

Travel Approval App: From Idea to Application in 1 day

Introduction

Due to some recent abuse of un-warranted travel, your agency has decided to implement a travel approval process. Up until now, the agency had a travel approval process in place but it was based on emailing Excel files around. It also had no central repository and enforcement of the process resulting in no ability to report on travel approval activities across the agency. The agency needs to create an application where:

- Each employee must submit an electronic request in the system for future travel
- Each request includes a list of estimated expenses for airfare, hotel, rental car, etc...
- Each request must be approved by the employee's manager and all out-of-state travel must be approved by a travel coordinator
- Managers need reports and dashboards to track key travel request trends and KPIs

In addition, employees and managers must be able to access their travel requests, approvals, and dashboards via their tablet or smart phone while out of the office.

By the end of the workshop, you will have a working prototype of the new travel approval application. In this workshop, we will follow the following steps to build out the travel approval application.

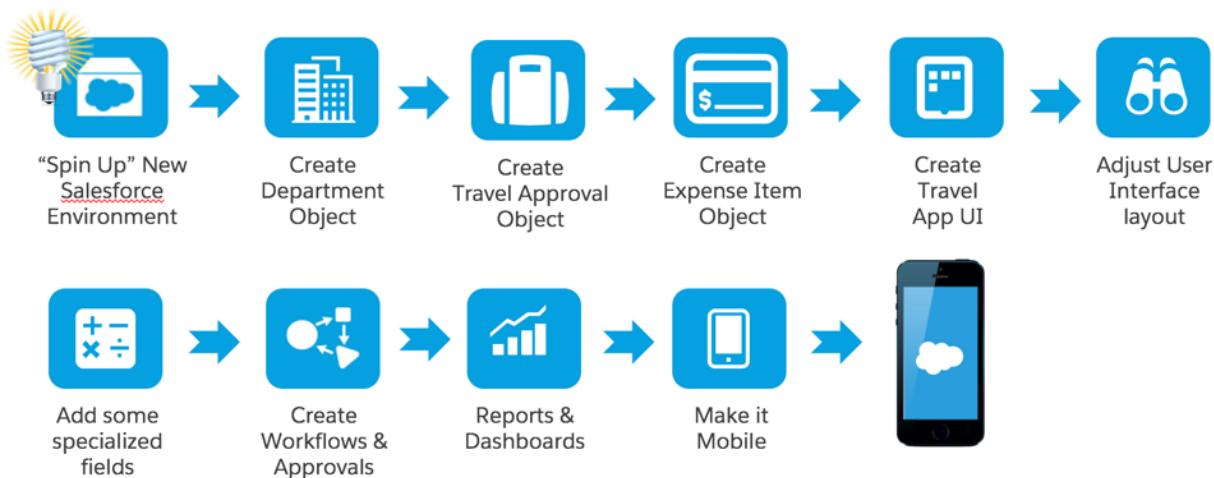


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Sign up for a new Salesforce Developer Edition (DE) Org and Configure for Lightning Experience

Duration: 15 minutes

In this exercise, you will sign up for your own personal Salesforce Organization (Org) called a Developer Edition or “DE Org” and login with your credentials. Salesforce DE Orgs are fully featured Salesforce environments. They never expire and are free to use.

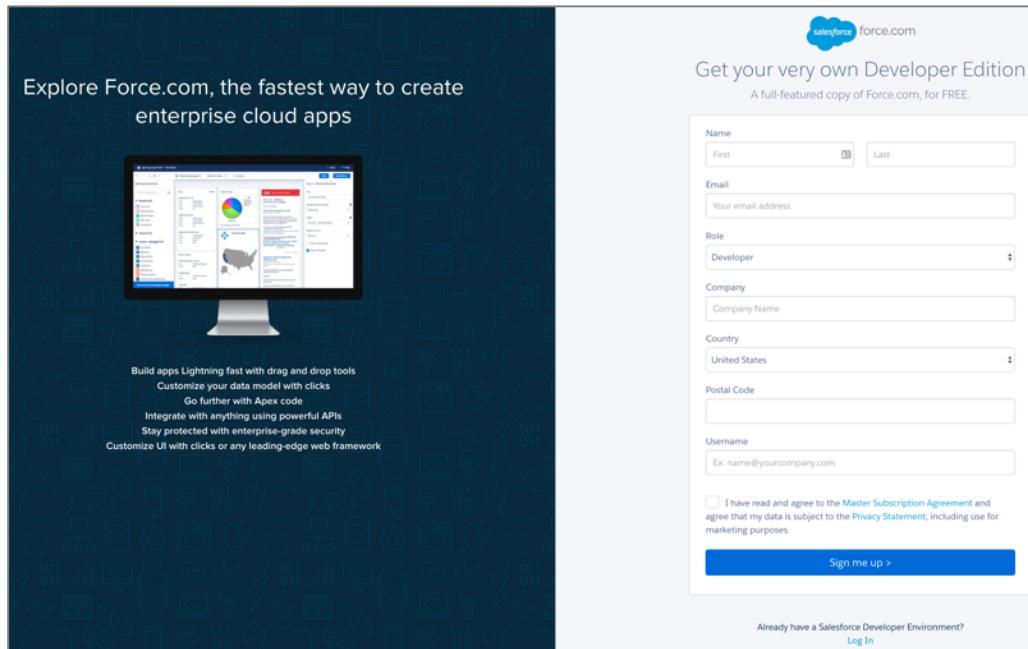
A DE Org lets you instantly start developing, testing and deploying your software-as-a-service application, and you don't need to touch a single server, as they're provisioned in the cloud. The Developer Edition comes with a number of applications pre-installed, including Salesforce CRM applications like Sales, Call Center, Marketing, and Content.

Limits for Developer Edition:

- 5.0 MB of Data Storage
- 20.0 MB of File Storage (attachments)
- 5000 API requests per 24 hours

Sign Up For a Developer Org

1. Open a web browser and go to <https://developer.salesforce.com/signup>



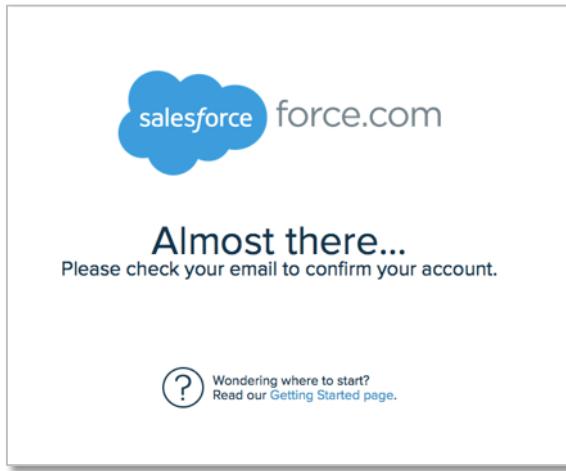
2. Enter the following details in the “Get your very own Developer Environment” signup form
 - a. First Name
 - b. Last Name

- c. Email Address (**Note:** this should be an email address where you can log into during the workshop in order to view your welcome email and link to setup a password.)
- d. Company Name
- e. Country
- f. Postal Code
- g. Write down your user name: _____ (example format: <firstname>.<lastname>@<agency>.workshop)
Note: This will be your user name for the DE Org. It needs to be in the “form of an email address.” We highly suggest that you **DO NOT USE YOUR REAL WORK EMAIL ADDRESS AS YOUR DE ORG USER NAME.**
- h. Check the box to agree to the terms of the Master Subscription Agreement
- i. Click the “I’m not a robot” CAPTCHA check box



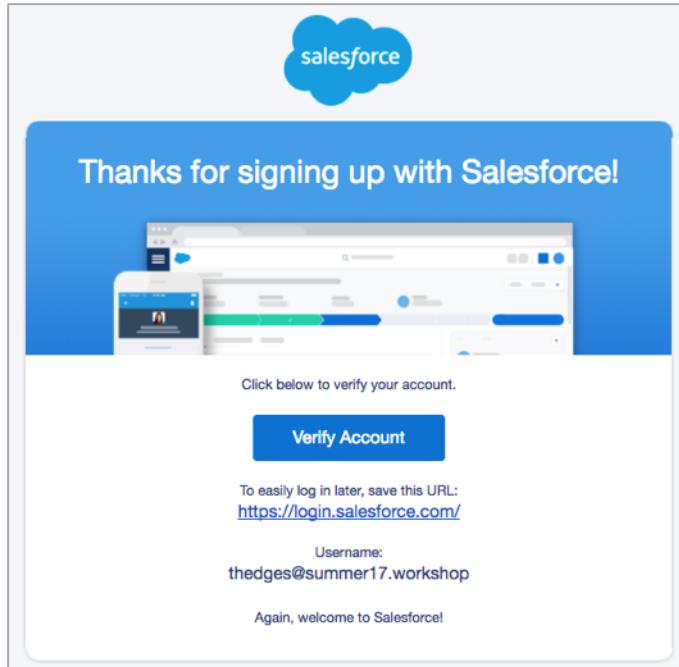
I'm not a robot reCAPTCHA
Privacy - Terms
- j. Click the **Sign me up** button

3. Next, you should see a screen indicating that you are Almost There!



4. Log into your email account that you used above in **step 2c.**

- a. You should have received an email that resembles the following:



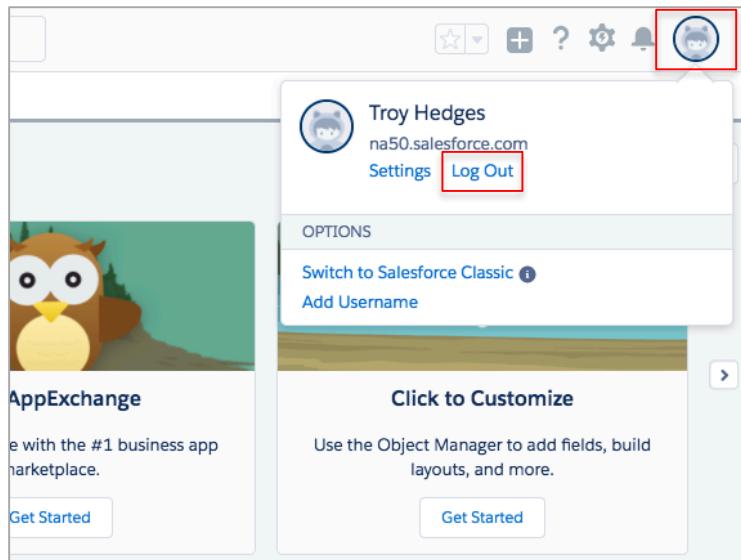
Note: If you don't see the email, please check your email spam folder.

- b. Click on the "**Verify Account**" button in the email in order to create your password. If successful, you should see a screen that looks like the following:

A screenshot of the "Change Your Password" page. The top features the blue cloud logo. The main title is "Change Your Password". Below the title, instructions say: "Enter a new password for b.murphy@centralintake.demo. Your password must have at least:". There are three radio buttons: "8 characters", "1 letter", and "1 number". Below these is a field labeled "New Password" with a placeholder and a password strength meter icon. Next is a field labeled "Confirm New Password" with a placeholder and a password strength meter icon. Below these fields is a "Security Question" section with a dropdown menu showing "In what city were you born?". Underneath is a "Answer" field with a placeholder. At the bottom is a grey "Change Password" button.

- c. Enter the form details and click **Change Password**.
- d. This should automatically log you into your Salesforce DE Org. Congratulations!

5. Now, we want to show you how to access and log into your DE Org in the future. In the upper right-hand corner, click on the person icon and select **Logout** from the popup window.



- a. After logging out, you should already be at the Salesforce Login Page where you can re-enter your DE Org credentials. If you did not get directed back to the login page, don't worry. Just open a browser and go to the following URL: <https://login.salesforce.com>
6. Re-login to Salesforce using your DE Org credentials.

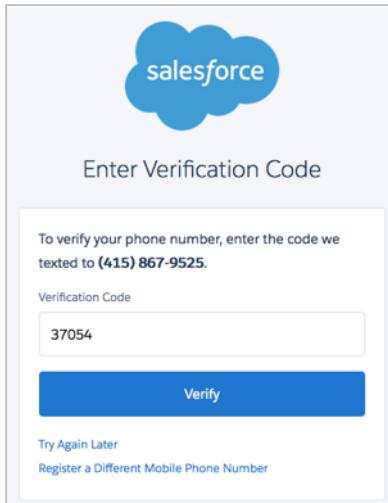
- a. Enter your [User Name] & [Password] and click **Log In**
- b. When logging in this time, you may see this screen:

A screenshot of a mobile phone registration form. At the top is a large blue cloud icon with the word "salesforce". Below it is the heading "Register Your Mobile Phone". A explanatory text block says: "Make it easy to verify your identity when you log in to Salesforce. Any time we have to verify it's you, we can text a code to your registered phone." There are two input fields: "Country" (set to "United States (+1)") and "Mobile Phone Number" (an empty text field). Below these is a large blue "Register" button. At the bottom are two links: "Remind Me Later" and "I Don't Want to Register My Phone".

This is an example of Salesforce security controls asking you to register for an additional layer of authentication. Since Salesforce is a public cloud you can access our login page from any web browser or mobile device. If you log into Salesforce in the future from an IP address that we

have not recognized since the last time you accessed your account, Salesforce will ask you to authenticate with a verification code that will be sent to your mobile phone. Pretty cool, eh? (By the way Salesforce will even let you specify an IP range for your organization so that you will only accept people logging in from an IP that falls within the range you specify.)

- c. Enter your mobile phone number and click **Register**
- d. You should see another screen asking you to enter your verification code as follows:



The verification code will be sent to your mobile phone via txt message. Enter the verification code and click **Verify**.

7. Congratulations once again! You should now be logged into Salesforce and situated on the **Setup Screen**.

Download Workshop Lab Files

Access the following URL to download the files you will need during the workshop. Unzip to a directory of your choice on your computer.

<http://bit.ly/TravelAppWorkshop>

Salesforce Terminology & Navigation: Orientation to the User Interface

Duration: 15 minutes

When learning a new application, platform or development paradigm for the first time, two of the most challenging things to learn are (1) Terminology and (2) Navigation. This following section will give you the tools you need to understand Salesforce terminology so you will be able to navigate and complete the subsequent exercises.

Below is a screenshot of the Travel Approval application you will build in this workshop. Highlighted are the main functional areas you will use in this workshop and a description of each is provided below.

The screenshot shows a Salesforce application interface for a "Travel Approvals" object. The top navigation bar includes an Application Selector, Global Search, Tabs, List View Configuration, Setup Configuration, and User Options. Below the navigation is a list view selector showing "All" and a list view data area displaying 16 travel approval records. Each record includes columns for TRAVEL APPROVAL#, DEPARTMENT, CREATED BY, STATUS, TRIP START DATE, TRIP END DATE, and STATUS INDICATOR (green thumbs up or red thumbs down).

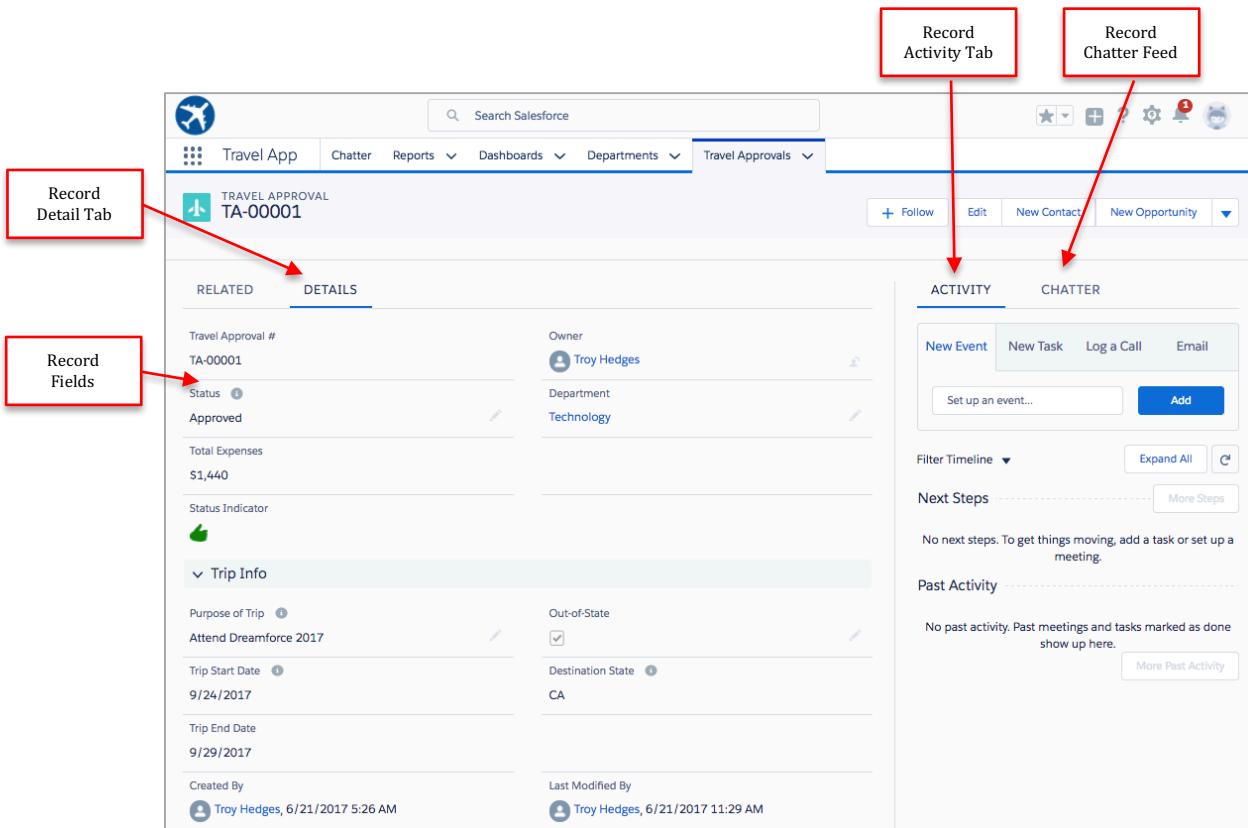
TRAVEL APPROVAL#	DEPARTMENT	CREATED BY	STATUS	TRIP START DATE	TRIP END DATE	STATUS INDICATOR
TA-00001	Technology	Troy Hedges	Approved	9/24/2017	9/29/2017	Green
TA-00002		Troy Hedges	Rejected	11/9/2017	11/10/2017	Red
TA-00003	Office of Commun...	Troy Hedges	Approved	6/14/2016	6/15/2016	Green
TA-00004	Disability Determin...	Troy Hedges	Approved	10/1/2016	10/1/2016	Green
TA-00005	Division of Disabilit...	Troy Hedges	Rejected	4/3/2016	4/6/2016	Red
TA-00006	Technology	Troy Hedges	Approved	3/13/2016	3/17/2016	Green
TA-00007	Human Resources	Troy Hedges	Approved	4/27/2016	5/5/2016	Green
TA-00008	Division of Finance	Troy Hedges	Rejected	3/9/2016	3/9/2016	Red
TA-00009	Contract Managem...	Troy Hedges	Approved	12/22/2016	1/1/2017	Green
TA-00010	Division of Aging	Troy Hedges	Approved	4/23/2016	4/28/2016	Green
TA-00011	Audit Services	Troy Hedges	Rejected	8/9/2016	8/15/2016	Red
TA-00012	Division of Aging	Troy Hedges	Approved	11/5/2016	11/11/2016	Green
TA-00013	Disability Determin...	Troy Hedges	Approved	3/22/2016	3/22/2016	Green
TA-00014	Technology	Troy Hedges	Approved	3/6/2016	3/9/2016	Green
TA-00015	Office of General C...	Troy Hedges	Approved	11/21/2016	11/26/2016	Green
TA-00016	Office of Commun...	Troy Hedges	Approved	3/7/2016	3/16/2016	Green

Salesforce user interface functional areas (starting in upper right):

- **User Options** – provides configuration options tied to your user account such as login session and user profile. You can logout of the system or edit your user profile for changing information like email address, password, contact information, time zone, etc...
- **Setup Configuration** – *Setup* is the place where Administrators will spend lots of their time when configuring Salesforce to meet their business needs. This is only provided to Administrators and provides access to all setup capabilities such as creating new applications, creating new custom objects and custom fields, creating users and user profiles, configuring page layouts, and many other options.

- **Global Search** – Salesforce has a rich Google-like search engine for easily finding information throughout the system. Salesforce will search across all data in the system and provide a response list that is grouped by object types for easily finding the information you need.
- **Application Selector** – Salesforce supports the ability to create many applications and provide access to users of the system via the built-in security model. A user can use the application selector to switch between applications that he/she has been given access to. In the workshop, we will be creating a new application that will be available in this menu.
- **Tabs** – a Salesforce application is made up of one or more tabs. When a user switches to a new application, the tabs will adjust based on which tabs have been configured for that application. Each Tab can be thought of as a logical business entity like an Account (Business), Contact (Person), Travel Request, Report and so on. The Tabs represent “data objects” or things you track in your business. Some data objects are delivered out-of-the-box in Salesforce and some will be “custom objects” that you create.
- **List View Selector** – A list view is a set of search conditions that display records that match the search conditions. For example, a view of contacts that have "Birthdays This Month" would filter your list of contacts based on a search for birthdays falling on a day in the current month. By default, Salesforce.com includes a number of views for each screen Tab/Object. The List View Selector allows you to switch between the list views that have been configured for that object.
- **List View Configuration** – this option provides capabilities to create new list views or modify existing list views. You can change such options as the title, the filter criteria, or the columns to show in the data table section. You will create a custom list view in this workshop to show open travel approvals.
- **List View Data Area** – this is the table area that shows all records that match the list view selected. As mentioned above, the list view will define the filter criteria and columns to show for the records that it finds.

The typical interactions a user has with the Salesforce interface is to use the tabs to focus on the type of object you are interested in. You use configured list views to filter the records associated with that object where a record can be thought of as a row in a database. Then in the list view table section, you click on a record to drill in to the details of that record. Below is a sample screen that shows the details of a record.



Salesforce record detail user interface functional areas:

- **Record Detail Tab** – this tab shows the actual field information for the chosen record. The fields and field sections shown on this page can be configured by administrator and different views (i.e. page layouts) can be configured for different users. Thus, one user could have a different view of the field level data than another user.
- **Record Fields** – this is area where all fields are shown for the current record. As mentioned above, the fields shown on this area are totally configurable and different page layouts can be created to show different views to different users.
- **Record Activity Tab** –this is tab for users to enter activities such as logging a call, creating new tasks, or logging a meeting. This section also include a chronological timeline of the activities that have occurred and those that are scheduled in the future.
- **Record Chatter Tab** - Chatter is Salesforce's social collaboration tool that is native to the platform. With Chatter, you can collaborate with people both inside and outside your organization on individual records of data (e.g. Cases, Contacts, Referrals) and on common topics of interest using Chatter Groups. The Chatter "feed" allows a user to post comments, @Mention co-workers, add files, initiate polls, and perform "actions" such as creating a note, adding a task, updating a field, or sending an email. In addition, you can "follow" a record of data much the same way you can follow your favorite sports team on Facebook. When you follow a record in Chatter, anytime the record is updated, an entry is made on the Chatter "feed" so followers are instantly aware of the updates related to that particular record.

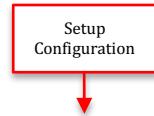
Salesforce includes a rich data modeling tool that allows you to define custom objects, custom fields, and relationships between objects. For example, you can relate objects in parent-child relationships such as an Expense Report related to child Expense Line Items. When viewing records in Salesforce, you have option to view the child objects related to your record. These related child objects are referred to "related lists" in the user interface. Below is screenshot of record where the related lists are being shown.

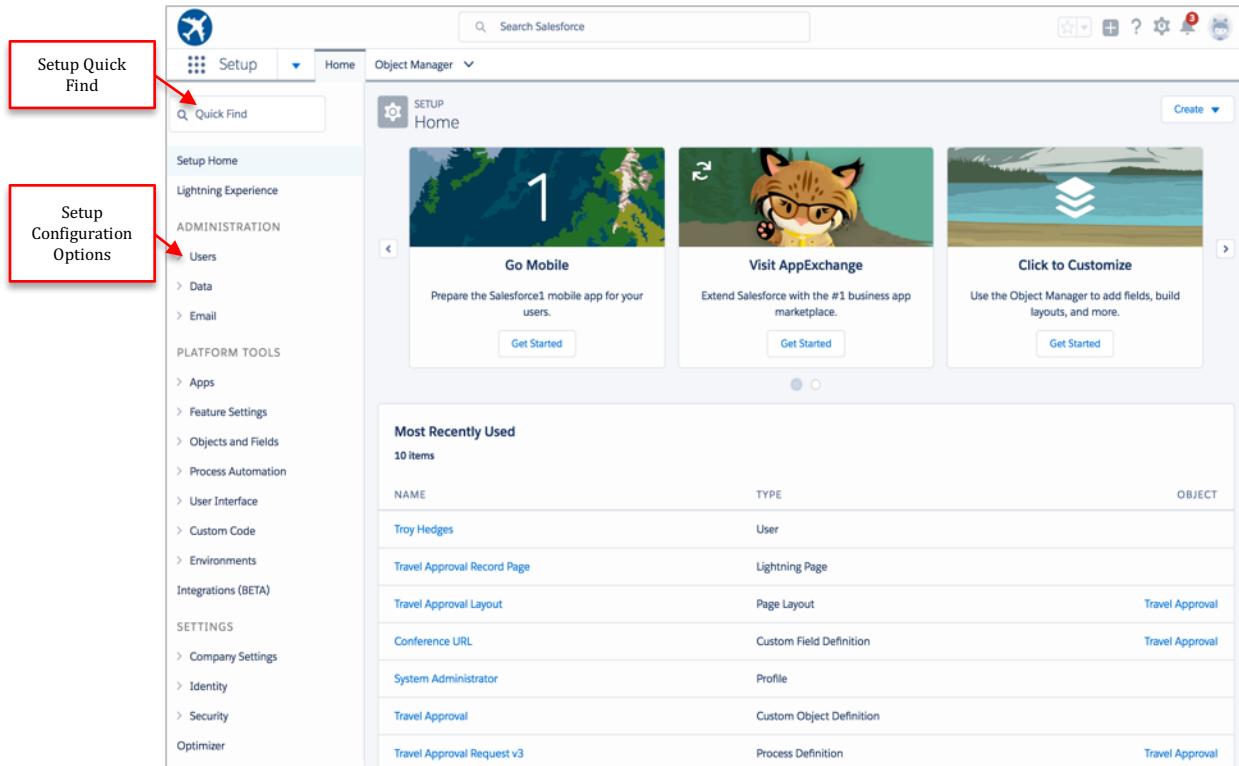
The screenshot shows a Salesforce page for a 'TRAVEL APPROVAL' record (TA-00001). The top navigation bar includes links for Travel App, Chatter, Reports, Dashboards, Departments, and Travel Approvals. A red box highlights the 'Related Tab' in the top right of the header. Below the header, the record ID 'TA-00001' is displayed. On the left, a sidebar shows 'ACTIVITY' and 'CHATTER' sections with buttons for New Event, New Task, Log a Call, and Email. A red box highlights the 'Record Related Lists' section, which contains two tabs: 'RELATED' and 'DETAILS'. The 'RELATED' tab is selected, showing two related lists: 'Expense Items (3)' and 'Approval History (3)'. The 'Expense Items' list shows three items with columns for Expense Item Number, Expense Type, and Amount. The 'Approval History' list shows three steps with columns for Step Name, Date, Status, and Assigned To.

Salesforce user interface functional areas:

- **Related Tab** – click this tab to see the related lists (i.e. child objects) that are linked to this record
- **Related Lists** - related lists are a set of (child) related records associated, in this example, to the travel approval record you created. The Related List objects like (expense items, notes, approval history) have a relationship in the data model (schema) to the Travel Approval object. Related lists of records usually have either a 1:M, M:1 or M:M relationship with the parent object.

And lastly, the primary activities in this workshop is configuring Salesforce to create the Travel Approval application. Configuring Salesforce for creating new applications, objects, fields, business rules, approval processes, etc... are all done through the Setup configuration menu. You access the Setup menu using the gear icon in top-right of the screen and then selecting Setup Home. Below is sample screen of the Setup options with brief description.





Salesforce user interface functional areas:

- **Setup Configuration** - *Setup* is the place where Administrators will spend lots of their time when configuring Salesforce to meet their business needs. This is only provided to Administrators and provides access to all setup capabilities such as creating new applications, creating new custom objects and custom fields, creating users and user profiles, configuring page layouts, and many other options.
- **Setup Quick Find** – setup includes many configuration options and sometime it can be hard to remember where all the options are. Setup includes a “quick find” option where you can type in substring of setup option you want to access and it will filter the list so you can easily access it. ***Tip: when using quick find, do not hit enter after typing in the setup item you are looking for.***
- **Setup Configuration Options** – down most of the left-hand side of the screen are all the setup options. This is where you do majority of the setup configuration in Salesforce. In the workshop, instructions will be provided on what configuration option to access to perform a given setup operation (i.e. create an object, create an approval process)

Create an Application, Object & Fields

Duration: 50-60 minutes

The Salesforce App Cloud makes it easy to build custom apps and databases in the cloud. In this lesson, you learn how to build a basic app with just a few clicks and then enhance the underlying database as you go along. You also learn how to validate data entry, create different field types and load data.

At the heart of this Travel Request app is what you want to manage and track: travel requests and associated expense estimates for your future travel. Remember that your Travel App will be associated with a group of tabs that expose different objects. For example one tab may be Departments to store all Department names, cost center codes, etc... You would also have another tab to access your Travel Approval object which could contain fields to store record id, trip purpose, start date, end date, expense totals, and so on. On Salesforce App Cloud, these data objects are called "custom objects." If you're familiar with databases, you can think of them as a table.

An object comes with standard fields and screens that allow you to list, view, and edit information about the object. But you can also add your own fields to track or list just about anything you can think of. When you complete this tutorial, you'll have a working app with its own menu, a tab, and a custom object that tracks Travel Requests, as well as screens that allow you to view and edit all of the associated information.

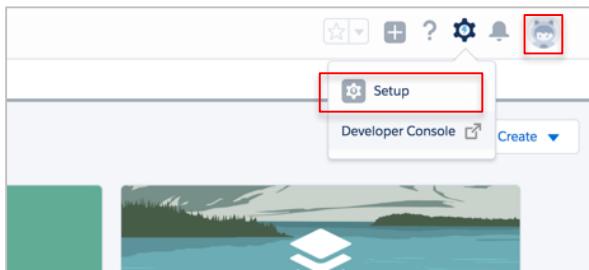
Build the Travel Request App

If you are not logged in to your Salesforce workshop environment:

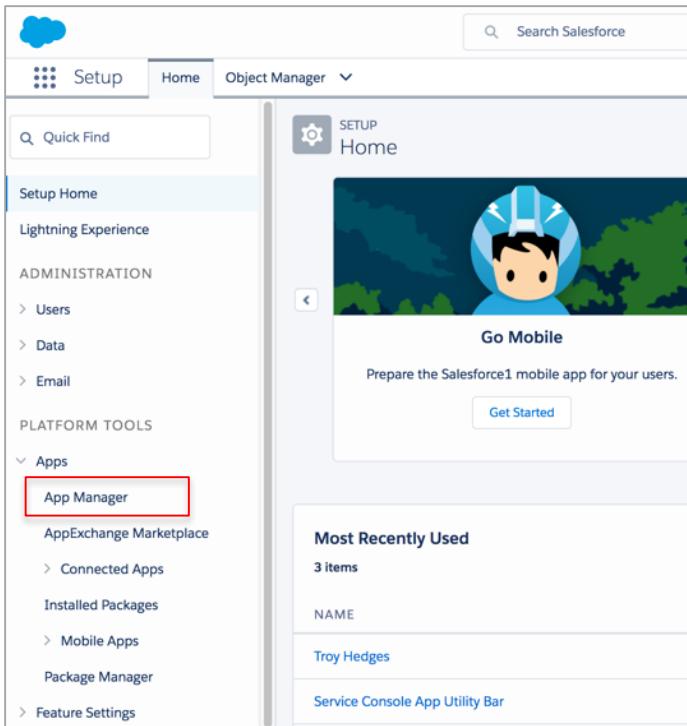
- a. Launch your browser and go to <https://login.salesforce.com>
- b. Enter your user name and password and click **Log In**

The first thing we need to do is create a Travel Approval app that provides us a view in to Salesforce of our specific travel related objects which we will create soon. Remember that a Salesforce application is a grouping of tabs that give you access to corresponding object data.

1. In upper-right of main window, click the gear icon and then **Setup**. This provides us access to all the setup options in Salesforce.



2. In left-hand side of main window, click on **Apps > App Manager**.



- Click **New Lightning App** in upper-right.

New Lightning App		
FIELD	TYPE	VISIBILITY
2:05 PM	Classic	✓
2:05 PM	Classic	✓

- On the “App Details & Branding” window, enter the following:

Parameter	Value
App Name	Travel App
Developer Name	Travel_App (this will automatically get set when you tab out of the App Name field)
Image	(set this to the travel.png image you downloaded as part of your workshop files)

Your screen should look like the following:

New Lightning App

App Details & Branding

Give your Lightning app a name and description. Upload an image and choose the highlight color for its navigation bar.

App Details	App Branding
* App Name: Travel App * Developer Name: Travel_App Description: Enter a description...	Image:  Primary Color Hex Value: #007002 Clear
App Launcher Preview  Travel App	

Next

Click **Next** button in lower-right.

5. On **App Options** screen, select **Standard navigation** and click **Next** button in lower-right.

New Lightning App

App Options

App Navigation

Standard navigation shows items in a navigation bar at the top of the page. Console navigation opens each record in a new workspace tab.

Navigation Style

Standard navigation
 Console navigation

Back Next

6. On Utility Bar screen, we will not add any utility bar items. Just click the **Next** button in lower-right.

New Lightning App

Utility Bar

Give your users quick access to common productivity tools.

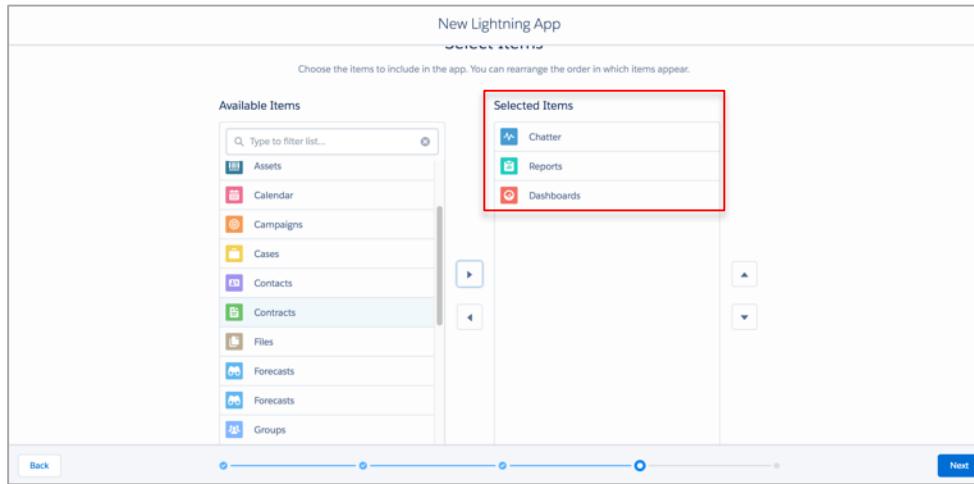
Utility Bar Items [Add](#)

To enable the utility bar for this app, add a utility item.

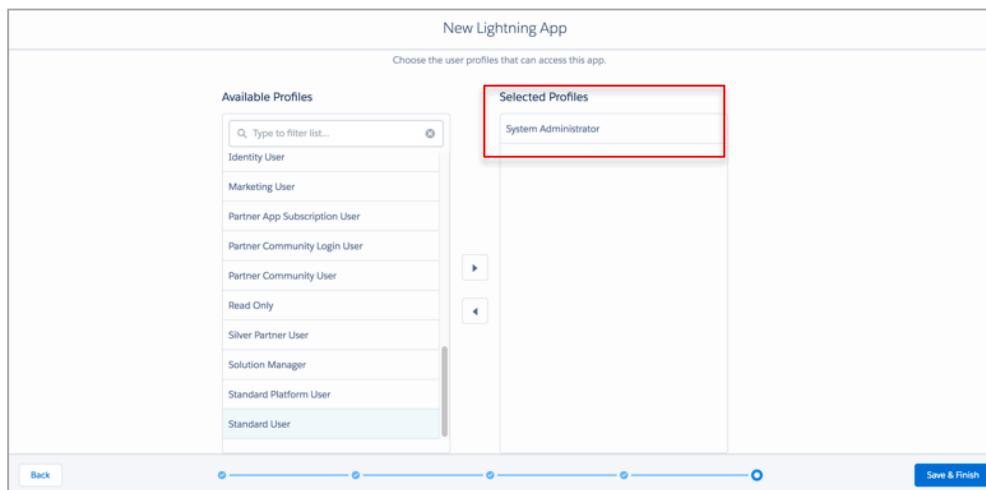
The utility bar is a fixed footer that opens components in docked panels.

Back Next

7. On **Select Items** screen, select the following items from the Available Items side and move them over to the Selected Items side: **Chatter, Reports and Dashboards**. Your screen should look like the following. Click the **Next** button in lower-right.



8. On the **Assing to User Profiles** screen, select **System Administrator** like the following screen. Click **Save & Finish** button in lower-right.



9. You should now have a new **Travel App** app at the bottom of your applications screen like the following:

Lightning Experience App Manager

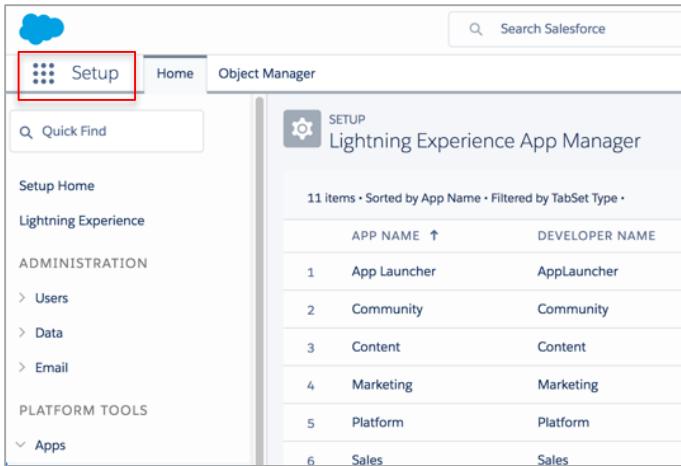
New Lightning App | New Connected App

11 items • Sorted by App Name • Filtered by TabSet Type •

APP NAME ↑	DEVELOPER NAME	DESCRIPTION	LAST MODIFIED DATE	APP TYPE	VISIBLE IN LIGHTNING
1 App Launcher	AppLauncher	App Launcher tabs	6/20/2017 2:05 PM	Classic	✓
2 Community	Community	Salesforce CRM Community...	6/20/2017 2:05 PM	Classic	✓
3 Content	Content	Salesforce CRM Content	6/20/2017 2:05 PM	Classic	✓
4 Marketing	Marketing	Best-in-class on-demand m...	6/20/2017 2:05 PM	Classic	✓
5 Platform	Platform	The fundamental Force.co...	6/20/2017 2:05 PM	Classic	✓
6 Sales	Sales	The world's most popular s...	6/20/2017 2:05 PM	Classic	✓
7 Sales	LightningSales	Manage your sales process...	6/20/2017 2:05 PM	Lightning	✓
8 Salesforce Chatter	Chatter	The Salesforce Chatter soc...	6/20/2017 2:05 PM	Classic	✓
9 Service	Service	Manage customer service ...	6/20/2017 2:05 PM	Classic	✓
10 Site.com	Sites	Build pixel-perfect, data-ric...	6/20/2017 2:05 PM	Classic	✓
11 Travel App	Travel_App		6/20/2017 2:58 PM	Lightning	✓

Let's now navigate to the **Travel App** application to see what it looks like so far. We will use the application selector to accomplish this.

10. In top left of the Salesforce Lightning view, there is an application selector that has 9 dots and looks like following:  . Click that and select the **Travel App** application.



Setup

Home Object Manager

Quick Find

Setup Home

Lightning Experience

ADMINISTRATION

- Users
- Data
- Email

PLATFORM TOOLS

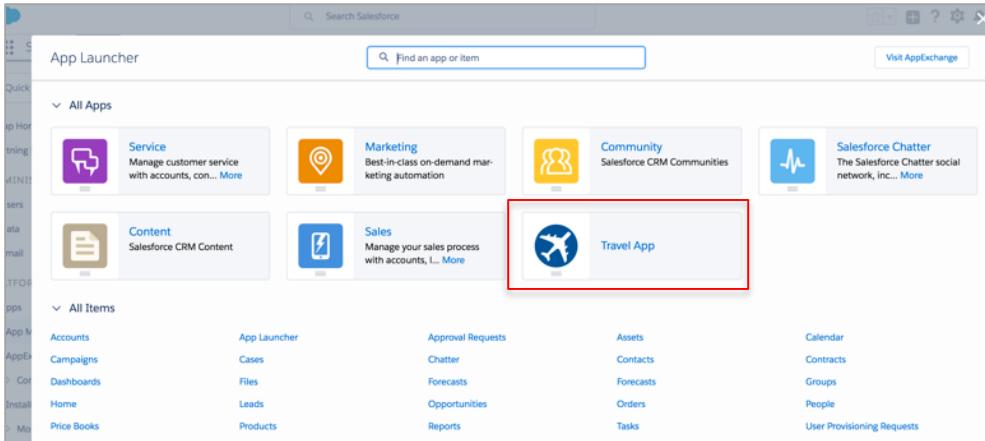
- Apps

Lightning Experience App Manager

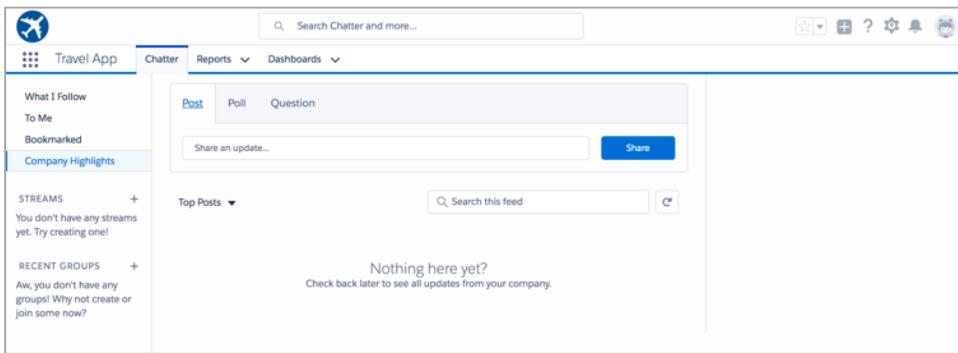
11 items • Sorted by App Name • Filtered by TabSet Type •

APP NAME ↑	DEVELOPER NAME
1 App Launcher	AppLauncher
2 Community	Community
3 Content	Content
4 Marketing	Marketing
5 Platform	Platform
6 Sales	Sales

11. An application selector window will pop-up. Click on the **Travel App** application to select it.

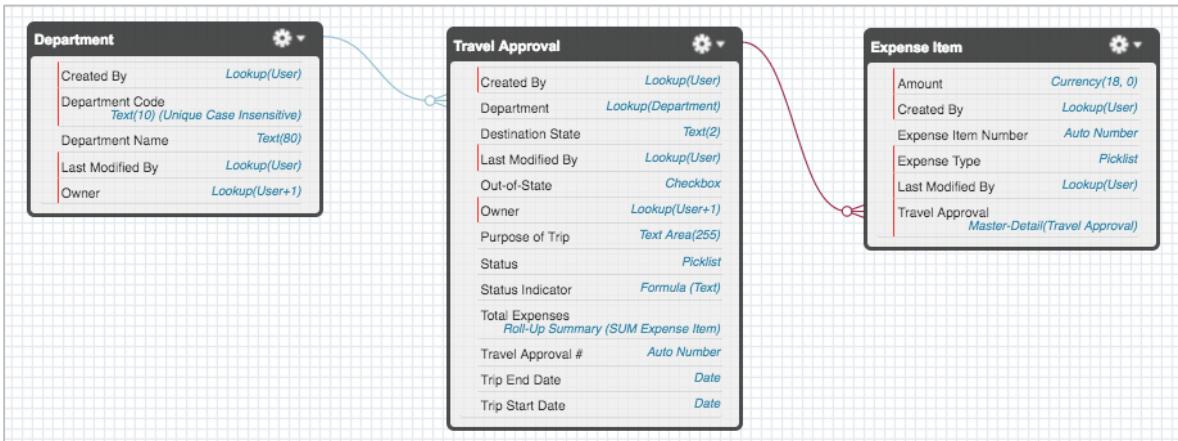


Your window should now look like the following. It currently has 3 tabs (Chatter, Reports, and Dashboards) as you defined during the create application wizard.



We will now create the objects for our data model. We will create the following objects in order:

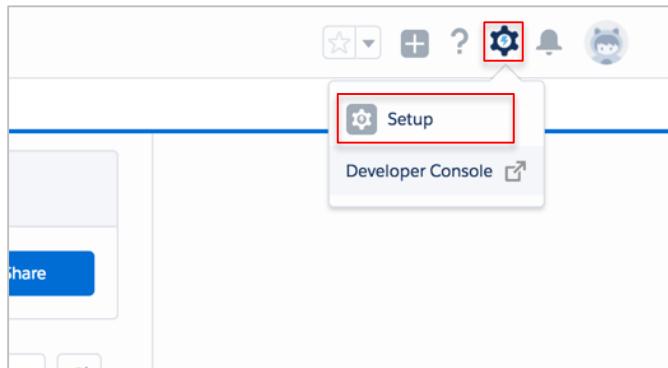
- **Department** - to store information about your departments such as name and cost center code
- **Travel Approval** – this is the main travel approval request object to store information about your future trip needing to be approved. It will include a link to your department and will have 1-to-many child expense items
- **Expense Item** – this is child object to Travel Approval and will contain estimates for the main expenses you expect to incur on your trip (i.e. airfare, hotel, rental car, etc...)



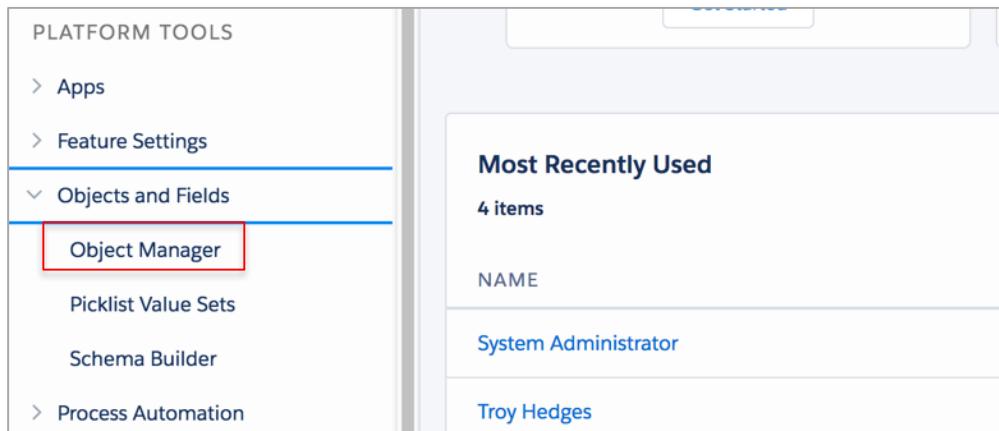
Create the Department object

We will start off by creating the Department object. Follow the steps below.

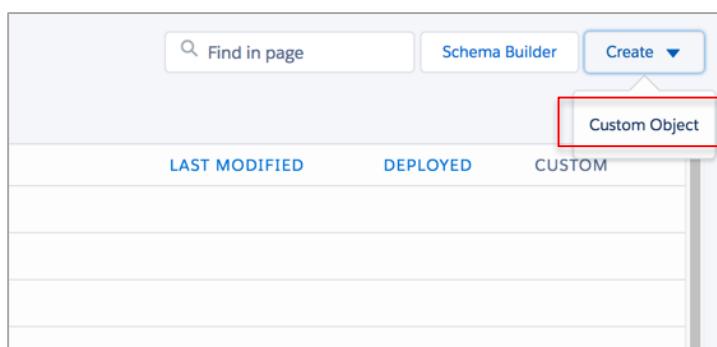
1. In upper-right of main window, click the gear icon and then **Setup**. This provides us access to all the setup options in Salesforce.



2. In left-hand side of main window, click on **Objects and Fields > Object Manager**. This will list out all the objects currently configured in your Salesforce environment.



3. In upper-right, click **Create > Custom Object**:



4. We will now create the object to store the Department details. Enter the following values in to the form:

Parameter	Value
Label	Department
Plural Label	Departments
Object Name	Department (this will automatically get set when you tab out of the Label field)
Record Name	Department Name
Data Type	Text

Your window should look like the following:

The screenshot shows the 'New Custom Object' page in the Salesforce Object Manager. At the top, there's a note: 'Permissions for this object are disabled for all profiles by default. You can enable object permissions in permission sets or by editing custom profiles. Tell me more! Don't show this message again'. Below this, the 'Custom Object Definition Edit' section has a 'Custom Object Information' header. It includes fields for 'Label' (Department) and 'Plural Label' (Departments), both with examples ('Example: Account' and 'Example: Accounts'). There's also a checkbox for 'Starts with vowel sound'. The 'Object Name' field is set to 'Department' with 'Example: Account'. A large 'Description' text area is empty. Under 'Context-Sensitive Help Setting', the radio button for 'Open the standard Salesforce.com Help & Training window' is selected. The 'Content Name' dropdown is set to '--None--'. At the bottom, there's a 'Enter Record Name Label and Format' section with a note about record names appearing in various contexts. The 'Record Name' field is set to 'Department Name' with 'Example: Account Name'. The 'Data Type' is set to 'Text'. At the very bottom right of the page, there are 'Save', 'Save & New', and 'Cancel' buttons.

Don't click Save yet! We need to set a few more parameters first. Scroll down and select the following additional options:

- Allow Reports
- Allow Search
- Launch New Custom Tab Wizard after saving this custom object **WARNING! Make sure to check this box as it drives the next screens that will show.** If you forget this option, you can create a custom tab by selecting **Object Manager > Create > Custom Tab** to create a new tab later after your object has been created.

Your screen should look like the following:

Optional Features

- Allow Reports
- Allow Activities
- Track Field History
- Allow in Chatter Groups

Object Classification

When these settings are enabled, this object is classified as an Enterprise Application object. When these settings are disabled, this object is classified as a Light Application object. [Learn more.](#)

- Allow Sharing
- Allow Bulk API Access
- Allow Streaming API Access

Deployment Status

[What is this?](#)

- In Development
- Deployed

Search Status

When this setting is enabled, your users can find records of this object type when they search. [Learn more.](#)

- Allow Search

Object Creation Options (Available only when custom object is first created)

- Add Notes and Attachments related list to default page layout
- Launch New Custom Tab Wizard after saving this custom object

[Save](#) [Save & New](#) [Cancel](#)

Click the **Save** button.

5. In the next three screens, you define your tab settings. Click on the  icon next to Tab Style field and select the **Books** style. Your screen should look like following. Click the **Next**.

SETUP Tabs

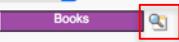
New Custom Object Tab [Help for this Page](#)

Step 1. Enter the Details **Step 1 of 3**

Choose the custom object for this new custom tab. Fill in other details.

Select an existing custom object or [create a new custom object now](#).

Object: Department

Tab Style:  Books 

(Optional) Choose a Home Page Custom Link to show as a splash page the first time your users click on this tab.

Splash Page Custom Link: --None--

Enter a short description.

Description:

[Next](#) [Cancel](#)

6. You are now presented with the screen that defines which user profiles can see this new tab. Don't change anything and just click the **Next** button in lower-right.

SETUP

Tabs

New Custom Object Tab

Step 2. Add to Profiles Step 2 of 3

Choose the user profiles for which the new custom tab will be available. You may also examine or alter the visibility of tabs from the detail and edit pages of each profile.

Profile	Tab Visibility
Analytics Cloud Integration User	Default On
Analytics Cloud Security User	Default On
Authenticated Website	Default On
Authenticated Website	Default On
Contract Manager	Default On
Cross Org Data Proxy User	Default On
Custom: Marketing Profile	Default On

- In the next window, you are presented with the list of applications to associate this tab to. Click the **Include Tab** option at the top of the column on the right to deselect all apps. Then just select the **Travel Approval** application from the list so that it is the only one selected. Your window should look like the following. Click **Save** button.

SETUP

Tabs

Step 3. Add to Custom Apps Step 3 of 3

Choose the custom apps for which the new custom tab will be available. You may also examine or alter the visibility of tabs from the detail and edit pages of each Custom App.

Custom App	Include Tab
Community (standard__Community)	<input type="checkbox"/>
App Launcher (standard__AppLauncher)	<input checked="" type="checkbox"/>
Sales (standard__Sales)	<input type="checkbox"/>
Site.com (standard__Sites)	<input type="checkbox"/>
Salesforce Chatter (standard__Chatter)	<input type="checkbox"/>
Platform (standard__Platform)	<input type="checkbox"/>
Marketing (standard__Marketing)	<input type="checkbox"/>
Content (standard__Content)	<input type="checkbox"/>
Service (standard__Service)	<input type="checkbox"/>
Travel App (Travel_App)	<input checked="" type="checkbox"/>
High Volume Customer Portal User	<input type="checkbox"/>
Sample Console (standard__ServiceConsole)	<input type="checkbox"/>
Authenticated Website User	<input type="checkbox"/>
Sales (standard__LightningSales)	<input type="checkbox"/>

Append tab to users' existing personal customizations

Previous **Save** Cancel

- You are now directed to the standard object configuration page. This is where you can configure other aspects of the object (new fields, validation rules, etc...).

Next we will add one field to the Department object to store the department code.

- Click on **Fields & Relationships** section on the left, and then click the **New** button to start the wizard to create a new field.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Department Name	Name	Text(80)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓

- On step 1 of the New Custom Field screen, you need to select the data type for this new field. Salesforce supports many data types such as text, numeric, currency, phone, picklists, encrypted. URL and several long or rich text options. Click the **Text** option and select **Next** button.

- On the next screen, we will configure the field settings.

Parameter	Value
Field Label	Department Code
Length	10
Field Name	Department_Code (this will automatically get set when you tab out of the Field Label field)
Description	The department code related to the department
Help Text	Enter the department code
Required	Select/check this field

Unique	<i>Select/check this field. Select the case insensitive sub-option.</i>
--------	--

Your screen should look like the following. Click the **Next** button.

12. The next screen (step 3) sets field level security for this new field you are creating. In Salesforce, you have ability to indicate which user profiles have view, edit or no access rights for the custom field. Click **Next** button to accept the default values.

Field-Level Security for Profile	Visible	Read-Only
Analytics Cloud Integration User	✓	□
Analytics Cloud Security User	✓	□
Authenticated Website	✓	□
Authenticated Website	✓	□
Contract Manager	✓	□
Cross Org Data Proxy User	✓	□
Custom: Marketing Profile	✓	□
Custom: Sales Profile	✓	□
Custom: Support Profile	✓	□

13. The next screen (step 4) adds the field to a page layout. Accept the default and click the **Save** button.

Department
New Custom Field

Help for this Page ?

Step 4. Add to page layouts Step 4 of 4

Field Label Department Code
Data Type Text
Field Name Department_Code
Description The department code related to the department

Select the page layouts that should include this field. The field will be added as the last field in the first 2-column section of these page layouts. The field will not appear on any pages if you do not select a layout.

To change the location of this field on the page, you will need to customize the page layout.

Add Field	Page Layout Name
<input checked="" type="checkbox"/>	Department Layout

When finished, click Save & New to create more custom fields, or click Save if you are done.

Previous Save & New Save Cancel

14. You end back on the object configuration screen for the Department object. You can see the new field we created (Department Code) in the **Field and Relationships** section:

Fields & Relationships				
5 Items, Sorted by Field Label				
FIELD LABEL FIELD NAME DATA TYPE			CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Department Code	Department_Code__c	Text(10) (Unique Case Insensitive)	✓	▼
Department Name	Name	Text(80)	✓	▼
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)	✓	

Create the Travel Approval object

We will now create the object to store the Travel Approval requests.

- Near the top-left part of current window, click on **Object Manager** tab as shown below.

The screenshot shows the Salesforce Object Manager interface for the 'Department' object. At the top, there's a search bar labeled 'Search Salesforce'. Below it, a navigation bar with 'Setup', 'Home', and 'Object Manager' tabs, where 'Object Manager' is highlighted with a red box. Underneath, a sidebar shows 'SETUP > OBJECT MANAGER' and 'Department'. The main content area has two sections: 'Details' and 'Fields & Relationships'. The 'Fields & Relationships' section is expanded, showing a table with columns 'FIELD LABEL', 'FIELD NAME', and 'DATA TYPE'. It lists three fields: 'Created By' (CreatedBy), 'Department Code' (Department_Code__c), and 'Department Name' (Name). The 'DATA TYPE' column indicates 'Lookup(User)' for Created By, 'Text(10) (Unique)' for Department Code, and 'Text(80)' for Department Name.

- In upper-right, click **Create > Custom Object**:

The screenshot shows the Salesforce 'Create' page. At the top right, there's a 'Create' button with a dropdown arrow. A dropdown menu is open, showing the 'Custom Object' option, which is highlighted with a red box. Other options in the menu include 'Schema Builder' and 'Find in page'. Below the dropdown, there are buttons for 'LAST MODIFIED', 'DEPLOYED', and 'CUSTOM'.

- Enter the following values:

Parameter	Value
Label	Travel Approval
Plural Label	Travel Approvals
Object Name	Travel_Approval (this will automatically get set when you tab out of the Label field)
Record Name	Travel Approval #
Data Type	Auto Number
Display Format	TA-{00000}
Starting Number	1

Your window should look like the following:

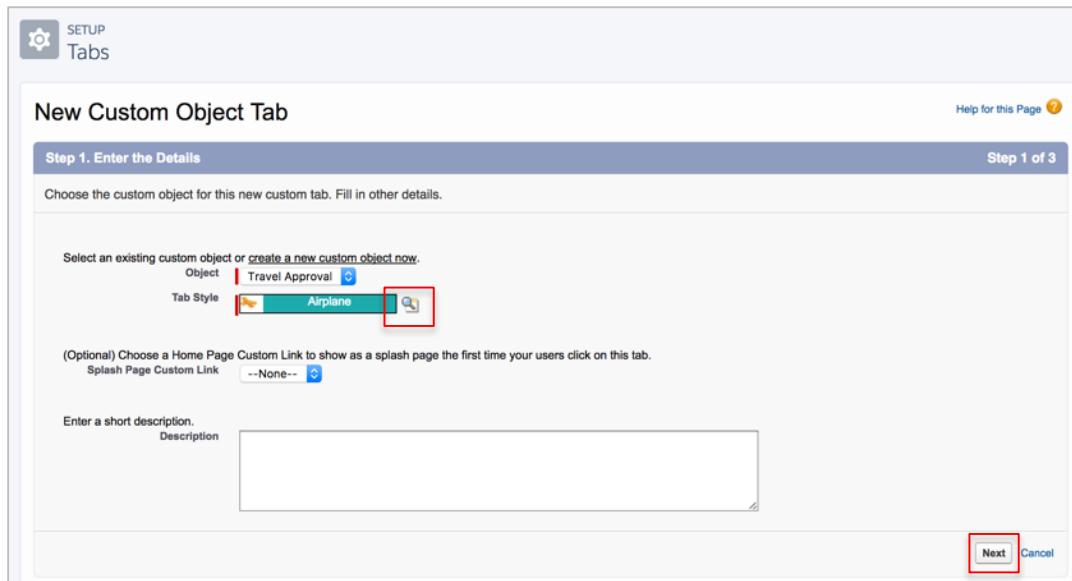
Don't click Save yet. We need to set a few more parameters first. Scroll down and select the following **additional options**:

- Allow Reports
- Allow Activities
- Track Field History
- Allow Search
- Add notes and Attachments related list to default page layout
- Launch New Custom Tab Wizard after saving this custom object. **WARNING! Make sure to check this box as it drives the next screens that will show.** If you forget this option, you can create a custom tab by selecting **Object Manager > Create > Custom Tab** to create a new tab later after your object has been created.

Your screen should look like the following:

Click the **Save** button.

4. In the next three screens, you define your tab settings. Click on the  icon next to Tab Style and select the Airplane style. Your screen should look like following. Click the **Next** button.



SETUP Tabs

New Custom Object Tab

Step 1. Enter the Details Step 1 of 3

Choose the custom object for this new custom tab. Fill in other details.

Select an existing custom object or [create a new custom object now](#).

Object: Travel Approval

Tab Style:  **Airplane** 

(Optional) Choose a Home Page Custom Link to show as a splash page the first time your users click on this tab.

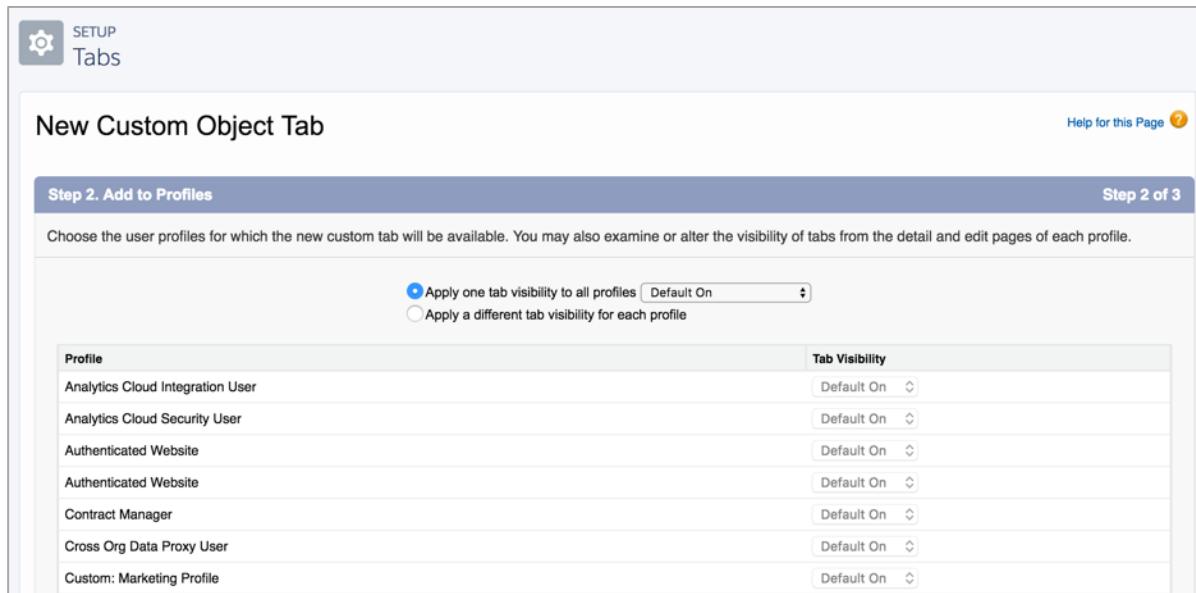
Splash Page Custom Link: --None-- 

Enter a short description.

Description:

Next **Cancel**

5. You are now presented with the screen that defines which user profiles can see this new tab. Don't change anything and just click the **Next** button in lower-right.



SETUP Tabs

New Custom Object Tab

Step 2. Add to Profiles Step 2 of 3

Choose the user profiles for which the new custom tab will be available. You may also examine or alter the visibility of tabs from the detail and edit pages of each profile.

Apply one tab visibility to all profiles Default On 
 Apply a different tab visibility for each profile

Profile	Tab Visibility
Analytics Cloud Integration User	Default On 
Analytics Cloud Security User	Default On 
Authenticated Website	Default On 
Authenticated Website	Default On 
Contract Manager	Default On 
Cross Org Data Proxy User	Default On 
Custom: Marketing Profile	Default On 

6. In the next window, you are presented with the list of applications to associate this tab to. Click the **Include Tab** option at the top of the column on the right to deselect all apps. Then just select the **Travel Approval** application from the list so that it is the only one selected. Your window should look like the following. Click **Save** button.

Step 3. Add to Custom Apps

Choose the custom apps for which the new custom tab will be available. You may also examine or alter the visibility of tabs from the detail and edit pages of each Custom App.

Custom App	<input type="checkbox"/> Include Tab
Community (standard__Community)	<input type="checkbox"/>
App Launcher (standard__AppLauncher)	<input type="checkbox"/>
Sales (standard__Sales)	<input type="checkbox"/>
Site.com (standard__Sites)	<input type="checkbox"/>
Salesforce Chatter (standard__Chatter)	<input type="checkbox"/>
Platform (standard__Platform)	<input type="checkbox"/>
Marketing (standard__Marketing)	<input type="checkbox"/>
Content (standard__Content)	<input type="checkbox"/>
Service (standard__Service)	<input type="checkbox"/>
Travel App (Travel_App)	<input checked="" type="checkbox"/>
High Volume Customer Portal User	<input type="checkbox"/>
Sample Console (standard__ServiceConsole)	<input type="checkbox"/>
Authenticated Website User	<input type="checkbox"/>
Sales (standard__LightningSales)	<input type="checkbox"/>

Append tab to users' existing personal customizations

Previous **Save** Cancel

7. You are now directed to the standard object configuration page. As with the Department object we created earlier, this page allows you to continue editing the Travel Approval object to add more fields, create new or edit existing page layouts, and create validation rules.

SETUP > OBJECT MANAGER

Travel Approval

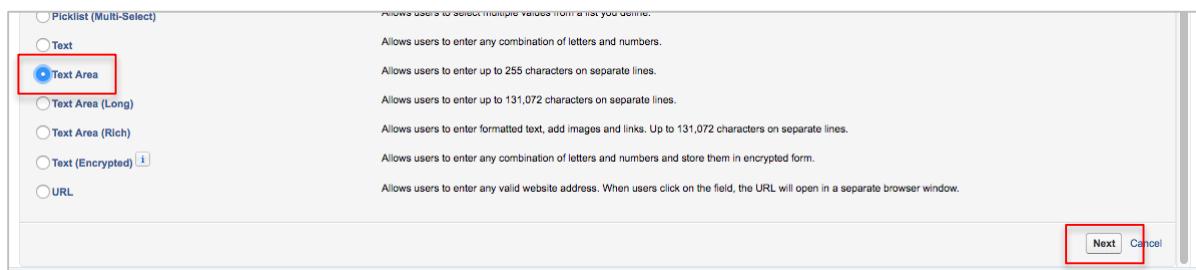
Details	Fields & Relationships	Description
Fields & Relationships	API Name	Enable Reports
Page Layouts	Travel_Approval__c	✓
Buttons, Links, and Actions	Custom	Track Activities
Compact Layouts	✓	Track Field History
Object Limits	Singular Label	✓
Record Types	Travel Approval	Deployment Status
Related Lookup Filters	Plural Label	Deployed
Search Layouts	Travel Approvals	Help Settings
Triggers		Standard salesforce.com Help Window
Validation Rules		

Next we will add additional fields to the Travel Approval object to store other information we need to track. The first field we will create is "Purpose of Trip".

8. Click on **Fields & Relationships** section on the left, and then click the **New** button to start the wizard to create a new field.

Details	Fields & Relationships			
	FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD
Page Layouts	Created By	CreatedById	Lookup(User)	
Lightning Record Pages	Last Modified By	LastModifiedById	Lookup(User)	
Buttons, Links, and Actions	Owner	OwnerId	Lookup(User,Group)	
Compact Layouts	Travel Approval #	Name	Auto Number	
Object Limits				
Record Types				

9. On step 1 of the New Custom Field screen, you need to select the field data type. Click the **Text Area** option and select **Next** button.



10. On the next screen, we will configure the field settings.

Parameter	Value
Field Label	Purpose of Trip
Field Name	Purpose_of_Trip (this will automatically get set when you tab out of the Field Label field)
Description	Description for the purpose of the trip
Help Text	Enter a description for the purpose of the trip
Required	Leave this unselected/unchecked

Your screen should look like the following. Click the **Next** button.

Travel Approval
New Custom Field

Help for this Page ?

Step 2. Enter the details Step 2 of 4

Field Label: Purpose of Trip

Field Name: Purpose_of_Trip

Description: Description for the purpose of the trip

Help Text: Enter a description for the purpose of the trip

Required: Always require a value in this field in order to save a record

Default Value: Show Formula Editor

Use formula syntax. Enclose text and picklist value API names in double quotes : ("the_text"), include numbers without quotes : (25), show percentages as decimals: (0.10), and express date calculations in the standard format: (Today() + 7)

Previous Next Cancel

- The next screen (step 3) sets field level security for this new field you are creating. In Salesforce, you have ability to indicate which user profiles have view, edit or no access rights for the custom field. Click **Next** button to accept the default values.

Travel Approval
New Custom Field

Help for this Page ?

Step 3. Establish field-level security Step 3 of 4

Field Label: Purpose of Trip
Data Type: Text Area
Field Name: Purpose_of_Trip
Description: Description for the purpose of the trip

Select the profiles to which you want to grant edit access to this field via field-level security. The field will be hidden from all profiles if you do not add it to field-level security.

Field-Level Security for Profile	<input type="checkbox"/> Visible	<input type="checkbox"/> Read-Only
Analytics Cloud Integration User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Analytics Cloud Security User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Contract Manager	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cross Org Data Proxy User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Custom: Marketing Profile	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Custom: Sales Profile	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Custom: Support Profile	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Force.com - App Subscription User	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Previous Next Cancel

- The next screen (step 4) adds the field to a page layout. Accept the default and click the **Save** button.

Travel Approval
New Custom Field

Help for this Page ?

Step 4. Add to page layouts Step 4 of 4

Field Label Purpose of Trip
 Data Type Text Area
 Field Name Purpose_of_Trip
 Description Description for the purpose of the trip

Select the page layouts that should include this field. The field will be added as the last field in the first 2-column section of these page layouts. The field will not appear on any pages if you do not select a layout.

To change the location of this field on the page, you will need to customize the page layout.

Add Field Page Layout Name
 Travel Approval Layout

When finished, click Save & New to create more custom fields, or click Save if you are done.

Previous Save & New Save Cancel

13. You end back on the object configuration screen for the Travel Approval object and are still on the **Fields & Relationships** tab. You can see the new field we created (Purpose of Trip) in the current list of fields for this object:

SETUP > OBJECT MANAGER																															
Travel Approval																															
Details	Fields & Relationships																														
Fields & Relationships	5 Items, Sorted by Field Label																														
Page Layouts	<input type="checkbox"/> Find in page <input type="button" value="New"/> <input type="button" value="Field Dependencies"/> <input type="button" value="Set History Tracking"/>																														
Lightning Record Pages																															
Buttons, Links, and Actions																															
Compact Layouts																															
Object Limits																															
Record Types																															
Related Lookup Filters																															
	<table border="1"> <thead> <tr> <th>FIELD LABEL</th> <th>FIELD NAME</th> <th>DATA TYPE</th> <th>CONTROLLING FIELD</th> <th>INDEXED</th> </tr> </thead> <tbody> <tr> <td>Created By</td> <td>CreatedById</td> <td>Lookup(User)</td> <td></td> <td></td> </tr> <tr> <td>Last Modified By</td> <td>LastModifiedById</td> <td>Lookup(User)</td> <td></td> <td></td> </tr> <tr> <td>Owner</td> <td>OwnerId</td> <td>Lookup(User,Group)</td> <td></td> <td>✓</td> </tr> <tr> <td>Purpose of Trip</td> <td>Purpose_of_Trip__c</td> <td>Text Area(255)</td> <td></td> <td></td> </tr> <tr> <td>Travel Approval #</td> <td>Name</td> <td>Auto Number</td> <td></td> <td>✓</td> </tr> </tbody> </table>	FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED	Created By	CreatedById	Lookup(User)			Last Modified By	LastModifiedById	Lookup(User)			Owner	OwnerId	Lookup(User,Group)		✓	Purpose of Trip	Purpose_of_Trip__c	Text Area(255)			Travel Approval #	Name	Auto Number		✓
FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED																											
Created By	CreatedById	Lookup(User)																													
Last Modified By	LastModifiedById	Lookup(User)																													
Owner	OwnerId	Lookup(User,Group)		✓																											
Purpose of Trip	Purpose_of_Trip__c	Text Area(255)																													
Travel Approval #	Name	Auto Number		✓																											

We will now create the remaining fields for the Travel Approval Object. The directions below will be in abbreviated form. Just follow steps 8 – 12 above for each new field you create with the noted differences.

14. Create the **Status** field.

Step 1: Select **Picklist** data type

Step 2: Enter the following values for the field details

Parameter	Value
Field Label	Status
Values	Select the “Enter values, with each value separated by a new line” option. Enter the following status values in the text box with each separated on a new line
	New Submitted Pending Approval Approved Rejected Draft

Field Name	Status (this will automatically get set when you tab out of the Field Label field)
Description	The status of the Travel Approval request
Help Text	The system will set this field automatically based on the stage of the Travel Approval process
Required	<i>Leave this unselected/unchecked</i>
Restrict picklist to the values defined in the value set	<i>Leave this selected/checked</i>

The screen will look like following:

Step 2. Enter the details Step 2 of 4

Field Label: Status

Values:

- Use global picklist value set
- Enter values, with each value separated by a new line

New
Submitted
Pending Approval
Approved
Rejected
Draft

Display values alphabetically, not in the order entered

Use first value as default value

Restrict picklist to the values defined in the value set

Field Name: Status

Description: The status of the Travel Approval request

Help Text: The system will set this field automatically based on the stage of the Travel Approval process

Required: Always require a value in this field in order to save a record

Default Value: Show Formula Editor

Use formula syntax: Enclose text and picklist value API names in double quotes : ("the_text"), include numbers without quotes : (25), show percentages as decimals: (0.10), and express date calculations in the standard format: (Today() + 7)

Previous Next Cancel

Click **Next**.

Step 3: Accept the default values. Click **Next**.

Step 4: Accept the default values. Click **Save & New**.

15. Create the **Trip Start Date** field

Step 1: Select **Date** data type

Step 2: Enter the following values for the field details

Parameter	Value
Field Label	Trip Start Date
Field Name	Trip_Start_Date (this will automatically get set when you tab out of the Field Label field)
Description	<i>Leave blank</i>
Help Text	The day the trip will begin
Required	<i>Leave this unselected/unchecked</i>

The screen will look like following:

Step 2. Enter the details Step 2 of 4

Field Label Trip Start Date

Field Name Trip_Start_Date

Description

Help Text The day the trip will begin

Required Always require a value in this field in order to save a record

Default Value Show Formula Editor
Use formula syntax: Enclose text and picklist value API names in double quotes : ("the_text"), include numbers without quotes : (2b), show percentages as decimals: (0.10), and express date calculations in the standard format: (today) + 7

Previous Next Cancel

Click **Next**.

Step 3: Accept the default values. Click **Next**.

Step 4: Accept the default values. Click **Save & New**.

16. Create the **Trip End Date** field

Step 1: Select **Date** data type

Step 2: Enter the following values for the field details

Parameter	Value
Field Label	Trip End Date
Field Name	Trip_End_Date (this will automatically get set when you tab out of the Field Label field)
Description	Leave blank
Help Text	Leave blank
Required	Leave this unselected/unchecked

The screen will look like following:

Step 2. Enter the details Step 2 of 4

Field Label Trip End Date

Field Name Trip_End_Date

Description

Help Text

Required Always require a value in this field in order to save a record

Default Value Show Formula Editor
Use formula syntax: e.g., Text in double quotes: "Hello", Number: 25, Percent as decimal: 0.10, Date expression: Today() + 7

Previous Next Cancel

Click **Next**.

Step 3: Accept the default values. Click **Next**.

Step 4: Accept the default values. Click **Save & New**.

17. Create the **Out-of-State** field

Step 1: Select **Checkbox** data type

Step 2: Enter the following values for the field details

Parameter	Value
Field Label	Out-of-State
Default Value	Unchecked
Field Name	Out_of_State (this will automatically get set when you tab out of the Field Label field)
Description	<i>Leave blank</i>
Help Text	Indicates that this trip will be out-of-state, requiring an extra level of approval

The screen will look like following:

Step 2. Enter the details Step 2 of 4

Field Label: Out-of-State

Default Value: Checked Unchecked

Field Name: Out_of_State

Description:

Help Text: Indicates that this trip will be out-of-state, requiring an extra level of approval

Previous Next Cancel

Click **Next**.

Step 3: Accept the default values. Click **Next**.

Step 4: Accept the default values. Click **Save & New**.

18. Create the **Destination State** field

Step 1: Select **Text** data type

Step 2: Enter the following values for the field details

Parameter	Value
Field Label	Destination State
Length	2
Field Name	Destination_State (this will automatically get set when you tab out of the Field Label field)
Description	<i>Leave blank</i>
Help Text	2-letter abbreviation of destination State
Required	<i>Leave this unselected/unchecked</i>
Unique	<i>Leave this unselected/unchecked</i>
External ID	<i>Leave this unselected/unchecked</i>

The screen will look like following:

This screenshot shows the 'Step 2. Enter the details' screen for creating a new field. The field is named 'Destination State'. The 'Length' is set to 2, and the 'Field Name' is 'Destination_State'. The 'Description' is '2-letter abbreviation of destination State'. Under 'Required', there is a checkbox for 'Always require a value in this field in order to save a record'. Under 'Unique', there are three options: 'Do not allow duplicate values' (selected), 'Treat "ABC" and "abc" as duplicate values (case insensitive)', and 'Treat "ABC" and "abc" as different values (case sensitive)'. Under 'External ID', there is a checkbox for 'Set this field as the unique record identifier from an external system'. The 'Default Value' is set to 'Show Formula Editor', with a note below it: 'Use formula syntax; e.g., Text in double quotes: "hello", Number: 25, Percent as decimal: 0.10, Date expression: Today() + 7'. The top right corner shows 'Step 2 of 4' with 'Next' and 'Cancel' buttons, where 'Next' is highlighted with a red box.

Click **Next**.

Step 3: Accept the default values. Click **Next**.

Step 4: Accept the default values. Click **Save & New**.

19. Create the **Department** field

Step 1: Select **Lookup Relationship** data type

Step 2: Enter the following values for the field details

Parameter	Value
Related To	Department

The screen will look like following:

This screenshot shows the 'Step 2. Choose the related object' screen for creating a new field. The 'Related To' field is set to 'Department'. The top right corner shows 'Step 2' with 'Previous', 'Next' (highlighted with a red box), and 'Cancel' buttons.

Step 3: Accept the default values. The screen should look like following:

The screenshot shows the 'Step 3. Enter the label and name for the lookup field' page. It includes fields for Field Label (Department), Field Name (Department), Description, Help Text, Child Relationship Name (Travel_Approvals), and options for Required, What to do if the lookup record is deleted, and Lookup Filter settings. The 'Next' button at the top right is highlighted with a red box.

Click **Next**.

Step 4: Accept the default values. Click **Next**.

Step 5: Accept the default values. Click **Next**.

Step 6: Accept the default values. Click **Save**.

The Fields & Relationships section of the Travel Approval object should now look like the following:

Fields & Relationships		Find in page	New	Field Dependencies	Set History Tracking
FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED	
Created By	CreatedBy	Lookup(User)			
Department	Department__c	Lookup(Department)	✓		
Destination State	Destination_State__c	Text(2)			
Last Modified By	LastModifiedBy	Lookup(User)			
Out-of-State	Out_of_State__c	Checkbox			
Owner	OwnerId	Lookup(User,Group)	✓		
Purpose of Trip	Purpose_of_Trip__c	Text Area(255)			
Status	Status__c	Picklist			
Travel Approval #	Name	Auto Number	✓		
Trip End Date	Trip_End_Date__c	Date			
Trip Start Date	Trip_Start_Date__c	Date			

Create the Expense Item object

The last object we will create is the Expense Item object. This is where we will be able to provide estimates for our trip such as airfare, hotel, or rental car.

1. In upper-left side of current window, click on **Object Manager** tab to take you back to the page to manage your object definitions.

The screenshot shows the Salesforce Object Manager interface. At the top, there are tabs for 'Setup', 'Home', and 'Object Manager', with 'Object Manager' being the active tab and highlighted by a red box. Below the tabs, it says 'SETUP > OBJECT MANAGER' and 'Travel Approval'. On the left, there's a sidebar with sections for 'Details', 'Fields & Relationships', 'Page Layouts', 'Lightning Record Pages', 'Buttons, Links, and Actions', and 'Compact Layouts'. The main area is titled 'Fields & Relationships' with a sub-section '13 Items, Sorted by Field Label'. It lists three fields: 'Created By' (Field Label), 'CreatedBy' (Field Name), 'Lookup(User)' (Data Type); 'Department' (Field Label), 'Department__c' (Field Name), 'Lookup(Department)' (Data Type); and 'Destination State' (Field Label), 'Destination_State__c' (Field Name), 'Text(2)' (Data Type). A 'Find in page' search bar is at the top right of this section.

2. In upper-right, click **Create > Custom Object**:

The screenshot shows the 'Create' dropdown menu in the Salesforce setup. The 'Create' button has a dropdown arrow, and the option 'Custom Object' is listed and highlighted with a red box. Other options in the dropdown include 'Find in page', 'Schema Builder', and 'LAST MODIFIED', 'DEPLOYED', 'CUSTOM' buttons below the dropdown.

3. Enter the following values:

Parameter	Value
Label	Expense Item
Plural Label	Expense Items
Starts with vowel sound	<i>Check/select this option</i>
Object Name	Expense_Item (this will automatically get set when you tab out of the Label field)
Record Name	Expense Item Number
Data Type	Auto Number
Display Format	E-{00000}
Starting Number	1

Your screen should look like the following:

SETUP Object Manager

New Custom Object

Help for this Page ?

Permissions for this object are disabled for all profiles by default. You can enable object permissions in permission sets or by editing custom profiles. [Tell me more!](#) [Don't show this message again](#)

Custom Object Definition Edit [Save](#) [Save & New](#) [Cancel](#)

Custom Object Information ! = Required Information

The singular and plural labels are used in tabs, page layouts, and reports.

Label	<input type="text" value="Expense Item"/> Example: Account
Plural Label	<input type="text" value="Expense Items"/> Example: Accounts
Starts with vowel sound	<input checked="" type="checkbox"/>

The Object Name is used when referencing the object via the API.

Object Name	<input type="text" value="Expense_Item"/> Example: Account
-------------	--

Description:

Context-Sensitive Help Setting

<input checked="" type="radio"/> Open the standard Salesforce.com Help & Training window
<input type="radio"/> Open a window using a Visualforce page

Content Name

--None--

Enter Record Name Label and Format

The Record Name appears in page layouts, key lists, related lists, lookups, and search results. For example, the Record Name for Account is "Account Name" and for Case it is "Case Number". Note that the Record Name field is always called "Name" when referenced via the API.

Record Name	<input type="text" value="Expense Item Number"/> Example: Account Name
Data Type	<input type="text" value="Auto Number"/> Example: A-{00000} What Is This?
Display Format	<input type="text" value="E-(00000)"/>
Starting Number	<input type="text" value="1"/>

Don't click Save yet. We need to set a few more parameters first. Scroll down and select the following **additional** options:

- Allow Reports

Your screen should look like the following. Note that we **DO NOT** select the "Launch new Custom Tab Wizard after saving this custom object" option. We do not select this option as we do not want a separate tab for just **Expense Items**. Users will use the **Travel Approval** tab to navigate to specific records and then drill down to expense items from the select travel approval. This will make sense later when you test your application.

Optional Features

<input checked="" type="checkbox"/> Allow Reports
<input type="checkbox"/> Allow Activities
<input type="checkbox"/> Track Field History
<input type="checkbox"/> Allow in Chatter Groups

Object Classification

When these settings are enabled, this object is classified as an Enterprise Application object. When these settings are disabled, this object is classified as a Light Application object. [Learn more.](#)

<input checked="" type="checkbox"/> Allow Sharing
<input checked="" type="checkbox"/> Allow Bulk API Access
<input checked="" type="checkbox"/> Allow Streaming API Access

Deployment Status [What is this?](#)

<input type="radio"/> In Development
<input checked="" type="radio"/> Deployed

Search Status

When this setting is enabled, your users can find records of this object type when they search. [Learn more.](#)

<input type="checkbox"/> Allow Search

Object Creation Options (Available only when custom object is first created)

<input type="checkbox"/> Add Notes and Attachments related list to default page layout
<input type="checkbox"/> Launch New Custom Tab Wizard after saving this custom object

[Save](#) [Save & New](#) [Cancel](#)

Click the **Save** button.

4. You are now directed to the standard object configuration page for this new Expense Item. We will now create the remaining fields for the Expense Item object. First, we need to make sure we are in the Fields & Relationships section of the object editor. Click on the **Fields & Relationships** tab on left-hand side of page.

Details	
Fields & Relationships	
Page Layouts	
Lightning Record Pages	
Buttons, Links, and Actions	
Compact Layouts	
Object Limits	
Details	
Description	
API Name	Expense_Item__c
Custom	✓
Singular Label	

For the fields to create on the Expense object, the directions below will be in abbreviated form. As we did for the Travel Approval object, just follow steps 8 – 12 above for each new field you create with the noted differences.

5. Create the **Amount** field.

Step 1: Select **Currency** data type

Step 2: Enter the following values for the field details

Parameter	Value
Field Label	Amount
Length	18
Decimal Places	0
Field Name	Amount (this will automatically get set when you tab out of the Field Label field)
Description	Leave blank
Help Text	Enter the estimated Amount of the expense item
Required	Select/check this field

The screen will look like following:

Step 2. Enter the details

Step 2 of 4

[Previous](#) [Next](#) [Cancel](#)

Field Label	Amount 		
Please enter the length of the number and the number of decimal places. For example, a number with a length of 8 and 2 decimal places can accept values up to "12345678.90".			
Length	18	Decimal Places	0
Number of digits to the left of the decimal point		Number of digits to the right of the decimal point	
Field Name	Amount 		
Description			
Help Text	Enter the estimated Amount of the expense item 		
Required	<input checked="" type="checkbox"/> Always require a value in this field in order to save a record		
Default Value	Show Formula Editor		
Use formula syntax, e.g., Text in double quotes: <code>"Hello"</code> , Number: <code>25</code> , Percent as decimal: <code>0.10</code> , Date expression: <code>Today() + 7</code>			
Previous Next Cancel			

Click **Next**.

Step 3: Accept the default values. Click **Next**.

Step 4: Accept the default values. Click **Save & New**.

6. Create the **Expense Type** field.

Step 1: Select **Picklist** data type

Step 2: Enter the following values for the field details

Parameter	Value
Field Label	Expense Type
Values	Select the “ Enter values, with each value separated by a new line ” option. Enter the following status values in the text box with each separated on a new line Airfare Hotel Rental car Meals Other
Restrict picklist to the values defined in the value set	<i>Leave this selected/checked</i>
Field Name	Expense_Type (this will automatically get set when you tab out of the Field Label field)
Description	<i>Leave blank</i>
Help Text	<i>Leave blank</i>
Required	<i>Select/check this option</i>

The screen will look like following:

Step 2. Enter the details

Step 2 of 4

Field Label: Expense Type [i](#)

Values:

- Use global picklist value set
- Enter values, with each value separated by a new line

Airfare
Hotel
Rental car
Meals
Other

Display values alphabetically, not in the order entered

Use first value as default value [i](#)

Restrict picklist to the values defined in the value set [i](#)

Field Name: Expense_Type [i](#)

Description:

Help Text:

Required: Always require a value in this field in order to save a record

Default Value: Show Formula Editor [i](#)

Use formula syntax. Enclose text and picklist value API names in double quotes: ("the_text"). Include numbers without quotes: (25), show percentages as decimals: (0.10), and express date calculations in the standard format: (Today() + 7)

Step 2 of 6

Previous **Next** Cancel

Click **Next**.

Step 3: Accept the default values. Click **Next**.

Step 4: Accept the default values. Click **Save & New**.

7. Create the **Travel Approval** field.

Step 1: Select **Master-Detail** data type. Click **Next**.

Step 2: Enter the following values for the field details

Parameter	Value
Related To	Travel Approval

The screen will look like following:

Step 2. Choose the related object

Step 2 of 6

Select the other object to which this object is related.

Related To: Travel Approval [i](#)

Step 2 of 6

Previous **Next** Cancel

Click **Next**.

Step 3: Accept the default values. Click **Next**.

Step 3. Enter the label and name for the lookup field

Step 3 of 6

Field Label: Travel Approval

Field Name: Travel_Approval

Description:

Help Text:

Child Relationship Name: Expense_Items

Sharing Setting:

- Read Only: Allows users with at least Read access to the Master record to create, edit, or delete related Detail records.
- Read/Write: Allows users with at least Read/Write access to the Master record to create, edit, or delete related Detail records.

Allow reparenting: Child records can be reparented to other parent records after they are created

Lookup Filter

Optionally, create a filter to limit the records available to users in the lookup field. [Tell me more!](#)

[Show Filter Settings](#)

Previous Next Cancel

Step 4: Accept the default values. Click **Next**.

Step 5: Accept the default values. Click **Next**.

Step 6: Accept the default values. Click **Save**.

You should now have Expense Item object configured with the following fields:

SETUP > OBJECT MANAGER Expense Item					
Fields & Relationships	Fields & Relationships				
	6 Items, Sorted by Field Label				
	FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
	Amount	Amount__c	Currency(18, 0)		
	Created By	CreatedById	Lookup(User)		
	Expense Item Number	Name	Auto Number	✓	
	Expense Type	Expense_Type__c	Picklist		
	Last Modified By	LastModifiedById	Lookup(User)		
	Travel Approval	Travel_Approval__c	Master-Detail(Travel Approval)	✓	

- As a last step, let's see how the Travel Approval application looks. You are currently in the Setup application and you'll need to use the application selector to transition back to the Travel Approval application. Click on the icon (i.e. waffle iron) in top-left, and then select your **Travel App** from the pop-up window.

SETUP > OBJECT MANAGER
Expense Item

FIELD LABEL	FIELD NAME	DATA TYPE
Amount	Amount__c	Currency(18,0)

You should now see your Travel Approval app with the two new tabs that you created that

Travel App

Chatter

Reports

Departments

Travel Approvals

Post Poll Question

Share an update... Share

Top Posts

Search this feed

Nothing here yet?
Check back later to see all updates from your company.

NOTE (optional step): If you like to visually create data model using a graphical ERD designer, this is possible. You will need to navigate to the Setup application to use the ERD tool. Select the gear icon in top-right and select **Setup**.

Setup

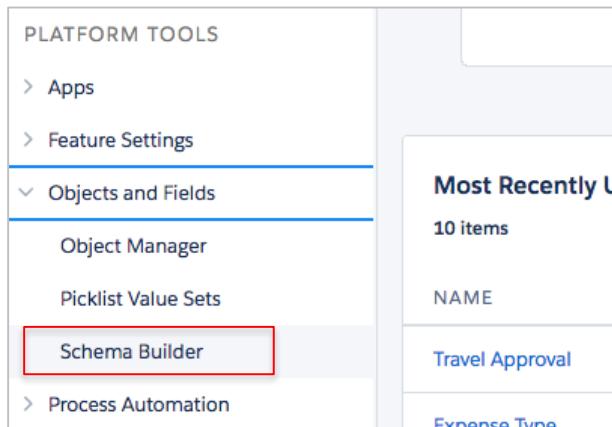
Developer Console

Integration User

Joined today

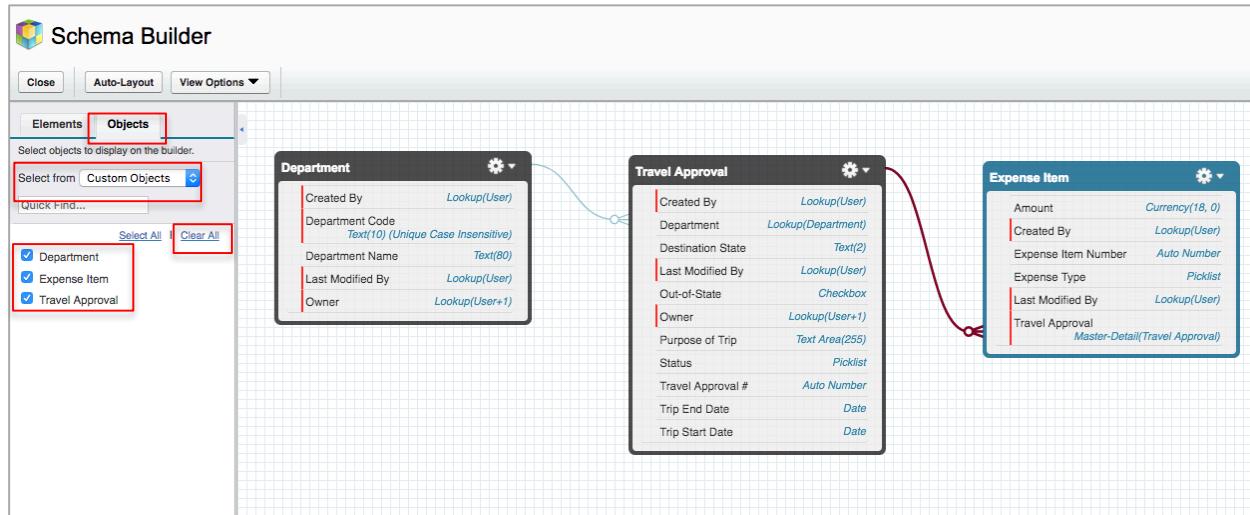
+ Follow Skip

Then in the left hand side, click on **Objects and Fields > Schema Builder** on the left hand side.



This will open up a graphical designer where you can see the details of all objects and the relationships between them. To filter down the list of objects to just those we have just created above, do the following:

- Click on the **Objects** tab on left-hand side (this tab should already be selected by default)
- Click the **Clear All** link to clear all selected objects
- Select **Custom Objects** from the "Select from" drop down list.
- Select checkboxes for the **Department, Travel Approval, and Expense Item** objects from the list on left-hand side
- You can then drag the 3 object tables on the canvas to organize them as below or use the **Auto-Layout** button near top-left;



When done, use the top-left **Close** button to go back to the Setup options.

Try out the application

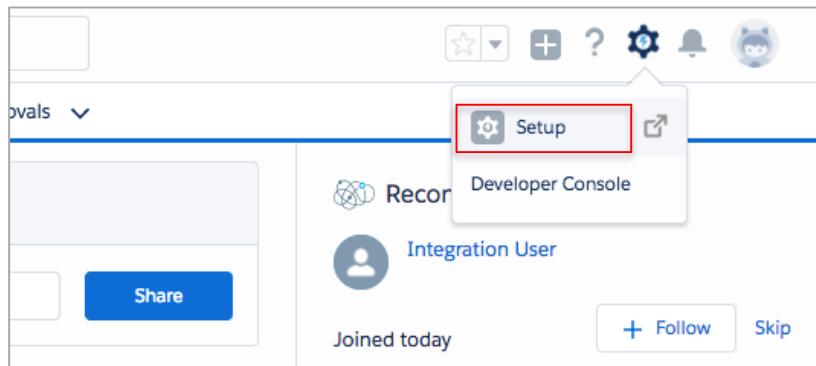
We now have a fully functional application. We've built the data model and in parallel behind the scenes the actual user interface was created for you. Also for those agencies that will need to integrate with Salesforce, a

full SOAP and REST API layer was automatically created for you to integrate with your Travel Approval objects from/to other systems.

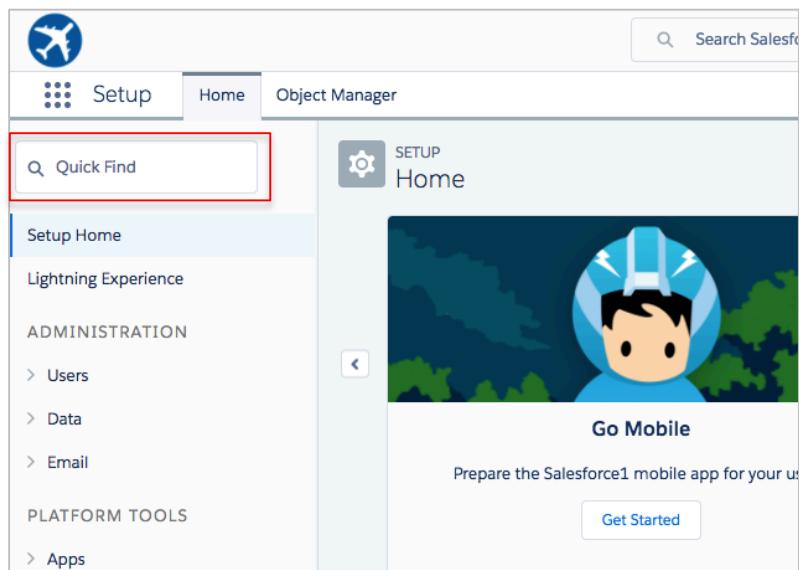
Import Departments

Before we test out our application, let's first load some sample data in to our Departments object.

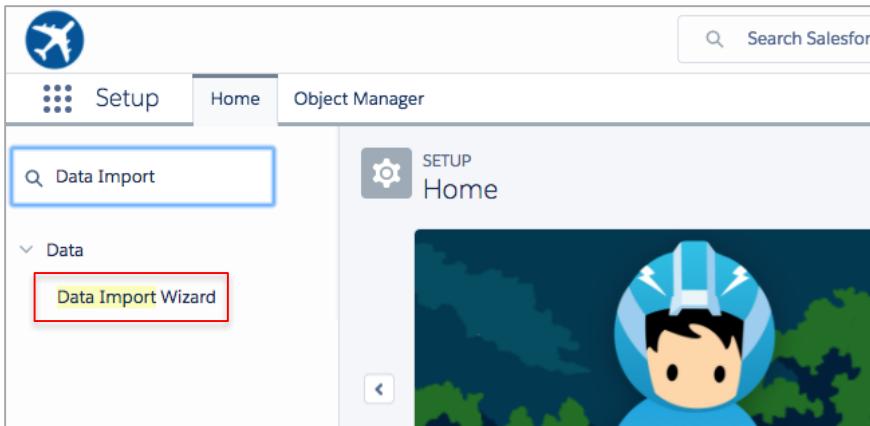
1. Go to the Setup options by selecting the gear icon in top-right and select **Setup**.



2. In the Quick Find search box, type in "Data Import"



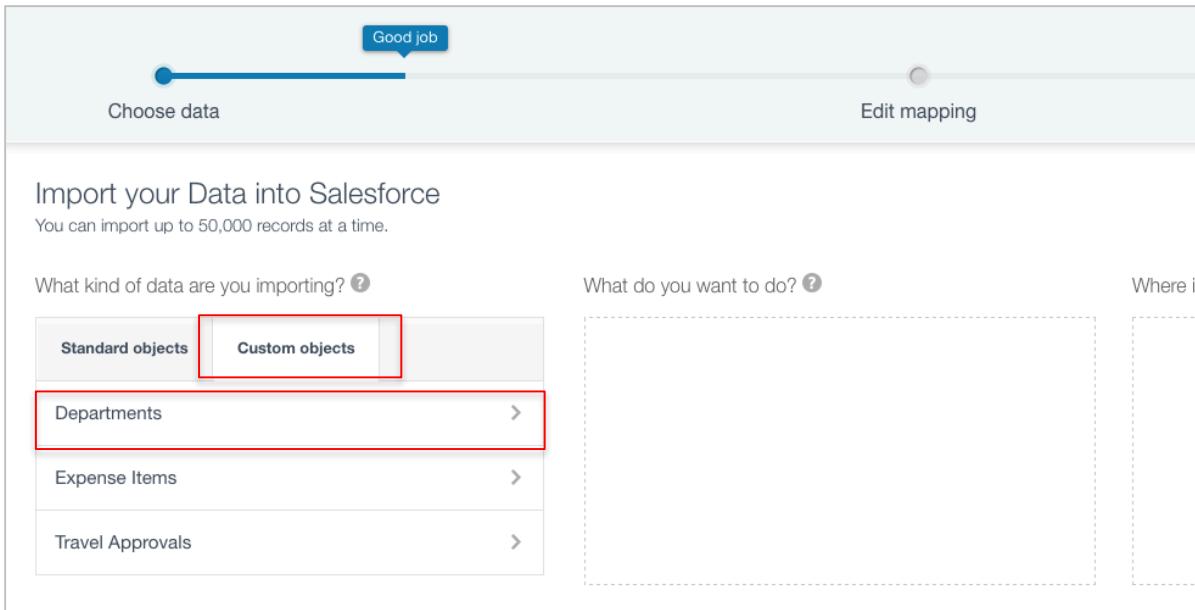
3. This should filter down the results to following. Select the **Data Import Wizard** option.



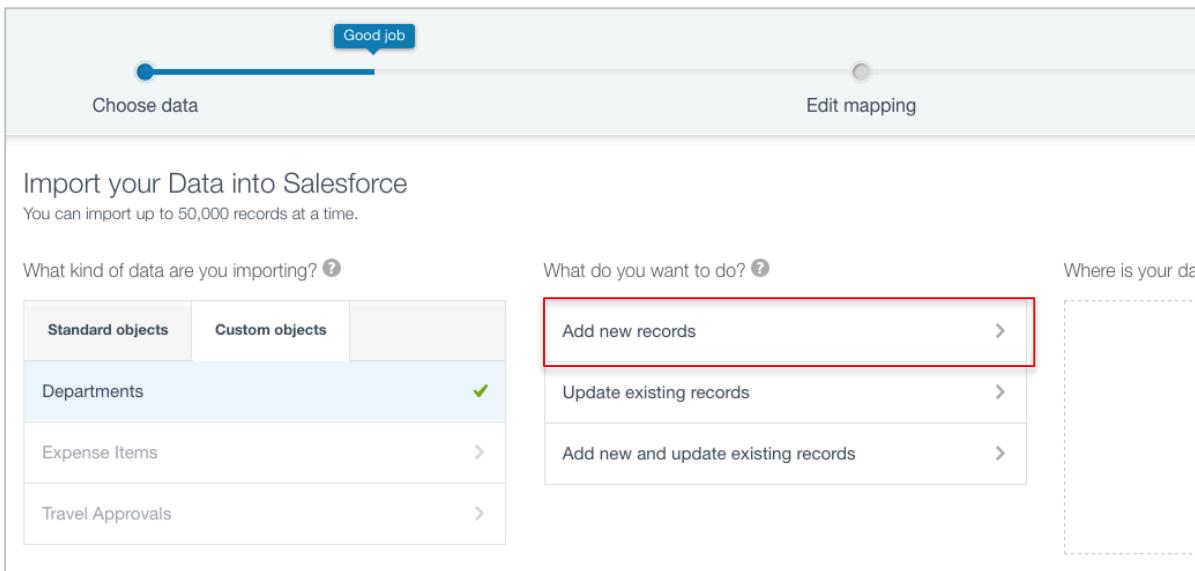
4. You are now presented with window like the following. Select the **Launch Wizard!** button.

The screenshot shows the 'Data Import Wizard' page. At the top, there's a header with 'Setup', 'Home', and 'Object Manager'. Below the header, a search bar says 'Search Salesforce'. On the left, there's a sidebar with 'Data' expanded, showing 'Data Import Wizard' which is highlighted with a red box. The main content area has a title 'Data Import Wizard' and a sub-section 'Recent Import Jobs'. There's a 'Bulk Api Monitoring' button. Below that, there's a section titled 'Before you import your data . . .' with icons for binoculars and a checklist. It contains tips: 'Clean up your data import file', 'Make sure your field names match Salesforce field names', and 'Don't import too many records at once'. At the bottom, there's a section titled 'Import your data in 3 easy steps!' with four steps: 'Pre-step: Prepare your data for import', 'Choose data to import', 'Edit field mapping', and 'Review and start import'. The 'Launch Wizard!' button is highlighted with a red box.

5. First we need to select the object we want to import data to. Select **Custom Objects** tab and select the **Departments** object.



6. Next select the **Add new records** option from middle part of screen.



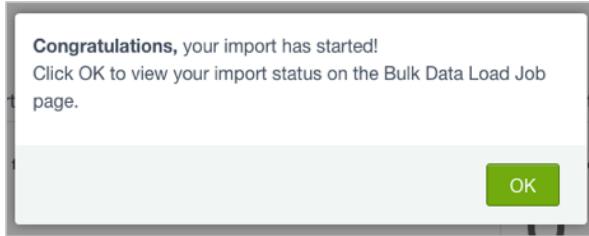
7. Leave the two options in the Add new records to “—None—“ as show below. Drag and drop the **Departments.csv** file to the “**Drag CSV file here to upload**” section as defined below or click on the CSV icon and browse to select your file. Select **Next**.

8. Next, you will need to map the fields in the CSV file to the fields on your object. Since the names in the CSV file are the same as your object, these will be automatically mapped as shown below. Click the **Next** button.

Edit	Mapped Salesforce Object	CSV Header	Example	Example	Example
Change	Department Name	Department Name	Audit Services	Contract Manag	Division of Finance
Change	Department Code	Department Code	405-01	405-02	405-03

9. The next screen will give you summary of your data import and should look like the following. Click the **Start Import** button.

10. You should get a popup like the following. Click **OK** button.



You will now be taken to the bulk import summary window. This shows the process has completed (i.e. Closed) and that 16 records have been successfully imported or processed.

Bulk Data Load Job Detail									
					Operation Insert				
Job ID	7506A000000UvkY				Status	Closed			
Submitted By	Troy Hedges				Queued Batches	0			
Start Time	6/21/2017 5:13 AM PST				In Progress Batches	0			
End Time	6/21/2017 5:13 AM PST				Completed Batches	1			
Time to Complete ([hh]:mm:ss)	00:00				Failed Batches	0			
Object	Department				Progress	100%			
External ID Field					Records Processed	16			
Content Type	CSV				Records Failed	0			
Concurrency Mode	Parallel				Retries	0			
API Version	40.0								

Batches												
View Request	View Result	Batch ID	Start Time	End Time	Total Processing Time (ms)	API Active Processing Time (ms)	Apex Processing Time (ms)	Records Processed	Records Failed	Retry Count	State Message	Status
View Request	View Result	7516A000000UNk7	6/21/2017 5:13 AM	6/21/2017 5:13 AM	64	41	0	16	0	0	Completed	

You should also get an email notification like the following

Test Application

We can now test out the application...

1. Navigate back to your Travel Approval application. (hint: use the application selector in top-left).
2. At the top of the screen, click on the **Departments** tab.

You will be presented with Recently Viewed list. This list should be blank since we have not viewed anything yet.

Let's view all the Departments. Click on the **Recently Viewed** option and select **All** from the drop-down options.

We now see we have a full list of Departments that were loaded from our data import of the CSV file. Notice the list only shows the Department Name for now. We can add other fields as columns to the list and will do so later in the workshop.

Travel App		Chatter	Reports	Dashboards	Departments	Travel Approvals									
		DEPARTMENTS					New	Import							
		All													
16 items • Sorted by Department Name • Updated a few seconds ago															
DEPARTMENT NAME															
1	Audit Services														
2	Contract Management														
3	Disability Determination Bureau														
4	Division of Aging														
5	Division of Disability and Rehabilitative Services														
6	Division of Family Resources														
7	Division of Finance														
8	Division of Mental Health and Addiction														
9	Human Resources														
10	Legislative Services														
11	Office of Communications and Media														
12	Office of Early Childhood and Out-of-School Learning														
13	Office of General Counsel														
14	Office of Medicaid Policy and Planning														
15	Quality and Compliance Office														
16	Technology														

3. Click on one of the departments to drill down in to the Department details. For example, click on “**Contract Management**”. This will take you to the screen below. Notice that the department details include the Department Code field we created along with some default fields like who created and last modified the record and associated date/time stamp. It also shows who currently “owns” the record.

Travel App		Chatter	Reports	Dashboards	Departments	Travel Approvals												
		DEPARTMENT																
		Contract Management																
RELATED DETAILS																		
<table> <tr> <td>Department Name</td> <td>Owner</td> </tr> <tr> <td>Contract Management</td> <td>Troy Hedges</td> </tr> <tr> <td>Department Code</td> <td>405-02</td> </tr> <tr> <td>Created By</td> <td>Last Modified By</td> </tr> <tr> <td>Troy Hedges, 6/21/2017 5:13 AM</td> <td>Troy Hedges, 6/21/2017 5:13 AM</td> </tr> </table>									Department Name	Owner	Contract Management	Troy Hedges	Department Code	405-02	Created By	Last Modified By	Troy Hedges, 6/21/2017 5:13 AM	Troy Hedges, 6/21/2017 5:13 AM
Department Name	Owner																	
Contract Management	Troy Hedges																	
Department Code	405-02																	
Created By	Last Modified By																	
Troy Hedges, 6/21/2017 5:13 AM	Troy Hedges, 6/21/2017 5:13 AM																	

Now let's create a sample **Travel Approval** and associate a few **expense estimates** to it.

4. Click on the **Travel Approvals** tab. The **Recently Viewed** list should be empty the first time you access it since we have not accessed or created any approval requests yet. Click the **New** button on right-hand side.

5. A window will pop-up for us to enter all the details for our travel approval request. Let's enter the following details:

Parameter	Value
Purpose of Trip	Attend Dreamforce 2017
Status	Draft
Trip Start Date	9/24/2017 (pick any date you want)
Trip End Date	9/29/2017 (pick any date you want)
Out-of-State	<i>Check/select this option</i>
Destination State	CA
Department	Technology

The window should look like the following:

Click the **Save** button.

You should now have a travel approval record like the following

The screenshot shows the 'Travel Approval' record for TA-00001. The 'DETAILS' tab is selected. Key fields include:

- Travel Approval #: TA-00001
- Purpose of Trip: Attend Dreamforce 2017
- Status: Draft
- Trip Start Date: 9/24/2017
- Trip End Date: 9/29/2017
- Out-of-State: checked
- Destination State: CA
- Department: Technology
- Created By: Troy Hedges, 6/21/2017 5:26 AM
- Last Modified By: Troy Hedges, 6/21/2017 5:26 AM

The 'ACTIVITY' section shows buttons for New Event, New Task, Log a Call, and Email, along with a 'Set up an event...' input field and an 'Add' button.

Next let's create a couple expense estimates for airfare and hotel to associate with this Travel Approval. Click the **Related** tab as highlighted above.

The screenshot shows the 'Travel Approval' record for TA-00001. The 'RELATED' tab is selected. It displays a list of 'Expense Items (0)' and a 'New' button. The rest of the page is identical to the previous screenshot, showing the 'ACTIVITY' section with various buttons and status messages.

Click the **New** button next to Expense Items section. A window pops up to enter details for your expense estimate. Enter the following:

Parameter	Value
Amount	450

Expense Type	Airfare
--------------	---------

Your window should look like the following:

The screenshot shows the 'Create Expense Item' page. The 'Expense Type' dropdown is set to 'Airfare'. The 'Save' button at the bottom right is highlighted with a red box.

Click **Save** button. You will get a little pop-up indicator that the record was saved and you now will see a new entry in the Expense Items list. Right now it only shows the Expense Item number but we will add extra columns later in the workshop.

The screenshot shows the 'Travel Approvals' page. A related list titled 'Expense Items (1)' displays the record 'E-00001'. The 'Expense Item Number' field is highlighted with a red box.

- Let's create one more expense estimate for the hotel. Click the **New** button and create expense item with following values.

Parameter	Value
Amount	870
Expense Type	Hotel

Your window should look like the following:

The screenshot shows the 'Create Expense Item' page. At the top, it says 'Create Expense Item'. Below that is a section titled 'Information'. It has fields for 'Expense Item Number' (empty), 'Amount' (\$870), 'Expense Type' (set to 'Hotel'), and 'Travel Approval' (set to 'TA-00001'). At the bottom right are three buttons: 'Cancel', 'Save & New', and a large blue 'Save' button which is highlighted with a red border.

Click **Save**.

We now see two expense line items in the **Expense Items** related list.

The screenshot shows the 'Travel Approvals' page in Salesforce. At the top, there's a navigation bar with 'Travel App', 'Chatter', 'Reports', 'Dashboards', 'Departments', and 'Travel Approvals'. Below that is a search bar and some quick action buttons. The main area shows a travel approval record for 'TA-00001'. Under the 'DETAILS' tab, there's a 'RELATED' section with a link to 'Expense Items (2)'. This section lists two expense items: 'E-00001' and 'E-00002', both of which are highlighted with a red box. To the right is an 'ACTIVITY' sidebar with options like 'New Event', 'New Task', 'Log a Call', 'Email', and a 'Set up an event...' button. At the bottom, it says 'No next steps. To get things moving, add a task or set up a meeting.'

Remember that you can easily traverse between items by just click on the link to the record. In above window, we can just click on the DETAILS tab to get to the travel approval details. We can click on one of the Expense Item Number links to drill down to the expense item. Try navigating around in your app and ask the instructor if you have any questions.

Modify the User Interface

Duration: 45 minutes

Salesforce provides many capabilities to adjust the user interface to your needs. Many adjustments can be made through configuration menus and drag-and-drop page layout editors. All with no coding required; however, if your agency has advanced user interface requirements beyond what can be accomplished with standard configuration, you definitely have the ability to have your developers develop custom interfaces or components that can be added to your screen. For this workshop, we are focused on the non-coding approach to modifying the user interface.

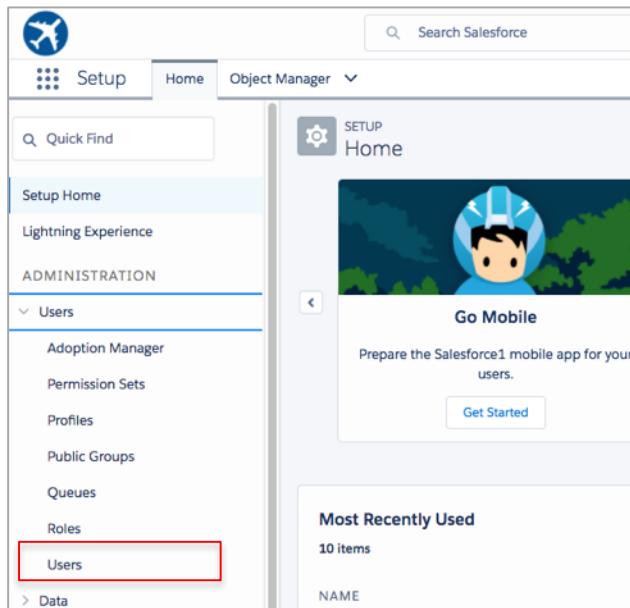
In this section, you will customize the following user interface options:

- **Create and Modify List Views** – you will modify existing record lists (i.e. Recently Viewed) to add new columns and will create a new list view from scratch
- **Adjust the Travel Approval Page Layout** – you will modify a page layout by using the page layout editor to drag-and-drop fields on the page and using sections to group fields
- **Edit Related List Columns** – you will modify the Travel Approval page to show new columns for related objects (i.e. Expense Items). This is accomplished by editing the page layout for the Travel Approval object.
- **Enable Record Collaboration** – you will turn on Chatter collaboration so that people can collaborate on a record versus having separate email conversations

Create A Demo User

Before we jump in to editing list views, we will first create a second user in your Salesforce environment that will be utilized later in the workshop.

1. Access Setup by clicking the gear icon in upper-right and select **Setup**.
2. Click **Users > Users** in left-hand side.



3. Click **New User** button near the middle of the screen.

The screenshot shows the Salesforce Setup interface under the 'Users' section. At the top, there's a 'SETUP' icon and the word 'Users'. Below it, the title 'All Users' is displayed. A note says 'On this page you can create, view, and manage users.' and provides links for 'Help for this Page' and mobile device compatibility ('iOS | Android'). The main area shows a list of users with columns for Action, Full Name, Alias, Username, Last Login, Role, Active, Profile, and Manager. The 'New User' button at the top of the list is highlighted with a red box. Other buttons include 'Reset Password(s)' and 'Add Multiple Users'. Navigation links for letters A-Z and a 'All' link are at the bottom.

- Fill out the new user screen with following parameters:

Parameter	Value
First Name	Eric
Last Name	Executive
Alias	eexec
Email	(put in your real email address that you can access from workshop)
Username	Usernames must be unique across ALL of Salesforce. Pick a username like: <ul style="list-style-type: none"> • eric.<yourlastname>@<youragency>.workshop • ...or create a username of your choice that should be unique
Nickname	eric.exec
User License	Salesforce
Role	CEO
Profile	System Administrator
Timezone	Optional: (pick your time zone)

Your window should look like following:

New User

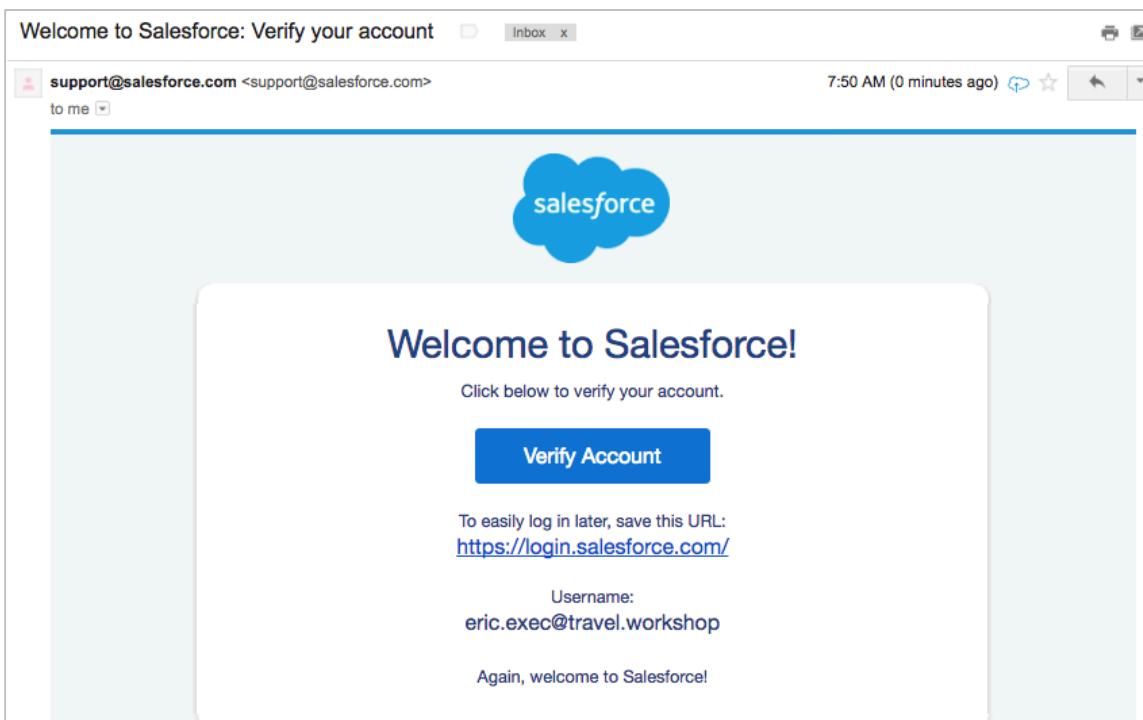
User Edit

General Information

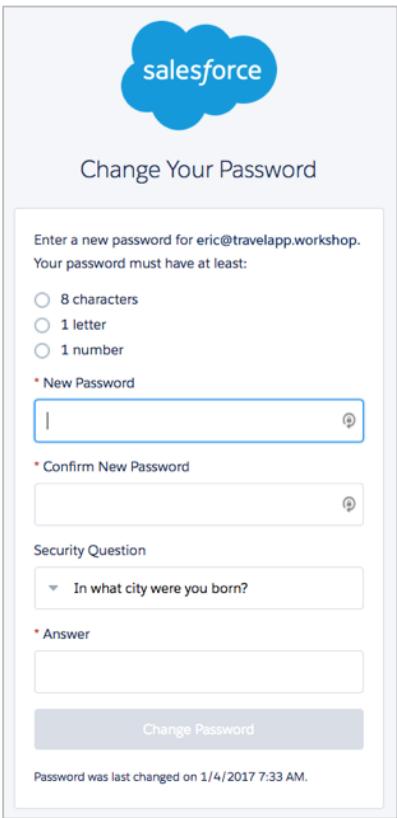
First Name	Eric	Role	CEO
Last Name	Executive	User License	Salesforce
Alias	eexec	Profile	System Administrator
Email	thedges@salesforce.com	Active	<input checked="" type="checkbox"/>
Username	eric.exec@travel.workshop	Marketing User	<input type="checkbox"/>
Nickname	eric.exec	Offline User	<input type="checkbox"/>
Title		Knowledge User	<input type="checkbox"/>
Company		Force.com Flow User	<input type="checkbox"/>
Department		Service Cloud User	<input type="checkbox"/>
Division		Site.com Contributor User	<input type="checkbox"/>
		Site.com Publisher User	<input type="checkbox"/>
		Work.com User	<input type="checkbox"/>
		Salesforce Classic User	<input type="checkbox"/>
		Mobile Configuration	<input type="checkbox"/>
		Data.com User Type	--None--
		Data.com Monthly Addition Limit	Default Limit (300)

Help for this Page ?

5. Click **Save** button. You should receive an email like the following.

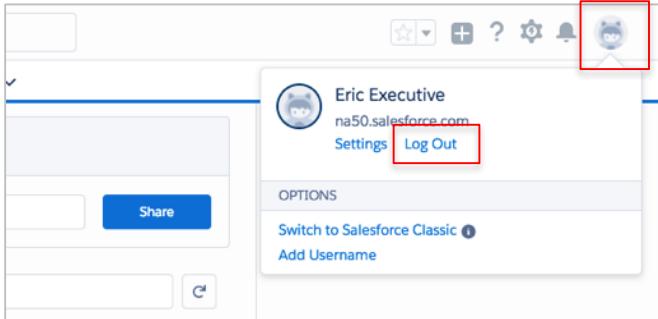


6. Click on the **Verify Account** button in the email to confirm this new user. You will be presented with screen like following:



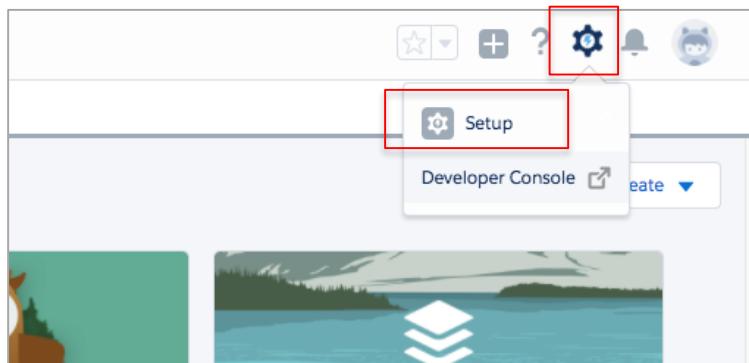
The screenshot shows the Salesforce 'Change Your Password' page. At the top is the blue cloud logo with 'salesforce' written in white. Below it is the heading 'Change Your Password'. A message says 'Enter a new password for eric@travelapp.workshop.' and 'Your password must have at least:' followed by three radio buttons: '8 characters', '1 letter', and '1 number'. There is also a required field 'New Password' with a placeholder 'Password' and a 'Show' link. Below it is another required field 'Confirm New Password' with a 'Show' link. Under 'Security Question', there is a dropdown menu set to 'In what city were you born?'. Below it is a required field 'Answer' with a placeholder 'Answer' and a 'Show' link. At the bottom is a large grey button labeled 'Change Password'. At the very bottom, a note says 'Password was last changed on 1/4/2017 7:33 AM.'

7. Enter a password and security question (make sure you can remember them) and select **Change Password** button.
You will now be logged in to the system as Eric Executive.
8. To continue the workshop as yourself, click on person icon in top-right and select **Log Out**.



9. Navigate to <https://login.salesforce.com> and login with your workshop user credentials.

- Access Setup by clicking the gear icon in upper-right and select **Setup**.



Let's now set Eric Executive as your manager. This will be used in our approval process used later to route your travel approval requests to your manager as first level approval step.

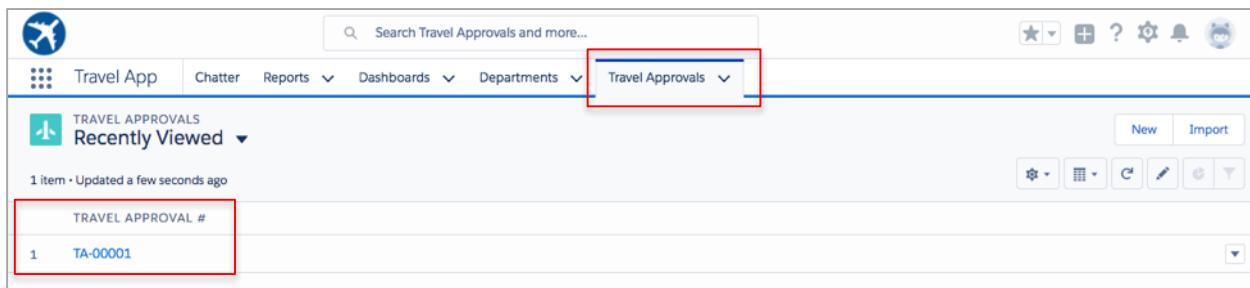
- Click **Users > Users** in left-hand side.
- Select your user account in the list provided (i.e. click on your name in the All Users list)
- Click the **Edit** button near middle of page.
- Scroll down to the **Approver Settings** section near the bottom of the page. Set your manager as Eric Executive by clicking the magnifying glass icon and selecting Eric from list.



- Click **Save** button to save your user record.

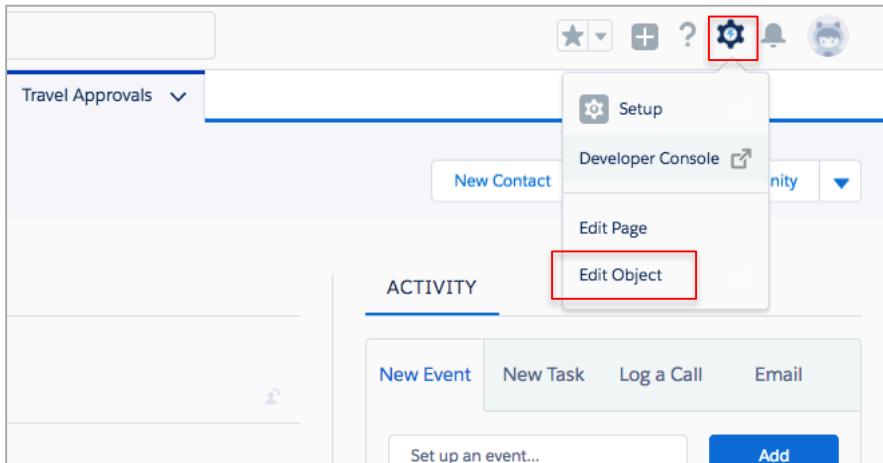
Edit a List View

Before we jump in to editing your Travel Approval screen, you might have noticed that when you click on the Travel Approvals tab that it currently only shows the Travel Approval # field and no other columns. Give it a try and verify that you see screen like the following (i.e. navigate to your **Travel App** and click on the **Travel Approvals** tab):



You can switch between different list views by selecting the current list view and selecting another from the drop down list.

1. Let's first add some columns to the **Recently Viewed** list view which by default only shows the **Travel Approval #** field. Click on the travel approval record you created earlier (should be **TA-00001**) so that you are now on the record detail page.
2. In top-right, click on gear icon and then **Edit Object**. This will load the object configuration page for the **Travel Approval** object.



3. On left-hand side, click on the option **Search Layouts**. Click on the **Edit** icon on the end of the **Search Results** row and select **Edit** from the drop-down.

	Search Layouts			Find in page
	LAYOUT	COLUMNS DISPLAYED	BUTTONS DISPLAYED	
Details	List View	N/A	New, Accept, Change Owner	
Fields & Relationships	Lookup Dialogs	Travel Approval #	N/A	
Page Layouts	Lookup Phone Dialogs	Travel Approval #	N/A	
Lightning Record Pages	Search Filter Fields	N/A	N/A	
Buttons, Links, and Actions	Search Results	Travel Approval #	N/A	
Compact Layouts	Tab	Travel Approval #	N/A	
Object Limits				
Record Types				
Related Lookup Filters				
Search Layouts				Edit
Triggers				

4. Let's now add the columns we want to show on the **Recently Reviewed** list view. Select the following columns and using the arrows, move them from left-hand side to the right-hand side.

- Purpose of Trip
- Department
- Status
- Destination State
- Trip Start Date
- Trip End Date

Your screen should look like the following:

Edit Search Layout
Travel Approval Search Results

Select the fields to include in this search layout. Note that your choices only determine the display of search results and do not affect the fields that determine the fields that are available to users when customizing their search results columns. Please refer to the online help for [more information](#).

Available Fields	Selected Fields
Record ID Out-of-State Status Indicator Total Expenses Owner Alias Owner First Name Owner Last Name Created By Alias Created By Created Date Last Modified By Alias	Travel Approval # Purpose of Trip Department Status Destination State Trip Start Date Trip End Date

Override the search result column customizations for all users

Standard Buttons
 There are no customizable standard buttons for this view.

Click **Save** button.

5. Navigate back to your **Travel App** and click on the **Travel Approvals** tab to get back to your Recently Viewed list view. It should look like the following:

TRAVEL APPROVAL #	PURPOSE OF TRIP	DEPARTMENT	STATUS	DESTINATION STATE	TRIP START DATE	TRIP END DATE
1 TA-00001	Attend Dreamforce ...	Technology	Draft	CA	9/24/2017	9/29/2017

There is also another default list view named **All**. Let's switch to that list view to add some more columns to it also.

6. Select the List View selector (should say **Recently Viewed**) and pick **All** from the drop-down options.

DESTINATION STATE	TRIP START DATE	TRIP END DATE
CA	9/24/2017	9/29/2017

7. To add some more fields to show for this list view, click the gear icon on right and then select **Select Fields to Display** from drop-down.

8. Add the following fields to the list by selection them in the left-hand column and using the arrows to the right-hand side. Once you have moved your columns to right-hand side, you can adjust the order of the columns by using the up/down arrows.

- Department
- Created By
- Status
- Trip Start Date
- Trip End Date

Your screen should look like the following:

9. Select **Save** button and your list view should look like the following.

TRAVEL APPROVAL # ↑	DEPARTMENT	CREATED BY	STATUS	TRIP START DATE	TRIP END DATE
1 TA-00001	Technology	Troy Hedges	Draft	9/24/2017	9/29/2017

You can also create a custom List View for your own needs. It can be private only to you or you can make it accessible to other users. Let's say we want to create a List View to show all open "Out of State" travel requests (i.e. have not been approved or rejected).

10. Click the List View gear icon and select **New** option.

11. Name the new list view "**Open Out of State Travel Requests**" and make sure that "**All users of the system can see this list view**" is selected. Your configuration window should look like following. Click the **Save** button.

12. Your screen will now look like the following. Let's first add a filter to the list view to only show out-of-state requests that are not Closed. On right-hand side of screen, click the **Add Filter** button.

Select the following values for the filter:

Parameter	Value
Field	Out-of-State
Operator	equals
Value	true

Your screen should look like the following. Click the **Done** button.

The screenshot shows the 'New Filter' configuration screen. On the left, there are fields for 'Field' (Out-of-State), 'Operator' (equals), and 'Value' (True). On the right, a sidebar shows a list of filters: 'Show me My travel approvals' and 'Matching all of these filters'. Under 'Matching all of these filters', there is a yellow box labeled 'New Filter*' containing the condition 'Out-of-State* equals True'. Below it are buttons for 'Add Filter', 'Remove', and 'Add Filter Logic'. At the bottom of the sidebar is a 'Done' button, which is highlighted with a red box.

Your screen should now look like the following

The screenshot shows the 'Travel Approvals' list view for 'Open Out of State Travel Requests'. The top navigation bar includes 'New', 'Import', and various filter and search icons. The main area displays one item: 'TA-00001'. On the right side, there is a sidebar titled 'Matching all of these filters' containing a yellow box with the condition 'Out-of-State* equals True'. Below the sidebar are buttons for 'Add Filter', 'Remove All', and 'Add Filter Logic'. At the bottom of the sidebar is a 'Done' button, which is highlighted with a red box.

- Now let's add another filter criteria to filter out any Approved or Rejected (i.e. non-open) travel requests. Click the **Add Filter** button again. Configure the filter as follows:

Parameter	Value
Field	Status
Operator	not equal to
Value	Select Approved and Rejected options

Your screen should look like the following. Click **Done** button when complete.

The screenshot shows the 'New Filter' configuration screen. On the left, there are fields for 'Field' (Status), 'Operator' (not equal to), and 'Value' (2 options selected). On the right, a sidebar shows a list of filters: 'My travel approvals' and 'Matching all of these filters'. Under 'Matching all of these filters', there are two yellow boxes: one for 'Out-of-State* equals True' and another for 'New Filter*'. Below them are buttons for 'Add Filter', 'Remove All', and 'Add Filter Logic'. At the bottom of the sidebar is a 'Done' button, which is highlighted with a red box.

14. Your screen should now look like the following. Click the **Save** button when filters are complete.

The screenshot shows the 'Open Out of State Travel Requests' list view. At the top right, there are buttons for 'New', 'Import', and a gear icon. Below the gear icon, there are buttons for 'Cancel' and 'Save'. A red box highlights the 'Save' button. On the right side, there is a sidebar titled 'My travel approvals' with a section for 'Matching all of these filters'. Two filters are listed: 'Out-of-State* equals True' and 'Status* not equal to Approved, Rejected'. Both filters have a red box around them. At the bottom of the sidebar, there are buttons for 'Add Filter', 'Remove All', and 'Add Filter Logic'.

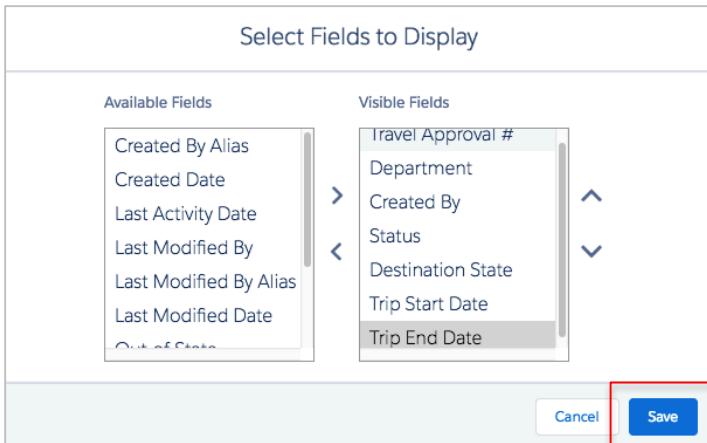
15. As we did earlier, let's add some columns now to this list view. We'll add the same columns as we did earlier. Click the List view gear icon on right and then select **Select Fields to Display** from drop-down.

The screenshot shows the same list view as above. The gear icon on the right has a red box around it. A dropdown menu is open, showing options: 'New', 'Rename', 'Sharing Settings', 'Edit List Filters', and 'Select Fields to Display'. The 'Select Fields to Display' option is highlighted with a red box.

16. Select the following fields to display

- Department
- Created By
- Status
- Destination State
- Trip Start Date
- Trip End Date

Your screen should look like the following:



Click **Save** button. Your screen should now look like following. You can hide the List View filters by click

→ on the arrow → on right hand side.

Edit the Travel Approval page layout

You may have noticed from trying out the app, that all of the fields on your **Travel Approval or Expense Item** record are aligned in a single column and are slotted in the order in which they were created. This is the default behavior of the new field wizard, but it's not practical for how your users will want to use the system. As a result, your agency business analyst has asked that you group fields together logically in order to assist users better with data entry.

The following graphic show how the business analyst would like the Travel Approval fields to appear as well as the grouping:

Travel Approval Header info:
status, total expenses, dept, owner

Trip Details:
purpose, start/end dates, out-of-state flag, destination state

Travel Approval #	
TA-00001	Troy Hedges
Status	Pending Approval
Total Expenses	\$1,370

Trip Info

Purpose of Trip	Attend Dreamforce 2017	Out-of-State	<input checked="" type="checkbox"/>
Trip Start Date	9/24/2017	Destination State	CA
Trip End Date	9/30/2017		

Created By: Troy Hedges, 1/3/2017 9:50 AM Last Modified By: Troy Hedges, 1/4/2017 7:54 AM

We will now adjust the Travel Approval user interface as defined above.

1. Drill down to the Travel Approval we created earlier (i.e. click on Travel Approvals tab and click on the record you created which should be labeled "TA-00001"). Your screen should look similar to following:

Travel Approval # TA-00001

Owner: Troy Hedges

Purpose of Trip: Attend Dreamforce 2017

Status: Draft

Trip Start Date: 9/24/2017

Trip End Date: 9/29/2017

Out-of-State: Yes

Destination State: CA

Department: Technology

Created By: Troy Hedges, 6/21/2017 5:26 AM

Last Modified By: Troy Hedges, 6/21/2017 5:26 AM

ACTIVITY

- New Event
- New Task
- Log a Call
- Email

Add

Set up an event...

Filter Timeline

Next Steps

No next steps. To get things moving, add a task or set up a meeting.

Past Activity

No past activity. Past meetings and tasks marked as done show up here.

More Past Activity

- To edit the current page layout, click the setup gear icon in upper-right and select **Edit Page**.

Travel Approval # TA-00001

Owner: Troy Hedges

ACTIVITY

- New Event
- New Task
- Log a Call
- Email

Setup

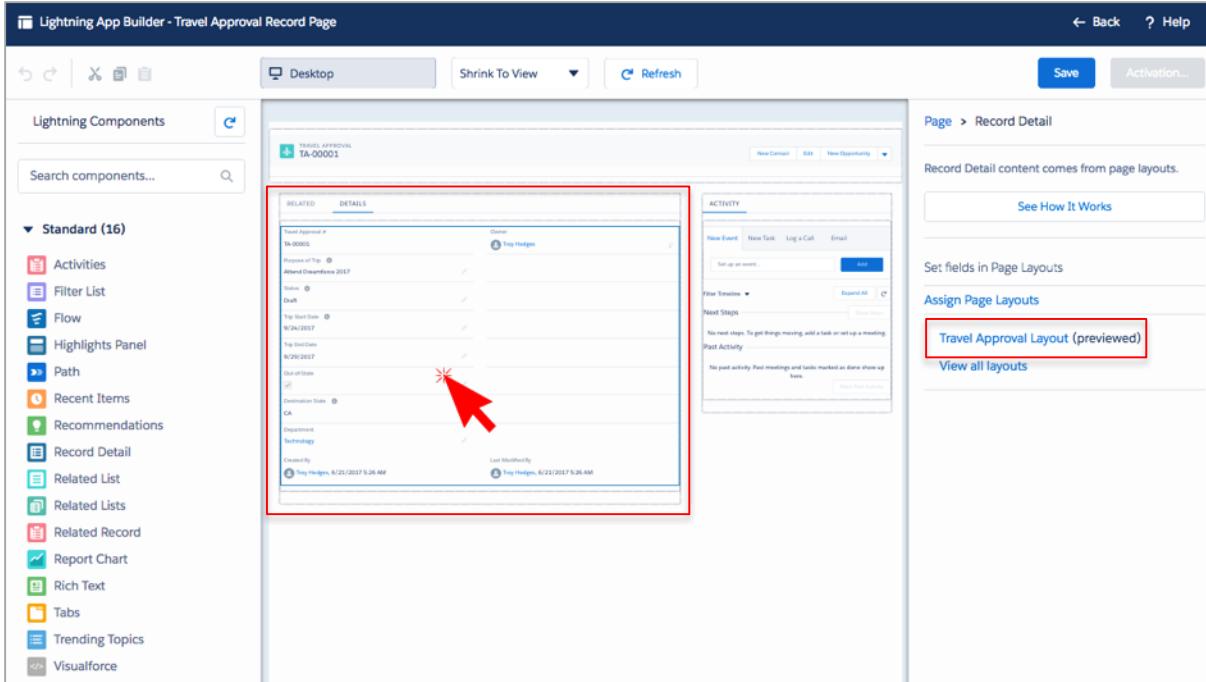
Developer Console

Edit Page

Edit Object

- The next screen that loads is the **Lightning App Builder** that allows you to modify the components that show on the page. With the new Lightning Experience, your admins and developers have the ability to modify which components are shown on a given page or even new pages themselves. In the screen below, you have components on the left-hand side that can be dragged-and-dropped on to the page. We will not be adding any components during this workshop.

As shown in below diagram, **left-click once in the middle of the form to select it**. You should see a light blue border around the form. On the right-hand side, click on **Travel Approval Layout (previewed)**.



You are now taken to the page layout editor as shown below.

The layout editor allows you to configured which fields, buttons, or related lists to show on your page.

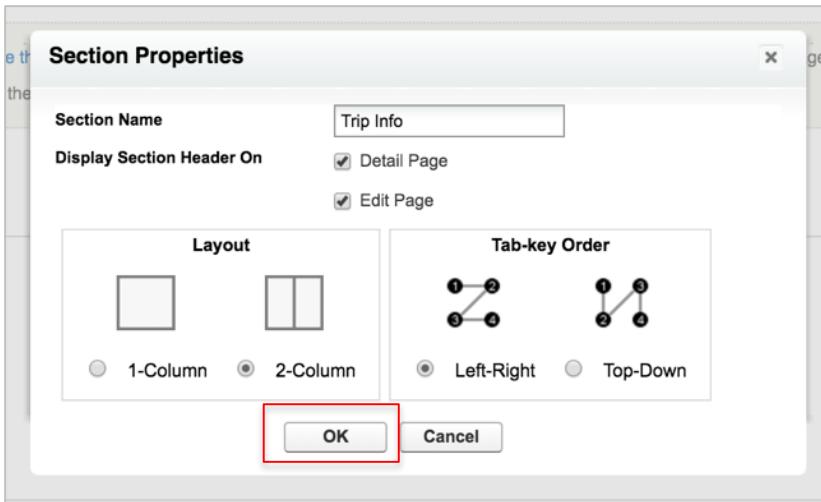
4. Scroll down until you can see the **Travel Approval Detail** section like the following. We will now change the order and position of some of the fields along with creating a new section to group the trip detail fields.

The screenshot shows the 'Layout Properties' window for a record type. The 'Fields' section is expanded, listing various fields like Destination State, Purpose of Trip, and Trip Start Date. A red box highlights the 'Section' field in the list.

- Let's first create a new section on the form called "Trip Info". Drag-n-drop a field section (which allows us to group a set of fields) down on the page directly below the **Department** field. When dragging over the page, you will get a visual indicator of where you can drop the new section.

The screenshot shows the 'Layout Properties' window for a record type. The 'Fields' section is expanded, listing various fields like Destination State, Purpose of Trip, and Trip Start Date. A red box highlights the 'Section' field in the list. A red arrow points from the 'Section' field to the 'Department' field on the main form below, indicating where it should be dropped to create a new section.

A pop-up like the following will show to allow us to configure this new section.



6. Name the section “**Trip Info**” and leave the rest of the settings at their default values. Click **OK** button when complete. Your window will look like the following with the new section added.

Section	Destination State	Purpose of Trip	Trip Start Date
Blank Space	Last Modified By	Status	
Created By	Out-of-State	Travel Approval #	
Department	Owner	Trip End Date	

7. Now let's reorganize some of the fields on the page. Drag the field **Purpose of Trip** down to the **Trip Info** section.

Travel Approval Detail

Standard Buttons: Edit, Delete, Clone, Change Owner, Change Record Type, Sharing | Custom Buttons

Information (Header visible on edit only)

Travel Approval #	GEN-2004-001234	Owner	Sample User
Purpose of Trip	Sample Purpose of Trip		
Status	Sample Status		
Trip Start Date	6/21/2017		
Trip End Date	6/21/2017		
Out-of-State	✓		
Destination State	Sample Destination State		
Department	Sample Department		

Trip Info

System Information (Header visible on edit only)

Your screen should look like following.

Travel Approval Detail

Standard Buttons: Edit, Delete, Clone, Change Owner, Change Record Type, Sharing | Custom Buttons

Information (Header visible on edit only)

Travel Approval #	GEN-2004-001234	Owner	Sample User
Status	Sample Status	🕒 🔍	
Trip Start Date	6/21/2017		
Trip End Date	6/21/2017		
Out-of-State	✓		
Destination State	Sample Destination State		
Department	Sample Department		

Trip Info

Purpose of Trip	Sample Purpose of Trip
-----------------	------------------------

System Information (Header visible on edit only)

Created By: Sample User | Last Modified By: Sample User

- Like you did above, now drag the following fields from the top section of from down to the new **Trip Info** section: **Trip Start Date**, **Trip End Date**, **Out-of-State**, and **Destination State**. Set them in the appropriate columns as shown in the image below. After you have moved all your fields, your window should now look like following.

Travel Approval Detail

Standard Buttons: Edit, Delete, Clone, Change Owner, Change Record Type, Sharing | Custom Buttons

Information (Header visible on edit only)

Travel Approval #	GEN-2004-001234	Owner	Sample User
Status	Sample Status		
Department	Sample Department		

Trip Info

Purpose of Trip	Sample Purpose of Trip	Out-of-State	✓
Trip Start Date	6/21/2017	Destination State	Sample Destination State
Trip End Date	6/21/2017		

System Information (Header visible on edit only)

Created By: Sample User | Last Modified By: Sample User

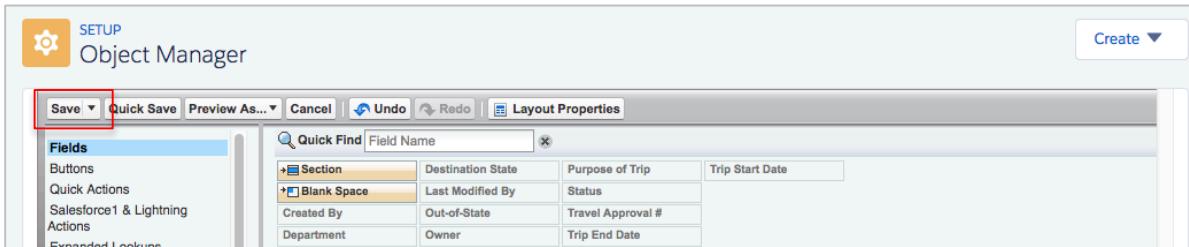
Custom Links (Header visible on edit only)

- Next let's drag the Department field in the top section over to the right column in the top section. The screen should look like following:

Travel Approval Detail

Standard Buttons Edit Delete Clone Change Owner Change Record Type Sharing					
Owner Sample User Department Sample Department					
Trip Info Purpose of Trip Sample Purpose of Trip Out-of-State <input checked="" type="checkbox"/> Trip Start Date 6/21/2017 Destination State Sample Destination State Trip End Date 6/21/2017					
System Information (Header visible on edit only) Created By Sample User Last Modified By Sample User					
Custom Links (Header visible on edit only)					

10. Now click the **Save** button in top part of edit screen to save your modified page layout.



11. Navigate back to one of your Travel Approval records and look at the page. It should now look like the following (**note**: you may need to refresh your browser for the new changes to show up).

TRAVEL APPROVAL
TA-00001

New Contact Edit New Opportunity					
RELATED DETAILS					
Travel Approval # TA-00001 Status Draft Trip Info Purpose of Trip Attend Dreamforce 2017 Trip Start Date 9/24/2017 Trip End Date 9/29/2017 Created By Troy Hedges , 6/21/2017 5:26 AM			Owner Troy Hedges Department Technology Out-of-State <input checked="" type="checkbox"/> Destination State CA Last Modified By Troy Hedges , 6/21/2017 5:26 AM		
ACTIVITY New Event New Task Log a Call Email <input type="text"/> Set up an event... Add Filter Timeline Expand All C Next Steps No next steps. To get things moving, add a task or set up a meeting. Past Activity No past activity. Past meetings and tasks marked as done show up here. More Past Activity					

Edit the Expense Item related list on Travel Approval page

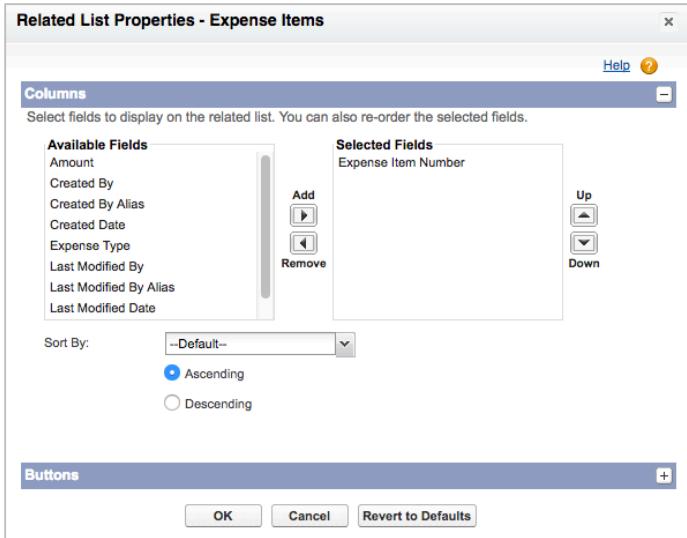
If you remember, when we view the Expense Items from one of our Travel Approval records that it showed expenses like the following screenshot. It is only showing the Expense Item Numbers and **not** other fields/columns. Let's change the related list for expense items to show some other columns so we can see details of each expense item without having to drill-down to those records.

1. Click the setup gear icon and select **Edit Object**.

2. Select **Page Layouts** on left-hand side and select **Travel Approval Layout** to edit the page layout.

3. We are now back to the page layout editor we used earlier (notice that you used a different path to get here). Scroll down to the bottom until you can see the Expense Items related list.

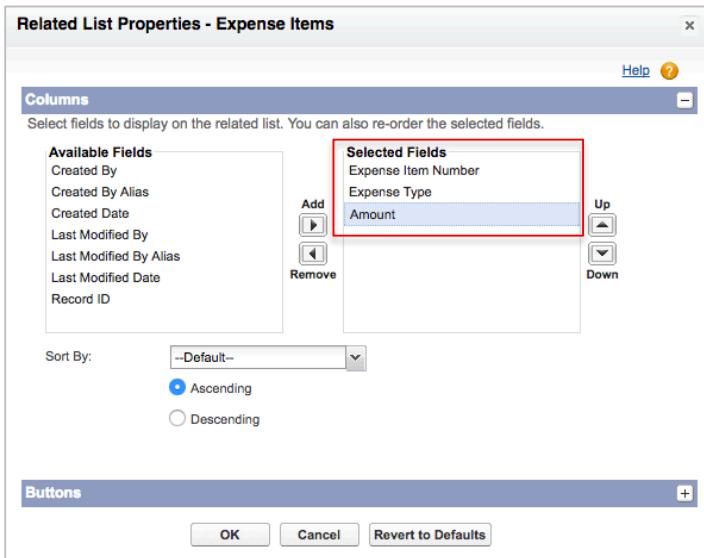
4. Click the wrench icon in the header tab for that section to configure Expense Items related list. The following window will pop-up.



In this screen you can move any fields on the Expense Items object to the right column so they show in the related list. Let's add the following fields to the right column:

- Expense Type
- Amount

Your screen should look like the following:



5. Select **OK** button to save your column changes. Then click **Save** in top-left on the page layout to save your changes for the page.
6. Navigate back to a Travel Approval record and look at the related lists. You should now see the extra columns you added to the expense item related list. NOTE: You may need to refresh your browser screen for the changes to show up.

The screenshot shows the Salesforce interface for a 'Travel App'. At the top, there's a navigation bar with links for 'Travel App', 'Chatter', 'Reports', 'Dashboards', 'Departments', and 'Travel Approvals'. Below the navigation is a specific record view for 'TRAVEL APPROVAL TA-00001'. On the left, there are tabs for 'RELATED' and 'DETAILS', with 'RELATED' currently selected. Under 'RELATED', a section titled 'Expense Items (2)' is shown, which is highlighted with a red box. This section contains two rows of expense items:

EXPENSE ITEM NUMBER	EXPENSE TYPE	AMOUNT
E-00001	Airfare	\$450
E-00002	Hotel	\$870

To the right of the expense items is an 'ACTIVITY' sidebar with buttons for 'New Event', 'New Task', 'Log a Call', and 'Email', along with a 'Set up an event...' input field and an 'Add' button.

Enable Record Collaboration

Salesforce includes built in capabilities to collaborate. This includes being able to collaborate around a single record in Salesforce.

1. Access Setup by clicking the gear icon in upper-right and select **Setup**.
2. In the left-hand **Quick Find** search window, enter the keyword "**Chatter**".

The screenshot shows the Salesforce 'Setup' interface. At the top, there are tabs for 'Setup', 'Home', and 'Object Manager'. A 'Quick Find' search bar is present. The left sidebar has a tree structure with 'Feature Settings' expanded, showing 'Chatter' as a child node. Under 'Chatter', 'Chatter Settings' is selected, and 'Feed Item' is expanded, showing 'Feed Tracking' as a child node, which is highlighted with a red box. The main content area displays a 'SETUP Home' page with a 'Go Mobile' section featuring a cartoon character and a 'Get Started' button.

3. Select **Feed Tracking**. You should now be presented with the Feed Tracking window configuration window. In the left-hand side of window is a list of objects, pick **Travel Approval**.

The screenshot shows the Salesforce Setup interface under the 'Feed Tracking' section. On the left, a sidebar lists various objects with their field counts: Contact (3 Fields), Content Document (0 Fields), Contract, Dashboard, Department, Event, Expense Item, Feedback Request (0 Fields), Goal (0 Fields), Group (7 Fields), Lead (3 Fields), Metric (0 Fields), Opportunity (5 Fields), Order, Order Product, Performance Cycle (0 Fields), Product, Report, Site (0 Fields), Solution, Task, Topic (1 Field), and User (0 Fields). The 'Travel Approval' object is highlighted with a red box. The main panel is titled 'Fields in travel approvals' and contains a list of fields with checkboxes: Department (unchecked), Out-of-State (unchecked), Purpose of Trip (unchecked), Travel Approval # (unchecked), Trip Start Date (unchecked), Destination State (checked), Owner (unchecked), Status (checked), and Trip End Date (unchecked). Below this, there's a section for related objects with a checkbox for 'All Related Objects' (unchecked). At the bottom, there are 'Save' and 'Cancel' buttons, a checked 'Enable Feed Tracking' checkbox, and 'Restore Defaults' buttons.

4. Click the **Enable Feed Tracking** checkbox near the middle of the screen.
5. Also click on a few fields like **Destination State** and **Status**. Selecting these will result in a message being posted to the record's chatter feed any time one of the checked fields changes. This is a way to keep people alerted of changes to the records.
6. Click **Save** button.

You have now configured Chatter collaboration capabilities for the Travel Approval object.

NOTE: In the window above, you could have also selected more fields if you wanted to track changes to those fields in the chatter feed.

Test Collaboration

1. Navigate back to the **Travel App** and click on the **Travel Approvals** tab. Select a travel approval record. You should see a record detail page like below.
2. For record collaboration, notice on right-hand side of the record details page that you have a tab called **Chatter**. Click on this tab.

The screenshot shows a Salesforce interface for a 'Travel Approval' record. The record ID is TA-00001. The 'DETAILS' tab is selected. In the 'Chatter' section, the 'Post' sub-tab is highlighted with a red box. A text input field contains the placeholder 'Share an update...'. Below it is a 'Share' button. The 'Collaborate with others' area indicates 'No updates here yet.'

By default you have option to make a Post, submit a Poll for feedback or ask a Question. Let's post a comment to your manager about this travel approval request.

3. Click on the **Post** sub-tab. Click in the area with label "Share an update..."
4. Enter a Chatter post like the following:

@[Eric Executive] Which department should I associate this travel request with?

You will notice when you type "@E" characters that a pop-up window shows and provides you a list of users that start with "E". Select Eric from the card that pop-ups.

The screenshot shows the 'Share an update...' input field with the prefix '@E'. A pop-up window displays a list of users starting with 'E', with 'Eric Executive' selected. The 'Share' button is visible at the bottom of the input field.

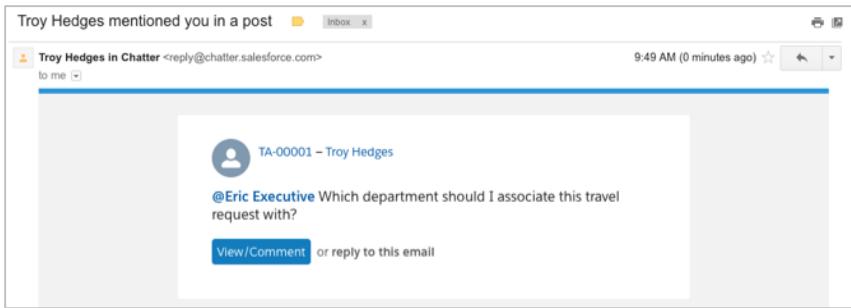
Your window should look like following. Click **Share** button to send this post.

The screenshot shows the Salesforce Chatter interface. At the top, there are two tabs: 'ACTIVITY' and 'CHATTER', with 'CHATTER' being the active tab. Below the tabs is a navigation bar with three options: 'Post', 'Poll', and 'Question'. The main area is titled 'To' and contains a text input field with the placeholder '@[Eric Executive] Which department should I associate this travel request with?'. Below the input field is a toolbar with various rich text editing icons. To the right of the input field is a blue 'Share' button. At the bottom of the main area are three buttons: 'Latest Posts', 'Search this feed', and a refresh icon. A small dropdown arrow is visible next to 'Latest Posts'.

The window will look like following. Eric will receive an email and notification that he has been directly mentioned.

The screenshot shows the Salesforce Chatter feed. At the top, there are two tabs: 'ACTIVITY' and 'CHATTER', with 'CHATTER' being the active tab. Below the tabs is a navigation bar with three options: 'Post', 'Poll', and 'Question'. The main area displays a post from a user named 'TA-00001 – Troy Hedges' posted 'Just Now'. The post content is '@Eric Executive Which department should I associate this travel request with?'. Below the post are two interaction buttons: 'Like' and 'Comment'. The 'Like' button has a count of 1. The 'Comment' button has a count of 0. On the left side of the post, there is a profile picture placeholder and a dropdown arrow.

You should have also gotten an email similar to below



Add Business Logic

Duration: 50 minutes

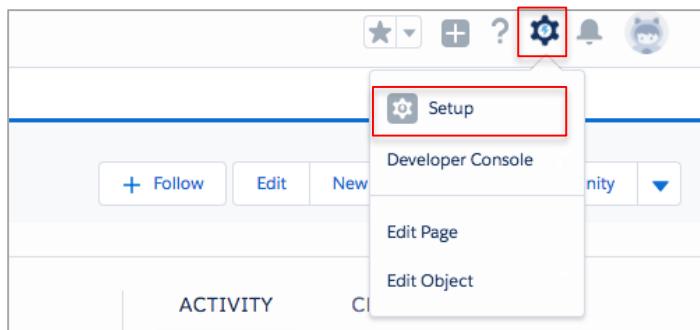
Now that you have the primary functionality of the travel approval application built, let's now add some business logic to address the following areas:

- **Enforce data integrity** – enforce that trip end date is greater or equal to the start date
- **Create Summary Fields** – create a travel approval field that automatically sums up all expense costs
- **Create Formula Fields** – create a field that shows a visual indicator for
- **Create Workflow** – set the out-of-state flag for any out-of-state trip
- **Approval Process** – all travel approvals need to be submitted for approval

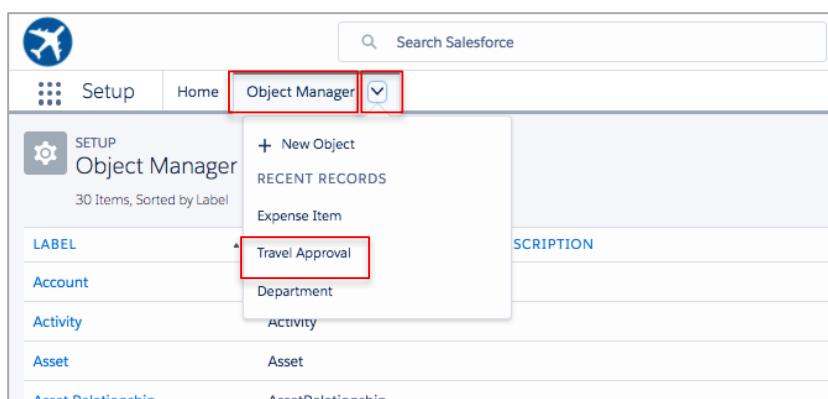
Create Validation Rules to Enforce Future Dates

Let's now create a validation rule to enforce that a trip end date must always be \geq the trip start date.

1. Access Setup by clicking the gear icon in upper-right and select **Setup**.



2. Next we need to open the configuration screen for the Travel Approval object. Click on **Object Manager** and then click on the icon. This will give you a list of recent objects you have edited.



3. Click on the **Travel Approval** object from the drop-down list.
4. You should now be on the configuration page for the Travel Approval object. Click on the **Validation Rules** option on left-hand side. It should currently be empty like the following.

The screenshot shows the 'Travel Approval' object in the Object Manager. The left sidebar lists various setup options like Details, Fields & Relationships, Page Layouts, etc. The 'Validation Rules' link is highlighted with a red box. The main area shows a table titled 'Validation Rules' with one column: 'RULE NAME'. A red box also highlights the 'New' button in the top right corner of the table header.

We will now create a validation rule to enforce that trip end date must be equal or greater than the start date.

- Click the **New** button on right-hand side of the Validation Rules section. A rule configuration window will open like the following:

Travel Approval Validation Rule

Define a validation rule by specifying an error condition and a corresponding error message. The error condition is written as a Boolean formula expression that returns true or false. When the formula expression returns true, the save will be aborted and the error message will be displayed. The user can correct the error and try again.

Validation Rule Edit

Rule Name	<input type="text"/>	Save	Save & New	Cancel
Active	<input checked="" type="checkbox"/>			
Description	<input type="text"/>			
Error Condition Formula <p>Example: <input type="text"/> More Examples...</p> <p>Display an error if Discount is more than 30%</p> <p>If this formula expression is true, display the text defined in the Error Message area</p> <p><input type="button"/> <input type="button"/> <input type="button"/></p> <div style="border: 1px solid #ccc; padding: 5px;"> <input type="text"/> Insert Selected Function <small>ABS(number) Returns the absolute value of a number, a number without its sign</small> Help on this function </div> <p><input type="button"/> Check Syntax</p>				
Error Message <p>Example: <input type="text"/> More Examples...</p> <p>This message will appear when Error Condition formula is true</p> <p>Error Message <input type="text"/></p> <p>This error message can either appear at the top of the page or below a specific field on the page</p> <p>Error Location <input type="radio"/> Top of Page <input type="radio"/> Field <input type="text"/></p>				
<input type="button"/> Save <input type="button"/> Save & New <input type="button"/> Cancel				

- Create a new validation rule with the following

Parameter	Value
Rule Name	Trip end date after start date
Active	<i>Make sure to keep this selected/checked.</i>

Condition Formula	Trip_End_Date__c < Trip_Start_Date__c
NOTE: When writing a validation rule, your condition formula should return "true" for your false condition.	
Error Message	Trip end date must be greater than or equal to start date
Error Location	Select Field and pick "Trip End Date" as the location for the error

Your screen should look like the following

Travel Approval Validation Rule

Define a validation rule by specifying an error condition and a corresponding error message. The error condition is written as a Boolean formula expression that returns true or false. When the formula expression returns true, the save will be aborted and the error message will be displayed. The user can correct the error and try again.

Validation Rule Edit

Rule Name: <input type="text" value="Trip_end_date_after_start_date"/>	Save Save & New Cancel
Active: <input checked="" type="checkbox"/>	Quick Tips: Operators & Functions
Description: <input type="text"/>	
Error Condition Formula <p>Example: <input type="text" value="Discount_Percent__c>0.30"/> More Examples... Display an error if Discount is more than 30%</p> <p>If this formula expression is true, display the text defined in the Error Message area</p> <p><input type="button" value="Insert Field"/> <input type="button" value="Insert Operator"/> <input type="text" value="Trip_End_Date__c < Trip_Start_Date__c"/></p>	
<p>Functions</p> <p>-- All Function Categories: ABS AND BEGINS BLANKVALUE BR CASE Insert Selected Function ABS(number) Returns the absolute value of a number, a number without its sign</p> <p>Help on this function</p>	
<input type="button" value="Check Syntax"/> No errors found	
Error Message <p>Example: Discount percent cannot exceed 30%</p> <p>This message will appear when Error Condition formula is true</p> <p>Error Message: <input type="text" value="Trip end date must be greater than or equal to start date"/></p> <p>This error message can either appear at the top of the page or below a specific field on the page</p> <p>Error Location: <input type="radio"/> Top of Page <input type="radio"/> Field <input type="text" value="Trip End Date"/> <input type="button" value=""/></p>	
<input type="button" value="Save"/> <input type="button" value="Save & New"/> <input type="button" value="Cancel"/>	

7. Click the **Save** button. The following window will display.

Travel Approval Validation Rule

[Back to Travel Approval](#)

Validation Rule Detail

Rule Name: <input type="text" value="Trip_end_date_after_start_date"/>	Active: <input checked="" type="checkbox"/>
Error Condition Formula: <input type="text" value="Trip_End_Date__c < Trip_Start_Date__c"/>	Error Location: <input type="text" value="Trip End Date"/>
Error Message: <input type="text" value="Trip end date must be greater than or equal to start date"/>	Created By: <input type="text" value="Troy Hedges, 6/21/2017 9:30 AM"/>
Modified By: <input type="text" value="Troy Hedges, 6/21/2017 9:30 AM"/>	<input type="button" value="Edit"/> <input type="button" value="Clone"/>

8. Click the **Back to Travel Approval** link directly under your rule title. Your screen should look like the following:

Travel Approval											
Details	Validation Rules 1 Items, Sorted by Rule Name										
Fields & Relationships	<table border="1"> <thead> <tr> <th>RULE NAME</th> <th>ERROR LOCATION</th> <th>ERROR MESSAGE</th> <th>ACTIVE</th> <th>MODIFIED BY</th> </tr> </thead> <tbody> <tr> <td>Trip_end_date_after_start_date</td> <td>Trip End Date</td> <td>Trip end date must be greater than or equal to start date</td> <td>✓</td> <td>Troy Hedges, 6/21/2017, 9:30 AM</td> </tr> </tbody> </table>	RULE NAME	ERROR LOCATION	ERROR MESSAGE	ACTIVE	MODIFIED BY	Trip_end_date_after_start_date	Trip End Date	Trip end date must be greater than or equal to start date	✓	Troy Hedges, 6/21/2017, 9:30 AM
RULE NAME	ERROR LOCATION	ERROR MESSAGE	ACTIVE	MODIFIED BY							
Trip_end_date_after_start_date	Trip End Date	Trip end date must be greater than or equal to start date	✓	Troy Hedges, 6/21/2017, 9:30 AM							
Page Layouts											
Lightning Record Pages											
Buttons, Links, and Actions											

Create Expense Total Roll-up Summary Field

Next we will create a field on the Travel Approval object that automatically sums up the total amount of expenses from the related Expense Items. Salesforce has a field called a roll-up summary field that provides this functionality.

1. You should still be in the object manager for the **Travel Approval** object. Select **Fields & Relationships** section on left-hand side.

Travel Approval		Find in page	New	Field Dependencies	Set History Tracking																									
Details	Fields & Relationships 11 Items, Sorted by Field Label																													
Fields & Relationships	<table border="1"> <thead> <tr> <th>FIELD LABEL</th> <th>FIELD NAME</th> <th>DATA TYPE</th> <th>CONTROLLING FIELD</th> <th>INDEXED</th> </tr> </thead> <tbody> <tr> <td>Created By</td> <td>CreatedById</td> <td>Lookup(User)</td> <td></td> <td></td> </tr> <tr> <td>Department</td> <td>Department__c</td> <td>Lookup(Department)</td> <td>✓</td> <td></td> </tr> <tr> <td>Destination State</td> <td>Destination_State__c</td> <td>Text(2)</td> <td></td> <td></td> </tr> <tr> <td>Last Modified By</td> <td>LastModifiedById</td> <td>Lookup(User)</td> <td></td> <td></td> </tr> </tbody> </table>	FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED	Created By	CreatedById	Lookup(User)			Department	Department__c	Lookup(Department)	✓		Destination State	Destination_State__c	Text(2)			Last Modified By	LastModifiedById	Lookup(User)						
FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED																										
Created By	CreatedById	Lookup(User)																												
Department	Department__c	Lookup(Department)	✓																											
Destination State	Destination_State__c	Text(2)																												
Last Modified By	LastModifiedById	Lookup(User)																												
Page Layouts																														
Lightning Record Pages																														
Buttons, Links, and Actions																														
Compact Layouts																														
Object Limits																														

2. Click the **New** button to create a new field.

Step 1: Select **Roll-Up Summary** data type. Click **Next**.

Step 2: Enter the following values for the field details

Parameter	Value
Field Label	Total Expenses
Field Name	Total_Expenses (this will automatically get set when you tab out of the Field Label field)

The screen will look like following:

This screenshot shows the 'Step 2. Enter the details' page for creating a new custom field named 'Total Expenses'. The page includes fields for Field Label, Field Name, Description, and Help Text, each with a text input box and a help icon. Navigation buttons for 'Previous', 'Next', and 'Cancel' are at the bottom right.

Click **Next**.

Step 3: Configure the roll-up calculation as follows:

Parameter	Value
Summarized Object	Expense Items
Roll-up Type	SUM (and select "Amount" for the Field to Aggregate)
Filter Criteria	All records should be included in the calculation

Your window should look like the following:

This screenshot shows the 'Step 3. Define the summary calculation' page. It includes sections for 'Select Object to Summarize' (Master Object: Travel Approval, Summarized Object: Expense Items), 'Select Roll-Up Type' (SUM selected, Field to Aggregate: Amount), and 'Filter Criteria' (All records should be included in the calculation selected). Navigation buttons for 'Previous', 'Next', and 'Cancel' are at the bottom right.

Click **Next**.

Step 4: Accept the default values. Click **Next**.

Step 5: Accept the default values. Click **Save**.

You now have a new field on your Travel Approval object that will automatically sum up your expenses. It has been automatically added to your page layout also.

Create Formula Fields to Show Status Indicator

Next we will create a field on the Travel Approval object that will show a visual indicator (i.e. image file) based on the value of the Status field. For example, we will show one field for Draft approval and a different image for Approved approvals. This provides a quick and simple way for users of the system to get an indicator to the status of a travel approval.

First, we need to upload a zip file to your Salesforce environment that contains all the images we will use. You should have a file titled **StatusImages.zip** that is part of your workshop files you downloaded at the beginning of the workshop. We will now upload that zip file as a static resource file in Salesforce.

1. Click on the **Home** tab to navigate back to the main setup page.

The screenshot shows the Salesforce setup interface. The top navigation bar has tabs for 'Setup', 'Home' (which is highlighted with a red box), and 'Object Manager'. Below the navigation is a breadcrumb trail: 'SETUP > OBJECT MANAGER > Travel Approval'. On the left, there's a sidebar with links for 'Details', 'Fields & Relationships', 'Page Layouts', and 'Lightning Record Pages'. The main content area is titled 'Validation Rules' and shows '1 Items, Sorted by Rule Name'. A table lists the rule: 'RULE NAME' is 'Trip_end_date_after_start_date', 'ERROR LOCATION' is 'Trip End Date', and 'ERROR MESSAGE' is 'Trip end date to start date'.

2. In left-hand side, click **Custom Code > Static Resources** (or type in “Static” in the Quick Find to filter down the options). The following screen will show.

The screenshot shows the 'Static Resources' page in the Salesforce setup. The top navigation bar has a 'SETUP' icon and the 'Static Resources' page title. Below the navigation is a 'Help for this Page' link. The main content area is titled 'Static Resources' and includes a sub-instruction: 'Use static resources to upload content that you want to reference in a Visualforce page, including .zip and .jar files, images, stylesheets, JavaScript, and other files.' There are buttons for 'View: All' and 'Create New View'. Below these are filtering options: 'A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Other | All'. A table lists static resources, with a 'New' button highlighted with a red box. The table columns are: Name, Namespace Prefix, Description, MIME Type, Size, Created By Alias, Created Date, Last Modified Date, and Cache Control. A note at the bottom says 'No records to display.'

3. Click the **New** button that is near middle of the screen.
4. Set the following parameters for your static resource:

Parameter	Value
Name	StatusImages (IMPORTANT: there are no spaces and the 'S' and 'I' are capitalized)
File	Select your StatusImages.zip file on your computer
Cache Control	Public

Your screen should look like the following:

Static Resource

Static Resource Edit

Name: StatusImages

Description:

File: Choose File StatusImages.zip

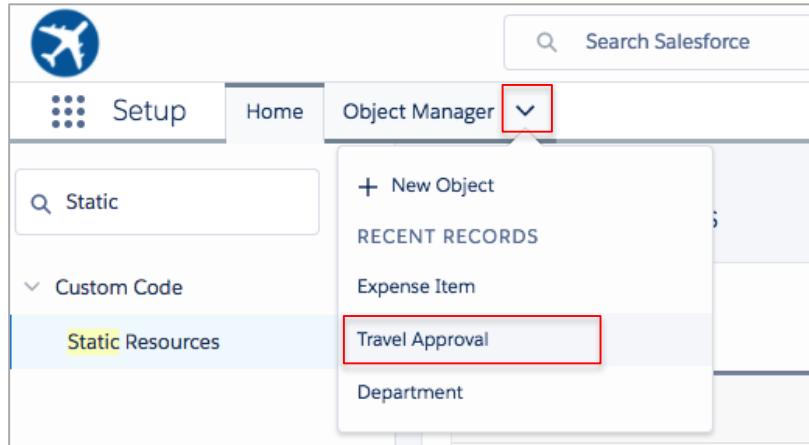
Cache Control: Public

Save Cancel

5. Click the **Save** button.

Next we will create the new field on the Travel Approval object to show an image based on the Status field. For this, Salesforce has a formula field data type that can be used.

6. In the tab sections near top left of screen, click on the icon next to the **Object Manager** tab. This provides a shortcut to the Object Manager for the recent objects you have edited. Click on **Travel Approval**.



7. Select the **Fields & Relationships** section on left-hand side of screen.
8. Click the **New** button to create a new field.

Step 1: Select **Formula** data type. Click **Next**.

Step 2: Enter the following values for the field details. Click **Next**.

Parameter	Value
Field Label	Status Indicator
Field Name	Status_Indicator (this will automatically get set when you tab out of the Field Label field)
Formula Return Type	Text

The screen will look like following:

Travel Approval
New Custom Field

Step 2. Choose output type Step 2 of 5

Field Label | Status Indicator Field Name | Status_Indicator

Formula Return Type

	Select one of the data types below.
<input type="radio"/> None Selected	Select one of the data types below.
<input type="radio"/> Checkbox	Calculate a boolean value Example: <code>[TODAY() > CloseDate]</code>
<input type="radio"/> Currency	Calculate a dollar or other currency amount and automatically format the field as a currency amount. Example: <code>(Gross Margin = Amount - Cost__c)</code>
<input type="radio"/> Date	Calculate a date, for example, by adding or subtracting days to other dates. Example: <code>(Reminder Date = CloseDate - 7)</code>
<input type="radio"/> Date/Time	Calculate a date/time, for example, by adding a number of hours or days to another date/time. Example: <code>(Next = NOW() + 1)</code>
<input type="radio"/> Number	Calculate a numeric value. Example: <code>(Fahrenheit = 1.8 * Celsius__c + 32)</code>
<input type="radio"/> Percent	Calculate a percent and automatically add the percent sign to the number. Example: <code>(Discount = (Amount - Discounted_Amount__c) / Amount)</code>
<input checked="" type="radio"/> Text	Create a text string, for example, by concatenating other text fields. Example: <code>(Full Name = LastName & ", " & FirstName)</code>
<input type="radio"/> Time	Calculate a time, for example, by adding a number of hours or days to another time.

Previous Next Cancel

Step 3: Enter the following formula (if you want to copy in this formula, it has been saved in a file named "**Status_Indicator_Formula.txt**" that you downloaded earlier). Click **Next**.

```
IF( ISPICKVAL( Status__c , 'Approved') , IMAGE("/resource/StatusImages/thumbs-up.png", "Accepted", 20, 20),
IF ( ISPICKVAL( Status__c , 'Rejected'), IMAGE("/resource/StatusImages/thumbs-down.png", "Rejected", 20, 20),
IMAGE("/resource/StatusImages/draft.png", "In-Process", 20, 20)))
```

Your window should look like the following:

Step 3. Enter formula

Step 3 of 5
Previous Next Cancel

Enter your formula and click Check Syntax to check for errors. Click the Advanced Formula subtab to use additional fields, operators, and functions.

Example: Full Name = LastName & " " & FirstName [More Examples ...](#)

[Simple Formula](#) [Advanced Formula](#)

Select Field Type Insert Field
 Travel Approval -- Insert Merge Field -- [Insert Operator ▾](#)

Status Indicator (Text) =

```
[#P( ISPRCKVAL( Status__c , 'Approved') , IMAGE("/resource/StatusImages/thumbs-up.png", "Accepted", 20, 20),
IF ( ISPRCKVAL( Status__c , 'Rejected') , IMAGE("/resource/StatusImages/thumbs-down.png", "Rejected", 20, 20),
IMAGE("/resource/StatusImages/draft.png", "In-Process", 20, 20)))]
```

[Check Syntax](#) No syntax errors in merge fields or functions. (Compiled size: 374 characters)

Quick Tips

- [Getting Started](#)
- [Operators & Functions](#)

Click **Next**.

Step 4: Accept the default values. Click **Next**.

Step 5: Accept the default values. Click **Save**.

You now have a new field **Status Indicator** setup on your **Travel Approval** object.

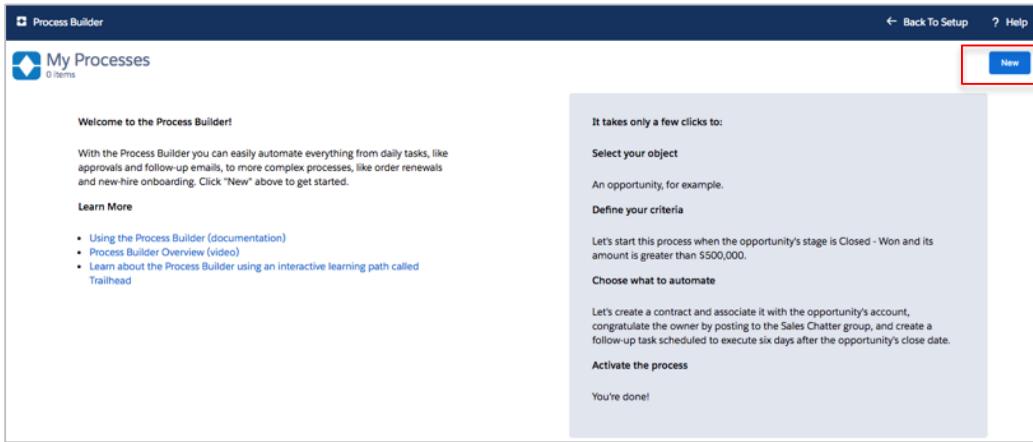
Create Workflow to Set Out of State field based on State

The last business rule functionality we will implement before testing our application is a rule to set the **Out-of-State** checkbox field on the **Travel Approval** object if out-of-state travel has been chosen. Salesforce provides workflow capabilities that provide a declarative, drag-n-drop design environment to build our business process logic. The Salesforce Lightning Process Builder is the next generation of Salesforce workflow that allows you to automate the following capabilities:

- creating or update a record
- send email alert
- invoke a visual flow which includes user interface
- post to Chatter to alert followers of a record or to record some event
- invoke a sub-process
- submit record for approval
- invoke Apex code for highly customized logic implemented in programming language

Let's now create a process that uses the **update record** process builder action to set the out-of-state flag:

1. Access main Setup page by click on the Home tab.
2. On left-hand side, select **Process Automation > Process Builder** (or use the Quick Find and search on "Process"). You should see a window like the following:



3. Click the **New** button in upper right.
4. Create a new Process with the following parameters.

Parameter	Value
Process Name	Set Out of State Travel Flag
API Name	Set_Out_of_State_Travel_Flag (this will automatically get set when you tab out of the Process Name field)
Description	<i>Leave blank</i>
The process starts when	A record changes

Your screen should look like following:

New Process

Process Name* Set Out of State Travel Flag

API Name* Set_Out_of_State_Travel_Flag

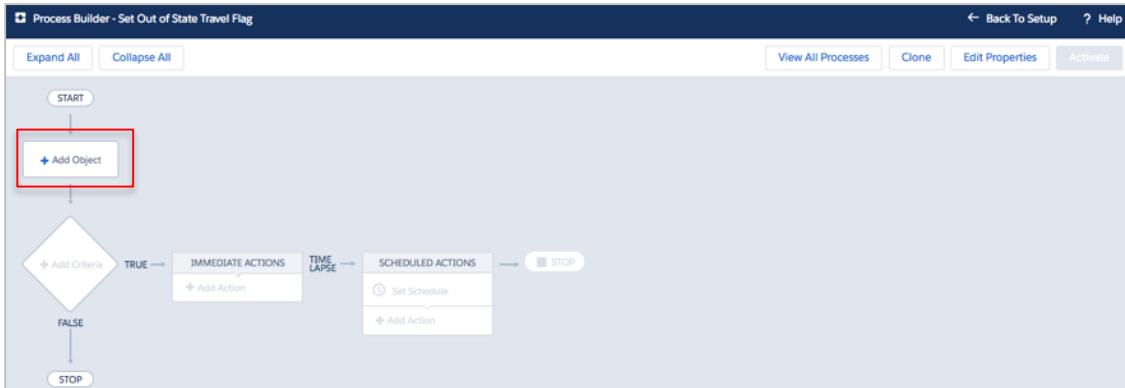
Description

The process starts when* A record changes

Cancel Save

Click **Save**.

5. You will now be presented with the Process Builder design window as shown below.



- First click on the **Add Object** box. This is where we configure which object we want this process rule to run when a record is created or modified. A window will show on right-hand side like following:

This window allows you to select an object and specify when the process starts. The 'Object*' field is set to 'Find an object...'. Under 'Start the process*', the radio button 'only when a record is created' is selected. There is also an 'Advanced' link at the bottom.

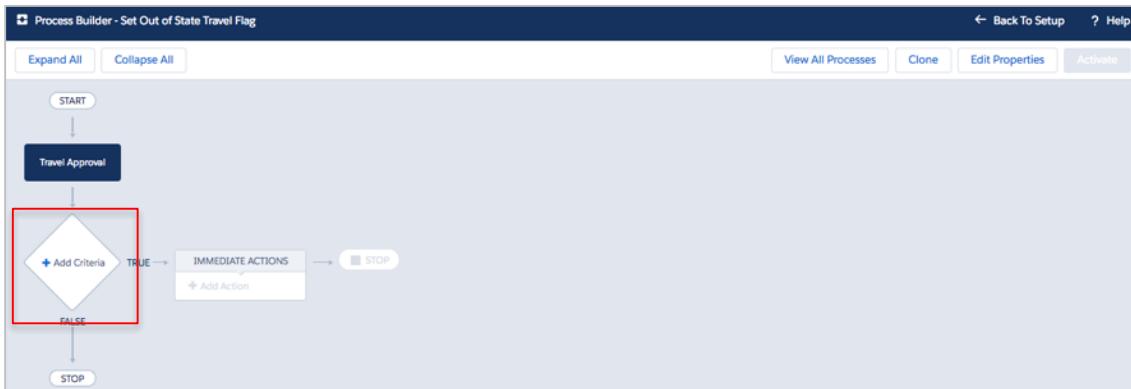
- Set the following parameters

Parameter	Value
Find an object...	Travel Approval
Start the process	Choose "When a record is created or edited" option
Advanced	<i>Do not change</i>

Your window should look like following. Click **Save** button.

This window shows the configuration after saving. The 'Object*' field is now set to 'Travel Approval'. Under 'Start the process*', the radio button 'when a record is created or edited' is selected. There is also an 'Advanced' link at the bottom.

8. Next click on the **Add Criteria** icon on the process designer.



9. You will have a pop-up window where you configure your criteria when your processing logic will execute. Configure the window with following options:

Parameter	Value
Criteria Name	Out of State Travel
Criteria for Executing Actions	Conditions are met
Set Conditions	<i>Create a rule: Destination_State_c Does Not Equal TX</i>
Conditions	All of the conditions are met (AND)
Advanced	<i>Do not change</i>

Your window should look like the following:

Define Criteria for this Action Group

Criteria Name* ⓘ

Criteria for Executing Actions*

Conditions are met

Formula evaluates to true

No criteria—just execute the actions!

Set Conditions

Field*	Operator*	Type*	Value*
1 [Travel_Appro...]	Does not equal	String	TX

+ Add Row

Conditions*

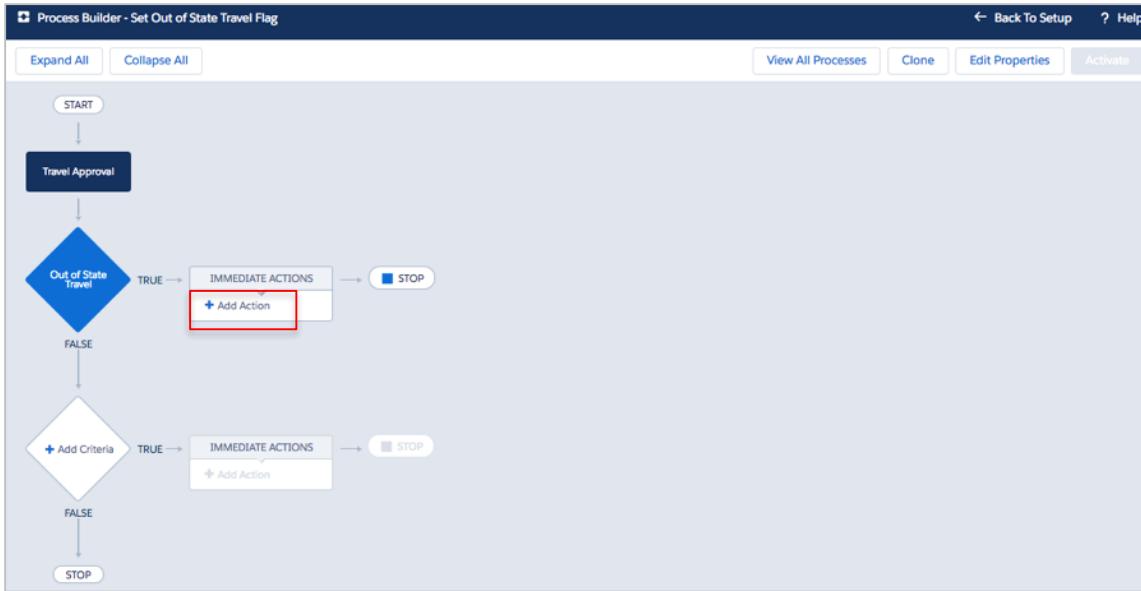
All of the conditions are met (AND)

Any of the conditions are met (OR)

Customize the logic

» Advanced

10. Click **Save** button. Your window will now look like the following:



11. Click on the **Add Action** link in the IMMEDIATE ACTIONS section to the right of the “Out of State Travel” decision box.
12. In the pop-up configuration window, set the following parameters:

Parameter	Value
Action Type	Update Records
Action Name	Set out of state checkbox field
Record Type	Choose “Select the Travel_Approval_c record that started your process” option
Criteria for Updating Records	No criteria-just update the records!
Set new field values for the records to update	<i>Set formula: Out-of-State = true *use the Boolean operator as shown below</i>

Your window should look like the following:

Select and Define Action

Action Type*

Action Name*

Record Type*

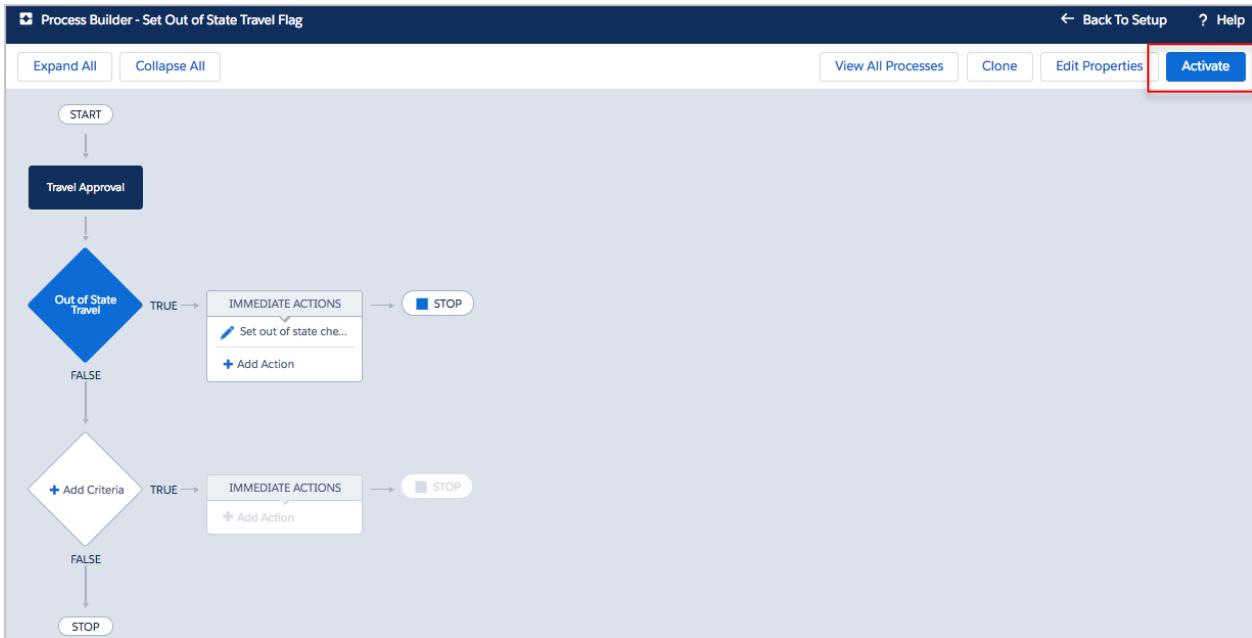
Criteria for Updating Records*
 Updated records meet all conditions
 No criteria—just update the records!

Set new field values for the records you update

Field*	Type*	Value*
Out-of-State	Boolean	True

Click **Save** button.

You have now configured a business process that will set the Out-of-State checkbox for any travel outside your agencies' state. Your process will look like following.



One last step is needed for this process.

13. Click the **Activate** button in upper-right. Click **Confirm** on the pop-up window.

Test Your Application

Let's test out all the changes you have made.

1. Navigate to the travel approval record you created earlier (i.e. select your **Travel App**, click on **Travel Approvals** tab and then select a record from the list).
2. One of the first things you should notice is the **Total Expenses** roll-up summary field that was added to your record detail page (NOTE: You may need to refresh your browser for latest changes to show up). This should show the expense item totals. Also directly below that is the **Status Indicator** formula field that will show an image based on the Status value you select.

TRAVEL APPROVAL
TA-00001

RELATED	DETAILS	ACTIVITY	CHATTER
Travel Approval # TA-00001	Owner Troy Hedges	New Event	New Task Log a Call Email
Status Draft	Department Technology	Set up an event... Add	
Total Expenses \$1,320		Filter Timeline Expand All	
Status Indicator 		Next Steps More Steps	No next steps. To get things moving, add a task or set up a meeting.
Trip Info		Past Activity	No past activity. Past meetings and tasks marked as done show up here. More Past Activity
Purpose of Trip Attend Dreamforce 2017	Out-of-State <input checked="" type="checkbox"/>		
Trip Start Date 9/24/2017	Destination State CA		
Trip End Date 9/29/2017			
Created By Troy Hedges, 6/21/2017 5:26 AM	Last Modified By Troy Hedges, 6/21/2017 5:26 AM		

3. Try adding a new expense item or changing the amount for an existing expense (via the RELATED tab on the travel approval record). You will see this total amount automatically adjust accordingly. Change the Status value and see the image change.
4. Try adding the Status Indicator field to your list view columns so it provides an easy visual clue to your users the status of each travel approval. Do you remember how to edit your list views?

TRAVEL APPROVALS
All

50+ items • Sorted by Travel Approval # - Last updated 01/06/2017 at 08:58

TRAVEL APPROV...	DEPARTMENT	CREATED BY	STATUS	TRIP START DATE	TRIP END DATE	STATUS INDICAT...
1 TA-00001	Technology	Troy Hedges	Pending Approval	9/24/2017	9/30/2017	
2 TA-00017	Division of Finance	Troy Hedges	Rejected	8/1/2016	8/3/2016	
3 TA-00018	Office of General ...	Troy Hedges	Approved	7/10/2016	7/22/2016	
4 TA-00019	Contract Manage...	Troy Hedges	Rejected	3/10/2016	3/10/2016	
5 TA-00020	Audit Services	Troy Hedges	Rejected	5/5/2016	5/10/2016	
6 TA-00021	Disability Determi...	Troy Hedges	Approved	12/6/2016	12/7/2016	
7 TA-00022	Office of Commu...	Troy Hedges	Approved	6/14/2016	6/15/2016	

5. Next let's test the trip start and end date validation rules. Try editing your travel approval (use **Edit** button in top right) and setting a trip end date that is before the trip start date. Click the **Save** button. You should see a warning indicator like the following. Click **Cancel** button to exit.

6. Lastly we will check the processing logic to automatically set the Out-of-State checkbox for any out of state travel in case the employee forgot to check it. On your record detail page, click the **Edit** button.

7. Edit the record so that it has a **state that is not your primary state** and **un-select the Out-of-State checkbox** (since "TX" was chosen in configuration above, "CA" was chosen for this example). Your window should look similar to following:

8. Click **Save** button.
9. Notice that when the record was saved, the Out-of-State checkbox was selected. This was set by the process builder workflow you created earlier to enforce your business logic.

Test: Try setting the Destination State to your primary state and saving the record. What did you notice if the Out-of-State checkbox was checked before you saved it?

Create Approval Process

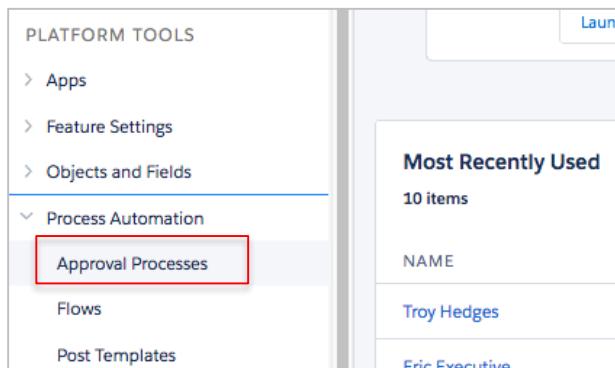
Salesforce includes built in approval process capabilities. An approval process is an automated process your agency can use to approve records in Salesforce. An approval process specifies the criteria a record must meet before it can be submitted for approval, the steps necessary for a record to be approved, and who must approve it at each step. A step can apply to all records included in the process, or just records that have certain attributes. An approval process also specifies the actions to take when a record is approved, rejected, recalled, or first submitted for approval.

We'll create an approval process that all travel approvals must follow. We'll keep it simple and have the following logic:

- All travel approvals will be sent to the employee's direct manager for approval.
- If the trip is out-of-state, the approval will also be sent to a travel coordinator for approval. If not out-of-state, this step is skipped.

Let's begin.

1. Access Setup by clicking the gear icon in upper-right and select **Setup**.
2. Select **Process Automation > Approval Processes** from left-hand side.



3. You should be presented with screen like below. Click on the **Manage Approval Processes For** option near bottom of screen and select **Travel Approval** from the drop-down list.

4. Click on the **Create New Approval Process** button and select **Use Jump Start Wizard** option.

5. Set the following parameters for the main configuration screen for the approval process:

Parameter	Value
Name	Travel Approval Request
Unique Name	Travel_Approval_Request (this will automatically get set when you tab out of the Name field)
Approval Assignment Email Template	<i>Leave blank</i>
Add the Submit for Approval button and Approval History related list to all Travel Approval page layouts	<i>Leave this selected/checked</i>
Use Approver Field of Travel Approval Owner	<i>Leave unselected/unchecked.</i>
Specify Entry Criteria	<i>Select "criteria are met" Set criteria: Travel Approval: Total Expenses greater than 0</i>
Select Approver	<i>Select "Automatically assign an approver using a standard or custom hierarchy field" Select "manager" from the option list</i>

Your window should look like following:

Approval Process Jump Start Wizard
Travel Approval

Approval Process Information

The Jump Start wizard creates a one-step approval process for you in just a few minutes.

Enter a name for your process in the box below and then select an email template to notify the approver (optional).

Name	Travel Approval Request
Unique Name	Travel_Approval_Request
Approval Assignment Email Template	<input style="width: 100px; height: 20px;" type="button" value="..."/>
Add the Submit for Approval button and Approval History related list to all Travel Approval page layouts	
<input checked="" type="checkbox"/> ?	

Specify Entry Criteria

Use this approval process if the following criteria are met :

Field	Operator	Value	AND
Travel Approval: Total Expenses	greater than	0	AND
--None--	--None--		AND
--None--	--None--		AND
--None--	--None--		
--None--	--None--		

[Add Filter Logic...](#)

Select Approver

Using the options below, specify the user to whom the approval request should be assigned.

Let the submitter choose the approver manually.
 Automatically assign an approver using a standard or custom hierarchy field: Manager
 Automatically assign to queue:
 Automatically assign to approver(s).

Because this is the Jump Start Wizard, Salesforce automatically chooses some settings for you. [Show More](#)

Save **Cancel**

6. Click **Save** button.

7. You will see a screen like following. Click the **View Approval Process Detail Page** button.

You have just created a one-step approval process for Travel Approvals using the Jump Start Wizard. Although not required, it is recommended that you perform additional actions before activating your process to make it more functional.

- ① Create additional steps if a record requires more than one level of approval.
Example:
 - Discounts of more than 15% require an additional manager's approval
- ② Add Initial Submission workflow actions. These actions will take place when a record is submitted for approval.
Example:
 - A Field Update action that changes the value of the Status field to "Pending"
- ③ Add Final Approval workflow actions. These actions will take place when a record has received all necessary approvals.
Examples:
 - A Field Update action that changes the value of the Status field to "Approved"
 - An Email Alert action that notifies the owner their record has been approved
- ④ Add Final Rejection workflow actions. These actions will take place when a record has been completely rejected by an approver.
Examples:
 - A Field Update action that changes the value of the Status field to "Rejected"
 - An Email Alert action that notifies the owner their record has been rejected
- ⑤ Add Recall workflow actions. These actions will take place when a submitted approval request is recalled.
Examples:
 - A Field Update action that changes the value of the Status field from "In Progress" to "Not Submitted"

View Approval Process Detail Page

Screen will now look like the following:

Approval Processes

Travel Approval: Travel Approval Request

[Help for this Page](#)

[« Back to Approval Process List](#)

Process Definition Detail	
Process Name	Travel Approval Request
Unique Name	Travel_Approval_Request
Description	Next Automated Approver Determined By Manager of Record Submitter
Entry Criteria	Travel Approval: Total Expenses GREATER THAN 0
Record Editability	Administrator ONLY
Approval Assignment Email Template	Allow Submitters to Recall Approval Requests
Initial Submitters	Travel Approval Owner
Created By	Troy Hedges, 1/4/2017 8:29 AM
Modified By	Troy Hedges, 1/4/2017 8:29 AM

Initial Submission Actions	
Action	Type
Record Lock	Description
Lock the record from being edited	

Approval Steps	
New Approval Step	
Action	Step Number
Show Actions Edit Del	1
Name	Step 1
Description	
Criteria	
Assigned Approver	Manager
Reject Behavior	Final Rejection

Final Approval Actions	
Action	Type
Edit	Record Lock
Lock the record from being edited	

Final Rejection Actions	
Action	Type
Edit	Record Lock
Unlock the record for editing	

Recall Actions	
Action	Type
Record Lock	Description
Unlock the record for editing	

[^ Back To Top](#)

Always show me more records per related list

8. Notice in the Approval Steps section that it already created a rule to route all approvals to a user's manager. Now we just need to create another approval step to send out-of-state travel to a travel coordinator.
9. Click the **New Approval Step** button in the **Approval Steps** section (you can find this around middle of page). Enter the following details:

Parameter	Value
Name	Travel Coordinator Approval
Unique Name	Travel_Coordinator_Approval (this will automatically get set when you tab out of the Name field)
Step Number	2

Your window will look like following:

New Approval Step

Help for this Page 

Step 1. Enter Name and Description Step 1 of 3

Enter a name, description, and step number for your new approval step.

Previous Approval Step Information	
Step Number:	1
Name:	Step 1
Criteria:	
Assign To:	Manager

Enter Name and Description  = Required Information

Approval Process Name	Travel Approval Request
Name	<input style="width: 150px; border: 1px solid #ccc; padding: 2px; border-radius: 3px;" type="text" value="Travel Coordinator Approval"/>
Unique Name	<input style="width: 150px; border: 1px solid #ccc; padding: 2px; border-radius: 3px;" type="text" value="Travel_Coordinator_Approval"/>
Description	<input style="width: 150px; height: 40px; border: 1px solid #ccc; padding: 2px; border-radius: 3px;" type="text"/>
Step Number	<input style="width: 20px; border: 1px solid #ccc; padding: 2px; border-radius: 3px;" type="text" value="2"/>

Next Cancel

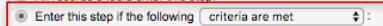
10. Click **Next** button.
11. On next screen, select the **Enter this step if the following “criteria are met”** option. Set criteria formula of **Travel Approval: Out-of-State** equals **True**. Your window should look like following:

Step 2. Specify Step Criteria Step 2 of 3

Specify whether a record must meet certain criteria before entering this approval step. If these criteria are not met, the approval process can skip to the next step, if one exists. [Learn more](#)

Previous Approval Step Information	
Step Number:	1
Name:	Step 1
Criteria:	
Assign To:	Manager

Specify Step Criteria

All records should enter this step.
 Enter this step if the following **criteria are met**: 

Field	Operator	Value		
<input style="width: 150px; border: 1px solid #ccc; padding: 2px; border-radius: 3px;" type="text" value="Travel Approval: Out-of-State"/>	<input style="width: 150px; border: 1px solid #ccc; padding: 2px; border-radius: 3px;" type="text" value="equals"/>	<input style="width: 150px; border: 1px solid #ccc; padding: 2px; border-radius: 3px;" type="text" value="True"/>		AND
<input style="width: 150px; border: 1px solid #ccc; padding: 2px; border-radius: 3px;" type="text" value="--None--"/>	<input style="width: 150px; border: 1px solid #ccc; padding: 2px; border-radius: 3px;" type="text" value="--None--"/>	<input style="width: 150px; border: 1px solid #ccc; padding: 2px; border-radius: 3px;" type="text" value="--None--"/>		AND
<input style="width: 150px; border: 1px solid #ccc; padding: 2px; border-radius: 3px;" type="text" value="--None--"/>	<input style="width: 150px; border: 1px solid #ccc; padding: 2px; border-radius: 3px;" type="text" value="--None--"/>	<input style="width: 150px; border: 1px solid #ccc; padding: 2px; border-radius: 3px;" type="text" value="--None--"/>		AND
<input style="width: 150px; border: 1px solid #ccc; padding: 2px; border-radius: 3px;" type="text" value="--None--"/>	<input style="width: 150px; border: 1px solid #ccc; padding: 2px; border-radius: 3px;" type="text" value="--None--"/>	<input style="width: 150px; border: 1px solid #ccc; padding: 2px; border-radius: 3px;" type="text" value="--None--"/>		AND

[Add Filter Logic...](#)

Previous Next Cancel

12. Click **Next** button.
13. Select the **Check Automatically assign to approver(s)** option. Select “User” from the drop-down and select yourself as the travel coordinator.

NOTE: Obviously in real-world, a user would NOT be selected as an approver of their own request. Salesforce demo orgs are limited to two Salesforce users. Since we have already used those two (for yourself and Eric Executive), we don’t have another user account to create for the travel coordinator. For this workshop, we’ll just use your user account for the travel coordinator.

Your screen should look like the following:

New Approval Step

Step 3. Select Assigned Approver

Step 3 of 3

Specify the user who should approve records that enter this step. Optionally, choose whether the approver's delegate is also allowed to approve these requests.

Previous Approval Step Information	
Step Number:	1
Name:	Step 1
Criteria:	
Assign To:	Manager

Select Approver

Let the submitter choose the approver manually.
 Automatically assign using the user field selected earlier. (Manager)
 Automatically assign to queue.
 Automatically assign to approver(s).

User: Troy Hedges

Add Row Remove Row

When multiple approvers are selected:
 Approve or reject based on the FIRST response.
 Require UNANIMOUS approval from all selected approvers.

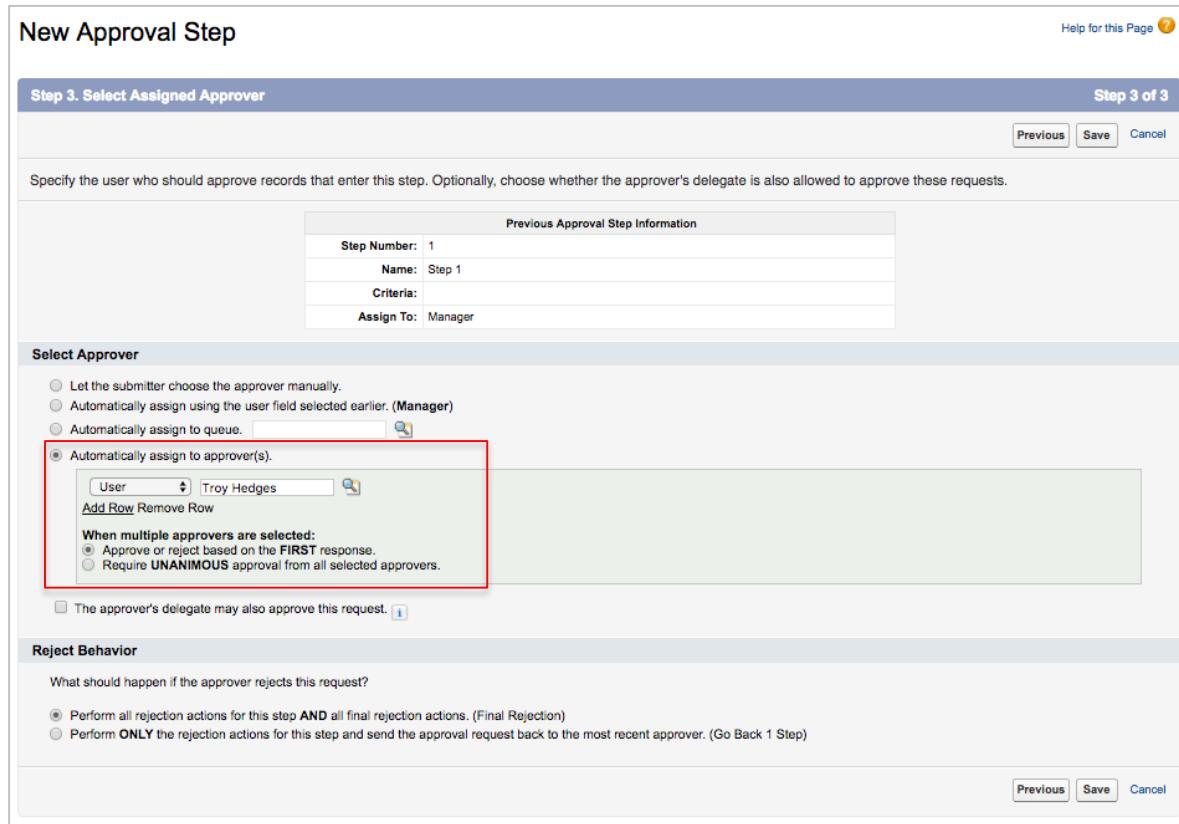
The approver's delegate may also approve this request.

Reject Behavior

What should happen if the approver rejects this request?

Perform all rejection actions for this step AND all final rejection actions. (Final Rejection)
 Perform ONLY the rejection actions for this step and send the approval request back to the most recent approver. (Go Back 1 Step)

Previous Save Cancel



14. Click **Save** button.
15. You will be presented with following window. Select the **No, I'll do this later. Take me to the approval process detail page to review what I've created** option and select **Go**.

What Would You Like To Do Now?

You have just created an approval step. You can optionally specify workflow actions to occur upon approval or rejection of this step. Would you like to do that now?

Yes, I'd like to create a new approval action for this step now. Task
 Yes, I'd like to create a new rejection action for this step now. Task
 No, I'll do this later. Take me to the approval process detail page to review what I've just created.

Go!



16. Your approval process should now look similar to following with the second approval step for sending out-of-state travel to the travel coordinator.

Approval Processes
Travel Approval: Travel Approval Request
[Help for this Page](#)

[Back to Approval Process List](#)

Process Definition Detail		Edit Clone Delete Activate View Diagram	
Process Name	Travel Approval Request	Active	<input type="checkbox"/>
Unique Name	Travel_Approval_Request	Next Automated Approver Determined By	Manager of Record Submitter
Description			
Entry Criteria	Travel Approval: Total Expenses GREATER THAN 0		
Record Editability	Administrator ONLY	Allow Submitters to Recall Approval Requests	<input type="checkbox"/>
Approval Assignment Email Template			
Initial Submitters	Travel Approval Owner		
Created By	Troy Hedges, 1/4/2017 8:29 AM		
Modified By	Troy Hedges, 1/4/2017 8:44 AM		

Initial Submission Actions [Add Existing](#) [Add New](#)

Action Type	Description
Record Lock	Lock the record from being edited

Approval Steps [New Approval Step](#)

Action	Step Number	Name	Description	Criteria	Assigned Approver	Reject Behavior
Show Actions Edit Del	1	Step 1			Manager	Final Rejection
Show Actions Edit Del	2	Travel Coordinator Approval	Travel Approval: Out-of-State EQUALS True		User:Troy Hedges	Final Rejection

Final Approval Actions [Add Existing](#) [Add New](#)

Action Type	Description
Edit Record Lock	Lock the record from being edited

Final Rejection Actions [Add Existing](#) [Add New](#)

Action Type	Description
Edit Record Lock	Unlock the record for editing

Recall Actions [Add Existing](#) [Add New](#)

Action Type	Description
Edit Record Lock	Unlock the record for editing

17. Next, let's add logic to set the status of the approval request based on if it was "Approved" or "Rejected". We do this by creating a Final Approval action and a Final Rejection action. Let's start by creating an action if the request was approved by all approvers. Click on the **Add New** button in the Final Approval Actions area in the approval process form. Select **Field Update** from the drop-down list.

Approval Steps

Action	Step Number	Name	Description	Criteria	Assigned Approver	Reject Behavior
Show Actions Edit	1	Step 1			Manager	Final Rejection
Show Actions Edit	2	Travel Coordinator Approval	Travel Approval: Out-of-State EQUALS True		User:Troy Hedges	Final Rejection

Final Approval Actions [Add Existing](#) [Add New](#)

Action Type	Description
Edit Record Lock	Lock the record from being edited

A dropdown menu is open over the "Add New" button, showing options: **Task**, **Email Alert**, **Field Update**, and **Outbound Message**. The **Field Update** option is highlighted with a red box.

Final Rejection Actions [Add Existing](#) [Add New](#)

Action Type	Description
-------------	-------------

18. In the **New Field Update** form, enter the following details:

Parameter	Value
Name	Set Status to Approved
Unique Name	Set_Status_to_Approved (this will automatically get set when you tab out of the Name field)
Field to Update	Status

Re-evaluate Workflow Rules after Field Change	<i>Leave un-checked</i>
Picklist Options	Select option “A specific value” and select “Approved” from drop-down list.

Your form should look like following:

Click the **Save** button. The Final Approval Actions section should look like the following:

19. Next, let's set status value to “Rejected” if any approver rejects the travel approval request. Click on the **Add New** button in the Final Rejection Actions area in the approval process form. Select **Field Update** from the drop-down list.

20. In the **New Field Update** form, enter the following details:

Parameter	Value
Name	Set Status to Rejected
Unique Name	Set_Status_to_Rejected (this will automatically get set when you tab out of the Name field)
Field to Update	Status
Re-evaluate Workflow Rules after Field Change	<i>Leave un-checked</i>
Picklist Options	Select option “A specific value” and select “Rejected” from drop-down list.

	down list.
--	------------

Your form should look like following:

Edit Field Update Set Status to Rejected Help for this Page ?

Define the field update, including the object associated with the workflow rule, approval process, or entitlement process, the field to update, and the value to apply. Note that the field to update may be on a related object. Fields are shown only for the type that you select.

Field Update Edit

Identification

Name: Set Status to Rejected
Unique Name: Set_Status_to_Rejected
Description:
Object: Travel Approval
Field to Update: Status
Field Data Type: Picklist
Re-evaluate Workflow Rules after Field Change:

Specify New Field Value

Picklist Options

The value above the current one
 The value below the current one
 A specific value: Rejected

Buttons: Save (highlighted with a red box), Save & New, Cancel

Click the **Save** button. The Final Approval Actions section should look like the following:

Final Rejection Actions

Action Type Description

Edit Record Lock Unlock the record for editing

Edit | Remove Field Update Set Status to Rejected

- Last thing to do is activate this approval process. Click the **Activate** button near top-middle of page. Select **OK** in the pop-up window to confirm activation. Your approval process should now have the Active flag checked.

Approval Processes

Travel Approval: Travel Approval Request

« Back to Approval Process List

Process Definition Detail

Process Name: Travel Approval Request
Unique Name: Travel_Approval_Request
Description:

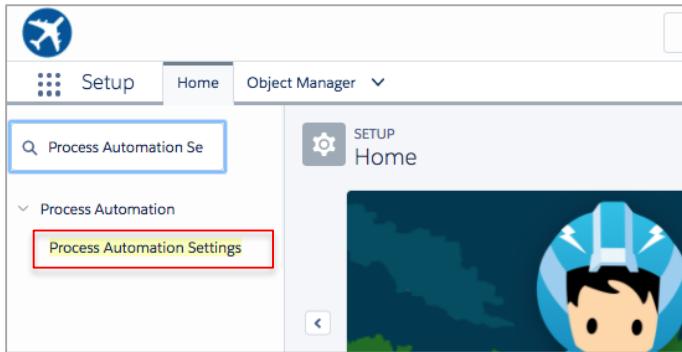
Active

Next Automated Approver: Determined By Manager of Record Submitter

Enable Email Approval Response

Along with being able to approve or reject travel approvals directly inside Salesforce, it is also possible to allow users to approve via email. When an employee submits their travel approval, an email is sent to the next approver in the approval process to notify them of the request. That email will include a URL link to the travel approval record so that the approver can access the details very easily. It is also possible to allow the approver to just respond to the email with text like APPROVE, YES, REJECT, NO, etc... We will now enable this for your approval process.

1. Navigate to setup by clicking gear icon in top-right and then enter “**Process Automation Settings**” in the quick find box.



2. Click on the **Process Automation Settings** link as highlighted above. The Process Automation Settings will show.
3. Make sure the option “**Enable Email Approval Response**” is selected/checked.

Process Automation Settings

Specify a default workflow user. Salesforce recommends choosing a user with system administrator privileges.

Default Workflow User

Enabling email approval response lets users reply to email approval requests by typing APPROVE or REJECT in the first line and adding comments in the second line.

Enable Email Approval Response

By enabling the email approval response feature, you agree to allow Salesforce to process email approval responses, update approval requests for all active users in your organization, and update the approval object on behalf of your organization's users.

Let users pause flows when they need to wait for more information. Once you enable this setting, the Pause button appears on every screen that has "Show Pause button" selected.

Let Users Pause Flows

Flows launched from a URL or from Setup use the Lightning runtime experience instead of the classic runtime experience. Only Lightning runtime supports two-column flow screens.

Enable Lightning Runtime for Flows

When creating or updating records, the flow can use sObject variables to define the field values. If the running user doesn't have edit access to those fields, by default the flow fails to create or update the records. This setting filters the inaccessible fields from the request for Fast Create and Fast Update elements.

Filter Inaccessible Fields from Flow Requests

Allows Apex code to set and remove approval process locks.

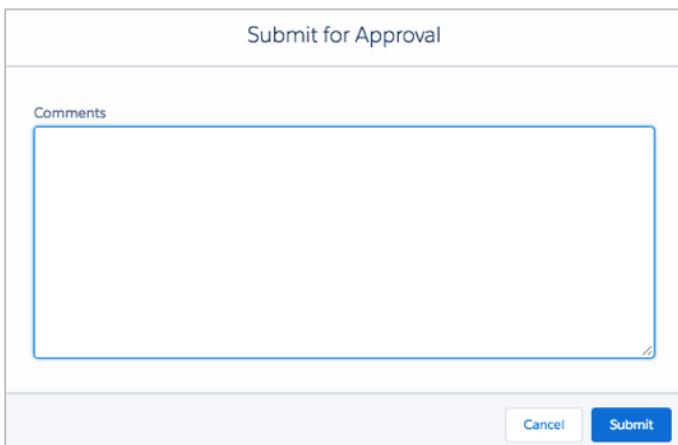
Enable record locking and unlocking in Apex

4. Click the **Save** button.

Test Your Approval Process

1. Navigate to one of your travel approval records (i.e. navigate back to your Travel App, select Travel Approvals tab, and select a record from list). Make sure this is a travel approval record that has at least one expense item and a total expense amount > \$0.
2. Let’s now submit this travel request for approval. In top right of screen, select the ▾ option and select **Submit for Approval**.

3. You will be presented with the following pop-up. Enter a comment of your choice and click the **Submit** button.



4. You should receive an email alert like the following that is letting Eric Executive know that he has a travel approval to process. Notice that it provides a link to directly access the Travel Approval record so that Eric could review. Also the email includes option to just respond to the email and replay with text like APPROVE, YES, REJECT, NO.

We won't do anything with this email at this point...

5. On your Travel Approval record, click on the **RELATED** tab and you can see the new section titled "Approval History" that has details of your approval submission. It should indicate that it is waiting on Eric Executive.

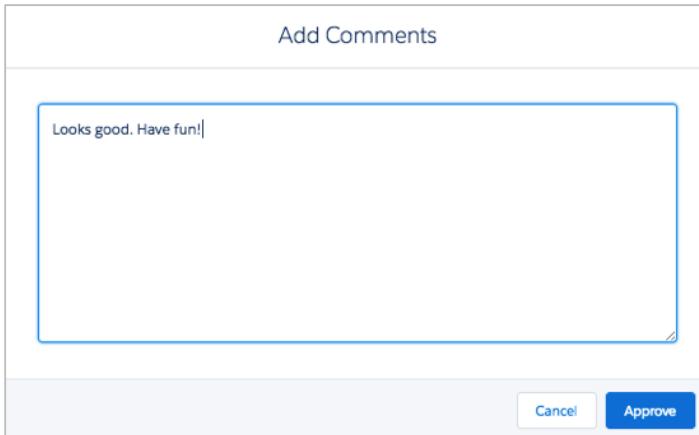
The screenshot shows the Salesforce interface for a Travel Approval record (TA-00001). The page is divided into several sections: 'RELATED' (Expense Items), 'DETAILS' (Expense Item Number, Expense Type, Amount), 'ACTIVITY' (New Event, New Task, Log a Call, Email), and 'CHATTER' (New Event, New Task, Log a Call, Email). The 'Approval History' section is highlighted with a red box. It contains two rows of data:

Step Name	Date	Status	Assigned To
Step 1	6/21/2017 11:22 AM	Pending	Eric Executive
Approval Request Submitted	6/21/2017 11:22 AM	Submitted	Troy Hedges

At the top of the approval history section, there are 'Approve' and 'Reject' buttons, with 'Approve' being highlighted by a red box.

At this point you could log out of Salesforce and log back in as Eric Executive. You could find this travel approval record (or click on the link in the email) and could see the same view as above. For sake of keeping the workshop on time, we will just use your current user to approve this process. Since you are a System Administrator, you have authority to approve any requests even if they are pending on other users.

6. Click the **Approve** button that is in top-right of **Approval History** section.
7. In the pop-up window, enter a comment like "Looks good. Have fun!" and click the **Approve** button once again.



8. The screen should now look like the following. Since this was for out-of-town travel, the approval was sent to the Travel Coordinator (remember...this is the logic we defined for the Approval Process). The approval is actually pending on yourself (since you are acting as the travel coordinator...obviously this wouldn't be the case in a real world implementation).

The screenshot shows the Salesforce interface for a Travel Approval record (TA-00001). The top navigation bar includes options like Follow, Edit, New Contact, and New Opportunity. The main content area is divided into two tabs: RELATED and DETAILS. The DETAILS tab is active and displays two sections: 'Expense Items (3)' and 'Approval History (3)'. The 'Expense Items' section lists three items: E-00001 (Airfare, \$450), E-00002 (Hotel, \$870), and E-00003 (Rental car, \$120). The 'Approval History' section shows three steps: 'Travel Coordinator Approval' (Pending, assigned to Troy Hedges), 'Step 1' (Approved, assigned to Eric Executive), and 'Approval Request Submitted' (Submitted, assigned to Troy Hedges). The 'Approval History' table has a red box around the 'Status' column.

9. As you did above, click on the **Approve** button in the **Approval History** section to finish the approval.
10. Enter a comment in the pop-up window and select **Approve** button.
11. The **Approval History** section should now look like the following:

This screenshot shows the 'Approval History' section from the previous page. The table has four columns: STEP NAME, DATE, STATUS, and ASSIGNED TO. The rows are: 'Travel Coordinator Approval' (6/21/2017 11:29 AM, Approved, Troy Hedges), 'Step 1' (6/21/2017 11:25 AM, Approved, Eric Executive), and 'Approval Request Submitted' (6/21/2017 11:22 AM, Submitted, Troy Hedges). The 'Status' column is highlighted with a red border.

12. Click on the **DETAILS** tab for your travel approval record. You should also notice the status value has been updated to **Approved** and the Status Indicator field now shows a green thumbs-up icon.

TRAVEL APPROVAL
TA-00001

RELATED	DETAILS
Travel Approval # TA-00001	Owner  Troy Hedges
Status ⓘ Approved	Department Technology
Total Expenses \$1,440	
Status Indicator 	

13. Pick or create another travel request record and submit it for approval. Check your email and respond to the email with "REJECT".

Navigate back to this travel approval record (or just click on the link in the email). You should get status value of Rejected and a red thumbs down icon. NOTE: It may take up to 1 minute for the email response to be processed so you may need to refresh your browser a couple times to see the change.

TRAVEL APPROVAL
TA-00002

RELATED	DETAILS
Travel Approval # TA-00002	Owner  Troy Hedges
Status ⓘ Rejected	Department
Total Expenses \$500	
Status Indicator 	

Analyze with Reports and Dashboards

Duration: 25 minutes

How great would it be to get a report in your inbox every morning that shows the number of open travel requests waiting on your approval? Or access a report that provides all the key information of your travel approvals across your departments and their status? And, perhaps you'd like to see that information displayed as a graphical chart via a dashboard from your desktop or from mobile phone. Good news because that is all possible.

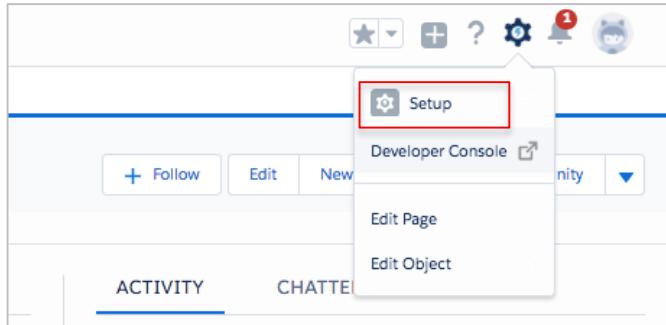
This lab section introduces you to reports and dashboards. Once you've defined your reports, you can place them on a dashboard, so you can see all your key metrics at a glance. Salesforce Reports and Dashboards lets you see what's important to you, exactly how and where you want to see it.

The Travel Approval app you created earlier includes Reports and Dashboard tabs, where you can create, edit, run, and schedule reports or dashboards. We will start by creating a simple report that shows number of travel approval requests by department. Will then create a second report to show number of open travel approvals generated over time. Lastly, we'll add these two reports to show as visual components on a dashboard.

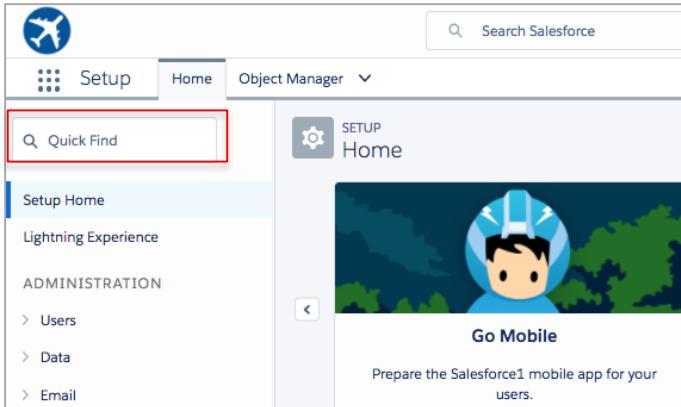
Load Data

Let's first load some sample Travel Approval records so that our reports and dashboards have some data else they will not be much fun with just 1 or 2 records to show.

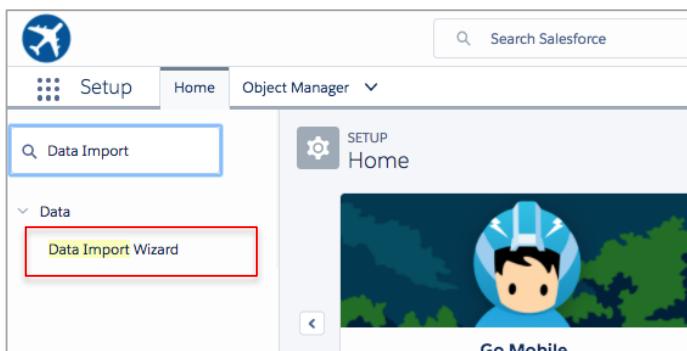
1. Go to the Setup options by selecting the gear icon in top-right and select **Setup Home**.



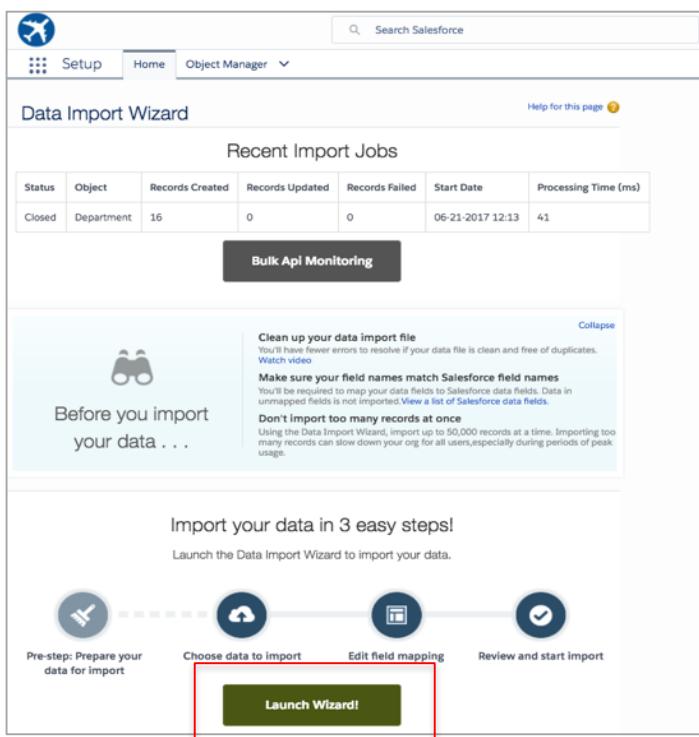
2. In the Quick Find search box search box, type in "Data Import"



3. This should filter down the results to following. Select the **Data Import Wizard** option.



4. You are now presented with window like the following. Select the **Launch Wizard!** button.



7. First we need to select the object we want to import data to. Select **Custom Objects** tab and select the **Travel Approval** object.

The screenshot shows the 'Import your Data into Salesforce' interface. At the top, there are two buttons: 'Choose data' (with a blue 'Good job' bubble) and 'Edit mapping'. Below this is a section titled 'Import your Data into Salesforce' with the sub-instruction 'You can import up to 50,000 records at a time.' On the left, there are three tabs: 'Standard objects', 'Custom objects' (which is selected and highlighted with a red box), and another tab that is mostly obscured. On the right, there are three sections: 'What kind of data are you importing?' (with 'Custom objects' selected), 'What do you want to do?' (with 'Add new records' selected and highlighted with a red box), and 'Where is your data located?' (which is mostly obscured). In the 'What kind of data are you importing?' section, 'Travel Approvals' is also highlighted with a red box.

8. Next select the **Add new records** option

The screenshot shows the 'Import your Data into Salesforce' interface. At the top, there are two buttons: 'Choose data' (with a blue 'Good job' bubble) and 'Edit mapping'. Below this is a section titled 'Import your Data into Salesforce' with the sub-instruction 'You can import up to 50,000 records at a time.' On the left, there are three tabs: 'Standard objects', 'Custom objects' (which is selected and highlighted with a red box), and another tab that is mostly obscured. On the right, there are three sections: 'What kind of data are you importing?' (with 'Custom objects' selected), 'What do you want to do?' (with 'Add new records' selected and highlighted with a red box), and 'Where is your data located?' (which is mostly obscured). In the 'What kind of data are you importing?' section, 'Travel Approvals' has a green checkmark next to it.

9. On the Add new record screen, there are 3 primary options to select:

- Leave the first two options to “—None—“ as show below.
- For the “**Which Department field in your file....**” option, select “**Department Name**” from the drop-down list.
- Make sure **Trigger workflow rules and processes for new and updated records** is checked/selected

10. Drag the “TravelApprovals.csv” file to the **Drag CSV file here to upload** section.
11. Select **Next**.
12. Next, you will need to map the fields in the CSV file to the fields on your object. Since the names in the CSV file are the same as your object, these will be automatically mapped as shown below.

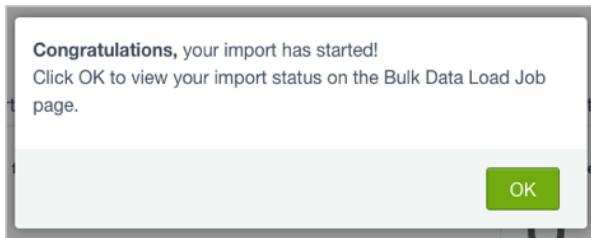
Edit	Mapped Salesforce Object	CSV Header	Example	Example	Example
Change	Department	Department	Office of Early	Human Resour	Office of Medicaid Policy and Planning
Change	Destination State	Destination State	OK	FL	GA
Change	Purpose of Trip	Purpose of Trip	Conroy, Reiche	Moore, Olson	Smith LLC

Click the **Next** button.

13. The next screen will give you summary of your data import and should look like the following. Click the **Start Import** button.

Your selections:	Your import will include:	Your import will not include:
Travel Approvals ✓ Add new records ✓ ✓	Mapped fields 6	Unmapped fields 0

14. You should get a popup like the following. Click **OK** button.



You will now be taken to the bulk import summary window. This shows the process has completed (i.e. Closed) and that 300 records have been successfully imported or processed.

View Request	View Result	Batch ID	Start Time	End Time	Total Processing Time (ms)	API Active Processing Time (ms)	Apex Processing Time (ms)	Records Processed	Records Failed	Retry Count	State Message	Status
View Request	View Result	7516A000000UHa	6/21/2017 1:25 PM	6/21/2017 1:25 PM	1780	1678	1747	300	0	0	Completed	Closed

You will also get an email notification like the following

Salesforce import of "TravelApprovals.csv" has finished. 300 rows were processed.

noreply@salesforce.com <noreply@salesforce.com> to me 2:05 PM (0 minutes ago)

Your Travel Approvals import is complete. Here are your results:

Travel Approvals Created: 300
Travel Approvals Updated: 0
Travel Approvals Failed: 0 (We couldn't import these due to errors.)
Processed job information for imported Travel Approvals: <https://na35.salesforce.com/75041000002UTRWAA4?fromEmail=1>

Create Reports

Next we will create a report to show number of travel approval requests by department.

1. Navigate to your **Travel App** and click the **Reports** tab.

The screenshot shows the Salesforce interface with the 'Travel App' logo in the top left. The top navigation bar includes 'Chatter', 'Reports' (which is the active tab, highlighted with a red box), 'Dashboards', 'Departments', and 'Travel Approvals'. Below the navigation is a search bar with placeholder text 'Search Reports and more...'. On the far right of the header are several small icons. The main content area is titled 'REPORTS' and shows a section for 'Recent' reports with '0 items'. A table lists 'REPORTS', 'REPORT NAME', 'DESCRIPTION', 'FOLDER', 'LAST MODIFIED BY', and 'SUBSCRIBED'. A single row is visible under 'Recent' labeled 'Recent'. In the top right of this area is a 'New Report' button, also highlighted with a red box. To the right of the table are two small buttons: 'New Report' and 'New Folder'.

2. Click **New Report** button in top-right side of screen.
3. In the **Create New Report** screen, open the folder titled **Other Reports** and select **Travel Approvals** within that folder.

The screenshot shows the 'Create New Report' dialog. On the left is a sidebar titled 'Select Report Type' with a 'Quick Find' input field. Below it is a list of report categories: Accounts & Contacts, Opportunities, Customer Support Reports, Leads, Campaigns, Activities, Contracts and Orders, Price Books, Products and Assets, Administrative Reports, File and Content Reports, and Other Reports. Under 'Other Reports', there is a 'Departments' section with 'Travel Approvals' selected and highlighted with a red box. Below this are three sub-options: 'Travel Approvals with Department', 'Travel Approvals with Expense Items', and 'Travel Approval History'. To the right is a 'Preview' section showing a table titled 'Account Report' with columns 'Account', 'Owner', 'Account Name', and 'Account Site'. It contains three rows of sample data: Joe Johnson (Acme, Inc), Shelly Smith (Genwatt, Inc), and Tom Thompson (Gene Points). At the bottom right of the dialog are 'Cancel' and 'Create' buttons, with 'Create' highlighted with a red box.

4. Click **Create** button in lower-right.
5. You are now presented with the report builder. The report builder provides a drag-and-drop interface to easily build and customize your reports. The report builder consists of 3 main sections:
 - **Fields Section** – on the left-hand side is all the fields you have accessible to create your report. You can easily scroll through the list of fields and drag them over to the preview section to add them to your report. Or if you want to delete fields from your report, just drag them from preview section back to this fields section.
 - **Filter Section** – this section allows you to define all the filters for your report to filter down to exactly the data you want to include. You have options to filter by any field available on an object include some built-in date/time filters that allow you to apply an automatic sliding window for "current quarter" or "current fiscal year".
 - **Preview Section** – this section is the primary data table section of your report. This is where you define the columns/fields for your report along with any data groupings which drive your dashboard visual components.

Review the notes provided on the report builder screen shot below. Ask your lab instructor if you have any questions.

- Let's drag the following fields from the left-hand side to the columns in the report:
 - Department
 - Status
 - Out-of-State
 - Destination State
 - Trip Start Date
 - Trip End Date

Your report should now look like the following:

Travel Approval #	Department	Status	Out-of-State	Destination State	Trip Start Date	Trip End Date
TA-00001	Technology	Pending Approval	<input checked="" type="checkbox"/>	CA	9/24/2017	9/30/2017
TA-00219	Human Resources	Rejected	<input checked="" type="checkbox"/>	FL	4/21/2016	4/21/2016
TA-00220	Office of Medicaid Policy and Planning	Approved	<input checked="" type="checkbox"/>	CA	8/25/2016	9/1/2016
TA-00221	Audit Services	Approved	<input checked="" type="checkbox"/>	OK	7/8/2016	7/8/2016
TA-00095	Division of Disability and Rehabilitative Services	Approved	<input type="checkbox"/>	TX	9/18/2016	9/30/2016
TA-00096	Legislative Services	Approved	<input checked="" type="checkbox"/>	FL	10/4/2016	10/4/2016
TA-00097	Office of Communications and Media	Approved	<input checked="" type="checkbox"/>	FL	7/19/2016	7/26/2016
TA-00098	Office of Communications and Media	Rejected	<input checked="" type="checkbox"/>	OK	3/31/2016	4/18/2016
TA-00099	Disability Determination Bureau	Rejected	<input checked="" type="checkbox"/>	CA	7/5/2016	7/9/2016
TA-00100	Audi Services	Approved	<input checked="" type="checkbox"/>	FL	9/21/2016	10/6/2016
TA-00101	Division of Family Resources	Approved	<input checked="" type="checkbox"/>	GA	2/8/2016	2/15/2016
TA-00102	Division of Finance	Approved	<input checked="" type="checkbox"/>	GA	9/3/2016	9/3/2016

7. In the main report table section, left-click on the **Department** column and select “**Group by this Field**”

Preview Tabular Format Show Remove All Columns					
Travel Approval: Travel Approval #	Department	Status	Out-of-State	Destination State	
TA-00001	Technology			CA	<input checked="" type="checkbox"/>
TA-00219	Human Resources			FL	<input checked="" type="checkbox"/>
TA-00220	Office of Medicaid Policy and Planning			CA	<input checked="" type="checkbox"/>
TA-00221	Audit Services			OK	<input checked="" type="checkbox"/>
TA-00095	Division of Disability and Rehabilitative Services			TX	<input type="checkbox"/>
TA-00096	Legislative Services			FL	<input checked="" type="checkbox"/>
TA-00097	Office of Communications and Media			FL	<input checked="" type="checkbox"/>
TA-00098	Office of Communications and Media			OK	<input checked="" type="checkbox"/>
TA-00099	Disability Determination Bureau			CA	<input checked="" type="checkbox"/>

8. The report will now be grouped by Department

Preview Summary Format Show Remove All Columns					
Travel Approval: Travel Approval #	Status	Out-of-State	Destination State	Trip Start Date	Trip End Date
Department: Audit Services (2 Records)					
Drop a field here to create a grouping. Hide					
TA-00221	Approved	<input checked="" type="checkbox"/>	OK	7/8/2016	7/8/2016
TA-00100	Approved	<input checked="" type="checkbox"/>	FL	9/21/2016	10/6/2016
Department: Disability Determination Bureau (3 Records)					
TA-00099	Rejected	<input checked="" type="checkbox"/>	CA	7/5/2016	7/9/2016
TA-00176	Approved	<input type="checkbox"/>	TX	11/21/2016	12/3/2016
TA-00178	Approved	<input checked="" type="checkbox"/>	GA	9/21/2016	9/25/2016
Department: Division of Disability and Rehabilitative Services (2 Records)					
TA-00095	Approved	<input type="checkbox"/>	TX	9/18/2016	9/30/2016
TA-00181	Approved	<input checked="" type="checkbox"/>	FL	1/29/2016	1/29/2016
Department: Division of Family Resources (1 Record)					
TA-00101	Approved	<input checked="" type="checkbox"/>	GA	2/6/2016	2/15/2016
Department: Division of Finance (1 Record)					
TA-00102	Approved	<input checked="" type="checkbox"/>	GA	9/3/2016	9/3/2016

9. Click the **Save** button near top-left of Report Builder and set the following parameters for the report

Parameter	Value
Report Name	Travel Requests by Department
Report Unique Name	Travel_Requests_by_Department (this will automatically get set when you tab out of the Name field)
Report Description	Leave blank
Report Folder	Unfiled Public Reports

Your screen will look like following:

Save Report

Report Name: Travel Request by Department

Report Unique Name: Travel_Request_by_Department

Report Description:

Report Folder: Unfiled Public Reports

Save **Cancel**

10. Click the **Save** button.
11. Click **Close** button then click **Save & Close** button.
Let's create another report for our dashboard.
1. Click **New Report** button in top-right side of screen.
2. In the **Create New Report** screen, open the folder titled "**Other Reports**" and select **Travel Approvals** within that folder.

Create New Report

Select Report Types to Hide

Select Report Type

Quick Find

- Accounts & Contacts
- Opportunities
- Customer Support Reports
- Leads
- Campaigns
- Activities
- Contracts and Orders
- Price Books, Products and Assets
- Administrative Reports
- File and Content Reports
- Other Reports
 - Departments
 - Travel Approvals
 - Travel Approvals with Department
 - Travel Approvals with Expense Items
 - Travel Approval History

Preview

Account Report

Account Owner	Account Name	Account Site
Joe Johnson	Acme, Inc	Headquarters
Shelly Smith	Genwatt, Inc	Headquarters
Tom Thompson	Gene Points	Headquarters

Create

3. Click **Create** button in lower-right.

4. You are now presented with the report builder.

The screenshot shows the Salesforce Report Builder interface. At the top, it says "Report Type: Travel Approvals" and "Unsaved Report". There are buttons for "Save", "Save As", "Close", and "Report Properties". On the left, there's a sidebar titled "Fields" with a "Bucket Fields" section containing "Add Bucket Field" and a list of "Travel Approval" fields. Below that is a "Filters" section with a dropdown set to "My travel approvals" and a date range from "Trip End Date". The main area is titled "Preview" and shows a tabular format with columns for "Travel Approval: Travel Approval #", "Department", "Status", "Out-of-State", "Destination State", "Trip Start Date", and "Trip End Date". The data table contains 17 rows of travel approval records.

Travel Approval: Travel Approval #	Department	Status	Out-of-State	Destination State	Trip Start Date	Trip End Date
TA-00001	Technology	Pending Approval	<input checked="" type="checkbox"/>	CA	9/24/2017	9/30/2017
TA-00219	Human Resources	Rejected	<input checked="" type="checkbox"/>	FL	4/21/2016	4/21/2016
TA-00220	Office of Medicaid Policy and Planning	Approved	<input checked="" type="checkbox"/>	CA	8/25/2016	9/1/2016
TA-00221	Audit Services	Approved	<input checked="" type="checkbox"/>	OK	7/8/2016	7/8/2016
TA-00095	Division of Disability and Rehabilitative Services	Approved	<input type="checkbox"/>	TX	9/18/2016	9/30/2016
TA-00096	Legislative Services	Approved	<input checked="" type="checkbox"/>	FL	10/4/2016	10/4/2016
TA-00097	Office of Communications and Media	Approved	<input checked="" type="checkbox"/>	FL	7/19/2016	7/26/2016
TA-00098	Office of Communications and Media	Rejected	<input checked="" type="checkbox"/>	OK	3/31/2016	4/18/2016
TA-00099	Disability Determination Bureau	Rejected	<input checked="" type="checkbox"/>	CA	7/5/2016	7/9/2016
TA-00100	Audit Services	Approved	<input checked="" type="checkbox"/>	FL	9/21/2016	10/6/2016
TA-00101	Division of Family Resources	Approved	<input checked="" type="checkbox"/>	GA	2/6/2016	2/15/2016
TA-00102	Division of Finance	Approved	<input checked="" type="checkbox"/>	GA	9/3/2016	9/3/2016

5. Let's drag the following fields from the left-hand side to the columns in the report:

- Department
- Status
- Out-of-State
- Destination State
- Trip Start Date
- Trip End Date

Your report should now look like the following:

This screenshot shows the same Report Builder interface as the previous one, but with the fields "Department", "Status", "Out-of-State", "Destination State", "Trip Start Date", and "Trip End Date" now displayed in the columns of the "Preview" table. The rest of the interface and data remain the same.

Travel Approval: Travel Approval #	Department	Status	Out-of-State	Destination State	Trip Start Date	Trip End Date
TA-00001	Technology	Pending Approval	<input checked="" type="checkbox"/>	CA	9/24/2017	9/30/2017
TA-00219	Human Resources	Rejected	<input checked="" type="checkbox"/>	FL	4/21/2016	4/21/2016
TA-00220	Office of Medicaid Policy and Planning	Approved	<input checked="" type="checkbox"/>	CA	8/25/2016	9/1/2016
TA-00221	Audit Services	Approved	<input checked="" type="checkbox"/>	OK	7/8/2016	7/8/2016
TA-00095	Division of Disability and Rehabilitative Services	Approved	<input type="checkbox"/>	TX	9/18/2016	9/30/2016
TA-00096	Legislative Services	Approved	<input checked="" type="checkbox"/>	FL	10/4/2016	10/4/2016
TA-00097	Office of Communications and Media	Approved	<input checked="" type="checkbox"/>	FL	7/19/2016	7/26/2016
TA-00098	Office of Communications and Media	Rejected	<input checked="" type="checkbox"/>	OK	3/31/2016	4/18/2016
TA-00099	Disability Determination Bureau	Rejected	<input checked="" type="checkbox"/>	CA	7/5/2016	7/9/2016
TA-00100	Audit Services	Approved	<input checked="" type="checkbox"/>	FL	9/21/2016	10/6/2016
TA-00101	Division of Family Resources	Approved	<input checked="" type="checkbox"/>	GA	2/6/2016	2/15/2016
TA-00102	Division of Finance	Approved	<input checked="" type="checkbox"/>	GA	9/3/2016	9/3/2016

6. In the main report table section, left-click on the **Trip End Date** column and select “**Group by this Field**”

Status	Out-of-State	Destination State	Trip Start Date	Trip End Date	
pproved	<input type="checkbox"/>	TX	1/22/2016	1/22/2016	
pproved	<input checked="" type="checkbox"/>	FL	1/29/2016	1/29/2016	
pproved	<input checked="" type="checkbox"/>	GA	2/6/2016	2/15/2016	
pproved	<input checked="" type="checkbox"/>	CA	2/7/2016	2/25/2016	
ejected	<input checked="" type="checkbox"/>	GA	2/23/2016	2/23/2016	
pproved	<input checked="" type="checkbox"/>	OK	2/28/2016	2/28/2016	
pproved	<input checked="" type="checkbox"/>	GA	3/3/2016	3/5/2016	
ejected	<input checked="" type="checkbox"/>	GA	3/16/2016	3/22/2016	

7. Your chart should now look like following.

Travel Approval: Travel Approval # Department Status Out-of-State Destination State Trip Start Date					
Trip End Date: 1/29/2016 (1 Record)					
TA-00181	Division of Disability and Rehabilitative Services	Approved	<input checked="" type="checkbox"/>	FL	1/29/2016
Trip End Date: 2/15/2016 (1 Record)					
TA-00101	Division of Family Resources	Approved	<input checked="" type="checkbox"/>	GA	2/6/2016
Trip End Date: 3/22/2016 (1 Record)					
TA-00180	Office of Medicaid Policy and Planning	Rejected	<input checked="" type="checkbox"/>	GA	3/16/2016
Trip End Date: 4/18/2016 (1 Record)					
TA-00098	Office of Communications and Media	Rejected	<input checked="" type="checkbox"/>	OK	3/31/2016
Trip End Date: 4/21/2016 (1 Record)					
TA-00219	Human Resources	Rejected	<input checked="" type="checkbox"/>	FL	4/21/2016
Trip End Date: 7/8/2016 (1 Record)					
TA-00221	Audit Services	Approved	<input checked="" type="checkbox"/>	OK	7/8/2016
Trip End Date: 7/9/2016 (1 Record)					
TA-00099	Disability Determination Bureau	Rejected	<input checked="" type="checkbox"/>	CA	7/5/2016

8. Instead of grouping by each individual day, let's group by calendar month. Click the little icon next to **Trip End Date** and select **Group Dates By > Calendar Month**.

Travel Approval: Travel Approval # Department Status					
Trip End Date: 1/29/2016,(1 Record)					
Sort Group By					
Drop a field here to create a grouping. Hide					
Group Dates By >					
Group Dates By >					
Group Dates By > Calendar Month					
Group Dates By > Day					
Group Dates By > Calendar Week					
Group Dates By > Calendar Month					
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Group Dates By > Calendar Week					
Group Dates By > Calendar Month					

9. Next, click on the **Out-of-State** column and select “**Group by this Field**”

	Status	Out-of-State	Destination State	Trip Start Date ↑
ative Services	Approved		1/29/2016	
	Approved		2/6/2016	
Training	Rejected		3/16/2016	

10. The report will now be grouped by Calendar Month and then Out-of-State flag.

Preview Summary Format Show Remove All Columns				
Travel Approval: Travel Approval #	Department	Status	Destination State	Trip Start Date ↑
Trip End Date: January 2016 (1 Record)	Department - Click to sort ascending.			
Out-of-State: <input checked="" type="checkbox"/> (1 Record)				
Drop a field here to create a grouping. Hide				
TA-00181 Division of Disability and Rehabilitative Services	Approved	FL	1/29/2016	
Trip End Date: February 2016 (1 Record)	Department - Click to sort ascending.			
Out-of-State: <input checked="" type="checkbox"/> (1 Record)				
TA-00101 Division of Family Resources	Approved	GA	2/6/2016	
Trip End Date: March 2016 (1 Record)	Department - Click to sort ascending.			
Out-of-State: <input checked="" type="checkbox"/> (1 Record)				
TA-00180 Office of Medicaid Policy and Planning	Rejected	GA	3/16/2016	
Trip End Date: April 2016 (2 Records)	Department - Click to sort ascending.			
Out-of-State: <input checked="" type="checkbox"/> (2 Records)				
TA-00098 Office of Communications and Media	Rejected	OK	3/31/2016	
TA-00219 Human Resources	Rejected	FL	4/21/2016	
Trip End Date: July 2016 (4 Records)	Department - Click to sort ascending.			
Out-of-State: <input checked="" type="checkbox"/> (4 Records)				
TA-00099 Disability Determination Bureau	Rejected	CA	7/5/2016	
TA-00221 Audit Services	Approved	OK	7/8/2016	
TA-00175 Division of Mental Health and Addiction	Approved	GA	7/16/2016	
TA-00097 Office of Communications and Media	Approved	FL	7/19/2016	
Trip End Date: September 2016 (4 Records)	Department - Click to sort ascending.			
Out-of-State: <input type="checkbox"/> (1 Record)				
TA-00095 Division of Disability and Rehabilitative Services	Approved	TX	9/18/2016	
Out-of-State: <input checked="" type="checkbox"/> (3 Records)				
TA-00220 Office of Medicaid Policy and Planning	Approved	CA	8/25/2016	

11. Click **Save** to save the report.

12. Set the following parameters for the report

Parameter	Value
Report Name	Travel Requests by Month
Report Unique Name	Travel_Requests_by_Month (this will automatically get set when you tab out of the Name field)
Report Description	Leave blank
Report Folder	Unfiled Public Reports

Your screen will look like following:

Save Report

Report Name: Travel Requests by Month

Report Unique Name: Travel_Requests_by_Month

Report Description:

Report Folder: Unfiled Public Reports

Save **Cancel**

13. Click **Close** button then click **Save & Close** button.

We now have two reports that we can use as basis for our dashboard.

REPORTS				
Recent				
REPORTS	REPORT NAME	DESCRIPTION	FOLDER	LAST MODIFIED BY
Recent	Travel Requests by Month		Public Reports	Troy Hedges
Created by Me	Travel Request by Department		Public Reports	Troy Hedges

Create Dashboard

1. Click the **Dashboards** tab.

2. Click **New Dashboard** button in top-right side of screen.
3. A window will pop-up with information to create the new dashboard. Enter the following parameters:

Parameter	Value
Name	Travel Requests Dashboard
Description	Leave blank
Folder	Private Dashboards

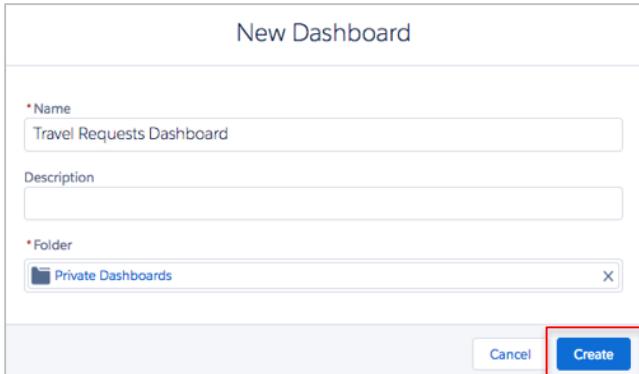
New Dashboard

*Name
Travel Requests Dashboard

Description

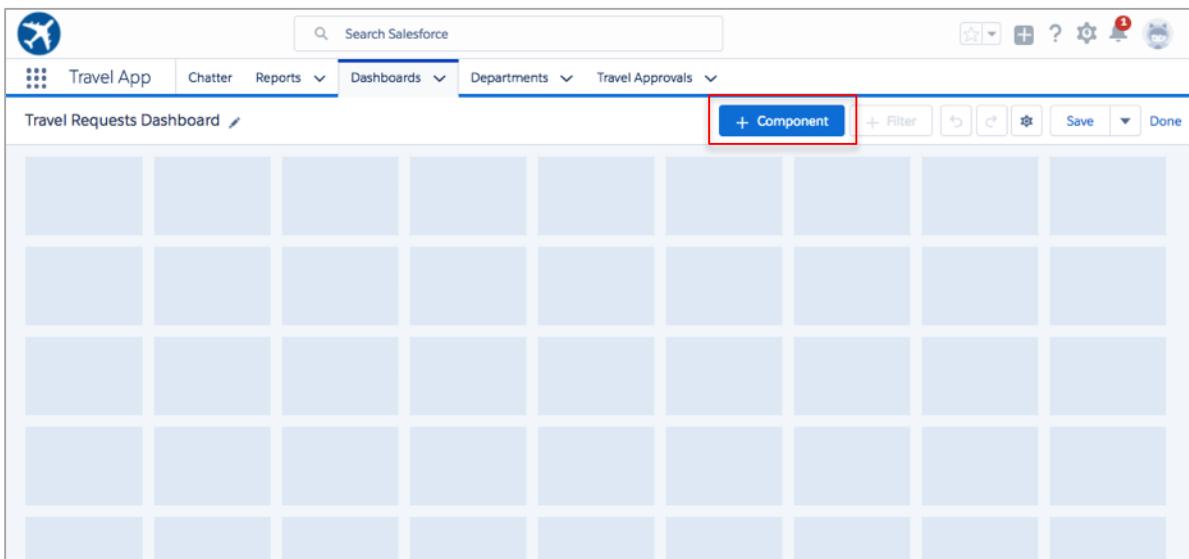
*Folder
Private Dashboards

Cancel **Create**



4. Click the **Create** button.

You will now be presented the dashboard builder with grid layout. You can now add reports to your dashboard and move them on to different sections of the dashboard. You can also stretch the components across the grid to have the exact layout of components you need for your dashboard.



The screenshot shows the Salesforce dashboard builder. At the top, there's a navigation bar with links for Travel App, Chatter, Reports, Dashboards (which is the active tab), Departments, and Travel Approvals. Below the navigation is a toolbar with a search bar, filter, save, and done buttons. A large, empty 10x6 grid occupies the center of the screen. In the top right corner of the toolbar, there's a blue button labeled '+ Component'. This button is highlighted with a red box, indicating it's the next step to be clicked.

5. Click the **+ Component** button. A window like the following will open.

Select Report

REPORTS	<input type="text" value="Search Reports and Folders..."/> Reports and Folders ▾
Recent	Travel Requests by Month Troy Hedges - Jun 21, 2017 1:47 PM - Public Reports
Created by Me	
Private Reports	Travel Requests by Department Troy Hedges - Jun 21, 2017 1:30 PM - Public Reports
Public Reports	
All Reports	
FOLDERS	
Created by Me	
Shared with Me	
All Folders	

- Click on the **Travel Request by Department** report and click the **Select** button. You will then be presented with option to configure your widget.

Add Component

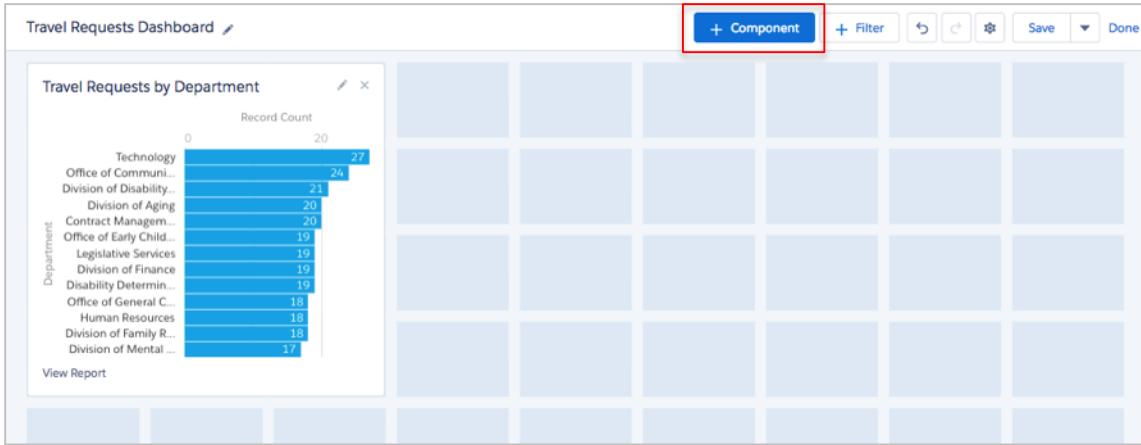
Report	Travel Requests by Department
Display As	
Y-Axis	Department
X-Axis	Record Count
Show Values	<input checked="" type="checkbox"/>
Sort Rows By	Value Descending
Max Values Displayed	100
Title	Travel Requests by Department

Preview

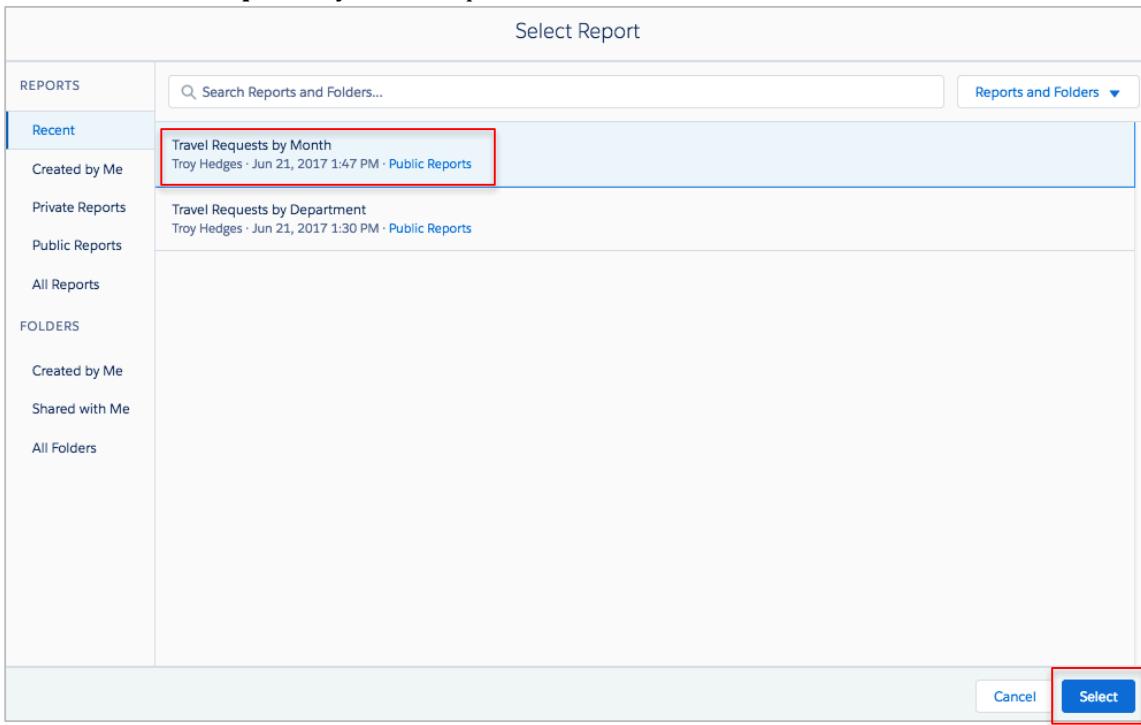
Travel Requests by Department

Department	Record Count
Technology	27
Office of Communication...	24
Division of Disability and ...	23
Division of Aging	20
Contract Management	20
Office of Early Childhood ...	19
Legislative Services	19
Division of Finance	19
Disability Determination B...	19
Office of General Counsel	18
Human Resources	18

- Keep the default values and select **Add**. Your dashboard will look like the following with your new component added.



8. Click the **+ Component** button again to add our other report.
9. Select the **Travel Requests by Month** report and click the **Select** button.



You will first be presented with screen like following.

Add Component

Report
Travel Requests by Month X

Display As



Y-Axis
Trip End Date

X-Axis
Record Count

Add
Group

Group
Out-of-State

Show Values

Sort Rows By
Value Descending

Preview

Travel Requests by Month

Trip End Date > Out-of-State	Record Count		Out-of-State
	false	true	
April 2016	5	26	false
September ...	5	24	true
December 2...	9	20	false
November 2...	4	25	true
July 2016	6	23	false

[View Report](#)

[Cancel](#) [Add](#)

10. Let's make this a vertical, stacked bar chart that sorts data from oldest to newest. Select the stacked bar chart in the **Display As** section. Then select sorts rows by "**Label Ascending**". Your screen should look like following.

Add Component

Report
Travel Requests by Month X

Display As



Y-Axis
Trip End Date

X-Axis
Record Count

Stack By
Out-of-State

Stack to 100%

Sort Rows By
Label Ascending

Max Values Displayed
100

Preview

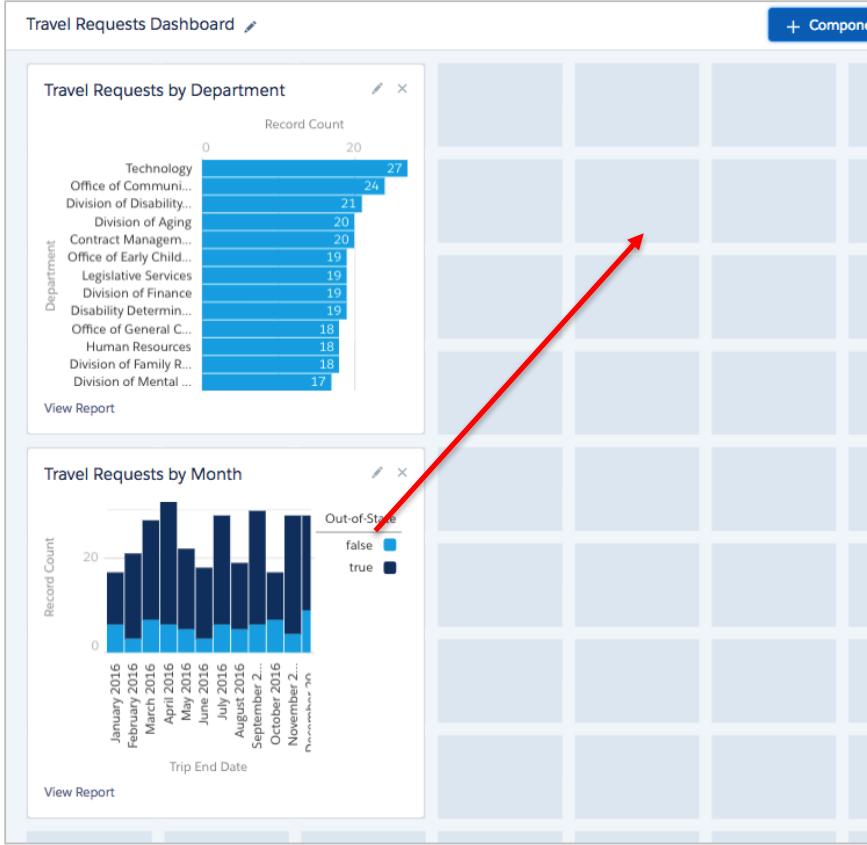
Travel Requests by Month



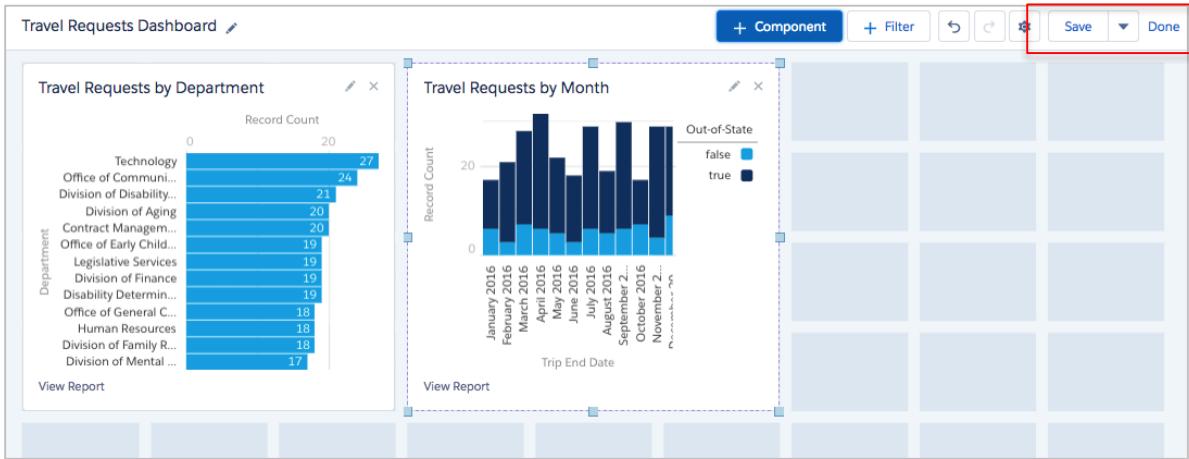
[View Report](#)

[Cancel](#) [Add](#)

11. Click **Add** button. At first, the charts sit in vertical column like following. Drag the chart on the bottom and position to the right of the first chart we added.



Screen should now look like following.



Notice that you have a very flexible grid structure. Play around with stretching your dashboard components to various shapes on the grid.

12. Click the **Save** button and then the **Done** link in upper-right side of screen. Your dashboards will look like below. For real world scenario, you could add other reports to the dashboard and show data/KPIs from multiple objects from your database.



Access with Mobile Device

Duration: 15 minutes

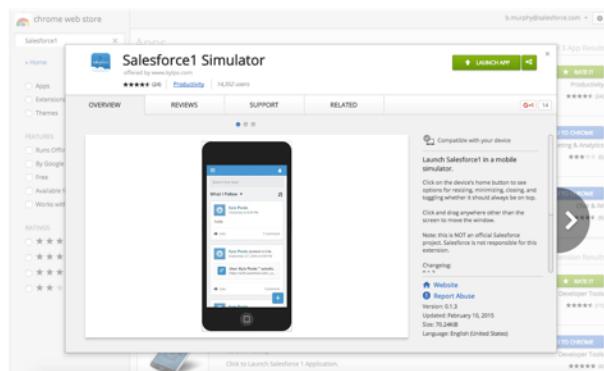
The simple app you created is **already** accessible as a mobile app. What? That's right! Most things you create in Salesforce are immediately available via a mobile device, giving your users full access to the information they need, no matter where they are. As you continue to develop this app, everything you do in the full site is reflected in the **Salesforce1 mobile app**.

For the Travel Approval use case, you can imagine employees using the Salesforce1 mobile app to create approval requests, collaborate with manager using Chatter, or a manager being able to approve requests while on the go.

You can access the Salesforce1 app in two ways by either downloading the app from the Apple App Store or from the Android Marketplace; or you can use the Salesforce1 Mobile App simulator found in the Chrome Web Store.

Download & install the native app for your phone or the simulator for Google Chrome:

- App Store for iOS: <http://apple.co/1bJ6B1C>
- Google Play for Android: <http://bit.ly/18QsTGG>
- Chrome Web Store Salesforce1 Simulator: <http://bit.ly/1Fr2b3d>



Access the Salesforce1 Mobile App using the Salesforce1 Simulator

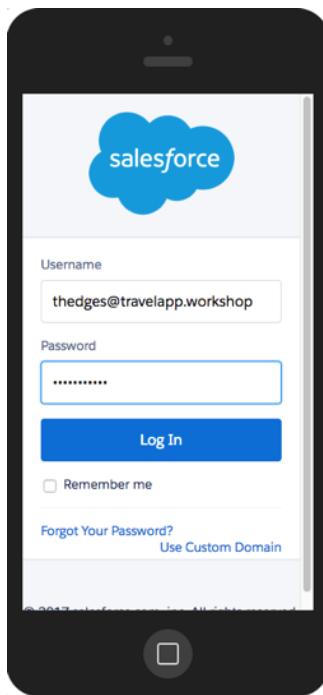
1. Open a new **Google Chrome browser Tab**
2. Access **Google Apps** in your Chrome Browser



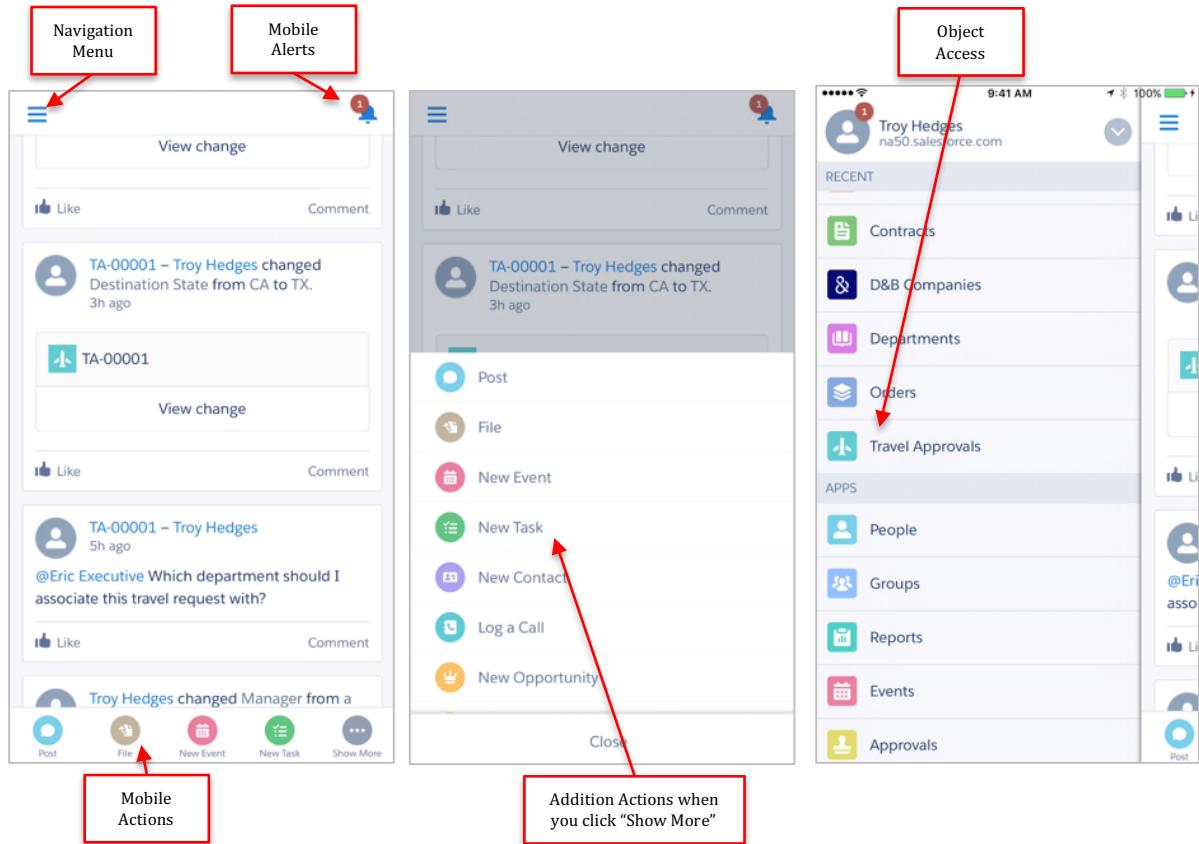
3. Click on the **Salesforce1 Simulator** icon



4. Enter your same User Name and Password for your DE Org and click **Log In**. You might be asked to verify your mobile device.

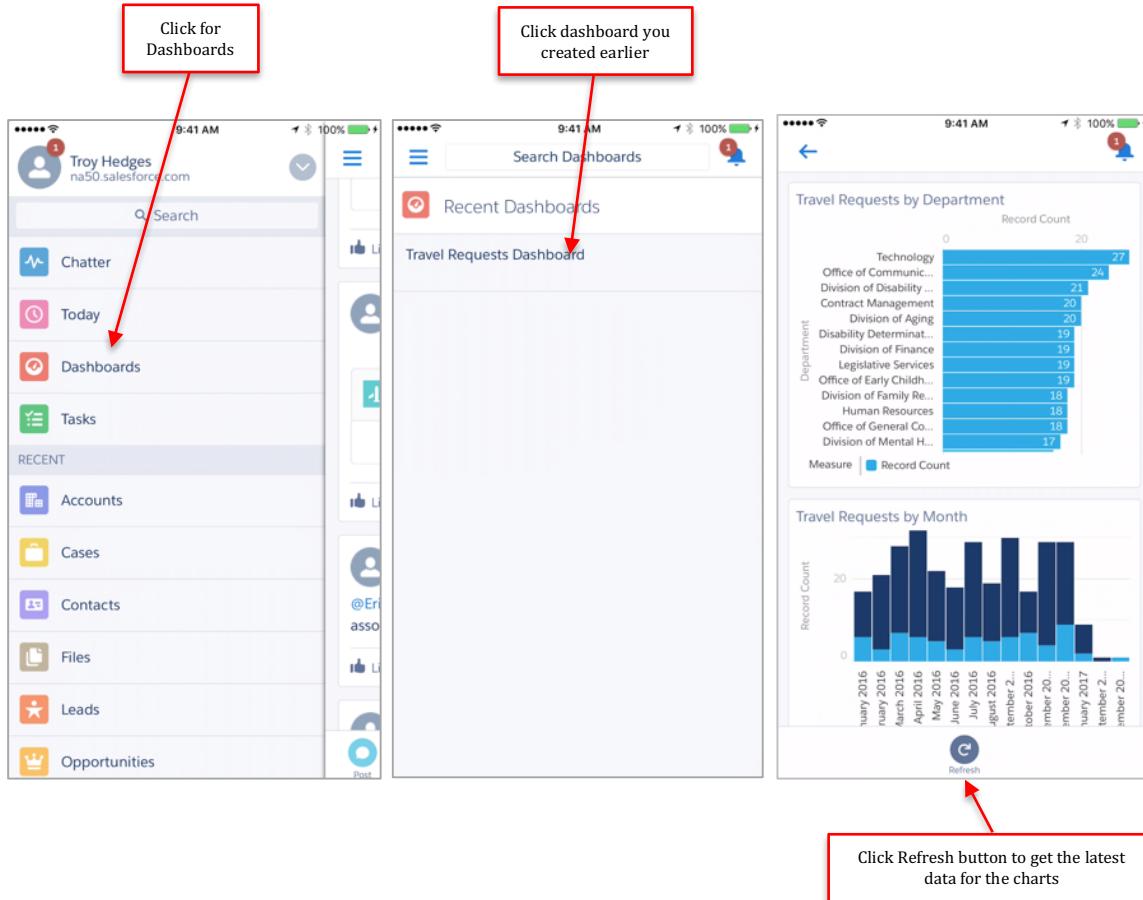


5. Upon logging in, you will be on the Chatter Feed screen. Scroll up and down to see the activity that you have already generated based on the information you have entered. You should see your first chatter post you made to Eric Executive regarding your travel approval. Take a few moments to review the graphic below for mobile app functions and terminology.

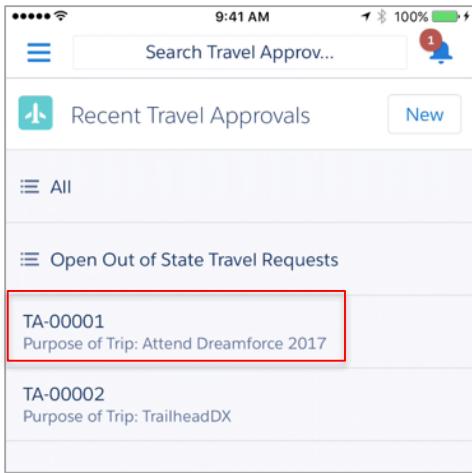


6. Click the  icon in the top left corner to open the navigation menu (or Tap if using the Apple or Android version of the app)

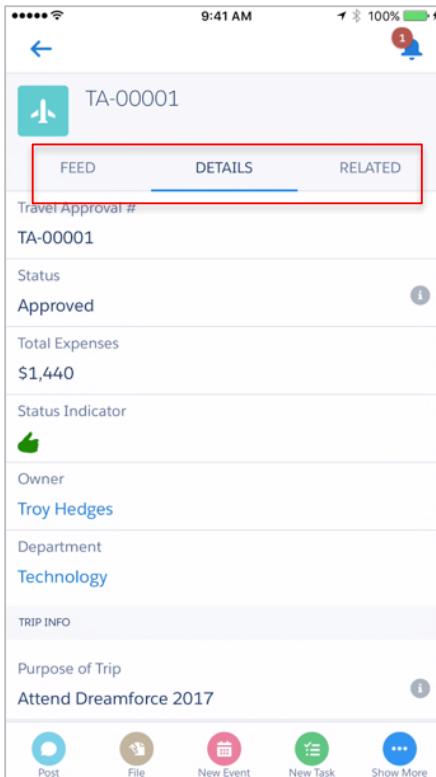
7. Scroll down and select **Dashboards**



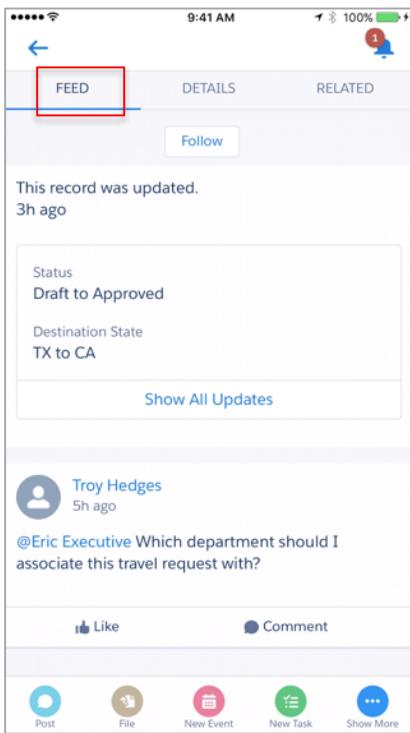
8. Click the  icon in top-left corner to move back to main mobile screen. Click the  in the top-left corner to open the navigation menu.
9. Scroll down and click **More** under the **RECENT** section.
10. Scroll down until you see **Travel Approvals** and click on it. You should see your list views you edited/created (i.e. All & Open Out of State Travel Requests) along with the recent travel approval records you created.



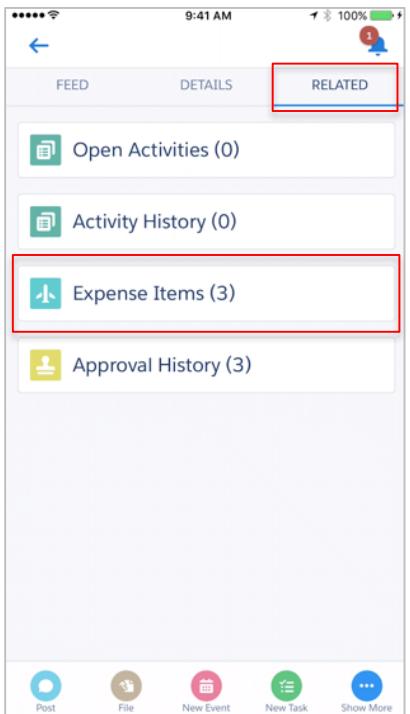
- Click on one of the **Travel Request** records to access its details. Click on the **FEED**, **DETAILS** and **RELATED** tabs if you are using the simulator. If you are using iOS or Android device, you can swipe left-and-right to switch between the tabs.



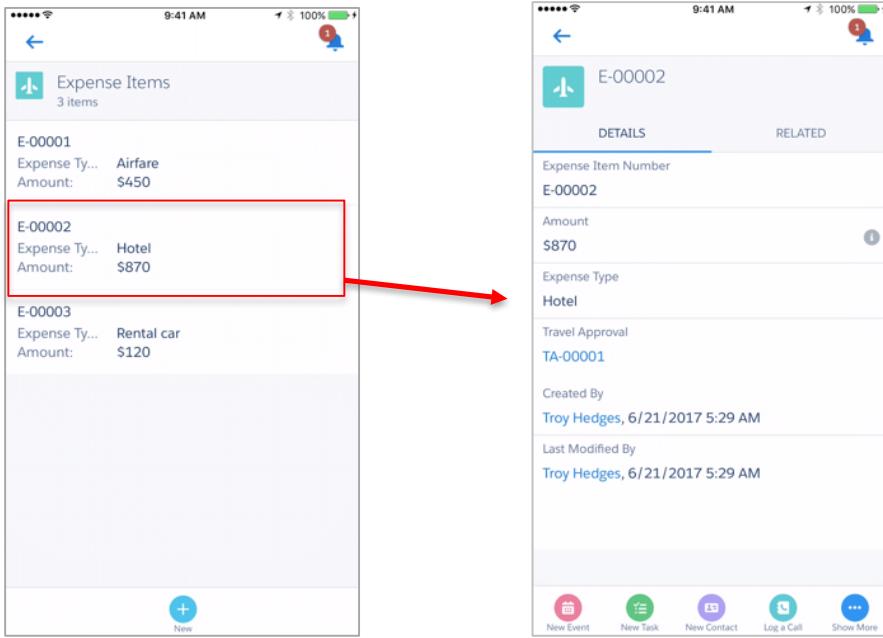
- Navigate to the **Feed** tab. You should see Chatter post you did earlier to Eric Executive.



13. Navigate to the **RELATED** tab. You will see all related lists including the Expense Item object which in this examples shows that you have “2” items created for this travel request. Click on **Expense Items**.



14. You will now see your list of expense items for this travel approval. Click on one to see the details for that expense item.



15. To edit the expense, select the **Show More** quick action in bottom-right. On the pop-up options, select **Edit**. You will then be taken to the edit screen for your selected expense item.

