. Create the apps using beta version templates to preview the new dashboards.



### USER PERMISSIONS

To use the Wave for Sales app:

- "Use Analytics Cloud Templated Apps"
- "Access Sales Cloud Analytics Templates and Apps"

To use the Wave for Service app:

- "Use Analytics Cloud Templated Apps"
- "Access Service Cloud Analytics Templates and Apps"

When you use the Wave for Sales (beta) [shown here] or Wave for Service (beta) templates, Wave creates a new app alongside your existing app. Using the beta version of the app templates does not overwrite the existing version of your app.

The Wave Dashboard Designer creates dashboards that are far easier to customize. In addition, you'll see that the new dashboards give you more power to drill into your data.

The beta release includes the following, including known issues that we'll resolve before general availability (GA) of the new version:

- Sales Wave only: All dashboards have been recreated using Wave Dashboard Designer except Opportunity Discovery, Account Summary, and Opportunity Summary. The previous versions of those dashboards are included in the beta version. Tasks and Events datasets have been combined into a new Activities dataset.
- Service Wave only: All dashboards have been recreated using Wave Dashboard Designer except My Performance Summary, Agent Sidebars (By Customer, By Similarity, By Case History). The previous versions of those dashboards are included in the beta version.
- The new dashboards support iOS. Android support will be available in GA.
- New dashboards can't be viewed in Presentation mode.

## Wave for Sales and Service Easier Than Ever to Create

The enhanced configuration wizard checks Salesforce data to assure you can successfully create an app.

Wave for Service - Personalize ? X

Service Analytics uses your answer to do additional scans on your org. Step 6 of 6

**1. Do you want to Service Wave to verify that your orgs data meets minimum requirements to successfully create an app?** \*

Answer Yes to run a scan of your data (recommended). If you have the required data, Service Wave creates the app. If you dont, Service Wave tells you what you need to fix before you can create the app. For larger orgs, the scan may take a few minutes. Answer No if you have already created an app successfully.

No x v

Back Looks good, next

### USER PERMISSIONS

To use the Wave for Sales app:

- "Use Analytics Cloud Templated Apps"
- "Access Sales Cloud Analytics Templates and Apps"

To use the Wave for Service app:

- "Use Analytics Cloud Templated Apps"
- "Access Service Cloud Analytics Templates and Apps"

When you open the Sales Wave or Service Wave configuration wizard, Wave checks your Salesforce data and assembles wizard questions and default answers that are appropriate for your data. After you answer questions in the wizard, Wave asks you if you want to run a second scan. That scan validates that your org meets minimum data requirements. If your data doesn't meet the app's requirements, Wave displays an error message that tells you what data to add or change to ensure that the app is created successfully.

## Wave: Go Places with Wave Mobile

Take Wave with you with the latest version of the iOS or Android app.

### IN THIS SECTION:

#### [Experience the Latest Wave for iOS](#)

Wave Analytics is available for Apple® devices running iOS 9 and later.

#### [Get the Latest for Wave Analytics for Android](#)

Wave Analytics is available for Android™ devices running Android 5 or later.

## Experience the Latest Wave for iOS

Wave Analytics is available for Apple® devices running iOS 9 and later.

For the latest enhancements, download Wave Analytics from the App Store. Here's what's new.

- Fire up Wave Analytics in iOS 10.
- Experience dashboards built in the new Wave designer with most features, including conditional formatting for number widgets.
- Increase security via Mobile Device Management (MDM) with the option to show only authorized hosts.

## Get the Latest for Wave Analytics for Android

Wave Analytics is available for Android™ devices running Android 5 or later.

For the latest enhancements, download Wave Analytics from Google Play™. Here's what's new.

- Go native! 26 languages are now supported.
- Deploy Wave for Android using common Mobile Device Management (MDM) vendors.
- Tap the share icon on a lens or dashboard to copy its link, and share at will.
- Open any URL directly from a lens or dashboard (if linking is set up in your Salesforce org on the web).
- View custom fonts in your dashboards and lenses.

## Wave: Develop on the Platform

The Wave platform continues to grow with additional REST API support, new SAQL functions, and Wave Templates.

### IN THIS SECTION:

#### [Take Advantage of the Latest SAQL Functionality](#)

Wave's SAQL functionality continues to expand with new helper functions, performance tips, and support for null measures.

#### [Review Updates to the REST API for Wave](#)

The REST API for Wave has new endpoints and representations.

#### [Migrate or Deploy Your Customizations with Packageable User XMD](#)

Wave packaging adds support for user XMD.

#### [Package and Distribute Apps with Wave Templates \(Beta\)](#)

Salesforce ISVs, partners, and customers can now turn apps developed on the Wave platform into templates for distribution.

## Take Advantage of the Latest SAQL Functionality

Wave's SAQL functionality continues to expand with new helper functions, performance tips, and support for null measures.

### Date and Time Helper Functions

The new date and time helper functions enable manipulation of the date type. The functions produce scalar values and can be used in a projection clause or in filter by clauses in post-projection. You cannot use them within group by or order by in pre-projection.

- `date_diff` returns the number of specified interval parts (days, years, seconds, and so on) that elapsed between two dates.
- `day_in_week` returns a number representing the day of the week (1 = Sunday, 2 = Monday, and so on) for a specific date.
- `day_in_month` returns a number representing the day of the month for a specific date.
- `day_in_quarter` returns a number representing the day of the quarter for a specific date.
- `day_in_year` returns a number representing the day of the year for a specific date.
- `week_last_day` returns the date of the last day of the week for a specific date.
- `month_last_day` returns the date of the last day of the month for a specific date.
- `quarter_last_day` returns the date of the last day of the quarter for a specific date.
- `year_last_day` returns the date of the last day of the year for a specific date.
- `month_days` returns the number of days in the month for a specific date.
- `quarter_days` returns the number of days in the quarter for a specific date.
- `year_days` returns the number of days in the year for a specific date.

### Support for Null Measures

Measures in Wave are dataset columns that contain numerical values. Enabling null measure handling lets you distinguish between null and non-null values—for example, the number 0—in numerical data. SAQL support for null measures facilitates this preference, for example, when using aggregation, comparison, and math functions, and for order by or group by clauses. Support for null measures is enabled in orgs created during or after the Spring '17 release. With existing orgs, an admin can turn it on. For more information, see [Get Better Results with Null Measure Handling](#).

### Tips to Avoid Query Performance Pitfalls

The SAQL Reference now contains details on how to improve performance by adopting best practices in query design, based on real-life cases. For more information, see the [Wave Analytics SAQL Reference](#).

## Review Updates to the REST API for Wave

The REST API for Wave has new endpoints and representations.

### Schedule Trending Reports

The APIs for trending report snapshots in Wave—GET and POST on `/wave/trendedreports` and GET and PATCH on `/wave/trendedreports/<Id>`—have been extended and now support timed daily, weekly, monthly, and relative monthly scheduling.

### Create Custom Map Charts

Wave custom map charts are supported through the following new endpoints:

#### **`/eclair/maps`**

Get the collection of maps, or post a new map.

#### **`/eclair/maps/<Id>`**

Get or update a specific map.

#### **`/eclair/geodata`**

Get the collection of geodata definitions, or post a new one.

#### **`/eclair/geodata/<Id>`**

Get or update a specific geodata definition.

#### **`/eclair/geodata/<Id>/file`**

Get the binary file associated with a geodata definition.

### General Updates

Many representations have new properties to support new or changed features, particularly dashboard steps and widgets. For example, steps now support SAQL and SOQL queries.

For more information, see the [Wave REST API Developer Guide](#).

## Migrate or Deploy Your Customizations with Packageable User XMD

Wave packaging adds support for user XMD.

Metadata API, change set and packaging support for Wave assets provide an excellent platform for creating and deploying Wave apps, and now you have the ability to package and deploy user XMD too. User XMD is a JSON document that allows an application to override certain metadata for a dataset. You can govern settings to control how the data is presented—for example, colors, formats, and labels. To deploy the overridden dataset metadata, you must package the user XMD attributes.

Metadata API support allows migration tools to migrate datasets with user XMD between orgs—for example, you can migrate user XMD overrides from sandbox to production. Partners can deploy their application-specific user XMD with their AppExchange package. They retain control of the user XMD and can update it with future package versions.

For more information, see:

- The [Metadata API Developer Guide](#).
- The [Wave Analytics Extended Metadata \(XMD\) Reference](#).
- The [Wave REST API Developer Guide](#).

## Package and Distribute Apps with Wave Templates (Beta)

Salesforce ISVs, partners, and customers can now turn apps developed on the Wave platform into templates for distribution.

Use Wave Templates (Beta) to create a template based on a Wave platform app. Salesforce admins can use the template to create the app, just as they would with Salesforce prebuilt Wave apps, like Sales Wave. Start using Wave Templates by selecting **Enable Wave Template Support** from Wave Analytics settings in Salesforce Setup. Developers create templates using an API.

Wave Templates is available in beta, which means that it's a high-quality feature with known limitations. General availability, with complete documentation and support, is planned for a subsequent release. Provide feedback and suggestions for Wave Templates in the [IdeaExchange](#).

### USER PERMISSIONS

To use Wave Templates:

- "Manage Wave Templates"
- "Edit Wave Dataflows"
- "Upload External Data"

To use Metadata API (MDAPI)

- "Modify All Data"

## Einstein Data Discovery: Find and Explain Insights in Your Data

Einstein Data Discovery discovers relevant facts and themes in your data without you having to build sophisticated software and statistical models. When it has finished analyzing your data, Einstein Data Discovery generates unbiased answers, explanations, and recommendations to learn what, why, and how to act on it. It presents results in a way that is easy for business users to understand. Now anyone can tap into the power of data science and do statistical and predictive analytics.

### EDITIONS

Available for an extra cost in **Enterprise**, **Performance**, and **Unlimited** Editions Also available in **Developer** Edition

### IN THIS SECTION:

#### [Set Up Einstein Data Discovery](#)

Set up your org to use Einstein Data Discovery by creating and assigning permission sets and enabling Einstein Data Discovery.

#### [Bring Your Data into Einstein Data Discovery](#)

Import your data into Einstein Data Discovery and easily create datasets from Salesforce data, CSV files, Oracle, Microsoft SQL Server, Postgres, MySQL, Hadoop, SAP, and Netezza. Get suggestions on how to improve the quality of your dataset, review the suggested changes, and make data improvements.

#### [Find the Stories Buried in Your Data](#)

Einstein Data Discovery quickly sifts through huge amounts of data to find the important correlations and make accurate predictions. Create a story to start uncovering the relationships between a business relevant metric and the explanatory variables that are potential influencers of that metric.

#### [Better Understand Your Data Through Visualizations](#)

Einstein Data Discovery surfaces causes and correlations to point your investigations in the right direction. It suggests unbiased answers so that you can focus on the metrics that matter. You learn why, not just what happened, and then what to do about it. Get answers to key business questions like, "What happened? Are there relevant patterns in the data that explain the behavior of the outcome variable?", "Why did it happen? What's the diagnosis behind the facts?", "What will happen? Based on historical behavior, what can we predict about future behavior?", and "What are effective options for dealing with the situation?"

[Dig Deeper into the Data](#)

After the initial analysis, provide feedback to improve the mathematical models. Einstein Data Discovery analytics empowers amazing predictive insights that might never be found using manual analysis techniques. This workflow improves productivity, when compared to manual techniques. You can act on insights, stay on top of changes, and iterate.

[Share or Export the Story](#)

Getting insights is only half the adventure; the other half is acting on them. To involve others, share the story or export it to Wave Analytics. You can also export customizable reports as Microsoft Word documents or PowerPoint slides. All reports include speaker notes written in plain language, so you can stop spending hours building and curating your reports.

[Display Einstein Data Discovery Recommendations in a Salesforce Object](#)

For Salesforce objects that support triggers, you can use Apex code and custom fields to import an Einstein Data Discovery recommendation. With the help of professional services, you can add fields like Outcome, Explanation, and Prescription.

## Set Up Einstein Data Discovery

Set up your org to use Einstein Data Discovery by creating and assigning permission sets and enabling Einstein Data Discovery.

### Create Permission Sets

Create permission sets made up of Einstein Data Discovery user permissions. Each Einstein Data Discovery user needs an Einstein Data Discovery - Analyst or Einstein Data Discovery - User permission set license.

The Einstein Data Discovery - Analyst permission set license makes these user permissions available for provisioning.

| User Permission                                    | What It Enables   |
|--|---|
| Connect Einstein Data Discovery Model              | Not currently available. Connect Einstein Data Discovery model to a Salesforce object.          |
| Create and Update Einstein Data Discovery Datasets | Create and update Einstein Data Discovery datasets.   |
| Create and Update Einstein Data Discovery Stories  | Create and update Einstein Data Discovery stories.  |
| Manage Einstein Data Discovery                     | Access all Einstein Data Discovery features and see all datasets and stories created by users.  |
| Share Einstein Data Discovery Stories              | Allow user to export Einstein Data Discovery stories to Word, PowerPoint, R, and Wave.          |
| Use Einstein Data Discovery                        | Use Einstein Data Discovery and view the datasets and stories that you have permission to view. |
| View Einstein Data Discovery Recommendations       | View Einstein Data Discovery recommendations that are connected to a Salesforce object.         |

The Einstein Data Discovery - User permission set license makes these user permissions available for provisioning.

#### USER PERMISSIONS

To create permission sets:

- Manage Profiles and Permission Sets

#### USER PERMISSIONS

To enable Einstein Data Discovery:

- Manage Einstein Data Discovery

| User Permission                              | What It Enables   |
|--|---|
| View Einstein Data Discovery Recommendations | View Einstein Data Discovery recommendations that are connected to a Salesforce object. |

This example shows you how to create a *Manage Einstein Data Discovery* permission set, for users who create and administer Einstein Data Discovery.

1. In the Setup menu, select **Manage Users | Permission Sets** and then click **New**.
2. For Label, enter *Manage Einstein Data Discovery*. The API name is filled in automatically.
3. For License, select **Einstein Data Discovery Analyst PSL**. If you select a specific permission set license, any user assigned to the permission set is auto-assigned the permission set license. If you leave the default of **--None--**, you must manually assign the permission set license to users before you can add them to the new permission set.
4. Click **Save**. The Permission Set details page shows the new permission set.
5. Click **System Permissions** to open the list of user permissions enabled by the Einstein Data Discovery Analyst PSL license.
6. Click **Edit**.
7. Select **Manage Einstein Data Discovery**, and then click **Save**. You've successfully created a permission set that enables users to create and administer Einstein Data Discovery. You can now assign it to users.

You can build other permission sets out of the individual permissions enabled by the Einstein Data Discovery Analyst license, depending on the needs of users in your organization.

To create a different permission set for other kinds of users, repeat the steps to create a Manage Einstein Data Discovery permission set, with these exceptions:

1. Name the permission set something different.
2. Select the appropriate user permissions and click **Save**.

## Assign Permission Sets to Users

Assign the appropriate permission sets to users. Although you can assign a permission set to an individual user, for efficiency, you can also assign it to a group of users. You can assign multiple permission sets to a user.

1. From Setup, select **Manage Users | Permission Sets**.
2. Click the permission set you want to assign to users.



**Note:** Assign the Manage Einstein Data Discovery permission set only to users who administer or manage the app.

3. Click **Manage Assignments**, and click **Add Assignments**.
4. Select the users, and click **Assign**.
5. Click **Done**.

## Enable Einstein Data Discovery

Enable Einstein Data Discovery in your org.

1. From Setup, enter *Einstein Data Discovery* in the Quick Find box, then select **Getting Started**.
2. Enable Einstein Data Discovery.

## Bring Your Data into Einstein Data Discovery

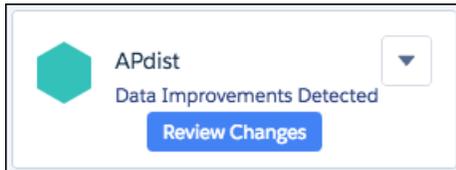
Import your data into Einstein Data Discovery and easily create datasets from Salesforce data, CSV files, Oracle, Microsoft SQL Server, Postgres, MySQL, Hadoop, SAP, and Netezza. Get suggestions on how to improve the quality of your dataset, review the suggested changes, and make data improvements.

### Import Data

You create datasets by importing data using one of the many data connectors.



When finished, you see your dataset. The message, "Data Improvements Detected," means that ways to improve the quality of your dataset have been identified.



Click **Review Changes** to see the ways that Einstein Data Discovery can improve your data.

**DATASET**  
**APdist**

Delete Undo Changes Share Export to Wave Apply +

---

**Columns**  
**7**

**Rows**  
**32213**

**Einstein identified ways to improve the quality of your dataset. Please review these recommendations.**

Dataset Improvements
Original Dataset
Improved Dataset

| Issue Type   | Action  |
|--|---|
| <p><b>Product (Col 0)</b></p> <p>The following values occurred very rarely on the column:<br/><b>Ball Bearings</b></p> | <div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">Delete Rows (2 ro... ▾)</div> <span>2 rows will be dropped</span>   |
| <p><b>Discount Level (Col 5)</b></p> <p>The following values occurred very rarely on the column:<br/><b>null</b></p>   | <div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">Find And Replace ▾</div> <span style="background-color: #0070c0; color: white; padding: 2px 5px; margin-left: 10px;">Add</span> |

Review the list of issues that were identified, and select the action to take to improve your dataset.

**Note:** Using a direct link to a Hadoop datasource for calculating a binary outcome is not currently available.

## Find the Stories Buried in Your Data

Einstein Data Discovery quickly sifts through huge amounts of data to find the important correlations and make accurate predictions. Create a story to start uncovering the relationships between a business relevant metric and the explanatory variables that are potential influencers of that metric.

You suggest a story based on the data in your dataset on the Story Setup page. Design the story to answer a question about an outcome variable that you want to investigate. In this example, the story is "Maximize the variable Margin."

STORY SETUP  
APdist

Maximize the variable Margin in APdist

**Names**  
Transaction Type: Transactions  
Unit: Unit

**Dates**  
✓ Analyze changes over time  
The date field is Close Date  
I want to compare by Month

**Actionable Variables**  
1 actionable variables selected  
✓ Discount Level

**Model Settings**  
✓ Enable Predictive Analytics

**Variables and Values**  
7 of 7 variables selected

Create Story

You can modify the story by selecting different measure variables to analyze and configure other settings for the model.

When you click **Create Story**, Einstein Data Discovery analyzes hundreds, thousands, or millions of variable combinations to find hidden, statistically significant insights in your dataset.

Creating Story

Evaluating improvement opportunities

✓ 1227 graphs and drilldowns evaluated  
✓ Statistical tests completed  
✓ 18 patterns detected

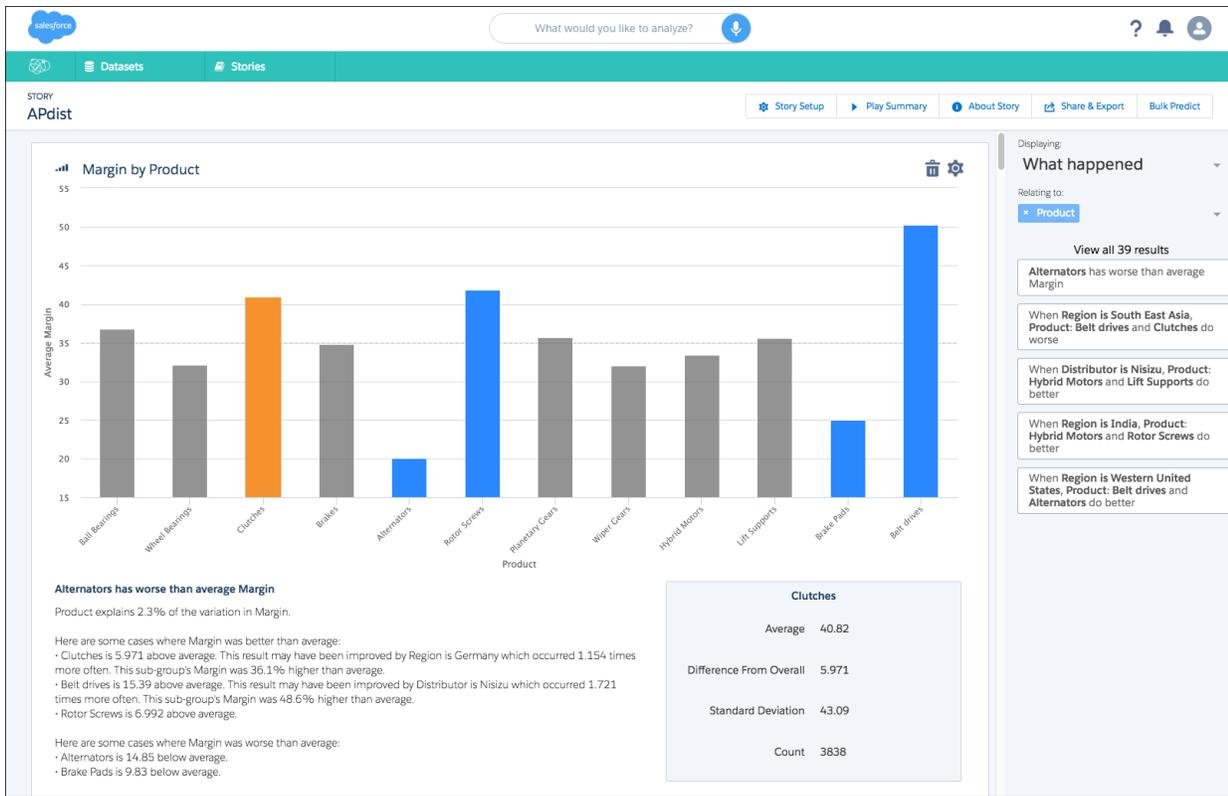
Cancel Story

View Story

## Better Understand Your Data Through Visualizations

Einstein Data Discovery surfaces causes and correlations to point your investigations in the right direction. It suggests unbiased answers so that you can focus on the metrics that matter. You learn why, not just what happened, and then what to do about it. Get answers to key business questions like, "What happened? Are there relevant patterns in the data that explain the behavior of the outcome variable?", "Why did it happen? What's the diagnosis behind the facts?", "What will happen? Based on historical behavior, what can we predict about future behavior?", and "What are effective options for dealing with the situation?"

The first visualization is a bar chart that presents the insights in the order of influence on the outcome variable that you specified on the Story Setup page.



The Displaying section on the right lists the graphs in your story that you choose to view. Stories contain different graph types.

- What happened
- What changed over time
- Why it happened
- What could happen
- How can I improve it

Interact with the graphs to explore the story.



## Dig Deeper into the Data

After the initial analysis, provide feedback to improve the mathematical models. Einstein Data Discovery analytics empowers amazing predictive insights that might never be found using manual analysis techniques. This workflow improves productivity, when compared to manual techniques. You can act on insights, stay on top of changes, and iterate.

## Add More Graphs to Your Story

Einstein Data Discovery presents the graphs with the highest statistical importance and highlights the areas to focus on. You can further explore the data by changing the filters in the Relating to section. As you explore, you can add insights to your story.



## Modify Story Settings and Rerun the Analysis

To run the analysis with different settings, click **Story Setup**. On the Story Setup page, modify the story settings, and click **Create Story**.

## Share or Export the Story

Getting insights is only half the adventure; the other half is acting on them. To involve others, share the story or export it to Wave Analytics. You can also export customizable reports as Microsoft Word documents or PowerPoint slides. All reports include speaker notes written in plain language, so you can stop spending hours building and curating your reports.

## Display Einstein Data Discovery Recommendations in a Salesforce Object

For Salesforce objects that support triggers, you can use Apex code and custom fields to import an Einstein Data Discovery recommendation. With the help of professional services, you can add fields like Outcome, Explanation, and Prescription.

Your Salesforce administrator must install a managed package, provided by Salesforce, to enable this feature.

### USER PERMISSIONS

To read, create, update, or delete connected apps:

- Customize Application AND either Modify All Data OR Manage Connected Apps

# Communities: Community Workspaces, Criteria-Based Audiences, Mobile Actions, and More

The cool breeze of Spring '17 blows in some significant changes for Communities—from refreshed tools to fresh components. Community Workspaces centralizes access to *all* the tools you use to build, moderate, and manage your community, and Community Builder gives you more room to work. With criteria-based audiences, you can assign location and record type criteria to page variations to hit your target audience. And mobile actions make it easy to create, edit, and update Salesforce records directly from your mobile device.



**Tip:** There's lots of Lightning striking Salesforce these days—Lightning Experience, Lightning Bolts, Lightning components—and it can be tricky to know how it all applies to Communities. Here's the rundown.

Lightning Bolt solutions and community templates use the same underlying technology as Lightning Experience—namely, the Lightning platform and Lightning components—but you aren't required to enable Lightning Experience to use them.

Although Communities is available in Lightning Experience Setup, it isn't fully supported in Lightning Experience because the global header isn't available. The global header is used to switch internal users between their Salesforce org and their communities. Without the global header, internal users need to bookmark community URLs to access communities they're members of.

If you enable Lightning Experience in your org, internal users must switch back to Salesforce Classic to access the global header.

## EDITIONS

Available in: **Enterprise**, **Performance**, **Unlimited**, and **Developer** Editions

## IN THIS SECTION:

### [It's Time to Update Your Pre-Winter '16 Template](#)

Effective Spring '17, we no longer support Koa, Kokua, or Customer Service (Napili) template versions that are earlier than Winter '16 (October 2015).

### [Prepare Your Communities for TLS 1.0 Disablement](#)

**Starting on July 22nd, 2017, Salesforce is disabling support for TLS 1.0 (Transport Layer Security protocol) for all orgs in production.** After this date, any inbound connections to or outbound connections from your Salesforce org will require the TLS 1.1 or TLS 1.2 encryption protocol. This change affects user access to communities, customer portals, partner portals, and sites built on Force.com and Site.com.

### [Server-Side Access Checks for Events Enforced for Custom Components in Communities](#)

Access checks for Lightning components are now enforced on both the server side and the client side. Previously, only client-side access check failures were enforced and resulted in a partially functional component. Now, if a component references an event for which it doesn't have access, server-side access checks result in the component failing to load. To ensure that your custom components load correctly, test your code and ensure that event attributes are correctly set.

### [LockerService: Critical Update Changes and Improved Security](#)

Understand how LockerService, a powerful security architecture for Lightning components, affects your community.

### [Usability and Design Improvements: Refreshed Tools, More Design Control](#)

Better usability, whether you're building, moderating, or managing. Greater design control over the look and feel of your communities.

### [Focus Your Community with Audience Targeting for Pages and Groups](#)

In addition to profiles, you can now add location and record type criteria to page variations and hit your target audience. For example, by combining criteria, you can have a page that's visible only to sales users in Canada or create a custom group geared just to that set of users.

### [Package Lightning Bolt Solutions More Easily](#)

Exported and packaged Lightning Bolt solutions now support more page types and properties.

### [Community Templates: Improved Search Results, Direct Messages, and More](#)

We toiled through the winter months to bring you a slew of fresh spring features and components, including direct messages for community members, commenting in article feeds, topic enhancements, and nested navigation menu items.

### [Custom Lightning Components: Develop for Communities](#)

Use the Lightning Component framework to build custom components for Communities.

### [Chatter and Files in Community Templates: Create Custom Groups, Track Top Posts, Filter Questions, Share Posts, and More](#)

Create completely custom groups. Sort by the most popular posts. Filter questions in group feeds in communities. Share posts with your followers.

### [Search, Reports, and Analytics: Know More About Your Community](#)

Get the most from search with improved search reports and dashboards and see click-through rates on related questions.

### [Moderation: Preconfigured Rules and Spam IQ](#)

Our ready-to-go moderation rules lessen your load, and Spam IQ protects your community at all times. Time to put up your feet, Moderators!

### [Other Changes in Communities](#)

Learn about smaller changes that improve your experience with Communities.

### [Communities Documentation: Spruced Up for Spring](#)

With the UI getting a new look, we felt that it was time to do some housekeeping with our documentation. We retired some doc and we also moved things around to consolidate our content into fewer PDFs and make it searchable from the Salesforce Help.

#### SEE ALSO:

[Salesforce Help: How Communities Uses Lightning](#)

## It's Time to Update Your Pre-Winter '16 Template

Effective Spring '17, we no longer support Koa, Kokua, or Customer Service (Napili) template versions that are earlier than Winter '16 (October 2015).

 **Important:** If your community uses a pre-Winter '16 template and you don't update it now, members lose access to your site in the Spring '17 release.

In addition to maintaining member access to your community, by updating right away, you benefit from:

- Continued assistance from Salesforce Customer Support
- The latest Community Builder and template features, such as new Lightning components, page creation, and custom layouts

The impact of updating your template depends on the version.

| Template Type and Version  | What to Expect When Updating to Spring '17   |
|--|--|
| Pre-Winter '16 Koa, Kokua, or Customer Service (Napili)            | <p>Most component customizations and properties are overwritten. However:</p> <ul style="list-style-type: none"> <li>• For Koa and Kokua, general settings, such as Category Group Name, Top-Level Category, and Company Name, carry over.</li> <li>• For Customer Service (Napili), topic definitions carry over.</li> </ul> <p>Most branding properties defined using the Branding Editor in Community Builder are maintained. However, sometimes your community's colors are reset to the default value. After you update the template, check the branding properties and update the ones that were reset.</p>  |
| Winter '16 (October 2015) Koa, Kokua, or Customer Service (Napili) | <ul style="list-style-type: none"> <li>• Your customizations are maintained for all pages, except login pages.</li> <li>• Login pages retain branding, but lose custom code or component customizations.</li> </ul> <p> <b>Note:</b> If your community uses the Winter '16 (October 2015) version of Koa, Kokua, or Customer Service (Napili), it's a good idea to update your template version now. The Winter '16 template uses the Lightning platform and Lightning components in all pages except the Login pages. Support for Winter '16 will be discontinued in a future release.</p> |

## Prepare Your Communities for TLS 1.0 Disablement

**Starting on July 22nd, 2017, Salesforce is disabling support for TLS 1.0 (Transport Layer Security protocol) for all orgs in production.** After this date, any inbound connections to or outbound connections from your Salesforce org will require the TLS 1.1 or TLS 1.2 encryption protocol. This change affects user access to communities, customer portals, partner portals, and sites built on Force.com and Site.com.

At Salesforce, trust is our highest priority, and we take the protection of our customers' data very seriously. We're disabling TLS 1.0 so we can maintain the highest security standards, ensure the safety of your data, and align with industry-wide best practices.

As a result of this change, browser access, inbound API integrations, and call-out integrations are required to be compliant with TLS 1.1 or above. We encourage you to prep your org and inform your community, portal, and site audiences about this upcoming change. All licensed and unlicensed visitors must use browsers and browser settings that are compliant with TLS 1.1 or above.

To prepare for this change ahead of time:

- Inform both licensed and unlicensed guest users about browser requirements for TLS version compatibility and consider adding appropriate messaging to your communities, portals, and sites.
- Encourage users to check their browsers for compatibility with TLS 1.1 or above early on with our [test site](#). If their browser is compliant, the web site displays a "Test passed" message.
- Ensure that the TLS 1.1 or above are enabled for your API integrations.

For detailed information TLS 1.0 disablement, see [this knowledge article](#).

## Server-Side Access Checks for Events Enforced for Custom Components in Communities

Access checks for Lightning components are now enforced on both the server side and the client side. Previously, only client-side access check failures were enforced and resulted in a partially functional component. Now, if a component references an event for which it doesn't have access, server-side access checks result in the component failing to load. To ensure that your custom components load correctly, test your code and ensure that event attributes are correctly set.

### How does this affect my community pages?

Without the appropriate value set for the access attribute for events, components that reference these events don't load on community pages. For public community pages, the access system attribute must be set to global. For pages that aren't public, the access system attribute can be set to public or global, depending on your code.

If a component references an event and the component doesn't have access to the event:

- Client-side code doesn't run or returns undefined. You see an error message in your browser console if you enabled debug mode.
- Client-side code doesn't run or returns undefined. You see an error message in your browser console if you enabled debug mode.

### What errors are displayed in my published community?

Previously, custom Lightning component with access check errors only displayed error messages. Starting in Spring '17, the component or template won't load at all.

SEE ALSO:

[Lightning Components Developer Guide: Controlling Access](#)

## LockerService: Critical Update Changes and Improved Security

Understand how LockerService, a powerful security architecture for Lightning components, affects your community.

IN THIS SECTION:

[LockerService for Communities Critical Update Replaced](#)

We removed the Lightning LockerService Security in Communities critical update. Instead, the general Lightning LockerService Security critical update now includes Communities.

[Improve the Security of Your Page <Head> Markup](#)

For security purposes, we restrict the tags, attributes, and values allowed in the `head` markup of your pages when LockerService is activated. Before LockerService is automatically activated for all orgs in the Summer '17 release, make sure that any existing `head` markup contains only the allowed tags, attributes, and values. In Summer '17, `head` markup with invalid tags, attributes, and values will be disabled.

## LockerService for Communities Critical Update Replaced

We removed the Lightning LockerService Security in Communities critical update. Instead, the general Lightning LockerService Security critical update now includes Communities.

LockerService remains a critical update for Spring '17. In the Summer '17 release, we're automatically activating LockerService for all orgs. Before that time, you can manually activate the update to evaluate the impact on your entire Salesforce org, including Communities.

## How Does the Change Affect You?

If you previously enabled:

- Only the LockerService for Communities critical update, LockerService is no longer in effect. Activate the general LockerService critical update.
- Only the general LockerService critical update, LockerService now applies to Communities as well. No need to take further action.
- Both the general and the Communities-specific critical updates, LockerService applies to your entire Salesforce org, including Communities.

We recommend that you test LockerService in a sandbox or Developer Edition org to verify correct behavior of your components before enabling it in your production org.



### Note:

- LockerService doesn't affect text editing in production orgs. However, when LockerService is activated in sandboxes or Developer Edition orgs:
  - The Rich Content Editor is disabled in Community Builder.
  - In the community, any component that contains a rich-text editor, such as the Feed component, is disabled.
- IE11 is supported for Communities even if LockerService is enabled. However, because IE11 doesn't support Content Security Policy (CSP), we recommend using other supported browsers instead for enhanced security.

SEE ALSO:

[LockerService Has Stricter Content Security Policy](#)

[Rich-Text Editors Disabled When LockerService Critical Update Is Active](#)

## Improve the Security of Your Page <Head> Markup

For security purposes, we restrict the tags, attributes, and values allowed in the `head` markup of your pages when LockerService is activated. Before LockerService is automatically activated for all orgs in the Summer '17 release, make sure that any existing `head` markup contains only the allowed tags, attributes, and values. In Summer '17, `head` markup with invalid tags, attributes, and values will be disabled.

| Allowed Tags               | Allowed Attributes  |
|----------------------------|---|
| <code>&lt;base&gt;</code>  | href, target  |
| <code>&lt;link&gt;</code>  | as, charset, crossorigin, disabled, href, hreflang, id, import, integrity, media, rel, <sup>1</sup> relList, rev, sheet, sizes, target, title, type<br><br><sup>1</sup> For rel, allowed values are alternate, apple-touch-icon, apple-touch-icon-precomposed, apple-touch-startup-image, author, bookmark, external, help, icon, license, manifest, next, nofollow, noopener, norereferrer, pingback, prefetch, preload, prev, search, shortcut icon, stylesheet, and tag. |
| <code>&lt;meta&gt;</code>  | charset, content, http-equiv, <sup>2</sup> name, scheme<br><br><sup>2</sup> For http-equiv, allowed values are clear-type, content-type, content-language, and default-style.   |
| <code>&lt;title&gt;</code> | None allowed  |

## Usability and Design Improvements: Refreshed Tools, More Design Control

Better usability, whether you're building, moderating, or managing. Greater design control over the look and feel of your communities.

### IN THIS SECTION:

#### [Community Workspaces: The New Center of Your Communities Universe](#)

Tired of jumping between two different pages to build and manage your community? Ever forget where to find Administration or Dashboards? Now you can access Builder, Administration, Dashboards, and all your moderation tools in one place—Community Workspaces.

#### [Community Builder Gets More Elbow Room](#)

The new and improved Community Builder gives you more room to work, lets you focus on designing and configuring, and provides easier access to tools. You no longer have to switch between editors, whether you're adding and configuring components, customizing branding, adding pages, or adjusting settings. As part of this improved workflow, we made the following changes.

#### [See What Goes Where with Better Visual Feedback While Building](#)

Labels on theme and content layout regions make it easier to drag and drop Lightning components where you want them on your pages.

#### [Gain Control of Each Page Layout with Theme Layout Types](#)

Looking for more granular control over the layout of each page in your community? With theme layouts and theme layout types, that's exactly what you get! Previously, a theme layout applied to all the pages in your community. But with theme layout types, you can apply theme layouts to individual pages and easily switch layouts from one central location. And for developers, we've introduced the ability to add properties to custom theme layouts, which are configurable in the Theme area. This feature is available in communities using the Customer Service (Napili) template.

#### [Find and Create Asset Files from Community Builder](#)

Customizing your community with images for your header, logo, or custom components just got easier. Upload and select images using the file selector. Once uploaded, files are converted to packageable asset files and stored in your org asset library for easy reference and retrieval.

#### [Quick Configuration for Custom Domains](#)

Configure HTTPs for custom domains using easy peasy radio buttons.

#### [Reset Your Password the Easy Way](#)

Previously, if you had a Customer Self-Service user with the same Salesforce and community username, the reset password email would fail to send. You would then have to do some fancy footwork to receive it. Now that has been resolved.

#### [Control Capitalization of Titles in Your Community](#)

Use the new Text Case property in the Fonts section of the Branding panel to quickly adjust the case of titles in your community. The Text Case property affects all out-of-the-box components such as the Navigation Menu, Ask Button, Profile Header, and Headline. You can use lowercase or initial capitals in addition to all uppercase.

## Community Workspaces: The New Center of Your Communities Universe

Tired of jumping between two different pages to build and manage your community? Ever forget where to find Administration or Dashboards? Now you can access Builder, Administration, Dashboards, and all your moderation tools in one place—Community Workspaces.

The new streamlined Community Workspaces centralizes all your community needs, whether you're moderating, building, or administering your community. Also access quick links to frequently visited pages, catch up on release notes, and dive into Help & Training.

**Community Workspaces**  
Tealovers

**Tealovers**  
Active · Published

My Workspaces

- Builder**  
Build, brand, and customize your community pages.
- Moderation**  
Monitor posts and comments, create rules, and engage with community members.
- Content Targeting**  
Recommend resources, use topics to boost visibility, and target content to audiences.
- Dashboards**  
Examine the health of your community with reports and dashboards.
- Administration**  
Configure settings and properties for your community.

What's New

Featured in Spring '17

- Criteria-Based Audiences**  
Combine criteria, such as location, user profile, or record types, to target page variations at different audiences.
- Google Analytics**  
Access real-time data through Google Analytics to view member search activity and gain insight into case deflection.

WHAT ELSE IS NEW?  
Create and update records from mobile devices.  
Enhance your community with new components.  
Customize pages with advanced theme layout features.  
The list goes on...

Help & Training

- > Build and Design Your Community
- > Drive Adoption and Engagement
- > Visit the Success Community

Quick Links

- Internal Org
- Salesforce Setup
- Success Community: Community Implementation Group
- Set Up and Manage Communities Guide
- AppExchange

Expand Your Reach with Communities  
START LEARNING >

**Salesforce Spring '17 Release Notes**  
Community Workspaces, Criteria-Based Audiences, Mobile Actions, and More  
READ THE RELEASE NOTES >

## Enable Community Workspaces

To enable Community Workspaces, in Setup, enter **Communities** in the Quick Find box and click **Communities Settings**. Under Community Management Settings, select **Enable Community Workspaces**. Community Workspaces are enabled by default in all orgs created after Spring '17.

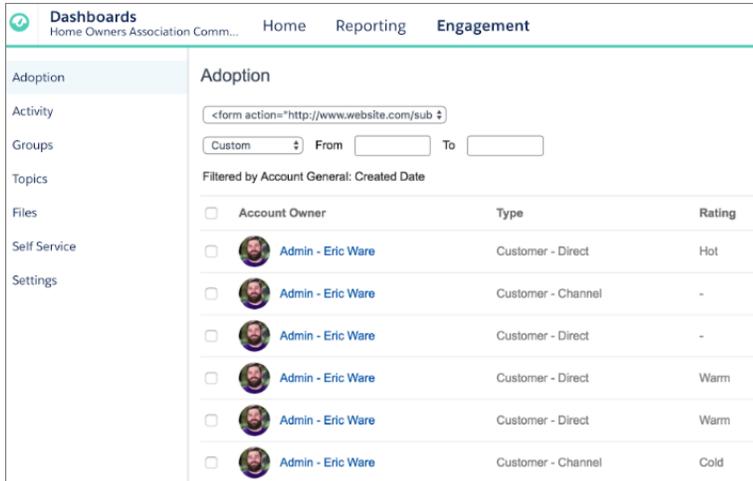
Not ready to move to Community Workspaces yet? You don't have to do a thing. Your settings stay the same unless you enable Community Workspaces. Want to check out Workspaces? Feel free to give it a try. You can easily revert to Community Management by deselecting **Enable Community Workspaces**.

 **Note:** Internet Explorer® version 11 does not support Community Workspaces.

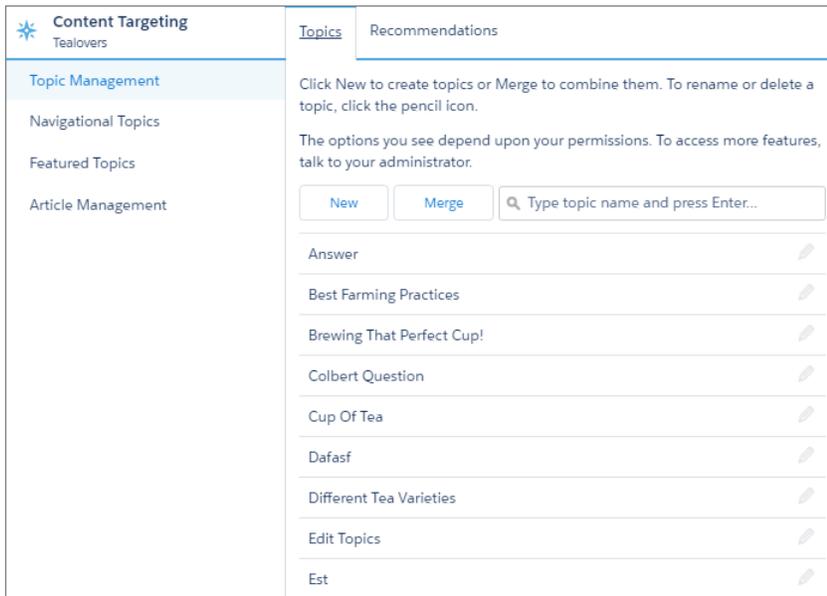
## What's Different?

Community Workspaces offers a streamlined area to access all the tools that you need for building, managing, and tracking your community. Even though it looks different, everything you use is still there. Some things have been moved around a bit.

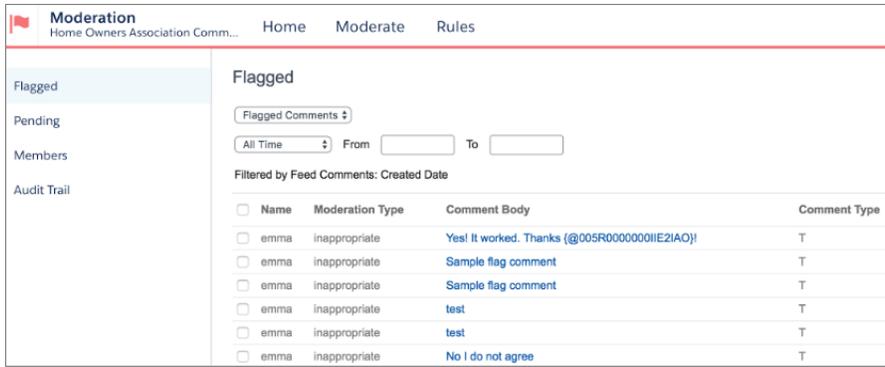
Engagement reports have been moved into the Dashboard workspace. Reporting dashboards and your Home dashboards are also located in the Dashboard workspace.



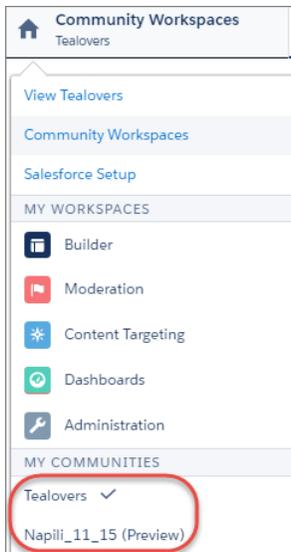
Recommendations and Topics are in the new Content Targeting workspace.



Moderation pages have been organized into separate areas within the Moderation workspace. You can access moderation Insights from the Home tab and create and customize moderation rules, member criteria, and content criteria from the Rules tab.



Want to jump to another workspace from the workspace you are in? It's easy! Click the icon in the upper-left corner and a navigation dropdown menu appears. You can also switch between communities without leaving Community Workspaces.



## Community Builder Gets More Elbow Room

The new and improved Community Builder gives you more room to work, lets you focus on designing and configuring, and provides easier access to tools. You no longer have to switch between editors, whether you're adding and configuring components, customizing branding, adding pages, or adjusting settings. As part of this improved workflow, we made the following changes.

### Left-hand Side Changes

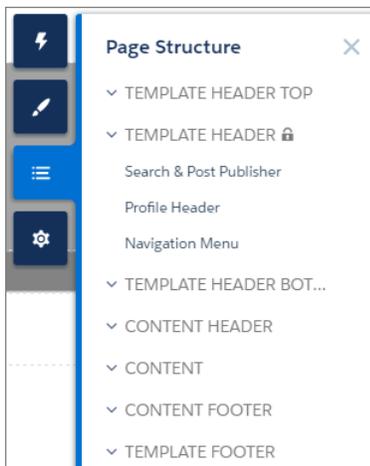
The panels on the left-hand side now slide out of sight when you don't need them.



- Access your other workspaces from the streamlined Communities menu (1).
- Use the Pages and Page Variations menus (2) to jump to pages and page properties.
- Access Lightning Components (3) and the Page Structure (5) in different panels.
- The Branding Editor (4) is now called Branding.

## Page Structure Panel Easier to Find

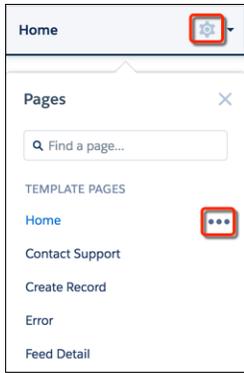
Page Structure now has its own panel. View all components on the current page, and select a component to bring it quickly into view.



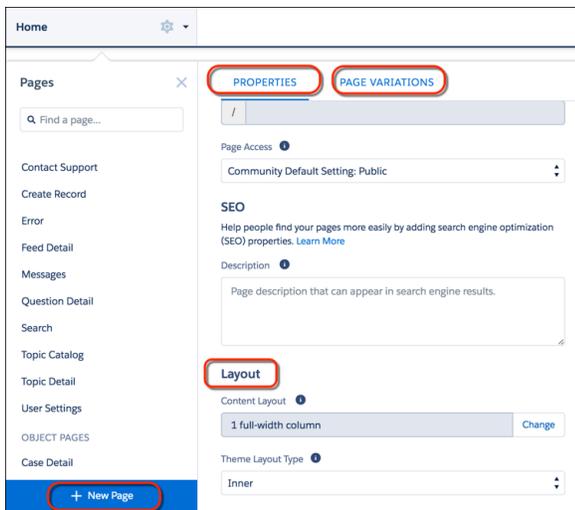
## Page Properties Redesigned

Looking for all the settings from the Page Manager area? They're now consolidated in the Page Properties area available from the Pages menu.

To open properties for the current page, click  next to the page name in the toolbar. To open properties for any page in your community, hover over the page name in the Pages menu and click .



From the centralized Properties area, create pages, manage page variations, and set the page’s layout properties in one easy-to-use location. The New Page option is available from the Pages menu and a Page Layout area has been added.



## See What Goes Where with Better Visual Feedback While Building

Labels on theme and content layout regions make it easier to drag and drop Lightning components where you want them on your pages.

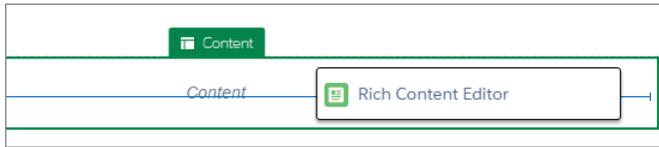
When you drag a component into a theme layout region, the region name appears to help you place the component.



A component in a theme layout region appears on every page that uses the theme layout. The Shared label indicates components that appear on other pages.



When you drag a component into a content layout region, the region name appears to help you place the component.



A component in a content layout region is specific to a single page. Components in content layout regions don't have the Shared label.



## Gain Control of Each Page Layout with Theme Layout Types

Looking for more granular control over the layout of each page in your community? With theme layouts and theme layout types, that's exactly what you get! Previously, a theme layout applied to all the pages in your community. But with theme layout types, you can apply theme layouts to individual pages and easily switch layouts from one central location. And for developers, we've introduced the ability to add properties to custom theme layouts, which are configurable in the Theme area. This feature is available in communities using the Customer Service (Napili) template.

A theme layout defines the top-level regions of your page, such as the header and footer, navigation, search, and the user profile menu. A theme layout type is used to *categorize* the pages in your community that share the same theme layout. In **Settings > Theme** in Community Builder, assign theme layouts to existing types or create custom types for more flexibility. Then apply the theme layout type in the page's properties.

Customer Service (Napili) includes the following default theme layout types and theme layouts, but you can create custom types or switch layouts as needed.

- Home applies the Customer Service theme layout to the Home page.
- Login applies the Login Body Layout theme layout to the login pages.
- Inner applies the Customer Service theme layout theme to all other pages.

 **Example:** Let's say you create three pages for your upcoming Spring campaign. You want them to use the Large Header theme layout. In the Theme area, you create a custom theme layout type called *Spring* to categorize these pages and assign the Large Header layout to it.

**Theme**

Control the appearance of each page in your community with theme layouts and theme layout types. Quickly update the layout of multiple pages from one place.

| THEME LAYOUT TYPE ⓘ | THEME LAYOUT ⓘ    |  |
|---------------------|-------------------|--|
| Login               | Login Body Layout |  |
| Home                | Customer Service  |  |
| Inner               | Customer Service  |  |
| Spring              | Large Header      |  |

[New Theme Layout Type](#)

Next, you apply the Spring theme layout type in each page's properties, which instantly applies the Large Header layout to each page.

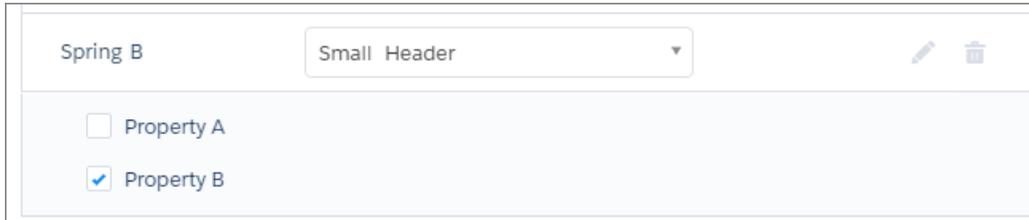
The screenshot shows the 'Spring Campaign' page properties. On the left is a 'Pages' sidebar with a search bar and a list of pages: MY PAGES (Spring Campaign), TEMPLATE PAGES (Home, Contact Support, Create Record, Error, Feed Detail, Messages, Question Detail). The main panel has two tabs: 'PROPERTIES' and 'PAGE VARIATIONS'. Under 'PROPERTIES', there is an 'SEO' section with a 'Description' field. Below that is a 'Layout' section with a 'Content Layout' dropdown set to '1 full-width column' and a 'Theme Layout Type' dropdown set to 'Spring'. The 'Theme Layout Type' dropdown is circled in red.

Everything looks rosy until your VP of marketing decides that the header takes up too much room. Because you don't have to update the properties of each page to change the theme layout, that's an easy fix. With one click in the Theme area, you can switch Spring to the Small Header layout and instantly update all three pages!

|        |              |  |
|--------|--------------|--|
| Spring | Small Header |  |
|--------|--------------|--|

 **Example:** Now let's say that the Small Header layout includes two custom properties—Property A and Property B—which you've enabled and applied to all your campaign pages. However, for one page, you want to apply only Property B.

In this case, you could create a theme layout type called *Spring B*, assign the Small Header layout to it, and enable Property B. Then, you simply apply the Spring B layout type to the page.

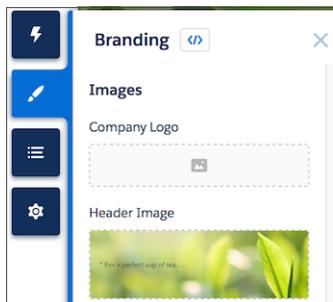


Theme layout types make it easy to reuse the same theme layout in several different ways, while maintaining as much granular control as you need.

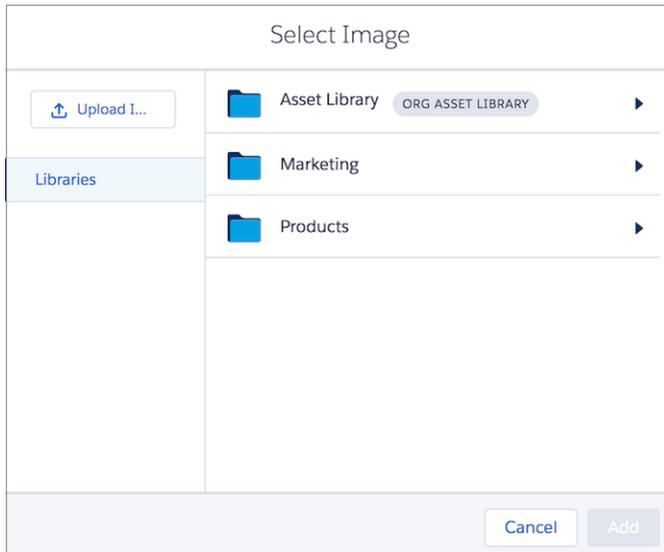
## Find and Create Asset Files from Community Builder

Customizing your community with images for your header, logo, or custom components just got easier. Upload and select images using the file selector. Once uploaded, files are converted to packageable asset files and stored in your org asset library for easy reference and retrieval.

From Community Builder, click an image icon in the Branding panel to open the unified file selector.



The file selector displays only image files, so you don't have to wade through all your files to find your logo or header image. If the image file you want is already an asset file, it's in the asset library, which is clearly marked by the Org Asset Library badge. Asset files for your Salesforce org and all your Communities are stored in the Org Asset Library, so you don't need to maintain copies in different places.



When you add an image to your community for the first time, an asset file is automatically created and stored in the Org Asset Library. Admins have full access to the Org Asset Library and can search for, tag, and subscribe to asset files. Anyone with “Customize Application” and “Create and Set Up Communities” permissions can access the Org Asset Library. To provide access to others, add them as members of the library with the appropriate permissions. Users without these permissions don’t see the Org Asset Library. The Org Asset Library is available in all new orgs, and is automatically activated in existing orgs.

 **Note:** If public access is enabled in Community Builder at the page or community level, the **Let guest users view asset files on public pages** preference is enabled in Administration | Preferences. This preference remains enabled as long as any page has public access enabled.

## Quick Configuration for Custom Domains

Configure HTTPs for custom domains using easy peasy radio buttons.

Now you can quickly select how your custom domain is configured by selecting from easy-to-read radio buttons. Go to **Setup > Administer > Domain Management > Domains** to make your selection.

## Reset Your Password the Easy Way

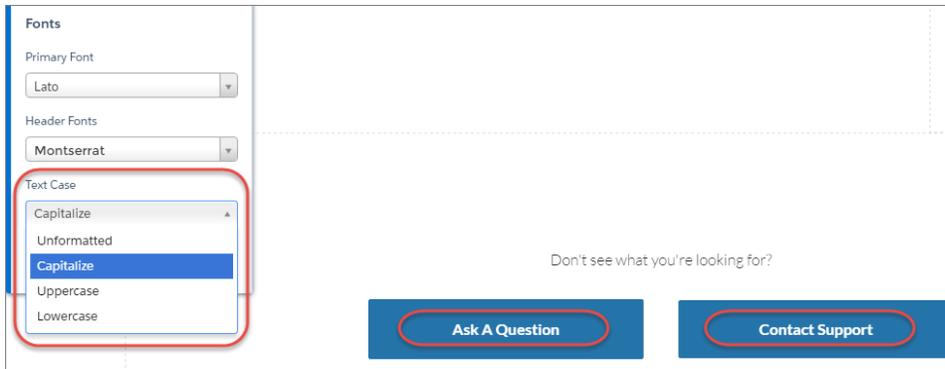
Previously, if you had a Customer Self-Service user with the same Salesforce and community username, the reset password email would fail to send. You would then have to do some fancy footwork to receive it. Now that has been resolved.

When users click the “Forgot Password” link, the email containing instructions to reset the user’s password is delivered correctly.

## Control Capitalization of Titles in Your Community

Use the new Text Case property in the Fonts section of the Branding panel to quickly adjust the case of titles in your community. The Text Case property affects all out-of-the-box components such as the Navigation Menu, Ask Button, Profile Header, and Headline. You can use lowercase or initial capitals in addition to all uppercase.

You can also leave the text unformatted to use the component’s default font formatting.



## Focus Your Community with Audience Targeting for Pages and Groups

In addition to profiles, you can now add location and record type criteria to page variations and hit your target audience. For example, by combining criteria, you can have a page that's visible only to sales users in Canada or create a custom group geared just to that set of users.

Here are some considerations when using criteria to target an audience.

- If you have multiple page variations, the page with the most assigned criteria is displayed. If you have pages with similar criteria, the rank of the criteria determines which page is displayed. Priority is determined in this order:
  - Profile
  - Record type
  - Location going from the most specific (like state) to the most general (like country)

For example, you have two pages with the profile criteria set to sales user. One also uses the record type criteria while the other uses location. The page set to sales user and record type displays because record type has a high priority.
- The profile criteria determines the navigation menu items. For example, if you turned off an item for a sales user profile, it's off regardless of any additional criteria.

Location criteria have a few more specific items to note.

- Location is actually the user's IP location, which could potentially be located in a neighboring area.
- The location permission is not on by default in Developer Edition orgs. Contact Salesforce if you want to use this feature in that edition.
- Use of Google API is not permitted in some countries. Location criteria don't work for those areas.

## Package Lightning Bolt Solutions More Easily

Exported and packaged Lightning Bolt solutions now support more page types and properties.

At its simplest, a Lightning Bolt solution comprises an exported template that's made up of a theme layout and CSS, along with pages, content layouts, and Lightning components. Bolt solutions seamlessly integrate with Salesforce and incorporate business logic, custom objects, and industry best practices.

 **Tip:** Lightning Bolt solutions and community templates use the same underlying technology as Lightning Experience—namely, the Lightning platform and Lightning components—but you aren't required to enable Lightning Experience to use them.

When you export and package a Lightning Bolt solution, we now support:

- Login pages
- Page-level properties
- Asset files
- Theme layout properties and types

 **Note:** Under Setup, we changed:

- Lightning Community Templates to Lightning Bolt Solutions
- Lightning Community Pages to Lightning Bolt Pages

SEE ALSO:

[Salesforce Help: How Communities Uses Lightning](#)

## Community Templates: Improved Search Results, Direct Messages, and More

We toiled through the winter months to bring you a slew of fresh spring features and components, including direct messages for community members, commenting in article feeds, topic enhancements, and nested navigation menu items.

IN THIS SECTION:

[Do More with Mobile in Template-Driven Communities](#)

One of the best features of Community Builder template-driven communities is their mobile responsiveness. Now community users can use their mobile device to execute more actions and get things done on the go. For example, a partner working at a client site can quickly add leads or update opportunities. A field service technician can close out appointments right from the job site or add new work orders. And customers accessing a community on a mobile device can log cases.

### [Send Direct Messages in Communities](#)

Community members can now send direct messages to start a private conversation with one or more members. Direct messages are supported in all communities based on the Customer Service (Napili) template and in Lightning Bolt solutions, such as the Lightning Partner Management solution.

### [Add a Collaboration Feed to Your Articles](#)

Have you ever read a knowledge article in a community that you know is incorrect? Now you can add your comments in article feeds in communities. Other community members can see your feedback and give their own, and community managers can incorporate your suggestions into the article itself.

### [Leave No Question Unanswered in Your Community](#)

Let community members help each other by highlighting questions that haven't been answered. Community members, managers, moderators, and even customer support can then easily see the most viewed unanswered questions and jump in. Drop the Salesforce Einstein-powered Unanswered Questions component on any page. The component shows the top unanswered questions based on the view count from across the community. As questions are answered, they are removed from view.

### [See More Relevant Suggested Search Results](#)

Community members see more relevant suggested search results when using autocomplete search. Previously, you'd see suggested search results listing only discussions and articles. Now, autocomplete search checks for any object exposed in your community and made searchable by the admin. Admins have greater flexibility in setting up autocomplete search results. They can choose to have the results show in order of relevance or grouped by type. Admins can also add any searchable object available in the community to the autocomplete search results.

### [Community Search Results Now Include All Question Posts](#)

When you perform a search in a community, the results now include question posts, even if they haven't been tagged by a topic. For instance, a community member previously asked the question "What is the best coffee bean?" without tagging it with a topic. If you search for "coffee bean," your results now include the question and the answers from the community.

### [Create Report and Dashboard List Views and Detail Pages](#)

Community members can now access report and dashboard list views and detail pages to see important records and drill down to what they need. When you create an object page in Community Builder for a report or dashboard, list view and detail pages are automatically created. Community members can also collaborate using feeds.

### [Create New Records from Lookups](#)

Community members can now create records via lookups, a handy trick that saves time and frustration. Imagine a partner community member who creates the opportunity Awesome Widgets to track a potential sale. The partner looks up the contact Jess Fabulous to see if Jess exists in the system. If Jess isn't in the system, the partner simply clicks **New** to create the contact. No break in flow, and no time lost.

### [Tasks Now Available in Communities](#)

You can now add tasks to opportunities, leads, accounts, and contacts in communities using the Record List component. Let community members keep track of their tasks by adding it to the navigation menu.

### [See How Often a Topic Is Followed and Used](#)

Community members can now see various metrics around topics usage. These include the number of posts using the topics, the number of articles associated with the topics, how often a topic has been used in the past 60 days, and how many followers it has. With this information at their fingertips, community members know whether a topic is as fresh as a daisy or as stale as a week-old baguette. Admins can also use these metrics to feature certain topics in their communities or consolidate similar topics based on usage.

### [Simplified Guest User Access for Object Data in Communities](#)

Topics, articles, and recommendations no longer require you to enable the **Give access to public API requests on Chatter** preference in Community Management or Community Workspaces. Previously, if the preference wasn't enabled, topics, articles, or recommendations data didn't load correctly on public pages in communities.

### [Bookmarks Feed Comes To Community Builder](#)

In Community Builder, the `Type` field on Feed and Feed Compact components has one more option: bookmarks. Create bookmark feeds to show users everything that they bookmarked in one place.

### [Customize Community Navigation with Nested Menu Items](#)

The new Menu Label type in the Navigation Menu component lets you create parent headings for your navigation menu and nest items underneath.

### [Harness the Power of Visualforce in Template-Based Communities](#)

Have you customized and perfected your community using the Salesforce Tabs + Visualforce template? Would like to enjoy the benefits and enhancements available in a Lightning-based community but still continue to use your Visualforce customizations? We've got you covered! Your Visualforce pages, actions, buttons, links, and canvas apps now work in Customer Service (Napili)-based communities.

### [Modify the Kanban View](#)

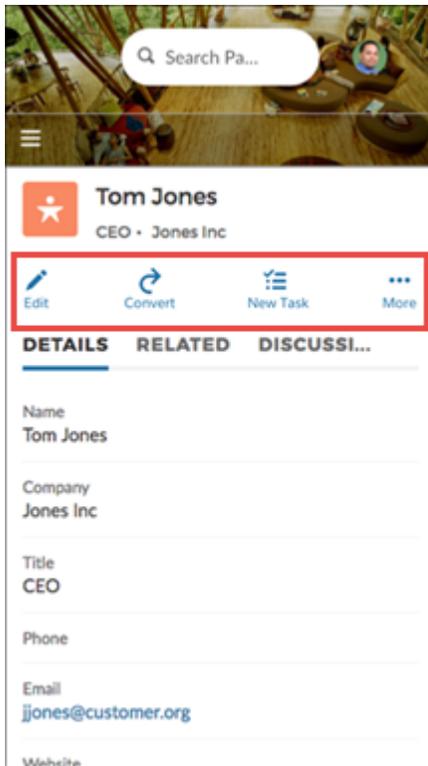
Community members with the "Create and Customize List Views" permission can modify the Kanban view of records in their community. This feature is available only in Lightning component-based communities.

## Do More with Mobile in Template-Driven Communities

One of the best features of Community Builder template-driven communities is their mobile responsiveness. Now community users can use their mobile device to execute more actions and get things done on the go. For example, a partner working at a client site can quickly add leads or update opportunities. A field service technician can close out appointments right from the job site or add new work orders. And customers accessing a community on a mobile device can log cases.

 **Note:** Community members can perform actions from the record detail and record list view pages.

 **Example:**

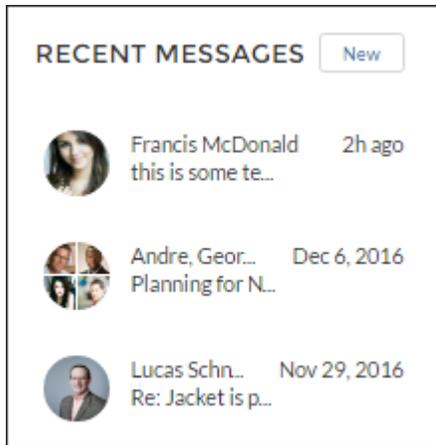


## Send Direct Messages in Communities

Community members can now send direct messages to start a private conversation with one or more members. Direct messages are supported in all communities based on the Customer Service (Napili) template and in Lightning Bolt solutions, such as the Lightning Partner Management solution.

To enable direct messages for your community:

1. Select **Enable Direct Messages** under **Administration > Preferences** in Community Management (or [Community Workspaces](#), if you enable it).
2. In Community Builder, click the **Profile Header** component on the community Home page and select **Include My Messages**. This displays the My Messages link in the user profile dropdown menu.
3. Optionally, you can add other components to your community pages to facilitate easy access to direct messages.
  - Add the **Messages** page to the community navigation menu for prominent placement and easy access.
  - Add the **New Message Button** component to any page you want to allow community members to create messages from.
  - Add the **Message Notification** component to the community home page to allow community members to view the last three messages they received.

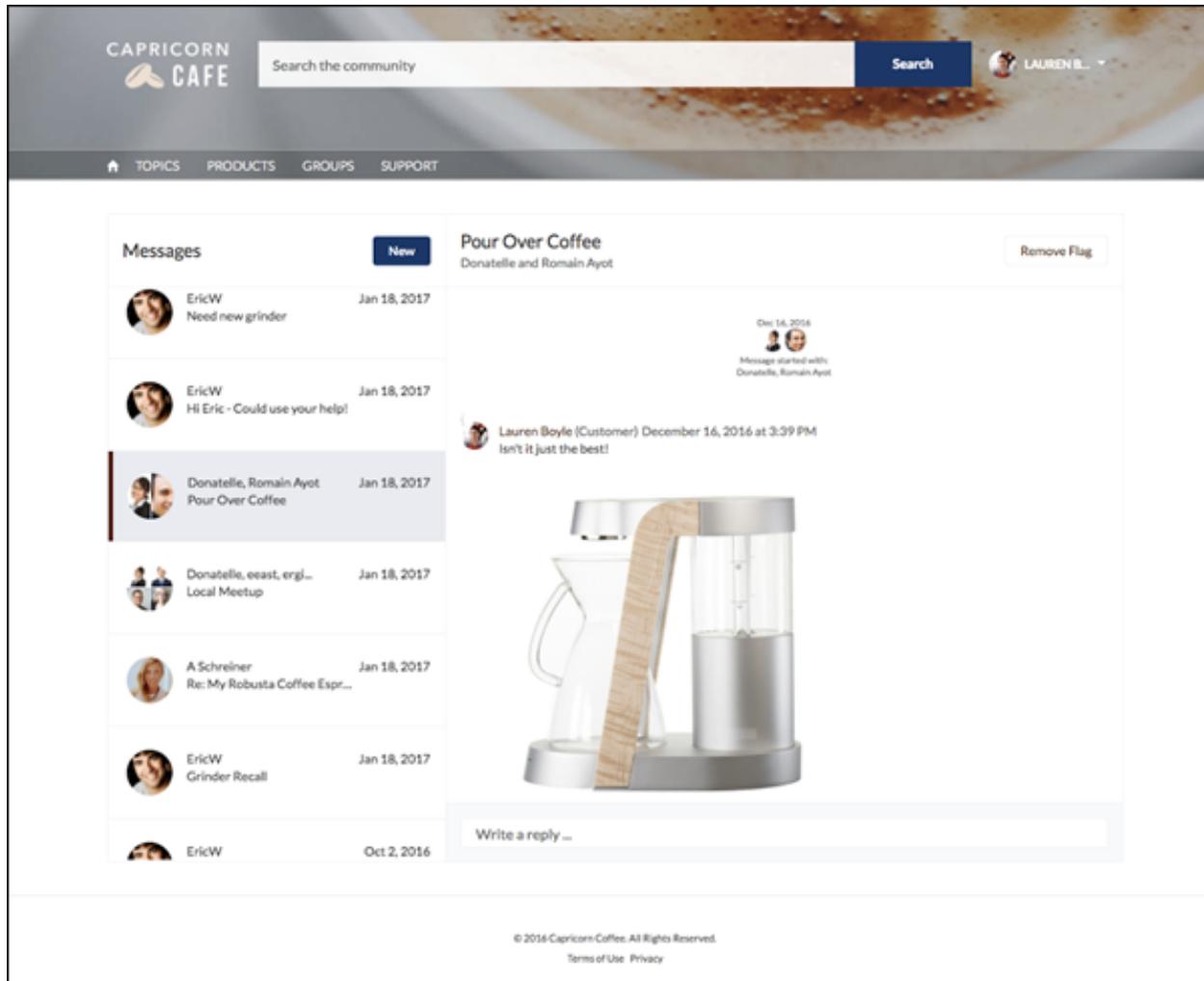


Community members can start a direct message conversation:

- From the Messages page.
- From user profiles and hovers on users.
- From the Message Notification and the New Message Button components on community pages.
- By sharing a feed post as a direct message.

They can also flag a direct message if they think it's inappropriate or spam.

Community members can view all direct messages in the My Messages list, which they can conveniently access from their user profile menu.



[Chatter REST API](#) and [Chatter in Apex](#) support direct messages.

- 👁 **Example:** Direct messages offer privacy for more sensitive conversations. Imagine a scenario where a customer brings up a product issue in the community feed. A support rep can share that post and address the customer's concerns privately in a direct message. Similarly, a channel manager can discuss sensitive sales data with one or more partner users in a partner community.

## Add a Collaboration Feed to Your Articles

Have you ever read a knowledge article in a community that you know is incorrect? Now you can add your comments in article feeds in communities. Other community members can see your feedback and give their own, and community managers can incorporate your suggestions into the article itself.

Articles must have feed tracking enabled for feeds on articles to work. To use article feeds, in Community Builder, add the Feed and Feed Publisher components to the article detail page, and instantly start seeing the results.

- 📝 **Note:** The Feed and Feed Publisher components are included by default in communities built after Spring '17. In older communities, admins must add these components to the article detail page.

## Leave No Question Unanswered in Your Community

Let community members help each other by highlighting questions that haven't been answered. Community members, managers, moderators, and even customer support can then easily see the most viewed unanswered questions and jump in. Drop the Salesforce Einstein-powered Unanswered Questions component on any page. The component shows the top unanswered questions based on the view count from across the community. As questions are answered, they are removed from view.

 **Note:** Only questions created after the Spring '17 release are displayed in the Unanswered Questions component.

[Chatter REST API](#) and [Chatter in Apex](#) support top unanswered questions.

 **Example:**



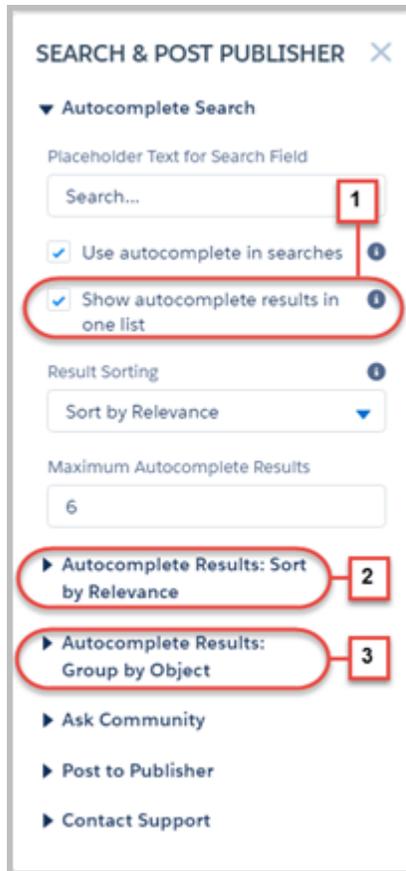
## See More Relevant Suggested Search Results

Community members see more relevant suggested search results when using autocomplete search. Previously, you'd see suggested search results listing only discussions and articles. Now, autocomplete search checks for any object exposed in your community and made searchable by the admin. Admins have greater flexibility in setting up autocomplete search results. They can choose to have the results show in order of relevance or grouped by type. Admins can also add any searchable object available in the community to the autocomplete search results.

For instance, if a community member searches for "coffee" in the community, the suggested autocomplete search result shows the most relevant object containing "coffee." For a partner community user, it could be the Awesome Coffee account, while customers can find "coffee grinds too fine" in cases.

To customize your autocomplete results so that they include objects beyond discussions and articles, enable **Show autocomplete results in one list** (1) in the Search & Post Publisher component's properties. Admins can configure properties in the Autocomplete Results: Sort by Relevance (2) and Autocomplete Results: Group by Object (3) sections to set up autocomplete search.

 **Example:**



## Community Search Results Now Include All Question Posts

When you perform a search in a community, the results now include question posts, even if they haven't been tagged by a topic. For instance, a community member previously asked the question "What is the best coffee bean?" without tagging it with a topic. If you search for "coffee bean," your results now include the question and the answers from the community.

Previously, questions were included in search results only when users tagged the question with a topic.

 **Note:** There is no filtering available for the questions that result from a search.

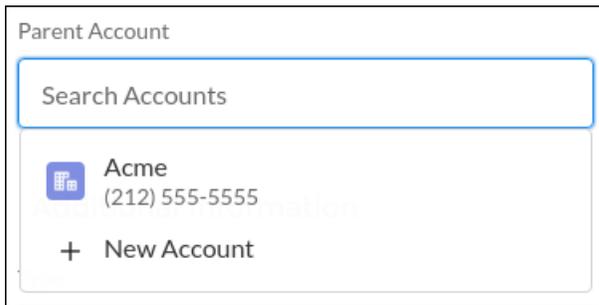
## Create Report and Dashboard List Views and Detail Pages

Community members can now access report and dashboard list views and detail pages to see important records and drill down to what they need. When you create an object page in Community Builder for a report or dashboard, list view and detail pages are automatically created. Community members can also collaborate using feeds.

## Create New Records from Lookups

Community members can now create records via lookups, a handy trick that saves time and frustration. Imagine a partner community member who creates the opportunity Awesome Widgets to track a potential sale. The partner looks up the contact Jess Fabulous to see if Jess exists in the system. If Jess isn't in the system, the partner simply clicks **New** to create the contact. No break in flow, and no time lost.

 Example:



## Tasks Now Available in Communities

You can now add tasks to opportunities, leads, accounts, and contacts in communities using the Record List component. Let community members keep track of their tasks by adding it to the navigation menu.

## See How Often a Topic Is Followed and Used

Community members can now see various metrics around topics usage. These include the number of posts using the topics, the number of articles associated with the topics, how often a topic has been used in the past 60 days, and how many followers it has. With this information at their fingertips, community members know whether a topic is as fresh as a daisy or as stale as a week-old baguette. Admins can also use these metrics to feature certain topics in their communities or consolidate similar topics based on usage.

The Trending Topic and Related Topic components can now also include a metric showing how many people are using topics.

 Example: The Topic Metrics component properties in Community Builder.

**TOPIC METRICS** ✕

Show how often the community uses the topic.

- Show Posts
- Show Articles
- Show Followers
- Show how many people used the topic in the last 60 days.

▼ **Topic ID**

- Topic ID

{!topicId}

## Simplified Guest User Access for Object Data in Communities

Topics, articles, and recommendations no longer require you to enable the **Give access to public API requests on Chatter** preference in Community Management or Community Workspaces. Previously, if the preference wasn't enabled, topics, articles, or recommendations data didn't load correctly on public pages in communities.

The following components load data correctly and are no longer dependent on the **Give access to public API requests on Chatter** preference:

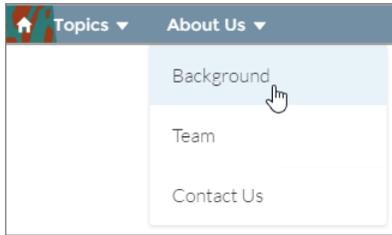
- Featured topics
- Navigational topics
- Related topics
- Trending topics
- Related articles
- Trending articles
- Recommendations

## Bookmarks Feed Comes To Community Builder

In Community Builder, the **Type** field on Feed and Feed Compact components has one more option: bookmarks. Create bookmark feeds to show users everything that they bookmarked in one place.

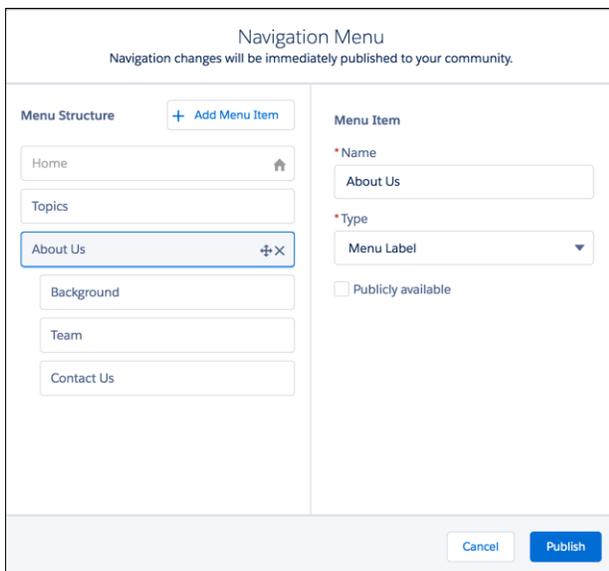
## Customize Community Navigation with Nested Menu Items

The new Menu Label type in the Navigation Menu component lets you create parent headings for your navigation menu and nest items underneath.



Add a menu item, and set the type to Menu Label. Nest other menu items underneath by dragging them to the right under the menu label.

 **Note:** You can't nest navigational topics under menu labels.



## Harness the Power of Visualforce in Template-Based Communities

Have you customized and perfected your community using the Salesforce Tabs + Visualforce template? Would like to enjoy the benefits and enhancements available in a Lightning-based community but still continue to use your Visualforce customizations? We've got you covered! Your Visualforce pages, actions, buttons, links, and canvas apps now work in Customer Service (Napili)-based communities.

For example, say that you have the Salesforce CPQ (Steelbrick) app installed in your org. You can create a Quote detail page and use the Visualforce Page component to display the Quote line editor or other pages. Your configured actions, buttons, and links, associated with standard or custom objects, work in communities as well. And canvas app overlays let you host third-party applications in your community.

### Getting Started

1. Give Visualforce page access to users by profile.

From Setup, enter *Profiles* in the Quick Find box, then select **Enabled Visualforce Page Access**.

## Enable Visualforce Page Access

Select the Visualforce pages that you want to make accessible at this Force.com site.

Save Cancel

| Available Visualforce Pages | Enabled Visualforce Pages |
|-----------------------------|---------------------------|
| AnswersHome                 | BandwidthExceeded         |
| ChangePassword              | CommunitiesLanding        |
| IdeasHome                   | CommunitiesLogin          |
| InMaintenance               | CommunitiesSelfReg        |
| MyProfilePage               | CommunitiesSelfRegConfirm |
| ProfilePageA                | CommunitiesTemplate       |
| SiteTemplate                | Exception                 |
| StdExceptionTemplate        | FileNotFound              |
| Unauthorized                | ForgotPassword            |
|                             | ForgotPasswordConfirm     |
|                             | SiteLogin                 |
|                             | SiteRegister              |
|                             | SiteRegisterConfirm       |
|                             | UnderConstruction         |

Add  
Remove

2. Make the Visualforce page available for your community.

From Setup, enter *Visualforce* in the Quick Find box, then select **Visualforce Pages**. Enable **Available for Salesforce mobile apps and Lightning Pages**.

### Visualforce Page

Page Edit Save Quick Save Cancel

Page Information

Label MyProfilePage

Name MyProfilePage

Description Default Force.com My Profile Page

Available for Salesforce mobile apps and Lightning Pages

Require CSRF protection on GET requests

**Tip:** When developing your Visualforce page code, set the `showHeader` attribute to `true`. Branding properties you set in **Administration > Branding** in Community Workspaces or Community Management also apply to the Visualforce page component in your Customer Service (Napili) community.

## Visualforce Page Component

In Community Builder, add the Visualforce Page component to your page. Then edit the component to select the Visualforce page to use. If you installed the Salesforce CPQ (Steelbrick) app, those pages are available for selection here.

-  **Note:** If the Visualforce page requires the Record ID from an object such as Account, create object pages for Account. Then drag and drop the Visualforce Page component onto the object's detail page. The Record ID field adjusts to the object's ID.

## Custom Actions

Visualforce custom actions let users perform tasks, such as creating records. If you have custom actions with an action type of **Custom Visualforce** associated with a Visualforce page, these actions now work in published communities. When users click the action button, the associated Visualforce page displays.

-  **Note:** Overrides to standard Visualforce actions such as View, New, Edit, and Delete are not supported in communities. These buttons on record detail pages don't display in communities.

## Custom Buttons and Links

Visualforce custom buttons and links let users interact with Salesforce data and with external websites and services. If you have custom buttons and links with a content source of Visualforce Page, these buttons and links now work in published communities. When users click the button or link, the associated Visualforce page displays.

-  **Note:** The Behavior setting for custom buttons and links is not supported. When users click custom buttons in published communities, the Visualforce page is always displayed in the current window.

Visualforce custom list buttons are not supported in communities.

## Canvas Apps

Use canvas apps as custom actions to give users access to the functionality of your apps in communities. Configure your canvas app for Lightning Component and Visualforce Page in Canvas App Settings. You can then load the canvas app inside a Visualforce page, Visualforce action, and Lightning components in published communities.

-  **Note:** Canvas quick actions are not available for guest users.

You can opt to hide the publisher header and publisher Share button in Canvas App Settings.

## Modify the Kanban View

Community members with the "Create and Customize List Views" permission can modify the Kanban view of records in their community. This feature is available only in Lightning component-based communities.

# Custom Lightning Components: Develop for Communities

Use the Lightning Component framework to build custom components for Communities.

## IN THIS SECTION:

[Write Once, Reuse Everywhere: Support for `force:hasRecordId`](#)

Lightning components that implement the `force:hasRecordId` interface now work seamlessly in Community Builder. The `force:hasRecordId` interface makes a component context-aware by adding the record ID from the component's page to the component at runtime. For example, a component on a record page receives the record ID of the currently displayed record.

[Access Lightning Apps in Public Communities](#)

Add the `ltng:allowGuestAccess` interface to your Lightning app to make it available to users without requiring that they register with or log in to your community. This interface makes your Lightning app available to more people, with fewer barriers to using it.

[Customize with Global Lightning Components and Events](#)

We added the new `forceCommunity:routeLink` component, which you can use to improve SEO link equity in communities based on the Customer Service (Napili) template. We also updated the `forceCommunity:analyticsInteraction` event, so now you can measure social interactions, periods of time, and errors.

## Write Once, Reuse Everywhere: Support for `force:hasRecordId`

Lightning components that implement the `force:hasRecordId` interface now work seamlessly in Community Builder. The `force:hasRecordId` interface makes a component context-aware by adding the record ID from the component's page to the component at runtime. For example, a component on a record page receives the record ID of the currently displayed record.

Previously, the `force:hasRecordId` interface was supported in Lightning App Builder and Salesforce1 only. Now it's supported in communities as well. If you already created components that implement the interface, you can use them in Community Builder.

If you have components that include expression language to obtain the record ID, there's no need to remove the expression language. Expressions take precedence over the `force:hasRecordId` interface.



**Note:** To make your Lightning components available for communities, you still need the `forceCommunity:availableForAllPageTypes` interface.

## SEE ALSO:

[Lightning Components Developer Guide: Configure Components for Lightning Experience Record Pages](#)

## Access Lightning Apps in Public Communities

Add the `ltng:allowGuestAccess` interface to your Lightning app to make it available to users without requiring that they register with or log in to your community. This interface makes your Lightning app available to more people, with fewer barriers to using it.



**Note:** You can only add the `ltng:allowGuestAccess` interface to Lightning apps, not to individual components.

Once you've enabled your app for guest access, your app is available as a stand-alone Lightning app at the following URL:  
`https://yourCommunityDomain/communityURL/namespace/appName.app`.

Stand-alone Lightning apps don't display any Salesforce branding, nor do they use your community template. You have complete control over the visual design of a stand-alone app.

Here's an example that shows you how to translate your org's settings into the URL to your app.

- You set your community domain to "universalcontainers.force.com".
- You don't have a namespace defined for your org.
- You've created a community with the URL "ourstores".

- You've added `implements="ltng:allowGuestAccess"` to a Lightning app named "locator.app".

The URL to your Lightning app is: `https://universalcontainers.force.com/ourstores/c/locator.app`.

 **Important:** When you make a Lightning app accessible to guest users by adding the `ltng:allowGuestAccess` interface, it's available through **every** community in your org, whether that community is enabled for public access or not. You can't prevent it from being accessible via community URLs, and you can't make it available for some communities but not others.

 **Warning:** Be extremely careful about apps you open for guest access. Apps enabled for guest access bypass the object- and field-level security (FLS) you set for your community's guest user profile. Lightning components don't automatically enforce CRUD and FLS when you reference objects or retrieve the objects from an Apex controller. This means that the framework continues to display records and fields for which users don't have CRUD access and FLS visibility. You must manually enforce CRUD and FLS in your Apex controllers. A mistake in code used in an app enabled for guest access can open your org's data to the world.

SEE ALSO:

[Share Lightning Apps with Non-Authenticated Users](#)

[Salesforce Help: Create Communities \(can be outdated or unavailable during release preview\)](#)

[Lightning Components Developer Guide: CRUD and Field-Level Security \(FLS\)](#)

## Customize with Global Lightning Components and Events

We added the new `forceCommunity:routeLink` component, which you can use to improve SEO link equity in communities based on the Customer Service (Napili) template. We also updated the `forceCommunity:analyticsInteraction` event, so now you can measure social interactions, periods of time, and errors.

SEE ALSO:

[New and Changed Lightning Components](#)

[Changed Lightning Events](#)

## Chatter and Files in Community Templates: Create Custom Groups, Track Top Posts, Filter Questions, Share Posts, and More

Create completely custom groups. Sort by the most popular posts. Filter questions in group feeds in communities. Share posts with your followers.

IN THIS SECTION:

[Sort by the Most Popular Posts in Your Community](#)

The list of feed sorting options grows in this release with Top Posts. Users select Top Posts to see the latest posts with the most engagement as measured by comments, likes, and views. The Top Posts sorting option is available on discussion feeds in communities based on the Customer Service (Napili) template.

[Filter Questions in Your Community in More Ways](#)

You have more ways to look at questions in your communities. You can already sort questions, and now you can filter them, too. Filter by All Questions, Unanswered Questions, Questions with No Best Answer, and Questions with Best Answer. This feature is available in communities based on the Customer Service (Napili) template.

### [Share Posts in Your Community](#)

When someone posts something you'd like more people to see, you can share it with your followers. If you like, you can add your own introductory remarks before you post. When you share a post to a direct message (Send as Message), your share starts a new direct message thread. This feature is available in communities based on the Customer Service (Napili) template.

### [Use Keyboard Keys to Post to Your Community](#)

Power users can use a keyboard to complete posts and comments. In Windows, enter content and press Ctrl+Enter. In macOS, press either Control+Enter or Command+Enter. This feature is available in communities based on the Customer Service (Napili) template.

### [Feeds Look and Feel Gets Refreshed in Your Community](#)

We're continuing the work of conforming all our platforms to the same usability standards. In this release, we changed the likes bar. Now it shows you a count and lists the names of up to three people who liked the post. This feature is available in communities based on the Customer Service (Napili) template.

### [Manage Members with Greater Ease](#)

We're bringing you a trifecta of ways to make managing your group's members easier. Curious about who members are before you add them to your group? Hover over their name to see their details. And to add members more quickly, click **Add more** to directly open the **Add Members** dialog. Last, but not least, you can sort your full member list by column (except for photo). These features are available in Lightning Experience and in communities using the Customer Service (Napili) template.

### [User Profile Header Is More Streamlined](#)

User profile pages can start to be a bit packed with all that information in the header. We cleaned it up to make the page feel less crowded. The header now shows four basic fields: name, title, company name, and active. Not to worry, though—more fields display when you hover.

### [User Info on Hover Comes to Communities](#)

You know how cool it is when you hover over a photo and the person's information pops up? That same functionality is now available in communities. No longer do you have to navigate away from the page that you're on to get member details. This feature is available in communities using the Customer Service (Napili) template.

### [Place Users' Reputation Levels Where You Want Them](#)

When your community uses the Reputation feature, a user's reputation level normally displays below the profile photo. But all that information can make that space feel tight. So you can now choose to have the reputation display in the Influence section, making the world a bit tidier. This feature is available in communities based on the Customer Service (Napili) template.

### [Customizable Groups Now Generally Available](#)

We're pleased to announce the biggest improvement to Chatter groups in years! Now, all Chatter groups are completely customizable. With this feature, Groups take a quantum leap and become quick, easy containers for providing any kind of rich collaborative experience you want to give to your members. This feature is available in communities using Lightning-based templates.

### [Organize Your Groups List View Using Tiles](#)

Use tiles on the Groups list view for a decluttered view of all your groups. You can easily toggle between the tile view and the normal grid view. This feature is available in Lightning Experience and in communities based on the Customer Service (Napili) template.

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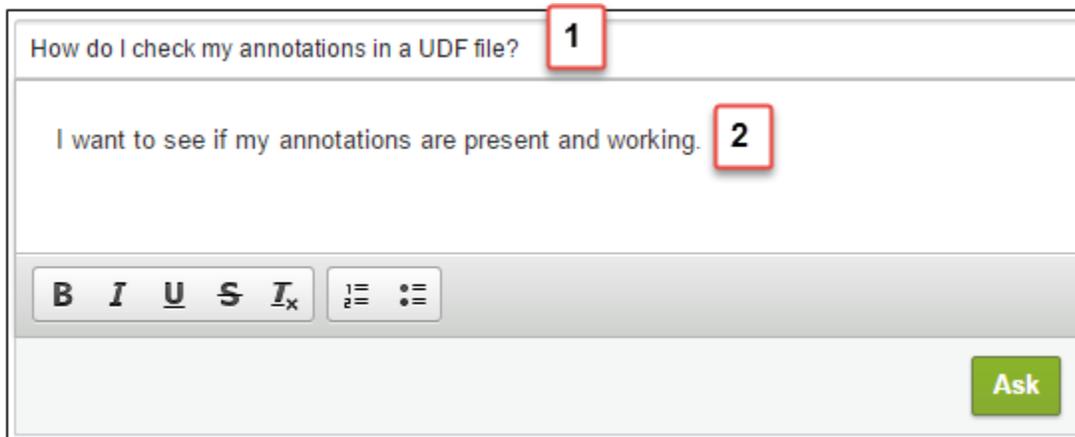
SEE ALSO:

[Share Posts in Lightning Experience](#)

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Power users can use a keyboard to complete posts and comments. In Windows, enter content and press Ctrl+Enter. In macOS, press either Control+Enter or Command+Enter. This feature is available in communities based on the Customer Service (Napili) template.

 **Note:** In questions, shortcut keys work with question details, but not on the question itself. So, if you just ask a question (1), the shortcuts don't work. But if you include details with the question (2), shortcuts work.



SEE ALSO:

[Use Keyboard Keystrokes to Post](#)

## Feeds Look and Feel Gets Refreshed in Your Community

We're continuing the work of conforming all our platforms to the same usability standards. In this release, we changed the likes bar. Now it shows you a count and lists the names of up to three people who liked the post. This feature is available in communities based on the Customer Service (Napili) template.

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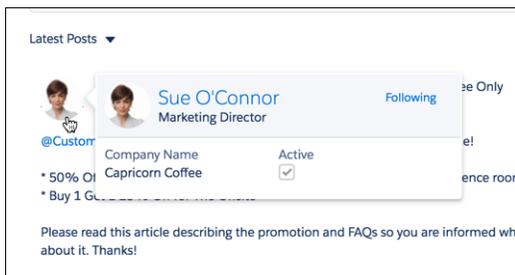
We're bringing you a trifecta of ways to make managing your group's members easier. Curious about who members are before you add them to your group? Hover over their name to see their details. And to add members more quickly, click **Add more** to directly open the **Add Members** dialog. Last, but not least, you can sort your full member list by column (except for photo). These features are available in Lightning Experience and in communities using the Customer Service (Napili) template.

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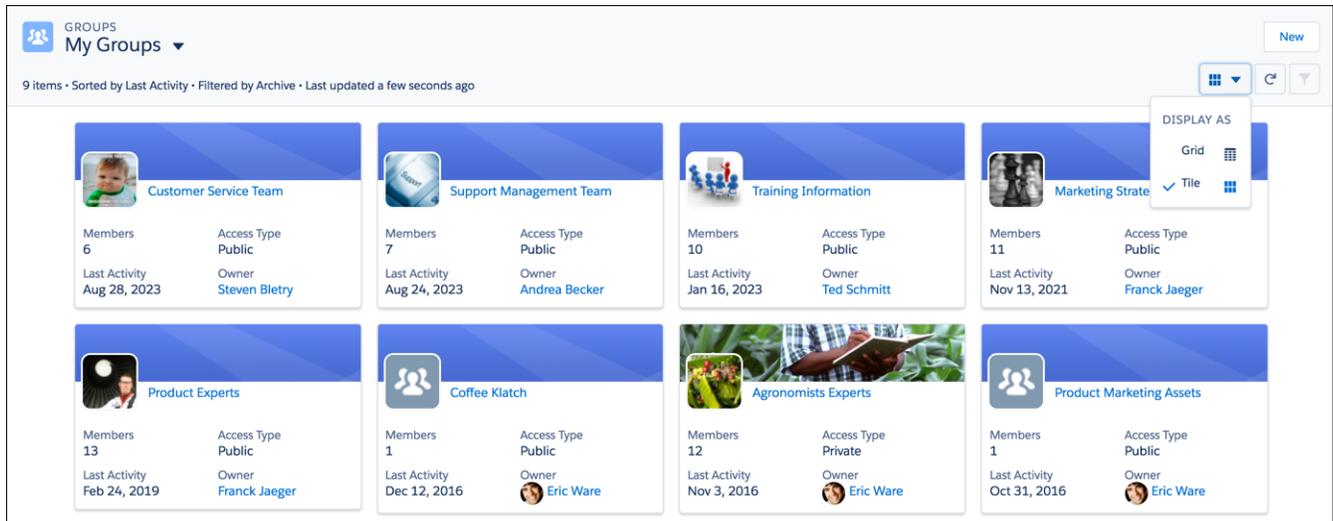
What does this mean? Previously you could use Community Builder to change which components appeared in your Groups, but every group would look the same. Now, every group can have its own layout. This means components, actions, publisher, and related lists can all be customized to meet a given use case perfectly.



**Example:** A group devoted to providing support to customers could have its publisher default to Questions, and components arrayed around the feed containing a welcome video, a FAQ, top KB articles, the user's list of open cases, and anything else needed to provide top-notch support experience.

## Organize Your Groups List View Using Tiles

Use tiles on the Groups list view for a decluttered view of all your groups. You can easily toggle between the tile view and the normal grid view. This feature is available in Lightning Experience and in communities based on the Customer Service (Napili) template.



## Search, Reports, and Analytics: Know More About Your Community

Get the most from search with improved search reports and dashboards and see click-through rates on related questions.

### IN THIS SECTION:

#### [Get More Granular Information with Improved Search Reporting](#)

We now count every time Salesforce fetches results. Search reports show which search terms produced no results in the community and which ones did. Admins can also see the average number of results per search term and which searches were confined to a specific subset of records. Previously, search queries were counted every time a user entered a search query and pressed Enter, clicked Search, or selected a search option in autocomplete results.

#### [Dive Deeper into Self-Service Communities Using Google Analytics](#)

Does your company use Google Analytics™ to track site analytics? Now you can use it to track search activity in self-service communities and track deflection from cases. Using Google Analytics, you can dive deeply into your community's search behavior and pull that information into meaningful reports.

#### [Create a Custom Report Type to See Click-Through Rates for Related Questions](#)

Find out how often members click related questions suggested by your community. Create a custom report type using `Related Content Metrics` as the Primary Object, and monitor click-through rates of related questions. You can then have a daily tracker of the number of times a related question was shown in the community (impressions), how often it was clicked, and the ratio between the two. Use the click-through rates to create content around the most accessed questions, empowering your customers to find the information they need.

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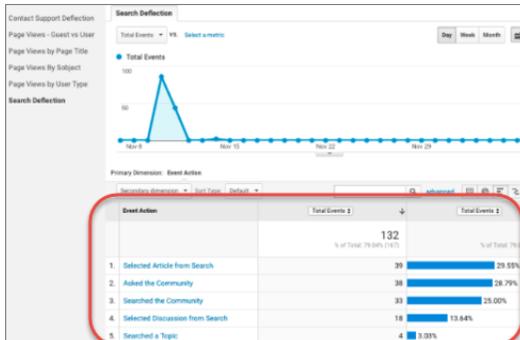
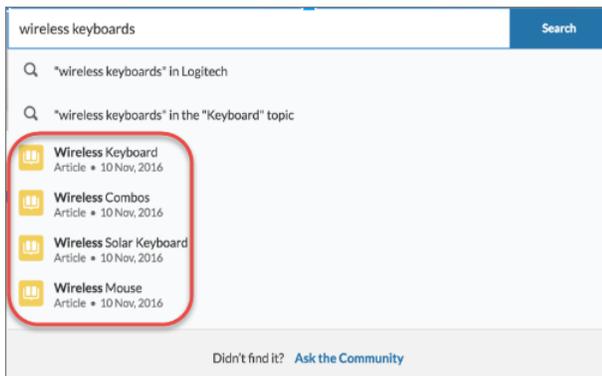
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 **Note:** This feature is only available for communities made using the Customer Service (Napili) template and Lightning Bolt solutions.

## Dive Deeper into Self-Service Communities Using Google Analytics

Does your company use Google Analytics™ to track site analytics? Now you can use it to track search activity in self-service communities and track deflection from cases. Using Google Analytics, you can dive deeply into your community's search behavior and pull that information into meaningful reports.

Google Analytics integrates with your self-service community to track community user types, User IDs, Salesforce Objects, and customer search activity.



After you enter your Google Analytics ID in **Settings > Advanced** in Community Builder, select **Let Google Analytics access your Salesforce data for deeper insights into search activity**. When you publish your community to enable the service, your community's search data streams directly to the Google Analytics service. Some [additional setup in Google Analytics](#) is required to track your self-service community activity. To access preconfigured reports and dashboards, install the Google Analytics for Salesforce Communities Package.

 **Note:**

- All template-based communities support Google Analytics integration.
- Google Analytics is now supported in sandbox environments.

## Create a Custom Report Type to See Click-Through Rates for Related Questions

Find out how often members click related questions suggested by your community. Create a custom report type using `Related Content Metrics` as the Primary Object, and monitor click-through rates of related questions. You can then have a daily tracker of the number of times a related question was shown in the community (impressions), how often it was clicked, and the ratio between the two. Use the click-through rates to create content around the most accessed questions, empowering your customers to find the information they need.



**Note:** This feature is only available for communities made using the Customer Service (Napili) template and Lightning Bolt solutions.

SEE ALSO:

[Salesforce Help: Create a Custom Report Type](#)

## Moderation: Preconfigured Rules and Spam IQ

Our ready-to-go moderation rules lessen your load, and Spam IQ protects your community at all times. Time to put up your feet, Moderators!

IN THIS SECTION:

[Get a Head Start with Preconfigured Moderation Rules](#)

Moderators, we know that you work hard to keep your community free of inappropriate posts and spam, so we added something extra for you this release. We set up moderation rules! Simply turn on the rules and you have a prepped ally against malicious content.

[Protect Your Community and Improve Productivity with Einstein Spam Detection \(Pilot\)](#)

Your community is the place customers go to get answers and talk to other customers. It's also the place where your customers get to know you. The last thing you want is spam getting in the way, but it can be hard to keep up. Enter Einstein Spam Detection. Einstein Spam Detection steps in and monitors your customer community for spam using real community moderator activity as a guide.

## Get a Head Start with Preconfigured Moderation Rules

Moderators, we know that you work hard to keep your community free of inappropriate posts and spam, so we added something extra for you this release. We set up moderation rules! Simply turn on the rules and you have a prepped ally against malicious content.

Set up and ready to go, these moderation rules block, flag, and replace blacklisted keywords and freeze members who don't follow the rules. Are these rules not exactly what you are looking for? No worries. You can customize these rules to fit your community's needs and add or remove terms from the list of blocked keywords.

Preconfigured moderation rules are available only for communities created after Spring '17. To activate the rules, go to **Moderation > Rules**, select **Edit** next to the rule that you want to activate and select the **Active** box. To modify the banned keywords, go to **Moderation > Content Criteria** and click **Banned Keywords**.

**Rules** [Visit our Success](#)

View and create rules to moderate member-generated content. Before creating a rule, make sure you've created criteria to use in that rule.

| Action                                     | Name ↑   | Description   | Moderation Action                  | Active                   | Created Date       |
|--|--|---|------------------------------------|--------------------------|--------------------|
| <a href="#">Edit</a>   <a href="#">Del</a> | Block posts or comments containing banned keywords             | Posts or comments with banned words aren't saved to the community feed    | Block                              | <input type="checkbox"/> | 11/14/2016 2:24 PM |
| <a href="#">Edit</a>   <a href="#">Del</a> | Flag posts or comments containing banned keywords              | Community moderators review posts and comments containing banned keywords | Flag                               | <input type="checkbox"/> | 11/14/2016 2:24 PM |
| <a href="#">Edit</a>   <a href="#">Del</a> | Freeze members whose posts or comments exceed the allowed rate | Freezes members who post or comment more frequently than is allowed       | Freeze Member And Notify Moderator | <input type="checkbox"/> | 11/14/2016 2:24 PM |
| <a href="#">Edit</a>   <a href="#">Del</a> | Replace banned keywords with asterisks                         | Posts and comments using banned keywords are replaced with asterisks      | Replace                            | <input type="checkbox"/> | 11/14/2016 2:24 PM |
| <a href="#">Edit</a>   <a href="#">Del</a> | Review the first post or comment made by a new member          | Community moderators review the first post or comment from new members    | Review                             | <input type="checkbox"/> | 11/14/2016 2:24 PM |

## Protect Your Community and Improve Productivity with Einstein Spam Detection (Pilot)

Your community is the place customers go to get answers and talk to other customers. It's also the place where your customers get to know you. The last thing you want is spam getting in the way, but it can be hard to keep up. Enter Einstein Spam Detection. Einstein Spam Detection steps in and monitors your customer community for spam using real community moderator activity as a guide.

Unlike manual moderation, Einstein Spam Detection automatically classifies incoming posts and comments in your community, based on a pre-trained model. This model was designed using real community activity. If the comment is classified as spam, it's flagged as spam and marked "Flagged by Einstein". Content collected by Einstein Spam Detection is stored for 365 days.

-  **Note:** During the pilot of this feature, not all Einstein Spam Detection functionality is available. For this release, Einstein Spam Detection only classifies content. In the future, Einstein Spam Detection will learn from the ongoing activity in the community where it is operating.
-  **Important:** We provide Einstein Spam Detection to selected customers through a pilot program that requires agreement to specific terms and conditions. To be nominated to participate in the program, contact Salesforce. Pilot programs are subject to change, so we can't guarantee acceptance. Einstein Spam Detection isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions based on generally available products and features.

## Other Changes in Communities

Learn about smaller changes that improve your experience with Communities.

### IN THIS SECTION:

#### [Create List Views in Communities](#)

Give community members the ability to create list views in communities! Just enable the "Create and Customize List Views" permission for your community users, and watch as they create the list views of their dreams.

#### [Edit Records Inline in Communities](#)

Users with edit permission for an object can now edit records inline, saving time and effort. Snap - it just got easier.

### [Refine Reputation to Reflect Meaningful Activity](#)

Points mean a lot when it comes to reputation, but those numbers can be inflated when they include points for contributions to records, like opportunities. You can now exclude record contributions from overall reputation points, so reputation levels more accurately represent a user's activities in the community.

### [Article URLs Now Include the Record ID](#)

To improve consistency and robustness, the record ID is now included in article URLs. Previously, article URLs used the format `/article/:urlName`, but we now redirect to `/article/:recordId/:urlName`. This enhancement also makes it easier to create custom components that rely on a generic record ID and use them on the article detail page.

### [Customer Community Plus Licenses](#)

Now users with the Customer Community Plus license can get task reminders, add notes and attachments, access events and calendars, and send email.

### [Create More Communities in Your Salesforce Org](#)

You asked for it. We delivered. You can now create up to 100 communities in your org. Hooray!

### [Perform Mass Inline Edits in a Community](#)

Community members can now edit up to 200 records at a time. With inline editing and enhanced lists enabled in your org, give community members the "Mass Edits from Lists" permission. No longer are the days of having to open every record to make the same change in each. This feature is available only in communities using Salesforce Tabs + Visualforce.

### [Stamp Your Users with a Specialty](#)

User Specialty is one more way of identifying community members. Create different types of specialties, like MVP, Expert, or Team Captain, and assign them to specific members. Other members can quickly identify those stamped with a specialty, and can follow them for more help and insights. The specialties you create is completely up to you, but each user can only be assigned one specialty.

### [Communities Supports All Platform Languages](#)

Previously, Communities offered only fully supported and end user languages. Communities now supports all platform languages, making Communities language support on par with the Salesforce platform.

### [Back Button Support Now Available in Tabs in Template-Driven Communities](#)

Use the back button in template-driven communities to navigate to the tab that you previously selected in community pages.

## Create List Views in Communities

Give community members the ability to create list views in communities! Just enable the "Create and Customize List Views" permission for your community users, and watch as they create the list views of their dreams.

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Users with edit permission for an object can now edit records inline, saving time and effort. Snap - it just got easier.

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Points mean a lot when it comes to reputation, but those numbers can be inflated when they include points for contributions to records, like opportunities. You can now exclude record contributions from overall reputation points, so reputation levels more accurately represent a user's activities in the community.

## Article URLs Now Include the Record ID

To improve consistency and robustness, the record ID is now included in article URLs. Previously, article URLs used the format `/article/:urlName`, but we now redirect to `/article/:recordId/:urlName`. This enhancement also makes it easier to create custom components that rely on a generic record ID and use them on the article detail page.

For example, `https://mycommunity.com/s/article/some_article` redirects to `https://mycommunity.com/s/article/0D5B0000007qtP7KAI/some_article`.



**Note:** If your org has custom components that rely on the article's `urlName`, update the components to use `recordId` instead.

## Customer Community Plus Licenses

Now users with the Customer Community Plus license can get task reminders, add notes and attachments, access events and calendars, and send email.



**Note:**

- To turn off customer access to notes and attachments, deselect the **Let customer users access notes and attachments** org preference.
- In a previous version of this release note, we announced that users with the Customer Community Plus license can update the status of a case. This functionality is no longer available in communities built using the Salesforce Tabs + Visualforce template (or portals) on desktop browsers. Users can continue to make updates on Salesforce Tabs + Visualforce communities via the Salesforce1 mobile browser app, as well as in communities built on the Customer Service (Napili) template. This affects all users with the Customer Community, Customer Community Plus, High Volume Portal User, and customer portal licenses.

SEE ALSO:

[Salesforce Help: Communities License Limits](#)

## Create More Communities in Your Salesforce Org

You asked for it. We delivered. You can now create up to 100 communities in your org. Hooray!



**Note:** This includes Published, Inactive, and Active communities.

## Perform Mass Inline Edits in a Community

Community members can now edit up to 200 records at a time. With inline editing and enhanced lists enabled in your org, give community members the "Mass Edits from Lists" permission. No longer are the days of having to open every record to make the same change in each. This feature is available only in communities using Salesforce Tabs + Visualforce.

## Stamp Your Users with a Specialty

User Specialty is one more way of identifying community members. Create different types of specialties, like MVP, Expert, or Team Captain, and assign them to specific members. Other members can quickly identify those stamped with a specialty, and can follow them for more help and insights. The specialties you create is completely up to you, but each user can only be assigned one specialty.

In Spring '17, creating and assigning specialties is available only through the API. Use `Stamp` to create your specialty and the `StampAssignment` to assign it to a user. The specialty appears on the user's profile page below the profile photo.

## Communities Supports All Platform Languages

Previously, Communities offered only fully supported and end user languages. Communities now supports all platform languages, making Communities language support on par with the Salesforce platform.

## Back Button Support Now Available in Tabs in Template-Driven Communities

Use the back button in template-driven communities to navigate to the tab that you previously selected in community pages.

## Communities Documentation: Spruced Up for Spring

With the UI getting a new look, we felt that it was time to do some housekeeping with our documentation. We retired some doc and we also moved things around to consolidate our content into fewer PDFs and make it searchable from the Salesforce Help.

So what's changing?

- We retired the *Getting Started with Communities* implementation guide. All the information from this implementation guide already lives in the Salesforce Help, which is fully searchable and translated into all our supported languages. If you prefer to download your content, use the [Set Up and Manage Communities](#) guide instead. It has all the help topics consolidated into a single PDF.
- If you use partner portals, we strongly recommend that you migrate your portal to a community. Communities support portal licenses, so you don't need to get additional communities licenses. We added a ton of new content for managing partner relationships and [using the Lightning Partner Management solution](#) to create partner communities.
- We also removed the partner portal documentation from the Salesforce Help and moved it all into the [Create and Manage Partner Portals](#) guide.
- We updated all our documentation to show that you can access communities whether your org uses Salesforce Classic or Lightning Experience. The only exception to this is, of course, the global header, which is only supported in Salesforce Classic.
- And as a final cherry on top, we put together a handy list of [all the guides](#), [Trailhead modules](#), and [developer resources](#) you need to create communities.

## Chatter: Company Highlights Feed, Create Custom Feeds, Customize Groups

We redesigned the Chatter home page in Lightning Experience to give you more of what you want—customization. We introduced the Company Highlights feed, the ability to create your own feeds with streams, a list of your recently updated groups, and a way to share posts. You can also create custom groups for any use case and filter questions in group feeds in communities and Lightning Experience.

### IN THIS SECTION:

[Chatter Feeds: Create Custom Feeds, Share Posts, Love Live Comments](#)

Create custom feeds with streams, share posts in Lightning Experience, and see how we enhanced live comments.

[Groups: Create Custom Groups, Filter Questions, Invite External Users](#)

Create groups customized to your needs in Lightning Experience, filter questions in group feeds in communities and Lightning Experience, and invite external users to groups in Lightning Experience.

### EDITIONS

Available in: **Group**, **Professional**, **Enterprise**, **Performance**, **Unlimited**, **Contact Manager**, and **Developer** Editions

## Chatter Feeds: Create Custom Feeds, Share Posts, Love Live Comments

Create custom feeds with streams, share posts in Lightning Experience, and see how we enhanced live comments.

### IN THIS SECTION:

#### [Lightning Chatter Home Page Gets a Makeover](#)

A lot is happening in the left column of the Lightning Chatter Home page. The All Company feed is now called Company Highlights and serves up a dynamic list of the most popular posts from your entire company (Top Posts). Under Company Highlights, we introduce a new feature called Streams. Create up to five custom feeds that each combines posts from up to 25 of your most useful sources. Under your list of Streams, you now have quick access to five of your most recently updated groups. This change applies to Lightning Experience only.

#### [Create Custom Feeds with Chatter Streams](#)

Now you can put together the information that's most useful to you in your own custom feeds with Chatter streams. Create up to five Chatter streams that combine posts from different feeds and different feed types. Combine feeds from people, groups, and records, like your accounts, opportunities, and cases. This feature is new in Lightning Experience.

#### [All Company Feed Becomes Company Highlights, Powered by Einstein](#)

Your All Company feed is now named Company Highlights. The Company Highlights feed incorporates Einstein artificial intelligence (AI) to bring you a ranked view of what's trending in your org (Top Posts). Now you can easily catch up on the hottest news from across your company. This change applies to Lightning Experience only.

#### [Shield Platform Encryption Comes To Chatter \(Pilot\)](#)

We're running a public pilot for Shield Platform Encryption for Chatter. Encryption for Chatter enables you to encrypt sensitive data when it's stored, and not just when it's transmitted over a network. Encryption for Chatter isn't ready for production, but you can safely try it out in a *dedicated* sandbox environment. This change applies to all Chatter feeds.

#### [Share Posts in Lightning Experience](#)

When someone posts something you'd like more people to see, you can share it with your followers. If you like, you can add your own introductory remarks before you post. This feature is available in Lightning Experience and in communities based on the Customer Service (Napili) template.

#### [Live Comments Are Better Than Ever](#)

We enhanced live comments for better usability. For example, an animation now shows you when people are commenting. Right by that animation is a list of up to three people who are actively typing comments. This feature is new in Lightning Experience.

#### [Use Keyboard Keystrokes to Post](#)

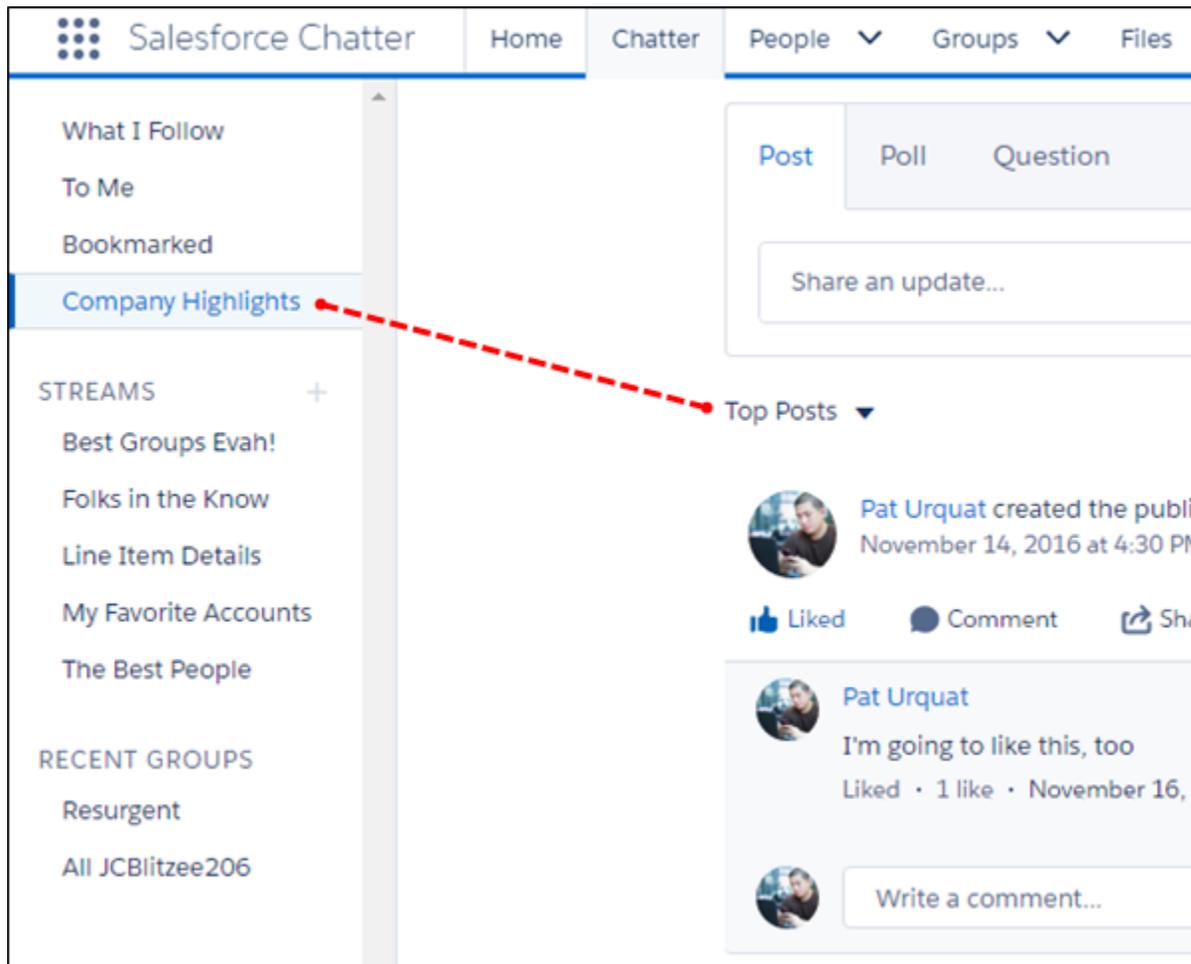
Power users can use the keyboard to complete posts and comments. On Windows, enter content and press Ctrl+Enter. On macOS, press either Control+Enter or Command+Enter. This feature is available in Lightning Experience and communities based on the Customer Service (Napili) template.

#### [Feeds Look and Feel Gets Refreshed](#)

We're continuing the work of conforming all our platforms to the same usability standards. In this release, we changed the likes bar. Now it shows you a count and lists the names of up to three people who liked the post. These changes are available in Lightning Experience and communities based on the Customer Service (Napili) template.

## Lightning Chatter Home Page Gets a Makeover

A lot is happening in the left column of the Lightning Chatter Home page. The All Company feed is now called Company Highlights and serves up a dynamic list of the most popular posts from your entire company (Top Posts). Under Company Highlights, we introduce a new feature called Streams. Create up to five custom feeds that each combines posts from up to 25 of your most useful sources. Under your list of Streams, you now have quick access to five of your most recently updated groups. This change applies to Lightning Experience only.



Read more about these and other new features in these release notes.

SEE ALSO:

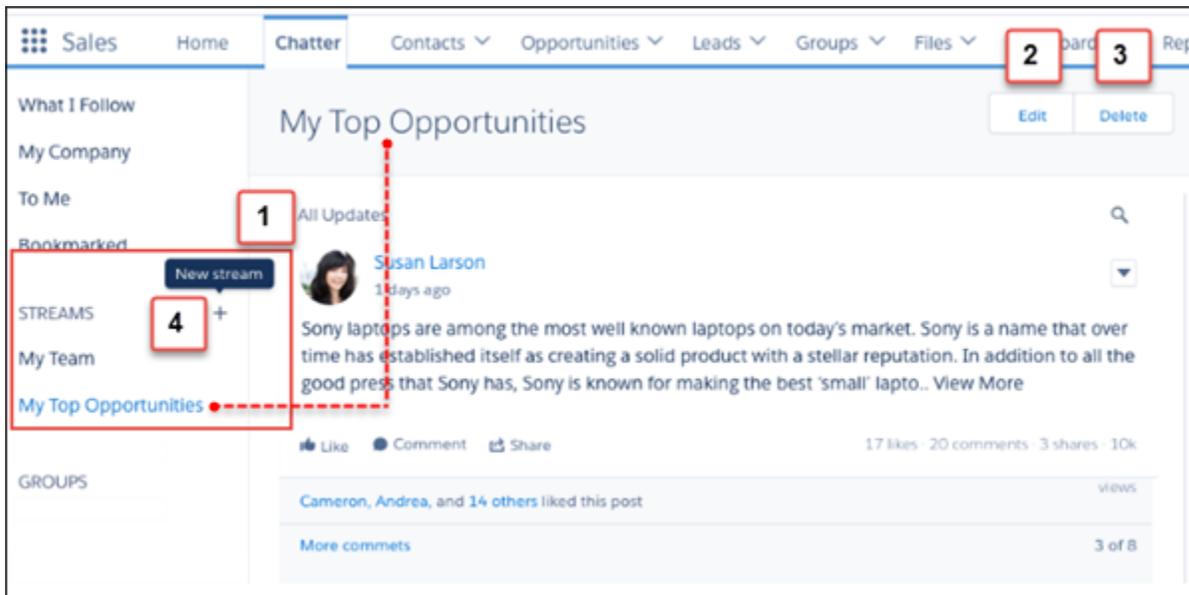
[Create Custom Feeds with Chatter Streams](#)

[All Company Feed Becomes Company Highlights, Powered by Einstein](#)

## Create Custom Feeds with Chatter Streams

Now you can put together the information that's most useful to you in your own custom feeds with Chatter streams. Create up to five Chatter streams that combine posts from different feeds and different feed types. Combine feeds from people, groups, and records, like your accounts, opportunities, and cases. This feature is new in Lightning Experience.

-  **Note:** To include a person account in your stream, add it as an Account in the **Include in Stream** field. If you add a person account as a Contact, the related feed posts don't appear.



Add up to 25 entities (feeds and records) to one stream to create a nicely rounded body of information. Create up to five streams, and get to them easily from the left column of your Chatter home page (1). Didn't come out perfect the first time? Fine! Edit your stream to get it flowing with the right information (2). Isn't useful to you anymore? Delete the stream (3), and replace it with something new (4).

-  **Note:** You can add 25 unique feeds, records, groups, and people to a stream. If your access to any of them is removed, the removed entity is still counted as part of the 25. You can't replace it with something else.

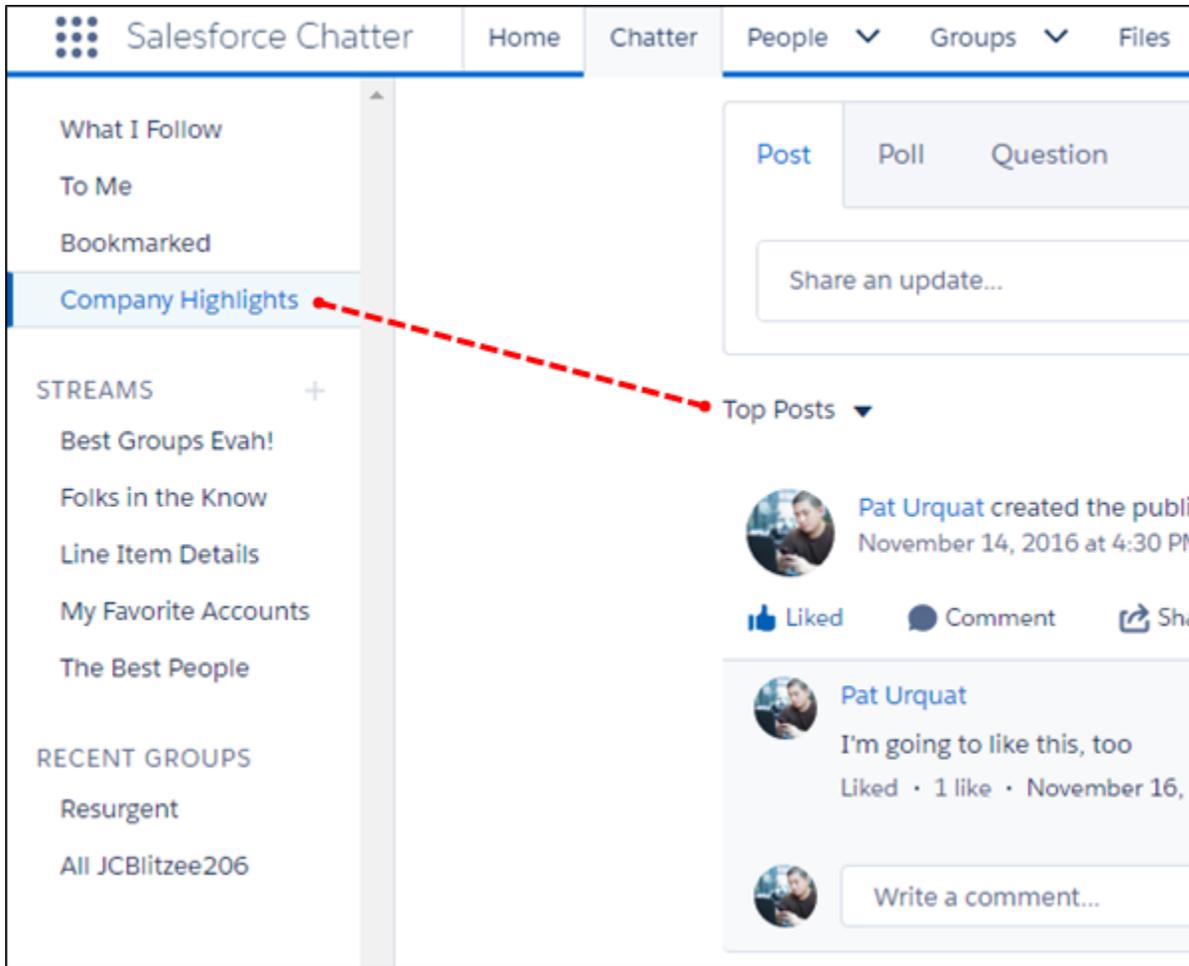
You don't have to follow a person, group, or record before you add it to a stream. The great thing about adding a feed to a stream is it doesn't count against the number of follows you're allowed.

-  **Note:** Because a stream is made up of multiple feeds, no publisher is provided for posting to a stream.

[Chatter REST API](#) and [Chatter in Apex](#) support Chatter Streams.

## All Company Feed Becomes Company Highlights, Powered by Einstein

Your All Company feed is now named Company Highlights. The Company Highlights feed incorporates Einstein artificial intelligence (AI) to bring you a ranked view of what's trending in your org (Top Posts). Now you can easily catch up on the hottest news from across your company. This change applies to Lightning Experience only.



AI ranking brings out your company's most popular content. What ranks highest?

- Latest posts
- Posts with lots of engagement, like comments, likes, and views

## Shield Platform Encryption Comes To Chatter (Pilot)

We're running a public pilot for Shield Platform Encryption for Chatter. Encryption for Chatter enables you to encrypt sensitive data when it's stored, and not just when it's transmitted over a network. Encryption for Chatter isn't ready for production, but you can safely try it out in a *dedicated* sandbox environment. This change applies to all Chatter feeds.

- 📌 **Note:** We provide encryption for Chatter to selected customers through a pilot program that requires agreement to specific terms and conditions. To be nominated to participate in the program, contact Salesforce. Pilot programs are subject to change, and we can't guarantee acceptance. Encryption for Chatter isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features. You can provide feedback and suggestions for encryption for Chatter in the [Chatter Product group in the Success Community](#).

With encryption for Chatter, your company can confidently comply with privacy policies, regulatory requirements, and contractual obligations for handling Chatter data.

What's encrypted? Chatter encryption applies to feed posts, questions and answers, link names, and all comments. It also applies to poll questions, but not poll choices.

Encrypted fields work normally throughout the Salesforce user interface, business processes, and APIs. (There are some exceptions; for example, you can't filter encrypted fields.) When you encrypt a field, existing values aren't encrypted immediately. Values are encrypted only after you interact with them, for example, you add or edit field content.

**Important:** Historic Chatter feeds can't be mass-encrypted.

Enabling encryption for Chatter disables Spam IQ and exposes Chatter to the global limitations that come with encryption.

SEE ALSO:

[Salesforce Help: Tradeoffs and Limitations of Shield Platform Encryption \(can be outdated or unavailable during release preview\)](#)

[Salesforce Help: Which Fields Can I Encrypt? \(can be outdated or unavailable during release preview\)](#)

[Encrypt Your Data in Chatter \(Pilot\)](#)

[Encrypt Your Data in Chatter \(Pilot\)](#)

## Share Posts in Lightning Experience

When someone posts something you'd like more people to see, you can share it with your followers. If you like, you can add your own introductory remarks before you post. This feature is available in Lightning Experience and in communities based on the Customer Service (Napili) template.

Click **Share** (1) to start.

All Updates

**Cordelia Hamilton**  
3 days ago

**New resources for Q3.** We've updated the marketing and pricing resources for those of you chasing down widget deals. Also included is a new and improved first call deck! It's been updated with the feedback we got from last month's survey. Reach out to me if you have any... [See more](#)

Q3 2016  
**State of Sales**  
Survey of 2,000 Sales Managers:  
Success factors and applied technology  
State of Sales - Q3.pdf

Q3 Pricing for Widget3000

| Widget part                        | Material | Widget part cost   | Component cost |
|------------------------------------|----------|--------------------|----------------|
| plastic widget subpart widget 3000 | ES       | material component | \$2,000        |
| plastic widget subpart widget 3000 | ES       | material component | \$2,000        |
| plastic widget subpart widget 3000 | ES       | material component | \$2,000        |
| plastic widget subpart widget 3000 | ES       | material component | \$2,000        |
| plastic widget subpart widget 3000 | ES       | material component | \$2,000        |

Q3 Pricing for Widget3000.pdf

Widget3000 Cheat Sheet

Atta acelerisque sociis

1. Ut libero justo, dicitur et utrumque sed in utrumque a magis. Propter culpa nunc ut nunciamus, sed utrumque.
2. Utroque culpa ac nunciamus per nunciamus, sed utrumque. Propter culpa nunc ut nunciamus, sed utrumque.
3. Utroque culpa ac nunciamus per nunciamus, sed utrumque. Propter culpa nunc ut nunciamus, sed utrumque.

Cheat Sheet for Widgets.doc

Like Comment **Share** 471 views

Write a comment...

 **Note:** When you share a post that has file attachments, only the post is shared, not the files.

[Chatter REST API](#) and [Chatter in Apex](#) support sharing posts.

SEE ALSO:

[View Posts in Salesforce1 That Were Shared in Lightning Experience](#)

## Live Comments Are Better Than Ever

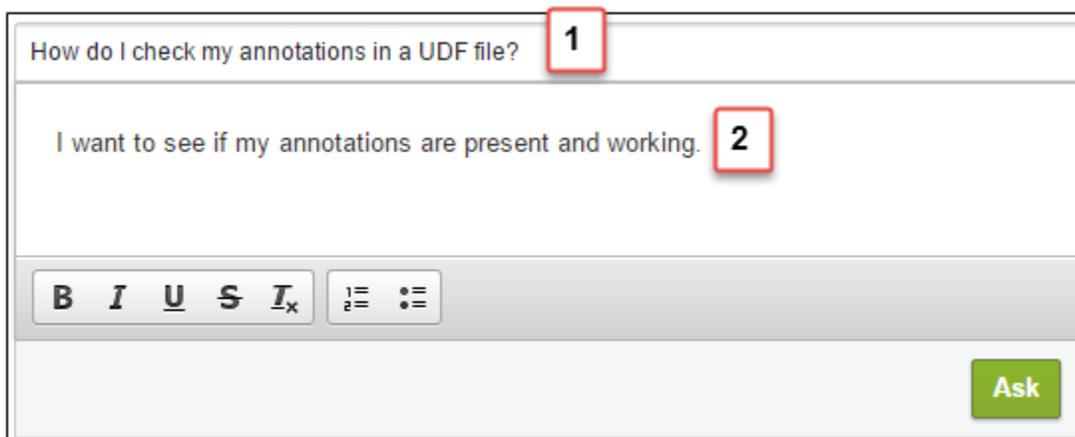
We enhanced live comments for better usability. For example, an animation now shows you when people are commenting. Right by that animation is a list of up to three people who are actively typing comments. This feature is new in Lightning Experience.



## Use Keyboard Keystrokes to Post

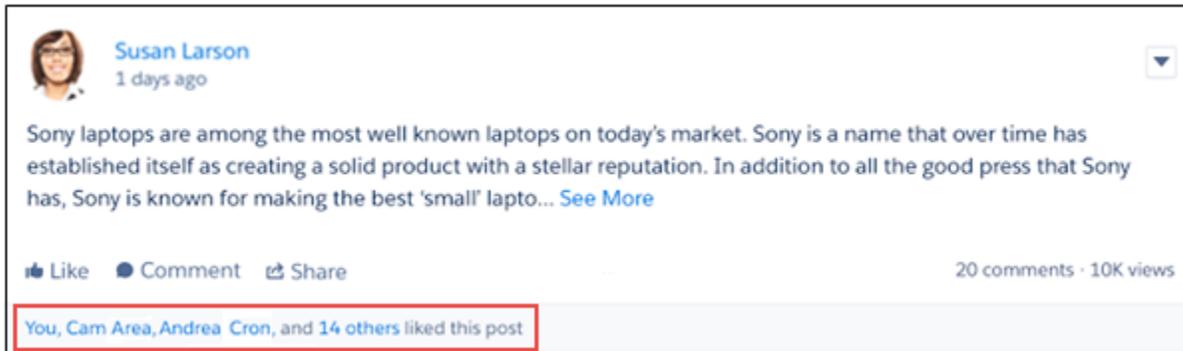
Power users can use the keyboard to complete posts and comments. On Windows, enter content and press Ctrl+Enter. On macOS, press either Control+Enter or Command+Enter. This feature is available in Lightning Experience and communities based on the Customer Service (Napili) template.

 **Note:** In questions, shortcut keys work with question details, but not on the question itself. So if you just ask a question (1), the shortcuts don't work. But if you include details with the question (2), shortcuts work.



## Feeds Look and Feel Gets Refreshed

We're continuing the work of conforming all our platforms to the same usability standards. In this release, we changed the likes bar. Now it shows you a count and lists the names of up to three people who liked the post. These changes are available in Lightning Experience and communities based on the Customer Service (Napili) template.



## Groups: Create Custom Groups, Filter Questions, Invite External Users

Create groups customized to your needs in Lightning Experience, filter questions in group feeds in communities and Lightning Experience, and invite external users to groups in Lightning Experience.

### IN THIS SECTION:

#### [Customizable Chatter Groups Now Generally Available](#)

We're pleased to announce the biggest improvement to Chatter groups in years—custom groups. Groups become quick, easy containers for accelerating any business process that is key to your organization. This feature is available only in Lightning Experience.

#### [Organize Your Groups List View Using Tiles](#)

Use tiles on the Groups list view for a decluttered view of all your groups. You can easily toggle between the tile view and the normal grid view. This feature is available in Lightning Experience.

#### [Invite External Users to Chatter Groups in Lightning Experience](#)

We're bringing more power to Chatter in Lightning Experience, including the ability to invite external users to your groups. Simply add external users to groups with their email addresses.

## Customizable Chatter Groups Now Generally Available

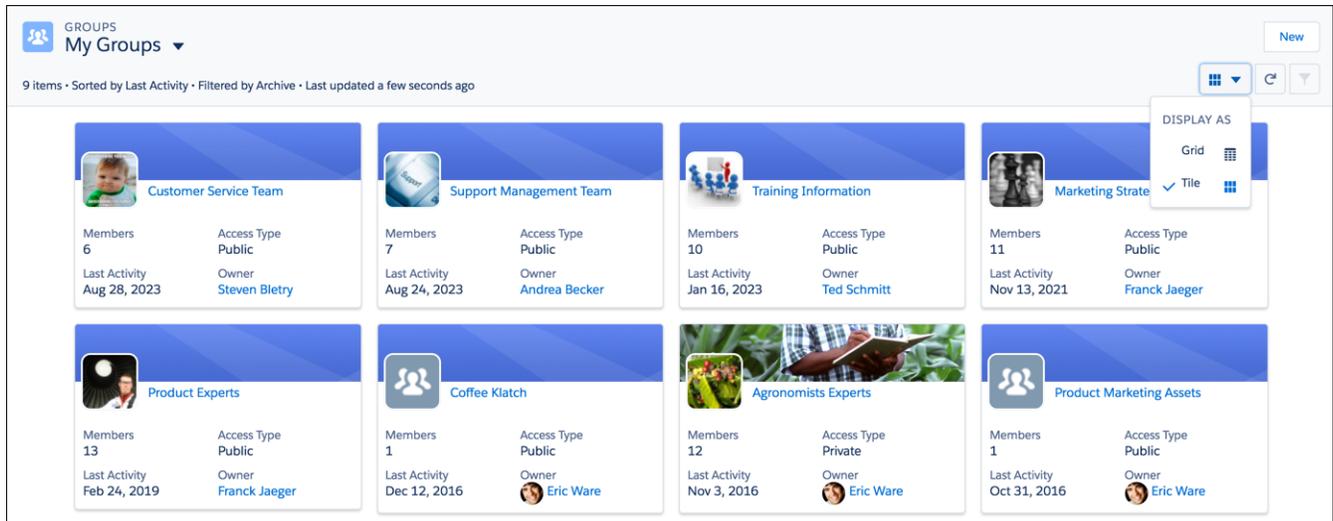
We're pleased to announce the biggest improvement to Chatter groups in years—custom groups. Groups become quick, easy containers for accelerating any business process that is key to your organization. This feature is available only in Lightning Experience.

What does this mean? Previously, you could use Lightning App Builder to change which components appeared in your groups, but every group would look the same. Now, every group can have its own layout. This means components, actions, publisher, and related lists can all be customized to meet a given use case perfectly.

 **Example:** A group devoted to closing opportunities could have a chart showing key success indicators in the upper right column, other components holding key sales collateral, associated records like opportunities, training videos showing sales techniques—the sky is the limit.

## Organize Your Groups List View Using Tiles

Use tiles on the Groups list view for a decluttered view of all your groups. You can easily toggle between the tile view and the normal grid view. This feature is available in Lightning Experience.



## Invite External Users to Chatter Groups in Lightning Experience

We're bringing more power to Chatter in Lightning Experience, including the ability to invite external users to your groups. Simply add external users to groups with their email addresses.

[Chatter REST API](#) and [Chatter in Apex](#) support inviting external users to groups.

## Files: Folders in Libraries (Beta), Attach Salesforce Files to Records, and Rename Files from the Related List

We enhanced the files experience to get you more functionality with less friction. Freshen up your libraries by organizing your library files into folders (beta). Use Apex to customize file downloads for security and tracking. Work faster and better in Lightning Experience by attaching and renaming files right from the Files related list.

### IN THIS SECTION:

#### [Organize Library Files in Folders \(Beta\)](#)

You asked for folders, and we delivered. In Lightning Experience, you can create, rename, and delete folders to organize the files in your libraries. This change applies to Lightning Experience only.

#### [Add Salesforce Files to a Record from the Related List in Lightning Experience](#)

Increase productivity by attaching Salesforce Files to a record, right from the files card. No Chatter? No problem! You can attach Files Connect files and library files too. This change applies to Lightning Experience only.

### EDITIONS

Files and Files Connect for cloud-based external data sources are available in: **Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

Files Connect for on-premises external data sources is available for an extra cost in the same editions.

### Why You Should Add the Files Related List to Your Page Layouts

In the near future, you'll no longer be able to use the Notes & Attachments related list to attach files to records in Lightning Experience. You will need to use the Files related list instead. Add it to your page layouts now so your users can attach files without missing a beat. Bonus: the Files related list lets you attach files already in Salesforce. This change applies to Lightning Experience only.

### Rename Files in Lightning Experience

Do you have file namer's remorse? Now you can easily rename a file in Lightning Experience.

### Convert a Link to an External File into a Files Connect File Reference

Post the hyperlink of an external Files Connect Google Drive file in Chatter, and it automatically becomes a Files Connect file reference. The icon and the file title appear under the body of your post. This change applies to Lightning Experience and the Salesforce 1 mobile browser app.

### Salesforce Files Sync Now Supports macOS Sierra

If you use Files Sync on your Mac, you can update your operating system to macOS Sierra (OS X 10.12).

### Decide When to Send Files as Links

When users attach files to emails, the files can be sent as attachments or as content delivery links. Previously, files were sent as content delivery links only when the total size of all attached files exceeds 3 MB. Now you can choose from a few different options.

### Use Apex to Customize File Downloads

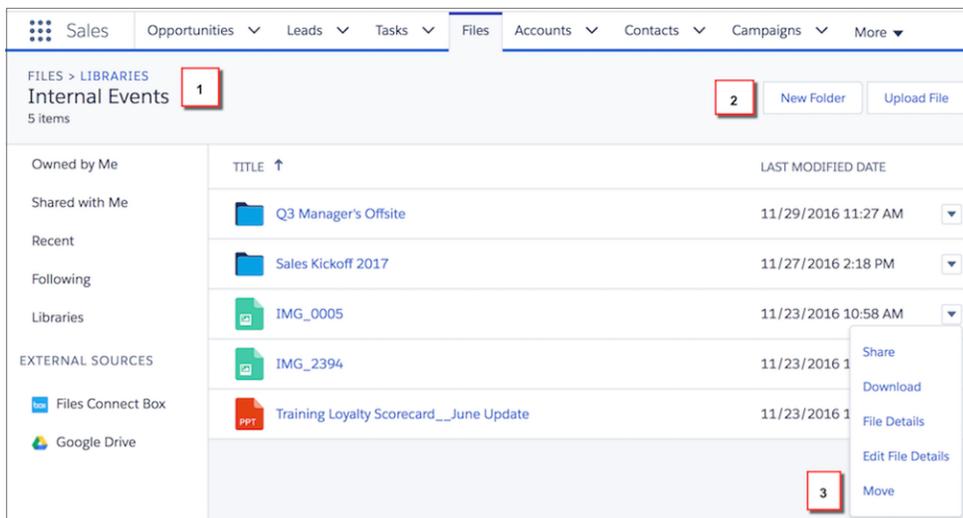
Using an Apex callback, customize the behavior of files when users download (or attempt to download) them. ContentVersion supports modified file behavior such as antivirus scanning and information rights management (IRM), after the download operation.

## Organize Library Files in Folders (Beta)

You asked for folders, and we delivered. In Lightning Experience, you can create, rename, and delete folders to organize the files in your libraries. This change applies to Lightning Experience only.

 **Note:** This release contains a beta version of library folders, which means it's a high-quality feature with known limitations.

Library managers can create folders to organize content so users can find what they need quickly. Folders are visible to all users who have access to the library.



The library title is in the upper left with a file path (1). The New Folder button adds a folder to the library or within a folder (2). You can create multiple levels of subfolders. Move a file among folders within a library with the row-level move action (3).

Folders are supported in the file selector, so when you're adding a file to a record or a Chatter post, the file selector displays the same folders in Files home. When you view your libraries in Salesforce Classic or from a mobile device, you can see the folder structure that you created in Lightning Experience. You can't create folders or move files into folders in Salesforce Classic, but you can add files to libraries.

Folders are a beta feature. Here are a few things to know.

- Create folders in Lightning Experience to organize files already in libraries.
- An Upload File button is available when you're in a library, but files uploaded here show up in your Owned by Me filter rather than inside the library.
- To add a file to a library, switch to Salesforce Classic. From the library, choose **Contribute** and add the file. Or, from the file's row-level actions or the file detail page, choose **Share with Library**.

| Action                                     | Lightning Experience | Salesforce Classic |
|--|----------------------|--------------------|
| Create, rename, and delete library folders | Yes                  | No                 |
| Move files in a library into folders       | Yes                  | No                 |
| View folders                               | Yes                  | Yes                |
| View libraries                             | Yes                  | Yes                |
| Add files to a library                     | No                   | Yes                |
| Create, edit, or delete libraries          | No                   | Yes                |
| Manage library membership                  | No                   | Yes                |

### Enabling Folders

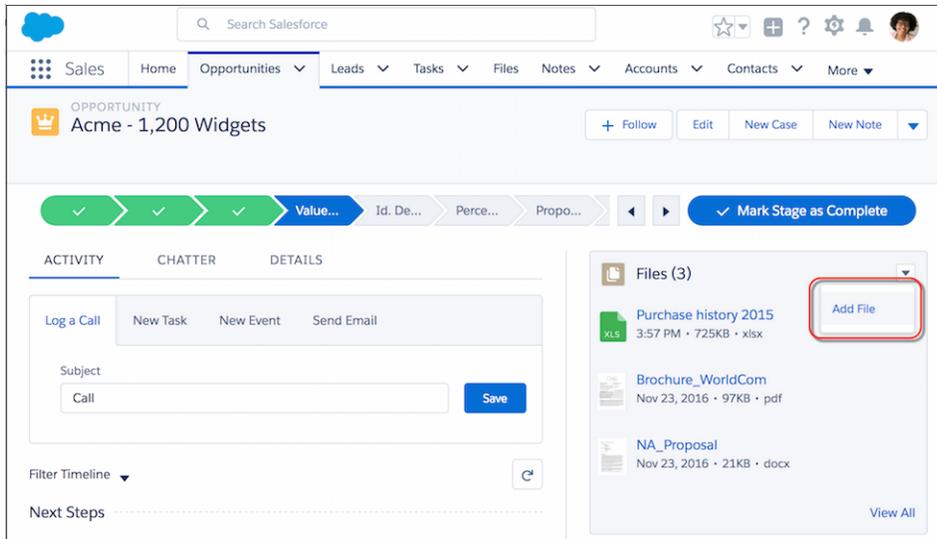
Your mind is churning with organizational possibilities. What do you need to know to get started?

- In orgs with Lightning Experience enabled, folders are enabled by default in any new libraries you create. Folders are not enabled by default in existing libraries. To enable folders, click the Add Folder button. Depending on the size of the library, enabling folders may take a few moments.
- In orgs that don't have Lightning Experience enabled, folders aren't enabled by default in new libraries.
- Folders can't be enabled in libraries with more than 5,000 files.

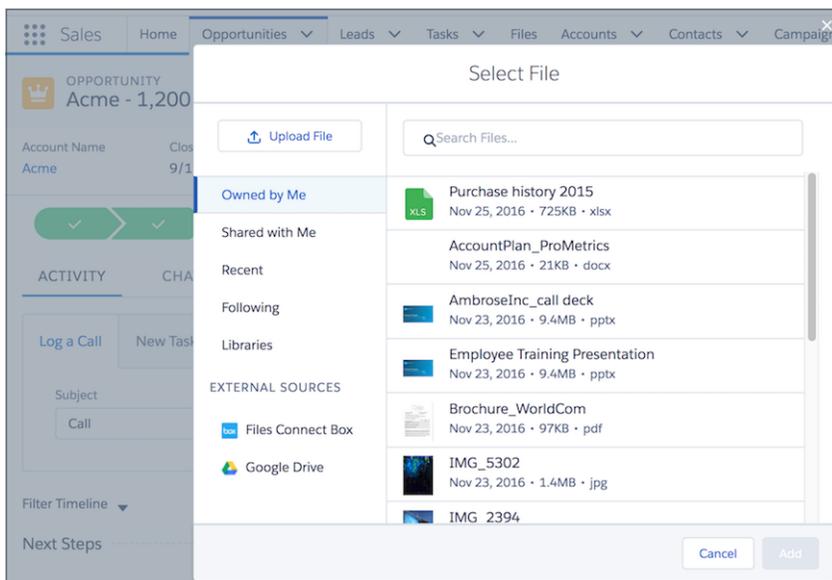
## Add Salesforce Files to a Record from the Related List in Lightning Experience

Increase productivity by attaching Salesforce Files to a record, right from the files card. No Chatter? No problem! You can attach Files Connect files and library files too. This change applies to Lightning Experience only.

Previously, to attach a file from Salesforce to your record, you had to post it in the record's Chatter feed. Now, in Lightning Experience and communities, you can attach Salesforce files to a record as easily as a local file.



Add an account plan to an account, collaborate on a pitch deck right from the opportunity, or keep warranty information connected to a case. It's easier than ever to share and track documents right where you want them: on the record!



## Why You Should Add the Files Related List to Your Page Layouts

In the near future, you'll no longer be able to use the Notes & Attachments related list to attach files to records in Lightning Experience. You will need to use the Files related list instead. Add it to your page layouts now so your users can attach files without missing a beat. Bonus: the Files related list lets you attach files already in Salesforce. This change applies to Lightning Experience only.

### What's changing?

After Winter '18, the Notes & Attachments related list will no longer have an Upload File button.

### What can I do about it?

Add the Files related list to your record page layouts if it's not already added. For instructions, see [Add the Files Related List to Page Layouts](#). Then, use the Files related list to attach files to records. The Files related list now lets you not only upload files, but [attach files you already have stored in Salesforce](#) on page 333, including files in Libraries and files from external Files Connect sources.

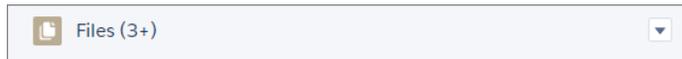
**What about existing files in the Notes & Attachments list?**

They remain intact. You can't move them, but if they're Salesforce Files (not attachments) you can add them to the Files related list on the same record.

**How can I tell if the Files related list is already added to my record page layouts?**

Here are two ways to tell:

- Go to a record, such as an account. Does it have a card that looks like this?



If so, then that record's object already has the Files related list added to its page layout. Check all object page layouts in your org, such as opportunities, leads, accounts, groups, people, and contacts. If you've defined record types for an object, be sure to check those layouts as well.

- Follow Steps 1–4 in [Add the Files Related List to Page Layouts](#) for each object (such as account) you want to check. If the Files related list isn't already on the page layout, drag it on.

## Rename Files in Lightning Experience

Do you have file namer's remorse? Now you can easily rename a file in Lightning Experience.

 A screenshot of the Salesforce Files interface. At the top, it shows 'OPPORTUNITIES > ACME - 1,200 WIDGETS' and 'Files'. Below this, it says '3 items • Sorted by Last Modified • Last updated a few seconds ago'. There are 'Add File' and refresh buttons. A table lists three files:
 

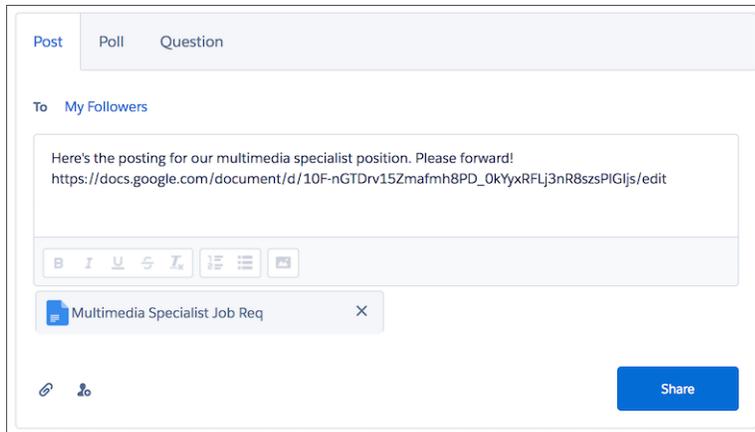
|   | TITLE                 | OWNER         | LAST MODIFIED ↓     | SIZE  |
|---|-----------------------|---------------|---------------------|-------|
| 1 | Purchase history 2015 | Lauren Miller | 11/25/2016 3:57 PM  | 725KB |
| 2 | Brochure_WorldCom     | Lauren Miller | 11/23/2016 11:28 AM | 97KB  |
| 3 | NA_Proposal           | Lauren Miller | 11/23/2016 11:03 AM | 21KB  |

 A context menu is open over the second file, showing options: Share, Download, File Details, and Edit File Details. The 'Edit File Details' option is circled in red.

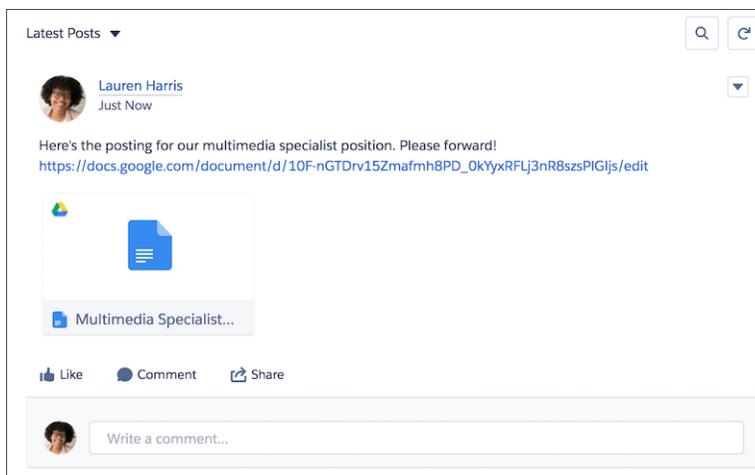
## Convert a Link to an External File into a Files Connect File Reference

Post the hyperlink of an external Files Connect Google Drive file in Chatter, and it automatically becomes a Files Connect file reference. The icon and the file title appear under the body of your post. This change applies to Lightning Experience and the Salesforce1 mobile browser app.

A file reference is created for the first link in each post. Select the file icon to open the file preview right from your feed. File references are not created for links in comments. When the file reference has been created, you can find it in your Owned by Me filter as a file reference. When you paste a link for which you have already created a file reference, the existing file reference is used. The file reference is created when you paste the link into your Chatter post.



You can open a preview of the file right from the file icon in the Chatter post.



Links conversion is enabled by default. To disable, search for Files Connect in Setup and deselect **Enable links conversion**.

[Chatter REST API](#) supports link conversion.

## Salesforce Files Sync Now Supports macOS Sierra

If you use Files Sync on your Mac, you can update your operating system to macOS Sierra (OS X 10.12).

### Decide When to Send Files as Links

When users attach files to emails, the files can be sent as attachments or as content delivery links. Previously, files were sent as content delivery links only when the total size of all attached files exceeds 3 MB. Now you can choose from a few different options.

You can keep the default setting of emailing files as links only if the total size exceeds 3 MB, or choose one of two new options:

- Always send files as links
- Send files as links only when the total size of all attached files exceeds the maximum supported by most email servers

The new settings provide more flexibility and control over how files are sent and what the experience is on the receiving end. See [Email Files as Attachments or Links: You Decide](#) for more information.

## Use Apex to Customize File Downloads

Using an Apex callback, customize the behavior of files when users download (or attempt to download) them. ContentVersion supports modified file behavior such as antivirus scanning and information rights management (IRM), after the download operation.

Customization code runs before download, and determines whether the download should proceed. For example:

- Prevent a file from downloading based on the user profile, device being used, or file type and size.
- Apply IRM control to track information such as the number of times a file has been downloaded.
- Flag suspicious files before download and redirect them for antivirus scanning.

The new `Sfc` namespace contains Apex objects for customizing the behavior of Salesforce Files after they are downloaded. `ContentDownloadHandlerFactory` provides an interface for customizing file downloads. The `ContentDownloadHandler` class defines values related to whether download is allowed, and what to do otherwise. The `ContentDownloadContext` enum is the context in which the download takes place.

File download customization was introduced as a pilot feature in Summer '16, and is now generally available. Here's what's new in Spring '17:

- Apex support for all files in multi-file downloads from the Content tab in Salesforce Classic. A new Apex function signature `List<ID>` handles a list of file IDs rather than a single ID.
- Support for content packs and content distributions. `List<ID>` is a list of the version IDs in the `ContentPack` or `ContentDistribution`.
- Setting `.isDownloadAllowed = false` on a multi-file or `ContentPack` download causes the entire download to fail. You can pass a list of the problem files back to an error page via URL parameters in `redirectUrl`.

Here's some sample code you can copy and paste to get started.

```
// Download customization based on user profile
public class BlockUserDownload implements Sfc.ContentDownloadHandlerFactory {
    public Sfc.ContentDownloadHandler getContentDownloadHandler(List<ID> ids,
        Sfc.ContentDownloadContext c) {

        Sfc.ContentDownloadHandler cdh = new Sfc.ContentDownloadHandler();
        cdh.isDownloadAllowed = true;
        List<Profile> profiles = [SELECT Id, Name FROM Profile WHERE Id=:userinfo.getProfileId()
            LIMIT 1];
        String myProfileName = profiles[0].Name;

        if (myProfileName == 'Standard User') {
            cdh.isDownloadAllowed = false; // No download for: Standard User
            cdh.downloadErrorMessage = 'User Profile: '+ myProfileName + ' is not allowed to download.';
            cdh.redirectUrl = '/apex/DownloadError' ;
        }
        return cdh;
    }
}
```

## Mobile: Do More on the Go

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Salesforce mobile apps help your users stay productive throughout their busy days, no matter where they are. Salesforce1 offers improvements to tasks, enhanced charts, approvals, and many other sales features, so sales professionals can take care of even more business from their phones. Salesforce Authenticator gets a design update that makes it easier to read notifications at a glance. And introducing the new Field Service Lightning iOS mobile app, an all-in-one tool that puts everything your field service technicians need at their fingertips.

### IN THIS SECTION:

#### [Salesforce1: Better Task Management and More Sales Data](#)

The Salesforce1 mobile app has your sales team's back. Everyone can manage their to-do lists more completely with follow-up and recurring tasks. On-the-go sales reps get a boost with expanded options for managing quotes, orders, and person accounts and more views into your org's data with enhanced charts improvements. And the whole team benefits when your approval process goes faster, which it will because users can now select the next approver immediately after submitting or approving a request.

#### [Salesforce Authenticator: New iOS 10 Notifications, Sleeker Design, Connection Renaming](#)

We know how hard it can be to read information on small screens. So we've improved the design across the Salesforce Authenticator mobile app. Notifications are easier to scan and read from the lock screen on mobile devices, and improved dialog boxes offer more options for managing account details. You can also rename your connections and change your username.

#### [Field Service Lightning iOS: Technicians, Rejoice! Here's Your All-In-One Mobile Solution \(Generally Available\)](#)

Take your field service operation to the next level with the Field Service Lightning iOS mobile app. Technicians can harness the wealth of data, scheduling and automation tools, and customizability of your Salesforce org to get work done quickly from anywhere. And the app's offline-first design means that technicians can always do their job, even without internet access. More productive technicians means happier customers!

#### [Salesforce Classic Mobile App to Retire in December 2017](#)

To improve the overall mobile user, developer, and deployment experience, Salesforce is focusing mobile development on the Salesforce1 app. As a result, we are retiring the Salesforce Classic Mobile app on December 1, 2017. Also, iOS 10 and Android 7.0 are the final mobile OS versions that we'll use for Salesforce Classic Mobile compatibility testing. We encourage you to start transitioning your mobile users to an alternative experience, such as rolling out the Salesforce1 downloadable apps or deploying custom mobile apps that address your current and future mobile needs.

#### [SalesforceA: More Resource Options for Android and iOS Users](#)

Version 3.1 of SalesforceA for Android, and version 3.4 for iOS is now generally available. You can now do more from the Resources page in SalesforceA!

### SEE ALSO:

[Wave: Go Places with Wave Mobile](#)

[Snap-ins for Mobile Apps](#)

## Salesforce1: Better Task Management and More Sales Data

The Salesforce1 mobile app has your sales team's back. Everyone can manage their to-do lists more completely with follow-up and recurring tasks. On-the-go sales reps get a boost with expanded options for managing quotes, orders, and person accounts and more views into your org's data with enhanced charts improvements. And the whole team benefits when your approval process goes faster, which it will because users can now select the next approver immediately after submitting or approving a request.

### EDITIONS

Available in: **All Editions**  
except Database.com

## IN THIS SECTION:

### [Access the Salesforce1 Mobile App](#)

Your users have several options for accessing Salesforce1 on mobile devices that meet minimum platform requirements.

### [What's New in the Latest Salesforce1 Downloadable Apps](#)

The latest release of the Salesforce1 downloadable app is version 12.0. At a glance, here's what's new.

### [Everything That's New in Salesforce1 This Release](#)

Our latest round of new and improved Salesforce1 features makes it easier to access Salesforce on the go.

### [Spring '17 Features That Are Different or Not Available in Salesforce1](#)

The Salesforce1 mobile app doesn't include all the functionality that's available in the full Salesforce site, whether your org is using Lightning Experience or Salesforce Classic. Learn about the Spring '17 Salesforce enhancements that either aren't available in Salesforce1, have functional gaps from the full site, or work differently in the mobile app.

## Access the Salesforce1 Mobile App

Your users have several options for accessing Salesforce1 on mobile devices that meet minimum platform requirements.

- Install the Salesforce1 downloadable app on Android™ and Apple® mobile devices. Users can download the app from Google Play™ or the App Store.
- Access the Salesforce1 mobile browser app from a supported mobile browser on Android and Apple devices or select Windows mobile phones. This option doesn't require anything to be installed.

## What's New in the Latest Salesforce1 Downloadable Apps

The latest release of the Salesforce1 downloadable apps is version 12.0. At a glance, here's what's new.

### Salesforce1 for iOS, Version 12.0

Beginning the week of February 27, 2017, the App Store starts serving up Salesforce1 for iOS, version 12.0.

Here's what's new in Salesforce1 for iOS.

- [Attach Files from Content Libraries to Posts with Salesforce1 for iOS](#)
- [Customize the Offline Cache in Salesforce1](#)
- [New and Improved Web View Available in Salesforce1 for iOS](#)
- [Go from External Apps Directly into Visualforce and Lightning Apps in Salesforce1 for iOS](#)

### Salesforce1 for Android, Version 12.0

The Salesforce1 downloadable app for Android, version 12.0 will be released to Google Play the week of February 27, 2017 and gradually rolled out to customers over a couple of weeks.

Here's what's new in Salesforce1 for Android.

- [Customize the Offline Cache in Salesforce1](#)

## Everything That's New in Salesforce1 This Release

Our latest round of new and improved Salesforce1 features makes it easier to access Salesforce on the go.

The Salesforce1 mobile app is available for all editions, except Database.com, without an additional license. Your org's Salesforce edition and licenses, as well as a user's assigned profile and permission sets, determines the Salesforce data and features that are available to each Salesforce1 user.

| Salesforce1 Enhancements and Changes   | Android Downloadable App | iOS Downloadable App | Mobile Browser App | Setup in the Full Site |
|--|--------------------------|----------------------|--------------------|------------------------|
| <b>Device and Browser Support</b>  |                          |                      |                    |                        |
| Reminder that Salesforce1 Requires iOS 10 in Spring '17                              |                          | ✓<br>(As of v12.0)   |                    |                        |
| <b>Data Access and Views</b>   |                          |                      |                    |                        |
| Work Seamlessly Across All Your Orgs from Salesforce1 with Writable External Objects | ✓                        | ✓                    | ✓                  | ✓                      |
| <b>Search</b>  |                          |                      |                    |                        |
| Find and Open Custom Apps in Salesforce1 with iOS Spotlight Search                   |                          | ✓<br>(As of v12.0)   |                    |                        |
| Get Search Results for More Objects  | ✓                        | ✓                    | ✓                  |                        |
| Search for Contacts Using the Account Name   | ✓                        | ✓                    | ✓                  |                        |
| Provide More Relevant Results with Dependent Lookup Filters                          | ✓                        | ✓                    | ✓                  | ✓                      |
| <b>Sales Features</b>  |                          |                      |                    |                        |
| Use Person Accounts in Professional Edition  | ✓                        | ✓                    | ✓                  | ✓                      |
| Go Straight to Person Accounts from Contact List Views                               | ✓                        | ✓                    | ✓                  |                        |
| Continue to Be Impressed with Contacts to Multiple Accounts                          | ✓                        | ✓                    | ✓                  | ✓                      |
| See Lead Scores  | ✓                        | ✓                    | ✓                  | ✓                      |
| Let Marketing and Sales Ops Users View Converted Leads                               | ✓                        | ✓                    | ✓                  | ✓                      |
| Manage Campaign Member Statuses  | ✓                        | ✓                    | ✓                  | ✓                      |
| Do More with Orders  | ✓                        | ✓                    | ✓                  |                        |
| Get Better Access to Quotes  | ✓                        | ✓                    | ✓                  |                        |
| Sales Path Renamed to Path   | ✓                        | ✓                    | ✓                  |                        |
| Path Pays Attention to Fields Required by the Page Layout                            | ✓                        | ✓                    | ✓                  | ✓                      |
| Manage Duplicate Person Accounts   | ✓                        | ✓                    | ✓                  | ✓                      |
| <b>Productivity Features</b>   |                          |                      |                    |                        |
| Create Follow-Up Tasks   | ✓                        | ✓                    | ✓                  | ✓                      |
| Use Recurring Tasks  | ✓                        | ✓                    | ✓                  | ✓                      |

| Salesforce1 Enhancements and Changes  | Android Downloadable App | iOS Downloadable App    | Mobile Browser App | Setup in the Full Site |
|---|--------------------------|-------------------------|--------------------|------------------------|
| <a href="#">Search for Tasks and Events</a>   |                          |                         | ✓                  |                        |
| <a href="#">Rich-Text Editor for Notes Is Now Using Quill</a>                                     | ✓                        | ✓                       | ✓                  |                        |
| <b>Reports and Dashboards</b>   |                          |                         |                    |                        |
| <a href="#">Enhanced Charts Replace Legacy Charts in Salesforce1 (Phased Retirement)</a>          | ✓                        | ✓                       | ✓                  | ✓                      |
| <a href="#">See up to 200 Groupings on Enhanced Charts</a>  | ✓                        | ✓                       | ✓                  |                        |
| <a href="#">View Bar + Line Combination Charts</a>  | ✓                        | ✓                       | ✓                  |                        |
| <b>Files</b>  |                          |                         |                    |                        |
| <a href="#">Convert a Link to an External File into a Files Connect File Reference</a>            |                          |                         | ✓                  |                        |
| <a href="#">Attach Files from Content Libraries to Posts with Salesforce1 for iOS</a>             | ✓                        |                         |                    |                        |
|   | (As of v12.0)            |                         |                    |                        |
| <b>Chatter</b>  |                          |                         |                    |                        |
| <a href="#">View Posts That Were Shared from Lightning Experience</a>                             | ✓                        | ✓                       |                    |                        |
| <a href="#">Make Calls or Send Emails from Profiles</a>   | ✓                        | ✓                       | ✓                  |                        |
|   |                          | (In an earlier release) |                    |                        |
| <b>Business Logic and Process Automation</b>  |                          |                         |                    |                        |
| <a href="#">Select Next Approver</a>  | ✓                        | ✓                       | ✓                  |                        |
| <a href="#">Embed Your Flows in Lightning Pages (Beta)</a>  | ✓                        | ✓                       | ✓                  | ✓                      |
| <a href="#">Display Flow Screens in Two Columns (Generally Available)</a>                         | ✓                        | ✓                       | ✓                  | ✓                      |
| <b>Offline Access</b>   |                          |                         |                    |                        |
| <a href="#">Customize the Offline Cache in Salesforce1</a>  | ✓                        | ✓                       |                    |                        |
|   | (As of v12.0)            | (As of v12.0)           |                    |                        |
| <a href="#">Unified Create and Edit Experience in Salesforce1 for Online and Offline Sessions</a> | ✓                        | ✓                       |                    |                        |
|   | (As of v11.0)            | (As of v11.0)           |                    |                        |
| <b>Setup</b>  |                          |                         |                    |                        |
| <a href="#">Customize Your Lightning Pages Even More with New Templates</a>                       | ✓                        | ✓                       | ✓                  | ✓                      |
| <b>Other Enhancements</b>   |                          |                         |                    |                        |

| Salesforce1 Enhancements and Changes  | Android Downloadable App | iOS Downloadable App | Mobile Browser App | Setup in the Full Site |
|---|--------------------------|----------------------|--------------------|------------------------|
| <a href="#">New and Improved Web View Available in Salesforce1 for iOS</a>                                |                          | ✓<br>(As of v12.0)   |                    |                        |
| <a href="#">Go from External Apps Directly into Visualforce and Lightning Apps in Salesforce1 for iOS</a> |                          | ✓<br>(As of v12.0)   |                    |                        |
| <a href="#">Rich-Text Editors Disabled When LockerService Critical Update Is Active</a>                   | ✓                        | ✓                    | ✓                  | ✓                      |

## Reminder that Salesforce1 Requires iOS 10 in Spring '17

In Spring '17, the minimum mobile operating system requirement for iOS devices is iOS 10 or later. To ensure a smooth transition, we recommend that your iPhone and iPad users update to iOS 10 in advance of your org's Spring '17 release date. Upgrading is especially important for Salesforce1 for iOS downloadable app users because the Spring '17 version of the app, version 12.0, won't appear in the App Store for devices with older OS versions.

Your users can easily install the latest version of iOS for free on their iPhone and iPad devices. For help upgrading iOS, see [Update the iOS software on your iPhone, iPad, and iPod touch](#) on the Apple Support site.

### SEE ALSO:

[Salesforce Help: Requirements for the Salesforce1 Mobile App \(can be outdated or unavailable during release preview\)](#)

## New Default Location for Tasks and Events in the Salesforce1 Navigation Menu

If you haven't added the Tasks or Events items directly to the Salesforce1 navigation menu, they now automatically appear in the Recent section of the menu. If you previously customized the navigation menu to include Tasks or Events, there's no change for your mobile users. This change applies to all versions of the Salesforce1 mobile app.

Tasks and Events now behave the same way in the navigation menu as Dashboards, Groups, People, and Reports. From the Salesforce1 Navigation Menu Settings page in Setup, you can add these items directly to the menu, arranged as you prefer. But if you omit them from the menu, they're automatically included in the Recent section.

### EDITIONS

Events and Tasks are available in: **General, Professional, Enterprise, Performance, and Unlimited** Editions

 **Note:** It's no longer possible to exclude Tasks or Events from Salesforce1 by not adding them to the navigation menu.

### SEE ALSO:

[Search for Tasks and Events](#)

## Find and Open Custom Apps in Salesforce1 with iOS Spotlight Search

You can now search for even more in Salesforce1 with iOS Spotlight Search! Salesforce1 for iOS users can now open Custom Visualforce apps and Custom Lightning apps that appear in the navigation menu using Spotlight Search. This enhancement to Spotlight Search is available in version 12.0 or later of the Salesforce1 for iOS downloadable app.

There are a few considerations for this feature.

- If your org employs any of these security measures, finding Salesforce data in Spotlight Search is disabled and can't be turned on.
  - Salesforce1 requires a PIN code to log in. Your admin configures this setting, which is different than the PIN required to unlock your device.
  - Offline caching in Salesforce1 is disabled.
- If a user has multiple accounts set up in the Salesforce1 account switcher, search results are for the current active account session only.
- Spotlight Search indexes Salesforce data only when Salesforce1 is in the background. If a user switches back to Salesforce1 before indexing is complete, they may not see all the search results they expect.

## Go Straight to Person Accounts from Contact List Views in Salesforce1

When Salesforce1 users view person accounts from contact list views, they see the details on an account page layout. Previously, person account details were presented on a contact page layout, which might not have included all the fields, related lists, and actions that users expected. This change applies to all versions of the Salesforce1 mobile app.

### EDITIONS

Person Accounts available in: **Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

## See Lead Scores in Salesforce1

If your org turns on Einstein Lead Insights, sales reps can use Salesforce1 to keep track of which leads are most likely to convert. Lead scores are available from any lead list view that includes the Score field. This feature is new in all versions of the Salesforce1 mobile app.

Keep your mobile reps up to date on lead scores by adding the Score field to your org's public list views for leads. And encourage your users to add this field to their own list views, so they can keep their leads prioritized from anywhere.

Lead insights on lead detail pages are available in Lightning Experience only.

### EDITIONS

Sales Cloud Einstein available for an extra cost in: **Professional, Enterprise,** and **Unlimited** Editions

## Do More with Orders in Salesforce1

Managing orders in Salesforce1 just got better. Your mobile reps can create, activate, and deactivate orders, change order owners, and clone orders. Mobile reps can also manage order products from the Order Products related list. This change applies to all versions of the Salesforce1 mobile app.

- 📌 **Note:** The **New** button isn't available on the Orders home page in the Salesforce1 downloadable apps. Downloadable app users can create new orders from Orders list views, however.

### EDITIONS

Orders available in: **Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

## Get Better Access to Quotes in Salesforce1

The Quotes item is now available from the Salesforce1 navigation menu. From the Quotes home page, mobile sales reps can easily view all their quotes. And reps can quickly find specific quotes with global search. This change applies to all versions of the Salesforce1 mobile app.

The Quotes item is available in the Recent section of the Salesforce1 navigation menu. It might be necessary to expand the Recent section by tapping **More**. Quotes is automatically included in the navigation menu as part of the Smarsh Search Items element. See [Salesforce1 Mobile App Navigation Menu](#) in the Salesforce Help for information about how the navigation menu is populated.

### EDITIONS

Quotes available in: **Performance** and **Developer** Editions

In Sales Cloud, also available in: **Professional**, **Enterprise**, and **Unlimited** Editions

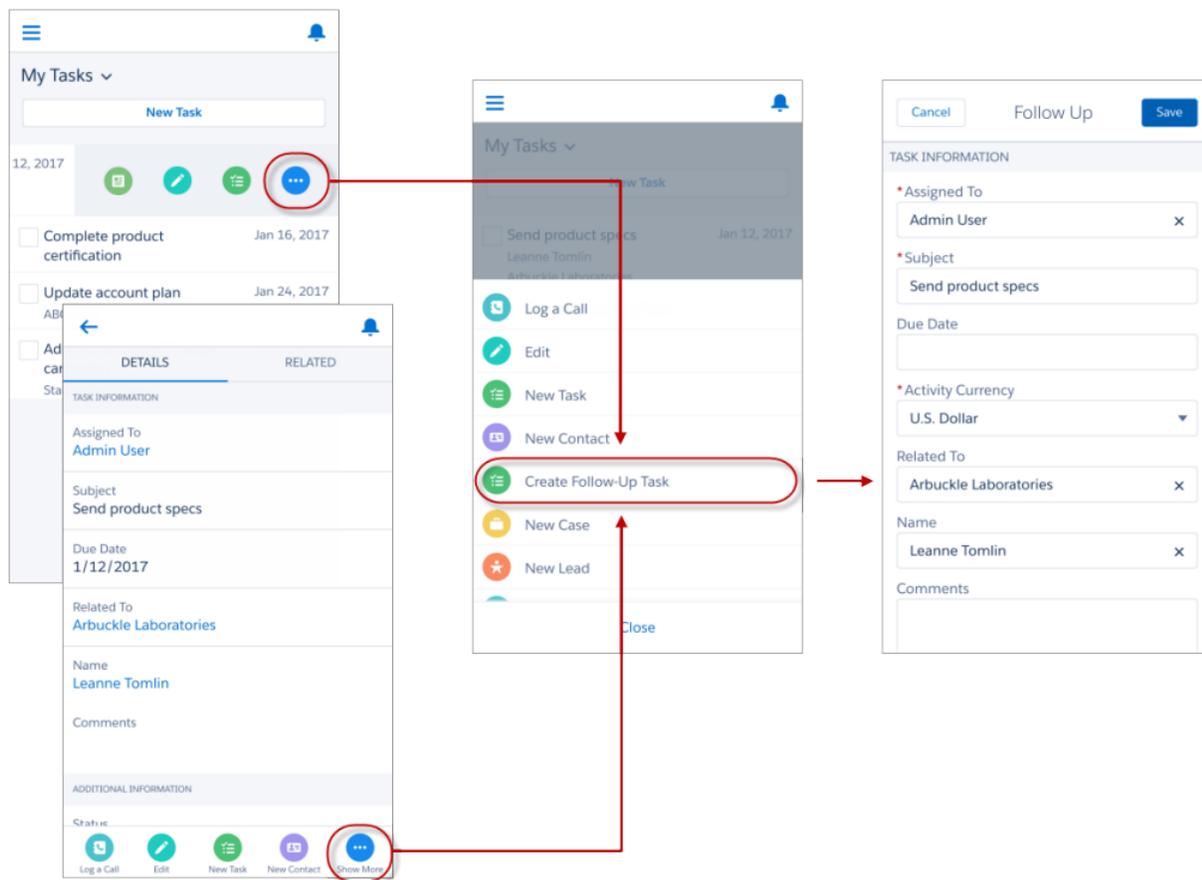
## Create Follow-Up Tasks in Salesforce1

Complete and up-to-date task lists are a critical productivity tool for your on-the-go sales reps. Now when reps want to follow up on completed tasks or need a new task that's related to a current one, they can create follow-up tasks in Salesforce1 instead of waiting to get back to the office. This feature is new in all versions of the Salesforce1 mobile app.

Follow-up tasks pull information from the original task's Subject, Assigned to, Name, and Related To fields. The due date is blank, but, optimistically, defaults to today when the user taps the field.

Salesforce1 users can create follow-up tasks in two ways.

- From a task list—Swipe left on a task, tap the action menu icon, and then select **Create Follow-Up Task**.
- From a task—Tap the **Create Follow-Up Task** icon in the action bar. Depending on your org's configuration, users may need to open the action menu to see the icon.



The **Create Follow-Up Task** action is automatically included in the set of predefined Salesforce1 and Lightning Experience actions on Task page layouts. If you've overridden the Salesforce1 and Lightning Experience Actions section on any of your org's Task page layouts, manually add the **Create Follow-Up Task** action from the Salesforce1 & Lightning Actions palette.

SEE ALSO:

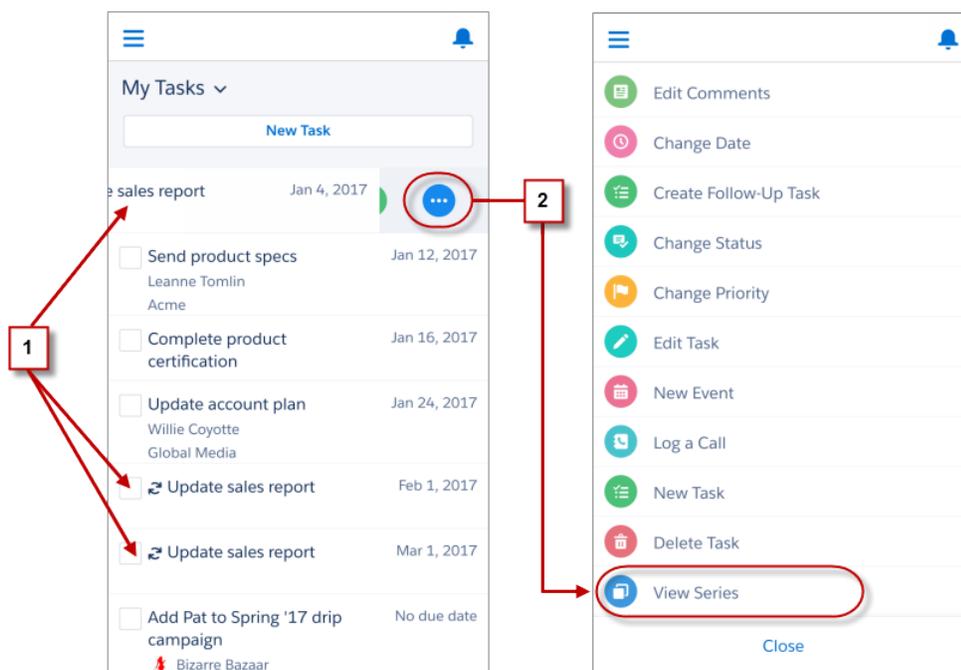
[Create Follow-Up Tasks](#)

## Use Recurring Tasks in Salesforce1

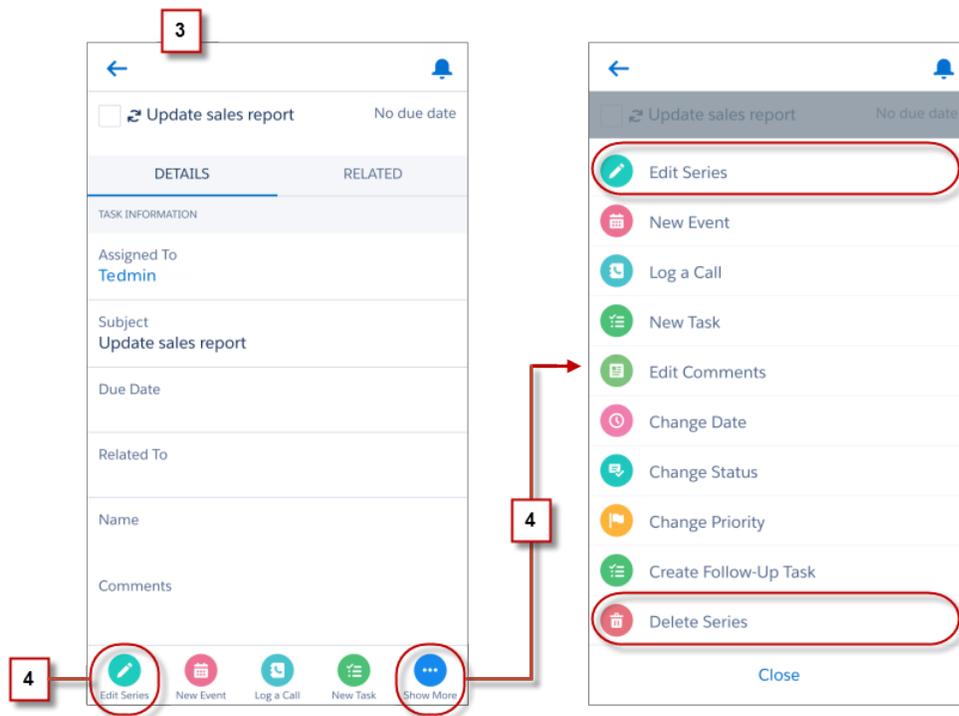
With recurring tasks in Salesforce1, your mobile sales team members can keep important repeating activities from getting lost amongst all the other work that needs doing. This feature is new in all versions of the Salesforce1 mobile app.

In Salesforce1, users create recurring tasks via the **New Task** button on tasks lists. Creating recurring tasks with a **New Task** quick action isn't supported.

Each task that's created as part of a recurring series appears in the user's task list (1). To view, edit, or delete the entire series, swipe left on any one of the recurring tasks then select **View Series** from the action menu (2).



When viewing the series (3), users can update details for all tasks in the series or delete the entire series from the action bar (4).



## Set Up Recurring Tasks for Salesforce1

Confirm these settings in Setup.

- On the Activity Settings page, deselect the `Show simpler New Task form in Salesforce1` checkbox. The simpler New Task form doesn't include the options for creating a series of recurring tasks.
- On your org's Tasks page layouts, the same settings that make recurring tasks available in Lightning Experience are needed for Salesforce1.
  - Add the `Create Recurring Series of Tasks` field to the Task Detail section of your org's Task page layouts.
  - If the Salesforce1 and Lightning Experience Actions section on a Task page layout has been overridden, make sure that the **Delete Series** and **View Series** actions from the Salesforce1 & Lightning Actions palette are included in the section. Add these actions if they're not already there.

SEE ALSO:

[Use Recurring Tasks \(Again and Again\) in Lightning Experience](#)

## Enhanced Charts Replace Legacy Charts in Salesforce1 (Phased Retirement)

Legacy Charts have been part of the Salesforce1 experience for many years, but let's bid them farewell. Enhanced Charts (the mobile version of Lightning Experience charts) replace Legacy Charts in all versions of the Salesforce1 mobile app. Not ready to switch? Revert Salesforce1 to Legacy Charts from Setup. But it's a good idea to familiarize yourself with Enhanced Charts now because Legacy Charts are retiring in Summer '17. This change applies to all versions of the Salesforce1 mobile app.

Here's what the Legacy Charts retirement means for your org.

### EDITIONS

Enhanced Charts available in: **Group, Professional, Enterprise, Performance, Unlimited, and Developer** Editions

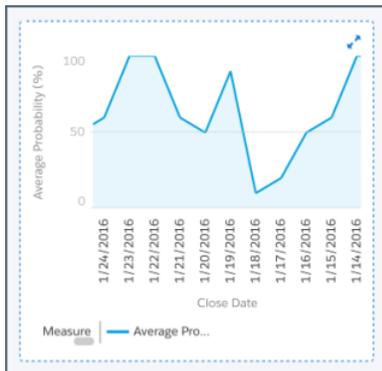
- In Summer '17, Salesforce1 will include only Enhanced Charts, and you won't be able to turn them off.
- Orgs created during or after the Summer '16 release already provide Enhanced Charts as the only charts experience for Salesforce1. For these orgs, the option to disable Enhanced Charts doesn't appear in Setup.
- Legacy Charts retirement doesn't affect charts in the full Salesforce site (Salesforce Classic and Lightning Experience).

For more information, see the [Legacy Charts Retirement](#) announcement. To switch between Enhanced Charts and Legacy Charts, see [Show Enhanced Charts in Salesforce1](#) in the Salesforce Help.

 **Note:** Legacy Charts are being retired as part of a phased retirement, and the date of full retirement might be moved to a later release. We will keep the release notes and the Legacy Charts Retirement Announcement updated with information as it becomes available.

## See up to 200 Groupings on Enhanced Charts in Salesforce1

In Salesforce1, Enhanced Charts display twice as many groupings as before. Users can now see up to 200 groupings by scrolling through charts in reports and dashboards. Previously, a maximum of 100 groupings per chart was available. This change applies to all versions of the Salesforce1 mobile app.

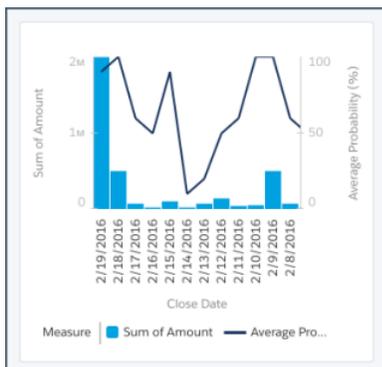


### EDITIONS

Enhanced Charts available in: **Group, Professional, Enterprise, Performance, Unlimited, and Developer** Editions

## View Bar + Line Combination Charts in Salesforce1

Dashboards in Salesforce1 now display bar charts that include line charts. Bar charts with line charts drawn over the bars are great for tracking two measures in a single set of data. Use this chart type to track the sum of closed opportunity amounts (as a bar) by the average probability to close opportunities (as a line) over time. This feature is new in all versions of the Salesforce1 mobile app.



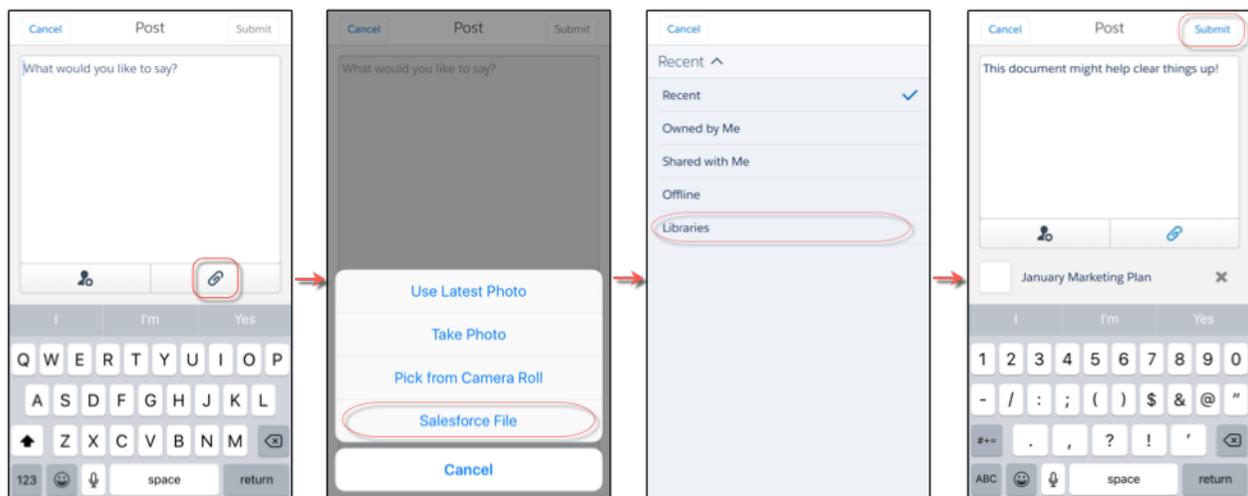
### EDITIONS

Enhanced Charts available in: **Group, Professional, Enterprise, Performance, Unlimited, and Developer** Editions

## Attach Files from Content Libraries to Posts with Salesforce1 for iOS

If your org uses Salesforce CRM Content, Salesforce1 for iOS users can attach official corporate files and other curated content from public content libraries to a record feed, making sharing files to relevant groups and discussions easier than ever. This new feature is available in version 12.0 or later of the Salesforce1 for iOS downloadable app.

If Salesforce CRM Content is already up and running for your org, there's nothing special to do for your Salesforce1 for iOS users. And there's nothing new for your Salesforce1 users to learn because they already know how to access libraries from the existing Files interface, and now they can attach files from content libraries to posts as well.



Users see all the public libraries that they have access to in the full site and have the same file sharing permissions in Salesforce1 that they do in the full site.

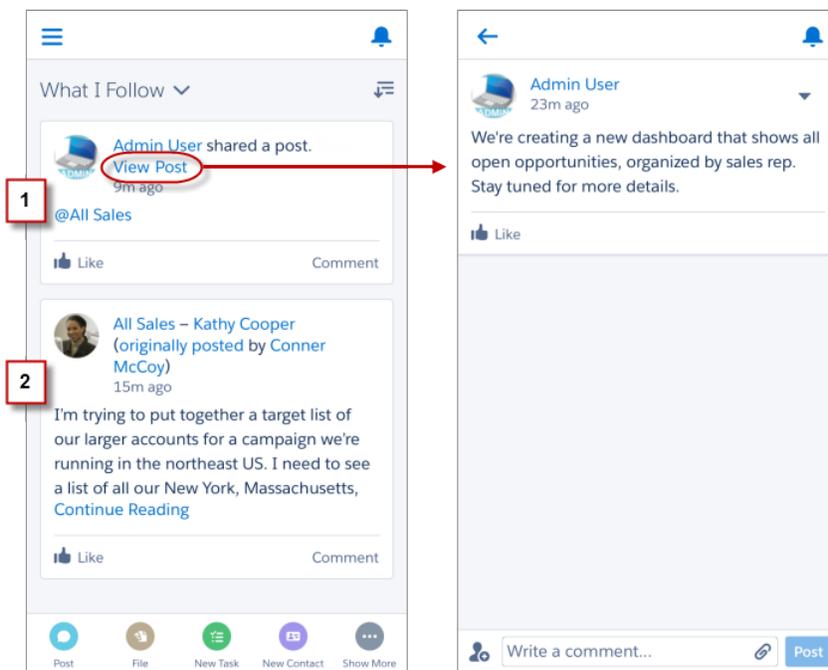
## View Posts in Salesforce1 That Were Shared in Lightning Experience

Feeds in Salesforce1 now include posts shared from Chatter in Lightning Experience. But the full content of these shared posts doesn't appear directly in certain feeds in the Salesforce1 downloadable apps. In these cases, users see who shared a post but must take an extra step to see other details. In contrast, Salesforce1 mobile browser app users see the content of posts shared in Lightning Experience directly in all their feeds. And posts shared in Salesforce Classic or the Salesforce1 downloadable apps continue to appear directly in feeds in all *flavors* of Salesforce1.

When a post shared in Lightning Experience appears in these feeds in the Salesforce1 downloadable apps, tap the **View Post** link to see the post's content (1).

- Main Chatter feed
- Feeds on profiles (*Salesforce1 for iOS app only*)

In other feeds in the Salesforce1 downloadable apps, such as group feeds, record feeds, and profile feeds in Salesforce1 for Android, the content of posts shared in Lightning Experience appears directly in the feed—the same way posts shared in Salesforce Classic or the Salesforce1 downloadable apps appear in feeds in all Salesforce1 flavors (2).



SEE ALSO:

[Share Posts in Lightning Experience](#)

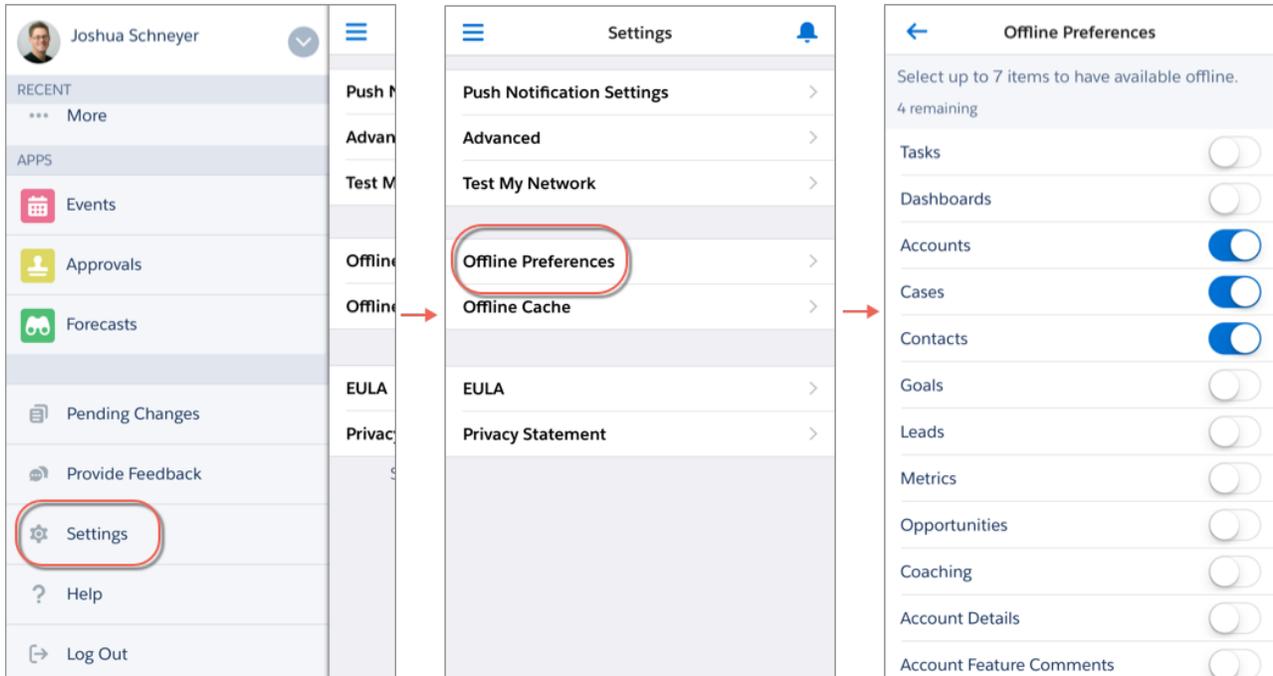
## Make Calls or Send Email from Profiles in Salesforce1

Reaching colleagues while on the go just got faster for your Salesforce1 for Android downloadable app and Salesforce1 mobile browser app users. Phone and email fields on profiles—in the highlights area and on the record detail page—are now links that users can tap to instantly start a call or send an email message. Salesforce1 for iOS users have always been able to do these actions on colleagues' profiles. But Salesforce1 for Android and the mobile browser app take it up a notch because users can even send voice and email messages to themselves from their own profiles.

## Customize the Offline Cache in Salesforce1

The offline experience for Salesforce1 downloadable app users keeps getting better and better. We're giving users the power to choose the data they want to access offline. Before users had the power to choose, the data in the users' offline cache was a collection of recently accessed records for the first five objects listed in the Recent section of their Salesforce1 navigation menu. Now users can tailor their offline cache so they can work with the data that matters the most to them, even if their mobile device loses its network signal. This new feature is available in the Salesforce1 downloadable apps for Android and iOS, version 12.0 or later.

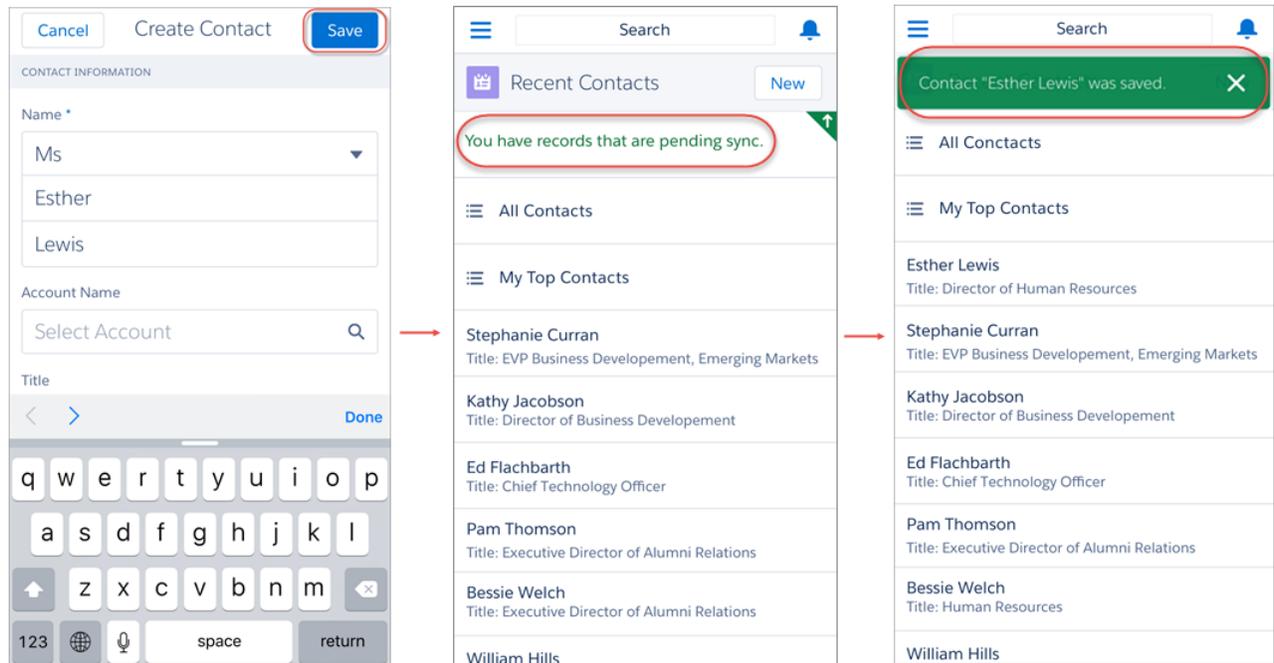
The new Offline Preferences page lets users quickly and easily choose the data they want in their cache. Users can choose up to seven items, and if they change their minds they can easily toggle on and off the items listed in the Offline Preferences page. If users choose not to tailor their cache, Salesforce1 continues to collect recently accessed records for the first five objects listed in the Recent section of the users' Salesforce1 navigation menu to populate their cache. However, if users choose at least one item from the Offline Preferences page, that selection replaces the existing cache with their new preferences.



After users choose the items they want in their cache from the Offline Preferences page, they can quickly populate their cache in two ways. Users can put Salesforce1 in the background by switching away to a different app or navigating to their device's home screen to populate their cache. Or users can go to the Salesforce1 navigation menu, select **Settings > Offline Cache > Cache Now**.

### Unified Create and Edit Experience in Salesforce1 for Online and Offline Sessions

Previously when Salesforce1 downloadable app users created or edited records when working online, there was a delay while the app confirmed the updates. Wait times varied, depending on a mobile device's network signal strength. Now when users create or edit records—whether online or offline—updates are saved as pending changes. Users can immediately move on to additional work in Salesforce1 while the app syncs the pending changes with Salesforce. This feature is new in the Salesforce1 downloadable apps for Android and iOS, version 11.0 or later.



## New and Improved Web View Available in Salesforce1 for iOS

Based on customer feedback and Apple's recommendation, Salesforce1 for iOS is transitioning from Apple's legacy UIWebView to its new WKWebView for improved performance and better user experience. The upgrade to WKWebView provides a faster and more stable experience in Salesforce1 for iOS, including 30% faster performance, 70% reduction in memory usage, and resolution of many long-standing web content known issues. This upgrade is available in the Salesforce1 downloadable app for iOS, version 12.0 or later.

 **Note:** Salesforce1 for iOS version 12.0 requires iOS version 10.0 or later. Users earlier version of iOS won't be able to upgrade to Salesforce1 for iOS version 12.0. For help upgrading iOS, see [Update the iOS software on your iPhone, iPad, or iPod touch](#) on the Apple Support site.

The upgrade to WKWebView is a performance enhancement that provides a faster and more stable user experience. However, if you have implemented any workarounds within custom Visualforce pages to address known issues with UIWebView (for example scrolling, button, or field tap issues), those workarounds may not work when users upgrade to Salesforce1 for iOS version 12.0. If your org does contain custom Visualforce pages, Salesforce recommends testing and reviewing custom Visualforce implementations to identify any issues. Users can log in to Salesforce1 through Mobile Safari on an iOS device running iOS version 10.0 or later to test custom Visualforce implementations. For full instructions on testing and resolving custom Visualforce implementations, see the [New and Improved Web View Available in Salesforce1 for iOS version 12.0](#) Knowledge Article.

## Go from External Apps Directly into Visualforce and Lightning Apps in Salesforce1 for iOS

Currently when users tap on a Salesforce URL hyperlink or enter a Salesforce URL into a browser address bar on a mobile device, they're taken directly into the Salesforce1 downloadable app. This functionality didn't support taking users directly into Visualforce apps and Lightning apps within the Salesforce1 downloadable app. Now when users tap on a Salesforce URL for a Visualforce app or Lightning app, they're taken directly to either a Visualforce app or Lightning app in Salesforce1. This feature saves users time from having to manually navigate to a Visualforce app or Lightning app in Salesforce1. This awesomeness is available in the Salesforce1 downloadable app for iOS, version 12.0 or later.

For example, a user can send a Salesforce URL for a custom Lightning app to a coworker. Simply by tapping the Salesforce URL, a coworker on an iOS device can automatically open the Lightning app in the Salesforce1 downloadable app.

## Spring '17 Features That Are Different or Not Available in Salesforce1

The Salesforce1 mobile app doesn't include all the functionality that's available in the full Salesforce site, whether your org is using Lightning Experience or Salesforce Classic. Learn about the Spring '17 Salesforce enhancements that either aren't available in Salesforce1, have functional gaps from the full site, or work differently in the mobile app.



**Note:** For the complete list of differences between Salesforce1 and the full site, see [What's Different or Not Available in the Salesforce1 Mobile App](#) in the Salesforce Help.

### Sales Features

#### Account Hierarchy

- Account hierarchy isn't available in Salesforce1.

#### Campaigns

When working with Campaigns in Salesforce1, users can't:

- View the Campaign Hierarchy Preview or the Campaign Hierarchy related list.
- Perform mass actions on the Campaign Members related list.

#### Contracts

- When creating a new task or event or logging a call from a contract in Salesforce1, the `Related To` field isn't pre-populated with the contract number.

#### Data.com and Data Integration

Data.com Clean:

- Users can see fields updated by Clean jobs, but the option to manually clean records isn't available.

Data.com Prospector:

Data.com Prospector isn't supported in Salesforce1. Users can't:

- Search for or add accounts, contacts, or leads.
- See Prospecting Insights.
- See Company Hierarchy.

Data Integration:

- Users can see fields that were updated by data integration rules, but can't use Data Integration to manually update records.

#### Leads

When working with Leads in Salesforce1, users can't:

- Perform mass actions on leads list views.

#### Orders

- When creating an order from the Orders related list on a contract, the `Contract Number` field isn't pre-populated with the default contract number.
- When creating a new task or event or logging a call from an order, the `Related To` field isn't pre-populated with the order number.

## Quotes

- Quote PDFs appear in the related list but aren't viewable.
- Users can't add or edit multiple quote line items at the same time.
- Users can't perform these actions.
  - Email quotes.
  - Create or delete PDFs.
  - Start sync or stop sync.
  - Create quotes from the Quotes home page. Instead, create quotes from opportunities.

## Sales Cloud Einstein

- Except for lead scores appearing in lead list views in Salesforce1, all other Sales Cloud Einstein features are unavailable in the mobile app.

## Productivity Features

### Tasks

- Recurring tasks are now available in Salesforce1, but recurring events aren't supported.

The `Create Recurring Series of Tasks` field isn't supported on quick action layouts. Only a portion of the recurring task interface appears in new task quick actions, making it impossible for users to save any recurring tasks they attempt to create.
- Salesforce1 users can't create recurring tasks with a frequency of every weekday. And we don't recommend editing tasks with this frequency in Salesforce1 because the edit page doesn't show the task's recurrence settings. To create or edit tasks that repeat every weekday, use Salesforce Classic.
- If a task doesn't include a subject, it appears in feeds in Salesforce1 as [No Subject].

### Inbox

- Inbox isn't available in Salesforce1.

## Salesforce Files

### Folders

- Salesforce1 users can see library folders that were created in Lightning Experience, and the files contained in folders. But creating or modifying library folders in Salesforce1 isn't available.

## Duplicate Management

### Merge Duplicate Records

- Users can't merge accounts, contacts, and leads.

## Salesforce Customization

### Locker Service and Rich-Text Editors

- In Salesforce1, you can't use rich-text editors or edit fields with rich text when the LockerService critical update is active in sandboxes and Developer Editions orgs. See [Rich-Text Editors Disabled When LockerService Critical Update Is Active](#) for more details.

## Salesforce Authenticator: New iOS 10 Notifications, Sleeker Design, Connection Renaming

We know how hard it can be to read information on small screens. So we've improved the design across the Salesforce Authenticator mobile app. Notifications are easier to scan and read from the lock screen on mobile devices, and improved dialog boxes offer more options for managing account details. You can also rename your connections and change your username.

### IN THIS SECTION:

#### [Salesforce Authenticator Sports a New Design](#)

In v2.8 and later, a sleek, improved design makes it easier for users to manage their accounts. New icons help users see which actions to take, and clearer dialog boxes offer more options for managing account settings. We think your team will like what they see.

#### [Salesforce Authenticator Notifications for iOS 10 Easier to Read](#)

Notifications for iOS 10 devices are now easier on the eyes. In Salesforce Authenticator v2.8 and later, action, username, service, and device information now displays directly on the lock screen. Users can quickly scan the details without unlocking their phone or waiting for the app to open. When a notification appears on a locked device, simply press and hold the notification to see information about the action. On older devices, swipe and touch. Then approve or deny the action right from the locked screen.

#### [Rename Your Connections](#)

An authentication account by any other name can sound as sweet. If you authenticate to an app or service with a name that doesn't look too sweet on your phone, now you can rename it.

#### [Set an Alphanumeric Passcode for Your Account Backup](#)

You're no longer limited to a four-digit number when you back up your accounts in Salesforce Authenticator v2.9 and later. You can now use a longer, alphanumeric passcode. For example, if "2-factor4theW1N" has a special spot in your heart (and memory), you can use that for your backup passcode instead of a four-digit number. During the backup process, tap the **Set a Longer Passcode** option and then set your alphanumeric passcode. Regardless of the length, your backups are safe and secure because we use multifactor authentication during the backup and restore process.

## Salesforce Authenticator Sports a New Design

In v2.8 and later, a sleek, improved design makes it easier for users to manage their accounts. New icons help users see which actions to take, and clearer dialog boxes offer more options for managing account settings. We think your team will like what they see.

Smarter updates guide users to the best path. If a user can't complete an action immediately because their app is out of date, we redirect the user to the App Store or Google Play. Salesforce Authenticator is available for free for both Apple and Android devices.

## Salesforce Authenticator Notifications for iOS 10 Easier to Read

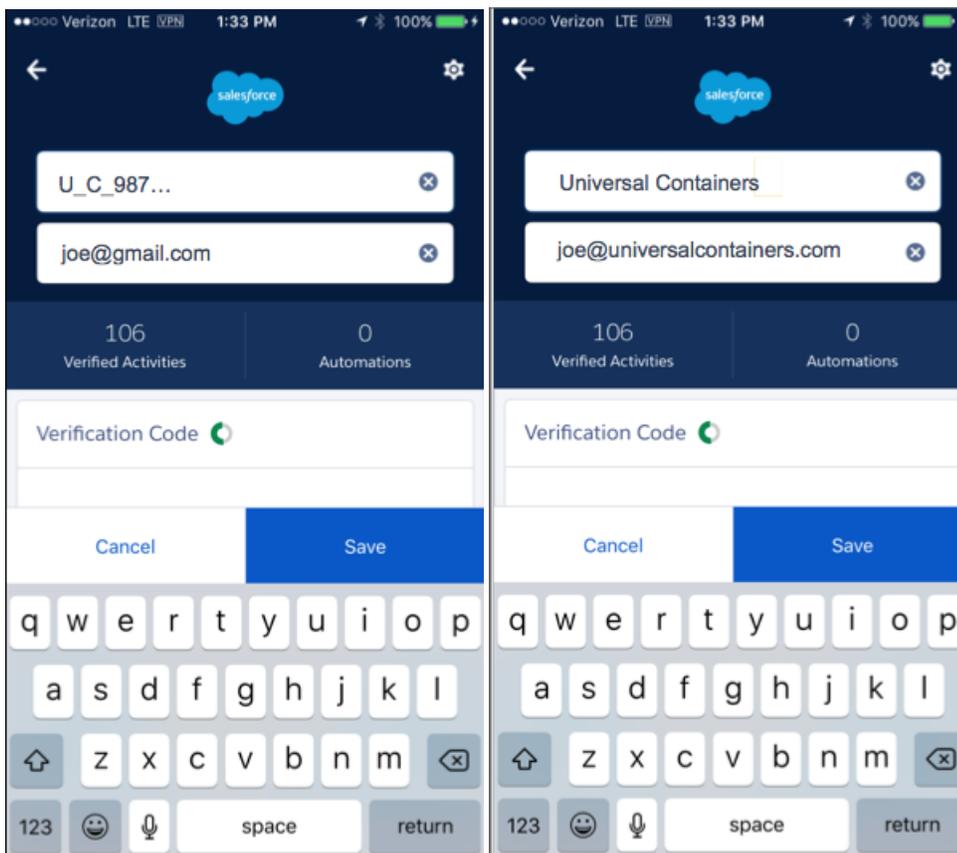
Notifications for iOS 10 devices are now easier on the eyes. In Salesforce Authenticator v2.8 and later, action, username, service, and device information now displays directly on the lock screen. Users can quickly scan the details without unlocking their phone or waiting for the app to open. When a notification appears on a locked device, simply press and hold the notification to see information about the action. On older devices, swipe and touch. Then approve or deny the action right from the locked screen.

And because we live and breathe two-factor authentication, we make sure that the right person is acting on notifications. The app always asks the user to provide a fingerprint, PIN, or password from the locked screen before it finalizes actions.

## Rename Your Connections

An authentication account by any other name can sound as sweet. If you authenticate to an app or service with a name that doesn't look too sweet on your phone, now you can rename it.

For example, let's say you work for Universal Containers, and your admin turns on two-factor authentication for your org. Great! You download Salesforce Authenticator and set up an account to use your phone to log in. But wait, what's that thing called "U\_C\_987..."? Turns out it's an API-derived name that, well, kind of stinks. No worries, you can change it. Just tap the  on your account, then tap . You can edit both the name of the account, and the username associated with that account.



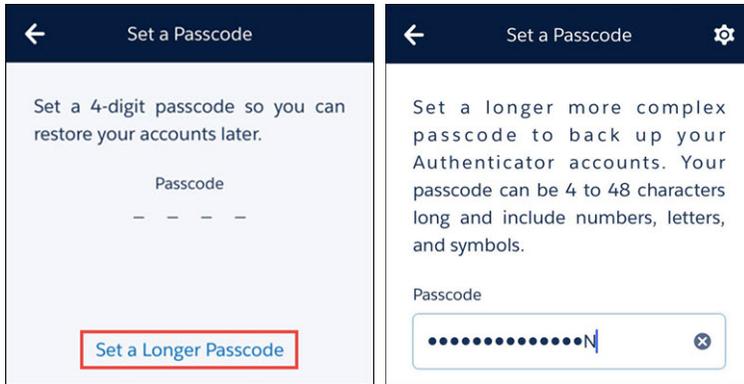
Pretty sweet, huh? Oh, and since you're able to rename all account types, you'll now see the  on code-only accounts too.

## Set an Alphanumeric Passcode for Your Account Backup

You're no longer limited to a four-digit number when you back up your accounts in Salesforce Authenticator v2.9 and later. You can now use a longer, alphanumeric passcode. For example, if "2-factor4theW1N" has a special spot in your heart (and memory), you can use that for your backup passcode instead of a four-digit number. During the backup process, tap the **Set a Longer Passcode** option and then set your alphanumeric passcode. Regardless of the length, your backups are safe and secure because we use multifactor authentication during the backup and restore process.

### EDITIONS

Available in all editions



SEE ALSO:

[Back Up Your Connected Accounts in the Salesforce Authenticator Mobile App](#)

## Field Service Lightning iOS: Technicians, Rejoice! Here's Your All-In-One Mobile Solution (Generally Available)

Take your field service operation to the next level with the Field Service Lightning iOS mobile app. Technicians can harness the wealth of data, scheduling and automation tools, and customizability of your Salesforce org to get work done quickly from anywhere. And the app's offline-first design means that technicians can always do their job, even without internet access. More productive technicians means happier customers!

**Important:** The Field Service Lightning iOS mobile app will be available from the Apple App Store the week of 2/13/17.

This all-in-one field service solution empowers technicians to:

- Prominently display key fields with layouts.
- Empower users with quick actions.
- Provide Salesforce Knowledge articles to technicians.
- Capture signatures from customers for completed work.
- Communicate with partners and customers using Chatter.
- Keep tabs on service resources with resource geolocation tracking.
- Set the calendar range of the work schedule.
- Brand the app with company colors.

And best of all, the app works offline, so technicians can always complete their work, even with limited or no internet connectivity.

To learn about deploying the app, see [The Field Service Lightning iOS Mobile App \(Generally Available\)](#).

### EDITIONS

Available in: Field Service Lightning features are available in: **Enterprise, Performance, Unlimited,** and **Developer** Editions with the Service Cloud.

## Salesforce Classic Mobile App to Retire in December 2017

To improve the overall mobile user, developer, and deployment experience, Salesforce is focusing mobile development on the Salesforce1 app. As a result, we are retiring the Salesforce Classic Mobile app on December 1, 2017. Also, iOS 10 and Android 7.0 are the final mobile OS versions that we'll use for Salesforce Classic Mobile compatibility testing. We encourage you to start transitioning your mobile users to an alternative experience, such as rolling out the Salesforce1 downloadable apps or deploying custom mobile apps that address your current and future mobile needs.

On December 1, 2017, Salesforce Classic Mobile will be removed from the App Store and Google Play, and access to currently installed Salesforce Classic Mobile apps will be immediately disabled for all users and orgs.

For more information about the retirement of Salesforce Classic Mobile and your transition options, see [Salesforce Classic Mobile App to Retire on December 1, 2017](#) and join the conversation in the [Salesforce1 Mobile App Success](#) group in the Success Community.

## SalesforceA: More Resource Options for Android and iOS Users

Version 3.1 of SalesforceA for Android, and version 3.4 for iOS is now generally available. You can now do more from the Resources page in SalesforceA!

### IN THIS SECTION:

#### [Check Your Lightning Experience Readiness with SalesforceA](#)

Curious about what your company needs to do to get ready for Lightning Experience? Evaluate some of the key features and customizations you've implemented, to see if they're Lightning-ready. Then, use our findings to see what you need to address and how to develop a rollout plan to get users into the new interface. Lightning Experience Readiness Check is available in SalesforceA for Android version 3.1, and SalesforceA for iOS version 3.4.

#### [Kick Off Optimizer with SalesforceA](#)

Optimizer evaluates your implementation to determine how your company uses certain Salesforce features, then identifies ways that you can improve your implementation for your company. You can run Optimizer in sandbox or production environments to receive recommendations to improve features, clean up customizations, reduce complexity, and drive feature adoption. Optimizer is available in SalesforceA for Android version 3.1, and SalesforceA for iOS version 3.4.

#### [SalesforceA Connected App Splits into Two](#)

Prior to this latest release, SalesforceA security and permission settings were managed by one single connected app that supported both Android and iOS. Security and permission settings for the new SalesforceA for Android version 3.1 and SalesforceA for iOS version 3.4 are controlled by each separate connected app, respectively.

### EDITIONS

Available in: **Contact Manager, Group, Professional, Enterprise, Performance, Unlimited, and Developer** Editions

### USER PERMISSIONS

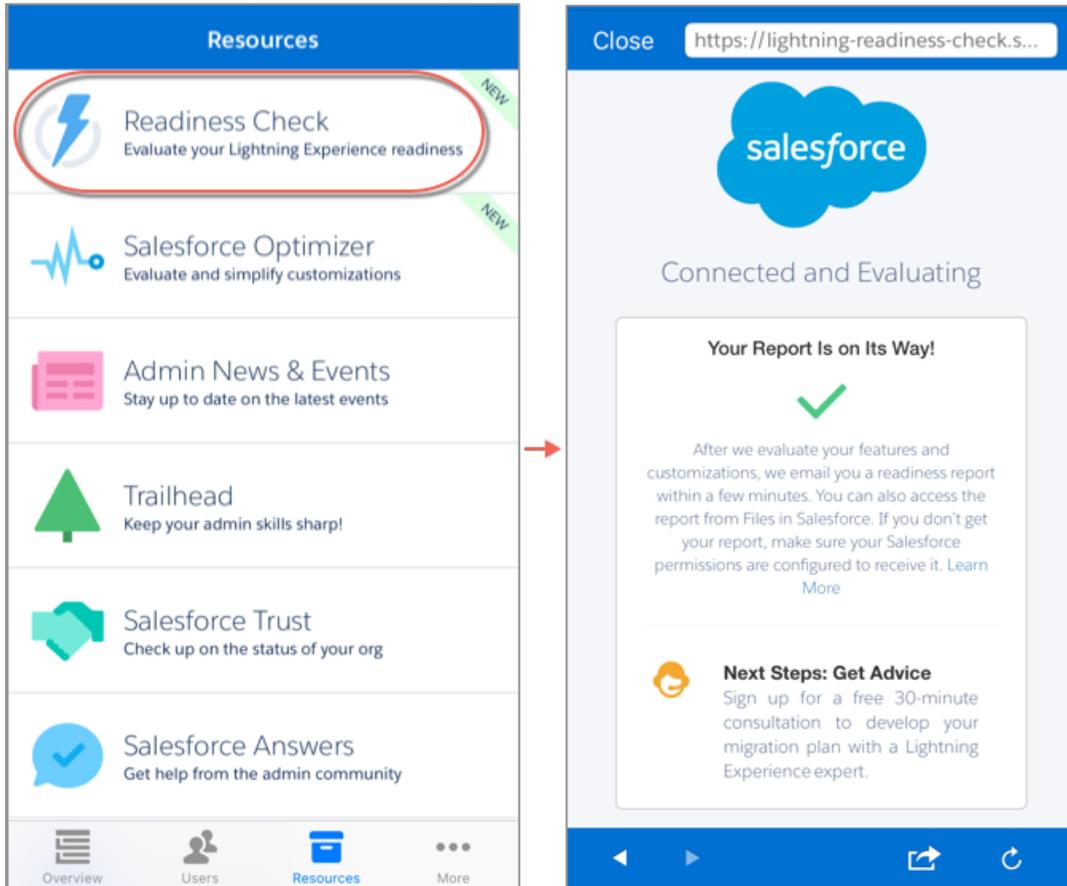
To use SalesforceA:

- "Manage Users"

## Check Your Lightning Experience Readiness with SalesforceA

Curious about what your company needs to do to get ready for Lightning Experience? Evaluate some of the key features and customizations you've implemented, to see if they're Lightning-ready. Then, use our findings to see what you need to address and how to develop a rollout plan to get users into the new interface. Lightning Experience Readiness Check is available in SalesforceA for Android version 3.1, and SalesforceA for iOS version 3.4.

To start your evaluation, go to the resources page to kick off the Lightning Experience Readiness Check. Next, we email you a personalized Readiness Report with advice and recommendations about what you need to do to get ready for Lightning Experience.



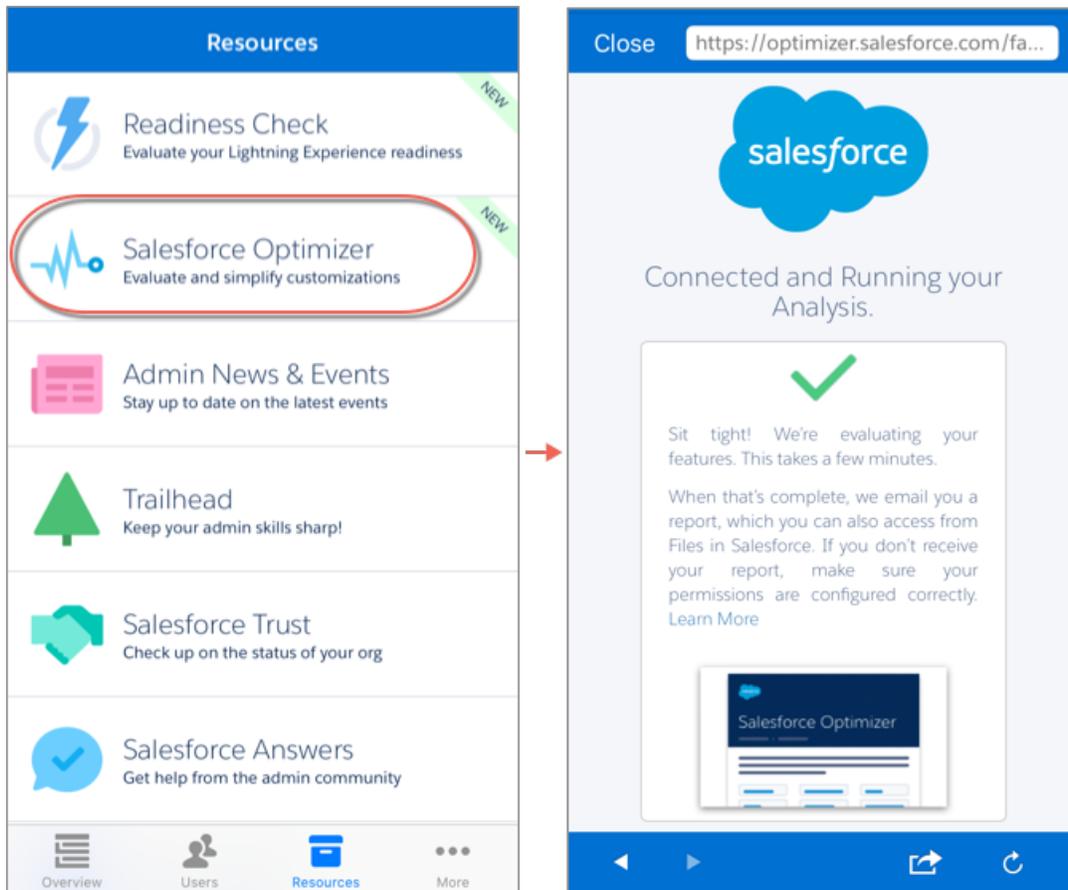
After we email you your readiness report, review our guidelines about how to use the report to develop your rollout plan.

For guidelines about Lightning Experience Readiness Check, see [Evaluate Your Lightning Experience Readiness](#) in the Salesforce Help for more information.

## Kick Off Optimizer with SalesforceA

Optimizer evaluates your implementation to determine how your company uses certain Salesforce features, then identifies ways that you can improve your implementation for your company. You can run Optimizer in sandbox or production environments to receive recommendations to improve features, clean up customizations, reduce complexity, and drive feature adoption. Optimizer is available in SalesforceA for Android version 3.1, and SalesforceA for iOS version 3.4.

To start your evaluation, go to the Resources page to kick off Optimizer. After our analysis is complete, we email you a personalized Optimizer report with advice and recommendations about how to improve your implementation.



After we email you your Optimizer report, use the recommendations in your report to tweak features and settings to improve your implementation.

For guidelines about Optimizer, see [Improve Your Salesforce Implementation with Optimizer](#) in the Salesforce Help for more information.

## SalesforceA Connected App Splits into Two

Prior to this latest release, SalesforceA security and permission settings were managed by one single connected app that supported both Android and iOS. Security and permission settings for the new SalesforceA for Android version 3.1 and SalesforceA for iOS version 3.4 are controlled by each separate connected app, respectively.

**Note:** Earlier versions of the SalesforceA will continue to have security and permission settings controlled by the original single connected app.

Separating the single SalesforceA connected app into two dedicated connected apps for both Android and iOS lets you control security and permission settings for each platform individually. These benefits include more clarity to login history, OAuth usage, and better accommodation for future enhancements.

The new SalesforceA connected apps for both Android and iOS are automatically installed with default security and permission settings (for example, refresh token valid until revoked and PIN lock disabled) upon first use of SalesforceA for Android version 3.1 and SalesforceA for iOS version 3.4. No action is necessary if your org doesn't require custom connected app security and permission settings.

If your org has custom security and permission settings in place through the original single SalesforceA connected app, you can replicate those settings at any time in the separate SalesforceA connected apps for Android and iOS.

See [SalesforceA Connected Apps Administration](#) on the App Exchange to install the new separate connected apps before the first use of SalesforceA for Android version 3.1 and SalesforceA for iOS version 3.4.

For more information about SalesforceA, see the [SalesforceA Overview](#) Knowledge Article in the Salesforce Help.

## Financial Services Cloud: Client and Household Relationship Mapping, Alerts, Client Service Enhancements

Advisors can now create, maintain, and visualize clients and households through new relationship groups. Get new client service enhancements, including alerts on a client's profile page and financial accounts to help advisors keep up with changes to client's financial accounts.

Read the [Financial Services Cloud Implementation Guide](#) to get the most out of these new features and enhancements.

### EDITIONS

Available in Lightning Experience for an extra cost in: **Professional, Enterprise, and Unlimited** Editions

### IN THIS SECTION:

#### [Add Businesses to Households](#)

A business entity, like a trust or corporation, can now be a member of a household and included in roll-up summaries. Advisors can create groupings (relationship groups) of people and entities to measure the value of a relationship and identify opportunities for new business.

#### [Create Relationship Groups with New Wizard](#)

The new relationship group builder helps advisors create and maintain memberships in groups and relationships between people and business entities.

#### [Add an Individual Client to Multiple Households](#)

You can now add a client to multiple households. For upgraded orgs, you can enable this feature. For new orgs, this feature is enabled by default. You can roll up summary fields only to the client's primary group.

#### [Visualize Financial Relationships](#)

The new Financial Services Cloud relationship map component helps advisors manage complex households and relationships. Get a visual model of the relationships for people, households, and business entities. And advisors can make changes directly in the relationship map.

#### [Get Timely Alerts About Financial Accounts](#)

An external core financial system can now push financial account alerts to Financial Services Cloud so advisors can keep up with critical information about their clients' financial accounts.

#### [Create Cases from Financial Accounts](#)

A Financial Services Cloud advisor can now create a case from a client's financial account so the advisor can see the case from the financial account's page or the client's profile page.

#### [Sync Accounts and Contacts](#)

Now you can keep an individual's account owner and contact owner as the same owner automatically. Account and contact synchronization is enabled by default for new data for both new and existing orgs. For orgs with existing data, if a discrepancy occurs during synchronizing, the account owner is used for the individual.

#### [Changed Financial Services Cloud Object](#)

Do more with the Account Contact Relation object.

#### [Changed Financial Services Cloud Metadata](#)

Financial Services Cloud includes changes to metadata types.

## Add Businesses to Households

A business entity, like a trust or corporation, can now be a member of a household and included in roll-up summaries. Advisors can create groupings (relationship groups) of people and entities to measure the value of a relationship and identify opportunities for new business.

To include a business in a household, the business must have a relationship with a person in the household. An advisor can associate a person with business entities through an account contact relationship. The contact part of an individual is related to the business entity account. You can't include the same business entity in more than one household or group.

| Thompson Household   |                                      | Edit  |                  |
|--|--------------------------------------|---|------------------|
| TOTAL FINANCIAL ACCOUNTS   | WALLET SHARE                         | LAST INTERACTION  | NEXT INTERACTION |
| \$1,900,000  | 5 %                                  |   |                  |
|  <b>Aaron Thompson</b> PRIMARY<br>Roles Client<br>Age<br>Phone<br>Mobile<br>Email | Last Interaction<br>Next Interaction |  Events<br> Tasks<br> Calls<br> Emails    |                  |
|  <b>Phyllis Romero</b><br>Roles Decision Maker<br>Age<br>Phone<br>Mobile<br>Email | Last Interaction<br>Next Interaction |  Events<br> Tasks<br> Calls<br> Emails    |                  |
|  <b>ABC Store</b><br>Contact Aaron Thompson<br>Roles Board Member<br>Phone        | Last Interaction<br>Next Interaction |  Events<br> Tasks<br> Calls<br> Emails |                  |

## Create Relationship Groups with New Wizard

The new relationship group builder helps advisors create and maintain memberships in groups and relationships between people and business entities.

On the Details page, advisors can edit group attributes, such as account name and important notes.

The Members & Relationships page is the place to create and edit relationships with group members and other related accounts and contacts.

Create Relationship Group: Household

---

DETAILS
MEMBERS & RELATIONSHIPS

---

▼ 1. Who Are the Members of This Group?

| Member Name                                 | Role in Group                       | Activities & Objects to Roll Up  | Primary Member                      | Primary Group                       |
|---|-------------------------------------|----------------------------------|-------------------------------------|-------------------------------------|
| <input type="text" value="Phyllis Romero"/> | <input type="text" value="Client"/> | <input type="text" value="All"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

[+ Add Row](#)

▼ 2. Do the Members Have Relationships with Other Accounts?

| Related Member                              | Member Role                               | Account Name                           | Add to Group                        |
|---|---|--|-------------------------------------|
| <input type="text" value="Phyllis Romero"/> | <input type="text" value="Board Member"/> | <input type="text" value="ABC Store"/> | <input checked="" type="checkbox"/> |

[+ Add Row](#)

▼ 3. Do the Members Have Relationships with Other People?

| Related Member                              | Related Role                        | Contact Name                             |
|---|-------------------------------------|--|
| <input type="text" value="Phyllis Romero"/> | <input type="text" value="Client"/> | <input type="text" value="Anne Tucker"/> |

[+ Add Row](#)

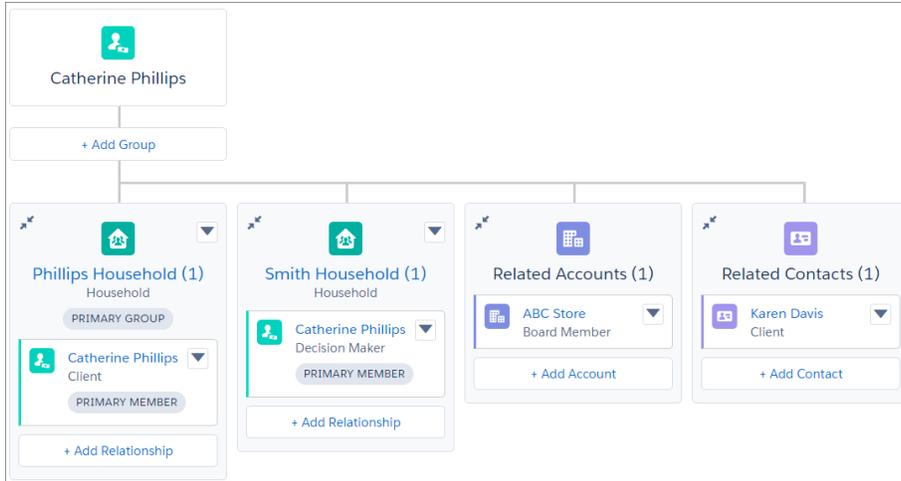
 **Note:** Page layouts require post-installation tasks to use the new functionality for relationship groups.

## Add an Individual Client to Multiple Households

You can now add a client to multiple households. For upgraded orgs, you can enable this feature. For new orgs, this feature is enabled by default. You can roll up summary fields only to the client's primary group.

## Visualize Financial Relationships

The new Financial Services Cloud relationship map component helps advisors manage complex households and relationships. Get a visual model of the relationships for people, households, and business entities. And advisors can make changes directly in the relationship map.



## Get Timely Alerts About Financial Accounts

An external core financial system can now push financial account alerts to Financial Services Cloud so advisors can keep up with critical information about their clients' financial accounts.

The alert appears when an advisor views the client's profile associated to that financial account or the financial account page. Three alert types are available: Error, Warning, and Info. You can dismiss or snooze alerts. Dismissed alerts are hidden from the client profile but still available from the Alerts list view. Snoozed alerts are temporarily hidden until the next time the client profile is visited.

Use the new custom object, `Alert__c`, to alert advisors about their clients' financial accounts.

## Create Cases from Financial Accounts

A Financial Services Cloud advisor can now create a case from a client's financial account so the advisor can see the case from the financial account's page or the client's profile page.

Create a case from the Financial Account details page or the Financial Accounts tab on the client's profile page.

The case appears on the Cases section of the client's Related tab and the Financial Account's Related tab.

## Sync Accounts and Contacts

Now you can keep an individual's account owner and contact owner as the same owner automatically. Account and contact synchronization is enabled by default for new data for both new and existing orgs. For orgs with existing data, if a discrepancy occurs during synchronizing, the account owner is used for the individual.

## Changed Financial Services Cloud Object

Do more with the Account Contact Relation object.

### AccountContactRelation

The following fields have been added.

#### **IncludeInPrimary\_\_c**

Includes this account in a related individual's primary group.

#### **PrimaryGroup\_\_c**

Indicates a person's primary group.

## Changed Financial Services Cloud Metadata

Financial Services Cloud includes changes to metadata types.

### IndividualRecordTypeMapper

The following fields have been added.

#### **LeadRecordType\_\_c**

Not in use.

#### **LeadRecordTypeNamespace\_\_c**

Not in use.

## Health Cloud: Wave for Health Cloud: Risk Stratification, Lead-to-Patient Conversion, and More

Optimize care coordination and proactively manage patients who are at risk with Wave dashboards. And we've made it super easy to take Salesforce leads and convert them into Health Cloud patient records. To top it off, we've added to the Health Cloud data model, and improved the performance of the Health Cloud console.

### IN THIS SECTION:

#### [Manage Patient Risk with Wave for Health Cloud: Risk Stratification](#)

The Wave for Health Cloud: Risk Stratification app gives you prebuilt Wave dashboards that identify your at-risk patients and lets you drill down into their detailed information. Through dashboards of configurable patient data and custom charts, you can gain new insight into the patients your company manages.

#### [Seamlessly Convert Leads into Patients](#)

Give care coordinators the power to convert Salesforce leads into Health Cloud patients—each with their own care plan and care team. When you install the Health Cloud Unmanaged Package Extension care coordinators select up to 200 leads, and let the system create the necessary records for that individual. Using leads to add patients allows seamless support from patient acquisition through enrollment in Health Cloud.

### EDITIONS

Health Cloud is available in Salesforce Classic

Available in: **Enterprise**, **Performance**, and **Unlimited** Editions

### [Faster Load Times for the Patient Timeline](#)

We've given you the option to show only a subset of events when the timeline first appears in the console—dramatically improving load times for the page. The timeline contains a personal history of each patient, which sometimes is a lot of information to load. Although good things are worth waiting for, you can now whittle down the initial view to quickly load only the most important events. After that, care coordinators can use the events filter to select which extra events they'd like to view for a particular patient.

### [Health Cloud Has New Custom Objects](#)

Health Cloud contains new custom objects.

### [Health Cloud Metadata: New and Changed Types](#)

Health Cloud includes new and changed metadata types.

### [Console Performance Improvements](#)

We've improved performance throughout Health Cloud, notably improving speed and performance for Health Cloud console users.

### [Create Precise Patient Lists with Advanced Patient Segmentation](#)

Give care coordinators the ability to create more accurate patient lists with the Advanced Patient Segmentation feature that lets them fine-tune their search criteria.

### [View the Most Recently Used Patient List](#)

We've made it easier for you to get to your favorite patient list with fewer clicks. Now, when you navigate from somewhere in the console back to the patient list page, the console displays the list you most recently worked in. If you haven't created any patient lists yet, you see the Select a List option and you can create your first patient list.

## Manage Patient Risk with Wave for Health Cloud: Risk Stratification

The Wave for Health Cloud: Risk Stratification app gives you prebuilt Wave dashboards that identify your at-risk patients and lets you drill down into their detailed information. Through dashboards of configurable patient data and custom charts, you can gain new insight into the patients your company manages.

### **Important: Legal Disclaimer for Wave for Health Cloud: Risk Stratification**

Wave for Health Cloud: Risk Stratification is solely intended to help you provide quality care to your patients by giving you insights into the health trends of your patient population.

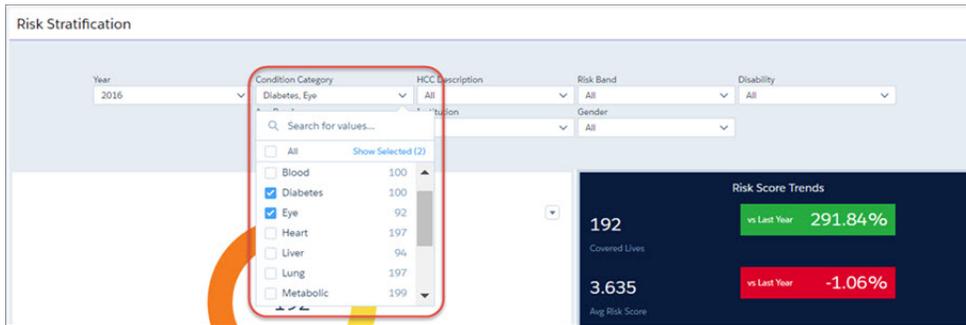
It's not intended to be used for any other purpose. For example, don't use the Risk Stratification feature for any purposes related to health care reimbursement by Medicare, Medicaid, other federal or state health programs, or private health insurers.

Use Wave for Health Cloud: Risk Stratification in compliance with HIPAA and other health privacy laws. In particular, HIPAA contains a "minimum necessary requirement" that mandates what information a health care organization's employees and contractors can see. These individuals must only access the minimum amount of Protected Health Information (PHI) necessary to perform their job functions.

**Wave for Health Cloud: Risk Stratification exposes PHI for all patients within your organization.** Only grant feature access to individuals who have a valid need to know the PHI of all individuals your company treats. For example, limit access to hospital administrators or those people responsible for quality of care initiatives who already can see PHI for all individuals. It is your responsibility to determine which individuals within your organization can access this feature and then to set the appropriate permissions. As a default, this feature is unavailable to licensed Health Cloud users.

Health Cloud now has delivered a Wave risk scoring dashboard based on the CMS Hierarchical Condition Categories (HCC) risk scoring model. The CMS HCC model looks at patient diagnoses and other key demographic information to assign a risk score to each patient. The dashboard helps people like clinical administrators or executives get a complete view of the trends affecting patients being cared for. A dashboard is a curated set of charts, metrics, and tables based on the data in one or more lenses. When you look at data in an exploratory mode, you do so in a lens. A lens has several aspects: it's how you view data in a dataset, it's the place where you explore the data graphically, and it's the basis for building any dashboard. Those individuals with permission to access the app can apply filters

in a lens to focus on the subset of data that's most relevant. For example, filters can limit the visualization to certain calendar years or patient populations.



The Wave for Health Cloud: Risk Stratification app comes with charts and lists that give you important insight into the overall health of the patients you manage. Each Health Cloud org gets five Wave app permission set licenses.



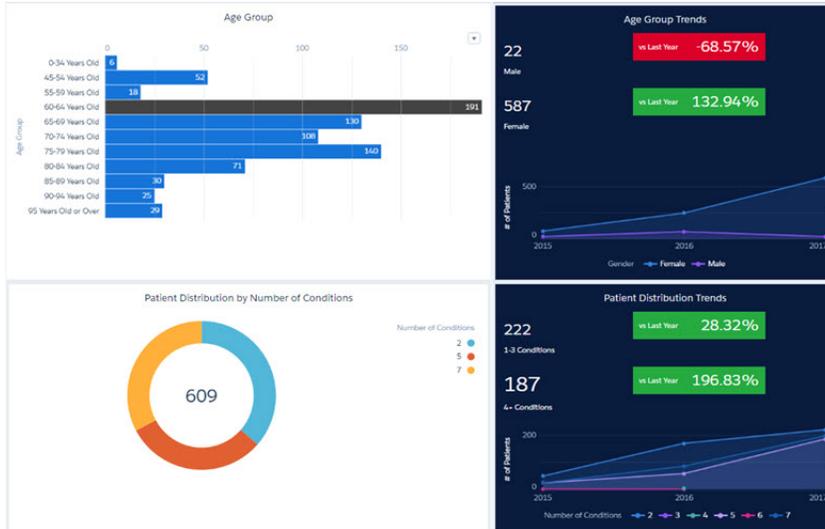
- **Risk Score (1):** The number of patients being evaluated and the number of patients who fall into each risk band category.

- **Risk Score Trends (2):** The number of patients in the program and the average risk score in a calendar year compared with the numbers from the preceding year.
- **Age Group (3):** The number of covered patients in each age group.
- **Age Group Trends (4):** The number of male and female covered patients in the program in a given calendar year compared with the numbers from the preceding year.
- **Patient Distribution by Number of Conditions (5):** The number of patients who have one or more medical conditions.
- **Patient Distribution Trends (6):** The number of patients with one or more conditions compared with the numbers from the preceding year.
- **Enrollment Type (7):** The number of patients enrolled in each program type.
- **Enrollment Type Trends (8):** The number of patients enrolled in each program type compared with the numbers from the preceding year.
- **Patient Details (9):** A list of patients with their associated risk score, conditions, Hierarchical Condition Categories (HCC) codes, and so on. You can grant permission to let users download a .CSV file of the patient list. The list can be used to assign at-risk patients to a care management program and then manage them in Health Cloud.

Clicking the elements within a widget can also change the view of the entire dashboard. For example, here is a section of the dashboard that shows age groups and patient distribution based on number of conditions.



After selecting patients in 60–64 years old age group, the charts and graphs change to reflect that lens.



The filtered information is also reflected in the patient details list. The patient list can be shared with other individuals who have permission to view information for all patients.

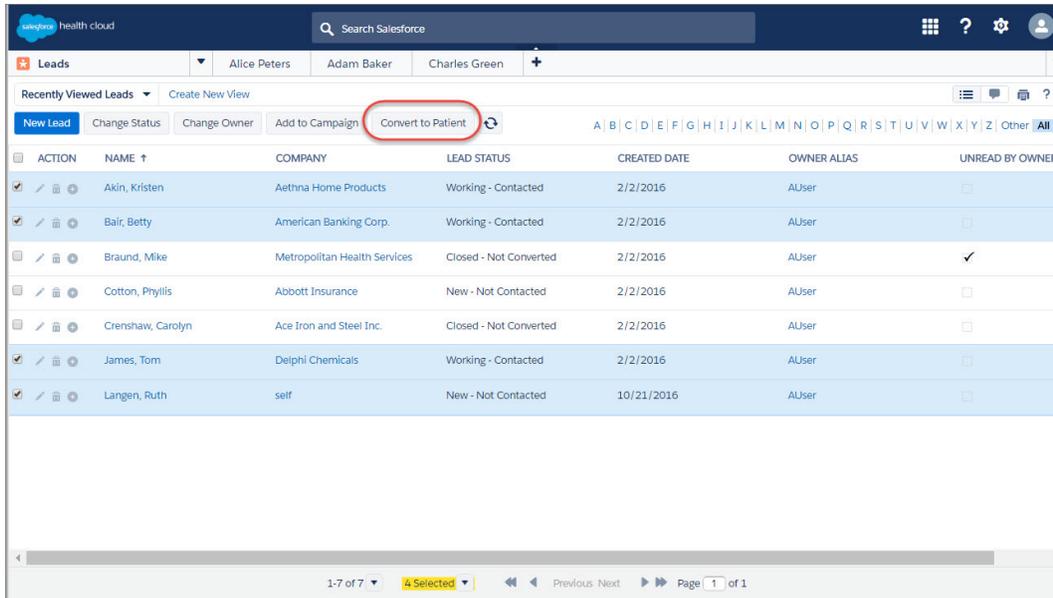
| # | PATIENT NAME    | RISK BAND | RISK SCORE | HCC CODES           | CONDITIONS                       | NUMBER OF CONDITIONS |
|---|-----------------|-----------|------------|---------------------|----------------------------------|----------------------|
| 1 | Kelly Bennett   | 1-2       | 1.1        | HCC58, HCC2         | Psychiatric, Infection           | 2                    |
| 2 | Anne Hunt       | 1-2       | 2          | HCC6, HCC72, HCC189 | Infection, Spinal, Amputation    | 3                    |
| 3 | Denise Hudson   | 1-2       | 1.1        | HCC58, HCC2         | Psychiatric, Infection           | 2                    |
| 4 | Lois Stephens   | 1-2       | 1.7        | HCC8, HCC186        | Neoplasm, Transplant             | 2                    |
| 5 | Adam Thompson   | 1-2       | 1.1        | HCC58, HCC2         | Psychiatric, Infection           | 2                    |
| 6 | Roy Black       | 1-2       | 1.3        | HCC10, HCC17, HCC77 | Neoplasm, Diabetes, Neurological | 3                    |
| 7 | Debra Jacobs    | 1-2       | 1.1        | HCC58, HCC2         | Psychiatric, Infection           | 2                    |
| 8 | Theresa Hawkins | 1-2       | 1.1        | HCC58, HCC2         | Psychiatric, Infection           | 2                    |

**Tip:** If you haven't used Wave before, learn more about it from the [Wave Analytics Library](#).

## Seamlessly Convert Leads into Patients

Give care coordinators the power to convert Salesforce leads into Health Cloud patients—each with their own care plan and care team. When you install the Health Cloud Unmanaged Package Extension care coordinators select up to 200 leads, and let the system create the necessary records for that individual. Using leads to add patients allows seamless support from patient acquisition through enrollment in Health Cloud.

Leads can be acquired in Sales Cloud, Service Cloud, or from an integration with an (electronic health record (EHR) system, data warehouse, patient registration system, or call center. For example, a care coordinator can easily enroll a person who has contacted your company's call center through a chronic care program.



For each patient, Salesforce performs the following actions.

- Creates the patient as an individual. An individual is an object view of both Account and Contact linked by the Individual ID.
- Creates an account for the individual that is linked to the patient ID and MRN fields.
- Creates a contact record for the individual that is linked to the account through the Individual ID.
- Creates a case with a CarePlan record type so that the page layout for the care plan appears automatically. If a care coordinator has been selected, the coordinator becomes the owner of the case.
- Adds the case that represents the care plan to the account record.
- Creates a case team with the individual as the patient, and adds the care coordinator, when one has been selected.
- Adds the patient's account ID to the Patient record.

## Faster Load Times for the Patient Timeline

We've given you the option to show only a subset of events when the timeline first appears in the console—dramatically improving load times for the page. The timeline contains a personal history of each patient, which sometimes is a lot of information to load. Although good things are worth waiting for, you can now whittle down the initial view to quickly load only the most important events. After that, care coordinators can use the events filter to select which extra events they'd like to view for a particular patient.

All timeline configurations that have the `Active` option selected are available to appear on the timeline when they're selected using the events filter. But only those configuration records with the `Show on Load` setting selected appear on the timeline by default.

For existing Health Cloud customers, we automatically select `Show on Load` for every active timeline view configuration record you already have in the org. You can then decide if you want to change the setting in the configuration records to decrease the timeline's initial load time.

## Health Cloud Has New Custom Objects

Health Cloud contains new custom objects.

### **ConditionToHCCCodeMapping\_\_c**

Represents a mapping of patient conditions to Hierarchical Condition Category (HCC) codes.

**Program\_\_c**

Represents information about the program that the company is participating in. Programs include Medicare Chronic Care Management (CCM), Medicare accountable care organization HCC risk scoring, among others.

**ProgramPatientAffiliation\_\_c**

Represents the program that the patient is enrolled in.

**ProgramPatientSummary\_\_c**

Represents a record that contains calculated values for the relevant program that the patient is enrolled in.

**Provider\_\_c**

Represents a person providing healthcare.

## Health Cloud Metadata: New and Changed Types

Health Cloud includes new and changed metadata types.

### New Metadata Types

**RiskScoreAgeBandContinuedEnrollee**

Indicates risk score based on age and continued enrollment status.

**RiskScoreAgeBandNewEnrollee**

Indicates risk score based on age and new enrollment status.

**RiskScoreHCCCode**

Maps risk score to HCC codes.

**RiskScoreDiseaseInteraction**

Maps risk scores to disease interactions.

**RiskScoreMedicaidInteractions**

Maps risk scores to Medicaid and originally disabled interactions.

### Updated Metadata Types and Fields

**IndividualRecordTypeMapper**

The following fields have been added.

**LeadRecordType\_\_c**

Lead Record Type used when converting Lead records. Leave this field blank to use any record type. All available record types are converted to an Individual record type, unless another mapping is specified.

**LeadRecordTypeNamespace\_\_c**

Lead namespace for your custom record type's org.

### Console Performance Improvements

We've improved performance throughout Health Cloud, notably improving speed and performance for Health Cloud console users.

### Create Precise Patient Lists with Advanced Patient Segmentation

Give care coordinators the ability to create more accurate patient lists with the Advanced Patient Segmentation feature that lets them fine-tune their search criteria.

With the new **Filter Logic** text box on the Patients tab, you can apply the **AND** and **OR** logic filter operators to your filters.

The screenshot shows the '1. ADD FILTERS' step of a filter builder. It contains three rows of filters:

| Row | Field   | Operator              | Value      |
|-----|---------|-----------------------|------------|
| 1   | Account | Record Type ID        | Individual |
| 2   | Contact | Individual Type       | Individual |
| 3   | Account | Medical Record Number | 657445678  |

Below the filter rows is an 'Add Row' button and a 'Filter Logic' text box containing the expression: `(1 OR 2) AND 3`. The text box has a red border and a question mark icon on the right. At the bottom right are 'Cancel' and 'Next' buttons.

## View the Most Recently Used Patient List

We've made it easier for you to get to your favorite patient list with fewer clicks. Now, when you navigate from somewhere in the console back to the patient list page, the console displays the list you most recently worked in. If you haven't created any patient lists yet, you see the Select a List option and you can create your first patient list.

## Customization: More Control Over Record Page Assignments and Flow Screens, Connect to External Services

Now clicks take you further than ever. They get you more granular control over how you assign Lightning record pages to your users. They give you control over your flow screens – including a way to make them look like Lightning Experience. And although a little bit of code is involved, clicks make it easy to connect your org to external services.

Customization features help you extend your org by enhancing your objects, data, and fields, updating your org's look and feel, augmenting your business processes, creating websites, and creating apps—all by using point-and-click tools and maybe some code. Customization features also include tools to administer and secure your org.

### IN THIS SECTION:

[Lightning App Builder: Record Page Assignment by Record Type and Profile, New Page Templates, New Components, and More](#)

We've made lots of enhancements to page customization in Lightning Experience. Assign record pages not only by app, but also by record type and user profile. Create pages from a template—several are new with this release—or clone the system default. Add more functionality to your pages with new components. The Lightning App Builder is available in both Lightning Experience and Salesforce Classic. Unless otherwise noted, the feature changes are only for Lightning Experience.

[External Services: Connect to Salesforce Using a Wizard, Schema, and Flow \(Beta\)](#)

Use External Services to connect your Salesforce org to a service of your choice. Invoke methods based on the external source via a flow. Import data from the service into Salesforce. You can do all this with the help of an easy-to-use wizard. This feature is new in Lightning Experience.

[Salesforce Connect: Cross-Org Writable External Objects, Salesforce Console Enhancements, Quick Actions, and Improved Reports and Relationships](#)

Now you can create, edit, and delete records in your other Salesforce orgs. External objects support quick actions. You can use the highlights panel and custom console components with external objects in the Salesforce Console in Salesforce Classic. We also fixed some unpleasant behavior in external object relationships and reports.

[Approvals: Consistency Across All Salesforce Experiences](#)

We want your approvers to have the same experience, no matter if they're using Lightning Experience, Salesforce Classic, or Salesforce1. These enhancements were available in Salesforce Classic before this release. Some enhancements are new to Salesforce1, some are new to Lightning Experience, and some are new to both experiences.

[Visual Workflow: Have More Control over Your Screens](#)

Make your flows look and feel like Lightning Experience with Lightning runtime and the Flow component for Lightning App Builder. Dynamically control whether to show or hide screen fields with field rules. These changes apply to both Lightning Experience and Salesforce Classic.

[Process Builder: Lightning Icons and Encrypted Data](#)

We streamlined the icons in Process Builder to match the rest of Lightning Experience. This change is available in both Lightning Experience and Salesforce Classic.

[Picklist Administration: Improved Global Picklists, Decoupled Labels and Identifiers, and New API Items](#)

Picklists are getting more versatile. Easily convert from unrestricted to restricted picklists, and update your picklist labels without changing any code referring to them. If you like coding, now you can use the Tooling API in addition to the Metadata API with both standard and global value sets.

[AppExchange: Streamlined Listings and Integrated Experience Reviews](#)

Find the best app, Lightning component, or consulting service in less time with streamlined AppExchange listings. After you try a product or service, write a review directly from your Salesforce org.

[General Setup: More Details in Object Manager, Standard Permission Sets](#)

With the Object Manager, easily see how your org is using your Lightning record pages. When you purchase the Sales Console permission set license, don't worry about manually creating a permission set to match. With standard permission sets, you can move straight to assigning the permission set to users. And Lightning for Outlook and Lightning for Gmail (Beta) are available for users with Force.com licenses.

## Lightning App Builder: Record Page Assignment by Record Type and Profile, New Page Templates, New Components, and More

We've made lots of enhancements to page customization in Lightning Experience. Assign record pages not only by app, but also by record type and user profile. Create pages from a template—several are new with this release—or clone the system default. Add more functionality to your pages with new components. The Lightning App Builder is available in both Lightning Experience and Salesforce Classic. Unless otherwise noted, the feature changes are only for Lightning Experience.

### EDITIONS

Available in: **Group, Professional, Enterprise, Performance, Unlimited, and Developer** Editions

## IN THIS SECTION:

[Assign Record Pages by App, Record Type, and Profile](#)

Now you can customize your users' experience even more granularly by creating custom record pages and assigning them by app, record type, and user profile. Give your sales managers a different view of opportunities than your sales reps. Configure nonprofit account pages differently than standard business account pages.

[Customize Person Account Pages](#)

In Summer '16, we gave person accounts its own page in the Lightning App Builder, but you couldn't edit it. Now you can! So go ahead and customize those person account pages. This change applies to Lightning Experience only.

[Build Dynamic Picklists for Lightning Page Components with Apex](#)

Now you can expose a component property as a picklist when the component is configured in the Lightning App Builder. The picklist's values are provided by an Apex class that you create.

[Customize Your Lightning Pages Even More with New Templates](#)

You now have more templates to choose from, increasing your page design options. We've added three app page templates and five record page templates. The app page templates adjust dynamically between Lightning Experience and Salesforce1. The record page templates are supported in Lightning Experience only.

[Clone Salesforce Default Lightning Pages](#)

You can now create a Lightning Page in two different ways. Use a template to create an empty page that you can fill with the components you want. Or you can clone the system default page to create a page prepopulated with standard components. This feature is available for Home, Record, and Email Application pages.

[Lightning App Builder New Page Wizard Is Restructured](#)

Previously, when creating a page, you chose a page type, selected a template, and then named the page. We've changed the order and moved the template selection later in the process. This change applies to both Lightning Experience and Salesforce Classic.

[Customize the Highlights Panel with More Action Buttons](#)

Make your record highlights more useful by including up to 10 action buttons on the highlights panel. Previously, the limit was three. We updated the label to reflect this change, and renamed the option for displaying the highlights panel in a compact view. These highlights panel customizations are available in Lightning Experience only.

[Add the Related Record Component to Your Lightning Pages](#)

Give your users the record details they need most. Use the Related Record component to customize your Lightning pages and display the details of a related record, including the parent record, on any record page. This feature is new in Lightning Experience.

[Add the Related List Component to Your Lightning Pages](#)

We want you to get exactly what you want on your Lightning pages. Instead of displaying all the related lists for a record, you now get to pick exactly which list you want with the new Related List component. This feature is new in Lightning Experience.

[Customize How Related Lists Display on Lightning Pages](#)

Use a new attribute on the Related Lists component to choose whether to display related list items in a list or as tiles on your custom Lightning Pages. If you put the Related Lists component in a narrow region on the page, the list items display only as tiles.

[Power Up Your Lightning Pages with the Flow Component \(Beta\)](#)

Welcome a new component to the Lightning App Builder. Use the Flow component to embed active flows in your Lightning Page.

[Display Pending Approval Requests on Home Pages](#)

Use the new Items to Approve component to display approval requests that your users haven't responded to yet. This component is supported only on Home pages. This change applies to Lightning Experience only.

[Add Skype to Lightning Record Pages \(Beta\)](#)

A new Skype for Business component is available for the Lightning App Builder. Add it to your record pages to get Skype controls that let you see who's online, initiate audio and video calls, and chat. To add this component, Skype for Salesforce (Beta) must be set up for your org. To use the component, the record page must include at least one email field.

[Rich Text Component Disabled When LockerService Critical Update Is Active](#)

In sandboxes and Developer Edition orgs, if you have the LockerService critical update active, the Rich Text component becomes read-only in the Lightning App Builder.

## Assign Record Pages by App, Record Type, and Profile

Now you can customize your users' experience even more granularly by creating custom record pages and assigning them by app, record type, and user profile. Give your sales managers a different view of opportunities than your sales reps. Configure nonprofit account pages differently than standard business account pages.

We also revamped the activation process. You can now activate a page as the org default, app default, or for the most granularity, assign it to a combination of apps, record types, and profiles all in one place.

Activation: Custom Opportunity Page for Inside Sales

Custom record pages can be assigned at different levels:

- **The org default** record page displays for an object unless more specific assignments are made.
- **App default** page assignment, if specified, overrides the org default.
- **App, record type, profile** assignments override org and app defaults.

[Learn more about Lightning page assignment.](#)

ORG DEFAULT
APP DEFAULT
APP, RECORD TYPE, AND PROFILE

Set a combination of apps, record types, and profiles to display this custom record page. This setting is the most specific and allows for fine-grained customization within a Lightning app.

[Assign to Apps, Record Types, and Profiles](#)

 **Note:** Accounts and person accounts have different standard default pages to begin with. However, when you create a Lightning page for accounts and assign it as the default for either an org or an app, that page becomes the org or app default for both business accounts and person accounts. To display a custom record page for person accounts, create a custom account record page, then assign it to the person account record type.

## Customize Person Account Pages

In Summer '16, we gave person accounts its own page in the Lightning App Builder, but you couldn't edit it. Now you can! So go ahead and customize those person account pages. This change applies to Lightning Experience only.

SEE ALSO:

[Assign Record Pages by App, Record Type, and Profile](#)  
[Get More Out of Person Accounts](#)

### EDITIONS

Person accounts are available in **Professional**, **Enterprise**, **Performance**, **Unlimited**, and **Developer Editions**

## Build Dynamic Picklists for Lightning Page Components with Apex

Now you can expose a component property as a picklist when the component is configured in the Lightning App Builder. The picklist's values are provided by an Apex class that you create.

For example, let's say you're creating a component for the Home page to display a custom Company Announcement record. You can use an Apex class to put the titles of all Company Announcement records in a picklist in the component's properties in the Lightning App Builder. Then, when admins add the component to a Home page, they can easily select the appropriate announcement to place on the page.

1. Create a custom Apex class to use as a datasource for the picklist. The Apex class must extend the `VisualEditor.DynamicPickList` abstract class.

```
global class MyCustomPickList extends VisualEditor.DynamicPickList{

    global override VisualEditor.DataRow getDefaultValue(){
        VisualEditor.DataRow defaultValue = new VisualEditor.DataRow('red', 'RED');
        return defaultValue;
    }
    global override VisualEditor.DynamicPickListRows getValues() {
        VisualEditor.DataRow value1 = new VisualEditor.DataRow('red', 'RED');
        VisualEditor.DataRow value2 = new VisualEditor.DataRow('yellow', 'YELLOW');
        VisualEditor.DynamicPickListRows myValues = new
VisualEditor.DynamicPickListRows();
        myValues.addRow(value1);
        myValues.addRow(value2);
        return myValues;
    }
}
```

2. Add an attribute to your design file that specifies your custom Apex class as the datasource.

```
<design:component>
    <design:attribute name="property1" datasource="apex://MyCustomPickList"/>
</design:component>
```

## Customize Your Lightning Pages Even More with New Templates

You now have more templates to choose from, increasing your page design options. We've added three app page templates and five record page templates. The app page templates adjust dynamically between Lightning Experience and Salesforce1. The record page templates are supported in Lightning Experience only.

The new app page templates are:

- Header and Left Sidebar—Full-width header above a left sidebar and main column. On a tablet in portrait orientation, the columns below the header are equal width.
- Header and Three Columns—Full-width header above three equal-width columns. On a tablet in portrait orientation, the first column becomes the main column with the other two regions stacked in a right sidebar.
- Header and Two Columns—Full-width header above two equal-width columns.

When you view an app page template on a phone, the regions stack vertically.

The new record page templates are:

- Header and Left Sidebar—Full-width header above a left sidebar and main column.

- Header, Subheader, Left Sidebar—Full-width header and a narrower subheader above a left sidebar and main column.
- Header and Three Columns—Full-width header above three equal-width columns.
- One Column—Full-width single main area.
- Three Columns—A main column and two sidebars with fixed proportional widths. The main column width is 50%, and the side columns widths are each 25%. This template is designed for record pages in a Salesforce Console. The minimum supported resolution for this template is 1280 pixels.

We've also renamed some of our existing templates to be more descriptive.

| Type        | Old Template Name              | New Template Name                |
|-------------|--------------------------------|----------------------------------|
| App Page    | Header and Two Columns         | Header and Right Sidebar         |
| App Page    | Main Column and Sidebar        | Main Column and Right Sidebar    |
| Record Page | Header, Subheader, Two Columns | Header, Subheader, Right Sidebar |
| Record Page | Header and Two Columns         | Header and Right Sidebar         |

## Clone Salesforce Default Lightning Pages

You can now create a Lightning Page in two different ways. Use a template to create an empty page that you can fill with the components you want. Or you can clone the system default page to create a page prepopulated with standard components. This feature is available for Home, Record, and Email Application pages.

## Lightning App Builder New Page Wizard Is Restructured

Previously, when creating a page, you chose a page type, selected a template, and then named the page. We've changed the order and moved the template selection later in the process. This change applies to both Lightning Experience and Salesforce Classic.

## Customize the Highlights Panel with More Action Buttons

Make your record highlights more useful by including up to 10 action buttons on the highlights panel. Previously, the limit was three. We updated the label to reflect this change, and renamed the option for displaying the highlights panel in a compact view. These highlights panel customizations are available in Lightning Experience only.

To access the changed attribute and labels, in Lightning App Builder, click the highlights panel in the canvas.



## Add the Related Record Component to Your Lightning Pages

Give your users the record details they need most. Use the Related Record component to customize your Lightning pages and display the details of a related record, including the parent record, on any record page. This feature is new in Lightning Experience.

Want to show details about an associated contact on a case? You got it! Want to show the details of a case's parent case? You got it! To top it off, your users will love the built-in record creation, inline edit, and ability to unlink a record and link a new one. Talk about increased efficiency!

Under the covers, the component uses quick actions and global actions to create and update the records. If there are no actions available for your lookup, follow the links in the Lightning App Builder property editor to create the actions. You can select any associated lookup field to display related details—even lookups for custom objects.



**Tip:** If you've ever set up a Salesforce Console, Related Record might sound familiar. Remember the Lookup component that you used in the Salesforce Classic console? Well, the new Related Record component provides the same functionality in Lightning console apps. Want to make your console app awesome? Create a record page using the Three Columns template, then add the Related Record component to one of the side columns.

### Sample Related Record Component

Component properties in Lightning App Builder:

The screenshot shows the configuration interface for the 'Related Record' component. It includes the following sections:

- Page > Related Record**
- Header Label:** A text input field.
- \* Lookup Field:** A dropdown menu with 'Contact Name' selected.
- \* Update Action:** A dropdown menu with 'Update Contact' selected.
- Create Action:** A dropdown menu with 'New Contact' selected.
- Footer:** A message stating 'If there are no actions available for the selected lookup field, you can create them.' with links for 'New Update Action' and 'New Create Action'.

Component displaying a case's related contact:

The screenshot shows the 'Contact Details' component displaying information for a contact named Jon Amos. The details are as follows:

|                        |                     |
|------------------------|---------------------|
| <b>Contact Details</b> |                     |
| Name                   | Jon Amos            |
| Title                  | Sales Manager       |
| Account Name           | Global Media        |
| Email                  | info@salesforce.com |
| Phone                  | (555) 555-1555      |

Component displaying a case's related parent case:

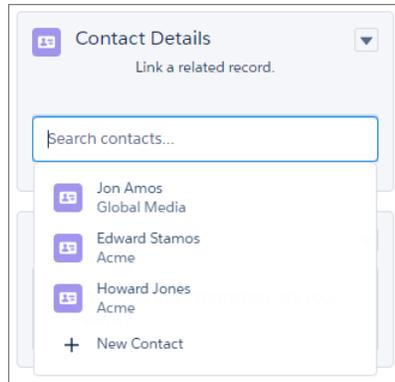
The screenshot shows the 'Parent Case' component displaying information for a parent case. The details are as follows:

|                    |  |
|--------------------|--|
| <b>Parent Case</b> |  |
| Case Number        | 00001001   |
| Case Owner         | Admin User   |
| Status             | New  |
| Priority           | Medium   |
| Subject            | Sample Case 2: The widgets we received are the wrong size. |
| Description        |  |

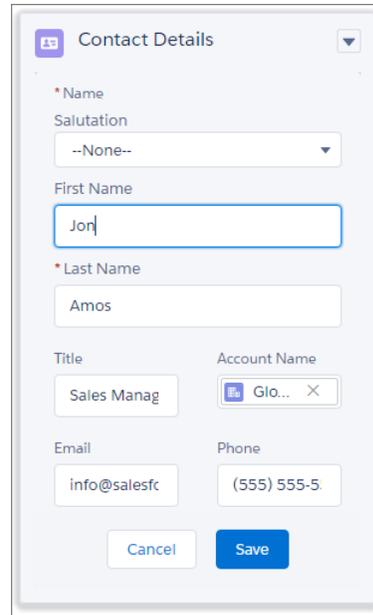
Let's take a walk in your users' shoes. Say that you set up this component to display contact information for a case. However, a user opens a case that doesn't have a related contact. With this component, they can create a contact or link one, all without leaving the

page. And if they later find out that the contact info is out of date, they can update the details in-line. And if the info is incorrect, they can simply remove (unlink) the record and add a new record. Hooray for always staying in context!

Component displaying no linked record:



Component displaying inline edit:



#### Note:

- Cases are linked to default accounts that can't be removed (unlinked) from the component unless the contact is also removed at the same time.
- To use the Parent Case and Asset lookup fields on cases, update the field-level security to visible instead of hidden. Otherwise, your users see an error.

When you're ready to use this component, head over to the Lightning App Builder and edit or create a custom record page.

SEE ALSO:

[Customize Your Console App Record Pages with Lightning App Builder](#)

## Add the Related List Component to Your Lightning Pages

We want you to get exactly what you want on your Lightning pages. Instead of displaying all the related lists for a record, you now get to pick exactly which list you want with the new Related List component. This feature is new in Lightning Experience.

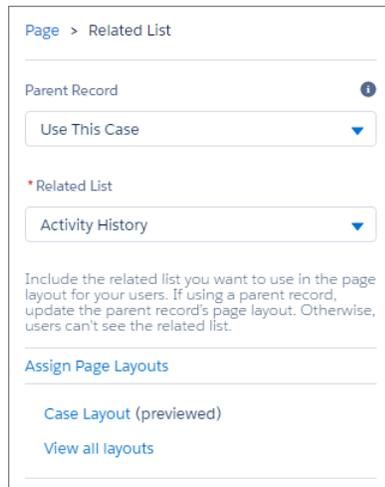
With the Related List component, your users can focus on the things that matter most. For example, you can use this component to display activity history front-and-center on all case pages. You can even configure this component to display a related list for a parent record. Say that you want your users to know if a case's contact has any other open cases. Your users will never miss a beat.

-  **Tip:** The Related List component is great for pages in Lightning console apps. Want to make your console app awesome? Create a record page using the Three Columns template, then add the Related List component to one of the side columns.

When you're ready to use this component, head over to the Lightning App Builder and edit or create a custom record page.

### Sample Related List Component

Component properties in Lightning App Builder:



Component displaying related activity history on a case:



Component displaying related cases for the case's parent contact:



SEE ALSO:

[Customize Your Console App Record Pages with Lightning App Builder](#)

## Customize How Related Lists Display on Lightning Pages

Use a new attribute on the Related Lists component to choose whether to display related list items in a list or as tiles on your custom Lightning Pages. If you put the Related Lists component in a narrow region on the page, the list items display only as tiles.

## Power Up Your Lightning Pages with the Flow Component (Beta)

Welcome a new component to the Lightning App Builder. Use the Flow component to embed active flows in your Lightning Page.

 **Note:** This release contains a beta version of the Flow component for Lightning Pages, which means it's a high-quality feature with known limitations. The Flow component isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features. You can provide feedback and suggestions for the Flow component for Lightning Pages in the [IdeaExchange](#).

### EDITIONS

Available in: **Enterprise**, **Performance, Unlimited**, and **Developer** Editions

For more details, see [Embed Your Flows in Lightning Pages \(Beta\)](#) in the Visual Workflow section.

## Display Pending Approval Requests on Home Pages

Use the new Items to Approve component to display approval requests that your users haven't responded to yet. This component is supported only on Home pages. This change applies to Lightning Experience only.

SEE ALSO:

[Review Pending Approval Requests from Lightning Experience](#)

[Idea Exchange: Items To Approve on Lightning Experience Homepage](#)

### EDITIONS

Available in: **Enterprise**, **Performance**, **Unlimited**, and **Developer** Editions

## Add Skype to Lightning Record Pages (Beta)

A new Skype for Business component is available for the Lightning App Builder. Add it to your record pages to get Skype controls that let you see who's online, initiate audio and video calls, and chat. To add this component, Skype for Salesforce (Beta) must be set up for your org. To use the component, the record page must include at least one email field.

SEE ALSO:

[Salesforce Help: Enable Skype for Salesforce \(can be outdated or unavailable during release preview\)](#)

## Rich Text Component Disabled When LockerService Critical Update Is Active

In sandboxes and Developer Edition orgs, if you have the LockerService critical update active, the Rich Text component becomes read-only in the Lightning App Builder.

You can see the rich text inside the component on the canvas, but you can't edit it. The rich-text editor in the component properties pane doesn't render.

 **Example:**



Page > Rich Text

Rich Text

Rich-text editing is disabled because the LockerService critical update is activated. Your Salesforce admin can deactivate the LockerService critical update in Setup.

For more information, see [Rich-Text Editors Disabled When LockerService Critical Update Is Active](#).

## External Services: Connect to Salesforce Using a Wizard, Schema, and Flow (Beta)

Use External Services to connect your Salesforce org to a service of your choice. Invoke methods based on the external source via a flow. Import data from the service into Salesforce. You can do all this with the help of an easy-to-use wizard. This feature is new in Lightning Experience.

 **Note:** This release contains a beta version of External Services, which means it's a high-quality feature with known limitations. External Services isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features. You can provide feedback and suggestions for External Services in the [IdeaExchange App Cloud \(Platform\) Integration group](#) in the Success Community.

### EDITIONS

Available in: Lightning Experience

Available in: **Enterprise, Performance, Unlimited, and Developer** Editions

Let's say you want to connect to a service that determines if credit is extended to a Salesforce account. You also want to know the payment terms. With External Services, you:

- Supply a named credential, a URL, and authentication settings. Salesforce uses this information to make callouts to the external service.
- Enter a schema URL path (or endpoint) or provide a complete schema.
- Create a flow based on the Apex classes generated from your external service registration using Salesforce's point-and-click automation tool.

When you run the flow, the output contains the credit decision and, if applicable, payment terms. The wizard walks you through the process.

### IN THIS SECTION:

#### [External Services Wizard Walks You Through Setup \(Beta\)](#)

The External Services wizard makes it quick and easy to set up an external service. Just supply some basic information, like your service name and schema endpoint, and then you're ready to build your application.

#### [Easily Add a Schema to External Services \(Beta\)](#)

A schema describes the methods in your service. You don't have to write the methods or calls to get your service working. However, the service requires a description. Schema methods translate to inputs and outputs for the actions that you create in a flow.

#### [Perform Repeatable Actions with Flows and External Services \(Beta\)](#)

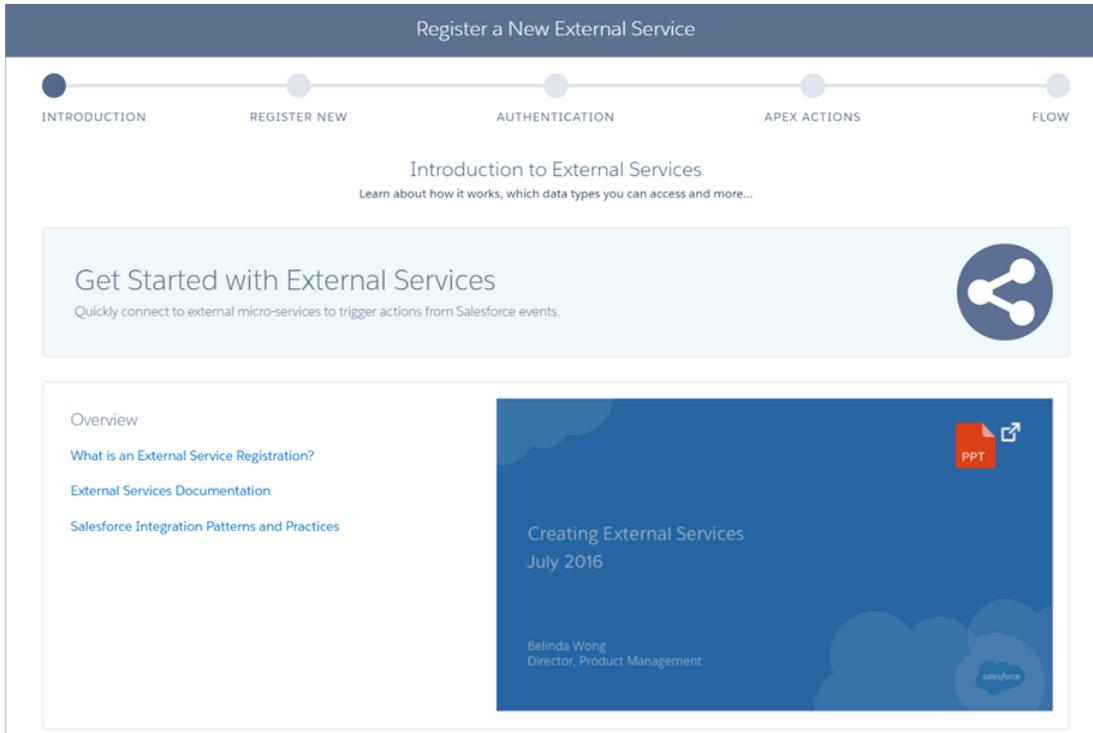
Use a flow to perform repeatable Salesforce actions with data from your non-Salesforce service. You can create a flow based on a registered external service schema without writing code.

## External Services Wizard Walks You Through Setup (Beta)

The External Services wizard makes it quick and easy to set up an external service. Just supply some basic information, like your service name and schema endpoint, and then you're ready to build your application.

To build an application, called a flow, you can use Cloud Flow Designer, a tool with a drag-and-drop interface.

Need help? You can always return to the Introduction screen to get assistance.



## Easily Add a Schema to External Services (Beta)

A schema describes the methods in your service. You don't have to write the methods or calls to get your service working. However, the service requires a description. Schema methods translate to inputs and outputs for the actions that you create in a flow.

External Services uses the [Interagent](#) hyper-schema, which uses JSON. For example, here's a snippet from a schema called Evaluate. It contains a POST method for the credit decision. As input, the method takes `orderId`, `orderAmount`, `accountId`, and `creditRating`

```

"title": "Evaluate",
"description": "Evaluates credit rating and decides what payment terms to offer.",

"href": "/decision",
"method": "POST",
"schema": {
  "type": [
    "object"
  ],
  "properties": {
    "orderId": {
      "$ref": "#/definitions/creditDecision/definitions/orderId"
    },
    "orderAmount": {
      "$ref": "#/definitions/creditDecision/definitions/orderAmount"
    },
    "accountId": {
      "$ref": "#/definitions/creditDecision/definitions/accountId"
    },
    "creditRating": {

```

```

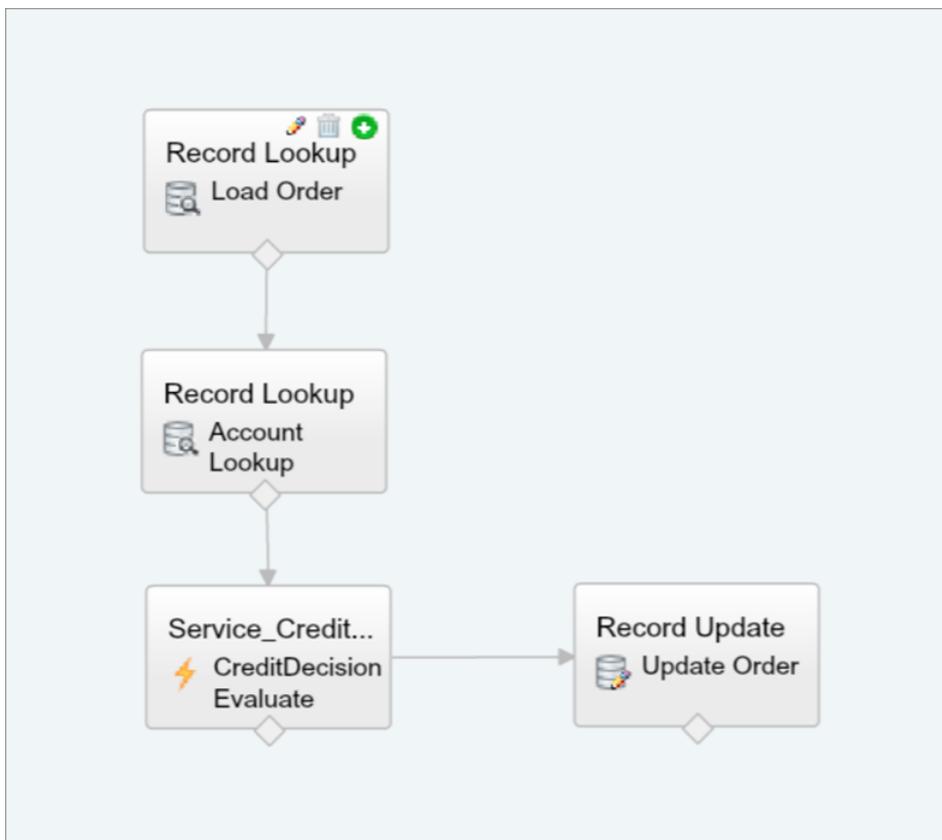
    "$ref": "#/definitions/creditDecision/definitions/creditRating"
  }
},
"required": [
  "orderId",
  "orderAmount",
  "accountId",
  "creditRating"
]
},
}

```

## Perform Repeatable Actions with Flows and External Services (Beta)

Use a flow to perform repeatable Salesforce actions with data from your non-Salesforce service. You can create a flow based on a registered external service schema without writing code.

For example, let's say you want to create a flow for a credit service. Include a record lookup step so that the service accesses a specific account. You can also include a credit-worthiness evaluation and a step that updates the account with the evaluation results. Your flow might look something like this one.



When the flow completes successfully, the related account and order record are updated.

## Salesforce Connect: Cross-Org Writable External Objects, Salesforce Console Enhancements, Quick Actions, and Improved Reports and Relationships

Now you can create, edit, and delete records in your other Salesforce orgs. External objects support quick actions. You can use the highlights panel and custom console components with external objects in the Salesforce Console in Salesforce Classic. We also fixed some unpleasant behavior in external object relationships and reports.

### IN THIS SECTION:

#### [Work Seamlessly Across All Your Salesforce Orgs—Cross-Org Connector with Write Support](#)

Writable external objects are available with the cross-org adapter for Salesforce Connect. Now your users and developers can create, update, and delete records that are stored in connected Salesforce orgs. In addition, lookup search is available for external lookup relationship fields whose parent external objects are associated with the cross-org adapter for Salesforce Connect. These changes apply to Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app.

#### [Highlights Panel and Custom Console Components Are Available for External Objects in the Salesforce Console in Salesforce Classic](#)

The Salesforce Console boosts productivity by providing a tab-based interface for working with multiple records simultaneously. Previously, external object detail page layouts didn't support the highlights panel and custom console components. Now your users can work more efficiently across system boundaries, accessing data that's stored both inside and outside your Salesforce org from a single screen. This change applies to Salesforce Classic only.

#### [Improved External Lookup Relationship Fields—How Important Is a Name?](#)

External lookup relationship fields now display the names of parent records, which are much more meaningful to your users than the IDs that were displayed. This change applies to Salesforce Classic only. In Lightning Experience, external lookup relationships already display names instead of IDs.

#### [Create Quick Actions for External Objects](#)

Quick actions are now available for external objects in Lightning Experience. Previously, external objects supported quick actions only in Salesforce Classic.

#### [Improved Reports for External Objects](#)

We removed some previous limitations, hopefully before you even encountered them. The improvements affect reports that include external object relationships or use the cross-org adapter for Salesforce Connect. This change applies to both Lightning Experience and Salesforce Classic.

## Work Seamlessly Across All Your Salesforce Orgs—Cross-Org Connector with Write Support

Writable external objects are available with the cross-org adapter for Salesforce Connect. Now your users and developers can create, update, and delete records that are stored in connected Salesforce orgs. In addition, lookup search is available for external lookup relationship fields whose parent external objects are associated with the cross-org adapter for Salesforce Connect. These changes apply to Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app.

To enable writable external objects:

1. When you [define the external data source](#), select **Writable External Objects**.
2. When you [enable user access to external objects](#), select the following object permissions as needed.

### EDITIONS

Available in: **Developer Edition**

Available for an extra cost in: **Enterprise, Performance, and Unlimited Editions**

### USER PERMISSIONS

To create and edit external data sources:

- "Customize Application"

To edit permission sets and user profiles:

- "Manage Profiles and Permission Sets"

- Read—Always required
- Create—Required to create external object records
- Edit—Required to create or edit external object records
- Delete—Required to delete external object records

**3. Enable user access to the fields** on the external objects.

For more information, see [Set Up Salesforce Connect to Access Data in Another Org with the Cross-Org Adapter](#).

Read the writable external objects considerations in Salesforce Help.

SEE ALSO:

[Salesforce Help: Writable External Objects Considerations for Salesforce Connect—All Adapters](#)

[Salesforce Help: Writable External Objects Considerations for Salesforce Connect—Cross-Org Adapter](#)

[Salesforce Help: Currency Considerations for Salesforce Connect—Cross-Org Adapter](#)

## Highlights Panel and Custom Console Components Are Available for External Objects in the Salesforce Console in Salesforce Classic

The Salesforce Console boosts productivity by providing a tab-based interface for working with multiple records simultaneously. Previously, external object detail page layouts didn't support the highlights panel and custom console components. Now your users can work more efficiently across system boundaries, accessing data that's stored both inside and outside your Salesforce org from a single screen. This change applies to Salesforce Classic only.

SEE ALSO:

[Salesforce Help: Console Considerations for Salesforce Connect—All Adapters](#)

[Salesforce Help: Add a Highlights Panel](#)

[Salesforce Help: Customize a Console with Custom Components in Salesforce Classic](#)

## Improved External Lookup Relationship Fields—How Important Is a Name?

External lookup relationship fields now display the names of parent records, which are much more meaningful to your users than the IDs that were displayed. This change applies to Salesforce Classic only. In Lightning Experience, external lookup relationships already display names instead of IDs.

Previously, an external lookup field in Salesforce Classic displayed either the parent object ID or the value of the parent object's External ID standard field. The External ID standard field appeared by default. If, however, a custom field on the parent object had the Is Name Field attribute, the parent object ID was displayed.

This behavior can still occur, but only if your org hasn't yet retrieved the parent record. If you see an ID in an external lookup field, reload the page to replace the ID with the name.

SEE ALSO:

[Salesforce Help: Relationship Considerations for Salesforce Connect—All Adapters](#)

[Salesforce Help: External Lookup Relationship Fields on External Objects](#)

## Create Quick Actions for External Objects

Quick actions are now available for external objects in Lightning Experience. Previously, external objects supported quick actions only in Salesforce Classic.

## Improved Reports for External Objects

We removed some previous limitations, hopefully before you even encountered them. The improvements affect reports that include external object relationships or use the cross-org adapter for Salesforce Connect. This change applies to both Lightning Experience and Salesforce Classic.

When you run reports that reference external objects via lookup, external lookup, and indirect lookup relationships, you no longer receive empty values for those relationship fields. Previously, reports returned empty values when external object relationship fields weren't Salesforce IDs or the name fields of parent objects.

With the cross-org adapter for Salesforce Connect, a report callout no longer fails if its URL exceeds 2 KB. A large callout is split into multiple HTTP calls, with each URL less than 2 KB. Report callouts for other Salesforce Connect adapters already behave this way.

### SEE ALSO:

[Salesforce Help: Report Considerations for Salesforce Connect—All Adapters](#)

[Salesforce Help: External Object Relationships](#)

## Approvals: Consistency Across All Salesforce Experiences

We want your approvers to have the same experience, no matter if they're using Lightning Experience, Salesforce Classic, or Salesforce1. These enhancements were available in Salesforce Classic before this release. Some enhancements are new to Salesforce1, some are new to Lightning Experience, and some are new to both experiences.

### EDITIONS

Available in: **Enterprise**, **Performance**, **Unlimited**, and **Developer** Editions

### IN THIS SECTION:

#### [Review Pending Approval Requests from Lightning Experience](#)

Gone are the days when approvers had to dig through notifications or try to remember with which record an approval request was associated. With the new Items to Approve component in the Lightning App Builder and the Approval Requests navigation bar item, approvers using Lightning Experience can review their pending approval requests in one place. This change applies to Lightning Experience only.

#### [Don't Worry About That Submit Button Anymore!](#)

Raise your hand if you've ever activated an approval process and forgotten to add the Submit for Approval button to the object's page layout. Happens to everyone. So we decided to remove that step and automatically add the button to all the associated page layouts when you activate an approval process. This change applies to both Lightning Experience and Salesforce Classic.

#### [Select Next Approver from Lightning Experience and Salesforce1](#)

If you have approval processes that require a user to select the next approver, they're now supported in Lightning Experience and Salesforce1. Previously, only Salesforce Classic let users select the next approver manually. This change applies to Lightning Experience and all versions of the Salesforce1 mobile app.

[“Make Sure Records that Are Submitted Behind the Scenes Are Routed to the Right Approval Process” Critical Update Postponed](#)

This critical update, released in Summer '16, was scheduled for auto-activation in Winter '17, but has been postponed to Spring '18.

SEE ALSO:

[Business Processes Use Name Field to Evaluate Person Accounts](#)

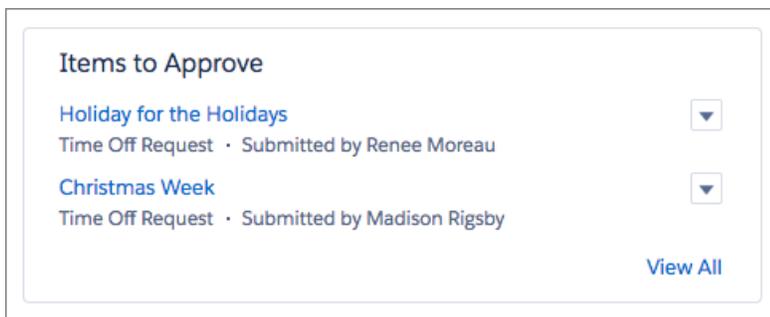
[Approvals Evaluate Person Accounts](#)

## Review Pending Approval Requests from Lightning Experience

Gone are the days when approvers had to dig through notifications or try to remember with which record an approval request was associated. With the new Items to Approve component in the Lightning App Builder and the Approval Requests navigation bar item, approvers using Lightning Experience can review their pending approval requests in one place. This change applies to Lightning Experience only.

Previously, approvers had to look at their notifications and hope they hadn't received 20 new ones since receiving the approval request. Or they had to switch to Salesforce Classic or use Salesforce1.

Edit the appropriate home pages in Lightning App Builder to add the Items to Approve component.



Previously, the Approval Requests navigation bar item was available only in Salesforce1. Now it's also available in Lightning Experience. Edit the appropriate Lightning apps to add the Approval Requests item to the app navigation bar.

| RELATED TO                                 | TYPE                | MOST RECENT AP...              | DATE SUBMITTED ↓  |
|--|---------------------|--------------------------------|-------------------|
| 1 <a href="#">Holiday for the Holidays</a> | Time_Off_Request__c | <a href="#">Renee Moreau</a>   | 12/8/2016 3:06 PM |
| 2 <a href="#">Christmas Week</a>           | Time_Off_Request__c | <a href="#">Madison Rigsby</a> | 12/8/2016 3:05 PM |

SEE ALSO:

[Idea Exchange: Items To Approve on Lightning Experience Homepage](#)

## Don't Worry About That Submit Button Anymore!

Raise your hand if you've ever activated an approval process and forgotten to add the Submit for Approval button to the object's page layout. Happens to everyone. So we decided to remove that step and automatically add the button to all the associated page layouts when you activate an approval process. This change applies to both Lightning Experience and Salesforce Classic.

When you create an approval process, look for this setting: **Add the Submit for Approval button and Approval History related list to all *Object* page layouts**. Previously, the setting added only the Approval History related list to the object's page layouts, and it was disabled by default. It now includes the Submit for Approval button and is enabled by default.

This setting is available only when you create an approval process. When the setting is enabled, Salesforce adds the Submit for Approval button to the Standard Buttons section of that object's page layouts.

SEE ALSO:

[Salesforce Help: Page Layout Settings](#)

## Select Next Approver from Lightning Experience and Salesforce1

If you have approval processes that require a user to select the next approver, they're now supported in Lightning Experience and Salesforce1. Previously, only Salesforce Classic let users select the next approver manually. This change applies to Lightning Experience and all versions of the Salesforce1 mobile app.

## "Make Sure Records that Are Submitted Behind the Scenes Are Routed to the Right Approval Process" Critical Update Postponed

This critical update, released in Summer '16, was scheduled for auto-activation in Winter '17, but has been postponed to Spring '18.

SEE ALSO:

[Summer '16 Release Notes: Make Sure Records That Are Submitted Behind the Scenes Are Routed to the Right Approval Process \(Critical Update\)](#)

[Critical Updates: LockerService Changes, CSRF Protection for Visualforce Pages, and Masking Decoupled from Shield Platform Encryption](#)

## Visual Workflow: Have More Control over Your Screens

Make your flows look and feel like Lightning Experience with Lightning runtime and the Flow component for Lightning App Builder. Dynamically control whether to show or hide screen fields with field rules. These changes apply to both Lightning Experience and Salesforce Classic.

IN THIS SECTION:

[Run Flows with a Lightning Skin \(Generally Available\)](#)

Have you ever wanted your flows to look better? So have we. When you enable this feature, all your URL-based flows render using the Lightning runtime instead of the Classic runtime. The new skin fits in with the rest of Lightning Experience, but it's also available in Salesforce Classic.

### EDITIONS

Available in: **Enterprise**, **Performance**, **Unlimited**, and **Developer** Editions

### [Embed Your Flows in Lightning Pages \(Beta\)](#)

We're rolling out a Flow component for the Lightning App Builder. You can now add flows to any Lightning Page—App pages, Record pages, and Home pages alike. All Lightning Pages are available in Lightning Experience. App pages are available in all versions of the Salesforce1 mobile app.

### [Now You See Me, Now You Don't: Dynamically Update Flow Screen Fields \(Pilot\)](#)

The fewer times your users have to click **Next**, the better. If you agree, keep reading! Use field rules to control when to show or hide particular screen fields. Turn your flows into guided UIs that respond to users' inputs and selections. Save your users time by showing only what they need when they need it. This feature is available in Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app. However, it takes effect only for flows that use Lightning runtime.

### [Customize the Look and Feel of Flow Interviews with the REST API \(Pilot\)](#)

We're continuing to pilot REST API resources that give you full access to flows and their interviews. Use the REST API to build your own flow runtime experience.

### [More Context for Flow Errors](#)

Some of the messages you see when a flow fails are error codes that are generated by the API, Apex, or another service. To help you make sense of these error codes, we cleaned up some common messages and added links to relevant documentation. This change applies to both Lightning Experience and Salesforce Classic.

### [Enforce Field-Level Security for All Flow Operations](#)

For most operations, a flow is only as powerful as the user who's running it. So if the user doesn't have edit access to one of the fields, the flow fails, and you receive an email with details about why it failed. For Fast Create and Fast Update elements, you choose whether to enforce field-level security or ignore inaccessible fields. This change applies to both Lightning Experience and Salesforce Classic.

### ["Trust Percent Values in Flow sObject Variables Again" Critical Update Activates in Spring '17](#)

This critical update, released in Summer '16, was scheduled for auto-activation in Winter '17, but was postponed to Spring '17.

### [Display Flow Screens in Two Columns \(Generally Available\)](#)

When you build flows that collect lots of information, their screens can render as a never-ending skinny column of fields. Break up the layout of those screens by rendering specific flows in two columns. This feature is available in Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app. However, it takes effect only for flows that use Lightning runtime.

#### SEE ALSO:

[Business Processes Use Name Field to Evaluate Person Accounts](#)

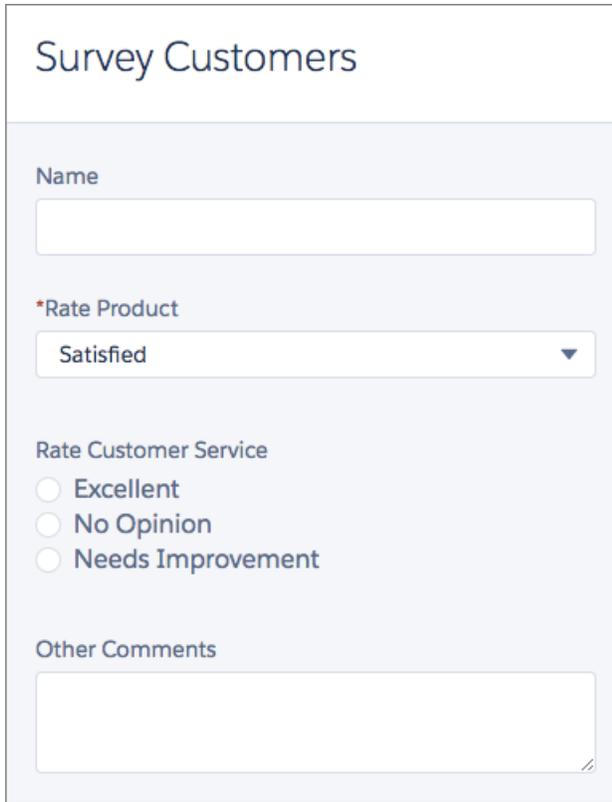
## Run Flows with a Lightning Skin (Generally Available)

Have you ever wanted your flows to look better? So have we. When you enable this feature, all your URL-based flows render using the Lightning runtime instead of the Classic runtime. The new skin fits in with the rest of Lightning Experience, but it's also available in Salesforce Classic.

Since the beta version of Lightning runtime, we made minor improvements to the look and feel.

From Process Automation Settings, select the option to enable Lightning runtime. And voilà! Your flows use Lightning runtime when someone runs them from:

- A direct link
- A custom button
- Setup: the flow list page, flow detail page, and the Cloud Flow Designer



SEE ALSO:

[Idea Exchange: Screen Layout in Visual Workflow / Flow Should Not Suck](#)

## Embed Your Flows in Lightning Pages (Beta)

We're rolling out a Flow component for the Lightning App Builder. You can now add flows to any Lightning Page—App pages, Record pages, and Home pages alike. All Lightning Pages are available in Lightning Experience. App pages are available in all versions of the Salesforce1 mobile app.

 **Note:** This release contains a beta version of the Flow component for Lightning Pages, which means it's a high-quality feature with known limitations. The Flow component isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features. You can provide feedback and suggestions for the Flow component for Lightning Pages in the [IdeaExchange](#).

Add the Flow component to your Lightning Pages just like you would any other component.

Your flow might need the ID of the record that it's operating on, but don't worry! When you configure the Flow component for a Record page, you can identify to which Text variable to pass the record ID.

 **Example:** Here's how a flow called Survey Customers appears when embedded in a Record page in Lightning Experience.

The screenshot shows a Salesforce Visual Workflow interface for a contact named 'Acme'. The main content area contains a survey titled 'Survey Customers' with the following text: 'Hello. My name is [Your First Name] from Acme Wireless Customer Relations. According to our records, you are currently a Preferred Repair customer. We are very interested in hearing about your experience with this service. Do you have time to answer a few short questions?'. Below the text are two radio buttons for 'Customer Response': 'Yes' and 'No'. A 'Next' button is at the bottom of the survey. At the very bottom of the screen, there is a section for 'Learn More Using Twitter' with a 'Sign in with Twitter' button.

The right sidebar contains a 'New Task' button and a 'New Event' button. Below these is a 'Log a Call' button and an 'Email' button. There is a 'Subject' input field. A 'Show:' dropdown menu is set to 'All Activities'. Below this are sections for 'Next Steps' and 'Past Activity', both containing placeholder text: 'No next steps. To get things moving, add a task or set up a meeting.' and 'No past activity. Past meetings and tasks marked as done show up here.'

## Changes Since Last Release

We changed how you pass the record ID from a Record page into a flow. Previously, you configured a variable with a specific name. Now you can pass the record ID to any Text variable, no matter what your naming convention is. To do so, select the checkbox under the appropriate Text variable.

The screenshot shows a configuration screen for a flow component. It has two sections. The first section is for 'accountId' and has an empty text input field and an unchecked checkbox labeled 'Pass record ID into this variable'. The second section is for 'opportunityId' and has a text input field containing the placeholder text '{!Record.Id}' and a checked checkbox labeled 'Pass record ID into this variable'.

If you created a Text input variable called `recordId` for the flow component during Winter '17, the checkbox is automatically selected when your org upgrades to Spring '17. This default selection happens only when your org upgrades to Spring '17. If you create a Text variable called `recordId` in Spring '17 or later, the checkbox is not selected by default.

## Now You See Me, Now You Don't: Dynamically Update Flow Screen Fields (Pilot)

The fewer times your users have to click **Next**, the better. If you agree, keep reading! Use field rules to control when to show or hide particular screen fields. Turn your flows into guided UIs that respond to users' inputs and selections. Save your users time by showing only what they need when they need it. This feature is available in Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app. However, it takes effect only for flows that use Lightning runtime.

Each field rule consists of conditions (1) and field settings (2). The conditions specify when to execute the rule. The field settings let you control whether the field is visible, hidden, required, or optional.

### Field Rule ✕

Control settings for selected fields on this screen. Enter a unique name to help you distinguish this rule from other field rules for this screen.

Name \*

▼ Conditions

|          | Resource  | Operator     | Value   |   |
|----------|---|--------------|---|---|
| <b>1</b> | <input type="text" value="{!Call_Me}"/>   | was selected | <input type="text" value="{!\$GlobalConstant.True}"/> | ✕ |
| OR       | <input type="text" value="{!Text_Me}"/>   | was selected | <input type="text" value="{!\$GlobalConstant.True}"/> | ✕ |
|          | <input type="button" value="Add Condition"/>   <input type="text" value="One condition must be true (OR)"/> |              |   |   |

▼ Field Settings

Control what happens to selected fields when the conditions are met.

|          | Field                                    | Setting | Value                            |  |
|----------|--|---------|----------------------------------|--|
| <b>2</b> | <input type="text" value="{!Phone}"/>    | Visible | <input type="text" value="Yes"/> |  |
|          | <input type="button" value="Add Field"/> |         |                                  |  |

 **Example:** You want to ask your users how they prefer to be contacted. Reveal the Phone Number textbox only if they prefer calls or texts, and reveal the Email Address textbox only if they prefer emails.

**Contact Preference**

Call Me  
 Text Me  
 Email Me

**Phone Number**

SEE ALSO:

[Run Flows with a Lightning Skin \(Generally Available\)](#)

[Salesforce Help: Flow Runtime Experiences \(can be outdated or unavailable during release preview\)](#)

## Customize the Look and Feel of Flow Interviews with the REST API (Pilot)

We're continuing to pilot REST API resources that give you full access to flows and their interviews. Use the REST API to build your own flow runtime experience.

**Note:** We provide Flow Runtime REST API to selected customers through a pilot program that requires agreement to specific terms and conditions. To be nominated to participate in the program, contact Salesforce. Pilot programs are subject to change, and we can't guarantee acceptance. Flow Runtime REST API isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features. You can provide feedback and suggestions for Flow Runtime REST API in the [IdeaExchange](#).

If you're an existing pilot customer, nothing has changed since the last release.

Here are some of the things that you can do with this API.

- Apply your company's branding
- Create two-column layouts
- Create choice buttons, instead of requiring users to select a choice and click **Next**
- Update screens dynamically based on the user's response

**Example:** In this screen, the text box changes based on the answer in the first field. If you select **Yes, by email**, the text box prompts you for your email address. If you select **Yes, by text**, the text box prompts you for your phone number instead.

## Changes Since Winter '17

The `availableActions []` subtype returns a list of key-value pairs. Previously, it returned a list of values.

```
"availableActions": [
  {
    "id": "FINISH",
    "label": "Finish"
  },
  {
    "id": "PAUSE",
    "label": "Pause"
  }
]
```

SEE ALSO:

[New Resources: Flows and Flow Interviews \(Pilot\)](#)

## More Context for Flow Errors

Some of the messages you see when a flow fails are error codes that are generated by the API, Apex, or another service. To help you make sense of these error codes, we cleaned up some common messages and added links to relevant documentation. This change applies to both Lightning Experience and Salesforce Classic.



**Example:** Let's say your flow tries to create an opportunity without a value for `Close Date`, which is a required field. Compare the error messages.

### Winter '17

```
INSERT --- INSERT FAILED --- ERRORS : (REQUIRED_FIELD_MISSING) Required fields are
missing: [CloseDate]
```

### Spring '17

```
This error occurred when the flow tried to create records: REQUIRED_FIELD_MISSING:
Required fields are
missing: [CloseDate]. For details, see API Exceptions.
```

## Enforce Field-Level Security for All Flow Operations

For most operations, a flow is only as powerful as the user who's running it. So if the user doesn't have edit access to one of the fields, the flow fails, and you receive an email with details about why it failed. For Fast Create and Fast Update elements, you choose whether to enforce field-level security or ignore inaccessible fields. This change applies to both Lightning Experience and Salesforce Classic.

To control the behavior, toggle the `Filter Inaccessible Fields from Flow Requests` preference on the Process Automation Settings page in Setup. If your org was created in Winter '17 or earlier, the preference is enabled by default; otherwise, the preference is disabled by default.



**Warning:** If you change your org's selection for this preference, use a sandbox to test how the change impacts your flows. Consider following the same process as you would for a critical update.

|  | <b>When <code>Filter Inaccessible Fields from Flow Requests</code> is</b>   |  |
|--|---|--|
|  | <b>Selected</b>   | <b>Not Selected (Recommended)</b>  |
| <b>Result when the running user doesn't have edit access to all fields</b> | The operation partially succeeds. The flow filters read-only fields out of the operation. The fields that the user can edit are updated. The fields that the user can't edit aren't updated. The flow doesn't execute the fault path. | The operation fails. No fields in the operation are updated. The flow executes the fault path if there is one. |
| <b>Notification when one or more fields aren't updated</b>                 | No notification is sent to the user or admin to indicate that some fields weren't updated.  | The admin receives a flow error email with full details.   |
| <b>Compared to Record Create and Record Update elements</b>                | Inconsistent  | Consistent   |

 **Example:** Using a Fast Update element, a flow updates several fields on an opportunity. At runtime, the flow tries to update the Acme account on behalf of your user. The user can edit `Stage` and `Close Date` but not `Amount`. As a result, the flow doesn't have permission to update `Amount`.

- If `Filter Inaccessible Fields from Flow Requests` is selected, the flow successfully updates the account, but it only updates `Stage` and `Close Date`. The flow doesn't notify anybody that `Amount` wasn't updated.
- If `Filter Inaccessible Fields from Flow Requests` is not selected, the flow fails to update the account. The admin receives a flow error email. The email includes this error.

`INVALID_FIELD_FOR_INSERT_UPDATE: Unable to create/update fields: Amount`

That's API-speak for "The running user doesn't have permission to edit the Amount field."

## "Trust Percent Values in Flow sObject Variables Again" Critical Update Activates in Spring '17

This critical update, released in Summer '16, was scheduled for auto-activation in Winter '17, but was postponed to Spring '17.

SEE ALSO:

[Critical Updates: LockerService Changes, CSRF Protection for Visualforce Pages, and Masking Decoupled from Shield Platform Encryption](#)

[Summer '16 Release Notes: Trust Percent Values in Flow sObject Variables Again \(Critical Update\)](#)

## Display Flow Screens in Two Columns (Generally Available)

When you build flows that collect lots of information, their screens can render as a never-ending skinny column of fields. Break up the layout of those screens by rendering specific flows in two columns. This feature is available in Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app. However, it takes effect only for flows that use Lightning runtime.

Nothing has changed since the beta version of the two-column layout.

When you distribute a flow via a URL (such as with a custom button) or a Lightning Page, you can decide whether to display a flow in two columns. The layout takes effect on URL-based flows only if you've enabled Lightning runtime in your org's Process Automation Settings.

SEE ALSO:

[Run Flows with a Lightning Skin \(Generally Available\)](#)

[Salesforce Help: Considerations for Two-Column Flows \(can be outdated or unavailable during release preview\)](#)

## Process Builder: Lightning Icons and Encrypted Data

We streamlined the icons in Process Builder to match the rest of Lightning Experience. This change is available in both Lightning Experience and Salesforce Classic.

IN THIS SECTION:

[Process Builder Has Updated Icons](#)

The next time you open Process Builder, check out our new icons. We swapped out the old ones for Salesforce Lightning Design System icons, so now we match the rest of Lightning Experience. This change applies to both Lightning Experience and Salesforce Classic.

SEE ALSO:

[Business Processes Use Name Field to Evaluate Person Accounts](#)

## Process Builder Has Updated Icons

The next time you open Process Builder, check out our new icons. We swapped out the old ones for Salesforce Lightning Design System icons, so now we match the rest of Lightning Experience. This change applies to both Lightning Experience and Salesforce Classic.

### EDITIONS

Available in: **Professional, Enterprise, Performance, Unlimited, and Developer Editions**

 Example:

| Winter '17  | Spring '17   |
|---|--|
|  |  |
|  |  |

## Picklist Administration: Improved Global Picklists, Decoupled Labels and Identifiers, and New API Items

Picklists are getting more versatile. Easily convert from unrestricted to restricted picklists, and update your picklist labels without changing any code referring to them. If you like coding, now you can use the Tooling API in addition to the Metadata API with both standard and global value sets.

EDITIONS

Available in all editions

### IN THIS SECTION:

#### [Global Picklist Fields Now Have Their Own Record Type](#)

All global picklist fields that use the same global value set now have individual record types. This change gives you more flexibility than having only one record type for all fields.

#### [Add Global Picklist Fields to All Record Types](#)

You can now automatically add a value in a global value set to all record types using that value set. The default is still to not automatically add the value to record types using the value set.

#### [Value Labels Are No Longer Tied to API Names](#)

Each picklist value has a display label and an API name. Now you can change the label without the API name changing. You can also edit the API name. However, you can disable the ability to change API names.

#### [Access Picklists with the Tooling API](#)

Standard and global value sets are now available in the Tooling API and Metadata API. Choose the API that best suits your needs.

#### [Task and Event Subject Fields Are Not Available as Inactive Values in Unrestricted Custom Picklists](#)

You can't deactivate unrestricted picklist values for the Task.Subject or Event.Subject fields. The picklist values are deleted instead of deactivated.

## Global Picklist Fields Now Have Their Own Record Type

All global picklist fields that use the same global value set now have individual record types. This change gives you more flexibility than having only one record type for all fields.

## Add Global Picklist Fields to All Record Types

You can now automatically add a value in a global value set to all record types using that value set. The default is still to not automatically add the value to record types using the value set.

To have the new value appear in all records, select **Add the new picklist values to all Record Types that use this Global Value Set** when you add the value.

## Value Labels Are No Longer Tied to API Names

Each picklist value has a display label and an API name. Now you can change the label without the API name changing. You can also edit the API name. However, you can disable the ability to change API names.

The label is displayed in a picklist field on a record, and the API name is used everywhere else. For example, data import and export and Apex code use the API name.

You can prevent users from changing a picklist value's API name. From Setup in Salesforce Classic, enter *Picklist Settings* in the *Quick Find* box, and then select **Disable editing picklist values' API names**. You can only access *Picklist Settings* from Salesforce Classic.

## Access Picklists with the Tooling API

Standard and global value sets are now available in the Tooling API and Metadata API. Choose the API that best suits your needs.

The new Tooling API items are:

- `StandardValueSet`—Represents the set of values in a standard picklist field.
- `GlobalValueSet`—Represents the definition of a value used in a global value set or local custom picklist.

For type and field descriptions and sample definitions, see the *Force.com Tooling API Developer's Guide*.

## Task and Event Subject Fields Are Not Available as Inactive Values in Unrestricted Custom Picklists

You can't deactivate unrestricted picklist values for the Task.Subject or Event.Subject fields. The picklist values are deleted instead of deactivated.

## AppExchange: Streamlined Listings and Integrated Experience Reviews

Find the best app, Lightning component, or consulting service in less time with streamlined AppExchange listings. After you try a product or service, write a review directly from your Salesforce org.

### IN THIS SECTION:

#### [Get More Information with Streamlined AppExchange Listings](#)

We simplified AppExchange listings so that you can view key product details with fewer clicks. On listings that include a package, you see more about what the package contains, such as the number of components that can be used in Lightning App Builder. This change applies to both Lightning Experience and Salesforce Classic.

#### [Review AppExchange Offerings in Salesforce](#)

You can now share feedback on apps, Lightning components, and consulting services from the integrated AppExchange experience. Previously, if you wanted to write or interact with reviews, we directed you to the AppExchange website. This change applies to both Lightning Experience and Salesforce Classic.

## Get More Information with Streamlined AppExchange Listings

We simplified AppExchange listings so that you can view key product details with fewer clicks. On listings that include a package, you see more about what the package contains, such as the number of components that can be used in Lightning App Builder. This change applies to both Lightning Experience and Salesforce Classic.

The highlights, description, and media for a product or service now appear on the Details tab (1) instead of the Overview tab, which was retired. By consolidating high-level information with product or service details, you get a complete view of an offering and spend less time navigating between tabs.

### EDITIONS

Available in: **Group, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

The screenshot displays the AppExchange listing for 'Agile Accelerator' by Salesforce Labs. The interface includes a search bar at the top, a navigation menu on the left with 'DETAILS' highlighted (1), and a main content area. The 'Highlights' section contains three bullet points. The 'Contact Information' section includes a URL. The 'Technical Details' section lists package name, version, type, release dates, support, and languages. The 'Supported Features' section includes a 'No Limits' checkbox and two sections: 'Package Contents' (2) and 'Lightning Components' (3). The 'Package Contents' section shows: Objects: 91, Apps: 1, Tabs: 23. The 'Lightning Components' section shows: Global: 0, App Builder: 0, Community Builder: 0. A 'Get It Now' button is located at the bottom right.

App and Lightning component listings also give you more information about the associated packages. Package Contents (2) shows the number of custom apps, tabs, and components in the package. For unmanaged packages, this information helps you understand how the offering affects your org's app, tab, and component limits. Lightning Components (3) shows the number of global Lightning components in the package, along with compatible Salesforce features. If you're building a community or custom app, you can quickly verify whether the offering has components that you can reuse in your project.

### SEE ALSO:

[Lightning Experience: A Modern and Intelligent User Experience](#)

## Review AppExchange Offerings in Salesforce

You can now share feedback on apps, Lightning components, and consulting services from the integrated AppExchange experience. Previously, if you wanted to write or interact with reviews, we directed you to the AppExchange website. This change applies to both Lightning Experience and Salesforce Classic.

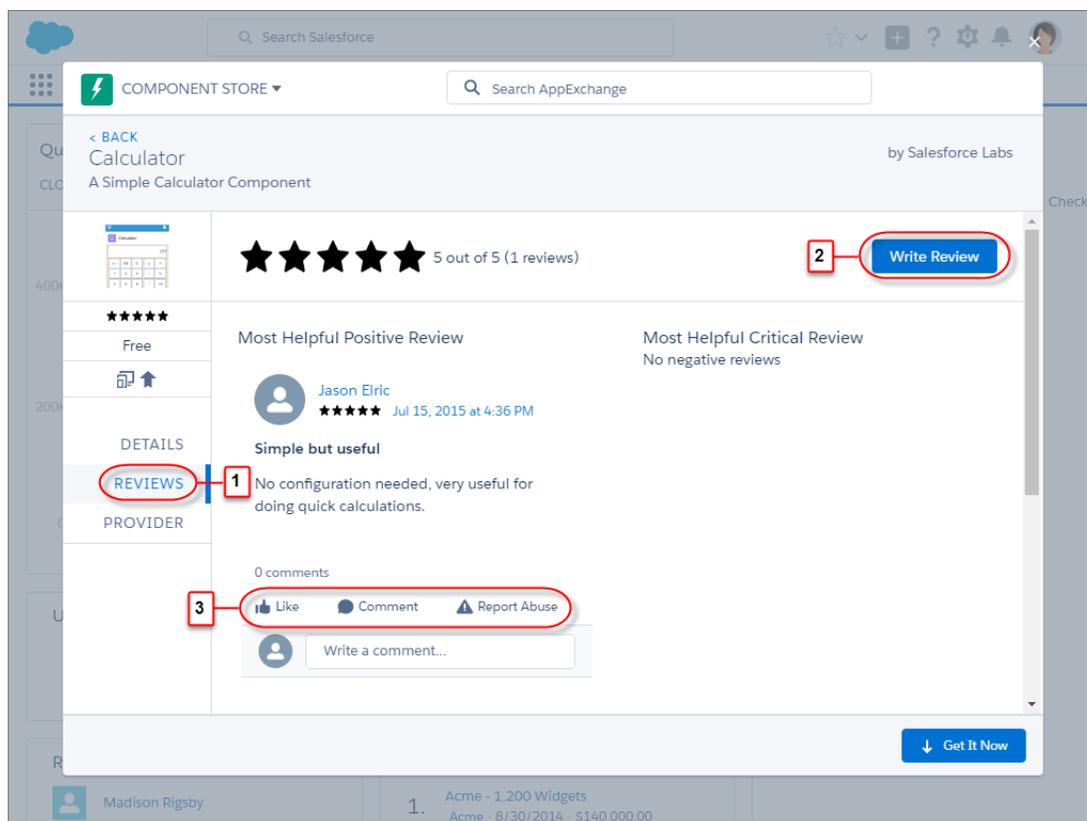
 **Note:** To access the integrated experience, you must have the “Download AppExchange Packages” permission.

To review an app, Lightning component, or consulting service, go to its listing in the integrated experience. Then click the **Reviews** tab (1). From here, you can:

- Write a new review or edit an existing one (2).
- Interact with reviews posted by Salesforce community members (3). For example, if you want to like a review or add a comment.

### EDITIONS

Available in: **Group, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions



To write or interact with a review, you log in to your AppExchange account. If you don't have an AppExchange account, log in with your Salesforce credentials to set up an account.

SEE ALSO:

[Lightning Experience: A Modern and Intelligent User Experience](#)

## General Setup: More Details in Object Manager, Standard Permission Sets

With the Object Manager, easily see how your org is using your Lightning record pages. When you purchase the Sales Console permission set license, don't worry about manually creating a permission set to match. With standard permission sets, you can move straight to assigning the permission set to users. And Lightning for Outlook and Lightning for Gmail (Beta) are available for users with Force.com licenses.

### IN THIS SECTION:

#### [See Your Lightning Record Page Assignments at a Glance](#)

We gave the Lightning Record Pages related list in the Object Manager a makeover. Now you can easily see whether your custom Lightning record pages are assigned as org or app defaults or assigned to apps, record types, and profiles. We added a View Page Assignments button to the related list to get more details about which custom Lightning pages are assigned to specific apps, record types, and profiles.

#### [Lightning for Outlook and Lightning for Gmail \(Beta\) Welcome Force.com Users](#)

Lightning for Outlook and Lightning for Gmail (Beta) are available to users with Force.com licenses.

#### [Standard Permission Sets Make Your Life Easier](#)

A standard permission set is now available for the Sales Console in Salesforce Classic. Standard permission sets save you time when working with permission set licenses. When you purchase the Sales Console permission set license, you can immediately assign the permission set to users.

#### [Get More Control Over Customizing Actions for Contracts and Orders](#)

Global actions are available for the Contract and Order objects, so you have more options when customizing actions for these objects.

#### [Eliminating JavaScript from Functions Increases Security](#)

A URL for the HYPERLINK function can no longer contain JavaScript. This increases security for your org. Using JavaScript is still permitted in packages, sandbox copies, and change sets.

#### [Setup Gets Its Own Tab in Lightning Experience](#)

We get it. You want to change your org settings, but don't want to lose the page that you're working on. The Setup menu has you covered. Click , select **Setup**, and a new browser tab opens to Setup. After you make your changes, return to your other tab, click the refresh button, and slip back into your work flow. The same action works when you select the Edit Object option from object home and record pages.

#### [Navigate to Custom Tabs More Easily with Friendly Tab URLs](#)

Custom tabs now have a more friendly URL structure that makes getting to them much easier. This feature is new in Lightning Experience.

## See Your Lightning Record Page Assignments at a Glance

We gave the Lightning Record Pages related list in the Object Manager a makeover. Now you can easily see whether your custom Lightning record pages are assigned as org or app defaults or assigned to apps, record types, and profiles. We added a View Page Assignments button to the related list to get more details about which custom Lightning pages are assigned to specific apps, record types, and profiles.

We also removed the Default and Assignments by App columns and replaced them with three new columns.

- Org Default—Indicates whether a page is assigned as the default record page for an object throughout the org.
- App Default—Shows how many Lightning apps the page is assigned to as the app default record page.
- Other Assignments—Shows how many other assignments use that page, whether by app, profile, or record type.

## Lightning for Outlook and Lightning for Gmail (Beta) Welcome Force.com Users

Lightning for Outlook and Lightning for Gmail (Beta) are available to users with Force.com licenses.

### Standard Permission Sets Make Your Life Easier

A standard permission set is now available for the Sales Console in Salesforce Classic. Standard permission sets save you time when working with permission set licenses. When you purchase the Sales Console permission set license, you can immediately assign the permission set to users.

For example, let's say you purchase five Sales Console for Salesforce Classic permission set licenses. If you go to Setup and look at your permission sets, you see one named Salesforce Console User. You can assign this permission set to users who need to access permissions associated with the Sales Console User permission set license.

You can also clone the Salesforce Console User permission set and assign users to that instead. For example, you can clone the standard permission set and call it "Sales Console Ops Users," and clone another one named "Sales Console Reps." (You can't edit a standard permission set.)

To see which permission sets are standard, add `Is Custom` to your list view. The `Is Custom` box isn't checked if it's a standard permission set. Permission sets you manually create or clone are indicated with a checkmark.

#### EDITIONS

Available in: Salesforce Classic and Lightning Experience

Available in: **Contact Manager, Professional, Group, Enterprise, Performance, Unlimited, Developer, and Database.com** Editions

### Permission Sets

On this page you can create, view, and manage permission sets.

In addition, you can use the SalesforceA mobile app to assign permission sets to a user. Download SalesforceA from the App Store or Google Play: [iOS](#) | [Android](#)

Standard Perm Sets (IsCustor ▾) Edit | Delete | Create New View

| Action      | Permission Set Label          | Is Custom                           |
|-------------|-------------------------------|-------------------------------------|
| Del   Clone | Finance Users                 | <input checked="" type="checkbox"/> |
| Del   Clone | IdentityConnect               | <input checked="" type="checkbox"/> |
| Del   Clone | Salesforce_Console_Sales_Reps | <input checked="" type="checkbox"/> |
| Clone       | Salesforce_Console_User       | <input type="checkbox"/>            |

1-4 of 4 | 0 Selected | << Previous Next >> | Page 1 of 1

## Get More Control Over Customizing Actions for Contracts and Orders

Global actions are available for the Contract and Order objects, so you have more options when customizing actions for these objects.

SEE ALSO:

[Global Actions Added for Contracts and Orders](#)

## Eliminating JavaScript from Functions Increases Security

A URL for the HYPERLINK function can no longer contain JavaScript. This increases security for your org. Using JavaScript is still permitted in packages, sandbox copies, and change sets.

While no new HYPERLINK formula fields containing `javascript` can be created, existing formula fields containing JavaScript hyperlink still work.

## Setup Gets Its Own Tab in Lightning Experience

We get it. You want to change your org settings, but don't want to lose the page that you're working on. The Setup menu has you covered. Click , select **Setup**, and a new browser tab opens to Setup. After you make your changes, return to your other tab, click the refresh button, and slip back into your work flow. The same action works when you select the Edit Object option from object home and record pages.

## Navigate to Custom Tabs More Easily with Friendly Tab URLs

Custom tabs now have a more friendly URL structure that makes getting to them much easier. This feature is new in Lightning Experience.

The new URL structure, `/one/one.app#/n/customTabDevName`, applies to Lightning page tabs, Visualforce tabs, and Lightning component tabs.

## Security and Identity: Easier Health Check, Chatter Encryption, OAuth for Connected Apps

Security Health Check offers custom baselines to streamline the job of setting up security for your users and customers. You can encrypt Chatter posts and attachments, and protect Internet of Things devices with OAuth 2.0.

IN THIS SECTION:

[Authentication and Identity: Enhanced Verification Requirements, More OAuth Options, Connected Apps Enhancements](#)

We've added the ability to manage security policies for all the OAuth connected apps that users in your org are running. We've introduced additional verification requirements for users and admins, and new OAuth flows that provide identity for connected devices in the Internet of Things. Also, for those implementing their own authentication provider, we've extended the plug-in to support customized error handling and refresh tokens.

[Health Check: Import Custom Baselines and Assign New Permissions](#)

We've introduced new permissions for Health Check, as well as the ability to import custom baselines into the tool.

### EDITIONS

Contracts are available in **Performance** and **Developer** Editions and in **Professional, Enterprise,** and **Unlimited** Editions with the Sales Cloud

Orders are available in: **Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

### EDITIONS

Lightning page tabs are available in: **Group, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

Visualforce tabs and Lightning component tabs are available in: **Contact Manager, Group, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

[Salesforce Shield: More Event Log Data, Dedicated Encryption Keys](#)

Salesforce Shield now provides more Lightning Experience event log data to help you keep better track of how your users are doing. You can use formulas based on encrypted fields, and your search index files can have their own separate encryption keys.

[Other Security Changes: Browser Security and New Session Settings](#)

We've made more changes that impact security, including improvements to browser security and protection against cross-site scripting and malicious files.

## Authentication and Identity: Enhanced Verification Requirements, More OAuth Options, Connected Apps Enhancements

We've added the ability to manage security policies for all the OAuth connected apps that users in your org are running. We've introduced additional verification requirements for users and admins, and new OAuth flows that provide identity for connected devices in the Internet of Things. Also, for those implementing their own authentication provider, we've extended the plug-in to support customized error handling and refresh tokens.

### IN THIS SECTION:

[Manage the Once Unmanageable OAuth Connected Apps](#)

Flex your muscles, admins. You can now control security policies for all those OAuth connected apps that you couldn't before. Previously, when a developer created a connected app in another Salesforce org but didn't package it, users in your org could use it, but you couldn't manage it. Say, what? That's right. If you don't install a connected app in your local org, you can't set its security policies. With this release, we've added the ability to install OAuth connected apps locally so that you can manage their policies in your org. This feature is new in both Lightning Experience and Salesforce Classic.

[Identity Verification Required for Two-Factor Authentication](#)

Identity verification is now required when users attempt to add two-factor authentication methods. For even stronger security in case account credentials are stolen, users adding a 2FA method are now prompted for identity verification instead of login with username and password. These changes apply to both Lightning Experience and Salesforce Classic.

[Admins Logging In as Users Can Be Subject to Two-Factor Authentication](#)

An admin can now require an admin or support user logging in as a user with the "Two-Factor Authentication for User Interface Logins" user permission to satisfy the 2FA requirement. Contact Salesforce Support to enable this option. This change applies to both Lightning Experience and Salesforce Classic.

[Lightning Login Enhancements Available with Salesforce Authenticator Version 2.7.0](#)

Winter '17 introduced Lightning Login, a simple, secure password-free option that replaces username and password logins. To make Lightning Logins even easier, we've refined how we enforce two-factor authentication. On mobile devices that are already unlocked with a fingerprint or PIN, tapping **Approve** in Salesforce Authenticator completes the Lightning Login. A fingerprint or PIN is no longer required unless the device is locked or the user has the "Two-Factor Authentication for User Interface Logins" permission. Also, Lightning Login now requires Salesforce Authenticator version 2.7.0 or higher. These changes apply to both Lightning Experience and Salesforce Classic.

[Client Secret Can Be Optional in OAuth Web Server Authentication Flow](#)

If a client application can't securely store the client secret and can't use the user-agent authentication flow, the web server flow is your best option. Previously, the client secret was always required. Now, you can make the `client_secret` parameter optional in the web server flow by configuring the connected app to not require it. This option is best suited for client apps, such as mobile apps, that have these limitations. This feature is new in both Lightning Experience and Salesforce Classic.

### Introducing Identity for the Internet of Things

With the rise of the Internet of Things (IoT), you're no longer simply managing users and apps. You're managing security and identity for connected devices, assets, and the customers behind every connected product. This release introduces new authentication flows and identity management features for IoT devices. *Asset tokens* are authentication tokens that verify and secure requests from connected devices. During asset token issuance, we let you link device data with your Salesforce CRM data and the Asset object in the Service Cloud. The *device authentication flow* lets you authorize applications running on devices with limited input or display capabilities, such as TVs, appliances, or command-line applications. These features are designed for distinct IoT use cases and are easily configured in OAuth-enabled connected apps.

### Customize Your Custom Authentication Provider

Authentication providers give your users the option to log in to your org using other login credentials, like their Facebook or Gmail account. Salesforce includes several authentication providers for social sign-on, including Facebook, Google, LinkedIn, Twitter, and Microsoft Office 365. You can also create your own authentication provider to enable social sign-on from providers that Salesforce doesn't support. This feature was released in Spring '16. In this release, we've added support for custom error handling and refresh tokens. This feature is new in both Lightning Experience and Salesforce Classic.

## Manage the Once Unmanageable OAuth Connected Apps

Flex your muscles, admins. You can now control security policies for all those OAuth connected apps that you couldn't before. Previously, when a developer created a connected app in another Salesforce org but didn't package it, users in your org could use it, but you couldn't manage it. Say, what? That's right. If you don't install a connected app in your local org, you can't set its security policies. With this release, we've added the ability to install OAuth connected apps locally so that you can manage their policies in your org. This feature is new in both Lightning Experience and Salesforce Classic.

Now you can set such security policies as:

- Who can run the connected app
- How long a user's session can be
- Whether IP restrictions are enforced
- Whether a mobile connected app requires a PIN

Check it out. Go to your Connected Apps OAuth Usage page. From Setup, enter *Connected Apps* in the *Quick Find* box and select **Connected Apps OAuth Usage**. The page looks a little different with this release.

### USER PERMISSIONS

To manage, create, edit, and delete OAuth apps:

- "Manage Connected Apps"

**Connected Apps OAuth Usage** Help for this Page

Manage OAuth connected apps in use on this org. To manage policies for connected apps developed outside your org, click **Install**. To prevent apps from running, click **Block**.

1-4 of 4

| Connected App       | Description   | Manage App Policies                 | User Count | Actions   |
|---------------------|---|-------------------------------------|------------|---|
| Identity Connect    |   | <a href="#">Manage App Policies</a> | 1          | <input type="button" value="Block"/>  |
| Marketing Cloud SSO |   | <a href="#">Manage App Policies</a> | 1          | <input type="button" value="Block"/> <input type="button" value="Uninstall"/> |
| Remote App One      | Connected app created on another org. Install on your org to manage OAuth policies.   | <a href="#">Manage App Policies</a> | 1          | <input type="button" value="Block"/> <input type="button" value="Uninstall"/> |
| Remote App Two      | Another connected app from another org. Install on your org to manage OAuth policies. |                                     | 1          | <input type="button" value="Block"/> <input type="button" value="Install"/>   |

The connected apps in your org still have a link to adjust security policies, but we've renamed it to **Manage App Policies**. Clicking the link takes you to the app's detail page. From there, you click **Edit Policies** to modify the app's policies to meet your access and security needs.

But what about the connected apps that don't have a link to the app's detail page? These apps were created by developers in another org. Users can connect to them because OAuth apps are available throughout Salesforce. However, you can't manage their security policies because they're not installed in your org.

Until now. With this release, you can install the apps locally so that you can manage them. Click **Install** next to the app and the Manage App Policies link appears. Click the link to go to the app's detail page, and then click **Edit Policies** to modify the policies to meet your access and security needs.

Connected App  
**Identity Connect**  
Printable View | Help for this Page

← Back to List

**Connected App Detail** **Edit Policies**

Version 1  
Description

---

**System Info**

|                  |                 |                    |                  |
|------------------|-----------------|--------------------|------------------|
| Installed By     | Matt Bahrenburg | Installed Date     | 9/6/2016 6:07 PM |
| Last Modified By | Matt Bahrenburg | Last Modified Date | 9/6/2016 6:07 PM |

---

**Basic Information**

|          |                  |
|----------|------------------|
| Info URL | Start URL        |
|          | Mobile Start URL |

---

**OAuth policies**

|                                     |   |                       |                                      |
|-------------------------------------|---|-----------------------|--------------------------------------|
| Permitted Users                     | All users may self-authorize                | IP Relaxation         | Enforce IP restrictions              |
| Usage                               | <a href="#">View OAuth Usage</a>            | Refresh Token Policy: | Refresh token is valid until revoked |
| This application has permission to: | Perform requests on your behalf at any time |                       |                                      |
| This application has permission to: | Access your basic information               |                       |                                      |
| This application has permission to: | Access and manage your data                 |                       |                                      |

---

**Session Policies**

|               |
|---------------|
| Timeout Value |
|---------------|

---

**Custom Connected App Handler**

|                   |
|-------------------|
| Apex Plugin Class |
| Run As            |

---

**User Provisioning Settings**

Enable User Provisioning

After you've installed the app, the button changes to Uninstall. However, it's recommended that you uninstall an app only when the original developer deletes the app on the other org. Uninstall doesn't remove the connected app. Instead, it removes the OAuth policies that you set for the app in your org. You're actually loosening your security measures. To make the connected app inaccessible to your org's users, click **Block**. Blocking an app ends all current user sessions with the connected app and blocks all new sessions. You can restore access to the app by clicking **Unblock**.

SEE ALSO:

[Salesforce Help: Monitor Usage for an OAuth Connected App](#)

## Identity Verification Required for Two-Factor Authentication

Identity verification is now required when users attempt to add two-factor authentication methods. For even stronger security in case account credentials are stolen, users adding a 2FA method are now prompted for identity verification instead of login with username and password. These changes apply to both Lightning Experience and Salesforce Classic.

Users can verify their identity using any method that they have access to, which varies from user to user.

EDITIONS

Available in all editions

- Salesforce Authenticator
- Verification codes from an authenticator app
- U2F security keys
- Temporary verification codes generated by an admin or user with the “Manage Two-Factor Authentication in User Interface” permission
- One-time passwords sent via email (if no other method is available)

SEE ALSO:

[Changed Objects](#)

## Admins Logging In as Users Can Be Subject to Two-Factor Authentication

An admin can now require an admin or support user logging in as a user with the “Two-Factor Authentication for User Interface Logins” user permission to satisfy the 2FA requirement. Contact Salesforce Support to enable this option. This change applies to both Lightning Experience and Salesforce Classic.

To log in, you can use an authenticator app, a U2F security key, or a temporary identity verification code. If the user hasn’t set up a 2FA method, setup is required before an admin or support user can log in as the user.

### EDITIONS

Available in all editions

### USER PERMISSIONS

To log in as another user:

- “Modify All Data”

## Lightning Login Enhancements Available with Salesforce Authenticator Version 2.7.0

Winter '17 introduced Lightning Login, a simple, secure password-free option that replaces username and password logins. To make Lightning Logins even easier, we’ve refined how we enforce two-factor authentication. On mobile devices that are already unlocked with a fingerprint or PIN, tapping **Approve** in Salesforce Authenticator completes the Lightning Login. A fingerprint or PIN is no longer required unless the device is locked or the user has the “Two-Factor Authentication for User Interface Logins” permission. Also, Lightning Login now requires Salesforce Authenticator version 2.7.0 or higher. These changes apply to both Lightning Experience and Salesforce Classic.

### EDITIONS

Available in all editions

Encourage all your Lightning Login users to upgrade now to the latest version of Salesforce Authenticator so that they can continue logging in password-free. Users can check their current version in the app store on their mobile device. A fingerprint or PIN is still required when users initially set up Lightning Login.

As a reminder, 2FA is built in to Lightning Login, saving you the work of managing a separate, redundant 2FA requirement for Lightning Login users. We encourage you to give users either the “Lightning Login User” permission or the “Two-Factor Authentication for User Interface Logins” permission—not both. Lightning Login and 2FA are assigned these default session security levels:

- Lightning Login—Standard
- Two-Factor Authentication—High Assurance

If your org has kept the defaults, users who have both permissions end up with a High Assurance session requirement. Without the 2FA permission, Lightning Logins result in a Standard session.

## Client Secret Can Be Optional in OAuth Web Server Authentication Flow

If a client application can't securely store the client secret and can't use the user-agent authentication flow, the web server flow is your best option. Previously, the client secret was always required. Now, you can make the `client_secret` parameter optional in the web server flow by configuring the connected app to not require it. This option is best suited for client apps, such as mobile apps, that have these limitations. This feature is new in both Lightning Experience and Salesforce Classic.

The new **Require Secret for Web Server Flow** setting in the connected app definition is selected by default. Deselect it to make `client_secret` optional. If a client app is able to securely store and protect the secret, we recommend that you keep `client_secret` required.

If you deselect **Require Secret for Web Server Flow**, we still create a client secret when the connected app is saved. During the web server flow, if the client request for an access token includes the client secret, Salesforce proceeds to validate it.

 **Important:** The optional client secret is generally available as of February 11, 2017. Before then, it's not available in sandboxes.

SEE ALSO:

[Salesforce Help: Create a Connected App](#)

## Introducing Identity for the Internet of Things

With the rise of the Internet of Things (IoT), you're no longer simply managing users and apps. You're managing security and identity for connected devices, assets, and the customers behind every connected product. This release introduces new authentication flows and identity management features for IoT devices. *Asset tokens* are authentication tokens that verify and secure requests from connected devices. During asset token issuance, we let you link device data with your Salesforce CRM data and the Asset object in the Service Cloud. The *device authentication flow* lets you authorize applications running on devices with limited input or display capabilities, such as TVs, appliances, or command-line applications. These features are designed for distinct IoT use cases and are easily configured in OAuth-enabled connected apps.

The Internet of Things introduces new requirements for the security tokens used to manage connected products.

- Open, self-describing, and contextual—Devices must talk to various backend systems, requiring a token format based on open standards. Tokens must carry metadata that enables both their verification and enable the enrichment of devices' service requests with extra context about the device or customer.
- Long term, high scale—Customers must be able to authorize a device, walk away, and have that device continue to act autonomously on their behalf. These transactions are required for lots of devices, on behalf of lots of customers.
- Delegated, constrained authorization—A device can act on a user's behalf but only in a limited capacity, according to the specific rights that the user granted to the device.
- Spectrum of assurance—Devices have varying capabilities and needs for protection based on their manufacturing cost and use cases they support. Devices require a spectrum of capabilities ranging from self-asserted IDs to certificates that allow proof of possession of private keys and verification of manufacturer.
- Integrated with CRM—Connected products are an extension of a company's brand and customer interactions. Integrating these interactions with the company's CRM platform is essential.

Salesforce Identity has designed asset tokens with the unique requirements of IoT devices in mind.

- Open source JWT-based tokens—Asset tokens are based on the JSON Web Token (JWT) standard as defined in RFC 7519. This format is simple, extensible, and secure. It's easy for humans to work with, while being relatively compact, making it a good fit for devices.

### EDITIONS

Available in all editions

### USER PERMISSIONS

To manage, create, edit, and delete OAuth apps:

- "Manage Connected Apps"

### EDITIONS

Available in all editions

- Automatic integration with Salesforce—Asset tokens include a registration protocol, allowing a device to be linked to the Asset object and custom business processes. Asset token issuance allows dynamic Asset creation, linking to an existing Asset, or even linking to other Salesforce data.
- Extensible—Asset tokens contain standard claims for security purposes, and can also carry custom attributes or permissions. They can carry metadata for a wide variety of use cases and are fully extensible using the Salesforce App Cloud.
- Signatures and Proof-of-Possession—Asset tokens are signed by Salesforce org-specific keys. The tokens are self-describing, allowing for the verification process to be dynamically performed outside of Salesforce. Also, device-specific keys and metadata can be bound into the token to provide assurance against tampering and support advanced use cases, such as proof of possession of a specific device key.

We've designed the device authentication flow specifically for a class of IoT devices that has limited user interface capabilities.

#### IN THIS SECTION:

##### [OAuth 2.0 Asset Token Flow for Securing Connected Devices \(Generally Available\)](#)

Asset tokens are an open-standards-based JWT authentication token for verifying and securing requests from connected devices. They identify the device to a backend service that processes the stream of data and events from the device. They allow registration of device data with the Salesforce platform and linking it to Salesforce CRM data about the customer, account, or contact, helping you to act on behalf of the customer. You can even support custom business processes using asset token events. Asset tokens enable more proactive support and more predictive engagement with your customers, on an unprecedented scale. This feature is new in both Lightning Experience and Salesforce Classic.

##### [OAuth 2.0 Authentication Flow for Applications on Limited Input Devices](#)

OAuth 2.0 is now supported for applications on devices with limited input or display capabilities, such as TVs, appliances, or command-line applications. Configure a connected app with the new device flow setting, and design your device's user interface to prompt users for authorization to access their Salesforce data. This feature is new in both Lightning Experience and Salesforce Classic.

## OAuth 2.0 Asset Token Flow for Securing Connected Devices (Generally Available)

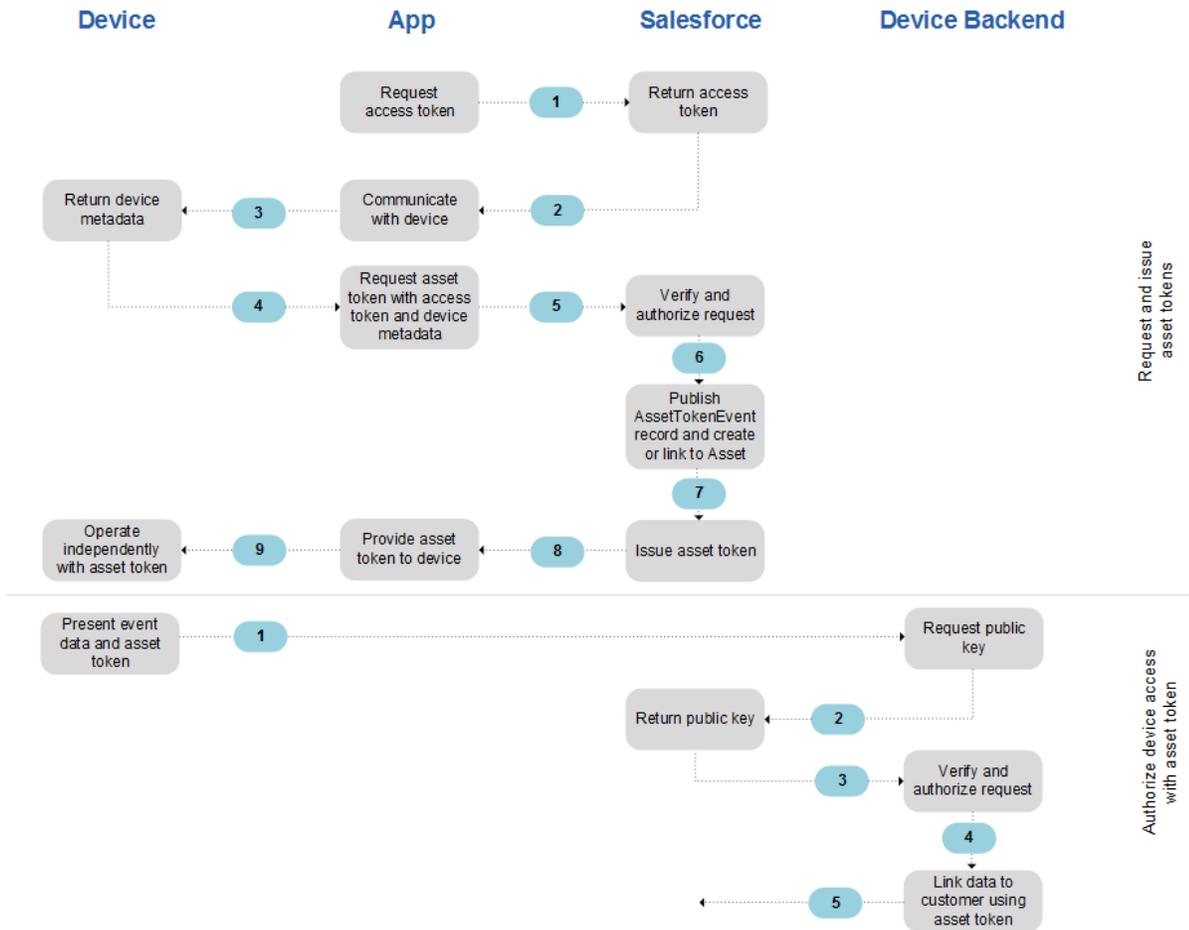
Asset tokens are an open-standards-based JWT authentication token for verifying and securing requests from connected devices. They identify the device to a backend service that processes the stream of data and events from the device. They allow registration of device data with the Salesforce platform and linking it to Salesforce CRM data about the customer, account, or contact, helping you to act on behalf of the customer. You can even support custom business processes using asset token events. Asset tokens enable more proactive support and more predictive engagement with your customers, on an unprecedented scale. This feature is new in both Lightning Experience and Salesforce Classic.

#### EDITIONS

Available in all editions

For example, let's say that your customer purchases a connected device and registers an account with your support community. Your company offers an app, such as a mobile app or a provisioning gateway, that acts as an agent for device registration. The app allows the user to connect to the device, log in to your support community, and register the device. Your community issues an asset token that identifies the device to your backend cloud service. After registration, the device can operate independently of the app, routinely sending data about its state and operations to your backend service. If the backend proactively detects an abnormal behavior or state, indicating an issue or potential issue, it automatically creates a case. The case is associated with the asset, which is tied directly to the customer's contact record and your company's support process. The device can also signal that resources such as ink toner are running low, predicting potential new opportunities to market and sell.

This diagram shows how asset tokens are issued, verified, and used to secure calls to backend services for a connected device. Detailed steps follow.



## Requesting and Issuing Asset Tokens

1. The app that interacts with your device requests an access token for API access. The app can be any application, such as a mobile app or a provisioning gateway, that serves as a bridge between the device and Salesforce.
2. Salesforce returns the access token.
3. The app communicates with your device to request metadata, which can include a name, device ID, serial number, public key, or custom attributes.
4. The device returns the requested metadata.
5. The app sends its access token and device metadata to Salesforce, requesting an asset token.
6. Salesforce verifies the authenticity of the request and the authorization of the app and user.
7. Salesforce publishes an asset token event record and attempts to associate the device with an existing or new asset in the Service Cloud. If you've subscribed to receive platform events in Apex triggers to support custom business processes, they execute.
8. Salesforce returns the asset token to the app.
9. The app has now registered the asset and provides the asset token to the device, which can now operate independently from the app.

## Authorizing Device Access with Asset Tokens

1. The device presents its data or event to your backend service along with the asset token. The backend service provides device functionality such as gathering telemetry data, monitoring device performance, and acting on behalf of the user.
2. Your backend service requests the public key from Salesforce.
3. Salesforce returns the device-specific public key.
4. Your backend service validates the asset token and determines whether the device is authorized for the requested operation.
5. Optionally, your backend service can use the asset token to identify the Salesforce account or contact who owns the device.

## Differences from the Pilot and Limitations

- Asset tokens were previously available through a pilot program. In the pilot, asset token event data was saved in an Asset Token object. This functionality is now provided by the Asset Token Event object, new in API version 39.0.
- Asset tokens still can't be used as bearer tokens.

## Implementation Prerequisites

Before you implement asset tokens:

- My Domain must be enabled.
- Create a self-signed certificate for asset token use, signed with the SHA-256 signature algorithm. Asset tokens are signed with this algorithm using a private key that is specific to, and protected by your Salesforce org. The private key can be verified using the corresponding public key in the asset token.
- While not required, it's highly recommended that you enable Salesforce Identity for External Users, so that your customers can register asset tokens. If you follow the steps in the External Identity Implementation Guide, complete the steps through implementation of self-registration. Confirm that you can log in to your community as an external user.
- If you need a refresher on the JSON Web Token (JWT) format, we recommend reviewing the RFC 7519 specification. Review how claims work in a JWT, how JWTs are encoded as a JSON object, and how the object is protected in a JWS structure.

## Implementation Steps

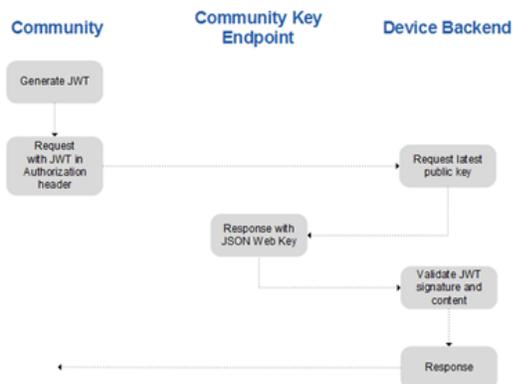
At a high level, implementing and using asset tokens involves these steps.

1. Create an OAuth-based connected app with asset tokens enabled. The connected app is required for API access and for asset token issuance. Look for the new asset token settings in the OAuth section when you create a connected app.

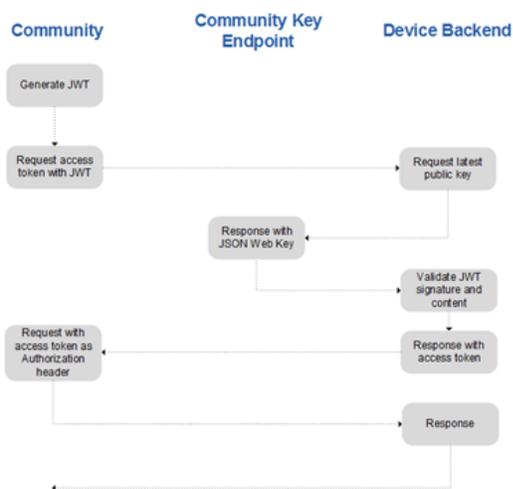
The screenshot shows the configuration interface for enabling asset tokens. It features a checked checkbox for 'Enable Asset Tokens'. Below this, there are three main settings: 'Token Valid for' is set to 12 months; 'Asset Signing Certificate' is set to 'Self-Signed Certificate'; and 'Asset Audiences' is a text area containing the URL 'https://your\_device\_backend.com'. At the bottom, there are two unchecked checkboxes: 'Include Custom Attributes' and 'Include Custom Permissions'.

2. Acquire an access token using any app that supports the OAuth 2.0 token exchange protocol. Access tokens enable authentication for API access. They are required for asset token issuance and device registration. For connected devices, an access token must be associated with a connected app that has asset tokens enabled. If you're just getting familiar with asset tokens and want to get started quickly without completely setting up your own device, app, and backend, we offer the [Asset Token Explorer](#) demo app. The demo app simplifies your initial experience and lets you quickly get an access token that you can exchange for the asset token.

3. Create an asset token JWT. Parameters include:
  - `grant_type`—`urn:ietf:params:oauth:grant-type:token-exchange`
  - `subject_token`—Your access token
  - `actor_token`—Optional JWT containing metadata about the device you're registering as a new or existing Asset. It can include a confirmation claim containing an RSA public key, in case your use case requires proof of possession of a private key.
4. POST your asset token request to the Salesforce OAuth token endpoint.
5. Salesforce returns an asset token. The asset token is a JWT containing various claims about your device and any custom attributes or permissions that you defined in your connected app.
6. Secure communications between the device and your backend service. When the device presents its data or event to your backend service, it also provides the asset token. Common methods for securing communications between the device and your backend service are the bearer token sequence and the JWT bearer token exchange sequence. In the bearer token sequence, the client presents the access token in the Authorization header—with one token generated for each call.



In JWT bearer token exchange, the client generates the request, calls the target system to exchange its asset token, and receives an OAuth token that it presents for subsequent calls. This usage can be more efficient if you're orchestrating a series of calls or if the target is session-oriented.



SEE ALSO:

[Salesforce Help: OAuth 2.0 Asset Token Flow](#)[New Objects](#)[Salesforce Help: Create a Connected App](#)

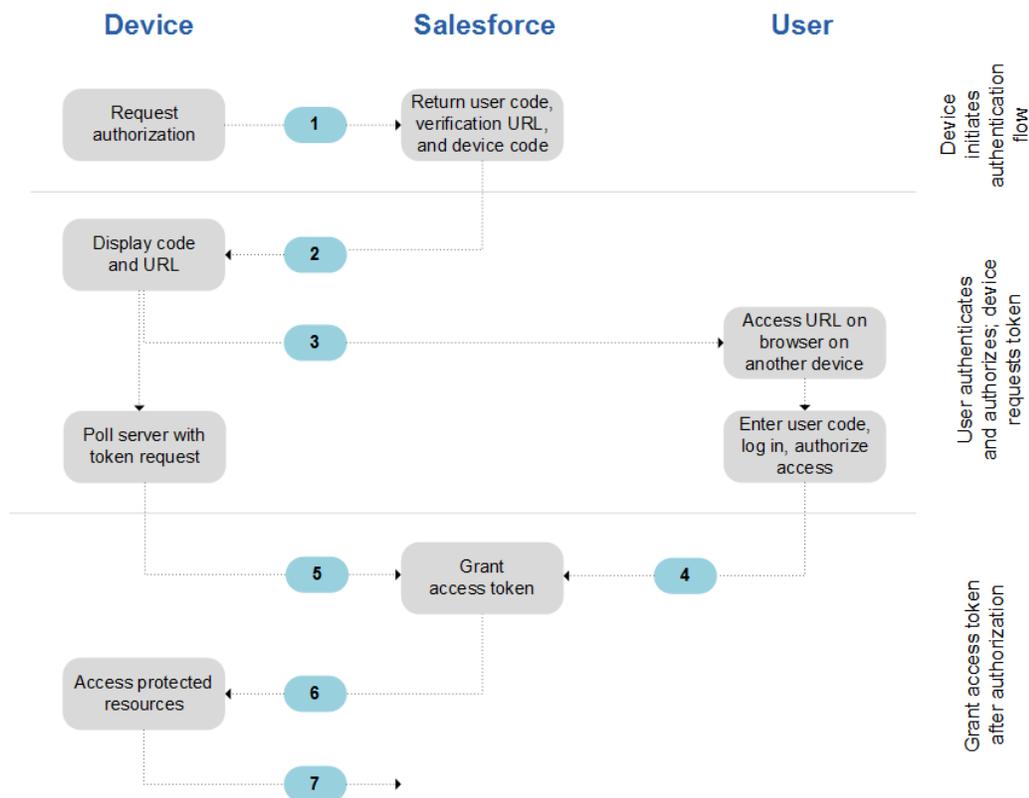
## OAuth 2.0 Authentication Flow for Applications on Limited Input Devices

OAuth 2.0 is now supported for applications on devices with limited input or display capabilities, such as TVs, appliances, or command-line applications. Configure a connected app with the new device flow setting, and design your device's user interface to prompt users for authorization to access their Salesforce data. This feature is new in both Lightning Experience and Salesforce Classic.

Here's how the device authentication flow works.

EDITIONS

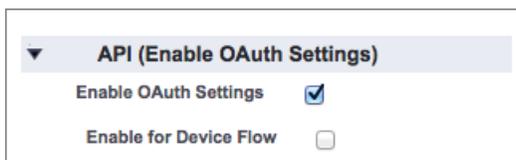
Available in all editions



1. The device requests authorization from Salesforce.
2. Salesforce verifies the request and returns the following: human-readable user code, verification URL, device code, and minimum polling interval (in seconds).
3. The device displays the user code and instructs the user to enter it at the specified verification URL.
4. On a separate device that has more developed input capabilities, such as a desktop computer or smartphone, the user opens a browser.
  - a. The user navigates to the verification URL and is prompted to enter the user code.

- b. If the code is valid, the user is prompted to log in if not already logged in.
  - c. After successful login, the user is prompted to allow the device to access Salesforce data.
5. After displaying the user code and verification URL, the device starts polling the token endpoint for authorization. Polling frequency can't exceed the minimum polling interval. The device continues polling until the user has allowed (or denied) access, or the user code has expired.
  6. If allowed, the authorization server returns to the device an access token, a refresh token if requested, and other information.
  7. After the access token is granted, the device can use it in API requests to access data on the user's behalf and use a refresh token to get a new access token if it becomes invalid.

To implement device flow for an OAuth-enabled connected app, select **Enable for Device Flow** in the connected app definition.



Note the following about other OAuth settings for device flows.

- A callback URL isn't used in this flow. You can specify your own callback URL as needed, such as when this same consumer is being used for a different flow. If you don't specify your own callback URL, the value defaults to a placeholder that you can ignore.
- All supported scopes are allowed in device flows. No scopes are selected by default. Specify desired scopes using the optional `scope` parameter in the request that initiates the authentication flow.

After you save the connected app, make note of the consumer key. You're required to pass it in the `client_id` parameter when initiating a device flow request. The consumer secret is not required. You can optionally pass it in the `client_secret` parameter when polling the token endpoint.

**Important:** The OAuth 2.0 flow for limited input devices is generally available as of February 11, 2017. Before then, it's not available in sandboxes.

SEE ALSO:

[Salesforce Help: OAuth 2.0 Device Authentication Flow](#)

[Salesforce Help: Create a Connected App](#)

## Customize Your Custom Authentication Provider

Authentication providers give your users the option to log in to your org using other login credentials, like their Facebook or Gmail account. Salesforce includes several authentication providers for social sign-on, including Facebook, Google, LinkedIn, Twitter, and Microsoft Office 365. You can also create your own authentication provider to enable social sign-on from providers that Salesforce doesn't support. This feature was released in Spring '16. In this release, we've added support for custom error handling and refresh tokens. This feature is new in both Lightning Experience and Salesforce Classic.

To enhance this feature, we replaced the Apex `AuthProviderPlugin` interface with a new Apex abstract class, `AuthProviderPluginClass`. If you've implemented a custom authentication provider using the `AuthProviderPlugin` interface, don't worry, it still works. However, if you want to add new functionality or implement a new provider, you must use the `AuthProviderPluginClass`.

We've also extended the authentication provider plug-in so that you can customize error handling. When an exception is thrown, you can define how to handle it and redirect to your own error page with your own error messages. We've also added refresh token support when using your custom authentication provider through a named credential. You can now add custom code to handle the refresh.

## Health Check: Import Custom Baselines and Assign New Permissions

We've introduced new permissions for Health Check, as well as the ability to import custom baselines into the tool.

### IN THIS SECTION:

#### [Import a Custom Security Baseline into Health Check \(Beta\)](#)

You can now customize the Health Check security baseline to compare your org's security settings with your industry standards. This feature is new in both Lightning Experience and Salesforce Classic.

#### [New Permission Required for Viewing and Managing Health Check](#)

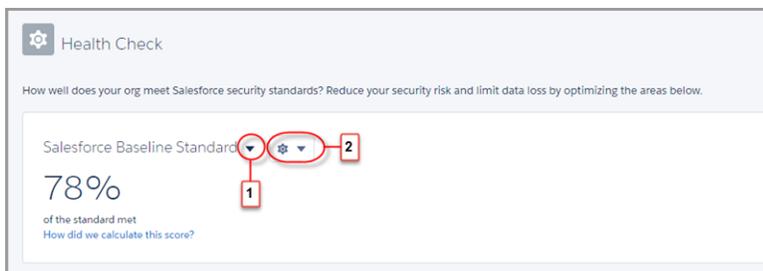
You now must have View Health Check permission to view your Health Check score, and view and edit Health Check settings. You must have the Manage Health Check permissions create, edit, and delete custom baselines in Health Check. Admins are granted this permission by default. When you enable the Manage Health Check permission, the View Health Check permissions is also enabled. This change applies to both Lightning Experience and Salesforce Classic.

## Import a Custom Security Baseline into Health Check (Beta)

You can now customize the Health Check security baseline to compare your org's security settings with your industry standards. This feature is new in both Lightning Experience and Salesforce Classic.

This release contains a beta version of Custom Baseline, which means it's a high-quality feature with known limitations. General availability, with complete documentation and support, is planned for a subsequent release.

You create a custom baseline by exporting an existing baseline, like the Salesforce baseline standard, modifying and saving the XML file, and importing it back into Health Check. From Setup, enter *Health Check* in the *Quick Find* box, then select **Health Check**.



(1) Select either the Salesforce Baseline Standard or a custom baseline. (2) Choose to export or import an XML file, or delete a custom baseline.

### SEE ALSO:

[Salesforce Help: Create a Custom Baseline for Health Check \(Beta\)](#)

[Salesforce Help: Custom Baseline File Requirements \(Beta\)](#)

### EDITIONS

Available in: **Professional, Enterprise, Performance, Unlimited, and Developer Editions**

## New Permission Required for Viewing and Managing Health Check

You now must have View Health Check permission to view your Health Check score, and view and edit Health Check settings. You must have the Manage Health Check permissions create, edit, and delete custom baselines in Health Check. Admins are granted this permission by default. When you enable the Manage Health Check permission, the View Health Check permissions is also enabled.

This change applies to both Lightning Experience and Salesforce Classic.

### EDITIONS

Available in: **Professional, Enterprise, Performance, Unlimited,** and **Developer Editions**

## Salesforce Shield: More Event Log Data, Dedicated Encryption Keys

Salesforce Shield now provides more Lightning Experience event log data to help you keep better track of how your users are doing. You can use formulas based on encrypted fields, and your search index files can have their own separate encryption keys.

### IN THIS SECTION:

#### [Platform Encryption: Encrypt Formula Fields and Chatter Posts](#)

Formulas now work with encrypted fields. If you're encrypting your search index, you can manage that encryption key separately. You can encrypt Chatter posts and attachments, on a beta basis. Try it out!

#### [Event Monitoring: Track Lightning Experience Adoption and Your Admins' Activity](#)

Four new Lightning UI event types were added to the event log file to help you identify your reps' actions in Lightning Experience. Also, you can audit the actions of any Salesforce administrator while they were logged in as another user.

## Platform Encryption: Encrypt Formula Fields and Chatter Posts

Formulas now work with encrypted fields. If you're encrypting your search index, you can manage that encryption key separately. You can encrypt Chatter posts and attachments, on a beta basis. Try it out!

### IN THIS SECTION:

#### [Encryption Checks Go Faster](#)

When you encrypt fields or files, Salesforce checks that everything you've specified can be encrypted. We've optimized the validation process for speed and accuracy.

#### [Retrieve Encrypted Data with Custom Formula Fields \(Beta\)](#)

Get more value out of the Shield Platform Encryption service by referencing encrypted fields in formulas. Quickly and securely filter and search for just the right data, even when it's encrypted.

#### [Encrypt Your Data in Chatter \(Pilot\)](#)

Collaboration and security don't have to be mutually exclusive. Shield Platform Encryption now offers another layer of protection for sensitive information shared in your Chatter feed. You can encrypt feed posts, questions and answers, link names, comments, and poll questions all with one click.

#### [Turn Off Masking for Encrypted Data](#)

Data masking is being decoupled from Shield Platform Encryption. The "View Encrypted Data" permission and its resulting masking behavior will no longer be available in Shield Platform Encryption when you activate this critical update. Field-level and object-level security features control who has access to data, regardless of whether it is encrypted.

### [Encrypt Search Index Files With a Dedicated Tenant Secret Type](#)

Sometimes it's smart to apply different key rotation cycles or destruction policies to keys that encrypt different types of data. Shield Platform Encryption now lets you do exactly that, through either the Setup page or the API.

### [Search Index Encryption for Government Cloud](#)

Your Government Cloud-hosted org can now leverage the Search Index Encryption service and embed strong encryption capabilities to your search indexes at rest, according to your org's encryption policy.

### [Embed Encryption in Analytics Cloud \(Beta\)](#)

Add yet another layer of security and protection to your Wave data at rest with this Beta feature. You can aggregate your customer data into a single, secure, encrypted location to power critical enterprise activities such as marketing and sales.

## Encryption Checks Go Faster

When you encrypt fields or files, Salesforce checks that everything you've specified can be encrypted. We've optimized the validation process for speed and accuracy.

Some setup combinations can make it impossible to encrypt some data. For example, if you have SOSL queries that reference a field, then that field can't be encrypted. The validation service detects those situations and suggests ways to work around them.

Some of the potential limitations are easy to detect. We now test for those right when you set up your encryption preferences, so that the encryption can take place quickly.

Other situations are more complex. Those tests now run asynchronously, so they don't hold up the encryption process, and you get the results in an email.

For example, we'll let you know right away if you can't encrypt fields because you have a portal enabled. However, checking whether a formula works with an encrypted field might take longer.

SEE ALSO:

[Fix Compatibility Problems](#)

## Retrieve Encrypted Data with Custom Formula Fields (Beta)

Get more value out of the Shield Platform Encryption service by referencing encrypted fields in formulas. Quickly and securely filter and search for just the right data, even when it's encrypted.

You can use several operations and functions, including concatenate (& and +), `isBlank`, `isNull`, `if`, `hyperlink`, and `image`. You can reference Quick Actions, and render encrypted data in text, date, and date/time formats. What's more, your formulas can reference an unlimited number of encrypted fields, giving you even more of the data you're looking for. To enable this feature, contact Salesforce for help.

 **Note:** This release contains a beta version of encryption support for formulas, which means it's a high-quality feature with known limitations. Encryption support for formulas isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features. You can provide feedback and suggestions for encryption support for formulas in the [IdeaExchange](#).

SEE ALSO:

[Salesforce Help: Retrieve Encrypted Data with Formulas](#)

## Encrypt Your Data in Chatter (Pilot)

Collaboration and security don't have to be mutually exclusive. Shield Platform Encryption now offers another layer of protection for sensitive information shared in your Chatter feed. You can encrypt feed posts, questions and answers, link names, comments, and poll questions all with one click.

 **Note:** This release contains a pilot version of encryption for Chatter in Developer Edition and in Sandboxes for Enterprise, Unlimited, and Performance Editions. We provide this feature to selected customers through a pilot program that requires agreement to specific terms and conditions. To be nominated to participate in the program, contact Salesforce. Because pilot programs are subject to change, we can't guarantee acceptance. This pilot feature isn't generally available, as referenced in this document or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available features.

You can provide feedback and suggestions for encryption for Chatter in the [Chatter Product group](#) in the Success Community.

SEE ALSO:

[Shield Platform Encryption Comes To Chatter \(Pilot\)](#)

[Shield Platform Encryption Comes To Chatter \(Pilot\)](#)

[Salesforce Help: Encrypt Data in Chatter \(Pilot\)](#)

## Turn Off Masking for Encrypted Data

Data masking is being decoupled from Shield Platform Encryption. The "View Encrypted Data" permission and its resulting masking behavior will no longer be available in Shield Platform Encryption when you activate this critical update. Field-level and object-level security features control who has access to data, regardless of whether it is encrypted.

With this change:

- You get a more consistent experience for users when they access encrypted data
- You reduce confusion between data that's masked and data that's encrypted. They aren't the same thing.

The "View Encrypted Data" permission still applies to Classic Encryption.

## Encrypt Search Index Files With a Dedicated Tenant Secret Type

Sometimes it's smart to apply different key rotation cycles or destruction policies to keys that encrypt different types of data. Shield Platform Encryption now lets you do exactly that, through either the Setup page or the API.

You can apply a tenant secret to all data stored in Salesforce or just to your search index files. From then on, that tenant secret only encrypts the data in that specific category.

Choose which kind of data you want to encrypt from the dropdown menu, and then generate or upload your tenant secret. You can have one active tenant secret per data type, and view all active, exported, and archived tenant secrets by type. As in the past, you can track these tenant secrets in the Setup Audit Trail.

To support this via the API, we've added the `Type` restricted picklist to the `TenantSecret` object, with two values:

- `Data`—A tenant secret that encrypts data stored in the Salesforce database. Includes data in files, fields, and attachments, but not search index files.
- `SearchIndex`—A tenant secret that encrypts search index files.

SEE ALSO:

[Changed Objects](#)

## Search Index Encryption for Government Cloud

Your Government Cloud-hosted org can now leverage the Search Index Encryption service and embed strong encryption capabilities to your search indexes at rest, according to your org's encryption policy.

## Embed Encryption in Analytics Cloud (Beta)

Add yet another layer of security and protection to your Wave data at rest with this Beta feature. You can aggregate your customer data into a single, secure, encrypted location to power critical enterprise activities such as marketing and sales.

 **Note:** This is a beta version, which means it's a high-quality feature with known limitations. The feature isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features. You can provide feedback and suggestions in the [Success Community](#).

## Event Monitoring: Track Lightning Experience Adoption and Your Admins' Activity

Four new Lightning UI event types were added to the event log file to help you identify your reps' actions in Lightning Experience. Also, you can audit the actions of any Salesforce administrator while they were logged in as another user.

### IN THIS SECTION:

#### [Track User Actions in Lightning Experience with Event Log Files](#)

We added event types to the EventLogFile standard object to better track user adoption and app performance in Lightning Experience. These event types improve on the existing UI Tracking event type by separating user data into four distinct categories. These events are available in the API, but not yet in the Event Monitoring Wave app.

#### [See the Actions of Salesforce Administrators Who Logged In as Another User](#)

Depending on your org settings, admins can log in to Salesforce as another user. Now you can use Login As event type data to review those actions to identify any security breaches or vulnerabilities, and also to inform your users what occurred.

#### [Prepare Your Org for UI Tracking Event Type Retirement](#)

During the Spring '17 release, the UI Tracking event type exists in parallel with the new [Lightning Experience event types](#) on page 419. With the Summer '17 release, the UI Tracking event type won't be populated with data. In the Winter '18 release, it will be removed completely.

## Track User Actions in Lightning Experience with Event Log Files

We added event types to the EventLogFile standard object to better track user adoption and app performance in Lightning Experience. These event types improve on the existing UI Tracking event type by separating user data into four distinct categories. These events are available in the API, but not yet in the Event Monitoring Wave app.

We added four event types to the EventLogFile object.

- **Lightning Error**—Errors that occurred during user interactions with the Lightning Experience UI, such as a user receives an Aura error on a page in the app.
- **Lightning Interaction**—User interactions with the Lightning Experience UI, such as a user clicks in the navigation header or a task list.
- **Lightning Page View**—Information about the page on which the event occurred in the Lightning Experience UI, such as the effective page time and the page entities that the user interacted with.
- **Lightning Performance**—Data to spot trends in your Lightning Experience app performance, such as page start times and duration.

### EDITIONS

Available in: **Enterprise**, **Performance**, **Unlimited**, and **Developer** Editions

 **Example:** You want to research how your reps use the Tasks page in your app to customize it to their needs. You use the data in the Lightning Page View event type to review how reps get to the page, how long they stay, and the page entities they interact with.

|   | J            | K             | L                  | M               | N        | O                | P                  | Q                | R                  | S                    | T                |
|---|--------------|---------------|--------------------|-----------------|----------|------------------|--------------------|------------------|--------------------|----------------------|------------------|
| 1 | CLIENT_IP    | UI_EVENT_ID   | UI_EVENT_TIMESTAMP | PAGE_START_TIME | DURATION | PAGE_ENTITY_ID   | PAGE_ENTITY_TYPE   | PAGE_CONTEXT     | PREVPAGE_ENTITY_ID | PREVPAGE_ENTITY_TYPE | PREVPAGE_CONTEXT |
| 2 | 107.77.212.1 | ltng:pageView | 1.47761E+12        | 1.47761E+12     | 7941     | 005R0000000IKAA  | Task               | sfa:taskList     | 005R0000000IKOKIA4 | User                 | force:recordHome |
| 3 | 107.77.212.1 | ltng:pageView | 1.47761E+12        | 1.47761E+12     | 8708     | 005R0000000IKOKI | User               | force:recordHome |                    | Task                 | sfa:taskList     |
| 4 | 107.77.212.1 | ltng:pageView | 1.47761E+12        | 1.47761E+12     | 11877    | 0F9R00000000Ua5I | CollaborationGroup | force:recordHome | 005R0000000IKOKIA4 | User                 | force:recordHome |

You drill down into your users' interactions with Tasks page elements, like the task list and Lightning navigation header, by reviewing the Lightning Interaction event type data.

|   | R                          | S            | T                | U           | V               | W                  | X                | Y                | Z                 | AA                |
|---|----------------------------|--------------|------------------|-------------|-----------------|--------------------|------------------|------------------|-------------------|-------------------|
| 1 | DEVICE_MODEL               | DEVICE_ID    | CLIENT_IP        | UI_EVENT_ID | UI_EVENT_SOURCE | UI_EVENT_TIMESTAMP | PAGE_ENTITY_TYPE | PAGE_CONTEXT     | TARGET_UI_ELEMENT | PARENT_UI_ELEMENT |
| 2 | SAMSUNG-SM-G9316ce807ad4fa | 204.14.239.1 | bc17e8b5-adb7-4  | click       | 1.47761E+12     |                    |                  | Toggle Bar       | hamburger-icon    | header            |
| 3 | SAMSUNG-SM-G9316ce807ad4fa | 204.14.239.1 | 9300d339-95d0-4e | click       | 1.47761E+12     |                    |                  | Main Feed        | stage-left-item   | stage-left        |
| 4 | SAMSUNG-SM-G921472358a2f8d | 107.77.212.1 | ltng:interaction | reads       | 1.47761E+12     |                    |                  | force:recordHome | reads             | force_record      |
| 5 | SAMSUNG-SM-G921472358a2f8d | 107.77.212.1 | ltng:interaction | read        | 1.47761E+12     |                    | Task             | sfa:taskList     | read              | force_record      |
| 6 | SAMSUNG-SM-G921472358a2f8d | 107.77.212.1 | ltng:interaction | read        | 1.47761E+12     |                    | Task             | sfa:taskList     | read              | force_record      |
| 7 | SAMSUNG-SM-G921472358a2f8d | 107.77.212.1 | ltng:interaction | read        | 1.47761E+12     |                    | Task             | sfa:taskList     | read              | force_record      |
| 8 | SAMSUNG-SM-G921472358a2f8d | 107.77.212.1 | ltng:interaction | read        | 1.47761E+12     |                    | Task             | sfa:taskList     | read              | force_record      |

SEE ALSO:

[Changed Objects](#)

## See the Actions of Salesforce Administrators Who Logged In as Another User

Depending on your org settings, admins can log in to Salesforce as another user. Now you can use Login As event type data to review those actions to identify any security breaches or vulnerabilities, and also to inform your users what occurred.

We added the following fields to the LoginAs event type in the EventLogFile object. You can use LOGIN\_KEY and SESSION\_KEY together to uniquely identify a user's session to show Salesforce administrators' click paths through your app while they were logged in as another user. Many other event types also include LOGIN\_KEY and SESSION\_KEY, giving you a complete picture of a user's activity across your org.

- CPU\_TIME — The CPU time in milliseconds used to complete the request. This field indicates the amount of activity taking place in the app server layer, highlighting pieces of Apex or Visualforce code that need refactoring.
- LOGIN\_KEY — The string that ties together all events in a given user's login session. It starts with a login event and ends with either a logout event or the user session expiring.
- RUN\_TIME — The amount of time that the request took in milliseconds.
- SESSION\_KEY — The string that ties together all events for a particular activity session. For example, URI events while the user is interacting with an Accounts page.
- URI\_ID\_DERIVED — The 18-character case insensitive ID of the URI of the page that's receiving the request.

 **Example:** Your org's security officer performed an audit to find out who updated records containing sensitive information on Tuesday. The security officer identifies a sales rep who changed the records. However, the sales rep insists that she didn't modify the records on Tuesday. To investigate further, you use Login As event data along with URI event data to narrow down (based on

### EDITIONS

Available in: **Enterprise**, **Performance**, **Unlimited**, and **Developer** Editions

LOGIN\_KEY and SESSION\_KEY) who really modified the records. You determine that an admin who logged in on behalf of the sales rep updated the records on Tuesday.

SEE ALSO:

[Changed Objects](#)

## Prepare Your Org for UI Tracking Event Type Retirement

During the Spring '17 release, the UI Tracking event type exists in parallel with the new [Lightning Experience event types](#) on page 419. With the Summer '17 release, the UI Tracking event type won't be populated with data. In the Winter '18 release, it will be removed completely.

To prepare for this change:

- If you pull event log files into a database (for example, Apache HBase) for storage and querying, refer to the new Lightning Experience event types for Lightning UI and mobile UI events.
- If you use a pre-built third-party integration for Event Monitoring data visualization, Salesforce is working with these partners to update their applications.
- If you built custom visualizations, update your integration to pull in the new Lightning Experience event types and prepare to stop using the UI Tracking event type. For information on how to use the Event Monitoring API, see the [Force.com REST API Developer Guide](#).

### EDITIONS

Available in: **Enterprise, Performance, Unlimited, and Developer** Editions

SEE ALSO:

[Knowledge Article: New Event Types for Shield Monitoring](#)

## Other Security Changes: Browser Security and New Session Settings

We've made more changes that impact security, including improvements to browser security and protection against cross-site scripting and malicious files.

IN THIS SECTION:

[Browser Security Features Are Enabled on All Accounts](#)

To increase security for all Salesforce customers, we've added browser features to better protect sensitive information and monitor SSL certificates. These updates are enabled on all accounts and can't be disabled.

[Protect Against Cross-Site Scripting and Malicious Files](#)

New Session Settings increase the security of your org.

## Browser Security Features Are Enabled on All Accounts

To increase security for all Salesforce customers, we've added browser features to better protect sensitive information and monitor SSL certificates. These updates are enabled on all accounts and can't be disabled.

### Updated Referer Header

When loading assets outside of Salesforce, or navigating outside of Salesforce, the referer header shows only salesforce.com rather than the entire URL. This feature eliminates the potential for a referer header to reveal sensitive information that could be present in a full URL, such as an org ID. The updated referer header feature is supported only for Chrome and Firefox.

**Public Key Pinning**

To detect man-in-the-middle attacks, Salesforce now monitors which SSL certificates users can see. Custom certificates aren't affected. Public key pinning is supported only for Chrome and Firefox.

**Protect Against Cross-Site Scripting and Malicious Files**

New Session Settings increase the security of your org.

To enable these security features, from Setup, enter *Session Settings* in the *Quick Find* box.

**XSS Protection**

Protects against cross-site scripting attacks. If a reflected cross-site scripting attack is detected, the browser renders a blank page with no content.

**Content Sniffing Protection**

Prevents the browser from inferring the MIME type from the document content. It also prevents malicious files from being executed as dynamic content (JavaScript, Stylesheet).

**Deployment: Deployment Permission Dependency Now Selected Automatically**

The "Modify All Data" permission is now selected automatically when the "Deploy Change Sets" permission is selected.

**IN THIS SECTION:**["Modify All Data" Permission Is Automatically Selected When "Deploy Change Sets" Is Selected](#)

The "Modify All Data" permission is now selected automatically when the "Deploy Change Sets" permission is selected. Users must have the "Modify All Data" permission in addition to the "Deploy Change Sets" permission to deploy or validate inbound change sets and to edit deployment connections. Salesforce admins have this permission enabled by default.

**"Modify All Data" Permission Is Automatically Selected When "Deploy Change Sets" Is Selected**

The "Modify All Data" permission is now selected automatically when the "Deploy Change Sets" permission is selected. Users must have the "Modify All Data" permission in addition to the "Deploy Change Sets" permission to deploy or validate inbound change sets and to edit deployment connections. Salesforce admins have this permission enabled by default.

The following table lists the permissions needed for change sets.

| <b>User Permissions Needed</b>  |  |
|---------------------------------|--|
| To edit deployment connections: | "Deploy Change Sets" AND "Modify All Data"   |
| To use outbound change sets:    | "Create and Upload Change Sets,"<br>"Create AppExchange Packages,"<br>AND<br>"Upload AppExchange Packages" |
| To use inbound change sets:     | "Deploy Change Sets" AND "Modify All Data"   |

## Development: Create Your Own Salesforce App

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Whether you're using Lightning components, Visualforce, Apex, or our APIs with your favorite programming language, these enhancements to Force.com help you develop amazing applications, integrations, and packages for resale to other organizations.

### IN THIS SECTION:

#### [Lightning Components: Security, Developer Productivity, and App Reach](#)

The Lightning Component framework powers Lightning Experience and Salesforce1. Use the framework to build mobile apps and pages in Lightning Experience, Salesforce1, Salesforce Classic, and Communities. Enhancements in this release are focused on LockerService and Content Security Policy changes, new ways to make your Lightning apps available, performance and error handling improvements, and other new features for developers.

#### [Visualforce: Enhanced for Lightning Experience](#)

Develop apps to customize your org using Visualforce. Changes in this release make it easier to adopt the Lightning Design System in your Visualforce pages and improve integration with Lightning Experience. This change applies to Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app.

#### [Apex Code](#)

The Apex stub API is now generally available. We've added a page to help you monitor Apex batch jobs, and we've fixed some bugs with the `instanceOf` keyword and test setup methods.

#### [API](#)

Access more metadata types and data objects in API version 39.0.

#### [Custom Metadata Types: Relationship Field Enhancements, Long Text Areas](#)

Build better apps than ever before with custom metadata types which let you base your apps on types of metadata rather than just data. Do even more with the features you've been waiting for, including metadata relationships to field definitions and long text areas in custom metadata types. These changes apply to both Lightning Experience and Salesforce Classic.

#### [Developer Console: Create Exception Classes, See More Code Coverage](#)

Use new Developer Console features to more easily manage code in your org. Create Apex classes that extend `Exception`, and view your org's code coverage results even when you have more than 2,000 Apex classes or triggers. This change applies to both Lightning Experience and Salesforce Classic.

#### [Debugging: ISV Customer Debugging, No Nested Trace Flag Durations](#)

Root out problems in your Salesforce org more easily, thanks to improvements to the debugging experience. Debug managed packages in subscriber orgs, and avoid issues that arose when trace flags had nested time windows. This change applies to both Lightning Experience and Salesforce Classic.

#### [ISVforce: Package Manager in Lightning Experience, Packaging Enhancements, ISV Customer Debugging](#)

ISVforce tools make it easy to build, package, and distribute apps and Lightning components. This release surfaces the Package Manager in Lightning Experience and enhances the security of package push upgrades. You can also abort package push requests using the API and debug your Managed - Released packages in subscriber orgs.

# Lightning Components: Security, Developer Productivity, and App Reach

The Lightning Component framework powers Lightning Experience and Salesforce1. Use the framework to build mobile apps and pages in Lightning Experience, Salesforce1, Salesforce Classic, and Communities. Enhancements in this release are focused on LockerService and Content Security Policy changes, new ways to make your Lightning apps available, performance and error handling improvements, and other new features for developers.

Use out-of-the-box components or build your own components with JavaScript, HTML, CSS, Apex, or any web-enabled code.

AppExchange lets you install components created by Salesforce partners or publish your own components.

For more information, refer to the [Lightning Components Developer Guide](#).

## EDITIONS

Available for use in: **Contact Manager, Group, Professional, Enterprise, Performance, Unlimited, and Developer** Editions

Create Lightning components using the UI in **Enterprise, Performance, Unlimited, Developer** Editions or a sandbox.

## IN THIS SECTION:

### [Host Single-Page Apps Developed with Third-Party Frameworks Using lightning:container \(Developer Preview\)](#)

Upload an app developed with a third-party framework as a static resource, and host the content in a Lightning component using `lightning:container`. Use `lightning:container` to use third-party frameworks like AngularJS or React within your Lightning pages.

### [Implement Your Own Rich-Text Editor with lightning:inputRichText \(Beta\)](#)

Introducing the rich-text editor that's compliant with LockerService and matches the look-and-feel of Lightning Experience.

### [Server-Side Access Checks for Events](#)

It's easier to find access check failures for events. Previously, only client-side access check failures were enforced and resulted in a partially functional component. Depending on the code and how you tested it, the failure could be easy to miss. Now, if a component references an event for which it doesn't have access, additional server-side access checks result in the component failing to load.

### [New Lightning LockerService Informational Setup Page](#)

LockerService enhances security by isolating individual Lightning components in their own namespace. LockerService also promotes best practices that improve the supportability of your code by only allowing access to supported APIs and eliminating access to non-published framework internals. The new Setup page describes the LockerService critical update and provides links to more information. The page increases visibility for this important critical update. The page is purely informational and doesn't include any settings.

### [Banner Reminds You About LockerService](#)

The new banner in Lightning Experience informs Salesforce admins and developers about the enforcement of the LockerService critical update scheduled for June 13, 2017. You can dismiss the banner, but it will reappear once a month during the Spring '17 release.

### [LockerService Has Stricter Content Security Policy](#)

The existing LockerService critical update tightens Content Security Policy (CSP) to eliminate the possibility of cross-site scripting attacks. These CSP changes are enforced only in sandboxes and Developer Edition orgs. The CSP changes have no effect in production orgs, even when LockerService is activated. The Lightning Component framework uses Content Security Policy (CSP) to control the source of content that can be loaded on a page.

### [Create CSP Trusted Sites to Access Third-Party APIs](#)

The Lightning Component framework uses Content Security Policy (CSP) to control the source of content that can be loaded on a page. To use third-party APIs that make requests to an external (non-Salesforce) server, add the server as a CSP Trusted Site.

### [Salesforce Lightning CLI Is No Longer Noisy By Default](#)

The default output now only shows errors so you can focus on bigger issues. Previously, the default output showed errors and warnings. To see warnings too, use the new `--verbose` argument.

### [Use Unbound Expressions for One-Way Data Binding Between Components](#)

Use the `{#expression}` syntax for unbound expressions when you pass an expression from a parent component to a child component, unless you require bidirectional data binding. Bound expressions with `{!expression}` create a bidirectional data binding that's expensive for performance. Bound expressions can also create hard-to-debug errors due to the propagation of data changes through nested components.

### [Speed Up Your Components by Fixing Performance Warnings](#)

A few common performance anti-patterns in code prompt the framework to log warning messages to the browser console. Fix the warning messages to speed up your components!

### [Debug Lightning Components on Every Page with Salesforce Lightning Inspector](#)

Get component information from every Lightning page in your app, show components that initiated actions, and debug components running on Lightning Out.

### [Customize the Look and Feel of Lightning Apps by Overriding Tokens \(Developer Preview\)](#)

Easily redefine standard tokens with your own token values to tailor your Lightning apps.

### [Share Lightning Apps with Non-Authenticated Users](#)

Add the `ltng:allowGuestAccess` interface to your Lightning Out dependency app to make it available to users without requiring them to authenticate with Salesforce. This interface lets you build your app with Lightning components, and deploy it anywhere and to anyone.

### [Find Component Markup Errors Faster with Improved Error Messages](#)

We've improved the details provided and the presentation of run-time errors caused by certain kinds of Lightning component markup errors. It's now easier for your users to report errors they encounter, and for you to find and fix those errors. This change affects all users of your org, and doesn't depend on debug mode being enabled.

### [Create Lightning Components for Quick Actions in the Developer Console](#)

The New Lightning Bundle panel in the Developer Console now includes an option to add the interface for a Lightning quick action when you create a Lightning component bundle.

### [Lightning Data Service \(Developer Preview\)](#)

Lightning Data Service continues to be available in Developer Preview, with updated documentation to help you get started. Use Lightning Data Service to load, create, edit, or delete a record in your component, without requiring Apex code. Lightning Data Service handles sharing rules and field level security for you. In addition to not needing Apex, Lightning Data Service improves performance and user interface consistency.

### [Simplified Event Handling Across Base Lightning Components](#)

Take the guesswork out of event handling and go straight to the source. Base Lightning Components now let you access the component firing the event using `event.getSource()` with or without `LockerService`.

### [Removed LockerService Restriction on instanceof in JavaScript](#)

Previously, we advised against using the `instanceof` operator in JavaScript code when `LockerService` is activated. This restriction has been removed due to some framework refactoring.

### [Deprecated useAppcache Attribute in <aura:application>](#)

Browser vendors have deprecated `AppCache` so we've followed their lead. Remove the `useAppcache` attribute in the `<aura:application>` tag of your standalone apps (`.app` resources) to avoid cross-browser support issues due to deprecation by browser vendors.

### [New and Changed Lightning Components](#)

We added several new components and made improvements to others so that you can create apps faster.

[Changed Lightning Events](#)

Lightning events facilitate communication between components and increase interactivity in your apps.

[New JavaScript API Methods](#)

Use JavaScript API methods in your component's client-side controller, helper, or renderer.

## Host Single-Page Apps Developed with Third-Party Frameworks Using `lightning:container` (Developer Preview)

Upload an app developed with a third-party framework as a static resource, and host the content in a Lightning component using `lightning:container`. Use `lightning:container` to use third-party frameworks like AngularJS or React within your Lightning pages.

 **Note:** The `lightning:container` component is available as a developer preview. This feature is available in Developer Edition orgs only. `lightning:container` isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. All commands, parameters, and other features are subject to change or deprecation at any time, with or without notice. Don't implement functionality developed with these commands or tools.

The `lightning:container` component hosts the content in an iframe. You can use `lightning:container` only for single-page applications.

You can implement communication to and from the framed application, allowing it to interact with the Lightning component. `lightning:container` provides the `message()` method, which you can use in the JavaScript controller to send messages to the application. In the component, specify a method for handling messages with the `onmessage` attribute.

This example loads a third-party app developed with React, `myReactApp`, which is uploaded as a static resource. The app is a single-page application, with the landing page `index.html`, and takes two attributes, `messageToSend` and `messageReceived`. These attributes store the value of the message to send and receive. The `handleMessage` method specified by the `onmessage` attribute handles these attributes in the component's controller.

```
<aura:component implements="flexipage:availableForAllPageTypes">
  <aura:attribute name="messageToSend" type="String"/>
  <aura:attribute name="messageReceived" type="String"/>
  <lightning:container src="{!$Resource.myReactApp + '/index.html'}"
    onmessage="{!c.handleMessage}"/>
</aura:component>
```

`lightning:container` has known limitations. You might observe performance and scrolling issues associated with the use of iframes. This component is not designed for the multi-page model, and it doesn't integrate with browser navigation history.

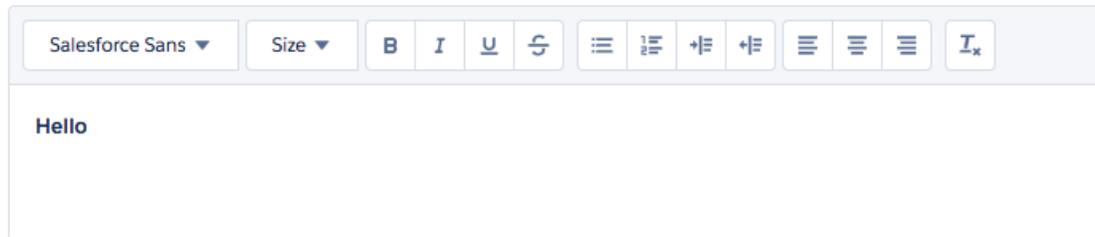
For now, content in `lightning:container` is being served from the Visualforce domain. `lightning:container` can't be used in Lightning pages that aren't served from the Lightning domain, such as Visualforce pages or Community Builder. These restrictions allow `lightning:container` to comply with LockerService security, and might change in future releases.

## Implement Your Own Rich-Text Editor with `lightning:inputRichText` (Beta)

Introducing the rich-text editor that's compliant with LockerService and matches the look-and-feel of Lightning Experience.

 **Note:** This release contains a beta version of `lightning:inputRichText`, which means it's a high-quality feature with known limitations. `lightning:inputRichText` isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features.

The `lightning:inputRichText` component creates a rich-text editor based on the Quill JS library, enabling you to add, edit, format, and delete rich text. Pasting rich content into the editor is supported if the feature is available in the toolbar. For example, you can paste bold text if the bold button is available in the toolbar.



The toolbar displays the font family and size menu, the format text block with **Bold**, **Italic**, **Underline**, and **Strikethrough** buttons. It also displays the format body block with **Bulleted List**, **Numbered List**, **Indent**, and **Outdent** buttons, followed by the align text block with **Left Align Text**, **Center Align Text**, and **Right Align Text** buttons. The **Remove Formatting** button is at the end of the toolbar.

 **Example:** Display user input that's entered into the rich-text editor using the `ui:outputRichText` component.

```
<aura:component>
  <aura:attribute name="myVal" type="String" default="&lt;b>Hello&lt;/b>"/>
  <lightning:inputRichText value="{!v.myVal}" placeholder="Type something interesting">

  </lightning:inputRichText>
  <div aura:id="output" class="slds-box slds-text-longform">
    <ui:outputRichText value="{!v.myVal}" />
  </div>
</aura:component>
```

## Beta Limitations

This release of `lightning:inputRichText` contains some known limitations.

- The editor doesn't display correctly in narrow views, typically less than 300 pixels in width.
- The font and size menus aren't accessible to screen readers and are likely to change in future releases.
- The font and size menus don't close if you click outside the menus without making a selection. Click the menu again to close it.

## Server-Side Access Checks for Events

It's easier to find access check failures for events. Previously, only client-side access check failures were enforced and resulted in a partially functional component. Depending on the code and how you tested it, the failure could be easy to miss. Now, if a component references an event for which it doesn't have access, additional server-side access checks result in the component failing to load.

If a component references an event that doesn't have an `access` system attribute allowing the component to access the event:

- Client-side code doesn't execute or returns `undefined`. If you enabled debug mode, you see an error message in your browser console.
- Server-side code results in the component failing to load. If you enabled debug mode, you see a popup error message.

For more information about the `access` system attribute, see the [Lightning Components Developer Guide](#).

## New Lightning LockerService Informational Setup Page

LockerService enhances security by isolating individual Lightning components in their own namespace. LockerService also promotes best practices that improve the supportability of your code by only allowing access to supported APIs and eliminating access to non-published framework internals. The new Setup page describes the LockerService critical update and provides links to more information. The page increases visibility for this important critical update. The page is purely informational and doesn't include any settings.

1. From Setup, enter *LockerService* in the **Quick Find** box.
2. Select **Lightning LockerService**.

LockerService remains a critical update for Spring '17. LockerService will be automatically activated for all orgs in the Summer '17 release. Before the Summer '17 release, you can manually activate and deactivate the update as often as you need to evaluate the impact on your org.

### What Does LockerService Affect?

LockerService enforces security in:

- Lightning Experience
- Salesforce1
- Template-based Communities
- Standalone apps that you create (for example, `myApp.app`)

LockerService enforces security in **Lightning Out**. However, the CSP restrictions of LockerService aren't enforced in Lightning Out. Lightning Out allows you to run Lightning components in a container outside of Lightning apps, such as Lightning components in Visualforce and Visualforce-based communities. The container defines the CSP rules.

LockerService doesn't affect **Salesforce Classic**, Visualforce-based communities, Sales Console, or Service Console, except for usage of Lightning components in Visualforce in these contexts.

### Graceful Degradation for Unsupported Browsers

LockerService relies on some basic JavaScript features in the browser: support for strict mode and the `Map` object. These requirements align with the supported browsers for Lightning Experience. If a browser doesn't meet the requirements, LockerService can't enforce all its security features.

We've improved the user experience for unsupported browsers. However, if you use an unsupported browser, you're likely to encounter issues that won't be fixed. Make your life easier and your browsing experience more secure by using a supported browser.

 **Note:** IE11 doesn't support CSP, so we recommend using other supported browsers for enhanced security.

SEE ALSO:

[Salesforce Help: Supported Browsers for Lightning Experience \(can be outdated or unavailable during release preview\)](#)

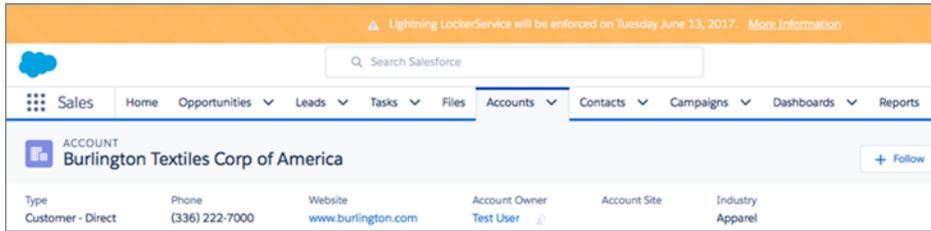
### Banner Reminds You About LockerService

The new banner in Lightning Experience informs Salesforce admins and developers about the enforcement of the LockerService critical update scheduled for June 13, 2017. You can dismiss the banner, but it will reappear once a month during the Spring '17 release.

We're not trying to annoy you. We just want to remind you to test LockerService in a sandbox or Developer Edition org to verify correct behavior of your components before enforcement in Summer '17.

The banner appears only if:

- You have the "View Setup and Configuration", "Customize Application", and "Author Apex" permissions. You need these same permissions to add or edit a Lightning component.
- Your org has at least one Lightning component.



SEE ALSO:

[LockerService Has Stricter Content Security Policy](#)

## LockerService Has Stricter Content Security Policy

The existing LockerService critical update tightens Content Security Policy (CSP) to eliminate the possibility of cross-site scripting attacks. These CSP changes are enforced only in sandboxes and Developer Edition orgs. The CSP changes have no effect in production orgs, even when LockerService is activated. The Lightning Component framework uses Content Security Policy (CSP) to control the source of content that can be loaded on a page.

This change enables you to test LockerService in its entirety before the critical update is activated for all orgs in Summer '17.

LockerService remains a critical update for Spring '17. LockerService will be automatically activated for all orgs in the Summer '17 release. Before the Summer '17 release, you can manually activate and deactivate the update as often as you need to evaluate the impact on your org. We recommend that you test LockerService in a sandbox or Developer Edition org to verify the behavior of your components before enabling it in your production org.

In Spring '17, LockerService now disallows the `unsafe-inline` and `unsafe-eval` CSP keywords for inline scripts (`script-src`). Ensure that your code and third-party libraries you use adhere to these rules by removing all calls using `eval()` or inline JavaScript code execution. You might have to update your third-party libraries to modern versions that don't depend on `unsafe-inline` or `unsafe-eval`. These CSP changes are enforced only in sandboxes and Developer Edition orgs.

### Note:

- When LockerService is activated in sandboxes or Developer Edition orgs, you can't edit rich-text fields, and the fields are grayed out. Rest assured that the limitation is only temporary for Spring '17. We're removing this limitation before LockerService is activated for all orgs in Summer '17. For more information, see [Rich-Text Editors Disabled When LockerService Critical Update Is Active](#).
- IE11 doesn't support CSP, so we recommend using other supported browsers for enhanced security.

CSP is a Candidate Recommendation of the W3C working group on Web Application Security. The framework uses the `Content-Security-Policy` HTTP header recommended by the W3C.

The CSP changes in Spring '17 are in addition to the existing security features in the LockerService critical update in Winter '17.

LockerService enhances security by isolating individual Lightning components in their own namespace. LockerService also promotes best practices that improve the supportability of your code by only allowing access to supported APIs and eliminating access to non-published framework internals. For more information, see the [Lightning Components Developer Guide](#).

SEE ALSO:

[Salesforce Help: Supported Browsers for Lightning Experience \(can be outdated or unavailable during release preview\)](#)

## Create CSP Trusted Sites to Access Third-Party APIs

The Lightning Component framework uses Content Security Policy (CSP) to control the source of content that can be loaded on a page. To use third-party APIs that make requests to an external (non-Salesforce) server, add the server as a CSP Trusted Site.

CSP is a Candidate Recommendation of the W3C working group on Web Application Security. The framework uses the `Content-Security-Policy` HTTP header recommended by the W3C. By default, the framework's headers allow content to be loaded only from secure (HTTPS) URLs and forbid XHR requests from JavaScript.

When you define a CSP Trusted Site, the site's URL is added to the list of allowed sites for the following directives in the CSP header.

- `connect-src`
- `frame-src`
- `img-src`
- `style-src`
- `font-src`
- `media-src`

This change to the CSP header directives allows Lightning components to load resources, such as images, styles, and fonts, from the site. It also allows client-side code to make requests to the site.

 **Important:** You can't load JavaScript resources from a third-party site, even a CSP Trusted Site. To use a JavaScript library from a third-party site, add it to a static resource, and then add the static resource to your component. After the library is loaded from the static resource, you can use it as normal.

 **Note:** CSP Trusted Sites affect the CSP header only for Lightning Component framework requests. To enable corresponding access for Visualforce or Apex, create a Remote Site.

CSP isn't enforced by all browsers. For a list of browsers that enforce CSP, see [caniuse.com](http://caniuse.com).

IE11 doesn't support CSP, so we recommend using other supported browsers for enhanced security.

SEE ALSO:

[Lightning Components Developer Guide: Content Security Policy Overview](#)

[Salesforce Help: Create CSP Trusted Sites to Access Third-Party APIs \(can be outdated or unavailable during release preview\)](#)

## Salesforce Lightning CLI Is No Longer Noisy By Default

The default output now only shows errors so you can focus on bigger issues. Previously, the default output showed errors and warnings. To see warnings too, use the new `--verbose` argument.

Lightning CLI is a Heroku Toolbelt plugin that lets you scan your code for general JavaScript coding issues and Lightning-specific issues. This tool is useful for preparing your Lightning components code for LockerService enablement.

The `--quiet` flag has been removed as it matches the default behavior of ignoring warning messages.

For more information about the Salesforce Lightning CLI, see the [Lightning Components Developer Guide](#).

## Use Unbound Expressions for One-Way Data Binding Between Components

Use the `{#expression}` syntax for unbound expressions when you pass an expression from a parent component to a child component, unless you require bidirectional data binding. Bound expressions with `{!expression}` create a bidirectional data binding that's expensive for performance. Bound expressions can also create hard-to-debug errors due to the propagation of data changes through nested components.

This concept is a little tricky, but it will make more sense when we look at an example. Consider a `c:parent` component that has a `parentAttr` attribute. `c:parent` contains a `c:child` component with a `childAttr` attribute that's initialized to the value of the `parentAttr` attribute. We're passing the `parentAttr` attribute value from `c:parent` into the `c:child` component, which results in a data binding, also known as a value binding, between the two components.

```
<!--c:parent-->
<aura:component>
  <aura:attribute name="parentAttr" type="String" default="parent attribute"/>

  <!-- Instantiate the child component -->
  <c:child childAttr="{!v.parentAttr}" />
</aura:component>
```

`{!v.parentAttr}` is a bound expression. Any change to the value of the `childAttr` attribute in `c:child` also affects the `parentAttr` attribute in `c:parent` and vice versa.

Now, let's change the markup from:

```
<c:child childAttr="{!v.parentAttr}" />
```

to:

```
<c:child childAttr="{#v.parentAttr}" />
```

`{#v.parentAttr}` is an unbound expression. Any change to the value of the `childAttr` attribute in `c:child` doesn't affect the `parentAttr` attribute in `c:parent` and vice versa.

Here's a summary of the differences between the forms of expression syntax.

#### **{#expression} (Unbound Expressions)**

Data updates behave as you would expect in JavaScript. Primitives, such as `String`, are passed by value, and data updates for the expression in the parent and child are decoupled.

Objects, such as `Array` or `Map`, are passed by reference, so changes to the data in the child propagate to the parent. However, change handlers in the parent aren't notified. The same behavior applies for changes in the parent propagating to the child.

#### **{!expression} (Bound Expressions)**

Data updates in either component are reflected through bidirectional data binding in both components. Similarly, change handlers are triggered in both the parent and child components.

## Speed Up Your Components by Fixing Performance Warnings

A few common performance anti-patterns in code prompt the framework to log warning messages to the browser console. Fix the warning messages to speed up your components!

The warnings display in the browser console only if you enabled debug mode.

#### **<aura:if>—Clean Unrendered Body**

This warning occurs when you change the `isTrue` attribute of an `<aura:if>` tag from `true` to `false` in the same rendering cycle. The unrendered body of the `<aura:if>` must be destroyed, which is avoidable work for the framework that slows down rendering time.

#### **<aura:iteration>—Multiple Items Set**

This warning occurs when you set the `items` attribute of an `<aura:iteration>` tag multiple times in the same rendering cycle.

For more information about fixing the performance warnings, see the [Lightning Components Developer Guide](#).

## Debug Lightning Components on Every Page with Salesforce Lightning Inspector

Get component information from every Lightning page in your app, show components that initiated actions, and debug components running on Lightning Out.

### Component Information on Every Page

You can get information about Lightning components on any page that Lightning is detected. Previously, Salesforce Lightning Inspector ran on pages with a particular URL pattern.

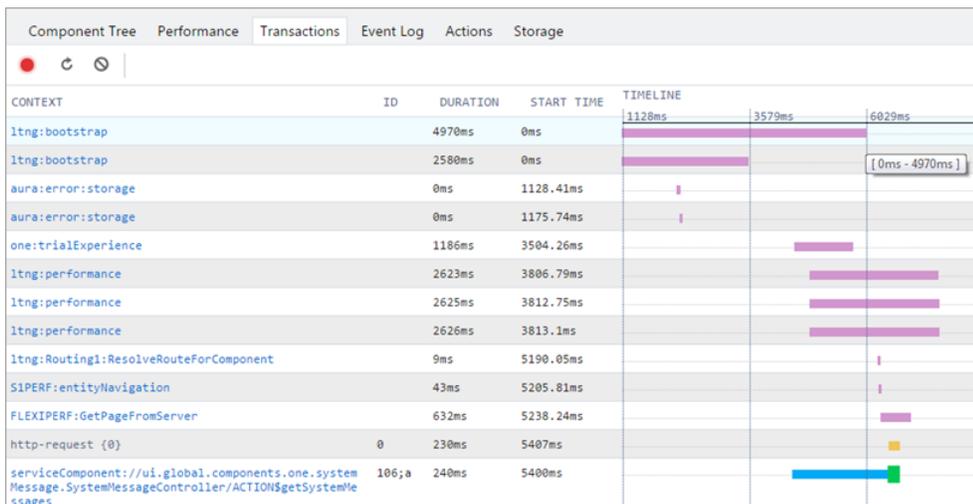
### Created Components

The Actions tab now shows information about components that initiated actions. It also shows the number of components created.

The screenshot shows the 'Actions' tab in the Lightning Inspector. The component path is `serviceComponent://ui.force.components.controllers.recordLayoutBroker.RecordLayoutBrokerController/ACTION$getLayout`. The 'Created Components' field is circled in red and displays the value 162. Other fields include Id (1842;a), State (SUCCESS), Abortable (false), and Background (false).

### Custom Components in Transactions

You can get information about custom components in the transactions timeline on the Transactions tab. The measurements are in milliseconds since page load. To view the start and end times, hover over a timeline bar.



## Lightning Out Support

If your app uses Lightning Out to run Lightning components, you can use Salesforce Lightning Inspector to debug your components.

## Customize the Look and Feel of Lightning Apps by Overriding Tokens (Developer Preview)

Easily redefine standard tokens with your own token values to tailor your Lightning apps.

 **Note:** Overriding standard tokens is available as a developer preview. This feature isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. You can provide feedback and suggestions for this feature on the [IdeaExchange](#).

To override a standard token for your Lightning app, create a tokens bundle with a unique name, for example `myOverrides`. In the tokens resource, redefine the value for a standard token:

```
<aura:tokens>
  <aura:token name="colorTextBrand" value="#8d7d74"/>
</aura:tokens>
```

In your Lightning app, specify the tokens bundle in the `tokens` attribute:

```
<aura:application tokens="c:myOverrides">
  <!-- Your app markup here -->
</aura:application>
```

Token overrides apply across your app, including resources and components provided by Salesforce and components of your own that use tokens.

Packaging apps that use the tokens attribute is unsupported.

 **Important:** Overriding standard token values within `defaultTokens.tokens`, a required resource in a tokens bundle, is unsupported. If you create a token with the same name as a standard token, it overrides the standard token's value in some contexts, and has no effect in others. Overrides should only be done in a separate resource as described above.

## Share Lightning Apps with Non-Authenticated Users

Add the `ltng:allowGuestAccess` interface to your Lightning Out dependency app to make it available to users without requiring them to authenticate with Salesforce. This interface lets you build your app with Lightning components, and deploy it anywhere and to anyone.

A Lightning Out dependency app with the `ltng:allowGuestAccess` interface can be used with Lightning Components for Visualforce and with Lightning Out.

- Using Lightning Components for Visualforce, you can add your Lightning app to a Visualforce page, and then use that page in Salesforce Tabs + Visualforce communities. Then you can allow public access to that page.
- Using Lightning Out, you can deploy your Lightning app anywhere Lightning Out is supported—which is almost anywhere!

The `ltng:allowGuestAccess` interface is only usable in orgs that have Communities enabled, and your Lightning Out app is associated with all community endpoints that you've defined in your org.

 **Important:** When you make a Lightning app accessible to guest users by adding the `ltng:allowGuestAccess` interface, it's available through **every** community in your org, whether that community is enabled for public access or not. You can't prevent it from being accessible via community URLs, and you can't make it available for some communities but not others.

 **Warning:** Be extremely careful about apps you open for guest access. Apps enabled for guest access bypass the object- and field-level security (FLS) you set for your community's guest user profile. Lightning components don't automatically enforce CRUD and FLS when you reference objects or retrieve the objects from an Apex controller. This means that the framework continues to display records and fields for which users don't have CRUD access and FLS visibility. You must manually enforce CRUD and FLS in your Apex controllers. A mistake in code used in an app enabled for guest access can open your org's data to the world.

## Usage

To begin with, add the `ltng:allowGuestAccess` interface to your Lightning Out dependency app. For example:

```
<aura:application access="GLOBAL" extends="ltng:outApp"
  implements="ltng:allowGuestAccess">

  <aura:dependency resource="c:storeLocatorMain"/>

</aura:application>
```

 **Note:** You can only add the `ltng:allowGuestAccess` interface to Lightning apps, not to individual components.

Next, add the Lightning Out JavaScript library to your page.

- With Lightning Components for Visualforce, simply add the `<apex:includeLightning />` tag anywhere on your page.
- With Lightning Out, add a `<script>` tag that references the library directly, using a community endpoint URL. For example:

```
<script
  src="https://yourCommunityDomain/communityURL/lightning/lightning.out.js"></script>
```

For example, `https://universalcontainers.force.com/ourstores/lightning/lightning.out.js`

Finally, add the JavaScript code to load and activate your Lightning app. This code is standard Lightning Out, with the important addition that you must use one of your org's community URLs for the endpoint. The endpoint URL takes the form

`https://yourCommunityDomain/communityURL/`. The relevant line is emphasized in the following sample.

```
<script>
  $Lightning.use("c:locatorApp",    // name of the Lightning app
    function() {                  // Callback once framework and app loaded
      $Lightning.createComponent(
        "c:storeLocatorMain",    // top-level component of your app
        { },                     // attributes to set on the component when created
        "lightningLocator",     // the DOM location to insert the component
        function(cmp) {
          // callback when component is created and active on the page
        }
      );
    },
    'https://universalcontainers.force.com/ourstores/' // Community endpoint
```

```
);
</script>
```

## SEE ALSO:

[Access Lightning Apps in Public Communities](#)

[Lightning Components Developer Guide: Use Lightning Components in Visualforce Pages](#)

[Lightning Components Developer Guide: Add Lightning Components to Any App with Lightning Out \(Beta\)](#)

[Lightning Components Developer Guide: CRUD and Field-Level Security \(FLS\)](#)

## Find Component Markup Errors Faster with Improved Error Messages

We've improved the details provided and the presentation of run-time errors caused by certain kinds of Lightning component markup errors. It's now easier for your users to report errors they encounter, and for you to find and fix those errors. This change affects all users of your org, and doesn't depend on debug mode being enabled.

Because a picture is worth a thousand words, here are two of them.

| Spring '17 Error Message | Previous Release |
|--------------------------|------------------|
|                          |                  |

**Note:** The new error panel doesn't have an OK button. To dismiss the panel, click the "X" in the top right.

The new error panel appears only when a relevant error occurs in Lightning Experience or Salesforce1. The error panel's expandable stack trace appears only on desktop and tablet form factors—not on a phone.

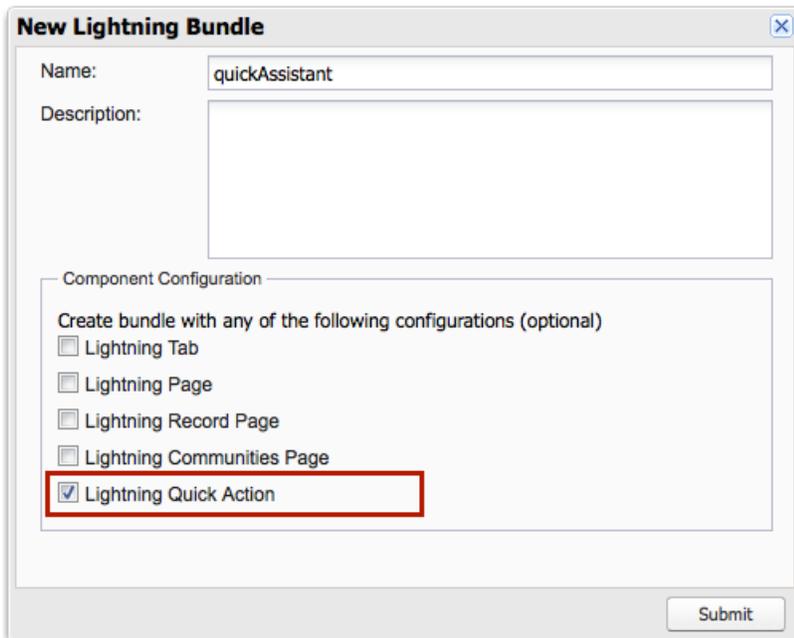
Only certain kinds of markup errors result in the new error reporting. Errors in your component controller or helper JavaScript code display with the old error output. The new error reporting affects only your custom components, not standard components provided

with the framework. Outside of Lightning Experience and Salesforce1, for example, in Lightning Out or a standalone app, error output can include details that were previously omitted, such as a complete stack trace.

## Create Lightning Components for Quick Actions in the Developer Console

The New Lightning Bundle panel in the Developer Console now includes an option to add the interface for a Lightning quick action when you create a Lightning component bundle.

The Lightning Quick Action option adds the `force:lightningQuickAction` interface to the new component as a value on the component's `implements` attribute.



The screenshot shows a dialog box titled "New Lightning Bundle". It has a "Name:" field with the text "quickAssistant" and a "Description:" field which is empty. Below these fields is a section titled "Component Configuration" with the sub-heading "Create bundle with any of the following configurations (optional)". There are five checkboxes: "Lightning Tab", "Lightning Page", "Lightning Record Page", "Lightning Communities Page", and "Lightning Quick Action". The "Lightning Quick Action" checkbox is checked and highlighted with a red rectangular border. A "Submit" button is located at the bottom right of the dialog.

If you're creating a quick action with a completely custom user interface, edit the resulting markup to use the `force:lightningQuickActionWithoutHeader` interface instead.

SEE ALSO:

[Lightning Components Developer Guide: Configure Components for Custom Actions](#)

[Lightning Components Developer Guide: Lightning Bundle Configurations Available in the Developer Console](#)

## Lightning Data Service (Developer Preview)

Lightning Data Service continues to be available in Developer Preview, with updated documentation to help you get started. Use Lightning Data Service to load, create, edit, or delete a record in your component, without requiring Apex code. Lightning Data Service handles sharing rules and field level security for you. In addition to not needing Apex, Lightning Data Service improves performance and user interface consistency.

## Simplified Event Handling Across Base Lightning Components

Take the guesswork out of event handling and go straight to the source. Base Lightning Components now let you access the component firing the event using `event.getSource()` with or without LockerService.

`event.getSource()` returns an instance of the component that fires the event. For example:

```
<aura:component>
  <lightning:button name="myButton" onclick="{!c.doSomething}"/>
</aura:component>
```

```
({
  doSomething: function(cmp, event, helper) {
    var button = event.getSource();

    //The following patterns are not supported
    //when you're trying to access another component's
    //DOM elements.
    var el = event.target;
    var currentEl = event.currentTarget;
  }
})
```

Retrieve a component attribute that's passed to the event by using this syntax.

```
event.getSource().get("v.name")
```

 **Note:** In Summer '17, LockerService will be automatically enabled for all orgs. In anticipation of this change, we recommend that you update your JavaScript code to use `event.getSource()`. This pattern is consistent with event handling in other components, such as those in the `ui` namespace.

### IN THIS SECTION:

[Handling the `onactive` Event](#)

Get a reference to the active component when a `lightning:tab` or `lightning:menuItem` component is active.

### SEE ALSO:

[LockerService Has Stricter Content Security Policy](#)

## Handling the `onactive` Event

Get a reference to the active component when a `lightning:tab` or `lightning:menuItem` component is active.

With the `onactive` event handler, you know which tab or menu item is active. Clicking the component multiple times invokes the handler once only. For example, you can lazy load the tab's content only when it's active. Here's an example with two tabs, which loads content when they're active.

```
<lightning:tabset variant="scoped">
  <lightning:tab onactive="{! c.handleActive }" label="Accounts" id="accounts" />
  <lightning:tab onactive="{! c.handleActive }" label="Cases" id="cases" />
</lightning:tabset>
```

In your client-side helper, pass the tab that's selected before adding your content using `$A.createComponent()`.

```

({
  handleActive: function (cmp, event) {
    var tab = event.getSource();
    switch (tab.get('v.id')) {
      case 'accounts' :
        this.injectComponent('c:myAccountComponent', tab);
        break;
      case 'cases' :
        this.injectComponent('c:myCaseComponent', tab);
        break;
    }
  },
  injectComponent: function (name, target) {
    $A.createComponent(name, {
    }, function (contentComponent, status, error) {
      if (status === "SUCCESS") {
        target.set('v.body', contentComponent);
      } else {
        throw new Error(error);
      }
    });
  }
});

```

 **Note:** If you only need the ID or value of the tab and you don't need a reference to the target component, use the `onselect` event handler.

## Removed LockerService Restriction on `instanceof` in JavaScript

Previously, we advised against using the `instanceof` operator in JavaScript code when LockerService is activated. This restriction has been removed due to some framework refactoring.

Feel free to use `instanceof` in your components or upload static resources for third-party libraries that use `instanceof` in their internals.

## Deprecated `useAppcache` Attribute in `<aura:application>`

Browser vendors have deprecated AppCache so we've followed their lead. Remove the `useAppcache` attribute in the `<aura:application>` tag of your standalone apps (.app resources) to avoid cross-browser support issues due to deprecation by browser vendors.

If you don't currently set `useAppcache` in an `<aura:application>` tag, you don't have to do anything as the default value of `useAppcache` is `false`.

## New and Changed Lightning Components

We added several new components and made improvements to others so that you can create apps faster.

### New Components

The following components are new.

**forceCommunity:routeLink**

Sets an HTML anchor (<a>) tag with an href attribute that's automatically generated from the provided record ID. Use it to improve SEO link equity in communities based on the Customer Service (Napili) template.

**lightning:avatar**

A visual representation of a person.

**lightning:container (Developer Preview)**

A container for a single-page application created with a third-party framework such as AngularJS or React, uploaded as a static resource and hosted in an iFrame. For more information, see [Host Single-Page Apps Developed with Third-Party Frameworks Using lightning:container \(Developer Preview\)](#).

**lightning:inputRichText (Beta)**

A WYSIWYG editor with a customizable toolbar for entering rich text. For more information, see [Implement Your Own Rich-Text Editor with lightning:inputRichText \(Beta\)](#).

This component has changed since it's released. Nested lists now use proper nested ul and ol tags; they are no longer indented using q1-indent CSS classes.

## Changed Components

The following components have changed.

**lightning:button**

The following attributes are new.

- title—Tooltip text on the button.
- type—Specifies the type of button. Valid values are button, reset, and submit. This value defaults to button.

**lightning:buttonIcon**

The following attributes are new.

- iconClass—CSS class to apply to the contained icon element.
- title—Tooltip text on the button.
- type—Specifies the type of button. Valid values are button, reset, and submit. This value defaults to button.

**lightning:buttonMenu**

The following attribute has changed.

- iconName—If an icon other than utility:down or utility:chevrondown is used, a utility:down icon is appended to the right of that icon.

**lightning:icon**

The following attribute has changed.

- variant—The bare variant has been added for utility icons.

The following attribute is new.

- title—Tooltip text on the icon.

**lightning:input**

Field validation now occurs after a 2-second delay of continuous keystrokes during a user's interaction in the field. During an onBlur event, field validation occurs immediately. Validation errors are displayed when you leave the field.

The following types are new.

- file—Input field for uploading files using an Upload Files button or a drag-and-drop zone.
- search—Input field for entering a search string.

The following attributes are new.

- `accept`—Specifies the types of files that the server accepts. You can use this attribute only when `type='file'`.
- `files`—A `FileList` that contains selected files. This attribute can be used only when `type='file'`.
- `multiple`—Specifies that a user can enter more than one value. You can use this attribute only when `type='file'`.

The following attribute has changed.

- `validity`—The initial value is no longer `null`, which means that you can check an input field's validity even if users haven't interacted with the field.

The following method is new.

- `showHelpMessageIfInvalid`—Shows the help message if the form control is in an invalid state.

### **lightning:menuitem**

The following attribute is new.

- `onactive`—The action triggered when the menu item is active. For more information, see [Handling the onactive Event](#).

### **lightning:select**

Field validation now occurs after a 2-second delay of continuous keystrokes during a user's interaction in the field. During an `onblur` event, field validation occurs immediately. Validation errors are displayed when you leave the field.

The following attribute has changed.

- `validity`—The initial value is no longer `null`, which means that you can check an input field's validity even if users haven't interacted with the field.

The following method is new.

- `showHelpMessageIfInvalid`—Shows the help message if the form control is in an invalid state.

### **lightning:spinner**

The following attribute is new.

- `alternativeText`—Describes the reason for the wait and need for a spinner.

### **lightning:tab**

The following attribute is new.

- `onactive`—The action triggered when the tab is active. For more information, see [Handling the onactive Event](#).

### **lightning:textarea**

Field validation now occurs after a 2-second delay of continuous keystrokes during a user's interaction in the field. During an `onblur` event, field validation occurs immediately. Validation errors are displayed when you leave the field.

The following attribute has changed.

- `validity`—The initial value is no longer `null`, which means that you can check an input field's validity even if users haven't interacted with the field.

The following method is new.

- `showHelpMessageIfInvalid`—Shows the help message if the form control is in an invalid state.

### **ui:outputText**

The following attribute is new.

- `title`—Displays extra information as hover text.

## Changed Lightning Events

Lightning events facilitate communication between components and increase interactivity in your apps.

### Changed Events

The following event has changed.

#### **forceCommunity:analyticsInteraction**

The `hitType` attribute now supports the following values.

- `social`, which measures social interactions, such as clicking the **Like** button on Facebook
- `exception`, which measures the type and number of errors that occur on a property
- `timing`, which measures periods of time in milliseconds, such as page load time

## New JavaScript API Methods

Use JavaScript API methods in your component's client-side controller, helper, or renderer.

The following method is new.

#### **Component.getName()**

Returns the component's name in the format `namespace:cmpName`; for example, `ui:button`. This format is also known as the component's descriptor.

## Visualforce: Enhanced for Lightning Experience

Develop apps to customize your org using Visualforce. Changes in this release make it easier to adopt the Lightning Design System in your Visualforce pages and improve integration with Lightning Experience. This change applies to Lightning Experience, Salesforce Classic, and all versions of the Salesforce1 mobile app.

For more information on features affected by these enhancements, refer to the [Visualforce Developer's Guide](#).

### EDITIONS

Available in: **Contact Manager, Group, Professional, Enterprise, Performance, Unlimited,** and **Developer** Editions

#### IN THIS SECTION:

##### [Use the Lightning Design System in Visualforce Pages](#)

Use the `<apex:slds>` element to incorporate the Lightning Design System in your Visualforce pages and align them with the styling of Lightning Experience. This component is a streamlined alternative to uploading the Lightning Design System as a static resource and using it in your Visualforce pages.

##### [Reference Lightning Design System Assets with the \\$Asset Global Variable](#)

Use the `$Asset` global variable to access images, sprites, and other assets that are part of the Lightning Design System. Use it in Visualforce pages that also use the `<apex:slds>` component.

##### [Add More Security to Your Visualforce Pages](#)

We added a login setting that enables access to Force.com site standard pages. If your site serves only Visualforce pages, then disabling this setting adds a layer of access protection to your site.

##### [Allow CSRF Protection on GET Requests to Visualforce Pages \(Critical Update\)](#)

This critical update makes it possible to enable CSRF checks for GET requests on Visualforce pages, and might break links to existing Visualforce pages.

### [New Order of Visualforce URL Parameters Affects Overrides](#)

Changes to the order of Visualforce page URL parameters can affect your Visualforce overrides. If you use a Visualforce page to override an action without encoding the parameter's value, your users encounter an error when trying to take that action.

## Use the Lightning Design System in Visualforce Pages

Use the `<apex:slds>` element to incorporate the Lightning Design System in your Visualforce pages and align them with the styling of Lightning Experience. This component is a streamlined alternative to uploading the Lightning Design System as a static resource and using it in your Visualforce pages.

Because you don't have to upload the Lightning Design System as a static resource, you can keep the syntax of your page simple and stay under the 250-MB static resource limit. To use Lightning Design System stylesheets in your Visualforce page, add `<apex:slds />` anywhere in your page markup.

In general, the Lightning Design System is already scoped. However, if you set `applyBodyTag` or `applyHtmlTag` to false, you must include the scoping class `slds-scope`. Within the scoping class, your markup can reference Lightning Design System styles and assets.

To reference assets in the Lightning Design System, such as SVG icons and images, use the `URLFOR()` formula function and the `$Asset` global variable.

SEE ALSO:

[Reference Lightning Design System Assets with the \\$Asset Global Variable](#)

[Visualforce Developer Guide: Using the Lightning Design System](#)

## Reference Lightning Design System Assets with the `$Asset` Global Variable

Use the `$Asset` global variable to access images, sprites, and other assets that are part of the Lightning Design System. Use it in Visualforce pages that also use the `<apex:slds>` component.

Use `$Asset` instead of `$Resource`. The variable takes dot notation and `SLDS`. For example, this markup references a JPG avatar in the Lightning Design System.

```
<apex:page>
  <apex:slds />
  <span class="slds-icon_container slds-icon--small slds-icon-standard-account"
title="Contact Avatar">
    
  </span>
</apex:page>
```

SEE ALSO:

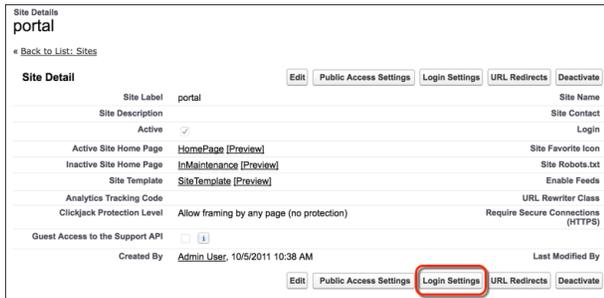
[Use the Lightning Design System in Visualforce Pages](#)

[Visualforce Developer Guide: \\$Asset](#)

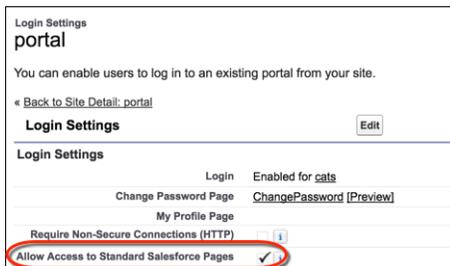
## Add More Security to Your Visualforce Pages

We added a login setting that enables access to Force.com site standard pages. If your site serves only Visualforce pages, then disabling this setting adds a layer of access protection to your site.

From Setup, enter *Sites* in the Quick Find box, then select **Sites**. Click the site name, and in the Site Details page, click **Login Settings**.



Standard pages are provided by Salesforce as a part of the platform, as opposed to Visualforce pages that you create. When enabled, the **Allow access to standard Salesforce pages** setting allows authenticated users to access standard Salesforce pages in the site as allowed by their access controls. When disabled, authenticated users can't access standard Salesforce pages, even if their access controls allow it.



 **Note:** The setting is only visible in non-community Force.com sites. However, you can use this setting with a community's Force.com site through the Metadata API.

## Allow CSRF Protection on GET Requests to Visualforce Pages (Critical Update)

This critical update makes it possible to enable CSRF checks for GET requests on Visualforce pages, and might break links to existing Visualforce pages.

When creating a Visualforce page in Setup, you can select **Require CSRF Protection on GET requests**. This option adds an extra layer of security to your Visualforce page that guards against cross-site request forgery (CSRF). This critical update gives you the option of enabling CSRF protection on Visualforce pages, but it does not automatically enable protection on every page. Previously, this option only had an effect when applied to Visualforce pages used for delete action overrides.

In general, a POST request from a Visualforce page submits data, while a GET request asks for data. POST requests always have CSRF protection. This critical update gives you the option of ensuring that Visualforce pages receive a CSRF token with a GET request.

When this option is enabled for a Visualforce page, you can't access the page by entering its URL—`/apex/PageName`. Also, plain links to that page using `<a>` tags don't work. If you try to access a Visualforce page with CSRF protection enabled, the page doesn't load and you get an error.

Plain links from a page with CSRF checks work, but links to the page do not. For example, if your page has the name `PageName`, the link `<a href="/apex/PageName">Link</a>` doesn't work. Instead, use the `URLFOR()` formula function, the `$Page` global variable, or the `apex:outputLink` component.

```
<apex:outputLink value="/apex/PageName">Link using apex:outputlink</apex:outputlink>
<a href="{!$Page.PageName}">Link using $Page</a>
<a href="{!URLFOR($Page.PageName)}">Link using URLFOR()</a>
```

CSRF checks on GET requests also affect how Visualforce pages are referenced from Apex controllers. Methods that return the URL of CSRF-protected pages for navigation don't work:

```
public String getPage(){
    return '/apex/PageName';
}
```

Instead, use methods that return a reference to the Visualforce page instead of the URL directly.

```
public class customController {
    public PageReference getPage() {
        return new PageReference('/apex/PageName');
    }

    public PageReference getPage1() {
        return Page.PageName;
    }
}
```

When you use one of these methods to link to a page, Visualforce adds the required CSRF token to the URL. These are the preferred methods for linking to Visualforce pages, regardless of whether CSRF protection is enabled for the page. You can use only these methods to add a CSRF token to a URL for a Visualforce page.

## Test This Critical Update

This update is enabled everywhere on the auto-activation date, June 11, 2017. We recommend that you test your Visualforce code in a Developer Edition org before then and verify that links to all your Visualforce pages using CSRF protection still work. If you must work in your production org, do so during off-peak hours.

1. From Setup, enter *Critical Updates* in the Quick Find box, and then select **Critical Updates**.
2. For "Allow CSRF Protection on GET Requests to Visualforce Pages", click **Activate**.
3. Test links to any Visualforce pages that have CSRF protection on GET requests enabled.

## New Order of Visualforce URL Parameters Affects Overrides

Changes to the order of Visualforce page URL parameters can affect your Visualforce overrides. If you use a Visualforce page to override an action without encoding the parameter's value, your users encounter an error when trying to take that action.

When a user takes an action, such as creating, saving, editing, or deleting a record, the URL of the page includes a `retURL` string. The `retURL` tells Salesforce which page to return to when the action is completed. When you are adding the `retURL` to a URL in a Visualforce page or Apex controller, you must encode it. Otherwise, you could encounter validation errors because we changed the order of `retURL` and other parameters, such as the record ID, in Visualforce URLs.

In a Visualforce page, use `URLENCODE()`. For example, construct the `retURL` using `retURL={!URLENCODE($CurrentPage.parameters.retURL)}`.

In an Apex controller, use the `urlEncode()` method. For example, `EncodingUtil.urlEncode(retURL, 'UTF-8')`.

# Apex Code

The Apex stub API is now generally available. We've added a page to help you monitor Apex batch jobs, and we've fixed some bugs with the `instanceOf` keyword and test setup methods.

For more information on these enhancements, refer to the [Apex Developer Guide](#).

## EDITIONS

Available in: **Enterprise, Performance, Unlimited, Developer, and Database.com** Editions

### IN THIS SECTION:

#### [Apex Stub API Is Now Generally Available](#)

Apex provides a stub API for implementing a mocking framework. A mocking framework has many benefits. It can streamline and improve testing and help you create faster, more reliable tests. You can use it to test classes in isolation, which is important for unit testing. Building your mocking framework with the stub API can also be beneficial because stub objects are generated at runtime. Because these objects are generated dynamically, you don't have to package and deploy test classes. You can use the stub API to build your own mocking framework, or you can use one built by someone else.

#### [Monitor the Status of Apex Batch Jobs](#)

Get more information about the status of Apex batch jobs. For a particular batch class, you can get information about parent jobs, such as submitted and completion dates and the number of batches processed or failed. This change applies to both Lightning Experience and Salesforce Classic.

#### [Only One Test Setup Method per Class is Allowed](#)

You can now have only one test setup method per Apex test class. A test setup method is a method annotated with `@testSetup`. In previous versions, multiple test setup methods were allowed due to a bug, which has now been fixed. If you run Apex test classes that have more than one test setup method, you get a compile-time exception. Update your code and rerun the tests.

#### [Goodbye to instanceOf Keyword Bugs](#)

The Apex `instanceOf` keyword works more consistently with managed base packages. In previous versions, it didn't give the correct value if the expression on the left side was an Apex class that extended the target type specified in the expression on the right side, and the Apex class was declared in a different package from the target type.

#### [Make Web Service Callouts from Chained Queueable Jobs](#)

Apex now allows web service callouts from chained queueable jobs. Previously, a queueable job could make a web service callout, but additional chained jobs that made callouts would throw exceptions.

#### [Maps of Populated SObject Fields Return Correct Values](#)

The `SObject.getPopulatedFieldsAsMap()` method returns a map of populated field names and their corresponding values. The map contains only the fields that have been populated in memory for the `SObject` instance. Previously, the method didn't return fields that were added to an `SObject` after it had been retrieved via a SOQL query. This bug has been fixed, and the method returns the correct fields.

#### [Apex Has New Transaction Security Policy Testing Requirements](#)

If you're using the policy condition interface in the org where the policy was implemented, test classes for the policy are not required. If you move the policy to another org, you must have test classes for the Apex policy in the new org. Testing is required whether the policy is moved from a sandbox to production, with a change set, or some other way. Why? If you're making a policy available outside of its development environment, it needs testing to make sure it works correctly.

#### [Apex: New and Changed Classes and Interfaces](#)

These classes and interfaces are new or have changed.

#### [ConnectApi \(Chatter in Apex\)](#)

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You can define the behavior of stub objects, which are created at runtime as anonymous subclasses of Apex classes. The stub API comprises the `System.StubProvider` interface and the `System.Test.createStub()` method.

To use a stub version of an Apex class:

1. Define the behavior of the stub class by implementing the `System.StubProvider` interface.
2. Instantiate a stub object by using the `System.Test.createStub()` method.
3. Invoke the relevant method of the stub object from within a test class.

This GA version resolves the following limitations that were present in the pilot version of the stub API.

- When calling the `createStub()` method in the pilot version, your Apex class was required to have a constructor that took zero arguments. This limitation is no longer present in the GA version.
- You can now mock exceptions.
- You can now mock classes that implement the `Schedulable` and `Queueable` interfaces.

## Monitor the Status of Apex Batch Jobs

Get more information about the status of Apex batch jobs. For a particular batch class, you can get information about parent jobs, such as submitted and completion dates and the number of batches processed or failed. This change applies to both Lightning Experience and Salesforce Classic.

1. From Setup, enter `Apex` in the `Quick Find` box, and select **Apex Jobs** to view all Apex jobs for your org.
2. Click the link at the top of the page to go to the new batch jobs page and see all Apex batch classes.
3. Click **More Info** on a particular batch class to show the parent jobs of the batch class, including information about:
  - Status
  - Submitted and completion dates
  - Elapsed time for each batch
  - Number of processed batches
  - Number of failed batches

[Click here to go back to the classic view](#)

### Apex Batch Jobs

Monitor the status of all Apex Batch jobs.

11/13/2016, 5:25 PM - 11/21/2016, 5:25 PM

| Action                    | Class Id        | Namespace Prefix | Class Name | Queued | Processing | Aborted | Completed | Failed |
|---------------------------|-----------------|------------------|------------|--------|------------|---------|-----------|--------|
| <a href="#">More Info</a> | 01px000000001ZQ |                  | BatchTest  | 0      | 0          | 0       | 50        | 0      |

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You can now have only one test setup method per Apex test class. A test setup method is a method annotated with `@testSetup`. In previous versions, multiple test setup methods were allowed due to a bug, which has now been fixed. If you run Apex test classes that have more than one test setup method, you get a compile-time exception. Update your code and rerun the tests.

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## Make Web Service Callouts from Chained Queueable Jobs

Apex now allows web service callouts from chained queueable jobs. Previously, a queueable job could make a web service callout, but additional chained jobs that made callouts would throw exceptions.

SEE ALSO:

[Idea Exchange: Allow Callouts from Chained Queueable Apex Jobs](#)

## Maps of Populated SObject Fields Return Correct Values

The `SObject.getPopulatedFieldsAsMap()` method returns a map of populated field names and their corresponding values. The map contains only the fields that have been populated in memory for the `SObject` instance. Previously, the method didn't return fields that were added to an `SObject` after it had been retrieved via a SOQL query. This bug has been fixed, and the method returns the correct fields.

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## Apex: New and Changed Classes and Interfaces

These classes and interfaces are new or have changed.

IN THIS SECTION:

[New Apex Classes](#)

These classes were introduced in this release.

[Changed Apex Interface](#)

This interface was deprecated in this release.

### New Apex Classes

These classes were introduced in this release.

## Classes in the Auth Namespace

### **AuthProviderPluginClass Class**

The new `Auth.AuthProviderPluginClass` class contains a method to get a refresh token.

#### **refresh(authProviderConfiguration, refreshToken)**

Returns a new access token, which is used to update an expired access token.

### **OAuthRefreshResult Class**

The new `Auth.OAuthRefreshResult` class stores the results of the `Auth.AuthProviderPluginClass.refresh` method. OAuth authentication flow provides a refresh token that you can use to get a new access token. Access tokens have limited lifetime specified by the session timeout value. When an access token expires, use a refresh token to get a new access token. The class has the following properties.

#### **accessToken**

The OAuth access token for the user who is currently logged in.

#### **error**

Error that occurs when a user unsuccessfully attempts to authenticate with the custom authentication provider.

#### **refreshToken**

The OAuth refresh token for the user who is currently logged in.

## Classes in the VisualEditor Namespace

### **DataRow Class**

The new `VisualEditor.DataRow` class contains information about one item in a picklist used in a Lightning component on a Lightning page.

#### **clone()**

Makes a duplicate copy of the `VisualEditor.DataRow` object.

#### **compareTo(o)**

Compares the current `VisualEditor.DataRow` object to the specified one. Returns an integer value that is the result of the comparison.

#### **getLabel()**

Returns the user-facing label of the picklist item.

#### **getValue()**

Returns the value of the picklist item.

#### **isSelected()**

Returns the state of the picklist item, indicating whether it's selected or not.

### **DynamicPicklist Class**

The new `VisualEditor.DynamicPicklist` class is used to display the values of a picklist in a Lightning component on a Lightning page.

#### **clone()**

Makes a duplicate copy of the `VisualEditor.DynamicPicklist` object.

#### **getDefaultValue()**

Returns the picklist item that is set as the default value for the picklist.

#### **getLabel(attributeValue)**

Returns the user-facing label for a specified picklist value.

#### **getValues()**

Returns the list of picklist item values.

**isValid(attributeValue)**

Returns the valid state of the picklist item's value. A picklist value is considered valid if it's a part of any `VisualEditor.DataRow` in the `VisualEditor.DynamicPickListRows` returned by `getValues()`.

**DynamicPicklistRows Class**

The new `VisualEditor.DynamicPicklistRows` class contains a list of picklist items in a Lightning component on a Lightning page.

**addAllRows(rows)**

Adds a list of picklist items to a dynamic picklist rendered in a Lightning component on a Lightning page.

**addRow(row)**

Adds a single picklist item to a dynamic picklist rendered in a Lightning component on a Lightning page.

**clone()**

Makes a duplicate copy of the `VisualEditor.DynamicPickListRows` object.

**containsAllRows()**

Returns a Boolean value indicating whether all values of the picklist are included when a user does a type-ahead search query (true) or only those values initially displayed when the list is clicked on (false).

**get(i)**

Returns a picklist element stored at the specified index.

**getDataRows()**

Returns a list of picklist items.

**setContainsAllRows(containsAllRows)**

Sets the value indicating whether all values of the picklist are included when a user does a type-ahead search query (true) or only those values initially displayed when the list is clicked on (false).

## Changed Apex Interface

This interface was deprecated in this release.

### Auth.AuthProviderPlugin Interface

#### Deprecated

We replaced the `Auth.AuthProviderPlugin` interface with the new abstract class `Auth.AuthProviderPluginClass`. If you've implemented a custom authentication provider with the `Auth.AuthProviderPlugin`, it still works. However, if you want to add new functionality or implement a new provider, use the `Auth.AuthProviderPluginClass` abstract class.

## ConnectApi (Chatter in Apex)

Create custom experiences in Salesforce using Chatter in Apex. In this release, you can access Files Connect with the new `ConnectApi.ContentHub` class, create and manage custom feeds with streams, send direct messages, share feed posts, and more.

Many Chatter REST API resource actions are exposed as static methods on Apex classes in the `ConnectApi` namespace. These methods use other `ConnectApi` classes to input and return information. The `ConnectApi` namespace is referred to as *Chatter in Apex*.

In Apex, it's possible to access some Chatter data using SOQL queries and objects. However, `ConnectApi` classes expose Chatter data in a much simpler way. Data is localized and structured for display. For example, instead of making many calls to access and assemble a feed, you can do it with a single call.

 **Note:** To integrate mobile apps, intranet sites, and third-party web applications with Chatter and Communities, use [Chatter REST API](#).

#### IN THIS SECTION:

- [New and Changed Chatter in Apex Classes](#)
- [New and Changed Chatter in Apex Input Classes](#)
- [New and Changed Chatter in Apex Output Classes](#)
- [New and Changed Chatter in Apex Enums](#)

## New and Changed Chatter in Apex Classes

### Announcements

These methods are in the `ConnectApi.Announcements` class.

#### Announcements are available to guest users

If your community allows access without logging in, these methods are available to guest users.

- `getAnnouncements (communityId, parentId)`—Get the first page of announcements.
- `getAnnouncements (communityId, parentId, pageParam, pageSize)`—Get the specified page of announcements.

### Chatter Feeds

These methods are in the `ConnectApi.ChatterFeeds` class.

#### Get the supported emojis for the org

- `getSupportedEmojis ()`—Get supported emojis for the org.  
To get the list, emojis must be enabled in your org.

#### Like or unlike a comment

- `updateLikeForComment (communityId, commentId, isLikedByCurrentUser)`—Like or unlike a comment.  
To like a comment, set the `isLikedByCurrentUser` parameter to `true`. To unlike a comment, set it to `false`.

#### Like or unlike a post

- `updateLikeForFeedElement (communityId, feedElementId, isLikedByCurrentUser)`—Like or unlike a feed element.  
To like a post, set the `isLikedByCurrentUser` parameter to `true`. To unlike a post, set it to `false`.

#### Update a feed element with a shared feed entity

- `updateFeedElement (communityId, feedElementId, feedElement)`  
Use this existing method with the new `ConnectApi.FeedEntityShareCapabilityInput` class.

 **Note:** The `shareFeedElement (communityId, subjectId, feedElementType, originalFeedElementId)` method is no longer supported for sharing feed elements.

**Create a feed element that has a shared feed entity**

- `postFeedElement (communityId, feedElement)`  
Use this existing method with the new `ConnectApi.FeedEntityShareCapabilityInput` class.

**Get a stream feed**

- `getFeed (communityId, feedType, subjectId)`  
Use this existing method, where `feedType` is `Streams` and `subjectId` is the stream ID.
- `getFeed (communityId, feedType, subjectId, sortParam)`  
Use this existing method, where `feedType` is `Streams` and `subjectId` is the stream ID.

**Get feed elements from a stream feed**

- `getFeedElementsFromFeed (communityId, feedType, subjectId)`  
Use this existing method, where `feedType` is `Streams` and `subjectId` is the stream ID.
- `getFeedElementsFromFeed (communityId, feedType, subjectId, pageParam, pageSize, sortParam)`  
Use this existing method, where `feedType` is `Streams` and `subjectId` is the stream ID.
- `getFeedElementsFromFeed (communityId, feedType, subjectId, recentCommentCount, density, pageParam, pageSize, sortParam)`  
Use this existing method, where `feedType` is `Streams` and `subjectId` is the stream ID.

**Create, delete, get information about, and update feed streams**

- `createStream (communityId, streamInput)` —Create a Chatter feed stream.
- `deleteStream (communityId, streamId)` —Delete a Chatter feed stream.
- `getStream (communityId, streamId)` —Get information about a Chatter feed stream.
- `getStreams (communityId)` —Get the Chatter feed streams for the context user.
- `updateStream (communityId, streamId, streamInput)` —Update a Chatter feed stream.

**Get the direct message feed**

- `getFeed (communityId, feedType)`  
Use this existing method, where `feedType` is `DirectMessages`.
- `getFeed (communityId, feedType, sortParam)`  
Use this existing method, where `feedType` is `DirectMessages` and `sortParam` is `LastModifiedDateDesc`.

**Get feed elements from the direct message feed**

- `getFeedElementsFromFeed (communityId, feedType)`  
Use this existing method, where `feedType` is `DirectMessages`.
- `getFeedElementsFromFeed (communityId, feedType, pageParam, pageSize, sortParam)`  
Use this existing method, where `feedType` is `DirectMessages` and `sortParam` is `LastModifiedDateDesc`.
- `getFeedElementsFromFeed (communityId, feedType, recentCommentCount, density, pageParam, pageSize, sortParam)`

Use this existing method, where `feedType` is `DirectMessages` and `sortParam` is `LastModifiedDateDesc`.

### Update a direct message

- `updateFeedElement(communityId, feedElementId, feedElement)`

Use this existing method with the new `ConnectApi.DirectMessageCapabilityInput` class.

### Create a direct message

- `postFeedElement(communityId, feedElement)`

Use this existing method with the new `ConnectApi.DirectMessageCapabilityInput` class.

### Get or search a list of the top unanswered questions in a community

- `getFeedElementsFromFeed(communityId, feedType, recentCommentCount, density, pageParam, pageSize, sortParam, filter)`

Use the existing method, where `feedType` is `Home`, `sortParam` is `MostViewed`, and `filter` is `UnansweredQuestions`.

- `searchFeedElementsInFeed(communityId, feedType, recentCommentCount, density, pageParam, pageSize, sortParam, q, filter)`

Use this existing method, where `feedType` is `Home`, `sortParam` is `MostViewed`, and `filter` is `UnansweredQuestions`.

### Get the pending review feed

- `getFeed(communityId, feedType)`, where `feedType` is `PendingReview`.
- `getFeed(communityId, feedType, sortParam)`, where `feedType` is `PendingReview`.

### Get and search feed posts and comments that are pending review

- `getFeedElementsFromFeed(communityId, feedType)`, where `feedType` is `PendingReview`.
- `getFeedElementsFromFeed(communityId, feedType, pageParam, pageSize, sortParam)`, where `feedType` is `PendingReview`.
- `getFeedElementsFromFeed(communityId, feedType, recentCommentCount, density, pageParam, pageSize, sortParam)`, where `feedType` is `PendingReview`.
- `searchFeedElementsInFeed(communityId, feedType, q)`, where `feedType` is `PendingReview`.
- `searchFeedElementsInFeed(communityId, feedType, pageParam, pageSize, sortParam, q)`, where `feedType` is `PendingReview`.
- `searchFeedElementsInFeed(communityId, feedType, recentCommentCount, density, pageParam, pageSize, sortParam, q)`, where `feedType` is `PendingReview`.

### Email Merge Field Service

This method is in the new `ConnectApi.EmailMergeFieldService` class.

#### Extract a list of merge fields for an object

- `getMergeFields(objectApiNames)` —Extract the merge fields for a specific object.

### Files Connect

These methods are in the new `ConnectApi.ContentHub` class.

**Get file previews of repository files**

- `getFilePreview(repositoryId, repositoryFileId, formatType)`—Get a repository file preview.
- `getFilePreview(repositoryId, repositoryFileId, formatType, startPageNumber, endPageNumber)`—Get a page or page range of a repository file preview.
- `getFilePreview(communityId, repositoryId, repositoryFileId, formatType)`—Get a repository file preview in a community.
- `getFilePreview(communityId, repositoryId, repositoryFileId, formatType, startPageNumber, endPageNumber)`—Get a page or page range of a repository file preview in a community.
- `getPreviews(repositoryId, repositoryFileId)`—Get information about a repository file's supported previews.
- `getPreviews(communityId, repositoryId, repositoryFileId)`—Get information about a repository file's supported previews in a community.

**Get repositories**

- `getRepositories()`—Get a list of repositories.
- `getRepositories(communityId)`—Get a list of repositories in a community.
- `getRepositories(pageParam, pageSize)`—Get a page of repositories.
- `getRepositories(communityId, pageParam, pageSize)`—Get a page of repositories in a community.
- `getRepository(repositoryId)`—Get a repository.
- `getRepository(communityId, repositoryId)`—Get a repository in a community.

**Get repository files**

- `getRepositoryFile(repositoryId, repositoryFileId)`—Get a repository file.
- `getRepositoryFile(repositoryId, repositoryFileId, includeExternalFilePermissionsInfo)`—Get a repository file with or without permissions information.
- `getRepositoryFile(communityId, repositoryId, repositoryFileId)`—Get a repository file in a community.
- `getRepositoryFile(communityId, repositoryId, repositoryFileId, includeExternalFilePermissionsInfo)`—Get a repository file with or without permissions information in a community.

**Get repository folders**

- `getRepositoryFolder(repositoryId, repositoryFolderId)`—Get a repository folder.
- `getRepositoryFolder(communityId, repositoryId, repositoryFolderId)`—Get a repository folder in a community.

**Get repository folder items**

- `getRepositoryFolderItems(repositoryId, repositoryFolderId)`—Get repository folder items.
- `getRepositoryFolderItems(communityId, repositoryId, repositoryFolderId)`—Get repository folder items in a community.
- `getRepositoryFolderItems(repositoryId, repositoryFolderId, pageParam, pageSize)`—Get a page of repository folder items.
- `getRepositoryFolderItems(communityId, repositoryId, repositoryFolderId, pageParam, pageSize)`—Get a page of repository folder items in a community.

**Add repository items**

- `addRepositoryItem(repositoryId, repositoryFolderId, file)`—Add a repository item.
- `addRepositoryItem(communityId, repositoryId, repositoryFolderId, file)`—Add a repository item in a community.
- `addRepositoryItem(repositoryId, repositoryFolderId, file, fileData)`—Add a repository item, including the binary file.
- `addRepositoryItem(communityId, repositoryId, repositoryFolderId, file, fileData)`—Add a repository item, including the binary file, in a community.

**Update repository files**

- `updateRepositoryFile(repositoryId, repositoryFileId, file)`—Update the metadata of a repository file.
- `updateRepositoryFile(repositoryId, repositoryFileId, file, fileData)`—Update the content of a repository file.
- `updateRepositoryFile(communityId, repositoryId, repositoryFileId, file)`—Update the metadata of a repository file in a community.
- `updateRepositoryFile(communityId, repositoryId, repositoryFileId, file, fileData)`—Update the content of a repository file in a community.

**Get the item types that the context user is allowed to create in the repository folder**

- `getAllowedItemTypes(repositoryId, repositoryFolderId)`—Get the item types that the context user is allowed to create in the repository folder.
- `getAllowedItemTypes(repositoryId, repositoryFolderId, filter)`—Get the item types, filtered by type, that the context user is allowed to create in the repository folder.
- `getAllowedItemTypes(communityId, repositoryId, repositoryFolderId)`—Get the item types that the context user is allowed to create in the repository folder in a community.
- `getAllowedItemTypes(communityId, repositoryId, repositoryFolderId, filter)`—Get the item types, filtered by type, that the context user is allowed to create in the repository folder in a community.

**Get information about an item type associated with a repository**

- `getItemType(repositoryId, repositoryItemId)`—Get information about an item type associated with a repository.
- `getItemType(communityId, repositoryId, repositoryItemId)`—Get information about an item type associated with a repository in a community.

**Groups**

This method is in the `ConnectApi.ChatterGroups` class.

**Invite internal and external users to join a group**

- `inviteUsers(groupId, invite)`—Invite internal and external users to join a group.

**Managed Topics**

This method is in the `ConnectApi.ManagedTopics` class.

**Get managed topics associated with a list of up to 100 topics**

- `getManagedTopics(communityId, managedTopicType, recordIds, depth)`

Use this existing method, where `recordIds` is a list of up to 100 topic IDs.

## SalesforceInbox

This method is in the `ConnectApi.SalesforceInbox` class.

### Share specific emails or events with certain groups of users

- `shareActivity(activityId, sharingInfo)`—Share specific emails or events with certain groups of users.

## New and Changed Chatter in Apex Input Classes

### Chatter Feeds

#### **ConnectApi.ChatterStreamInput**

This new input class has these properties.

- `description`—Description of the stream, up to 1,000 characters.
- `name`—Name of the stream, up to 120 characters.
- `subscriptionsToAdd`—List of up to 25 entities whose feeds are included in the stream.
- `subscriptionsToRemove`—List of entities whose feeds are removed from the stream.

#### **ConnectApi.DirectMessageCapabilityInput**

This new input class is a subclass of `ConnectApi.FeedElementCapabilityInput`. It has these properties.

- `membersToAdd`—List of user IDs for members to include in the direct message.
- `subject`—Subject of the direct message.

#### **ConnectApi.FeedElementCapabilitiesInput**

This input class has these new properties.

- `directMessage`—Describes the direct message.
- `feedEntityShare`—Describes the feed entity shared with the feed element.

#### **ConnectApi.FeedEntityShareCapabilityInput**

This new input class is a subclass of `ConnectApi.FeedElementCapabilityInput`. It has one property.

- `feedEntityId`—ID of the feed entity to share with a feed element.

#### **ConnectApi.FeedItemInput**

The `originalItemId` property is no longer supported. Use the `capabilities.feedEntityShare.feedEntityId` property instead.

#### **ConnectApi.StreamSubscriptionInput**

This new input class has one property.

- `entity`—ID of any feed-enabled entity, such as a group, record, or user, that the context user can access. When subscribed, the entity's feed is included in the feed stream.

### Files Connect

#### **ConnectApi.ContentHubFieldValueInput**

This new input class has these properties.

- `name`—Name of the item field.
- `value`—Value of the item field.

**ConnectApi.ContentHubItemInput**

This new input class has these properties.

- `fields`—List of fields for the item to be created.
- `itemId`—ID of the item type.

## Groups

**ConnectApi.InviteInput**

This new input class has these properties.

- `invitees`—List of email addresses to send the invitation to.
- `message`—Message to include in the invitation.

## Salesforce Inbox

**ConnectApi.ActivitySharingInput**

This new input class has these properties.

- `groupsToShareWith`—List of IDs for the groups that you share the activity with. Valid only if `sharingType` is `MyGroups`.
- `sharingType`—Type of sharing operation.

## New and Changed Chatter in Apex Output Classes

### Chatter Feeds

**ConnectApi.ChatterStream**

This new output class has these properties.

- `createdDate`—Date the stream was created.
- `description`—Description of the stream.
- `id`—18-character ID of the stream.
- `name`—Name of the stream.
- `subscriptions`—List of entities whose feeds are included in the stream.
- `url`—URL to the stream.

**ConnectApi.ChatterStreamPage**

This new output class has these properties.

- `currentPageUrl`—URL to the current page of streams.
- `items`—List of streams.
- `nextPageUrl`—URL to the next page of streams.
- `total`—Total number of streams in the collection.

**ConnectApi.DirectMessageCapability**

This new output class is a subclass of `ConnectApi.FeedElementCapability`. It has these properties.

- `members`—Members included in the direct message.
- `subject`—Subject of the direct message.

**ConnectApi.DirectMessageMemberPage**

This new output class has these properties.

- `currentPageToken`—Page token to access the current page of direct message members.
- `currentPageUrl`—URL to the current page of direct message members.
- `nextPageToken`—Page token to access the next page of direct message members.
- `nextPageUrl`—URL to the next page of direct message members.
- `users`—Collection of direct message members.

**ConnectApi.Emoji**

This new output class has these properties.

- `category`—Emoji category.
- `shortcut`—Emoji shortcut.
- `unicodeCharacter`—Emoji's unicode character.

**ConnectApi.EmojiCollection**

This new output class has one property.

- `emojis`—Collection of emojis.

**ConnectApi.Features**

This output class has these new properties.

- `feedStreamEnabled`—Indicates whether Chatter feed streams are enabled for the org.
- `maxEntitySubscriptionsPerStream`—Specifies the maximum number of feed-enabled entities that can be subscribed to in a Chatter stream.
- `maxStreamsPerPerson`—Specifies the maximum number of Chatter streams that a user can have.

**ConnectApi.FeedElementCapabilities**

This output class has these new properties.

- `directMessage`—If a feed element has this capability, it's a direct message.
- `feedEntityShare`—If a feed element has this capability, a feed entity is shared with it.

**ConnectApi.FeedEntityNotAvailableSummary**

This new output class is a subclass of `ConnectApi.FeedEntitySummary` and has no properties.

**ConnectApi.FeedEntityShareCapability**

This new output class is a subclass of `ConnectApi.FeedElementCapability`. It has one property.

- `feedEntity`—Summary of the feed entity that is shared with the feed element.

**ConnectApi.FeedEntitySummary**

This new output class is a superclass of `ConnectApi.FeedItemSummary` and `ConnectApi.FeedEntityNotAvailableSummary` and has these properties.

- `actor`—Entity that created the feed entity.
- `body`—Information about the feed entity.
- `createdDate`—ISO8601 date string, for example, 2011-02-25T18:24:31.000Z, when the entity was created.
- `feedElementType`—Type of feed entity.
- `id`—18-character ID of the feed entity.
- `isEntityAvailable`—Specifies whether the entity is available. If `false`, either the user doesn't have access to the entity or the entity was deleted.
- `parent`—Parent of the feed entity.
- `relativeCreatedDate`—Relative created date, for example, "2h ago."

- `url`—URL to the feed entity.

#### **ConnectApi.FeedItem**

This output class has one new property.

- `isSharable`—Indicates whether the feed item can be shared.

 **Note:** The `canShare` property is no longer supported.

#### **ConnectApi.FeedItemSummary**

This new output class is a subclass of `ConnectApi.FeedEntitySummary` and has these properties.

- `capabilities`—Container for all capabilities that can be included with a feed item.
- `header`—Title of the post. This property contains renderable plain text for all the message segments. If a client doesn't know how to render a feed element type, it should render this text.
- `modifiedDate`—When the feed item was modified in the form of an ISO8601 date string, for example, 2011-02-25T18:24:31.000Z.
- `originalFeedItem`—Reference to the original feed item if this feed item is a shared feed item; otherwise, `null`.
- `originalFeedItemActor`—If this feed item is a shared feed item, information about the original poster of the feed item; otherwise, `null`.
- `photoUrl`—URL of the photo associated with the feed item.
- `visibility`—Specifies who can see a feed item.

#### **ConnectApi.SocialAccount**

This output class has one new property.

- `socialPersonaId`—ID of the social persona, if the `externalSocialAccountId` isn't available.

#### **ConnectApi.SupportedEmojis**

This new output class has one property.

- `supportedEmojis`—Collection of supported emojis.

## Email Merge Field Services

#### **ConnectApi.EmailMergeFieldInfo**

This new output class has one property.

- `entityToMergeFieldsMap`—Map for multiple objects and their merge field collections.

#### **ConnectApi.EmailMergeFieldCollection**

This new output class has one property.

- `mergeFields`—List of merge fields for a single object.

## Files Connect

#### **ConnectApi.AbstractContentHubItem**

This new abstract output class is a super class of `ConnectApi.ContentHubItemTypeDetail` and `ConnectApi.ContentHubItemTypeSummary`. It has these properties.

- `contentStreamSupport`—Specifies support for content streaming. Values are:
  - `ContentStreamAllowed`
  - `ContentStreamNotAllowed`
  - `ContentStreamRequired`

- `description`—Description of the item type.
- `displayName`—Display name of the item type.
- `id`—ID of the item type.
- `isVersionable`—Indicates whether the item type can have versions.
- `url`—URL to the detailed information of the item type.

#### **ConnectApi.AbstractDirectoryEntrySummary**

This new abstract output class is a super class of `ConnectApi.RepositoryGroupSummary` and `ConnectApi.RepositoryUserSummary`. It has these properties.

- `domain`—Domain of the directory entry.
- `email`—Email of the directory entry.
- `id`—ID of the directory entry.
- `type`—Type of directory entry. Values are:
  - `GroupEntry`
  - `UserEntry`

#### **ConnectApi.AbstractRepositoryFile**

This new abstract output class is a subclass of `ConnectApi.AbstractRepositoryItem` and a super class of `ConnectApi.RepositoryFileDetail` and `ConnectApi.RepositoryFileSummary`. It has these properties.

- `checkinComment`—Checkin comment of the file.
- `contentSize`—Length in bytes of the content of the file.
- `downloadUrl`—URL to the repository file content.
- `externalContentUrl`—URL of this file's content in the external system.
- `externalDocumentUrl`—URL of this file in the external system.
- `externalFilePermissionInformation`—External file permission information, such as available groups, available permission types, and current sharing status, or `null` if `includeExternalFilePermissionsInfo` is `false`.
- `mimeType`—Mime type of the file.
- `previewUrlThumbnail`—URL to the thumbnail preview (240 x 180 PNG).
- `previewUrlThumbnailBig`—URL to the big thumbnail preview (720 x 480 PNG).
- `previewUrlThumbnailTiny`—URL to the tiny thumbnail preview (120 x 90 PNG).
- `previewsUrl`—URL to the previews.
- `title`—Title of the file.
- `versionId`—ID of the file version in the external system.

#### **ConnectApi.AbstractRepositoryFolder**

This new abstract output class is a subclass of `ConnectApi.AbstractRepositoryItem` and a super class of `ConnectApi.RepositoryFolderDetail` and `ConnectApi.RepositoryFolderSummary`. It has these properties.

- `externalFolderUrl`—URL of this folder in the external system.
- `folderItemsUrl`—URL that lists the files and folders in this folder.
- `path`—Absolute path of the folder in the external system.

#### **ConnectApi.AbstractRepositoryItem**

This new abstract output class is a super class of `ConnectApi.AbstractRepositoryFile` and `ConnectApi.AbstractRepositoryFolder`. It has these properties.

- `createdBy`—Name of the user who created the item.
- `createdDate`—Date the item was created.
- `description`—Description of the Item.
- `id`—ID of the item.
- `itemTypeUrl`—URL to the item type information.
- `modifiedBy`—Name of the user who last modified the item.
- `modifiedDate`—Date the item was last modified.
- `motif`—Motif of the item.
- `name`—Name of the item.
- `repository`—Item external repository.
- `type`—Item type, file or folder.
- `url`—The URL to the item.

#### **ConnectApi.ContentHubAllowedItemTypeCollection**

This new output class has one property.

- `allowedItemTypes`—Collection of item types that the context user is allowed to create in a repository folder.

#### **ConnectApi.ContentHubFieldDefinition**

This new output class has these properties.

- `displayName`—Label or caption of this field.
- `isMandatory`—Specifies whether this field is mandatory for the item type.
- `maxLength`—Maximum length of the value of this field.
- `name`—Name of the field.
- `type`—Specifies the data type of the value of the field. Values are:
  - `BooleanType`
  - `DateTimeType`
  - `DecimalType`
  - `HtmlType`
  - `IdType`
  - `IntegerType`
  - `StringType`
  - `UriType`
  - `XmlType`

#### **ConnectApi.ContentHubItemTypeDetail**

This new output class is a subclass of `ConnectApi.AbstractContentHubItemType`. It has one property.

- `fields`—List of fields that the context user is allowed to set in the metadata of this item type.

#### **ConnectApi.ContentHubItemTypeSummary**

This new output class is a subclass of `ConnectApi.AbstractContentHubItemType` and has no properties.

#### **ConnectApi.ContentHubPermissionType**

This new output class has these properties.

- `id`—Internal ID of the permission type in the repository.

- `label`—Label as returned by the repository.

#### **ConnectApi.ContentHubProviderType**

This new output class has these properties.

- `label`—Localized label of the provider type.
- `type`—Provider type. Values are:
  - `ContentHubBox`
  - `ContentHubGDrive`
  - `ContentHubSharepoint`
  - `ContentHubSharepointOffice365`
  - `ContentHubSharepointOneDrive`
  - `SimpleUrl`

#### **ConnectApi.ContentHubRepository**

This new output class is a subclass of `ConnectApi.ActorWithId`. It has these properties.

- `features`—Repository features.
- `label`—Repository label.
- `name`—Repository name.
- `providerType`—Repository provider type.
- `rootFolderItemsUrl`—URL to the list of items in the repository root folder.

#### **ConnectApi.ContentHubRepositoryCollection**

This new output class has these properties.

- `currentPageUrl`—URL to the current page of repositories.
- `nextPageUrl`—URL to the next page of repositories.
- `previousPageUrl`—URL to the previous page of repositories.
- `repositories`—Collection of repositories.

#### **ConnectApi.ContentHubRepositoryFeatures**

This new output class has these properties.

- `canBrowse`—Specifies whether the repository's folder hierarchy can be browsed (`true`) or not (`false`).
- `canSearch`—Specifies whether the repository can be searched (`true`) or not (`false`).

#### **ConnectApi.ExternalFilePermissionInformation**

This new output class has these properties.

- `externalFilePermissionTypes`—Available permission types for the parent folder of the external file, or `null` for non-external files or when `includeExternalFilePermissionsInfo` is `false`.
- `externalFilePermissionsFailure`—`true` if the retrieval of external file information failed or if `includeExternalFilePermissionsInfo` is `false`; `false` otherwise.
- `externalFilePermissionsInfoFailureReason`—Explanation of the failure if a failure occurred and `includeExternalFilePermissionsInfo` is `true`; `null` otherwise.
- `externalFileSharingStatus`—Specifies the sharing status for the external file. Values are:
  - `DomainSharing`—File is shared with the domain.
  - `PrivateSharing`—File is private or shared only with individuals.
  - `PublicSharing`—File is publicly shared.

- `repositoryPublicGroups`—Available public groups in the external repository or `null` for non-external files or when `includeExternalFilePermissionsInfo` is `false`.

#### **ConnectApi.FilePreview**

This new output class has these properties.

- `format`—Format of the preview.
- `previewUrlCount`—Total number of preview URLs for this preview format.
- `previewUrls`—List of file preview URLs.
- `status`—Availability status of the preview.
- `url`—URL for the file preview.

#### **ConnectApi.FilePreviewCollection**

This new output class has these properties.

- `fileId`—ID of the file.
- `previews`—Previews supported for the file.
- `url`—URL to the current page of file previews.

#### **ConnectApi.FilePreviewUrl**

This new output class has these properties.

- `pageNumber`—Preview page number starting from zero, or `null` for PDF files.
- `previewUrl`—File preview URL.

#### **ConnectApi.RepositoryFileDetail**

This new output class is a subclass of `ConnectApi.AbstractRepositoryFile` and has no properties.

#### **ConnectApi.RepositoryFileSummary**

This new output class is a subclass of `ConnectApi.AbstractRepositoryFile` and has no properties.

#### **ConnectApi.RepositoryFolderDetail**

This new output class is a subclass of `ConnectApi.AbstractRepositoryFolder` and has no properties.

#### **ConnectApi.RepositoryFolderItem**

This new output class has these properties.

- `file`—If the folder item is a file, the file summary. If the folder item is a folder, `null`.
- `folder`—If the folder item is a folder, the folder summary. If the folder item is a file, `null`.
- `type`—Specifies the type of item in a folder. Values are:
  - `file`
  - `folder`

#### **ConnectApi.RepositoryFolderItemsCollection**

This new output class has these properties.

- `currentPageUrl`—URL to the current page.
- `items`—Collection of items in a repository folder.
- `nextPageUrl`—URL to the next page.
- `previousPageUrl`—URL to the previous page.

#### **ConnectApi.RepositoryFolderSummary**

This new output class is a subclass of `ConnectApi.AbstractRepositoryFolder` and has no properties.

**ConnectApi.RepositoryGroupSummary**

This new output class is a subclass of `ConnectApi.AbstractDirectoryEntrySummary`. It has these properties.

- `groupType`—Specifies the type of group. Values are:
  - `Everybody`—Group is public to everybody.
  - `EverybodyInDomain`—Group is public to everybody in the same domain.
  - `Unknown`—Group type is unknown.
- `name`—Name of the group.

**ConnectApi.RepositoryUserSummary**

This new output class is a subclass of `ConnectApi.AbstractDirectoryEntrySummary`. It has these properties.

- `firstName`—First name of the user.
- `lastName`—Last name of the user.

## Groups

**ConnectApi.Invitation**

This new output class has these properties.

- `email`—Email address of the user.
- `status`—Specifies the status of an invitation to join a group. Values are:
  - `ActedUponUser`—The user was added to the group. An email was sent asking the user to visit the group.
  - `Invited`—An email was sent asking the user to sign up for the org.
  - `MaxedOutUsers`—The group has the maximum allowed members.
  - `MultipleError`—The user wasn't invited due to multiple errors.
  - `NoActionNeededUser`—The user is already a member of the group.
  - `NotVisibleToExternalInviter`—The user is not accessible to the user sending the invitation.
  - `Unhandled`—The user couldn't be added to the group for an unknown reason.
- `userId`—ID of the user.

**ConnectApi.Invitations**

This new output class has one property.

- `invitations`—Collection of invitations.

## Salesforce Inbox

**ConnectApi.ActivitySharingResult**

This new output class has one property.

- `success`—Specifies whether the share operation succeeded or not.

## Users

**ConnectApi.Stamp**

This new output class has these properties.

- `description`—Description of the stamp.
- `id`—ID of the stamp.

- `imageUrl`—Image URL of the stamp.
- `label`—Label of the stamp.

**ConnectApi.User**

This output class has one new property.

- `stamps`—Collection of the user's stamps.

## New and Changed Chatter in Apex Enums

For information about these enums, see `ConnectApi` Enums in *Apex Developer Guide*.

**ConnectApi.ActivitySharingTypeEnum**

This new enum has these values.

- `Everyone`—The activity is shared with everyone.
- `MyGroups`—The activity is shared only with a selection of the context user's groups.
- `OnlyMe`—The activity is private.

**ConnectApi.ContentHubDirectoryEntryType**

This new enum has these values.

- `GroupEntry`
- `UserEntry`

**ConnectApi.ContentHubExternalItemSharingType**

This new enum has these values.

- `DomainSharing`—File is shared with the domain.
- `PrivateSharing`—File is private or shared only with individuals.
- `PublicSharing`—File is publicly shared.

**ConnectApi.ContentHubGroupType**

This new enum has these values.

- `Everybody`—Group is public to everybody.
- `EverybodyInDomain`—Group is public to everybody in the same domain.
- `Unknown`—Group type is unknown.

**ConnectApi.ContentHubItemType**

This new enum has these values.

- `Any`—Includes files and folders.
- `FilesOnly`—Includes files only.
- `FoldersOnly`—Includes folders only.

**ConnectApi.ContentHubStreamSupport**

This new enum has these values.

- `ContentStreamAllowed`
- `ContentStreamNotAllowed`
- `ContentStreamRequired`

**ConnectApi.ContentHubVariableType**

This new enum has these values.

- `BooleanType`

- `DateTimeType`
- `DecimalType`
- `HtmlType`
- `IdType`
- `IntegerType`
- `StringType`
- `UriType`
- `XmlType`

**`ConnectApi.FeedElementCapabilityType`**

This enum has these new values.

- `FeedEntityShare`—The feed element has a feed entity shared with it.
- `DirectMessage`—The feed element is a direct message.

**`ConnectApi.FeedSortOrder`**

This enum has one new and one updated value.

- `MostViewed`—Sorts the feed by the most viewed content. This value is available only for `Home` feeds when the `ConnectApi.FeedFilter` is set to `UnansweredQuestions`.
- `Relevance`—This value is available for `Company`, `Home`, and `Topics` feeds.

**`ConnectApi.FeedType`**

This enum has these new values.

- `DirectMessages`—Contains all feed items of the context user's direct messages.
- `PendingReview`—Contains all feed items and comments that are pending review.
- `Streams`—Contains all feed items for any combination of up to 25 feed-enabled entities, such as people, groups, and records, that the context user subscribes to in a stream.

**`ConnectApi.FilePreviewFormat`**

This new enum specifies the format of the file preview. Values are:

- `Pdf`—Preview format is PDF.
- `Svg`—Preview format is compressed SVG.
- `Thumbnail`—Preview format is 240 x 180 PNG.
- `ThumbnailBig`—Preview format is 720 x 480 PNG.
- `ThumbnailTiny`—Preview format is 120 x 90 PNG.

**`ConnectApi.FilePreviewStatus`**

This new enum specifies the status of the file preview. Values are:

- `Available`—Preview is available.
- `InProgress`—Preview is being processed.
- `NotAvailable`—Preview is unavailable.
- `NotScheduled`—Generation of the preview isn't scheduled yet.

**`ConnectApi.FolderItemType`**

This new enum has these values.

- `file`
- `folder`

**ConnectApi.GroupViralInvitationsStatus**

This new enum specifies the status of a viral invitation to join a group. Values are:

- `ActedUponUser`—The user was added to the group. An email was sent asking the user to visit the group.
- `Invited`—An email was sent asking the user to sign up for the org.
- `MaxedOutUsers`—The group has the maximum allowed members.
- `MultipleError`—The user wasn't invited due to multiple errors.
- `NoActionNeededUser`—The user is already a member of the group.
- `NotVisibleToExternalInviter`—The user is not accessible to the user sending the invitation.
- `Unhandled`—The user couldn't be added to the group for an unknown reason.

**ConnectApi.RecommendationExplanationType**

This enum has one new value.

- `ArticleHasRelatedContent`—Indicates articles that are recommended because they have content that is related to a context article.

**ConnectApi.SocialNetworkProvider**

This enum has these new values.

- `KakaoTalk`
- `Kik`
- `Messenger`
- `QQ`
- `SMS`
- `Snapchat`
- `Telegram`

## API

Access more metadata types and data objects in API version 39.0.

**IN THIS SECTION:**[New and Changed Objects](#)

Access more data through these new and changed standard objects.

[SOSL](#)

Salesforce Object Search Language (SOSL) includes a new WITH HIGHLIGHT clause and updated description for the " " operator.

[REST API](#)

REST API includes changed resources and a generally available resource for making several requests at once.

[SOAP API](#)

SOAP API includes new, changed, and deprecated calls.

[Chatter REST API](#)

Integrate mobile apps, intranet sites, and third-party web applications with Salesforce using Chatter REST API. In this release, you can create and manage custom feeds with streams, send direct messages, share feed posts, use activity reminders, and more.

**EDITIONS**

Available in: **Developer**, **Enterprise**, **Unlimited**, and **Performance** Editions

### [Reports and Dashboards REST API](#)

Reports and Dashboards REST API enhancements include new a new resource describing report types, lets you create reports and delete report instances, and includes analytics notifications for report subscriptions in Lightning Experience.

### [Lightning API—Developer Preview](#)

Use Lightning API to create native mobile apps and custom web apps with your own branding and look and feel. A single REST request returns enough metadata, layout information, and data to display, edit, or create a record! Lightning API supports most objects that are available in Lightning Experience.

### [Bulk API](#)

Bulk API now supports the queryAll operation and SOQL relationships. Also, we're moving toward the next iteration of the Bulk API with a pilot version of Bulk API 2.0. This new API provides a simple interface for quickly loading large amounts of data into your Salesforce org.

### [Messaging](#)

Messaging includes enhancements to the beta feature, Platform Events, and a connector for Streaming API and Platform Events.

### [Tooling API](#)

Tooling API includes new and changed objects, calls, and resources.

### [Metadata API](#)

Metadata API includes new and changed types and fields.

### [Data Services](#)

You can define and query composite primary keys for custom BigObjects, and additional functions are supported by Async SOQL.

### [Open CTI API](#)

You can now use Open CTI for Lightning Experience in Lightning console apps.

### [Build AI-Powered Apps Fast \(Pilot\)](#)

With the Predictive Vision Service, developers can harness the power of image recognition to build AI-powered apps. Without a data science degree! You can train deep-learning models to recognize and classify images at scale with the Predictive Vision Service REST API. Leverage pre-trained classifiers, or train your own custom classifiers to solve a vast array of specialized image-recognition use cases. Developers can bring the power of image recognition to CRM and third-party applications so that end users across sales, service, and marketing can discover new insights about their customers and predict outcomes that lead to smarter decisions.

### [Other API Changes](#)

We've updated Data.com terminology.

## New and Changed Objects

Access more data through these new and changed standard objects.

### IN THIS SECTION:

#### [New Objects](#)

These objects are new.

#### [Changed Objects](#)

These objects have changed.

## New Objects

These objects are new.

**AssetTokenEvent**

Represents an event associated with an asset token, such as token issuance and registration of a connected device as an Asset.

**CommunityWorkspacesNode**

Represents a node used in Community Workspaces.

**ForecastingUserPreference**

Represents the forecasting selections that a user has made, such as display options, date range, forecasting type, and currency.

**QuoteFeed**

Represents a single feed item on the quote record detail page.

**SecurityCustomBaseline**

Provides the ability to read, create, and delete user-defined custom security baselines, which define an org's security standards.

**Stamp**

Represents a User Specialty.

**StampAssignment**

Represents assignment of a User Specialty to a user.

**UserCriteria**

Represents the member criteria to use in community moderation rules.

**VoiceCall**

Represents a Voice phone call.

**VoiceCallList**

Represents a prioritized list of numbers to call.

**VoiceCallListItem**

Represents a single phone number in a prioritized call list.

**VoiceCallListShare**

Represents a sharing entry on a VoiceCallList.

**VoiceCallShare**

Represents a sharing entry on a VoiceCall object.

**VoiceMailContent**

Represents a voicemail message.

**VoiceMailContentShare**

Represents a sharing entry on a VoiceMailContent.

**VoiceUserLine**

Represents a user's forwarding phone number.

**VoiceUserLineShare**

Represents a sharing entry on a user's phone number.

**VoiceVendorInfo**

Represents information about the voice provider's vendor.

**VoiceVendorLine**

Represents a user's phone number reserved with the vendor.

**VoiceVendorLineShare**

Represents a sharing entry on a vendor's phone number.

## Changed Objects

These objects have changed.

### Changed Objects

#### AccountContactRelation

The name of the `CurrencyIsoCode` field has been changed to `AccountContactRelationshipCurrency`.

#### CampaignMemberStatus

- The `layoutable` attribute is now true.
- The `nullable` property of the `SortOrder` field has changed to true.
- The `updateable` property of the `Label` field has changed to true.
- There must now be a default `CampaignMemberStatus` defined for every campaign.
- At least one `CampaignMemberStatus` on each campaign must have a `hasResponded` value of `true`.

#### Contract

The `Status` field no longer has the `Defaulted on create` property.

#### Event

Depending on your API version, errors with the `DurationInMinutes` and `EndDateTime` fields may appear in different places.

- Versions 38.0 and before—Errors always appear in the `DurationInMinutes` field.
- Versions 39.0 and later—If there's no value for the `DurationInMinutes` field, errors appear in the `EndDateTime` field. Otherwise, they appear in the `DurationInMinutes` field.

#### EmailMessage

The following fields have been added:

- `MessageIdentifier`—The ID of the email message.
- `ThreadIdentifier`—The ID of the email thread the email message belongs to.

#### EmailTemplate

The `RelatedEntityType` field has been added.

The `EntityType` field has been deprecated. Use the new field, `RelatedEntityType`, instead.

#### EventLogFile

The `EventLogFile` object has the following new event types.

- Lightning Error
- Lightning Interaction
- Lightning Page View
- Lightning Performance

The following fields were added to the `Login As` event type. You can use `LOGIN_KEY` and `SESSION_KEY` together to uniquely identify a user's session. For example, use `LOGIN_KEY` and `SESSION_KEY` to show Salesforce administrators' click paths through your app while they were logged in as another user. Many other event types also include `LOGIN_KEY` and `SESSION_KEY`, giving you a complete picture of a user's activity across your org.

- `CPU_TIME`—The CPU time in milliseconds used to complete the request. This field indicates the amount of activity taking place in the app server layer, highlighting pieces of Apex or Visualforce code that need refactoring.
- `LOGIN_KEY`—The string that ties together all events in a given user's login session. It starts with a login event and ends with either a logout event or the user session expiring.

- `RUN_TIME`—The amount of time that the request took in milliseconds.
- `SESSION_KEY`—The string that ties together all events for a particular activity session. For example, URI events while the user is interacting with an Accounts page.
- `URI_ID_DERIVED`—The 18-character case insensitive ID of the URI of the page that's receiving the request.

One field has been added to the Login event type. You can use this field to determine whether your users' login attempts to your Salesforce org were successful.

- `LOGIN_STATUS`—The status of the login attempt. For successful logins, the value is `LOGIN_NO_ERROR`. All other values indicate errors or authentication issues. For more information, see "Login Event Type - LOGIN\_STATUS Values" in the *Object Reference for Salesforce and Force.com*.

### ExternalDataSource

The new `AuthProviderId` field contains the Salesforce ID of the authentication provider, which defines the service that provides the login process and approves access to the external system.

You can now set the `iswritable` field to `true` with the cross-org adapter for Salesforce Connect.

### ExternalDataUserAuth

The new `AuthProviderId` field contains the Salesforce ID of the authentication provider, which defines the service that provides the login process and approves access to the external system.

### FeedAttachment

The value `FeedEntity` was added to the `Type` picklist. `FeedEntity` is a feed entity, such as a post, that's shared. Available in API version 39 and later in Lightning Experience.

### FeedItem

The `HasFeedEntity` field was added to `FeedItem`. `HasFeedEntity` indicates whether the feed item has a feed entity, such as a post, as an attachment. Available in API version 39 and later when sharing a feed entity in Lightning Experience.

### Lead

The following fields were added.

- `ActivityMetricId`
- `ScoreIntelligenceId`

### LiveChatBlockingRule

The `Language` field no longer has the Defaulted on create property.

### LiveChatButton

The `Language` field no longer has the Defaulted on create property.

### LiveChatSensitiveDataRule

The `Language` field no longer has the Defaulted on create property.

### LiveChatUserConfig

The `Language` field no longer has the Defaulted on create property.

### MatchingRule

The following field was added.

#### **SubjectSubType**

Read-only. Indicates if the matching rule is defined for the `Person` subtype of `Account`.

### ModerationRule

The following fields have been added.

#### **ActionLimit**

Indicates the moderation action limit measured in minutes.

**NotifyLimit**

Indicates the notification limit (in seconds) of the moderation rule.

**TimePeriod**

The values that represent the time-frame for which a rate limiting rule is applied. The two values available represent a time periods measured in minutes: "Short" represents 3 minutes and "Medium" represents 15 minutes.

**Type**

Type of moderation rule. Content rules protect your community from offensive language and inappropriate content created by spammers or malicious members. Rate rules protect your community against spammers and bots that attack your community by posting the same message multiple times in a row.

**NamedCredential**

The new `AuthProviderId` field contains the Salesforce ID of the authentication provider, which defines the service that provides the login process and approves access to the external system.

**NetworkActivityAudit**

The `ParentEntityId` field now supports direct messages.

**NetworkMember**

The new `PreferencesDisableDirectMessageEmail` field has been added. When set to `false`, community members receive notifications for direct messages.

**ObjectTerritory2AssignmentRule**

The `Language` field no longer has the Defaulted on create property.

**OrderItem**

The `Product2Id` field has been added.

**PermissionSet**

The `IsCustom` field has been added.

**PresenceDeclineReason**

The `Language` field no longer has the Defaulted on create property.

**PresenceUserConfig**

The `Language` field no longer has the Defaulted on create property.

**QueueRoutingConfig**

The `Language` field no longer has the Defaulted on create property. Plus, the following field has been added:

- `OverflowAssigneeId` – The ID of the user or queue that's set as the Overflow Assignee.

**QuoteDocument**

The `ContentVersionDocumentId` field has been added. This field is the ID of a document's version.

**QuoteLineItem**

In API 38.0 and earlier, if `Product2Id` is populated with `PricebookEntryId` data, you receive an error message. In API 39.0 and later, `Product2Id` is made null, and `PricebookEntryId` is populated with the `PricebookEntryId` data.

**Pricebook2**

The `isArchived` field has been added.

**Territory2Type**

The `Language` field no longer has the Defaulted on create property.

**TenantSecret**

The `Type` restricted picklist has been added with two values.

- `Data`—A tenant secret that encrypts data stored in the Salesforce database. Includes data in files, fields, and attachments, but not search index files.

- `SearchIndex`—A tenant secret that encrypts search index files.

### VerificationHistory

The following fields have new picklist values.

- `Activity` field
  - `ChangeEmail`—The user attempted to change an email address.
  - `ConnectToopher`—The user attempted to connect Salesforce Authenticator.
  - `ConnectTotp`—The user attempted to connect a one-time password generator.
  - `ConnectU2F`—The user attempted to register a U2F security key.
- `Policy` field
  - `PageAccess`—Identity verification required for users attempting to perform an action, such as changing an email address or adding a two-factor authentication method.

### Vote

The following fields have been added:

- `LastModifiedById` – ID of the user most recently associated with this vote.
- `LastModifiedDate` – The datetime when this vote was last modified.

### SEE ALSO:

[See the Actions of Salesforce Administrators Who Logged In as Another User](#)

## SOSL

Salesforce Object Search Language (SOSL) includes a new `WITH HIGHLIGHT` clause and updated description for the `" "` operator.

### IN THIS SECTION:

[Changed Resource: `FIND {SearchQuery}`](#)

The description of the `FIND` resource now indicates that the `" "` operator returns matches for the exact order of the search terms entered.

[Highlight Matching Terms in Search Results by Using the `WITH HIGHLIGHT` Clause](#)

`WITH HIGHLIGHT` is an optional clause that you can add to a SOSL query for account, campaign, contact, lead, opportunity, quote, and user searches. In search results, it highlights the terms that match the search query, making it easier to identify relevant content.

### Changed Resource: `FIND {SearchQuery}`

The description of the `FIND` resource now indicates that the `" "` operator returns matches for the exact order of the search terms entered.

### Highlight Matching Terms in Search Results by Using the `WITH HIGHLIGHT` Clause

`WITH HIGHLIGHT` is an optional clause that you can add to a SOSL query for account, campaign, contact, lead, opportunity, quote, and user searches. In search results, it highlights the terms that match the search query, making it easier to identify relevant content.

For example:

```
FIND {salesforce} IN ALL FIELDS RETURNING Account(Name,Description) WITH HIGHLIGHT
```

 **Note:** The `WITH HIGHLIGHT` clause does not return snippets in search results. To return snippets that include highlighted matching terms, use `WITH SNIPPET`.

## REST API

REST API includes changed resources and a generally available resource for making several requests at once.

### IN THIS SECTION:

#### [Make Several Requests at Once with the Composite Resource \(Generally Available\)](#)

Imagine you're writing a mobile app. To cut down on the number of round trips between your client and Salesforce, you want to make several REST API requests in a single call. You consider the Batch resource, but Batch doesn't let you pass information between subrequests. Are you out of luck? Not anymore! The Composite resource lets you make several requests in a single call and provides a way to reference the results of one subrequest in later subrequests.

#### [New Resources: Flows and Flow Interviews \(Pilot\)](#)

Have you ever wanted to build your own runtime experience for Visual Workflow? Here's your chance. We're providing two resources to describe flows and three resources to describe and manipulate interviews. If you're an existing pilot customer, nothing has changed since the last release.

#### [Changed Resource: Search for a String](#)

The example response body that includes the `metadata` parameter changed.

#### [Changed Resource: Search Suggested Records](#)

The `where` clause now supports specifying multiple objects. Any object-specific `where` clause overrides the global `where` clause.

#### [Removed Resource: FlexiPage](#)

The FlexiPage resource has been deprecated in API version 39.0 and has been removed from all previous API versions as well.

## Make Several Requests at Once with the Composite Resource (Generally Available)

Imagine you're writing a mobile app. To cut down on the number of round trips between your client and Salesforce, you want to make several REST API requests in a single call. You consider the Batch resource, but Batch doesn't let you pass information between subrequests. Are you out of luck? Not anymore! The Composite resource lets you make several requests in a single call and provides a way to reference the results of one subrequest in later subrequests.

Composite is supported for the following resources.

- All `sObject` resources (`vXX.X/sobjects/`)
- The Query resource (`vXX.X/query/?q=sogl`)
- The QueryAll resource (`vXX.X/queryAll/?q=sogl`)

You can have up to 25 subrequests in a single call. Up to 10 of these subrequests can be query operations, including Query, QueryAll, and "Query More" requests to obtain the next batch of query results.

### Composite

```
/vXX.X/composite
```

## New Resources: Flows and Flow Interviews (Pilot)

Have you ever wanted to build your own runtime experience for Visual Workflow? Here's your chance. We're providing two resources to describe flows and three resources to describe and manipulate interviews. If you're an existing pilot customer, nothing has changed since the last release.



**Note:** We provide Flow Runtime REST API to selected customers through a pilot program that requires agreement to specific terms and conditions. To be nominated to participate in the program, contact Salesforce. Pilot programs are subject to change, and we can't guarantee acceptance. Flow Runtime REST API isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features. You can provide feedback and suggestions for Flow Runtime REST API in the [IdeaExchange](#).

### Flows

Lists active flow definitions in your org.

```
/vXX.X/process/flows
```

### Specific Flow

Lists summary information about a specific flow.

```
/vXX.X/process/flows/FlowName
```

### Paused Interviews

Lists paused interviews that the running user can resume.

```
/vXX.X/process/interviews
```

### New Interview

Starts a flow interview.

```
/vXX.X/process/interviews/FlowName
```

### Specific Interview

Continues, pauses, or finishes an in-progress interview, or resumes a paused interview.

```
/vXX.X/process/interviews/FlowName/guid
```

### SEE ALSO:

[Customize the Look and Feel of Flow Interviews with the REST API \(Pilot\)](#)

## Changed Resource: Search for a String

The example response body that includes the `metadata` parameter changed.

Here's the new example:

```
{
  "searchRecords" : [ {
    "attributes" : {
      "type" : "Account",
      "url" : "/services/data/v35.0/subjects/Account/001D000000IqhSLIAZ"
    },
    "Id" : "001D000000IqhSLIAZ",
  }, {
```

```

    "attributes" : {
      "type" : "Account",
      "url" : "/services/data/v35.0/subjects/Account/001D000000IomazIAB"
    },
    "Id" : "001D000000IomazIAB",
  } ],
  "metadata" : {
    "entityMetadata" : [ {
      "entityName" : "Account",
      "fieldMetadata" : [ {

        "name" : "Name",
        "label" : "Account Name"
      } ]
    } ]
  } ]
}
}

```

## Changed Resource: Search Suggested Records

The `where` clause now supports specifying multiple objects. Any object-specific `where` clause overrides the global `where` clause. Here's the new example with a global and object-specific `where` clause.

```

...search/suggestions?q=Smith
&subject=Account,Contact,KnowledgeArticleVersion,CollaborationGroup,Topic,FeedItem
// Specifies a global where clause (to filter Account and Contact)
&where=name%20LIKE%20%27Smith%25%27
// Overrides the global where clause for Knowledge Article (filtering by PublishStatus and
Language is required for KnowledgeArticle)
&knowledgearticleversion.where=PublishStatus='online'+and+language='en_US'
// Overrides the global where clause for Topic
&topic.where=networkid=<1234567891>
// Overrides the global where clause for CollaborationGroup
&collaborationgroup.where=networkid=<1234567891>
// FeedItem-Question doesn't support where clauses, but we can filter the type and networkId
&type=question
&networkId==<1234567891>

```

## Removed Resource: FlexiPage

The FlexiPage resource has been deprecated in API version 39.0 and has been removed from all previous API versions as well.

The FlexiPage resource returned a list of Lightning Pages and their details.

The `/vXX.X/flexiPage/` REST endpoint has been removed as part of this deprecation.

You can still get FlexiPage metadata via the Metadata and Tooling APIs, however.

## SOAP API

SOAP API includes new, changed, and deprecated calls.

## New, Changed, and Deprecated Calls

### Changed Calls

`merge()` now supports the following:

#### Account hierarchies

Merge an account (the *victim*) that's part of an account hierarchy into another account (the *master*). The victim's child records become children of the master.

#### Reports To relationships

Merge a contact (victim) with a "reports to" relationship into another contact (master). The victim's value of `ReportsToId` is moved into the master.

#### Contacts and portal users

Merge a contact (victim) with an associated portal user into another contact (master). The victim's portal ID is moved into the master.

`findDuplicates()` now finds duplicate person accounts.

### Deprecated Calls

`describeFlexiPages()` and `DescribeFlexiPageResult` have been deprecated in API version 39.0 and have been removed from all previous API versions as well. You can still get FlexiPage metadata via the Metadata and Tooling APIs, however.

## Chatter REST API

Integrate mobile apps, intranet sites, and third-party web applications with Salesforce using Chatter REST API. In this release, you can create and manage custom feeds with streams, send direct messages, share feed posts, use activity reminders, and more.

 **Note:** To create custom Chatter and Communities experiences in Salesforce, use [ConnectApi \(Chatter in Apex\)](#).

### IN THIS SECTION:

[New and Changed Chatter REST API Resources](#)

[New and Changed Chatter REST API Request Bodies](#)

[New and Changed Chatter REST API Response Bodies](#)

## New and Changed Chatter REST API Resources

### Activity Reminders

#### Get information about an activity reminder in Salesforce Classic

Make a GET request to the new `/connect/reminders/activityId` resource.

#### Create an activity reminder in Salesforce Classic

Make a PUT request to the new `/connect/reminders/activityId` resource with the new Activity Reminder Input or with query parameters.

#### Delete an activity reminder in Salesforce Classic

Make a DELETE request to the new `/connect/reminders/activityId` resource.

**Update an activity reminder in Salesforce Classic**

Make a PATCH request to the new `/connect/reminders/activityId` resource with the new Activity Reminder Input or with query parameters.

**Get a list of upcoming activity reminders in Salesforce Classic**

Make a GET request to the new `/connect/reminders/activities` resource.

**Async Queries (Pilot)****Filter BigObjects by Boolean Fields**

Async SOQL supports filtering BigObjects by boolean fields.

**Use `MIN()` and `MAX()` to Query Data**

Calculate the minimum or maximum of the numerical values or chararrays in a single column using the `MIN()` and `MAX()` functions.

 **Note:** `MIN()` and `MAX()` don't support picklists.

**Use `CALENDAR_YEAR()` and `CALENDAR_MONTH()` to Query Data**

Return a number representing the year or month from a `dateTime` field using the `CALENDAR_YEAR()` and `CALENDAR_MONTH()` functions.

**Upsert Results to Target sObject**

To upsert results to a target sObject, use `targetExternalIdField` to specify the target sObject. Include `"operation": "upsert"` in your request.

 **Note:** Upsert is not supported for BigObjects.

**Chatter****Get the supported emojis for the org**

Make a GET request to the new `/chatter/emojis` resource.

To get the list, emojis must be enabled in your org.

**Get the URL to the streams feed**

Make a GET request to the new `/chatter/feeds/streams/streamId` resource.

**Get all feed elements of a stream**

Make a GET request to the new `/chatter/feeds/streams/streamId/feed-elements` resource.

**Get streams for the context user**

Make a GET request to the new `/chatter/streams` resource.

**Create a stream**

Make a POST request to the new `/chatter/streams` resource with the new Chatter Stream Input or with query parameters.

**Get information about a stream**

Make a GET request to the new `/chatter/streams/streamId` resource.

**Update a stream**

Make a PATCH request to the new `/chatter/streams/streamId` resource with the new Chatter Stream Input or with query parameters.

**Delete a stream**

Make a DELETE request to the new `/chatter/streams/streamId` resource.

## Chatter Feeds

### Like or unlike a comment

Make a PATCH request to the existing `/chatter/comments/commentId/likes` resource. To like a comment, set the new `isLikedByCurrentUser` parameter to `true`. To unlike a comment, set it to `false`.

### Like or unlike a post

Make a PATCH request to the existing `/chatter/feed-elements/feedElementId/capabilities/chatter-likes/items` resource. To like a post, set the new `isLikedByCurrentUser` parameter to `true`. To unlike a post, set it to `false`.

### Access the feed entity share capability of a feed element

Make a GET request to the new `/chatter/feed-elements/feedElementId/capabilities/feed-entity-share` resource.

### Update a feed element with a shared feed entity

Make a PATCH request to the existing `/chatter/feed-elements/feedElementId` resource with the Feed Item Input and the new Feed Entity Share Capability Input.

### Create a feed element that has a shared feed entity

Make a POST request to the existing `/chatter/feed-elements` resource with the Feed Item Input and the new Feed Entity Share Capability Input.

 **Note:** The `originalFeedItemId` request parameter is no longer supported for the `/chatter/feed-elements` resource to share feed elements.

### Get the URL to the direct message feed

Make a GET request to the new `/chatter/feeds/direct-messages` resource.

### Get all feed elements of the direct message feed

Make a GET request to the new `/chatter/feeds/direct-messages/feed-elements` resource.

### Access the direct message capability of a feed element

Make a GET request to the new `/chatter/feed-elements/feedElementId/capabilities/direct-message` resource.

### Get all members of a direct message

Make a GET request to the new `/chatter/feed-elements/feedElementId/capabilities/direct-message/members` resource.

### Update a direct message

Make a PATCH request to the existing `/chatter/feed-elements/feedElementId` resource with the Feed Item Input and the new Direct Message Capability Input.

### Create a direct message

Make a POST request to the existing `/chatter/feed-elements` resource with the Feed Item Input and the new Direct Message Capability Input.

### Get a list of the top unanswered questions in a community

Make a GET request to the existing `/connect/communities/communityId/chatter/feeds/home/feed-elements` resource. Set the `filter` parameter to `UnansweredQuestions` and the `sort` parameter to `MostViewed`.

### Get the URL to the pending review feed

Make a GET request to the new `/chatter/feeds/pending-review` resource.

### Get all posts and comments that are pending review

Make a GET request to the new `/chatter/feeds/pending-review/feed-elements` resource.

## Content Workspaces

### Get a user's permissions for a content workspace

Make a GET request to the new `/connect/content/workspaces/workspaceId/permissions/userId` resource.

## Email Merge Field Services

### See a list of merge fields for a specific object

Make a GET request to the new `/email-merge-fields` resource.

## Files

### Share an asset file with multiple orgs, communities, and content workspaces

Make a POST request to the existing `/connect/files/fileId/asset` resource with the new `shareWithIds` parameter.



**Note:** In version 38.0, the `shareWith` parameter allowed sharing with a single org, community, or content workspace. In version 39.0, `shareWith` is no longer supported. Use the `shareWithIds` parameter to share with one or more orgs, communities, or workspaces.

### Get information about a file image

Make a GET request to the new `/connect/files/fileId/image` resource.

## Files Connect

### Create a file reference from an external file URI

Make a POST request to the existing `/connect/files/users/userId` resource with the new `repositoryFileUri` parameter or the updated File Input.

## Groups

### Invite internal and external users to join a group

Make a POST request to the new `/chatter/groups/group/groupId/invite` resource with the new Invite Collection Input.

## Managed Topics

### Get managed topics associated with a list of up to 100 topics

Make a GET request to the existing `/connect/communities/communityId/managed-topics` resource with the `recordIds` parameter, which is a list of up to 100 topic IDs.

## Share Captured Activity

### Share an email or event captured by Automated Activity Capture

Make a PUT request to the new `/salesforce-inbox/shared-activities/activityId` resource with the new Share Captured Activity Input.

## New and Changed Chatter REST API Request Bodies

### Activity Reminders

#### Activity Reminder Input

This new request body has these properties.

- `isReminderDisplayed`—Indicates whether the activity reminder is displayed.
- `reminderDateTime`—Date and time that the activity reminder displays.

### Chatter

#### Chatter Stream Input

This new request body has these properties.

- `description`—Description of the stream, up to 1,000 characters.
- `name`—Name of the stream, up to 120 characters.
- `subscriptionsToAdd`—List of up to 25 entities whose feeds are included in the stream.
- `subscriptionsToRemove`—List of entities whose feeds are removed from the stream.

#### Stream Subscription Input

This new request body has one property.

- `entity`—ID of any feed-enabled entity, such as a group, record, or user, that the context user can access. When subscribed, the entity's feed is included in the feed stream.

### Chatter Feeds

#### Direct Message Capability Input

This new request body has these properties.

- `membersToAdd`—List of user IDs for members to include in the direct message.
- `subject`—Subject of the direct message.

#### Feed Element Capabilities Input

This request body has these new properties.

- `directMessage`—Describes the direct message.
- `feedEntityShare`—Describes the feed entity shared with the feed element.

#### Feed Entity Share Capability Input

This new request body has one property.

- `feedEntityId`—ID of the entity to share with a feed element.

#### Feed Item Input

The `originalFeedItemId` property is no longer supported. Use the `capabilities.feedEntityShare.feedEntityId` property instead.

### Files Connect

#### File Input

This request body has one new property.

- `repositoryFileUri`—URI to the external file.

## Groups

### Invite Collection Input

This new request body has these properties.

- `invitees`—List of email addresses to send the invitation to.
- `message`—Message to include in the invitation.

## Share Captured Activity

### Share Captured Activity Input

This new request body has these properties.

- `groupsToShareWith`—List of IDs for the groups that you share the activity with. Valid only if `sharingType` is `MyGroups`.
- `sharingType`—Type of sharing operation.

## New and Changed Chatter REST API Response Bodies

## Activity Reminders

### Activity Reminder

This new response body has these properties.

- `entityId`—Activity (task or event) ID.
- `isReminderDisplayed`—Indicates if the reminder is displayed to the user.
- `message`—Activity subject.
- `platformActionGroups`—List of action groups with action links available for the activity reminder.
- `reminderDate`—Reminder due date and time.

### Activity Reminder Collection

This new response body has one property.

- `reminders`—List of upcoming activity reminders.

## Chatter

### Chatter Stream

This new response body has these properties.

- `createdDate`—Date the stream was created.
- `description`—Description of the stream.
- `id`—18-character ID of the stream.
- `name`—Name of the stream.
- `subscriptions`—List of entities whose feeds are included in the stream.
- `url`—URL to the stream.

### Chatter Stream Collection

This new response body has these properties.

- `currentPageUrl`—URL to the current page of streams.
- `items`—List of streams.
- `nextPageUrl`—URL to the next page of streams.

- `total`—Total number of streams in the collection.

### Emoji

This new response body has these properties.

- `category`—Emoji category.
- `shortcut`—Emoji shortcut.
- `unicodeCharacter`—Emoji's unicode character.

### Emoji Collection

This new response body has one property.

- `emojis`—Collection of emojis.

### Error with Output

This response body has one new property.

- `enhancedErrorType`—Contains more information about a group membership request conflict.

### Features

This response body has these new properties.

- `feedStreamEnabled`—Indicates whether Chatter feed streams are enabled for the org.
- `maxEntitySubscriptionsPerStream`—Specifies the maximum number of feed-enabled entities that can be subscribed to in a Chatter stream.
- `maxStreamsPerPerson`—Specifies the maximum number of Chatter streams that a user can have.

### Supported Emojis

This new response body has one property.

- `supportedEmojis`—Collection of supported emojis.

## Chatter Feeds

### Direct Message Capability

This new response body has these properties.

- `members`—Members included in the direct message.
- `subject`—Subject of the direct message.

### Direct Message Member Collection

This new response body has these properties.

- `currentPageToken`—Page token to access the current page of direct message members.
- `currentPageUrl`—URL to the current page of direct message members.
- `nextPageToken`—Page token to access the next page of direct message members.
- `nextPageUrl`—URL to the next page of direct message members.
- `users`—Collection of direct message members.

### Feed Element Capabilities

This response body has these new properties.

- `directMessage`—If a feed element has this capability, it's a direct message.
- `feedEntityShare`—If a feed element has this capability, a feed entity is shared with it.

### Feed Entity Not Available Summary

This new response body has these properties.

- `actor`
- `body`
- `createdDate`
- `feedElementType`
- `id`
- `isEntityAvailable`
- `parent`
- `relativeCreatedDate`
- `url`

All these properties are `null`, except `isEntityAvailable`, which is `false`.

### Feed Entity Share Capability

This new response body has one property.

- `feedEntity`—Summary of the feed entity shared with the feed element.

### Feed Item

This response body has one new property.

- `isSharable`—Indicates whether the feed item can be shared.



**Note:** The `canShare` property is no longer supported.

### Feed Item Summary

This new response body has these properties.

- `actor`—Entity that created the feed entity.
- `body`—Information about the feed entity.
- `capabilities`—Container for all capabilities that can be included with a feed item.
- `createdDate`—ISO8601 date string, for example, `2011-02-25T18:24:31.000Z`, when the entity was created.
- `feedElementType`—Type of feed entity.
- `header`—Title of the post. This property contains renderable plain text for all the message segments. If a client doesn't know how to render a feed element type, it should render this text.
- `id`—18-character ID of the feed entity.
- `isEntityAvailable`—Specifies whether the entity is available. If `false`, either the user doesn't have access to the entity or the entity was deleted.
- `modifiedDate`—When the feed item was modified in the form of an ISO8601 date string, for example, `2011-02-25T18:24:31.000Z`.
- `originalFeedItem`—Reference to the original feed item if this feed item is a shared feed item; otherwise, `null`.
- `originalFeedItemActor`—If this feed item is a shared feed item, information about the original poster of the feed item; otherwise, `null`.
- `parent`—Parent of the feed entity.
- `photoUrl`—URL of the photo associated with the feed item.
- `relativeCreatedDate`—Relative created date, for example, "2h ago."
- `url`—URL to the feed entity.
- `visibility`—Specifies who can see a feed item.

**Social Account**

This response body has one new property.

- `socialPersonaId`—ID of the social persona if the `externalSocialAccountId` isn't available.

**Content Workspaces****Workspace Permission**

This new response body has these properties.

- `canAddFileComments`—Specifies whether the user can add comments on files in the workspace.
- `canAddFiles`—Specifies whether the user can add files to the workspace.
- `canAddFilesOnBehalfOfOthers`—Specifies whether the user can add files on behalf of others to the workspace.
- `canArchiveFiles`—Specifies whether the user can archive files in the workspace.
- `canAttachOrShareFilesToFeed`—Specifies whether the user can attach or share files in the workspace to a feed.
- `canDeleteFiles`—Specifies whether the user can delete files in the workspace.
- `canDeliverContent`—Specifies whether the user can create a content delivery from files in the workspace.
- `canFeatureFiles`—Specifies whether the user can feature files in the workspace.
- `canManageWorkspace`—Specifies whether the user can perform any action on the workspace or change the workspace membership.
- `canModifyFileComments`—Specifies whether the user can modify comments on files in the workspace.
- `canOrganizeFilesAndFolders`—Specifies whether the user can organize files and folders in the workspace.
- `canTagFiles`—Specifies whether the user can add tags to files in the workspace.
- `canViewFileComments`—Specifies whether the user can view comments on files in the workspace.

**Email Merge Field Services****Email Merge Field**

This new response body has one property.

- `entityToMergeFieldsMap`—Map for multiple objects and their merge field collections.

**Email Merge Field Collection**

This new response body has one property.

- `mergeFields`—List of merge fields for a single object.

**Files****Image File**

This new response body has these properties.

- `masterDetail`—Original image's details.
- `renditionDimensions`—Original image's available rendition dimensions.

**Image File Detail**

This new response body has these properties.

- `height`—Image's height in pixels.
- `imageFormat`—Image's format.
- `orientation`—Image's EXIF orientation value, if present.

- `width`—Image's width in pixels.

## Groups

### Invite

This new response body has these properties.

- `email`—Email address of the user.
- `status`—Specifies the status of an invitation to join a group. Values are:
  - `ActedUponUser`—The user was added to the group. An email was sent asking the user to visit the group.
  - `Invited`—An email was sent asking the user to sign up for the org.
  - `MaxedOutUsers`—The group has the maximum allowed members.
  - `MultipleError`—The user wasn't invited due to multiple errors.
  - `NoActionNeededUser`—The user is already a member of the group.
  - `NotVisibleToExternalInviter`—The user is not accessible to the user sending the invitation.
  - `Unhandled`—The user couldn't be added to the group for an unknown reason.
- `userId`—ID of the user.

### Invite Collection

This new response body has one property.

- `invitations`—Collection of invitations.

## Share Captured Activity

### Share Captured Activity Result

This new response body has one property.

- `success`—Specifies whether the share operation succeeded or not.

## Users

### Stamp

This new response body has these properties.

- `description`—Description of the stamp.
- `id`—ID of the stamp.
- `imageUrl`—Image URL of the stamp.
- `label`—Label of the stamp.

### User Detail

This response body has one new property.

- `stamps`—Collection of the user's stamps.

### User Summary

This response body has one new property.

- `stamps`—Collection of the user's stamps.

## Reports and Dashboards REST API

Reports and Dashboards REST API enhancements include new a new resource describing report types, lets you create reports and delete report instances, and includes analytics notifications for report subscriptions in Lightning Experience.

### New Resource and Parameters: Report Types, lightningSubscribe

The Reports and Dashboards REST API includes a new resource that describes report types, and a new parameter is available for the Analytics Notifications endpoint to describe Lightning Subscriptions.

| Resource URI   | Supported HTTP Methods | Description   |
|--|------------------------|---|
| <code>/services/data/v39.0/analytics/reportTypes</code>  | GET                    | Return a list of report types.  |
| <code>/services/data/v39.0/analytics/reportTypes/<b>reportType</b></code><br><i>type</i>                 | GET                    | Return information about the specified report type.   |
| <code>/services/data/v39.0/analytics/notifications?<del>source=LightningSubscription</del></code>        | GET<br>POST            | Returns a list of recent notifications (GET).<br>Creates an analytics notification (POST).  |
| <code>/services/data/v39.0/analytics/notifications/limits?<del>source=LightningSubscription</del></code> | GET                    | Check to see how many more analytics notifications you can create. There is no org-wide limit on the number of analytics notifications. Instead, the limit is per-user. |

For more information, see the [Reports and Dashboards REST API Developer Guide](#).

### New Methods

You can now create new reports and delete report instances using new Reports and Dashboards REST API methods.

| Resource   | Supported HTTP Method | Description   |
|--|-----------------------|---|
| <code>/services/data/v39.0/analytics/reports</code>  | POST                  | Create a new report.  |
| <code>/services/data/v39.0/analytics/reports/<b>&lt;report ID&gt;</b>/instances/<b>&lt;report instance ID&gt;</b></code> | DELETE                | If the given report instance has a status of <code>Success</code> or <code>Error</code> , delete the report instance. |

For more information about these methods, see the [Reports and Dashboards REST API Developer Guide](#).

## Changed Resources: Dashboard Describe, Dashboard Metadata, and Dashboard Results

The Reports and Dashboards REST API includes new properties to describe role hierarchy filters, picklist value colors, and Chatter photos.

### Dashboards

The Dashboard Describe resource contains new properties and has a new parameter.

| Property                        | Type    | Description   |
|---------------------------------|---------|---|
| <code>canUseStickyFilter</code> | Boolean | Indicates whether dashboard filters persist after closing the dashboard ( <code>true</code> ) or not ( <code>false</code> ). Filters that persist keep the dashboard filtered the next time you open it. Filters persist for users on a per-user basis, so if you apply a filter then it doesn't persist for other people.  |
| <code>dashboardType</code>      | String  | Indicates whether a dashboard is a dynamic dashboard, a dashboard with running users, or a standard dashboard. Possible values are: <ul style="list-style-type: none"> <li><code>SpecifiedUser</code> — Dashboard readers view data as though they are the person specified by <code>runningUser</code></li> <li><code>LoggedInUser</code> — Dashboard readers view data as themselves. The dashboard is a dynamic dashboard.</li> <li><code>MyTeamUser</code> — Dashboard readers view data as the person specified by <code>runningUser</code> by default. If they have the "View All Data" user permission then they can change the <code>runningUser</code> to anyone. If they have the "View My Team's Dashboards" user permission then they can change the <code>runningUser</code> to people subordinate to them in the role hierarchy.</li> </ul> |

The `Filters` object contains a new property.

| Property                  | Type    | Description  |
|---------------------------|---------|--|
| <code>errorMessage</code> | Boolean | If there is no error with a dashboard filter, then <code>null</code> . Otherwise, the error message is returned. |

A new URL parameter is available.

| Parameter                      | Description   |
|--------------------------------|---|
| <code>loadComponentData</code> | Optional. Specifies whether or not to return properties for each dashboard component. The default value is <code>true</code> . Valid values are: <ul style="list-style-type: none"> <li><code>true</code> — Return component properties.</li> <li><code>false</code> — Don't return component properties. The <code>properties</code> value instead returns <code>null</code>.</li> </ul> |

For more information, see the [Reports and Dashboards REST API Developer Guide](#).

## Lightning API—Developer Preview

Use Lightning API to create native mobile apps and custom web apps with your own branding and look and feel. A single REST request returns enough metadata, layout information, and data to display, edit, or create a record! Lightning API supports most objects that are available in Lightning Experience.

### EDITIONS

Available in: **Developer Edition**

 **Note:** Lightning API is available as a Developer Preview in all DE orgs. To use the API in another type of org, contact Salesforce.

## Get to Know Lightning API

The Lightning API base URL is

```
https://{your_instance}.salesforce.com/services/data/v{api_version}/lapi.
```

To get metadata and data to display a record, your code makes a simple REST request to a resource.

```
GET /lapi/record-ui/001R0000003GeJ1IAK
```

Behind the scenes, Salesforce does the heavy lifting.

- Checks field-level security settings, sharing settings, and perms.
- Makes SOQL queries to get record data.
- Gets object metadata and theme information.
- Gets layout information.

You are one happy developer, because Salesforce transforms the results into an easy-to-consume JSON response with all the information you need to display a record.

 **Tip:** The [Lightning API Developer Guide](#) contains a step-by-step Quick Start to get you up and running. Here's the quick version of the Quick Start: open [Workbench](#), log in to a DE org, and make a request to a Lightning API resource!

### Authorization

Like other Salesforce REST APIs, Lightning API uses OAuth 2.0.

### Versioning

Lightning API is versioned. Specify the API version number in each request.

```
GET https://{your_instance}.salesforce.com/services/data/v39.0/lapi
```

### Response Filtering

Lightning API is built on the same REST framework as Chatter REST API and observes the same [filtering rules](#).

Also, several Lightning API resources support additional parameters that change the response to include what your UI needs.

- `formFactor`—The layout display size for the record.
  - `Large`—(Default) Use this value to get a layout for desktop display size.
  - `Medium`—Use this value to get a layout for tablet display size.
  - `Small`—Use this value to get a layout for phone display size.
- `layoutType`—The layout type for the record.
  - `Compact`—Use this value to get a layout that contains a record's key fields.
  - `Full`—(Default) Use this value to get a full layout.

- `mode`—The access mode for the record. This value determines which fields to get from a layout. Layouts have different fields for create, edit, and view modes. For example, formula fields are rendered in view mode, but not in create mode because they're calculated at run time, like formulas in a spreadsheet.
  - `Create`—Use this mode if you intend to build UI that lets a user create a record. This mode is used by the `/lapi/record-defaults/create/{apiName}` resource.
  - `Edit`—Use this mode if you intend to build UI that lets a user edit a record. This mode is used by the `/lapi/record-defaults/clone/{recordId}` resource.
  - `View`—(Default) Use this mode if you intend to build UI that displays a record.

### Error Handling

The response header contains an HTTP status code. If the response isn't successful, the response body contains an error message, and if appropriate, information about the field or object where the error occurred.

### Rate Limiting

Lightning API requests are subject to rate limiting. Lightning API has a per user, per application, per hour rate limit. When you exceed the rate limit, all Lightning API resources return a 503 Service Unavailable error code.

### Required Fields

When you're building UI, to determine which fields to mark as required for create and update, use the `ObjectInfo.fields[].required` property.

## Resources

Use the resources in the pilot version of Lightning API to display records.

- `/lapi/record-ui/{recordIds}`
- `/lapi/layout/{objectApiName}`
- `/lapi/object-info/{objectApiName}`
- `/lapi/records/{recordId}`
- `/lapi/records/batch/{recordIds}`
- `/lapi/records`
- `/lapi/record-defaults/clone/{recordId}`
- `/lapi/record-defaults/create/{apiName}`
- `/lapi/object-info/{objectApiName}/picklist-values/{recordTypeId}/{fieldApiName}`

### Record UI—GET

```
GET /lapi/record-ui/{recordIds}
    [?layoutTypes={layoutTypeList}&modes={modeList}
    &formFactor={formFactor}&optionalFields={fieldNameList}]
```

This resource is the top dog of Lightning API. Use it to get layout information, metadata, and data to build UI for a single record or for a collection of records. The response includes three nested response bodies:

- `layouts`—A map of object API names to layout information for each object
- `objectInfos`—A map of object API names to metadata for each object
- `records`—A map of record IDs to data for each record

**Record Layout—GET**

```
GET /lapi/layout/{objectApiName}
    [?formFactor={formFactorType}&layoutType={layoutType}
    &mode={mode}&recordTypeId={recordTypeId}]
```

Get the layout for a specific record in a specific form factor, layout type, and mode.

The response is also the nested `layouts` response body returned from `GET /lapi/record-ui/{recordIds}`, and the nested `layout` response body returned from `GET /lapi/record-defaults/clone/{recordId}` and `GET /lapi/record-defaults/create/{apiName}`.

**Object Info—GET**

```
GET /lapi/object-info/{objectApiName}
    [?layoutTypes={layoutTypeList}&modes={modeList}
    &recordTypeId={recordTypeId}]
```

Get an object's metadata for one or more layout types and modes.

The response is also the nested `objectInfos` response body returned from `GET /lapi/record-ui/{recordIds}`, and the nested `objectInfo` response body returned from `GET /lapi/record-defaults/clone/{recordId}` and `GET /lapi/record-defaults/create/{apiName}`.

**Record—GET, PATCH (Update), DELETE**

```
GET /lapi/records/{recordId}?layoutTypes={layoutTypeList}
    [&modes={modeList}&optionalFields={optionalFieldList}]

GET /lapi/records/{recordId}?fields={fieldList} [&optionalFields={optionalFieldList}]

PATCH /lapi/records/{recordId}?apiName={apiName}&fields={fieldList}

DELETE /lapi/records/{recordId}
```

Get, update, and delete data for a specific record.

The response is also the nested `records` response body returned from `GET /lapi/record-ui/{recordIds}`, and the nested `record` response body returned from `GET /lapi/record-defaults/clone/{recordId}` and `GET /lapi/record-defaults/create/{apiName}`.

**Record—Batch GET**

```
GET /lapi/records/batch/{recordIds}?layoutTypes={layoutTypeList}
    [&modes={modeList}&optionalFields={optionalFieldList}]

GET /lapi/records/batch/{recordIds}?fields={fieldList}
    [&optionalFields={optionalFieldList}]
```

Get data for a batch of records. The response contains record data or error information for each record in the batch.

**Record—POST (Create)**

```
POST /lapi/records

{
  "apiName": "Account",
  "fields": {
    "Name": "Universal Containers"
  }
}
```

```
}
}
```

Create a record.

Before you create a record, get the default values for the record. Make a request to either `/lapi/record-defaults/clone/{recordId}` or `/lapi/record-defaults/create/{apiName}`, depending on whether you want to clone an existing record or create a record.

### Clone Record Defaults—GET

```
GET
/lapi/record-defaults/clone/{recordId} [ ?formFactor={formFactor} &recordTypeId={recordTypeId} ]
```

Get the default values for fields for cloning a record. After getting the default values, make a request to `POST /lapi/records` to create the record.

The response includes three nested response bodies.

- `layout`—Layout information for the object
- `objectInfo`—Metadata for the object
- `record`—Data for each record

### Create Record Defaults—GET

```
GET
/lapi/record-defaults/create/{apiName} [ ?formFactor={formFactor} &recordTypeId={recordTypeId} ]
```

Get the default values for fields for a new record of a particular object. After getting the default values, make a request to `POST /lapi/records` to create the record.

The response includes three nested response bodies.

- `layout`—Layout information for the object
- `objectInfo`—Metadata for the object
- `record`—Data for each record

### Picklist Values—GET

```
GET /lapi/object-info/{objectApiName}/picklist-values/{recordTypeId}/{fieldApiName}
```

Get the values for a picklist.

When you make a request to `/lapi/record-ui/{recordIds}` or `/lapi/object-info/{objectApiName}`, if the response includes a picklist field, it also includes a `picklistValueUrl` property. That property contains a Picklist Values resource with the `{objectApiName}`, `{recordTypeId}`, and `{fieldApiName}` filled in, such as in the following example.

```
GET /services/data/v39.0/lapi/object-info/Account/picklist-values/01200000000000AAA/Type/

{
  "controllerValues" : { },
  "defaultValue" : null,
  "url" :
"/services/data/v39.0/lapi/object-info/Account/picklist-values/01200000000000AAA/Type",
  "values" : [ {
    "attributes" : null,
    "label" : "Analyst",
```

```

    "picklistValueType" : "Standard",
    "validFor" : [ ],
    "value" : "Analyst"
  }, {
    "attributes" : null,
    "label" : "Competitor",
    "picklistValueType" : "Standard",
    "validFor" : [ ],
    "value" : "Competitor"
  },
  ... some picklist values removed for space ...

  {
    "attributes" : null,
    "label" : "Other",
    "picklistValueType" : "Standard",
    "validFor" : [ ],
    "value" : "Other"
  } ]
}

```

## Bulk API

Bulk API now supports the queryAll operation and SOQL relationships. Also, we're moving toward the next iteration of the Bulk API with a pilot version of Bulk API 2.0. This new API provides a simple interface for quickly loading large amounts of data into your Salesforce org.

### IN THIS SECTION:

[Bulk API Now Supports More Complex Queries](#)

Bulk queries now support the queryAll operation and SOQL relationships.

[Introducing Bulk API 2.0 \(Pilot\)](#)

Bulk API 2.0 provides a simple interface for quickly loading large amounts of data into your Salesforce org.

## Bulk API Now Supports More Complex Queries

Bulk queries now support the queryAll operation and SOQL relationships.

### The queryAll operation

The queryAll operation returns records that have been deleted because of a merge or delete. The queryAll operation also returns information about archived Task and Event records. To make a queryAll request, set the operation field on the JobInfo resource to queryAll. For more information about bulk queries, see [Use Bulk Query](#) in the *Bulk API Developer Guide*.

### SOQL relationships

Relationship queries traverse parent-to-child and child-to-parent relationships between objects to filter and return results. You can now use SOQL relationships in bulk queries. For more information about SOQL relationships, see [Using Relationship Queries](#) in the *Force.com SOQL and SOSL Reference*.

## Introducing Bulk API 2.0 (Pilot)

Bulk API 2.0 provides a simple interface for quickly loading large amounts of data into your Salesforce org.

 **Note:** We provide Bulk API 2.0 to selected customers through a pilot program that requires agreement to specific terms and conditions. Bulk API 2.0 is subject to change and isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features.

Bulk API 2.0 includes the following features.

### Support for OAuth 2.0

Bulk API 2.0 supports all OAuth flows supported by Salesforce's other REST APIs.

### Automatic File Batching

Bulk API 2.0 simplifies uploading large amounts of data by breaking the files into batches automatically. All you have to do is upload a CSV file with your record data and check back when the results are ready.

### Daily Limits Based on Number of Records

Instead of limiting the amount of data uploaded daily by the quantity of batches, Bulk API 2.0 uses a limit of total records uploaded. For the pilot, the limit is 1,000,000 records per 24-hour period.

## Messaging

Messaging includes enhancements to the beta feature, Platform Events, and a connector for Streaming API and Platform Events.

### EDITIONS

Available in: **Performance, Unlimited, Enterprise, and Developer** Editions

#### IN THIS SECTION:

#### [Deliver Customizable Events with Platform Events \(Beta\)](#)

Platform events simplify the process of communicating changes and responding to them without writing complex logic. Publishers and subscribers communicate with each other through events. Multiple subscribers can listen to the same event and carry out different actions. This change applies to both Lightning Experience and Salesforce Classic. You can define platform events in Salesforce Classic only.

#### [Easily Subscribe to Streaming API in Java with EMP Connector](#)

The Enterprise Messaging Platform (EMP) connector simplifies the process of subscribing to streaming events and platform events in Java through CometD. It also supports replaying past events with durable streaming. No need to write complex logic to implement those functions yourself! When you use EMP connector, call the provided functions to log in and subscribe to a channel.

## Deliver Customizable Events with Platform Events (Beta)

Platform events simplify the process of communicating changes and responding to them without writing complex logic. Publishers and subscribers communicate with each other through events. Multiple subscribers can listen to the same event and carry out different actions. This change applies to both Lightning Experience and Salesforce Classic. You can define platform events in Salesforce Classic only.

 **Note:** This release contains a beta version of Platform Events, which means it's a high-quality feature with known limitations. For information on enabling this feature in your org, contact Salesforce. Platform Events isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features. You can provide feedback and suggestions for Platform Events in the [Success Community](#).

Use platform events to deliver secure and scalable custom notifications within Salesforce or from external sources. Define fields to customize your platform event. Your custom platform event determines the event data that the Force.com Platform can produce or consume.

By using platform events, publishers can send customized event data through Apex or an API. Subscribers can receive custom notifications from Salesforce or an external system and respond with actions using Apex or CometD clients. For example, a software system monitoring a printer can make an API call to publish an event when the ink is low. The custom printer event can contain custom fields for the printer model, serial number, and ink level. The event is processed in Salesforce by an Apex trigger that places an order for a new cartridge.

## Define Your Platform Event

Define your platform event on the Platform Events page in the Salesforce user interface. From Setup, enter *Platform Events* in the **Quick Find** box, then select **Platform Events**.

Platform events are sObjects, similar to custom objects but with some limitations. Event notifications are instances of platform events. Unlike sObjects, you can't update event notifications. You also can't view them in the user interface. When you delete platform event definitions, they're permanently removed.

## Platform Events (Beta) Improvements in Spring '17

Platform Events (Beta) was available last release. In this release, we made the following improvements and changes.

### Enforcement of Event Field Attributes

New platform event records are validated to ensure that the attributes of their custom fields are enforced. Field attributes include the Required and Default attributes, the precision of number fields, and the maximum length of text fields.

### Apex Testing Support

You can publish platform events in Apex tests and test their associated Apex triggers.

### Trigger Number of Refires

A new class, `EventBus.TriggerContext`, provides information about the currently executing trigger. This information includes the number of times the trigger was refired with `EventBus.RetryableException`, enabling you to set a limit on the number of refires.

### Packaging and Metadata API Support

You can add platform events and their associated Apex triggers to packages. Platform events are supported in Metadata API through the CustomObject type.

### Limits

New limits are added for platform event publishing, event delivery to CometD clients, and event definitions.

### Databinding.ObjectMapper No Longer Supported

The `transform` methods in the `Databinding.ObjectMapper` class have been deprecated and will be removed in a future release.

To learn more about platform events, see the [Platform Events \(Beta\) Developer Guide](#).

## Easily Subscribe to Streaming API in Java with EMP Connector

The Enterprise Messaging Platform (EMP) connector simplifies the process of subscribing to streaming events and platform events in Java through CometD. It also supports replaying past events with durable streaming. No need to write complex logic to implement those functions yourself! When you use EMP connector, call the provided functions to log in and subscribe to a channel.

EMP connector is based on Java 8 and uses CometD version 3.0.9. The connector supports PushTopic and generic streaming events, as well as platform events. It also supports username and password authentication and OAuth bearer token authentication.

 **Example:** This Java example logs in with the specified username and password credentials and performs a handshake with CometD. Next, it subscribes to a PushTopic called `myTopic` with the channel name `/topic/myTopic`. The replay ID is initially set to the `REPLAY_FROM_EARLIEST` constant, which means that the subscription returns the oldest saved event (up to 24 hours) in addition to new events. The `EmpConnector` class is the main class that exposes the functions for starting a

connection and subscribing. Event notifications are written to the output through the Java lambda expression (`event -> System.out.println(..)`).

```
// Replay from the start of the event window.
// May be any valid replayFrom position in the event stream.
long replayFrom = EmpConnector.REPLAY_FROM_EARLIEST;

// Get parameters from login
BayeuxParameters params = login("<username>", "<password>");

// The event consumer.
// This lambda expression prints the received event to the output
// each time a notification is received.
Consumer<Map<String, Object>> consumer = event -> System.out.println(
    String.format("Received:\n%s", event));

// Instantiate the EMP connector
EmpConnector connector = new EmpConnector(params);

// Wait for handshake with Streaming API
connector.start().get(5, TimeUnit.SECONDS);

// Subscribe to a topic
// Block and wait for the subscription to succeed for 5 seconds
TopicSubscription subscription = connector.subscribe("/topic/myTopic",
    replayFrom, consumer).get(5, TimeUnit.SECONDS);

// Here's our subscription
System.out.println(String.format("Subscribed: %s", subscription));
```

To use OAuth bearer token authentication instead, replace the `BayeuxParameters` value with the following. The URL corresponds to your Salesforce instance URL.

```
BayeuxParameters params = new BayeuxParameters() {

    @Override
    public String bearerToken() {
        return "<token>";
    }

    @Override
    public URL host() {
        try {
            return new URL("<URL>");
        } catch (MalformedURLException e) {
            throw new IllegalArgumentException(String.format("Unable to create url:
%s", argv[0]), e);
        }
    }
};
```

The following function calls end a subscription.

```
// Cancel a subscription
subscription.cancel();
```

```
// Stop the connector
connector.stop();
```

For a complete example, see the [EMP-Connector GitHub repository](#).

And we saved the best for last: EMP Connector is an open-source project, which means that you can contribute to it with your own enhancements! Feel free to submit your contributions in the [EMP-Connector GitHub repository](#).

## Tooling API

Tooling API includes new and changed objects, calls, and resources.

The [Force.com Tooling API Developer's Guide](#) contains all Tooling API information.

### IN THIS SECTION:

#### [Tooling API New and Changed Objects](#)

Tooling API includes new and changed objects. Also, you can update individual fields of top-level Settings objects and their child objects.

#### [Tooling API Documentation Changes](#)

Major Tooling API documentation improvements.

## Tooling API New and Changed Objects

Tooling API includes new and changed objects. Also, you can update individual fields of top-level Settings objects and their child objects.

### New Objects

#### **FormulaFunction**

Retrieves functions available for specific uses. For example, use this object to find the functions available for use in flows or Visualforce pages.

#### **FormulaOperator**

Retrieves all available formula operators, such as `STAR` (multiplication) or `AND`.

#### **GlobalValueSet**

Represents the definition of a value used in a global value set or local custom picklist.

#### **StandardValueSet**

Represents the set of values in a standard picklist field.

### Changed Objects

#### **SecurityHealthCheck**

The following field has been added.

##### **CustomBaselineID**

Unique identifier for the field. Identifies which baseline is used to import settings and calculate score.

#### **FlexiPage**

The following field has been added.

**EntityDefinitionId**

The name of the standard object or ID of the custom object that the Lightning Page is associated with. For Lightning Pages of type `AppPage` or `HomePage`, this field is `null`. Replaces the `SubjectType` field.

The following field has been deprecated.

**SubjectType**

Deprecated as of API version 39.0. Use `EntityDefinitionId` instead.

**Access To Metadata Settings Now Available in Tooling API**

You can now use the Tooling API to update metadata settings that are available in Metadata API.

You can identify one of these types in the Tooling API WSDL if its definition includes the following element.

```
<xsd:extension base="mns:MetadataForSettings">
```

For these top-level Settings objects, you have multiple options for update. You can use the `Metadata` field on the object to update the Settings. The `Metadata` field represents the entire Metadata API contract of the object.

Alternatively, to update a subset of fields in the hierarchy of a Settings object, we have modified our interface so that you can update individual fields directly.

To access the Tooling API WSDL, from Setup, enter `API` in the `Quick Find` box, then select **API** and click **Generate Tooling WSDL**.

**Tooling API Documentation Changes**

Major Tooling API documentation improvements.

Major improvements:

**Reorganized Formula Functions**

Consolidated the formula functions into categories that align with the current API categories. Removed the `Informational` and `Encoding` categories as part of the consolidation.

**Metadata API**

Metadata API includes new and changed types and fields.

**New Metadata Types****CspTrustedSite**

Represents a CSP Trusted Site. The Lightning Component framework uses Content Security Policy (CSP) to control the source of content that can be loaded on a page. To use third-party APIs that make requests to an external (non-Salesforce) server, add the server as a CSP Trusted Site.

**EclairGeoData**

Represents a Wave custom map chart. Custom maps are user-defined maps that are uploaded to Wave and are used just as standard maps are. Custom maps are accessed in Wave from the list of maps available with the map chart type.

**ExternalServiceRegistration**

Represents the External Service configuration for an org. Available in a Beta. See [External Services: Connect to Salesforce Using a Wizard, Schema, and Flow \(Beta\)](#).

**FileUploadAndDownloadSecuritySettings**

Represents the security settings for uploading and downloading files.

**LeadConvertSettings**

Represents an organization's custom field mappings for lead conversion. Custom fields can be mapped from Leads to Accounts, Contacts, and Opportunities. Options for creating opportunities during lead conversion can also be specified.

**PersonalJourneySettings**

Represents an organization's Adoption Manager setting, which enables or disables the Adoption Manager tool.

**ProfileActionOverride**

Represents an override of an ActionOverride by a user profile. You can use it to override an ActionOverride on a standard Home tab or object record page in Lightning Experience. When a user logs in with a profile, a matching ProfileActionOverride assignment takes precedence over existing overrides for the Home tab or record page specified in ActionOverride.

**UserCriteria**

The description of the user criteria.

**Wavexmd**

Represents the WaveXmd object in the Wave Analytics application.

**Updated Metadata Types and Fields**

These metadata types have changed or have fields that have been added or changed.

**CommunityTemplateDefinition**

The following field has been added to the CommunityTemplatePageSetting subtype.

**themeLayout**

Required. The name of the FlexiPage for the theme layout.

**CommunityThemeDefinition**

The following field has been added.

**customThemeLayoutType**

The list of custom theme layout types available to the theme layout.

The `themeLayoutType` field now supports the following new values: `Home` or `Login`.

The following field has been added to the CommunityThemeSetting subtype.

**customThemeLayoutType**

Required when `themeLayoutType` is not specified. The custom theme layout type associated with the theme layout.

**CustomApplication**

The following field has been added.

**profileActionOverrides**

A list of the Lightning Experience record page ProfileActionOverrides that are assigned to this custom app. When a user invokes the custom app, a matching ProfileActionOverride assignment takes precedence over existing overrides for the record page specified in ActionOverride. This lets you override a record page for the custom app by record type and profile.

**CustomField**

The following field has been added.

**metadataRelationshipControllingField**

In custom metadata relationships, represents the controlling field that specifies the standard or custom object in an entity definition metadata relationship. Required when creating a field definition metadata relationship on a custom metadata type. The object specified in the controlling field determines the values available in its dependent field definition. For example, specifying the Account object filters the available fields in the field definition to Account fields only.

**CustomSite**

The following field has been added.

**allowStandardPortalPages**

Required. When enabled, authenticated users in this site can access standard Salesforce pages as allowed by their access controls. When disabled, authenticated users in this site can't access standard Salesforce pages, even if their access controls allow it. If your site serves only Visualforce pages, disabling this setting helps add a layer of access protection to your site.

**EmailToCaseRoutingAddress**

The following field has changed.

**caseOwner**

You can specify a user or a queue as the case owner in the Email-to-Case routing address. Specifying the case owner in the Email-to-Case routing address overrides the value of `defaultCaseOwner` in `CaseSettings`.

**ExternalDataSource**

The following fields have changed.

**isWritable**

You can now set the field to `true` with the cross-org adapter for Salesforce Connect.

**type**

The field now supports the value `outgoingemail`—A data source used for sending an email through a quick action.

**FlexiPage**

The following field has been deprecated.

**pageTemplate**

For API version 39.0 and later, use `template` instead.

The following field has been added.

**template**

Required. The template associated with the FlexiPage.

The `type` field now supports the following values.

- `CommForgotPasswordPage`—A Lightning Page that's used to override a forgot-password page, as created in Community Builder, in Communities.
- `CommLoginPage`—A Lightning Page that's used to override the login page, as created in Community Builder, in Communities.
- `CommSelfRegisterPage`—A Lightning Page used to override the self-registration page, as created in Community Builder, in Communities.

The following fields have been added to the `FlexiPageTemplateInstance` subtype.

**name**

Required. The name of a single instance of a template.

**properties**

The value of a single property in a template instance.

**ExternalDataSource**

The following field has changed.

**isWritable**

You can now set the field to `true` with the cross-org adapter for Salesforce Connect.

**KnowledgeSettings**

The following field has changed.

**suggestedArticles**

Two complex types with subtypes have been added. Use `KnowledgeWorkOrderFieldsSettings` to retrieve a list of the work order fields used to suggest articles for the work order. Use `KnowledgeWorkOrderLineItemFieldsSettings` to retrieve a list of the work order line item fields used to suggest articles for the work order line item.

**ModerationRule**

The following fields have been added.

**actionLimit**

Indicates the moderation action limit.

**notifyLimit**

Indicates the notification limit of the moderation rule.

**timePeriod**

Indicates the time period of the rate limit.

**type**

Indicates the type of rule used to moderate member-generated content.

**userCriteria**

Represents the member criteria to use in community moderation rules.

**Network**

The following fields have been added.

**subMenu**

A list of child menu items.

**navigationMenuItem**

A list of menu items in a `NavigationSubMenu`. Use this object to create, delete, or update child items under a parent heading.

The following field has been changed.

**type**

The `type` field now supports the value `MenuLabel`, a parent heading for your navigation menu. Nest items underneath the menu label.

**TransactionSecurityPolicy**

The following fields have been added.

**description**

A description of the policy.

**developerName**

This unique name prevents conflicts with other policies that have the same `masterLabel`.

**masterLabel**

The master label for this object. This display value is the internal label that is not translated.

## Data Services

You can define and query composite primary keys for custom `BigObjects`, and additional functions are supported by Async SOQL.

**IN THIS SECTION:**[Required Fields for Custom BigObjects \(Pilot\)](#)

Fields in a custom `BigObject` can now be defined as required.

### [Define Composite Primary Keys for Custom BigObjects \(Pilot\)](#)

You must now define the fields you want to use to represent your primary key, replacing the previous method of using our auto-generated IDs.

### [BigObjects Offers Enhanced Query Capabilities \(Pilot\)](#)

The fields that make up the composite primary key can be used in query filters using SOQL.

### [Enhancements to Async SOQL \(Pilot\)](#)

Async SOQL supports additional aggregate functions, and the ability to upsert results to a target sObject.

## Required Fields for Custom BigObjects (Pilot)

Fields in a custom BigObject can now be defined as required.

Record creation fails and an error is generated if values are not provided. Fields are marked as required using the `required` tag in the field definition.

```
<fields>
  <fullName>Field__c</fullName>
  <label>Field</label>
  <length>20</length>
  <required>true</required>
  <type>Text</type>
</fields>
```

## Define Composite Primary Keys for Custom BigObjects (Pilot)

You must now define the fields you want to use to represent your primary key, replacing the previous method of using our auto-generated IDs.

Using the `indexes` tag, you must define which Custom BigObject fields make up your composite primary key. A composite primary key can have up to five fields, and the number of characters from all text fields must not exceed 50. The order that the fields are defined within the `indexes` tag determines the composite primary key order.

All fields included in the composite primary key must be defined in the BigObject and marked as required.



**Note:** You must use Metadata API version 39.0 or later. Older API versions can't deploy Custom BigObjects because they don't support indexes.

```
<?xml version="1.0" encoding="UTF-8"?>
<CustomObject xmlns="http://soap.sforce.com/2006/04/metadata">
  <deploymentStatus>Deployed</deploymentStatus>
  <fields>
    <fullName>FirstName__c</fullName>
    <label>Field</label>
    <length>20</length>
    <required>true</required>
    <type>Text</type>
  </fields>
  <fields>
    <fullName>Quantity__c</fullName>
    <label>Another Field</label>
    <scale>2</scale>
    <precision>10</precision>
```

```

    <required>true</required>
    <type>Number</type>
</fields>
<indexes>
  <type>PRIMARY</type>
  <fullName>MyFirstObjectPK</fullName>
  <fields>
    <name>FirstName__c</name>
    <sortDirection>ASC</sortDirection>
  </fields>
  <fields>
    <name>Quantity__c</name>
    <sortDirection>DESC</sortDirection>
  </fields>
</indexes>
<label>MyFirstObject</label>
<pluralLabel>MyFirstObjects</pluralLabel>
</CustomObject>

```

## BigObjects Offers Enhanced Query Capabilities (Pilot)

The fields that make up the composite primary key can be used in query filters using SOQL.

You can use a subset of SOQL commands to query the fields in a composite primary key. You build a composite primary key query starting from the first field defined in the primary key, without any gaps between the first and last field in the query.

You can use range operations only on the last field queried. Any preceding fields can only use the = operator.

The following queries assume that `LastName__c`, `FirstName__c`, and `PhoneNumber__c` define the composite primary key in the table.

This query specifies all three fields in the index. In this case, the filter on `PhoneNumber__c` can be a range.

```

SELECT LastName__c, FirstName__c, PhoneNumber__c
FROM Phone_Book__b
WHERE LastName__c='Kelly' AND FirstName__c='Charlie' AND PhoneNumber__c='2155555555'

```

This query specifies only the first two fields in the index. In this case, the filter on `FirstName__c` can be a range.

```

SELECT LastName__c, FirstName__c, PhoneNumber__c
FROM Phone_Book__b
WHERE LastName__c='Kelly' AND FirstName__c='Charlie'

```

This query specifies only the first field in the index. The filter on `LastName__c` can be a range.

```

SELECT LastName__c, FirstName__c, PhoneNumber__c
FROM Phone_Book__b
WHERE LastName__c='Kelly'

```

This query doesn't work because there is a gap between `LastName__c` and `PhoneNumber__c`.

```

SELECT LastName__c, FirstName__c, PhoneNumber__c
FROM Phone_Book__b
WHERE LastName__c='Kelly' AND PhoneNumber__c='2155555555'

```



**Note:** These restrictions do not apply to Async SOQL queries against BigObjects.

## Enhancements to Async SOQL (Pilot)

Async SOQL supports additional aggregate functions, and the ability to upsert results to a target sObject.

### Additional Async SOQL Resources

Async SOQL now supports these resources.

#### Filter BigObjects by Boolean Fields

Async SOQL supports filtering BigObjects by boolean fields.

#### Use `MIN()` and `MAX()` to Query Data

Calculate the minimum or maximum of the numerical or text values in a single column using the `MIN()` and `MAX()` functions.

 **Note:** `MIN()` and `MAX()` don't support picklists.

```
{
  "query": "SELECT Name, MIN(CreatedDate) FROM Account",
  "targetObject": "CustomObject1__c",
  "targetFieldMap": {"expr0": "CustomField__c"}
}
```

#### Use `CALENDAR_YEAR()` and `CALENDAR_MONTH()` to Query Data

Return a number representing the year or month from a dateTime field using the `CALENDAR_YEAR()` and `CALENDAR_MONTH()` functions.

```
{
  "query": "SELECT Calendar_Year(CreatedDate) FROM Account GROUP BY
  Calendar_Year(CreatedDate)",
  "targetObject": "CustomObject1__c",
  "targetFieldMap": {"expr0": "CustomField__c"}
}
```

#### Upsert Results to Target sObject

To upsert results to a target sObject, use `targetExternalIdField` to specify the target sObject. Include `"operation": "upsert"` in your request.

 **Note:** Upsert is not supported for BigObjects.

```
{
  "query": "Select count(id) c, AccountId from Contact",
  "operation": "upsert",
  "targetObject": "Account",
  "targetFieldMap": {"AccountId": "Id", "c": "NumContacts__c"},
  "targetExternalIdField": "Id"
}
```

## Open CTI API

You can now use Open CTI for Lightning Experience in Lightning console apps.

If you implement Open CTI in a Lightning console app, the `onNavigationChange` method behaves a bit differently than it does in standard Lightning apps.

For more information, see the *Open CTI Developer Guide*.

SEE ALSO:

[New Behavior for the Open CTI onNavigationChange Method](#)

[Open CTI Developer Guide: Why Your UI Matters](#)

[Open CTI Developer Guide: Methods for Lightning Experience](#)

## Build AI-Powered Apps Fast (Pilot)

With the Predictive Vision Service, developers can harness the power of image recognition to build AI-powered apps. Without a data science degree! You can train deep-learning models to recognize and classify images at scale with the Predictive Vision Service REST API. Leverage pre-trained classifiers, or train your own custom classifiers to solve a vast array of specialized image-recognition use cases. Developers can bring the power of image recognition to CRM and third-party applications so that end users across sales, service, and marketing can discover new insights about their customers and predict outcomes that lead to smarter decisions.

### EDITIONS

Available in: **All Editions**  
**except Database.com**

 **Note:** We provide the Predictive Vision Service to selected customers through a pilot program. The Predictive Vision Service isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features. You can provide feedback and suggestions for the Predictive Vision Service on the [IdeaExchange](#) in the Success Community.

For information about signing up for the service and using the API, see the [Predictive Vision Service \(Pilot\) Developer Guide](#).

## When to Use the Predictive Vision Service

Images contain contextual clues about all aspects of your business, including your customers' preferences, your inventory levels, and the quality of your products. You can use these clues to enrich what you know about your sales, service, and marketing efforts to gain new insights about your customers and take action. The possibilities are limitless with applications that include:

- Visual search—Expand the ways that your customers can discover your products and increase sales.
  - Provide customers with visual filters to find products that best match their preferences while browsing online.
  - Allow customers to take photos of your products to discover where they can make purchases online or in-store.
- Brand detection—Monitor your brand across all your channels to increase your marketing reach and preserve brand integrity.
  - Better understand customer preferences and lifestyle through their social media images.
  - Monitor user-generated images through communities and review boards to improve products and quality of service.
  - Evaluate banner advertisement exposure during broadcast events to drive higher ROI.
- Product identification—Increase the ways that you can identify your products to streamline sales processes and customer service.
  - Identify product issues before sending out a field technician to increase case resolution time.
  - Discover which products are out of stock or misplaced to streamline inventory restocking.
  - Measure retail shelf-share to optimize product mix and represent top-selling products among competitors.

## Classifying Images

Use the API to classify images by:

- Accessing them via a URL
- Uploading them from a local location
- Passing in the image converted into a Base64 string

You can also classify images stored in Salesforce by converting them into a Base64 string.

The Predictive Vision Service is a REST API, so you can call it from any language that supports REST calls. This cURL call passes an image of a tree frog into the pre-built model called `GeneralImageClassifier`.

```
curl-X POST -H "Authorization: Bearer <TOKEN>" -H "Cache-Control: no-cache" -H "Content-Type: multipart/form-data" -F "sampleLocation=http://metamind.io/images/generalimage.jpg" -F "modelId=GeneralImageClassifier" https://api.metamind.io/v1/vision/predict
```

Here's what the prediction results look like.

```
{
  "probabilities": [
    {
      "label": "tree frog, tree-frog",
      "probability": 0.7963114976882935
    },
    {
      "label": "tailed frog, bell toad, ribbed toad, tailed toad, Ascaphus trui",
      "probability": 0.1978749930858612
    },
    {
      "label": "banded gecko",
      "probability": 0.001511271228082478
    },
    {
      "label": "African chameleon, Chamaeleo chamaeleon",
      "probability": 0.0013212867779657245
    },
    {
      "label": "bullfrog, Rana catesbeiana",
      "probability": 0.0011536618694663048
    }
  ],
  "object": "predictresponse"
}
```

## Other API Changes

We've updated Data.com terminology.

### IN THIS SECTION:

#### [Change to Data.com Terminology](#)

Data.com Clean rules are now known as data integration rules. Data.com APIs still use "Clean" in object names, field names, REST endpoint URIs, and property names. The documentation for Data.com APIs now refers to data integration rules instead of clean rules.

## Change to Data.com Terminology

Data.com Clean rules are now known as data integration rules. Data.com APIs still use “Clean” in object names, field names, REST endpoint URIs, and property names. The documentation for Data.com APIs now refers to data integration rules instead of clean rules.

Data.com Clean rules are now known as data integration rules.

### API entity names

Data.com APIs still use “Clean” in object names, field names, REST endpoint URIs, and property names.

For example, the metadata object that describes a data service is still CleanDataService.

### API documentation

Data.com API documentation uses the following terms:

- “data integration rule” instead of “Clean rule”
- “update” instead of “clean”
- “data service” instead of “clean data service”

#### EDITIONS

Available in: **Developer, Professional (add-on), Enterprise, Performance, and Unlimited** Editions

## Custom Metadata Types: Relationship Field Enhancements, Long Text Areas

Build better apps than ever before with custom metadata types which let you base your apps on types of metadata rather than just data. Do even more with the features you’ve been waiting for, including metadata relationships to field definitions and long text areas in custom metadata types. These changes apply to both Lightning Experience and Salesforce Classic.

### IN THIS SECTION:

#### [Metadata Relationships Now Support Field Definition Relationships](#)

Metadata relationship fields for custom metadata types now let you look up field definitions. Previously, you could look up entity definitions for standard and custom Salesforce objects, but not a specific field on an object. Now, field definitions are supported as a type of metadata relationship field.

#### [Long Text Areas in Custom Metadata Types \(Pilot\)](#)

Essential configuration data often runs longer than the 255-character text field limit. Until this release, storing longer strings, such as API keys, specialized markup, or SOQL queries, required workarounds using text fields. Now, you can create, package, and deploy long text areas as a custom field type.

#### [queryMore\(\) Supported in Custom Metadata Types](#)

The `queryMore()` API call is now supported for paging through large numbers of custom metadata records.

#### EDITIONS

Available in: **Professional, Enterprise, Performance, Unlimited, Developer, and Database.com** Editions

Professional Edition orgs can create, edit, and delete custom metadata records only from types in installed packages.

### SEE ALSO:

[Lightning Experience: A Modern and Intelligent User Experience](#)

## Metadata Relationships Now Support Field Definition Relationships

Metadata relationship fields for custom metadata types now let you look up field definitions. Previously, you could look up entity definitions for standard and custom Salesforce objects, but not a specific field on an object. Now, field definitions are supported as a type of metadata relationship field.

The Field Definition option is available whenever the custom metadata type has at least one relationship to Entity Definition.

- The relationship to Entity Definition is the controlling field.
- The relationship to Field Definition specifies the standard or custom field from the entity definition object.

On the details page, set the **Controlling Field** to the relationship to Entity Definition.

When adding a record to the custom metadata type that has the relationship fields, select the specific object and field to reference. For example, select the Industry field on the Account object.

When creating a view and filter on a field definition relationship field, two separate filters are required—the field definition and the controlling entity definition. Filtering by the field definition relationship field alone isn't enough. For example, to view all records that look up the Industry field on Account, make sure that the filter criteria specify the API names of the object and field.

| Field      | Operator | Value    |     |
|------------|----------|----------|-----|
| SFA Object | equals   | Account  | AND |
| SFA Field  | equals   | Industry | AND |
| --None--   | --None-- |          | AND |
| --None--   | --None-- |          | AND |
| --None--   | --None-- |          |     |

Note these other related changes.

- In the Metadata API, `MetadataRelationshipControllingField` is new.
- In the user interface, the field description for the Metadata Relationship field type has been expanded to include the entity definition and field definition relationship options.

SEE ALSO:

[Metadata API](#)

## Long Text Areas in Custom Metadata Types (Pilot)

Essential configuration data often runs longer than the 255-character text field limit. Until this release, storing longer strings, such as API keys, specialized markup, or SOQL queries, required workarounds using text fields. Now, you can create, package, and deploy long text areas as a custom field type.

 **Note:** We provide long text areas in custom metadata types to selected customers through a pilot program that requires agreement to specific terms and conditions. To be nominated to participate in the program, contact Salesforce. Pilot programs are subject to change, and we can't guarantee acceptance. This feature isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features. You can provide feedback and suggestions for this feature in the [Custom Metadata Types group](#) in the Success Community.

Keep in mind these limits and limitations.

- Default character limit—32,768 (32 KB)
- Maximum character limit—131,072 (128 KB)
- Minimum character limit—256
- Long text area fields aren't supported in SOQL filters.
- Long text area fields count toward the custom metadata 10 MB limit. 255 characters per long text area field count for a given type.
- Queries containing long text area fields count toward Apex governor limits.

## `queryMore()` Supported in Custom Metadata Types

The `queryMore()` API call is now supported for paging through large numbers of custom metadata records.

## Developer Console: Create Exception Classes, See More Code Coverage

Use new Developer Console features to more easily manage code in your org. Create Apex classes that extend `Exception`, and view your org's code coverage results even when you have more than 2,000 Apex classes or triggers. This change applies to both Lightning Experience and Salesforce Classic.

### EDITIONS

Available in: **Enterprise, Performance, Unlimited, Developer, and Database.com** Editions

### IN THIS SECTION:

#### [Create Exception Classes in the Developer Console](#)

You can now create Apex classes that extend `System.Exception` in the Developer Console. Previously, creating classes whose names contained `Exception` resulted in an error. This change applies to both Lightning Experience and Salesforce Classic.

#### [See More Code Coverage Results in the Developer Console](#)

You can now view all your code coverage results in the Developer Console, even when you have more than 2,000 Apex classes and triggers. Previously, the Developer Console displayed only up to 2,000 rows of code coverage results. This change applies to both Lightning Experience and Salesforce Classic.

## Create Exception Classes in the Developer Console

You can now create Apex classes that extend `System.Exception` in the Developer Console. Previously, creating classes whose names contained `Exception` resulted in an error. This change applies to both Lightning Experience and Salesforce Classic.

```

File ▾ Edit ▾ Debug ▾ Test ▾ Workspace ▾ Help ▾ < >
MyException.apxc
Code Coverage: None ▾ API Version: 39 ▾ Go To
1 public class MyException extends Exception {
2
3 }

```

SEE ALSO:

[Apex Developer Guide: Exception Class and Built-In Exceptions](#)

## See More Code Coverage Results in the Developer Console

You can now view all your code coverage results in the Developer Console, even when you have more than 2,000 Apex classes and triggers. Previously, the Developer Console displayed only up to 2,000 rows of code coverage results. This change applies to both Lightning Experience and Salesforce Classic.

## Debugging: ISV Customer Debugging, No Nested Trace Flag Durations

Root out problems in your Salesforce org more easily, thanks to improvements to the debugging experience. Debug managed packages in subscriber orgs, and avoid issues that arose when trace flags had nested time windows. This change applies to both Lightning Experience and Salesforce Classic.

### EDITIONS

Available in: **Enterprise, Performance, Unlimited, Developer, and Database.com** Editions

IN THIS SECTION:

[Debug Your Managed Packages in Subscriber Orgs](#)

Each License Management Org now has one free ISV Customer Debugger session. The “View and Debug Managed Apex” user permission controls access to this feature.

[Set Discrete Trace Flag Durations](#)

You can have only one trace flag per traced entity active at a time. However, you could previously set overlapping trace flags on the same entity if you nested the trace flags’ active time windows. To avoid confusing errors, we’ve fixed this bug. You can no longer set overlapping trace flags, even when one trace flag has a later start time and an earlier end time than another trace flag.

## Debug Your Managed Packages in Subscriber Orgs

Each License Management Org now has one free ISV Customer Debugger session. The “View and Debug Managed Apex” user permission controls access to this feature.

 **Note:** This feature is available to eligible Salesforce partners. For more information on the Partner Program, including eligibility requirements, visit [www.salesforce.com/partners](http://www.salesforce.com/partners).

SEE ALSO:

[Debug Apex Code in Subscriber Orgs](#)

## Set Discrete Trace Flag Durations

You can have only one trace flag per traced entity active at a time. However, you could previously set overlapping trace flags on the same entity if you nested the trace flags' active time windows. To avoid confusing errors, we've fixed this bug. You can no longer set overlapping trace flags, even when one trace flag has a later start time and an earlier end time than another trace flag.

SEE ALSO:

[Salesforce Help: Set Up Debug Logging](#)

[Force.com Tooling API: TraceFlag](#)

## ISVforce: Package Manager in Lightning Experience, Packaging Enhancements, ISV Customer Debugging

ISVforce tools make it easy to build, package, and distribute apps and Lightning components. This release surfaces the Package Manager in Lightning Experience and enhances the security of package push upgrades. You can also abort package push requests using the API and debug your Managed - Released packages in subscriber orgs.

EDITIONS

Available in: **Developer Edition**

IN THIS SECTION:

[Manage Packages Using Lightning Experience](#)

You can now create and manage packages using Lightning Experience, just like you always could in Salesforce Classic.

[Package Push Upgrades Deactivate New or Modified Remote Sites by Default](#)

If a package push upgrade creates a new remote site, or modifies an existing site, the site is set to Inactive by default. Previously, the remote site was set to Active without explicit approval from the subscriber system administrator, which was a potential product security issue.

[ISVforce: Updating Lightning and Salesforce Classic App Packages](#)

As a developer, you can change Lightning and Salesforce Classic apps and have your subscribers pick up the changes when they receive the new package version.

[Abort a Package Push Request Using an API](#)

You abort a package push request by changing its status to Canceled.

[Debug Apex Code in Subscriber Orgs](#)

Each License Management Org can use one free ISV Customer Debugger session at a time. The ISV Customer Debugger is part of the Apex Debugger, which is part of the Force.com IDE plug-in for Eclipse and is normally a paid feature. The Apex Debugger can be used only in sandbox orgs, so you can initiate debugging sessions only from a customer's sandbox.

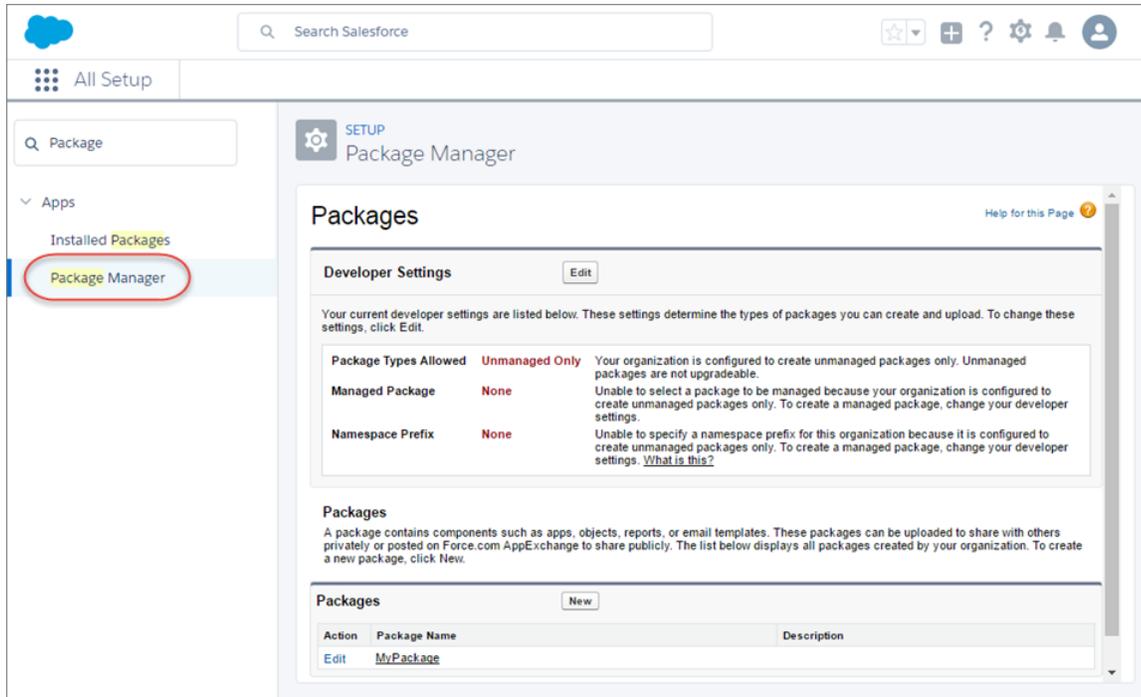
### [Control LMO Users' Access to Your Code in Subscriber Orgs with a New Permission](#)

Previously, you could control License Management Org (LMO) users' access to obfuscated code in subscriber orgs with the Author Apex permission. The View and Debug Managed Apex permission now controls this access. Users with only the Author Apex permission can no longer view obfuscated code in subscriber orgs.

## Manage Packages Using Lightning Experience

You can now create and manage packages using Lightning Experience, just like you always could in Salesforce Classic.

To access the package manager, search Setup for Packages.



SEE ALSO:

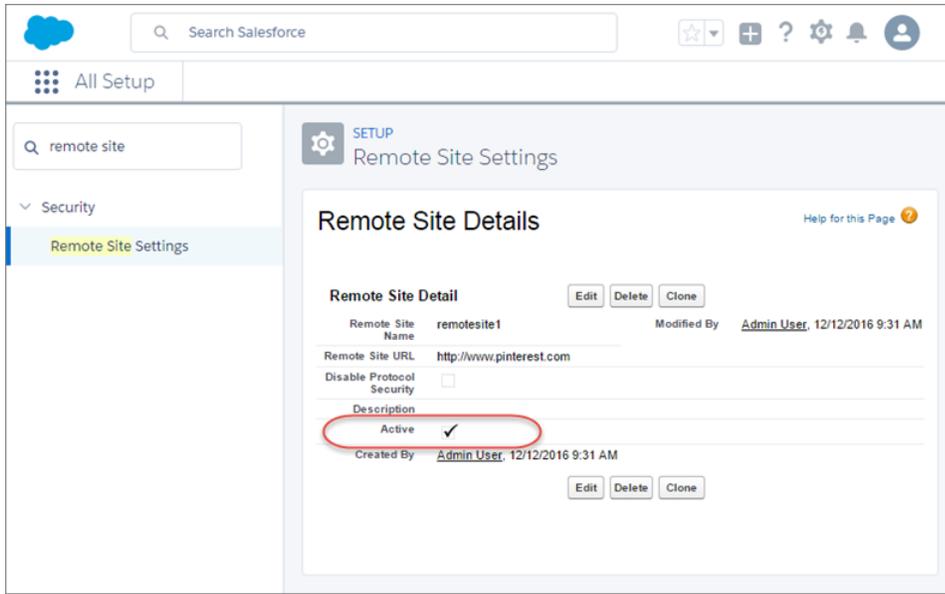
[Lightning Experience: A Modern and Intelligent User Experience](#)

[ISVforce Guide](#)

## Package Push Upgrades Deactivate New or Modified Remote Sites by Default

If a package push upgrade creates a new remote site, or modifies an existing site, the site is set to Inactive by default. Previously, the remote site was set to Active without explicit approval from the subscriber system administrator, which was a potential product security issue.

To activate the new or modified remote site, navigate to its details and check the `Active` box.



SEE ALSO:

[ISVforce Guide](#)

## ISVforce: Updating Lightning and Salesforce Classic App Packages

As a developer, you can change Lightning and Salesforce Classic apps and have your subscribers pick up the changes when they receive the new package version.

Here's what can and can't be changed in an app.

- Developer-controlled fields can be updated
- Subscriber-controlled fields can't be updated
- Salesforce Classic consoles aren't upgradeable because all their fields are subscriber-controlled
- A managed Salesforce Classic app deleted by the subscriber org can't be recreated on package upgrade
- Both push and pull upgrades are supported

## Abort a Package Push Request Using an API

You abort a package push request by changing its status to Canceled.

For example, if you're using the REST API, submit a PATCH request to the PackagePushRequest sObject endpoint as shown.

```
PATCH
/services/data/v38.0/subjects/packagepushrequest/0DV...
{
  "Status" : "Canceled"
}
```

If the push request was in a Created or Pending status, the push is aborted and all associated push jobs are canceled. If the request was in a Canceled, Succeeded, Failed, or In Progress status, the abort does not occur and an error message is returned. This behavior mimics that of the UI.

SEE ALSO:

[ISVforce Guide](#)

## Debug Apex Code in Subscriber Orgs

Each License Management Org can use one free ISV Customer Debugger session at a time. The ISV Customer Debugger is part of the Apex Debugger, which is part of the Force.com IDE plug-in for Eclipse and is normally a paid feature. The Apex Debugger can be used only in sandbox orgs, so you can initiate debugging sessions only from a customer's sandbox.

 **Note:** This feature is available to eligible Salesforce partners. For more information on the Partner Program, including eligibility requirements, visit [www.salesforce.com/partners](http://www.salesforce.com/partners).

The "View and Debug Managed Apex" user permission controls access to the ISV Customer Debugger.

Initiate a debugging session from Setup. In your browser, while logged in to your subscriber's org, enter *Apex Debugger* in the Quick Find box, then select **Apex Debugger**. Click **Start Partner Debugging Session**. Then, drag the icon (  ) from your browser to your Eclipse window.

SEE ALSO:

[Force.com IDE Developer Guide: Get Started with the ISV Customer Debugger](#)

## Control LMO Users' Access to Your Code in Subscriber Orgs with a New Permission

Previously, you could control License Management Org (LMO) users' access to obfuscated code in subscriber orgs with the Author Apex permission. The View and Debug Managed Apex permission now controls this access. Users with only the Author Apex permission can no longer view obfuscated code in subscriber orgs.

 **Note:** This feature is available to eligible Salesforce partners. For more information on the Partner Program, including eligibility requirements, visit [www.salesforce.com/partners](http://www.salesforce.com/partners).

The code contained in an Apex class, trigger, or Visualforce component that's part of a managed package is obfuscated and can't be viewed in an installing org. The only exceptions are methods declared as global. You can view global method signatures in an installing org. In addition, License Management Org users with the View and Debug Managed Apex permission can view their packages' obfuscated Apex classes when logged in to subscriber orgs via the Subscriber Support Console.

Users can have the View and Debug Managed Apex permission without having the Author Apex or Modify All Data permission. However, to manage ISV Customer Debugger sessions from the LMO, users need the Modify All Data permission. When you enable Author Apex, Modify All Data is enabled by default.

## Marketing: Tools to Engage Your Customers Like Never Before

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Marketing Cloud is the premier platform for delighting customers with 1:1 customer journeys. It enables you to build a single view of your customer-leveraging data from any source, and plan and optimize unique customer journeys based on your business objectives. Deliver personalized content across every channel and device at precisely the right time, and measure the impact of each interaction on your business so you can optimize your approach in real time and deliver better results.

SEE ALSO:

[Marketing Cloud Overview](#)

[Marketing Cloud: March 2017 Release Notes](#)

[Marketing Cloud: January 2017 Release Notes](#)

[Marketing Cloud: Earlier Release Notes](#)

[Salesforce Marketing Cloud Facebook Page](#)

## Critical Updates: LockerService Changes, CSRF Protection for Visualforce Pages, and Masking Decoupled from Shield Platform Encryption

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This release includes two new critical updates. One changes how Visualforce pages implement CSRF protection for GET requests. The other decouples the “View Encrypted Data” permission from Shield Platform Encryption. In addition, the LockerService, approvals, and flow critical updates from Summer '16 have been postponed.

To ensure a smooth transition, each critical update has an opt-in period, which ends on the auto-activation date that’s displayed on the Critical Updates page in Setup. During this period, you can manually activate and deactivate the update as often as you need to evaluate the impact on your org and modify affected customizations. After the opt-in period has passed, the update is automatically activated. For more details, see [Respond to Critical Updates](#).

### **LockerService Has Stricter Content Security Policy**

The existing LockerService critical update tightens Content Security Policy (CSP) to eliminate the possibility of cross-site scripting attacks. These CSP changes are enforced only in sandboxes and Developer Edition orgs. The CSP changes have no effect in production orgs, even when LockerService is activated. The Lightning Component framework uses Content Security Policy (CSP) to control the source of content that can be loaded on a page.

### **Allow CSRF Protection on GET Requests to Visualforce Pages**

This critical update makes it possible to enable CSRF checks for GET requests on Visualforce pages, and might break links to existing Visualforce pages.

### **Turn Off Masking for Encrypted Data**

This critical update decouples masking from the Shield Platform Encryption service. This means that the “View Encrypted Data” permission, and its resulting masking behavior, will no longer be available. Customers should review their field and object-level security settings before activating this critical update.

### **“Make Sure Records that Are Submitted Behind the Scenes Are Routed to the Right Approval Process” Critical Update Postponed**

This critical update, released in Summer '16, was scheduled for auto-activation in Winter '17, but has been postponed to Spring '18.

### **“Trust Percent Values in Flow sObject Variables Again” Critical Update Activates in Spring '17**

This critical update, released in Summer '16, was scheduled for auto-activation in Winter '17, but was postponed to Spring '17.

## Help and Training

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We added walkthroughs and Trailhead modules and added and updated instructional videos. We also updated our Trust and Compliance documentation.

### IN THIS SECTION:

#### [Walkthroughs](#)

A walkthrough is a series of interactive steps that guide you through a task or feature. Before you start a walkthrough, make sure you have the correct user permissions and license associated with the feature so you can access the proper pages in Salesforce.

#### [Videos](#)

We created and updated instructional videos to help your users learn about new and improved Salesforce features.

#### [Trailhead Modules](#)

Looking for a good way to get started with Salesforce or dive into a new feature? Meet Trailhead, a fun, guided, and interactive tool to learn Salesforce. You can follow guided learning paths for admins or developers, or choose your own adventure with self-paced modules.

#### [Trust and Compliance Documentation](#)

The Salesforce Trust and Compliance Documents have undergone seasonal updates.

#### [Updates to Communities and Portal Documentation](#)

We've deleted the Getting Started with Communities guide, moved partner portal documentation out from Help & Training into a new guide, and added a ton of information about partner communities.

## Walkthroughs

A walkthrough is a series of interactive steps that guide you through a task or feature. Before you start a walkthrough, make sure you have the correct user permissions and license associated with the feature so you can access the proper pages in Salesforce.

**!** **Important:** A walkthrough guides you through your own Salesforce account, so you're actually making changes to the data in your org as you go through the steps. If you're concerned about making these changes, follow the walkthrough in a sandbox account or other test environment.

Links from the release notes to walkthroughs only work in the latest release and don't work in preview orgs.

| Feature              | Walkthroughs   | You'll need...                 | Available in these languages |
|----------------------|--|--------------------------------|------------------------------|
| Lightning Experience | <br><a href="#">Walk Through It: Create Shortcuts to the Things You Use Most with Favorites</a> | Access to Lightning Experience | English                      |

## Videos

We created and updated instructional videos to help your users learn about new and improved Salesforce features.

- The new [Ready for Lightning Experience?](#) video shows you how Readiness Check generates a customized report that helps you prepare some of your features and customizations for Lightning Experience. The video also explains how to connect with one of our Lightning Experience experts for a 30-minute consultation.
- The new [Tips for Migrating to Lightning Experience](#) video provides helpful guidelines and resources for migrating your org to Lightning Experience.
- The new [Overview of Lightning Service Setup Home](#) video shows you how to navigate Lightning Service Setup so you can configure features for Service Cloud's Lightning Experience.
- The new [Getting Started with Recommended Setup](#) video shows you how to leverage Recommended Setup, the easy way to get Service Cloud up and running for your organization.
- The new [Learn the Basics of Lightning Service](#) video takes the user on a typical customer journey that highlights key features used in the Lightning Agent Console and Lightning Service Setup dashboard.
- The new [Lightning Login Overview \(Lightning Experience\)](#) video shows you how to set up password-free logins for your Salesforce account. Lightning Login lets you use the Salesforce Authenticator mobile app instead of a password, offering you a fast and secure alternative to passwords.
- The new [Salesforce Authenticator Quick User Setup](#) helps you enable two-factor authentication in your org and connect the Salesforce Authenticator app to your account, all in under 2 minutes.
- The new [Salesforce Authenticator: Set Up a Two-Factor Authentication Requirement for Your Org](#) shows you how to strengthen your org's security by setting up two-factor authentication for your users. You'll see how users can use the Salesforce Authenticator mobile app for two-factor authentication.

## Trailhead Modules

Looking for a good way to get started with Salesforce or dive into a new feature? Meet Trailhead, a fun, guided, and interactive tool to learn Salesforce. You can follow guided learning paths for admins or developers, or choose your own adventure with self-paced modules. Check out Trailhead at <https://developer.salesforce.com/trailhead> and find the right trail for you. Here are the latest modules and trails.

### New Modules

#### Call Center Integration

Take customer calls by integrating your phone channel and support console.

#### Developer Console Basics

Get to know the Salesforce web-based integrated development environment (IDE).

#### Duplicate Management

Resolve and prevent duplicates to increase user confidence in your data.

#### Email Marketing Strategies

Discover best practices to use when designing and sending an email.

#### ISV Security Review

Devise an app security strategy and prepare for a security review.

#### Lightning Service Basics

Set up customer service in a flash for small-to medium-size organizations.

#### Platform Cache Basics

Reduce data retrieval times and improve your app's performance.

#### Salesforce1 Security and Compliance

Secure the Salesforce1 mobile app and control access to Salesforce from mobile devices.

### Salesforce Release Strategies

Learn how Salesforce releases new features and how your company can make the most of them.

### Service Cloud Macros

Save time for your support agents by creating and running helpful macros.

### Service Console Components

Give your support agents everything they need on one screen.

### Smart Data Discovery Basics

Listen to the stories your data can tell you.

### Spring '17 Release

Explore highlights from the Spring '17 release.

### Wave Analytics Administration Basics

Set up Wave Analytics and enable features and security.

### Wave Dashboard Designer Basics

Use templates and wizards to make magic happen with Wave dashboards.

### Wave Dashboard Navigation

Find your way around Wave dashboards and drill in to get the insights you need.

### Wave Data Integration Basics

Bring your data into Wave and make it work for you.

## New Projects

### Quick Start: Predictive Vision Service

Use Apex to create a simple app to recognize and classify images.

## New Trails

### Build and Administer Wave Analytics

Learn how to set up Wave, bring in your data, and build apps that help your teams make great decisions.

### Manage the Salesforce1 Mobile App

Learn how Salesforce1 can transform your business and improve your employees' productivity.

## Trust and Compliance Documentation

The Salesforce Trust and Compliance Documents have undergone seasonal updates.

## Notices and Licenses

The following changes have been made in the **Notices and Licenses Documentation**:

### Salesforce

- **Services Covered:** Added Financial Services Cloud, Health Cloud, and Salesforce Quote-to-Cash
- **Quick Contact Import Feature:** Removed section
- **Field Service Lightning:** Added new section
- **Lightning Sync:** Renamed section
- **Lightning for Outlook:** Added new section

- **Lightning Voice:** Added new section
- **Send Email Through Gmail or Office364:** Added new section
- **Distributed Software:** Updated information

#### Analytics Cloud

- **Distributed Software:** Updated information

#### Commerce Cloud

- **External Facing Services:** Added new section

#### Data.com

- **Customer Data:** Added new section
- **External Facing Services:** Added new section

#### Desk.com

- **Third Party Content:** Updated information
- **Third Party Applications:** Updated information

#### ExactTarget

- **Restricted Uses of Information:** Updated information
- **Advertising Studio:** Updated information
- **Third Party Notices:** Updated information

#### Financial Services Cloud

- Financial Services Cloud Notice and License Information documentation combined with Salesforce Notice and License Information documentation.

#### Health Cloud

- Health Cloud Notice and License Information documentation combined with Salesforce Notice and License Information documentation.

#### Heroku

- **Restricted Uses:** Added information related to best practices and guidelines
- **Heroku Elements:** Updated information
- **Distributed Software:** Updated information

#### IoT Cloud

- No update

#### Krux

- New Documentation

#### LiveMessage

- **Third-Party Platforms:** Added section
- **Third-Party Notices:** Added section

#### Marketing Cloud

- **Third Party Notices:** Updated information
- **Terms Applicable to Public Sector Users:** Added section

#### Pardot

- **Third Party Notices:** Updated information

**Predictive Intelligence**

- **Services Covered:** Added Personalization Builder
- **External-Facing Services:** Updated information
- **Restricted Uses of Information:** Updated information

**Quote-to-Cash**

- Quote-to-Cash Notice and License Information documentation combined with Salesforce Notice and License Information documentation.

**SalesforceIQ**

- **Third Party Applications:** Updated information

**Sales Cloud Einstein**

- New Notice and License Information documentation

**Work.com**

- No update

## Security, Privacy, and Architecture

The following changes have been made in the **Security, Privacy, and Architecture Documentation**:

**Salesforce**

- **Services Covered:** Added Health Cloud, Financial Services Cloud, and Salesforce Quote-to-Cash. Clarified that BeyondCore, LiveMessage, and Salesforce Inbox are not covered by this document.
- **Salesforce Infrastructure:** Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- **Architecture and Data Segregation:** New section added describing the segregation of customers' data in Salesforce's multi-tenant architecture. Section also describes new Public Cloud Option that will be available in certain regions.
- **Control of Processing:** New section added describing customers' control of the processing of their data performed on Salesforce's services.
- **Third Party Architecture:** Section renamed Third Party Functionality. Information about use of content delivery networks moved to the Infrastructure and Sub-processors documentation. Added description of new product branded as Sales Cloud Einstein.
- **Audits and Certifications:** Added language on applicability of certifications to Public Cloud Option and Salesforce Quote-to-Cash. Added link to Privacy Shield Notice.
- **Security Procedures, Policies and Logs:** Added details on types of logs.
- **Reliability and Backup:** Clarified that back-ups are not available for Health Cloud, Financial Services Cloud, or Quote-to-Cash if the managed packages are uninstalled by a customer's administrator.
- **Return of Data:** Clarify that data cannot be returned if deleted by customer.
- **Deletion of Customer Data:** Clarified timeline for deletion of data after termination of a Master Subscription Agreement.
- **Sensitive Data:** Added sentence encouraging use of encryption for all sensitive data. Added prohibition on submission of Protected Health Information to Public Cloud Option and certain sensitive data to Quote-to-Cash.

**Buddy Media**

- **Salesforce Infrastructure:** Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- **Architecture and Data Segregation:** New section added describing the segregation of customers' data in Salesforce's multi-tenant architecture.

- Control of Processing: New section added describing customers' control of the processing of their data performed on Salesforce's services.
- Third Party Architecture: Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- Audits and Certifications: Noted that Salesforce's information security management system for ISO 27001 applicable to the Buddy Media Services is also aligned with ISO 27018.
- Tracking and Analytics: Made changes to conform document with the Salesforce Services Security, Privacy, and Architecture documentation, including disclosures that Salesforce may use tracking and analytics information to send transactional messages to customers; that those communications may be sent using the Salesforce services branded as ExactTarget; and that Salesforce may share anonymous usage statistics data on an aggregate basis.

### Commerce Cloud

- Salesforce Infrastructure: Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- Architecture and Data Segregation: New section added describing the segregation of customers' data in Salesforce's multi-tenant architecture.
- Control of Processing: New section added describing customers' control of the processing of their data performed on Salesforce's services.
- Third Party Architecture: Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- Third Party Functionality: New section added, containing a description of Commerce Cloud Services' use of third parties to protect the services from distributed denial of service attacks. That description was formerly found in the Third Party Architecture section.
- Tracking and Analytics: Added disclosure that email communications to customers and users may be sent using the Salesforce services branded as ExactTarget.

### Data.com

- Services Covered: Referenced [Trust and Compliance Documentation](#) section of help.salesforce.com for "Salesforce Services" definition instead of listing services.
- Applicability to Data.com Services accessed through Salesforce Services: Information about Salesforce's infrastructure for the Commerce Cloud Services is now available in the Commerce Cloud Infrastructure and Sub-processors documentation.
- Architecture and Data Segregation: New section added describing the segregation of customers' data in Salesforce's multi-tenant architecture.
- Control of Processing: New section added describing customers' control of the processing of their data performed on Salesforce's services.
- Audits and Certifications: For the "ISO27001/27018 certification, replaced "is subject to" with "operates," clarified that the reference is "for the Data.com Services," and also added a sentence stating that the certification includes security controls at the physical data center used to host Customer Data submitted to the Data.com Services.
- Tracking and Analytics: Made changes to conform document with the Salesforce Services Security, Privacy, and Architecture documentation, including a disclosure that Salesforce may use tracking and analytics information to send transactional messages to customers and that Salesforce may share anonymous usage statistics data on an aggregate basis.

### Desk.com

- Third Party Architecture: Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- Architecture and Data Segregation: New section added describing the segregation of customers' data in Salesforce's multi-tenant architecture.

- Control of Processing: New section added describing customers' control of the processing of their data performed on Salesforce's services.
- Tracking and Analytics: Made changes to conform document with the Salesforce Services Security, Privacy, and Architecture documentation, including a disclosure that Salesforce may use tracking and analytics information to send transactional messages to customers and that Salesforce may share anonymous usage statistics data on an aggregate basis.

### **ExactTarget**

- Salesforce Infrastructure: Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- Third Party Architecture: Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- Third Party Functionality: New section added describing intermediaries involved in the transmission of mobile messages over the ExactTarget Services.
- Architecture and Data Segregation: New section added describing the segregation of customers' data in Salesforce's multi-tenant architecture.
- Control of Processing: New section added describing customers' control of the processing of their data performed on Salesforce's services.
- Audits and Certifications: Noted that Salesforce's information security management system for ISO 27001 applicable to the ExactTarget Services is also aligned with ISO 27018.
- Tracking and Analytics: Made changes to conform document with the Salesforce Services Security, Privacy, and Architecture documentation, including a disclosure that Salesforce may use tracking and analytics information to send transactional messages to customers and that Salesforce may share anonymous usage statistics data on an aggregate basis.

### **Financial Services Cloud**

- Financial Services Cloud Security, Privacy, and Architecture documentation combined with Salesforce Security, Privacy, and Architecture documentation. See Salesforce Security, Privacy, and Architecture documentation for a description of changes.

### **Health Cloud**

- Health Cloud Security, Privacy, and Architecture documentation combined with Salesforce Security, Privacy, and Architecture documentation. See Salesforce Security, Privacy, and Architecture documentation for a description of changes.

### **Heroku**

- Third Party Architecture: Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- Architecture and Data Segregation: New section added describing the segregation of customers' data in Salesforce's multi-tenant architecture.
- Control of Processing: New section added describing customers' control of the processing of their data performed on Salesforce's services.
- Intrusion Detection: Added a sentence describing security scans of code that Heroku conducts.
- Tracking and Analytics: Made changes to conform document with the Salesforce Services Security, Privacy, and Architecture documentation, including a disclosure that Salesforce may use tracking and analytics information to send transactional messages to customers and that Salesforce may share anonymous usage statistics data on an aggregate basis.

### **IoT Cloud**

- Salesforce Infrastructure: Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- Architecture and Data Segregation: New section added describing the segregation of customers' data in Salesforce's multi-tenant architecture.

- Control of Processing: New section added describing customers' control of the processing of their data performed on Salesforce's services.
- Third Party Architecture: Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- Physical Security: Deleted reference to AWS website. Moved reference to IoT Infrastructure and Sub-processors documentation.
- Deletion of Customer Data: Added sentence clarifying that Salesforce may delete data 180 days or more after its submission to the IoT Cloud Services; clarified that Salesforce reserves the right to reduce the number of days it retains customer data after contract termination.
- Tracking and Analytics: Made changes to conform document with the Salesforce Services Security, Privacy, and Architecture documentation, including disclosures that Salesforce may use tracking and analytics information to send transactional messages to customers; and that Salesforce may share anonymous usage statistics data on an aggregate basis.

**Krux**

- New documentation

**LiveMessage**

- Services Covered: Added reference to "Lightning LiveMessage."
- Salesforce Infrastructure: Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- Architecture and Data Segregation: New section added describing the segregation of customers' data in Salesforce's multi-tenant architecture.
- Control of Processing: New section added describing customers' control of the processing of their data performed on Salesforce's services.
- Third Party Architecture: Section renamed Third Party Functionality. Information about use of AWS moved to the Infrastructure and Sub-processors documentation. Added description of mobile aggregators.
- Physical Security: Deleted reference to AWS website. Moved reference to IoT Infrastructure and Sub-processors documentation.

**Pardot**

- Salesforce Infrastructure: Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- Architecture and Data Segregation: New section added describing the segregation of customers' data in Salesforce's multi-tenant architecture.
- Control of Processing: New section added describing customers' control of the processing of their data performed on Salesforce's services.
- Third Party Architecture: Section renamed Third Party Functionality. Clarified details on the features offered by the third-party partner. Information about use of AWS moved to the Pardot Infrastructure and Sub-processors documentation.
- Audits and Certifications: Deleted reference to AWS audits and certifications.
- Security Controls: Removed reference to domain whitelisting.
- Physical Security: Deleted reference to AWS website
- Reliability and Backup: Clarified description of back-ups hosted by AWS.
- Deletion of Customer Data: Clarified description of back-ups hosted by AWS.
- Tracking and Analytics: Made changes to conform document with the Salesforce Services Security, Privacy, and Architecture documentation, including disclosures that Salesforce may use tracking and analytics information to send transactional messages to customers; and that Salesforce may share anonymous usage statistics data on an aggregate basis.

**Predictive Intelligence**

- Services Covered: Added Personalization Builder as a service covered by the Predictive Intelligence Security, Privacy, and Architecture documentation.
- Third Party Architecture: Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- Architecture and Data Segregation: New section added describing the segregation of customers' data in Salesforce's multi-tenant architecture.
- Control of Processing: New section added describing customers' control of the processing of their data performed on Salesforce's services.
- Audits and Certifications: Noted that Salesforce's information security management system for ISO 27001 applicable to the Predictive Intelligence Services is also aligned with ISO 27018.
- Audits and Certifications: Added bullet stating that Salesforce's information security management system applicable to the Predictive Intelligence Services undergoes an independent evaluation in the form of a SOC 2 report.
- Tracking and Analytics: Made changes to conform document with the Salesforce Services Security, Privacy, and Architecture documentation, including disclosures that Salesforce may use tracking and analytics information to send transactional messages to customers; that those communications may be sent using the Salesforce services branded as ExactTarget; and that Salesforce may share anonymous usage statistics data on an aggregate basis.

### **Radian6**

- Salesforce Infrastructure: Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- Architecture and Data Segregation: New section added describing the segregation of customers' data in Salesforce's multi-tenant architecture.
- Control of Processing: New section added describing customers' control of the processing of their data performed on Salesforce's services.
- Audits and Certifications: Noted that Salesforce's information security management system for ISO 27001 applicable to the Radian6 Services is also aligned with ISO 27018.
- Tracking and Analytics: Made changes to conform document with the Salesforce Services Security, Privacy, and Architecture documentation, including disclosures that Salesforce may use tracking and analytics information to send transactional messages to customers; that those communications may be sent using the Salesforce services branded as ExactTarget; and that Salesforce may share anonymous usage statistics data on an aggregate basis.

### **SalesforceIQ**

- Services Covered: Clarified that the documentation extends to the services branded as "SalesforceIQ" and also "Salesforce Inbox."
- Third Party Architecture: Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- Third Party Functionality: New section added, where language from deleted "Third Party Architecture" section about use of third party technology for support has been relocated.
- Third Party Architecture: Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- Architecture and Data Segregation: New section added describing the segregation of customers' data in Salesforce's multi-tenant architecture.
- Control of Processing: New section added describing customers' control of the processing of their data performed on Salesforce's services.
- Tracking and Analytics: Made changes to conform document with the Salesforce Services Security, Privacy, and Architecture documentation, including a disclosure that Salesforce may use tracking and analytics information to send transactional messages to customers and that Salesforce may share anonymous usage statistics data on an aggregate basis.

### Sales Cloud Einstein

- This is a new set of documentation. The sections are described below.
- **Salesforce's Corporate Trust Commitment:** Describes the role of trust in providing our services and provides a definition of Customer Data.
- **Services Covered:** Describes the services included within the Sales Cloud Einstein services.
- **Architecture and Data Segregation:** Describes the segregation of customers' data in Salesforce's multi-tenant architecture.
- **Control of Processing:** Describes customers' control of the processing of their data performed on Salesforce's services.
- **Audits and Certifications:** Describes information about audits and certifications relevant to the services.
- **Security Controls:** Describes security controls included within the services.
- **Security Procedures, Policies, and Logging:** Describes the security procedures related to the services.
- **Intrusion Detection:** Describes the intrusion detection capabilities of the services.
- **Security Logs:** Describes the security logs generated in the services.
- **Incident Management:** Describes process for incident management.
- **User Authentication:** Describes process for user authentication.
- **Physical Security:** Describes physical security pertinent to the services.
- **Reliability and Backup:** Describes process for backup of data uploaded to the services.
- **Viruses:** Notes that services do not scan for viruses in attachments or other data uploaded to the services.
- **Data encryption:** Describes encryption used by the services.
- **Return of Customer Data:** Describes process for return of customer data.
- **Deletion of Customer Data:** Describes process for deletion of customer data.
- **Sensitive Personal Data:** Describes which sensitive personal data may not be uploaded to platform.
- **Tracking and Analytics:** Describes the purposes for which Salesforce may conduct tracking and analytics.
- **Interoperation with Other Salesforce Services:** Describes how the Sales Cloud Einstein services may interoperate with other Salesforce services.

### Social.com

- **Salesforce Infrastructure:** Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- **Third Party Architecture:** Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- **Architecture and Data Segregation:** New section added describing the segregation of customers' data in Salesforce's multi-tenant architecture.
- **Control of Processing:** New section added describing customers' control of the processing of their data performed on Salesforce's services.
- **Audits and Certifications:** Noted that Salesforce's information security management system for ISO 27001 applicable to the Social.com Services is also aligned with ISO 27018.
- **Audits and Certifications:** Added bullet stating that Salesforce's information security management system applicable to the Predictive Intelligence Services undergoes an independent evaluation in the form of a SOC 2 report.
- **Tracking and Analytics:** Made changes to conform document with the Salesforce Services Security, Privacy, and Architecture documentation, including disclosures that Salesforce may use tracking and analytics information to send transactional messages to customers; that those communications may be sent using the Salesforce services branded as ExactTarget; and that Salesforce may share anonymous usage statistics data on an aggregate basis.

### Social Studio

- **Salesforce Infrastructure:** Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- **Third Party Architecture:** Information about Salesforce's infrastructure has been moved to Infrastructure and Sub-processors documentation.
- **Third Party Functionality:** New section added. The section contains a description of Social.com's use of a third-party proxy server; a similar description was previously found in the Third Party Architecture section.
- **Architecture and Data Segregation:** New section added describing the segregation of customers' data in Salesforce's multi-tenant architecture.
- **Control of Processing:** New section added describing customers' control of the processing of their data performed on Salesforce's services.
- **Audits and Certifications:** Noted that Salesforce's information security management system for ISO 27001 applicable to the Social Studio Services is also aligned with ISO 27018.
- **Tracking and Analytics:** Made changes to conform document with the Salesforce Services Security, Privacy, and Architecture documentation, including disclosures that Salesforce may use tracking and analytics information to send transactional messages to customers; that those communications may be sent using the Salesforce services branded as ExactTarget; and that Salesforce may share anonymous usage statistics data on an aggregate basis.

#### **Quote-to-Cash**

- Quote-to-Cash Security, Privacy, and Architecture documentation combined with Salesforce Security, Privacy, and Architecture documentation. See Salesforce Security, Privacy, and Architecture documentation for a description of changes.

## Updates to Communities and Portal Documentation

We've deleted the Getting Started with Communities guide, moved partner portal documentation out from Help & Training into a new guide, and added a ton of information about partner communities.

Check out [Communities Documentation: Spruced Up for Spring](#) for details.

## Other Salesforce Products

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### desk.com

Desk.com is an all-in-one customer support app for small businesses and growing teams.

For information on new features, go to the [Desk.com Product Updates Blog](#).

### Heroku

Heroku is a cloud-based application platform for building and deploying web apps.

For information on new features, go to the [Heroku Changelog](#).

### LiveMessage

LiveMessage allows your service agents to receive inbound text messages from your customers on the same landline or 800 number that customers use to call. Agents can also initiate outbound text messages to your customers for proactive communications, meeting your customers wherever they are.

For information on new features, go to the [LiveMessage release page](#)