

salesforce

Salesforce Developer Campfire



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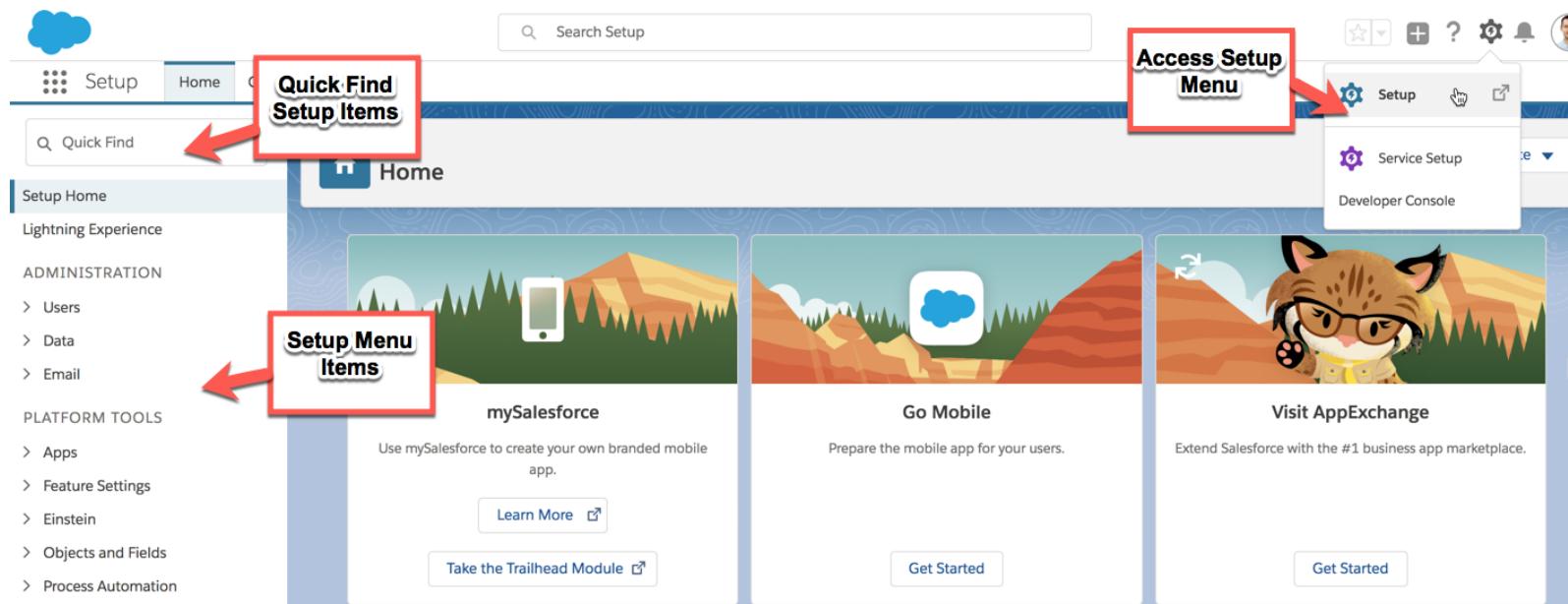
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Introduction

This document contains the hands-on exercises corresponding to the topics being covered in the Developer Campfire presentation. As you go through the labs in this workbook, you will go through the typical process of building a Salesforce application with clicks, not code.

The primary activities in this workshop is configuring Salesforce to create the **Request Tracker 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 a brief description.



Lab 1 - Create the data model for your app

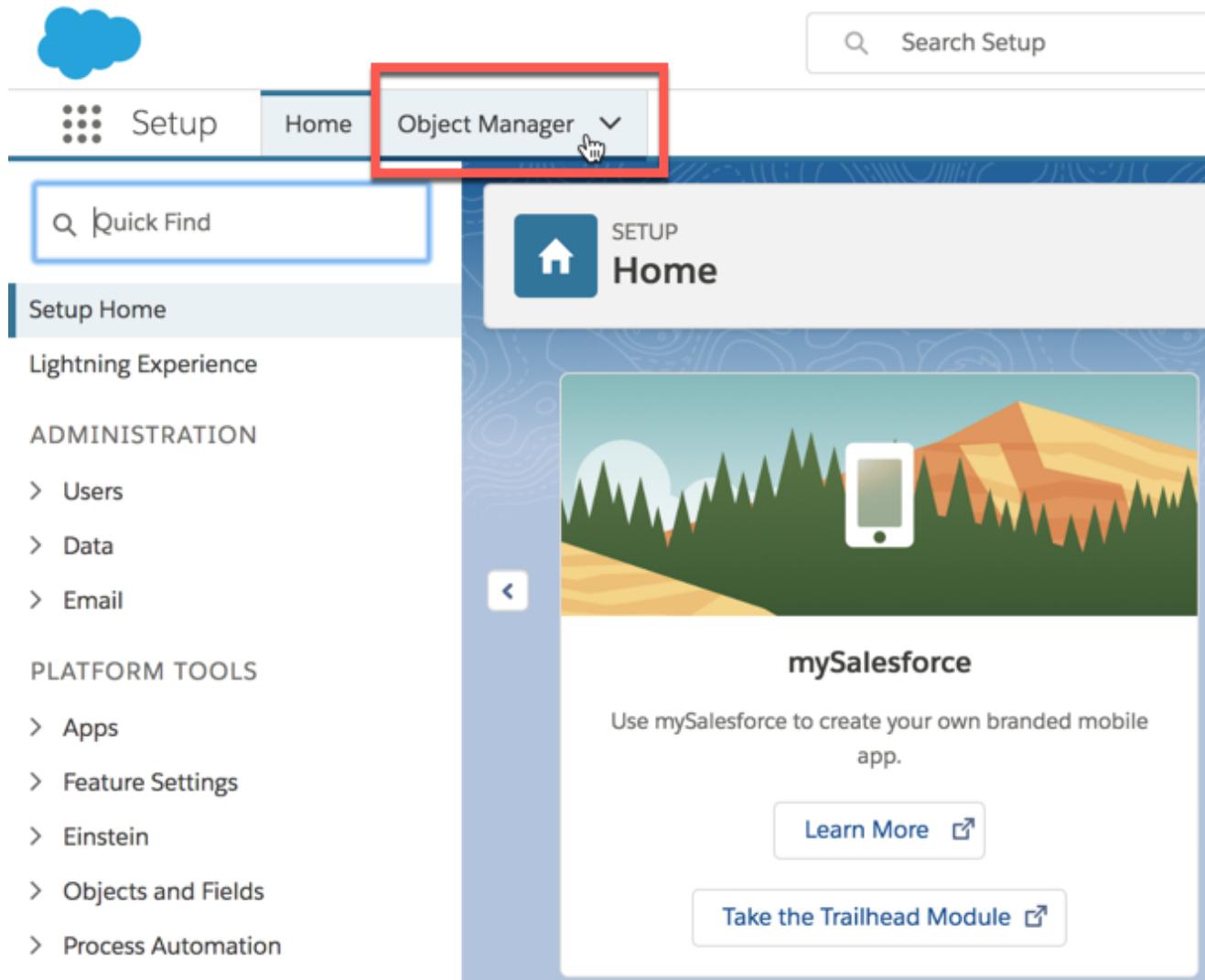
In this lab, we will start building out the data model for our application. We will build a new custom object from scratch, add different field types to it and create relationships with standard objects supplied by Salesforce.

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**

Create the Request Object

1. Click the gear icon at the top of the page and click on **Setup**.
2. Click the **Object Manager**



3. Click **Create | Custom Object** in the top right corner



A screenshot of the Salesforce interface. At the top, there is a search bar labeled "Quick Find", a "Schema Builder" button, and a "Create" button with a dropdown arrow. A tooltip "Custom Object" points to the "Create" button. Below the toolbar, there are three filter buttons: "LAST MODIFIED", "DEPLOYED", and "CUSTOM". Under "LAST MODIFIED", the date "8/27/2018" is listed with a checkmark. Under "DEPLOYED", there is another checkmark. On the far right, there is a small dropdown arrow icon.

4. For **Label**, enter **Request**. Notice that the **Object Name** and **Record Name** fields auto-fill.
Change Record Name to Request Number
5. For **Plural Label**, enter **Requests**. This is used in the UI when a list of records of this Object type is displayed.
6. Select '**Starts with vowel sound**' if the name of the Object starts with a vowel sound. This is again used in various places in the UI to make sure the correct articles are used with the name of the Object.
7. For **Data Type** select '**Auto Number**'.
- Display Format** - Request#{0000}
 - Starting Number** - 1

New Custom Object

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

Custom Object Information

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

Label	Request	Example: Account
Plural Label	Requests	Example: Accounts
Starts with vowel sound	<input type="checkbox"/>	

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

Object Name	Request	Example: Account
-------------	---------	------------------

Description

Context-Sensitive Help Setting

Open the standard Salesforce.com Help & Training window
 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 "Record Name".

Record Name	Request Number	Example: Account Name
-------------	----------------	-----------------------

Data Type

Auto Number

Display Format

Request#{0000}	Example: A-{0000} What Is This?
----------------	---

Starting Number

1

8. **Don't click Save yet.** We need to set a few more parameters first. Scroll down and select the following **additional** options:
 - a. Allow Reports
 - b. Allow Activities
 - c. Track Field History
 - d. Allow Search
 - e. Add notes and Attachments related list to default page layout

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

- 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)

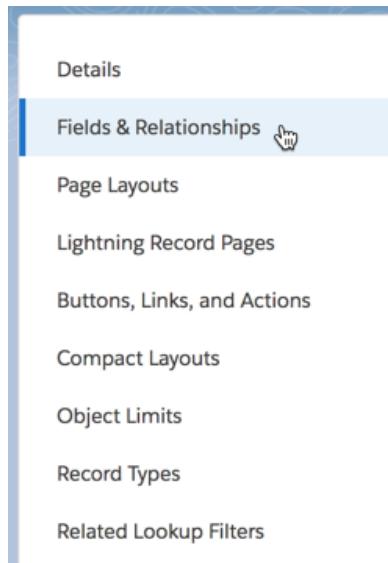
- Add Notes and Attachments related list to default page layout
- Launch New Custom Tab Wizard after saving this custom object

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

9. **NOTE** - Make sure you don't select the '**Launch New Custom Tab Wizard after saving this custom object**'. We will create a 'Tab' for our Object in the next lab exercise.
10. Click **Save**.

You are now directed to the object configuration page for the Request object. We will now create additional fields for the Request object. First, we need to make sure we are in the Fields & Relationships section of the object editor.

1. Click on the **Fields & Relationships** tab on left-hand side of page



2. Let's create the Request Title field

- Click the **New** button towards the right of the screen to start the wizard to create a new field.



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

The screenshot shows the 'New Custom Field' wizard. On the left, there's a sidebar with various setup options like Details, Fields & Relationships, Page Layouts, etc. The main area is titled 'Step 1. Choose the field type'. It asks to specify the type of information the custom field will contain. Under 'Data Type', the 'Text' option is selected. A detailed description of the 'Text' type is provided, mentioning it allows users to enter any combination of letters and numbers. There are also descriptions for other data types like Number, Percent, and URL. At the bottom right of the wizard, there are 'Next' and 'Cancel' buttons.

- Step 1:** Select **Text** data type

- Step 2:** Enter the following values for the field details

Parameter	Value
Field Label	Request Title
Length	255
Field Name	Request_Title (populates automatically based on the Field Label and can be different from the label if required)
Description	<i>Leave blank</i>
Help Text	Please enter a clear request title
Required	Checked
Unique	<i>Leave this unselected/unchecked</i>
External ID	<i>Leave this unselected/unchecked</i>

e. The screen will look like following:

Request New Custom Field

Step 2. Enter the details

Field Label	<input type="text" value="Request Title"/> i
Please enter the maximum length for a text field below.	
Length	<input type="text" value="255"/>
Field Name	<input type="text" value="Request_Title"/> i
Description	<input type="text"/>
Help Text	<input type="text" value="Please enter a clear request title"/> i
Required	<input checked="" type="checkbox"/> Always require a value in this field in order to save a record
Unique	<input type="checkbox"/> Do not allow duplicate values <input checked="" type="radio"/> Treat "ABC" and "abc" as duplicate values (case insensitive) <input type="radio"/> Treat "ABC" and "abc" as different values (case sensitive)
External ID	<input type="checkbox"/> Set this field as the unique record identifier from an external system
Default Value	<input type="text" value="Show Formula Editor"/> <small>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)</small>

- f. The next screen 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.

Step 3. Establish field-level security

Field Label	Request Title	Visible	Read-Only
Data Type	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Field Name	Request__Title	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Description		<input type="checkbox"/>	<input type="checkbox"/>
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.			
Analytics Cloud Integration User		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Analytics Cloud Security User		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Authenticated Website		<input type="checkbox"/>	<input type="checkbox"/>
Authenticated Website		<input type="checkbox"/>	<input type="checkbox"/>
Bronze Partner User		<input type="checkbox"/>	<input type="checkbox"/>
Chatter Only User		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Company Communities User		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Content Only 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-Customer Portal Manager		<input type="checkbox"/>	<input type="checkbox"/>
Customer Community Login User		<input type="checkbox"/>	<input type="checkbox"/>
Customer Community User		<input type="checkbox"/>	<input type="checkbox"/>
Customer Portal Manager		<input type="checkbox"/>	<input type="checkbox"/>
Customer Portal Manager Custom		<input type="checkbox"/>	<input type="checkbox"/>
Customer Portal Manager Standard		<input type="checkbox"/>	<input type="checkbox"/>
Customer Portal User		<input type="checkbox"/>	<input type="checkbox"/>
Database.com Light User		<input checked="" type="checkbox"/>	<input type="checkbox"/>

Step 3 of 4

Previous **Next** Cancel

- g. The next screen adds the field to a page layout. Accept the default and click the **Save** button.

Request
New Custom Field

Step 4. Add to page layouts

Field Label	Request Title	Visible	Read-Only
Data Type	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Field Name	Request__Title	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Description		<input type="checkbox"/>	<input type="checkbox"/>
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.			
<input checked="" type="checkbox"/> Add Field	Page Layout Name	<input type="checkbox"/>	
<input checked="" type="checkbox"/> Request Layout		<input type="checkbox"/>	
When finished, click Save & New to create more custom fields, or click Save if you are done.			

Step 4 of 4

Previous **Save & New** **Save** Cancel

3. Create the **Activity Type** field

a. Step 1: Select **Picklist** data type

<input type="radio"/> Checkbox	Allows users to select a True (checked) or False (unchecked) value.
<input type="radio"/> Currency	Allows users to enter a dollar or other currency amount and automatically formats the field as a currency amount. This can be useful if you export data to Excel or another spreadsheet.
<input type="radio"/> Date	Allows users to enter a date or pick a date from a popup calendar.
<input type="radio"/> Date/Time	Allows users to enter a date and time, or pick a date from a popup calendar. When users click a date in the popup, that date and the current time are entered into the Date/Time field.
<input type="radio"/> Email	Allows users to enter an email address, which is validated to ensure proper format. If this field is specified for a contact or lead, users can choose the address when clicking Send an Email. Note that custom email addresses cannot be used for mass emails.
<input type="radio"/> Geolocation	Allows users to define locations. Includes latitude and longitude components, and can be used to calculate distance.
<input type="radio"/> Number	Allows users to enter any number. Leading zeros are removed.
<input type="radio"/> Percent	Allows users to enter a percentage number, for example, "10" and automatically adds the percent sign to the number.
<input type="radio"/> Phone	Allows users to enter any phone number. Automatically formats it as a phone number.
<input checked="" type="radio"/> Picklist	Allows users to select a value from a list you define.
<input type="radio"/> Picklist (Multi-Select)	Allows users to select multiple values from a list you define.
<input type="radio"/> Text	Allows users to enter any combination of letters and numbers.
<input type="radio"/> Text Area	Allows users to enter up to 255 characters on separate lines.
<input type="radio"/> Text Area (Long)	Allows users to enter up to 131,072 characters on separate lines.
<input type="radio"/> Text Area (Rich)	Allows users to enter formatted text, add images and links. Up to 131,072 characters on separate lines.
<input type="radio"/> Text (Encrypted) 	Allows users to enter any combination of letters and numbers and store them in encrypted form.
<input type="radio"/> Time	Allows users to enter a local time. For example, "2:40 PM", "14:40", "14:40:00", and "14:40:50.600" are all valid times for this field.
<input type="radio"/> URL	Allows users to enter any valid website address. When users click on the field, the URL will open in a separate browser window.

b. Step 2: Enter the following values for the field details

Parameter	Value
Field Label	Activity 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 Project Project Request Change Request Break-fix Maintenance & Support CIP Meetings/Trainings
Field Name	Activity_Type
Description	Leave Blank
Help Text	Please select a valid activity type

Required	Checked
Restrict picklist to the values defined in the value set	<i>Leave this selected/checked</i>

c. The screen will look like following:

Request
New Custom Field

Step 2. Enter the details

Field Label	<input type="text" value="Activity Type"/> i
Values	<input type="radio"/> Use global picklist value set <input checked="" type="radio"/> Enter values, with each value separated by a new line <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> Project Project Request Change Request Break-fix Maintenance & Support CIP Meetings/Trainings </div>
	<input type="checkbox"/> Display values alphabetically, not in the order entered <input type="checkbox"/> Use first value as default value i <input checked="" type="checkbox"/> Restrict picklist to the values defined in the value set i
Field Name	<input type="text" value="Activity_Type"/> i
Description	<input type="text"/>
Help Text	<input type="text" value="Please select a valid activity type"/> i
Required	<input checked="" type="checkbox"/> Always require a value in this field in order to save a record
Default Value	<input type="text" value="Show Formula Editor"/> i <small>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)</small>

- d. Click **Next**.
- e. **Step 3:** Accept the default values. Click **Next**.
- f. **Step 4:** Accept the default values. Click **Save & New**.

4. 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
	Not Started In Progress Completed Canceled On Hold Ongoing
Field Name	Status
Description	<i>Leave Blank</i>
Help Text	Status of the request
Required	<i>Unchecked</i>
Restrict picklist to the values defined in the value set	<i>Leave this selected/checked</i>

- c. The screen will look like following:

Request

New Custom Field

Step 2. Enter the details

<p>Field Label <input type="text" value="Status"/> i</p> <p>Values <input type="radio"/> Use global picklist value set <input checked="" type="radio"/> Enter values, with each value separated by a new line</p> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> Not Started In Progress Completed Canceled On Hold Ongoing </div> <p><input type="checkbox"/> Display values alphabetically, not in the order entered <input checked="" type="checkbox"/> Use first value as default value i <input checked="" type="checkbox"/> Restrict picklist to the values defined in the value set i</p>
<p>Field Name <input type="text" value="Status"/> i</p> <p>Description <input type="text"/></p> <p>Help Text <input type="text" value="Status of the request"/> i</p>
<p>Required <input type="checkbox"/> Always require a value in this field in order to save a record</p> <p>Default Value <input type="text" value="Show Formula Editor"/> i</p> <p style="font-size: small; color: #666; margin-left: 10px;">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)</p>

- d. Click **Next**.
 - e. **Step 3:** Accept the default values. Click **Next**.
 - f. **Step 4:** Accept the default values. Click **Save & New**.
5. Create the **Phase** field
- a. **Step 1:** Select **Picklist** data type
 - b. **Step 2:** Enter the following values for the field details

Parameter	Value
Field Label	Phase
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

	Requirements Gathering POC Design Development Unit Testing UAT Production
Field Name	Phase
Description	<i>Leave Blank</i>
Help Text	The phase of the project
Required	<i>Unchecked</i>
Restrict picklist to the values defined in the value set	<i>Leave this selected/checked</i>

c. The screen will look like following:

Request
New Custom Field

Step 2. Enter the details

Field Label i

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

```
Requirements Gathering
POC
Design
Development
Unit Testing
UAT
Production
```

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 i

Description

Help Text i

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

Default Value 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)

- d. Click **Next**.
 - e. **Step 3:** Accept the default values. Click **Next**.
 - f. **Step 4:** Accept the default values. Click **Save & New**.
6. Create the **Start Date field**.
- a. **Step 1:** Select **Date** data type
 - b. **Step 2:** Enter the following values for the field details

Parameter	Value
Field Label	Start Date
Field Name	Start_Date
Description	<i>Leave blank</i>
Help Text	<i>Leave blank</i>
Required	<i>Leave this unselected/unchecked</i>

- c. The screen will look like following:

Request
New Custom Field

Step 2. Enter the details

Field Label	<input type="text" value="Start Date"/> i
Field Name	<input type="text" value="Start_Date"/> i
Description	<input type="text"/>
Help Text	<input type="text"/> i
Required	<input type="checkbox"/> Always require a value in this field in order to save a record
Default Value	<input type="text" value="Show Formula Editor"/> <small>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)</small>

- d. Click **Next**.
- e. **Step 3:** Accept the default values. Click **Next**.
- f. **Step 4:** Accept the default values. Click **Save & New**.

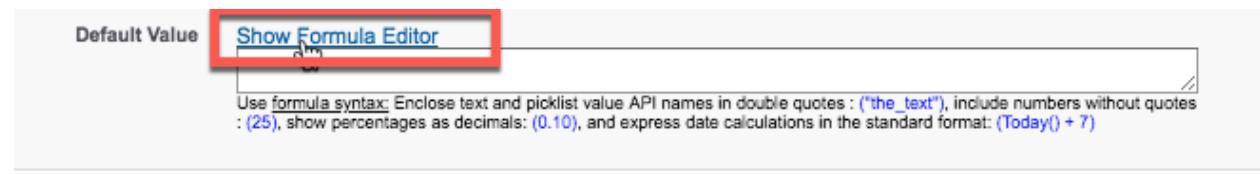
7. Create the **End Date** field.
- Step 1:** Select **Date** data type
 - Step 2:** Enter the following values for the field details

Parameter	Value
Field Label	End Date
Field Name	End_Date
Description	<i>Leave blank</i>
Help Text	<i>Leave blank</i>
Required	<i>Leave this unselected/unchecked</i>

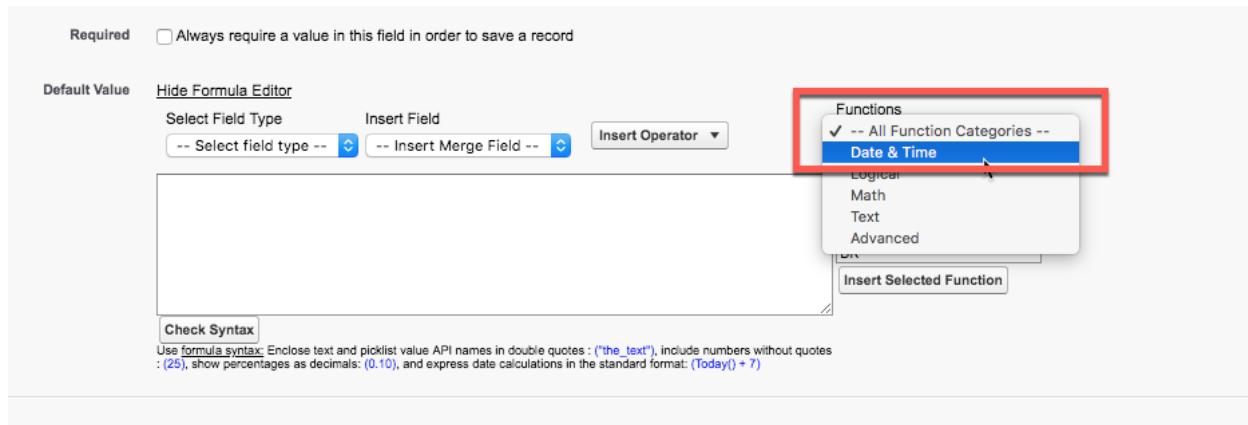
- Click Next.**
 - Step 3:** Accept the default values. Click **Next**.
 - Step 4:** Accept the default values. Click **Save & New**.
8. Create the **Request Date** field.
- Step 1:** Select **Date** data type
 - Step 2:** Enter the following values for the field details

Parameter	Value
Field Label	Request Date
Field Name	Request_Date
Description	<i>Leave blank</i>
Help Text	<i>Leave blank</i>
Required	<i>Leave this unselected/unchecked</i>

- c. Click into the **Default Value** field and click on **Show Formula Editor** link



- d. You will see the screen expand to show additional fields that can be configured to provide a default value for this field.
e. Click on the **Functions** dropdown and select the **Date & Time** category.



- f. Scroll and select the **TODAY** value from the available options. This inserts today's date into this field. Click on **Insert Selected Function** .



- g. Click on **Check Syntax**. You should see a message confirming there are no syntax errors.

Default Value [Hide Formula Editor](#)

Select Field Type [Insert Field](#)
 -- Select field type -- [Insert Merge Field](#) [Insert Operator](#)

TODAY()

[Check Syntax](#) No syntax errors in merge fields or functions.

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)

Functions
 -- All Function Category [ABS](#) [ADDMONTHS](#) [AND](#) [BEGINS](#) [BLANKVALUE](#) [BR](#)
[Insert Selected Function](#)

- h. **Step 3:** Accept the default values. Click **Next**.
 - i. **Step 4:** Accept the default values. Click **Save & New**.
9. Create the **Documentation Complete Checkbox** field.
- a. **Step 1:** Select **Checkbox** data type
 - b. **Step 2:** Enter the following values for the field details

Parameter	Value
Field Label	Documentation Complete
Default Value	Unchecked
Field Name	Documentation_Complete
Description	<i>Leave blank</i>
Help Text	Has all the documentation for the project been submitted?

- c. The screen will look like following:

Request
New Custom Field

Step 2. Enter the details

Field Label: Documentation Complete [i](#)

Default Value: Checked Unchecked

Field Name: Documentation_Complete [i](#)

Description:

Help Text: Has all the documentation for the project been submitted? [i](#)

- d. Click **Next**.
- e. **Step 3:** Accept the default values. Click **Next**.
- f. **Step 4:** Accept the default values. Click **Save & New**.

10. Create the **Description text area field**

- a. **Step 1:** Select **Text Area (Long)** data type
- b. **Step 2:** Enter the following values for the field details

Parameter	Value
Field Label	Description
Length	32,768
Field Name	Description
Description	<i>Leave blank</i>
Help Text	Detailed description of the request

- c. The screen will look like following:

Request
New Custom Field

Step 2. Enter the details

Field Label <input type="text" value="Description"/> i		
You are currently using 0 out of 1,638,400 characters on this object. You have 1,638,400 additional characters to allocate to this field. Length <input type="text" value="32,768"/> (Max 131,072)		
# Visible Lines	<input type="text" value="3"/>	
Field Name	<input type="text" value="Description"/> i	
Description	<input type="text"/>	
Help Text	<input type="text" value="Detailed description of the request"/> i	
Default Value	<input type="text" value="Show Formula Editor"/> <div style="font-size: small; margin-top: -10px;"> 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) </div>	

- d. Click **Next**.
 e. **Step 3:** Accept the default values. Click **Next**.
 f. **Step 4:** Accept the default values. Click **Save & New**.

11. Create the **Estimated Effort (in hours)** field
- Step 1:** Select **Number** data type
 - Step 2:** Enter the following values for the field details

Parameter	Value
Field Label	Estimated Effort (in hours)
Decimal Places	0
Length	4
Field Name	Estimated_Effort_in_hours (Notice that special characters including spaces get converted to _)

Description	<i>Leave blank</i>
Help Text	<i>Leave blank</i>
Required	<i>Leave Unchecked</i>
Unique	<i>Leave Unchecked</i>
External ID	<i>Leave Unchecked</i>
AI Prediction	<i>Leave Unchecked</i>

c. The screen will look like following:

Step 2. Enter the details

Field Label	<input type="text" value="Estimated Effort (in hour)"/> i
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	<input type="text" value="4"/>
Number of digits to the left of the decimal point	
Field Name	<input type="text" value="Estimated_Effort_in_hour"/> i
Decimal Places	<input type="text" value="0"/>
Number of digits to the right of the decimal point	
Description	<input type="text"/>
Help Text	<input type="text"/>
Required	<input type="checkbox"/> Always require a value in this field in order to save a record
Unique	<input type="checkbox"/> Do not allow duplicate values
External ID	<input type="checkbox"/> Set this field as the unique record identifier from an external system
AI Prediction	<input type="checkbox"/> AI prediction field
Default Value	Show Formula Editor
<input type="text"/> <small>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)</small>	

d. Click **Next**.

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

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

12. Create the Account Name Lookup Relationship

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

<input checked="" type="radio"/> Lookup Relationship	Creates a relationship that links this object to another object. The relationship field allows users to click on a lookup icon to select a value from a popup list. The other object is the source of the values in the list.
<input type="radio"/> Master-Detail Relationship	Creates a special type of parent-child relationship between this object (the child, or "detail") and another object (the parent, or "master") where: <ul style="list-style-type: none"> • The relationship field is required on all detail records. • The ownership and sharing of a detail record are determined by the master record. • When a user deletes the master record, all detail records are deleted. • You can create rollup summary fields on the master record to summarize the detail records.
<input type="radio"/> External Lookup Relationship	Creates a relationship that links this object to an external object whose data is stored outside the Salesforce org.

- b. **Step 2:** Enter the following values for the field details

Parameter	Value
Related To	Account

- c. The screen will look like following

Request
New Relationship

Step 2. Choose the related object

Select the other object to which this object is related.

Related To

- d. **Step 3:** Enter the following values for field details

Parameter	Value
Field Name	Account
Description	<i>Leave Blank</i>
Help Text	<i>Leave Blank</i>

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

Request
New Relationship

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

Field Label	Account i
Field Name	Account i
Description	<input type="text"/>
Help Text	<input type="text"/>
Child Relationship Name	Requests i
Required	<input type="checkbox"/> Always require a value in this field in order to save a record <input checked="" type="radio"/> Clear the value of this field. You can't choose this option if you make this field required. <input type="radio"/> Don't allow deletion of the lookup record that's part of a lookup relationship.

Lookup Filter

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

▶ [Show Filter Settings](#)

- f. Click **Next**.
g. **Step 4:** Accept the default values. Click **Next**.
h. **Step 5:** Accept the default values. Click **Next**.
i. **Step 6:** Accept the default values. Click **Save**.

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

Fields & Relationships		FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Details	15 Items, Sorted by Field Label	Account	Lookup(Account)		✓
Fields & Relationships		Activity Type	Picklist		▼
Page Layouts		Created By	Lookup(User)		▼
Lightning Record Pages		Description	Long Text Area(32768)		▼
Buttons, Links, and Actions		Documentation Complete	Checkbox		▼
Compact Layouts		End Date	Date		▼
Object Limits		Estimated Effort (in hours)	Number(4, 0)		▼
Record Types		Last Modified By	Lookup(User)		▼
Related Lookup Filters		Owner	Lookup(User,Group)		✓
Search Layouts		Phase	Picklist		▼
Triggers		Request Date	Date		▼
Validation Rules		Request Number	Auto Number		▼
		Request Title	Text(255)		▼
		Start Date	Date		▼
		Status	Picklist		▼

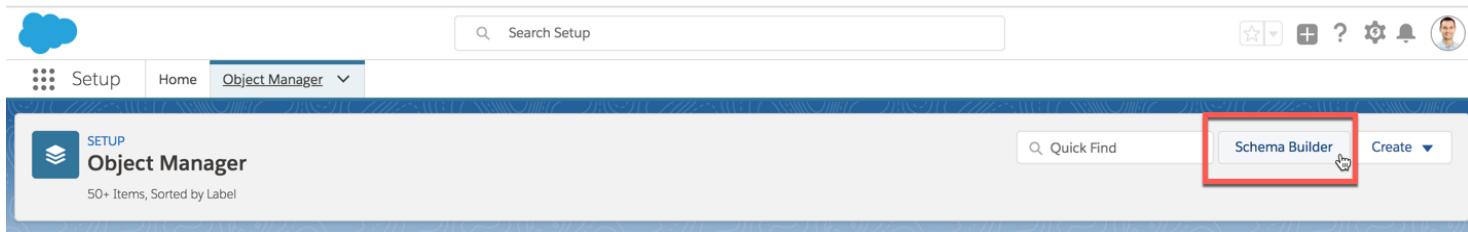
Create the Tasks Object

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 Requests and Tasks.

Schema Builder is great for visualization, but you can also use it to customize your data model. For example, you can manage the permissions for your custom fields directly in Schema Builder. Just right-click the field name and click Manage Field Permissions.

You can also create objects using **Schema Builder**. If you prefer, you can create objects in this visual interface if you're designing your system and want to be able to revise all your customizations on the spot. Let's see how it's done.

1. The Schema Builder can be accessed in a couple of ways.
 - a. **Option 1** - Type '**Schema Builder**' in the '**Quick Find**' search box in **Setup**.
 - b. **Option 2** - Click the **Object Manager** tab in the Setup screen and click on the **Schema Builder** button.



2. You should see something like the screen below once you access **Schema Builder**

Elements Tab - Tools for creating and extending objects

Select from All Objects

Quick Find... Search for Objects

List of Objects Select Checkbox to display object on grid/canvas.

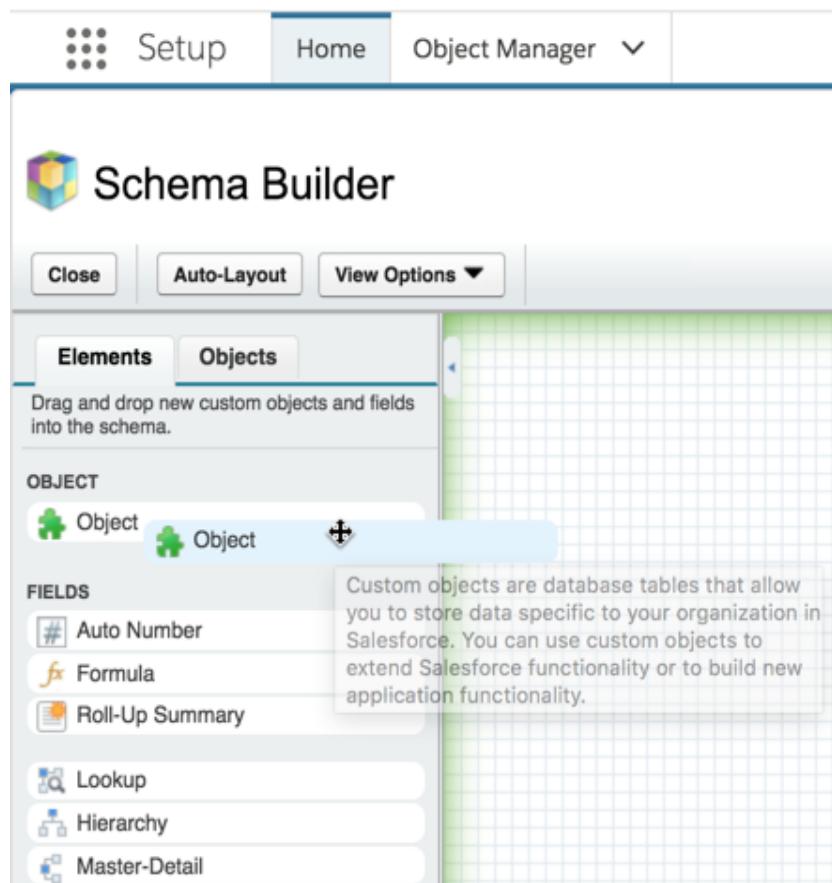
Zoom Controls

Legend

- Lookup Relationship
- Master-Detail Relationship
- Required Field

3. Click **Clear All** and type **Request** in the **Quick Find** box. Check the box next to **Request** and **Account**.

4. Create the Task object
 - a. Click the **Elements** tab and drag the **Object** element on to the canvas



5. Once you drag the Object element onto the canvas, a pop-up form to enter the details of the object appears

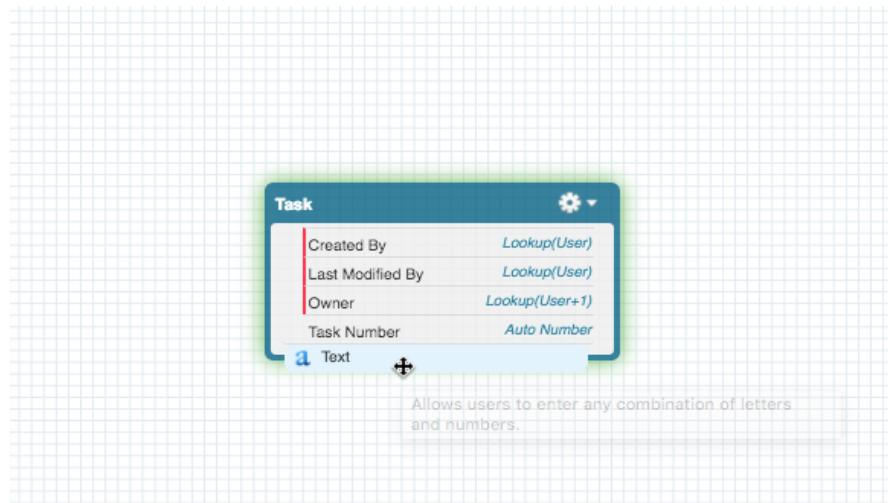
Create New Object

Label	Task
Plural Label	Tasks
Starts With	Consonant ▾
Object Name	Task
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
Record Name	Task Number
Data Type	Auto Number ▾
Display Format	Task#{0000} Example: A-{0000} <u>What Is This?</u>
Starting Number	1
Allow Reports	<input checked="" type="checkbox"/>
Allow Activities	<input checked="" type="checkbox"/>
Track Field History	<input checked="" type="checkbox"/>
Available for Customer Portal	<input type="checkbox"/>
In Development	<input type="radio"/> In Development <input checked="" type="radio"/> Deployed
Add Google Docs, Notes, and Attachments related list to default page layout	<input checked="" type="checkbox"/>
Save Cancel	

- a. Enter the following values in the form that appears.

Parameter	Value
Label	Task
Plural Label	Tasks
Starts with vowel sound	<i>Leave Unchecked</i>
Object Name	(this will automatically get set when you tab out of the Label field)
Record Name	Task Number
Data Type	Auto Number
Display Format	Task#{0000}
Starting Number	1
'Allow Reports', 'Allow Activities', 'Track Field History', 'Add Google Docs, Notes...'	Check These options

- b. Click **Save**.
 6. Create the **Task Name** text field
 a. Drag a **Text Element** on to the newly created object.



- b. Similar to the object creation form, a field creation form will appear when you drag the **Text** field element onto the object

Create Text Field (Object: Task)

Field Label	Task Name
Field Name	Task_Name
Description	
Help Text	
Length	255
Default Value	
Required	<input checked="" type="checkbox"/> Always require a value in this field in order to save a record
Unique	<input type="checkbox"/> Do not allow duplicate values
External ID	<input type="checkbox"/> Set this field as the unique record identifier from an external system
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

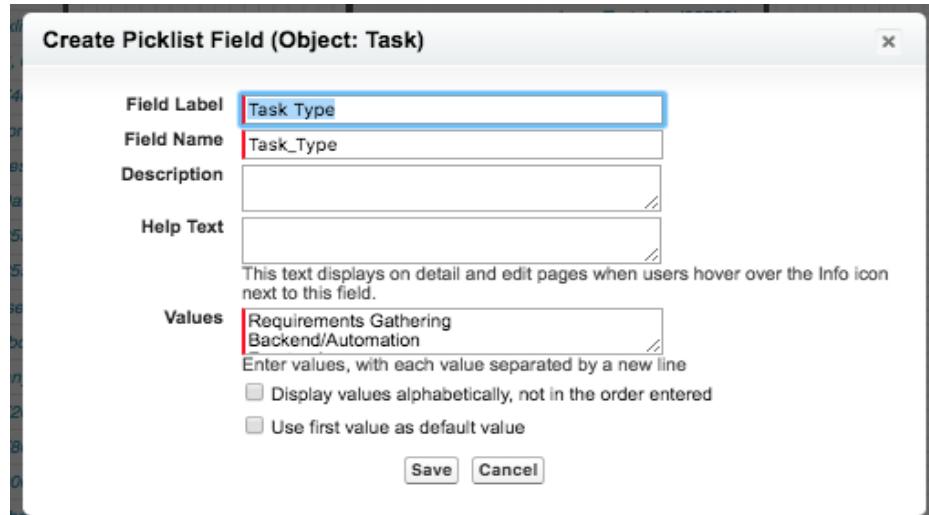
- c. Enter the following details for the field

Parameter	Value
Field Label	Task Name
Field Name	Task_Name
Length	255
Description	<i>Leave blank</i>
Help Text	<i>Leave blank</i>
Required	Checked
Unique	<i>Leave this unselected/unchecked</i>
External ID	<i>Leave this unselected/unchecked</i>

- d. Click **Save**

7. Create the **Task Type** picklist field

- Drag a **Picklist Element** on to the Task object.
- Enter the following details for the field



Parameter	Value
Field Label	Task Type
Field Name	Task_Type
Values	Requirements Gathering Backend/Automation Frontend Maintenance & Support CIP Initiative Break-fix Internal Defect Documentation
Description	<i>Leave blank</i>
Help Text	<i>Leave blank</i>
Display values alphabetically, not in the order entered	<i>Leave this unselected/unchecked</i>
Use first value as default value	<i>Leave this unselected/unchecked</i>

- Click **Save**

8. Create the **Status** picklist field
 - a. Drag a **Picklist** Element on to the Task object.
 - b. Enter the following details for the field

Parameter	Value
Field Label	Status
Field Name	Status
Values	Not Started In Progress Complete On Hold Canceled
Description	<i>Leave blank</i>
Help Text	<i>Leave blank</i>
Display values alphabetically, not in the order entered	<i>Leave this unselected/unchecked</i>
Use first value as default value	<i>Leave this unselected/unchecked</i>

- c. Click **Save**. (continued on next page)

9. Create the **Hours Worked** number field
- Drag a **Number** Element on to the newly created object.
 - Similar to the object creation form, a field creation form will appear when you drag the **Number** field element onto the object

Create Number Field (Object: Task)

Field Label	Hours Worked	
Field Name	Hours_Worked	
Description		
Help Text	Total hours worked	
This text displays on detail and edit pages when users hover over the Info icon next to this field.		
Default Value		
Length	3	Number of digits to the left of the decimal point
Decimal Places	2	Number of digits to the right of the decimal point
Required	<input type="checkbox"/>	Always require a value in this field in order to save a record
Unique	<input type="checkbox"/>	Do not allow duplicate values
External ID	<input type="checkbox"/>	Set this field as the unique record identifier from an external system
<input type="button" value="Save"/> <input type="button" value="Cancel"/>		

- c. Enter the following details for the field

Parameter	Value
Field Label	Hours Worked
Field Name	Hours_Worked
Length	3
Decimal Places	2
Description	<i>Leave blank</i>
Help Text	Total hours worked

Required	Checked
Unique	<i>Leave this unselected/unchecked</i>
External ID	<i>Leave this unselected/unchecked</i>

d. Click **Save**

10. Create the **Associated Request Master-Detail Relationship**

- a. **Step 1:** Drag a **Master-Detail** element on to the Task Object
- b. **Step 2:** Enter the following values for the field details

Parameter	Value
Field Label	Associated Request
Field Name	Associated_Request
Description	<i>Leave this blank</i>
Help Text	The request the task is associated to
Related To	Select the 'Request' object from the dropdown
Child Relationship Name	Auto Populates to Tasks. Do not change this.
Sharing Setting	Select Read/Write
Related List Label	Tasks

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

11. Create the **Assigned To Lookup Relationship**

a. **Step 1:** Drag a **Lookup Relationship** element on to the Task Object

b. **Step 2:** Enter the following values for the field detail

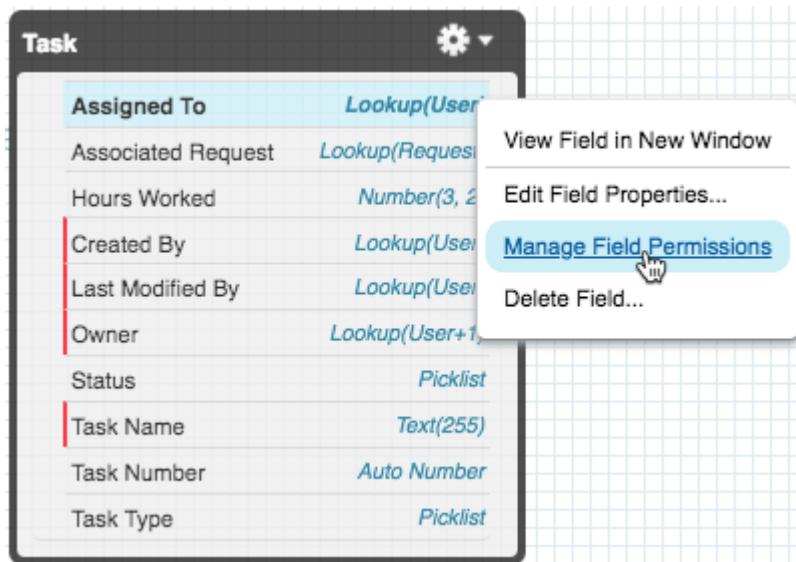
The screenshot shows the 'Field Detail' configuration screen for a new field. The 'Field Label' is set to 'Assigned To'. The 'Field Name' is 'Assigned_To'. The 'Namespace Prefix' is empty. The 'Description' and 'Help Text' fields are empty. The 'Related To' dropdown is set to 'User', with a note below stating 'Select the other object to which this object is related'. The 'Child Relationship Name' is 'Tasks'. The 'Related List Label' is 'Tasks', with a note below stating 'Specify the title that the related list will have in all of the layouts associated with the parent'. At the bottom are 'Save' and 'Cancel' buttons.

Parameter	Value
Field Label	Assigned To
Field Name	Assigned_To
Description	<i>Leave this blank</i>
Help Text	<i>Leave this blank</i>
Related To	Select the 'User' object from the dropdown
Child Relationship Name	Auto Populates to Tasks. Do not change this.
Related List Label	Tasks

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

13. Set the permissions for the custom fields of the Tasks object.

- To edit properties of a custom field, right-click the element name or label and select **Edit Field Properties**.



- To manage permissions of a custom field, click the element name or label and select **Manage Field Permissions**. Use the dialog box that appears to manage the field's visibility and writability for all standard and custom profiles. By default, the field-level security for custom fields is set to visible and editable for internal profiles—those not cloned from Partner User or Customer Portal Manager. Fields that are not normally editable, such as formulas and roll-up summary fields, are visible and read only

Manage Field Permissions

Field Level Security for Profile	<input type="checkbox"/> Visible	<input type="checkbox"/> Read-Only
*Channels	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Customer Community	<input type="checkbox"/>	<input type="checkbox"/>
*Customer Community - Members	<input type="checkbox"/>	<input type="checkbox"/>
*Marketing	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Partners	<input type="checkbox"/>	<input type="checkbox"/>
*Platform	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Sales	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Service	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Analytics Cloud Integration User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Analytics Cloud Security User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Authenticated Website	<input type="checkbox"/>	<input type="checkbox"/>
Basic Customer Portal Manager	<input type="checkbox"/>	<input type="checkbox"/>
Bronze Partner User	<input type="checkbox"/>	<input type="checkbox"/>
Chatter Only	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Chatter Only User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Clone - Company Communities User	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Community Member - Login-based	<input type="checkbox"/>	<input type="checkbox"/>
Company Communities User	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Save **Cancel**

- c. Set the permissions for all the custom fields you created to **Visible**. You can also skip this since you are a System Administrator and have access to the data.
- d. Click **Save**.

Lab 2 - UI - Create the Application and Tabs

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

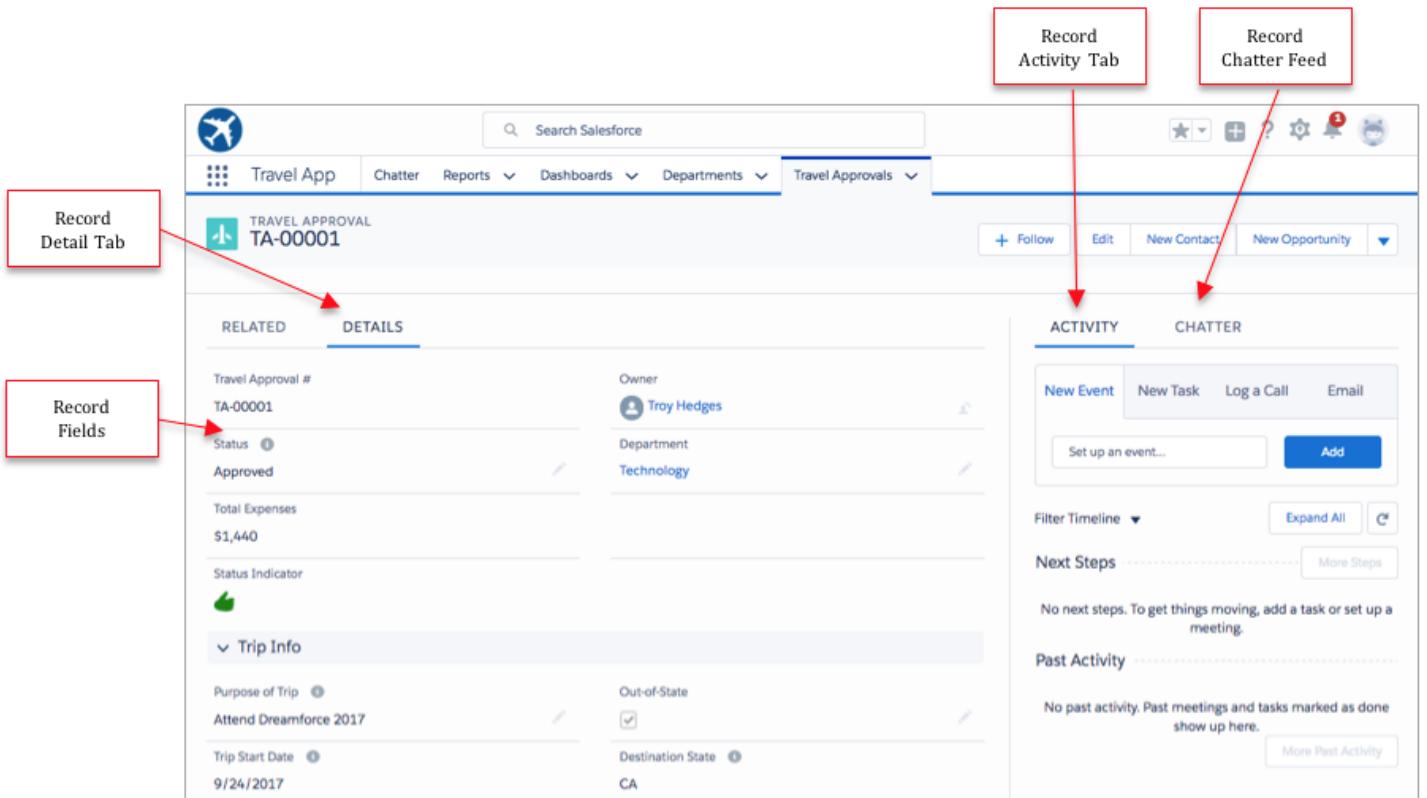
The screenshot shows a Salesforce application interface for a Travel Approval system. The top navigation bar includes an Application Selector (with a Travel App icon), Global Search, Tabs, and various configuration and user options. Below the navigation is a list view for 'TRAVEL APPROVALS' with 16 items. The list includes columns for TRAVEL APPROVAL#, DEPARTMENT, CREATED BY, STATUS, TRIP START DATE, TRIP END DATE, and STATUS INDICATOR (represented by green or red thumbs-up icons). Red boxes highlight several key components: 'Application Selector' points to the app icon; 'List View Selector' points to the list view icon and the 'All' dropdown; 'List View Data Area' points to the table body where the 16 travel approval records are listed. Other highlighted areas include 'Global Search', 'Tabs', 'List View Configuration', 'Setup Configuration', and 'User Options'.

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 includes 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.

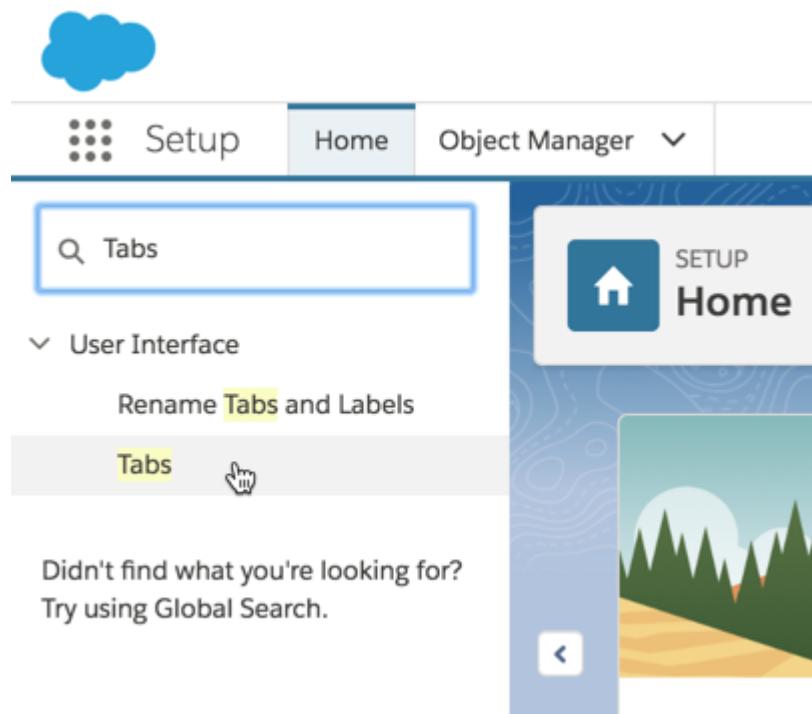
When viewing records in Salesforce, you have option to view the child objects related to your record. These related child objects are referred to “related lists” in the user interface. Below is screenshot of record where the related lists are being shown.

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.

Create a Tab for the Request Object

1. From Setup, enter **Tabs** in the Quick Find box, then select **Tabs**



2. In the Custom Object Tabs section, click **New**

Custom Object Tabs			New What Is This?
Action	Label	Tab Style	
Edit Del	Applicants	People	Used to manage job applicants.
Edit Del	Appointments	Alarm clock	
Edit	Associated Agents	Balls	
Edit	Attribute Sets	Treasure chest	
Edit Del	Catalog	Chalkboard	
Edit Del	Certifications	Trophy	
Edit Del	Channel Plans	People	Companies that collaboratively create joint business plans to align targets, expectations, geographic coverage, employee initiatives, and demand generation activities have longer lasting and more profitable relationships. Enabling a medium for cross channel planning helps companies identify each other's strengths and weaknesses to proactively take action.

3. From the Object picklist, select **Request**.

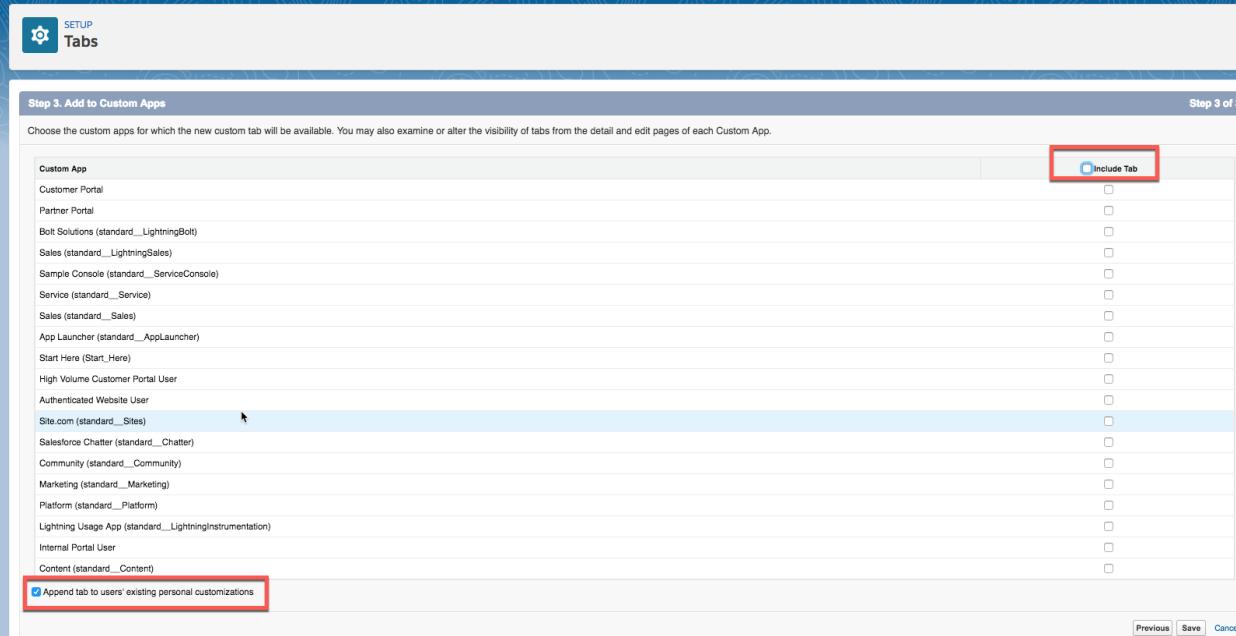
4. For the Icon, Click  and select **Form**  **Form**.

5. Click **Next**.

6. Leave the profile as is and click **Next**.

7. In the Add to Custom Apps section:

- Deselect **Include Tab**.
- Select **Append tab to users' existing personal customizations**.



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.

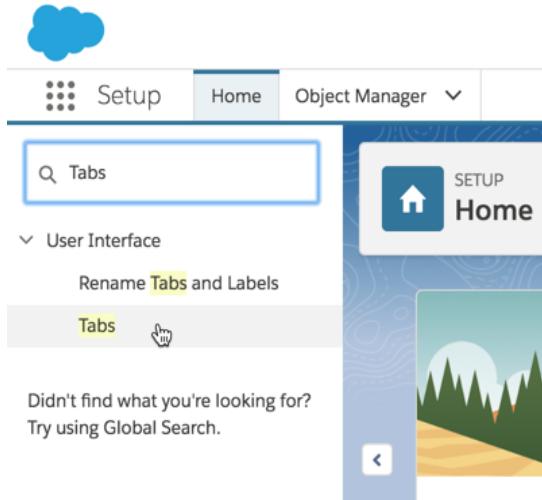
Custom App	<input type="checkbox"/> Include Tab
Customer Portal	<input type="checkbox"/>
Partner Portal	<input type="checkbox"/>
Bolt Solutions (standard__LightningBolt)	<input type="checkbox"/>
Sales (standard__LightningSales)	<input type="checkbox"/>
Sample Console (standard__ServiceConsole)	<input type="checkbox"/>
Service (standard__Service)	<input type="checkbox"/>
Sales (standard__Sales)	<input type="checkbox"/>
App Launcher (standard__AppLauncher)	<input type="checkbox"/>
Start Here (Start_Here)	<input type="checkbox"/>
High Volume Customer Portal User	<input type="checkbox"/>
Authenticated Website User	<input type="checkbox"/>
Site.com (standard__Sites)	<input type="checkbox"/>
Salesforce Chatter (standard__Chatter)	<input type="checkbox"/>
Community (standard__Community)	<input type="checkbox"/>
Marketing (standard__Marketing)	<input type="checkbox"/>
Platform (standard__Platform)	<input type="checkbox"/>
Lightning Usage App (standard__LightningInstrumentation)	<input type="checkbox"/>
Internal Portal User	<input type="checkbox"/>
Content (standard__Content)	<input type="checkbox"/>
<input checked="" type="checkbox"/> Append tab to users' existing personal customizations	

Previous Save Cancel

8. Click **Save**.

Create a Tab for the Task Object

1. From Setup, enter **Tabs** in the Quick Find box, then select **Tabs**.



2. In the Custom Object Tabs section, click **New**

Custom Object Tabs			New What Is This?
Action	Label	Tab Style	Di New Custom Object Tabs
Edit Del	Applicants	People	Used to manage job applicants.
Edit Del	Appointments	Alarm clock	
Edit	Associated Agents	Balls	
Edit	Attribute Sets	Treasure chest	
Edit Del	Catalog	Chalkboard	
Edit Del	Certifications	Trophy	
Edit Del	Channel Plans	People	Companies that collaboratively create joint business plans to align targets, expectations, geographic coverage, employee initiatives, and demand generation activities have longer lasting and more profitable relationships. Enabling a medium for cross channel planning helps companies identify each other's strengths and weaknesses to proactively take action.

3. From the Object picklist, select **Task**.

4. For the Icon, Click and select **Wrench** .

5. Click **Next**.

6. Leave the profile as is and click **Next**.

7. In the Add to Custom Apps section:

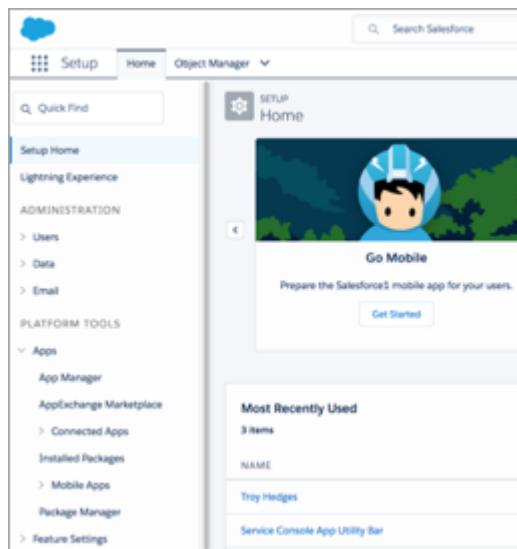
- Deselect **Include Tab**.
- Select **Append tab to users' existing personal customizations**.

8. Click **Save**.

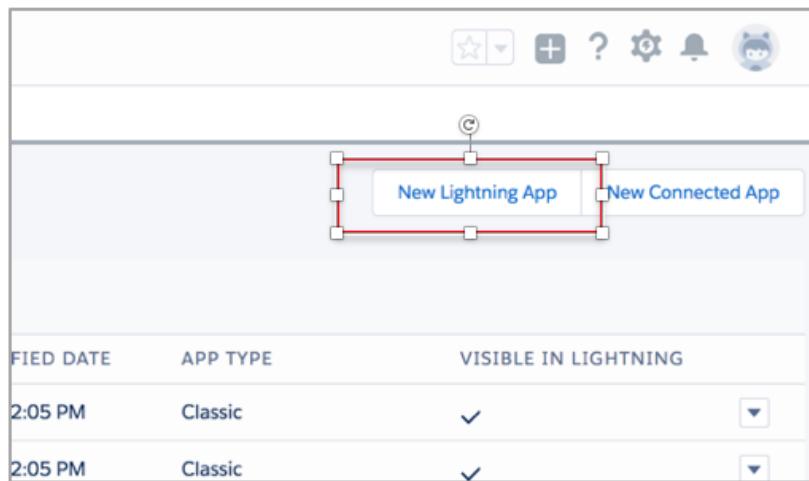
Create the Request Tracker App

The next thing we need to do is to create the **Request Tracker** app that provides us a view in to Salesforce of our specific Request and Task objects which we just created. Remember that a Salesforce application is a grouping of tabs that give you access to corresponding object data.

1. Access the **Setup** menu
2. In left-hand side of main window, click on **Apps > App Manager**



3. Click **New Lightning App** in the upper-right area.



4. On the “App Details & Branding” window, enter 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 Name i

LIGO OES Tracker

* Developer Name i

LIGO_OES_Tracker

Description i

Enter a description...

App Branding

Image i



Clear

Primary Color Hex Value i

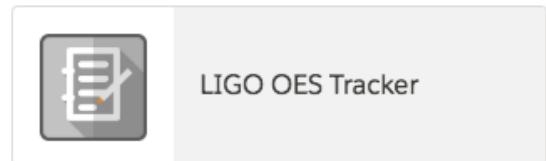


#0070D2

Org Theme Options

Use the app's image and color instead of the org's custom theme

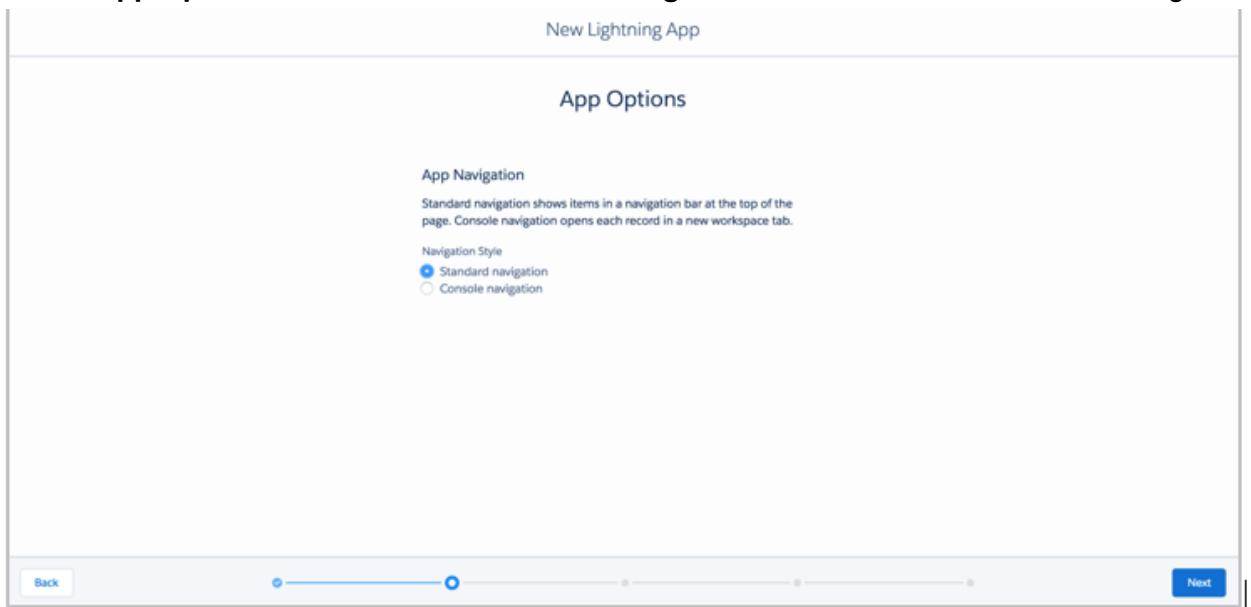
App Launcher Preview



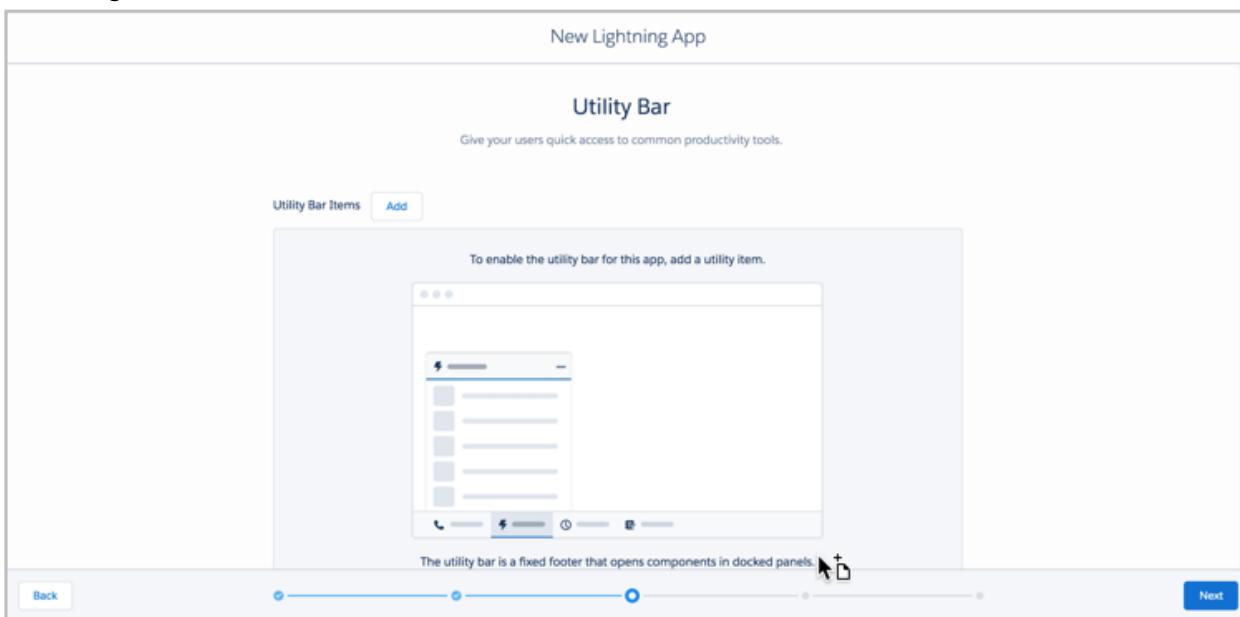
Parameter	Value
App Name	Request Tracker
Developer Name	LIGO_OES_Tracker (Auto populates)
Image	Upload the ‘App Logo.png’ image from the Salesforce Workshop folder you downloaded

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

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



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



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

New Lightning App

Select Items

Choose the items to include in the app, and arrange the order in which they appear. Users can personalize the navigation to add or move items, but users can't remove or rename the items that you add.

The screenshot shows the 'Select Items' step of the New Lightning App setup. It has two main sections: 'Available Items' on the left and 'Selected Items' on the right. A red box highlights the 'Selected Items' section, which contains the following items in order:

- Home
- Chatter
- Requests
- Tasks
- Reports
- Dashboards

Below the sections are four small circular arrows indicating the ability to rearrange the items. At the bottom is a horizontal progress bar with five dots, where the fourth dot is blue and the others are grey.

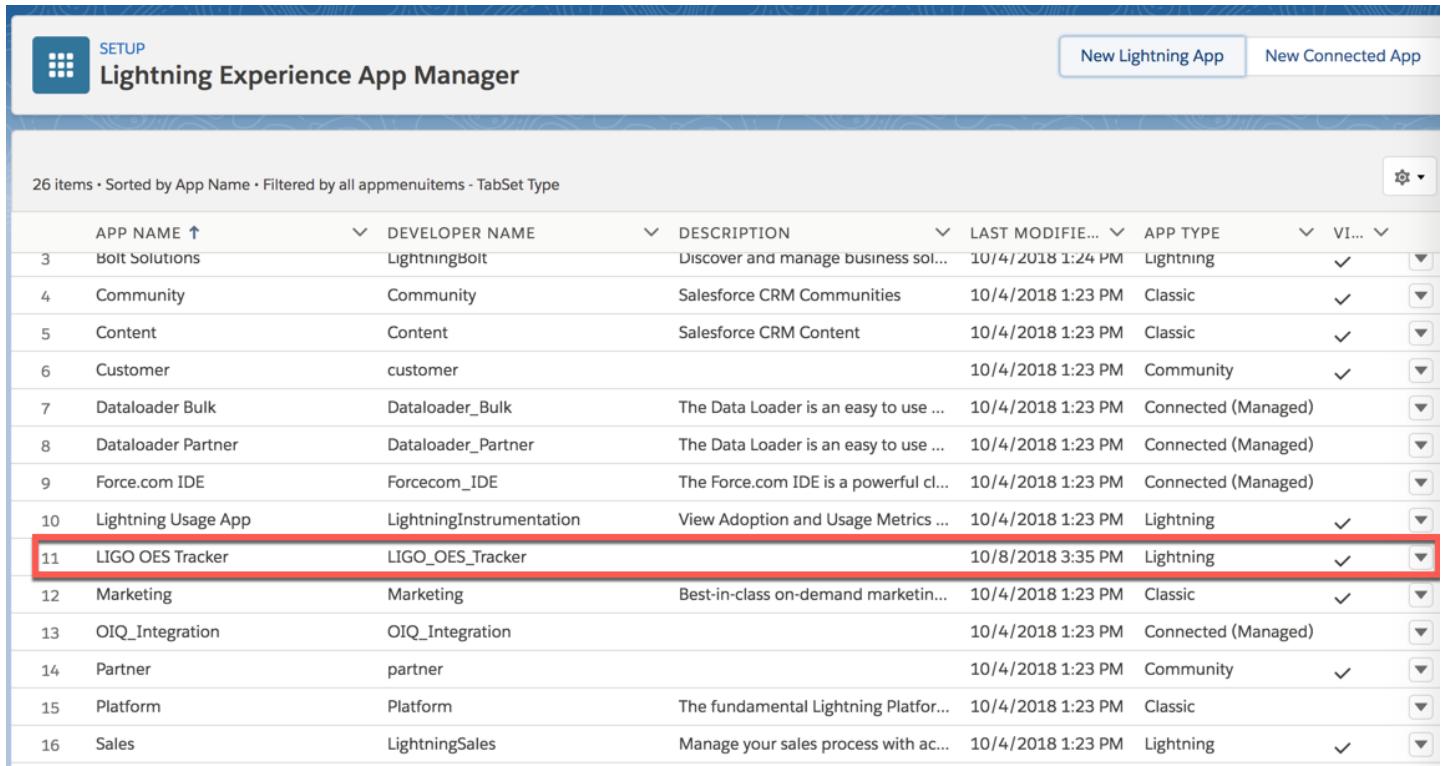
9. On the **Assign to User Profiles** screen, select **System Administrator** like the following screen. Click **Save & Finish** button in lower-right.

The screenshot shows the 'Assign to User Profiles' step of the New Lightning App setup. It has two main sections: 'Available Profiles' on the left and 'Selected Profiles' on the right. A red box highlights the 'Selected Profiles' section, which contains the following profile:

- System Administrator

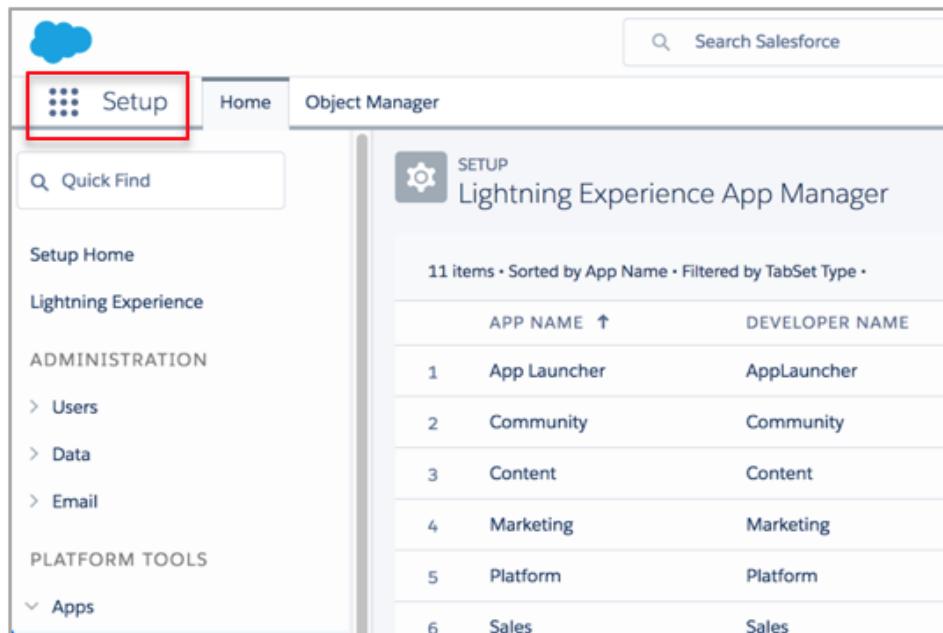
At the bottom left is a 'Back' button, and at the bottom right is a 'Save & Finish' button.

10. You should now have a new **Request Tracker** app on the **App Manager** screen like the following:



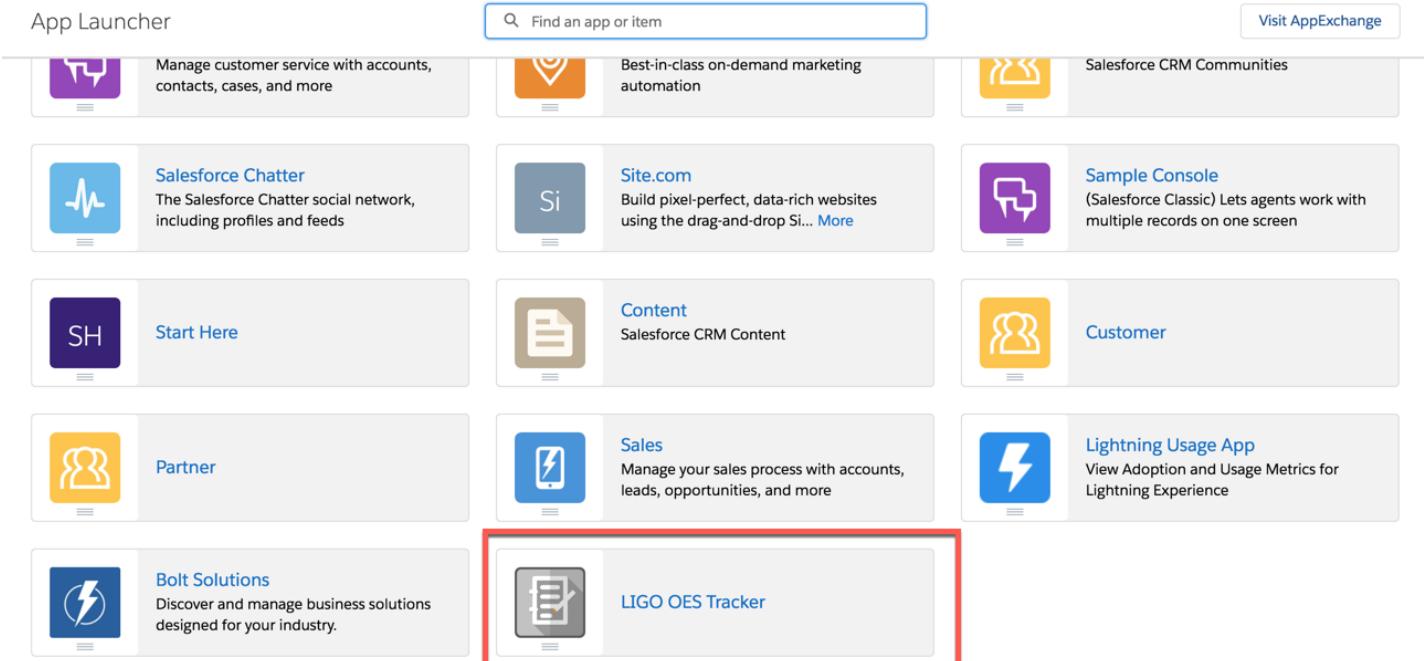
26 items - Sorted by App Name - Filtered by all appmenuitems - TabSet Type						
	APP NAME ↑	DEVELOPER NAME	DESCRIPTION	LAST MODIFI... ↓	APP TYPE	VI... ▾
3	Bolt Solutions	LightningBolt	Discover and manage business sol...	10/4/2018 1:24 PM	Lightning	✓ ▾
4	Community	Community	Salesforce CRM Communities	10/4/2018 1:23 PM	Classic	✓ ▾
5	Content	Content	Salesforce CRM Content	10/4/2018 1:23 PM	Classic	✓ ▾
6	Customer	customer		10/4/2018 1:23 PM	Community	✓ ▾
7	Dataloader Bulk	Dataloader_Bulk	The Data Loader is an easy to use ...	10/4/2018 1:23 PM	Connected (Managed)	✓ ▾
8	Dataloader Partner	Dataloader_Partner	The Data Loader is an easy to use ...	10/4/2018 1:23 PM	Connected (Managed)	✓ ▾
9	Force.com IDE	Forcecom_IDE	The Force.com IDE is a powerful cl...	10/4/2018 1:23 PM	Connected (Managed)	✓ ▾
10	Lightning Usage App	LightningInstrumentation	View Adoption and Usage Metrics ...	10/4/2018 1:23 PM	Lightning	✓ ▾
11	LIGO OES Tracker	LIGO_OES_Tracker		10/8/2018 3:35 PM	Lightning	✓ ▾
12	Marketing	Marketing	Best-in-class on-demand marketin...	10/4/2018 1:23 PM	Classic	✓ ▾
13	OIQ_Integration	OIQ_Integration		10/4/2018 1:23 PM	Connected (Managed)	✓ ▾
14	Partner	partner		10/4/2018 1:23 PM	Community	✓ ▾
15	Platform	Platform	The fundamental Lightning Platfor...	10/4/2018 1:23 PM	Classic	✓ ▾
16	Sales	LightningSales	Manage your sales process with ac...	10/4/2018 1:23 PM	Lightning	✓ ▾

11. Let's now navigate to the **Request Tracker** application to see what it looks like so far. We will use the application selector to accomplish this. 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 **Request Tracker** application (see next page).



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

12. An application selector window will pop-up. Click on the **Request Tracker** application to select it.



13. Your window should now look like the following. It currently has the Home, Chatter, Requests, Tasks, Reports, and Dashboards tabs as you defined while creating the application

The screenshot shows the Salesforce Home tab. The top navigation bar includes tabs for Home, Chatter, Requests, Tasks, Reports, and Dashboards. The main content area displays the "LIGO OES Tracker" application. The application interface features a "Quarterly Performance" chart with a Y-axis from 0 to 500k and an X-axis from Oct to Dec. The chart shows three data series: Closed (\$0), Open (>70%) (\$0), and Goal (represented by a blue line). A message on the chart says, "Add the opportunities you're working on, then come back here to view your performance." To the right of the chart is an "Assistant" panel with a cartoon illustration of a character and the text, "Nothing needs your attention right now. Check back later." Below the chart, there's a "News" section with four news items:

- Hyatt Hotels to acquire Colorado-based Two Roads Hospitality in \$48... (General Business News - The Denver Post · 1h)
- Gigna Announces Promotion of Suchet Bhandari to Vice President,... (General Business News - chicagotribune.com · 2h)
- QMS Capital Management hedge fund amendment QMS Diversified... (General Business News - Triangle Business Journal · 1h)
- Kirsten Green's raises \$350M - General Business News - New York Business

At the bottom, there are file tabs for "images.png" and "Request Tracker.svg".

14. Access the **Request** tab. Click on 'New'. Enter the following details

Field	Value
Request Title	Salesforce App Dev POC
Activity Type	Project Request
Status	Not Started
Phase	POC
Start Date	10/22/2018
End Date	10/30/2018
Request Date	Auto Populated (Remember the default value we set for this field?)
Description	POC for Salesforce App Dev projects
Estimated Effort (in Hours)	24
Account	United Partners

15. Click **Save**. You will be redirected to the newly created record with a success message toast 'Request created successfully'

The screenshot shows the LIGO OES Tracker application interface. At the top, there is a navigation bar with icons for Home, Chatter, Requests, Tasks, Reports, and Dashboards. Below the navigation bar, a green toast message box appears with a checkmark icon and the text "Request was created." To the right of the toast is a close button (X). The main content area displays a request record for "Request#0001". The record has a blue header bar with the title "Request" and the number "Request#0001". The "DETAILS" tab is selected. The form fields include:

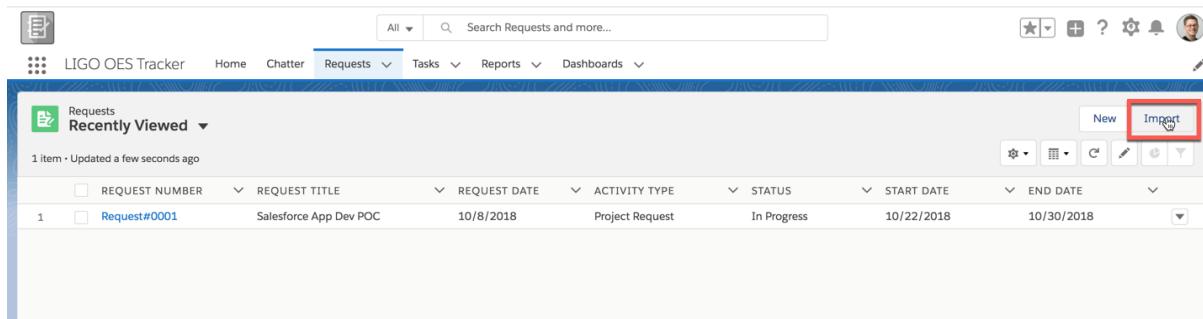
- Request Number: Request#0001
- Request Title: Salesforce App Dev POC
- Activity Type: Project Request
- Status: Not Started
- Phase: POC
- Start Date: 10/22/2018
- End Date: 10/30/2018
- Request Date: 10/8/2018
- Documentation Complete: (checkbox is unchecked)
- Description: POC for Salesforce App Dev projects

Lab 3 – Import Data for the Request and Task Objects

Import Data for the Request Object

Now that we have created the Request and Task objects, let's use the Data Import Wizard to easily import load data in CSV files.

1. Access the Request tab and click the **Import** button on the top right corner.



2. On the Data Import Wizard that opens up click on **Requests** under the 'What kind of data are you importing?'.
3. Leave all the checkboxes under the 'What do you want to do?' section unchecked.
4. Drag the CSV file named '**Request Data.csv**' in the **Salesforce Workshop** onto the section 'Where is your Data Located?'. Alternatively, click **Choose File** and select the file from your file system.
5. Click **Next**.
6. The name of column headers in the CSV file matches the names of the field labels of the Request object. In this scenario, the Data Import Wizard automatically maps the field of the Request Object to the column headers found in the CSV. If you like, you can manually change these mappings. (see next page)

Edit	Mapped Salesforce Object	CSV Header	Example	Example	Example
Change	Activity Type	Activity Type	Change Request	Break-fix	Maintenance & Support
Change	Description	Description	Pellentesque at	Proin interdum	Mauris enim leo, rhoncus sed, vestibulum sit amet, cursus id, turpis. Int
Change	Documentation Complete	Documentation Complete	Cum sociis nato	Etiam vel augue	Nulum sit amet turpis elementum ligula vehicula consequat. Morbi a ip
Change	Estimated Effort (in hours)	Estimated Effort (in hours)	Etiam vel augue	166	In quis justo. Maecenas rhoncus aliquam lacus. Morbi quis tortor id nul
Change	Phase	Phase	FALSE	Production	FALSE
Change	Request Date	Request Date	Requirements G	2/19/18	181
Change	Request Title	Request Title	7/13/18	Aenean ferment	Production
Change	Status	Status	Quisque arcu lib	In Progress	4/3/18
Change	Start Date	Start Date	Ongoing	3/19/18	Phasellus id sapien in sapien iaculis congue. Vivamus metus arcu, adip
Change	End Date	End Date	8/13/18	7/19/18	Not Started
					5/3/18

Cancel Previous Next

7. Click **Next**. On the success message popup that appears click on OK. The data is loaded as a background batch job and you will be redirected to the status of that batch job. These are very small files and the records should be uploaded instantly. You will see the following screen

Bulk Data Load Job
7505A00000GpMDe

View the details of a bulk data load job.

< Back to List: Bulk Data Load Jobs

Bulk Data Load Job Detail

Job ID	Submitted By	Job Type	Bulk V1	Status	Closed
7505A00000GpMDe	Abhishek Chaturvedi	Operation	Insert	408	Total Processing Time (ms)
		Queued Batches	0	358	API Active Processing Time (ms)
		In Progress Batches	0	0	Apex Processing Time (ms)
		Completed Batches	1	408	
		Failed Batches	0		
Time to Complete ([hh:]mm:ss)	Object	Progress	100%		
00:01	Task	Records Processed	200		
	External ID Field	Records Failed	61		
	Content Type	Retries	0		
	CSV				
	Concurrency Mode				
	Parallel				
Click on 'View Request' and 'View Result' to download CSV files to see request and errors					
Batches					
View Request	View Result	Batch ID	Start Time	End Time	Total Processing Time (ms)
View Request	View Result	7515A00000NpP4q	10/10/2018 4:15 PM	10/10/2018 4:15 PM	408
					API Active Processing Time (ms)
					Apex Processing Time (ms)
					Records Processed
					Records Failed
					Retry Count
					State Message
					Status
					Completed

Import Data for the Task Object

- Access the **Task** tab and click the **Import** button on the top right corner.
- On the Data Import Wizard that opens up click on **Tasks** under the 'What kind of data are you importing?'.
- We want to associate the Tasks with a Request when they are uploaded. The Data Loader can help you with this as well. The **Task Data.csv** file in the **Salesforce Workshop** has a column named '**Associated Request**' with the Request Name populated. Under the 'What

do you want to do?' section select the **Request Name** option under the 'Which Request field in your file do you want to match against to set the Associated Request lookup field?'

The screenshot shows the 'Import your Data into Salesforce' interface. At the top, there's a progress bar with 'Getting closer ...' and two buttons: 'Choose data' and 'Edit mapping'. Below the progress bar, it says 'Import your Data into Salesforce' and 'You can import up to 50,000 records at a time.' On the left, there's a sidebar with 'Standard objects' and 'Custom objects' tabs, and a 'Tasks' section which is selected. In the main area, there are three columns: 'What kind of data are you importing?', 'What do you want to do?', and 'Where is your data located?'. The 'What do you want to do?' column has sections for 'Add new records', 'Update existing records', and 'Add new and update existing records'. The 'Add new records' section contains fields for 'Match by:' (set to 'None'), 'Which User field in your file designates record owners?' (set to 'None'), and 'Which Request field in your file do you want to match against to set the Associated Request lookup field?' (set to 'Request Name'). This last field is highlighted with a red box. The 'Where is your data located?' column shows a CSV file named 'Task Data.csv' uploaded, with settings for 'Character Code' (ISO-8859-1), 'Values Separated By' (Comma), and 'File' (Choose File). A cursor is hovering over the 'Character Code' dropdown.

4. Drag the CSV file named **Task Data.csv** in the **Salesforce Workshop** onto the section 'Where is your Data Located?'. Alternatively, click **Choose File** and select the file from your file system.
5. Click **Next**.
6. Your screen should look like the following

The screenshot shows the 'Edit Field Mapping: Tasks' screen. At the top, there's a progress bar with 'Almost done' and two buttons: 'Choose data' and 'Edit mapping'. Below the progress bar, it says 'Edit Field Mapping: Tasks' and 'Your file has been auto-mapped to existing Salesforce fields, but you can edit the mappings if you wish. Unmapped fields will not be imported.' A table below shows the field mappings:

Edit	Mapped Salesforce Object	CSV Header	Example
Change	Associated Request	Associated Request	Request#0033
Change	Hours Worked	Hours Worked	10
Change	Task Type	Task Type	POC
Change	Task Name	Task Name	Vestibulum ante ipsur
Change	Status	Status	Complete

7. Click **Next**. On the success message popup that appears click on OK. You will see the following screen

Bulk Data Load Job
7505A00000GpMDe

[Help for this Page](#)

View the details of a bulk data load job.

[Back to List: Bulk Data Load Jobs](#)

Bulk Data Load Job Detail

[Reload](#)

Job ID	7505A00000GpMDe	Job Type	Bulk V1	Status	Closed
Submitted By	Abhishek Chaturvedi	Operation	Insert	Total Processing Time (ms)	408
Start Time	10/10/2018 4:15 PM PST	Queued Batches	0	API Active Processing Time (ms)	358
End Time	10/10/2018 4:15 PM PST	In Progress Batches	0	Apex Processing Time (ms)	0
Time to Complete ([hh:]mm:ss)	00:01	Completed Batches	1		
Object	Task	Failed Batches	0		
External ID Field		Progress	100%		
Content Type	CSV	Records Processed	200		
Concurrency Mode	Parallel	Records Failed	61		
API Version	43.0	Retries	0		

Number of records processes and records that failed

Click on 'View Request' and 'View Result' to download CSV files to see request and errors

Batches

[Reload](#)

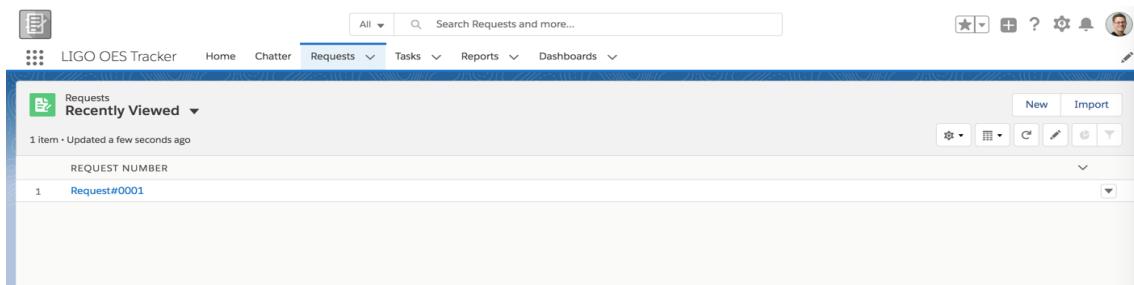
	View Request	View Result	Batch ID	Start Time	End Time	Total Processing Time (ms)	API Active Processing Time (ms)	Apex Processing Time (ms)	Records Processed	Records Failed	Retry Count	State Message	Status
	View Request	View Result	7515A00000NpP4q	10/10/2018 4:15 PM	10/10/2018 4:15 PM	408	358	0	200	61	0	Completed	

Lab 4 - UI - Create List Views and Modify the Page Layout

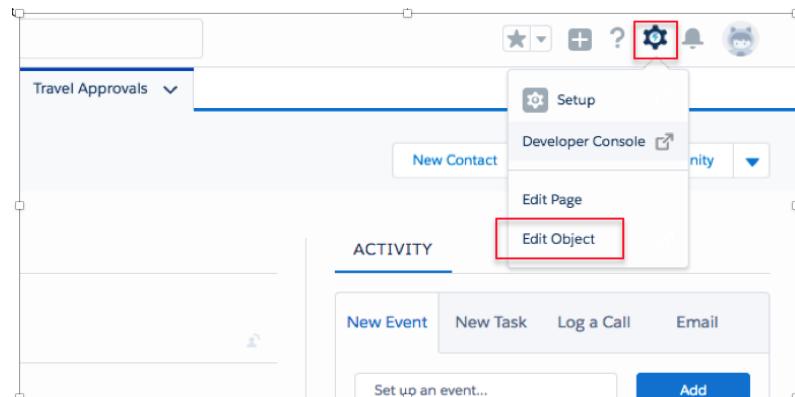
Edit a List View

Before we change the detail layout of the **Request** object, you might have noticed that when you click on the **Request** tab that it currently only shows the **Request Number** field and no other columns. Give it a try and verify that you see screen like the following (i.e. navigate to your **Request Tracker App** and click on the **Request** tab):

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



2. Let's first add some columns to the **Recently Viewed** list view which by default only shows the **Request Number** field. Click on the **Request#0001** record you created earlier so that you are now on the record detail page.
3. In top-right, click on gear icon and then **Edit Object**. This will load the object configuration page for the **Request** object.



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

5. Let's now add the columns we want to show on the **Recently Viewed** list view. Select the following columns and using the arrows, move them from left-hand side to the right-hand side.
- Request Number
 - Request Title
 - Request Date
 - Activity Type
 - Status
 - Start Date
 - End Date

Your screen should look like the following:

Edit Search Layout	
Request Search Results	
Select the fields to include in this search layout. Note that your choices only determine the fields that are available to users when customizing their search results columns. Please r	
Available Fields Record ID Account Description Documentation Complete Estimated Effort (in hours) Phase Owner Alias Owner First Name Owner Last Name Created By Alias Created By	Selected Fields Request Number Request Title Request Date Activity Type Status Start Date End Date
<input style="width: 40px; height: 20px; border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px; margin-bottom: 5px;" type="button" value="Add"/> <input style="width: 40px; height: 20px; border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px;" type="button" value="Remove"/>	<input style="width: 20px; height: 20px; border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px; margin-bottom: 5px;" type="button" value="Up"/> <input style="width: 20px; height: 20px; border: 1px solid #ccc; border-radius: 5px; padding: 2px 10px;" type="button" value="Down"/>
<input style="width: 15px; height: 15px; border: 1px solid #ccc; border-radius: 5px; padding: 2px; margin-right: 5px;" type="checkbox"/> Override the search result column customizations for all users	

6. Click **Save** button.

7. Navigate back to your **Request Tracker App** and click on the **Requests** tab to get back to your **Recently Viewed** list view. It should look like the following

The screenshot shows the 'Recently Viewed' list view in the Requests section of the LIGO OES Tracker. The list contains one item: Request#0001, which is a 'Salesforce App Dev POC'. The columns displayed are REQUEST NUMBER, REQUEST TITLE, REQUEST DATE, ACTIVITY TYPE, STATUS, START DATE, and END DATE. The status for this request is 'Not Started'.

Create a Custom List View

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).

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

The screenshot shows the 'Recently Viewed' list view with a context menu open over the list view controls. The 'New' option is highlighted with a red box. Other options in the menu include 'Clone', 'Rename', 'Sharing Settings', 'Show List Filters', 'Select Fields to Display', 'Delete', and 'Reset Column Widths'.

2. Name the new list view "**In Progress 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.

The screenshot shows the 'New List View' configuration window. The 'List Name' field is filled with 'In Progress Requests'. The 'List API Name' field is filled with 'In_Progress_Requests'. Under the heading 'Who sees this list view?', the radio button for 'All users can see this list view' is selected and highlighted with a red box. The 'Save' button is visible at the bottom right.

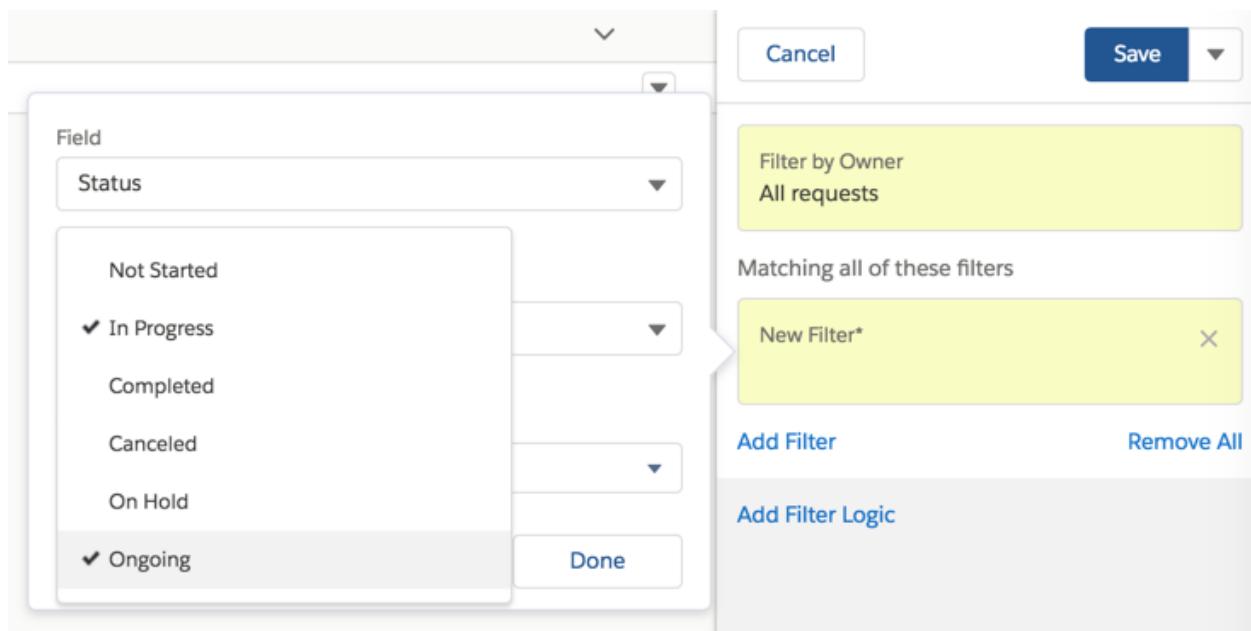
3. Your screen will now look like the following.

4. Let's change the '**Filter by Owner**' filter to look at requests logged by all users in our custom list view. Click on the '**Filter by Owner**' tile and select '**All Requests**' and click '**Done**'.

5. Next let's add a filter to the list view to only show in progress and ongoing requests that are not Closed. On right-hand side of screen, click the **Add Filter** button. Select the following values for the filter:

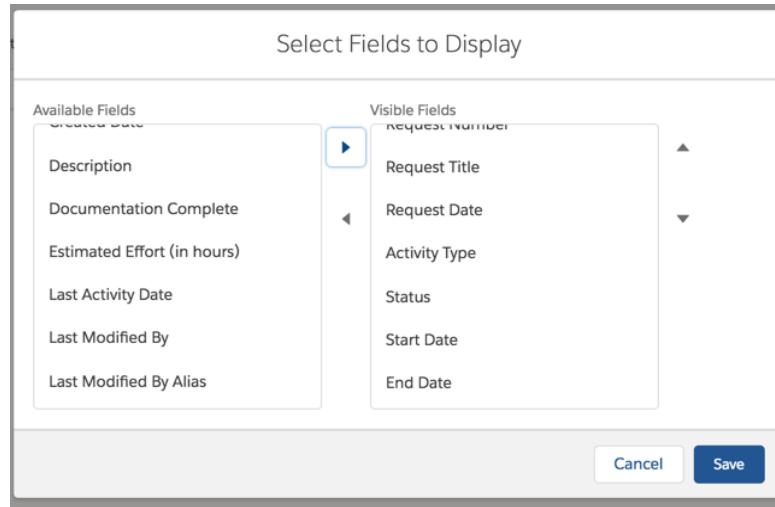
Parameter	Value
Field	Status
Operator	equals
Value	In Progress, Ongoing

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



6. Click the **Save** button when filters are complete.
7. 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.
 - o Request Number
 - o Request Title
 - o Request Date
 - o Activity Type
 - o Status
 - o Start Date
 - o 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 or hide filters by click on the funnel icon on the right-hand side.

The screenshot shows a list view titled 'Requests In Progress Requests'. The top navigation bar includes 'New', 'Import', and a funnel icon (highlighted with a red box). Below the title, it says '0 items • Sorted by Request Number • Filtered by all requests - Status • Updated a few seconds ago'. The main area is titled 'REQUEST NUMBER ↑'. To the right, there is a 'Filters' sidebar. It shows a single filter: 'Filter by Owner All requests'. Below that, it says 'Matching all of these filters' and shows a single filter: 'Status equals In Progress, Ongoing'. There are 'Add Filter' and 'Remove All' buttons, and a link 'Add Filter Logic'.

Modify the Page Layout of the Request Object

A page layout determines the fields, sections, related lists, and buttons that appear when users view or edit a record. You can modify an object's default page layout or create a new one.

You can customize a page's contents, such as the fields and buttons that appear on the page, by using the page layout editor tool. The page layout editor, also known as page layouts, helps you manage the content of pages in both our Classic UI and in Lightning Experience. The page layout editor is what we'll be working with in this section.

We will now adjust the user interface for the Request records to better suit our requirements.

1. Drill down to the Request record we created earlier (i.e. click on Requests tab and click on the record you created which should be labeled "Request#0001"). Your screen should look similar to following: (see next page)

The screenshot shows a Salesforce Request record for "Request#0001". The page has a header with tabs for "All", "Search Requests and more...", and various navigation links like Home, Chatter, Requests, Tasks, Reports, and Dashboards. Below the header is a toolbar with icons for New Contact, New Opportunity, and Edit. The main content area is divided into two sections: "RELATED" and "DETAILS". The "RELATED" section contains fields for Request Number (Request#0001), Request Title (Salesforce App Dev POC), Activity Type (Project Request), Status (In Progress), Phase (POC), Start Date (10/22/2018), End Date (10/30/2018), Request Date (10/8/2018), Documentation Complete (checkbox), Description (POC for Salesforce App Dev projects), and Estimated Effort (in hours). The "DETAILS" section shows the Owner as "Abhishek Chaturvedi". To the right is an "ACTIVITY" sidebar with a "New Task" section containing a task for "Log a Call", a "Create a task..." input field, and an "Add" button. It also includes filters, a refresh button, and sections for "Next Steps" and "Past Activities".

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

The screenshot shows the Salesforce setup menu open, with the "Edit Page" option highlighted by a red box. The menu also includes "Developer Console" and "Edit Object". The background shows a portion of a Request record page with an "ACTIVITY" sidebar.

3. 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 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 onto 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 **Request Layout (previewed)**.

The screenshot shows the Lightning App Builder interface for the 'Request Record Page'. The main area displays a 'Request' record with various fields like Request Number, Request Title, Activity Type, Status, and Description. A red box highlights the entire form area. To the right, there's a sidebar titled 'Assign Page Layouts' with a section for 'Request Layout (previewed)', which is also highlighted with a red box. Other sections in the sidebar include 'See How It Works', 'Set fields in Page Layouts', and 'View all layouts'.

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

The screenshot shows the Page Layout Editor for the 'Request' object. The left sidebar lists various customization options like Details, Fields & Relationships, Page Layouts, and Lightning Record Pages. The 'Fields & Relationships' section is currently selected. The main area shows the 'Request Layout' configuration, featuring a 'Fields' section with a table containing fields like Section, Created By, Estimated Effort..., Request Date, Status, and others. A red box highlights the 'Blank Space' field in the list. Below this is a 'Request Sample' section with a 'Highlights Panel' and 'Quick Actions in the Salesforce Classic Publisher' section. At the bottom, there are sections for 'Salesforce Mobile and Lightning Experience Actions' and 'Request Detail'.

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

	Created By	Estimated Effort ...	Request Date	Status
Section	Created By	Estimated Effort ...	Request Date	Status
Blank Space	Description	Last Modified By	Request Number	
Account	Documentation Com...	Owner	Request Title	
Activity Type	End Date	Phase	Start Date	

actions in the Quick Actions in the Salesforce Classic Publisher section, and have saved the layout, then this section inherits that set of actions by default when you click to override.

Request Detail

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

Information (Header visible on edit only)

Request Number	GEN-2004-001234	Owner	Sample Text
Request Title	Sample Text		
Activity Type	Sample Text		
Status	Sample Text		
Phase	Sample Text		
Start Date	10/10/2018		
End Date	10/10/2018		
Request Date	10/10/2018		
Documentation Complete	✓		
Description	Sample Text		
Estimated Effort (in hours)	9,868		
Account	Sample Text		

System Information (Header visible on edit only)

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

Save Quick Save Preview As... Cancel Undo Redo Layout Properties

Fields

	Created By	Estimated Effort ...	Request Date	Status
Section	Created By	Estimated Effort ...	Request Date	Status
Blank Space	Description	Last Modified By	Request Number	
Account	Documentation Com...	Owner	Request Title	
Activity Type	End Date	Phase	Start Date	

Request Detail

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

Information (Header visible on edit only)

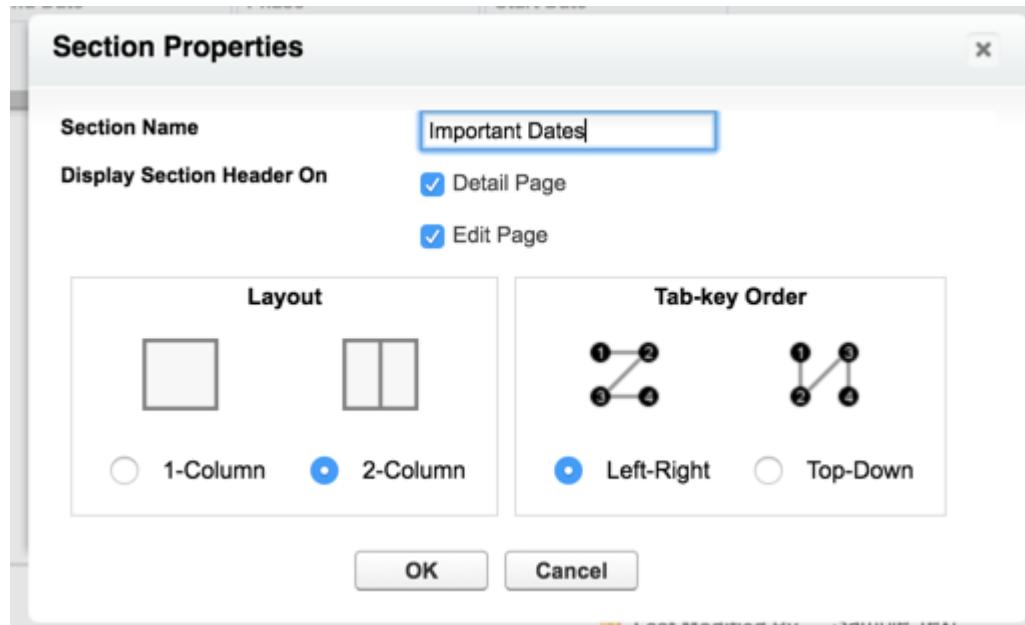
Request Number	GEN-2004-001234	Owner	Sample Text
Request Title	Sample Text		
Activity Type	Sample Text		
Status	Sample Text		
Phase	Sample Text		
Start Date	10/10/2018		
End Date	10/10/2018		
Request Date	10/10/2018		
Documentation Complete	✓		
Description	Sample Text		
Estimated Effort (in hours)	9,868		
Account	Sample Text		

System Information (Header visible on edit only)

Created By Sample Text Last Modified By Sample Text

Mobile Cards (Salesforce mobile only)

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



6. Name the section "Important Dates" 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.

A screenshot of the Salesforce Layout Properties screen. At the top, there's a toolbar with Save, Quick Save, Preview As..., Cancel, Undo, Redo, and Layout Properties. The main area shows a table of fields: Request Number, Request Title, Activity Type, Status, Phase, Start Date, End Date, Request Date, Documentation Complete, Description, Estimated Effort (in hours), and Account. Below the table, the 'Important Dates' section is visible, containing fields for Request Number, Request Title, Activity Type, Status, Phase, Start Date, End Date, Request Date, Documentation Complete, Description, Estimated Effort (in hours), and Account. At the bottom, there are sections for System Information (Created By, Last Modified By) and a footer with a plus sign and search icons.

7. Now let's reorganize some of the fields on the page. Drag the Start Date, End Date and Request Date fields down to the Important Dates section. Set them in the appropriate columns as shown in the image below. Your screen should look like following

Save Quick Save Preview As... Cancel Undo Redo Layout Properties

Fields

Section	Created By	Estimated Effort ...	Request Date	Status
Blank Space	Description	Last Modified By	Request Number	
Account	Documentation Com...	Owner	Request Title	
Activity Type	End Date	Phase	Start Date	

Information (Header visible on edit only)

Request Number	GEN-2004-001234	Owner	Sample Text
Request Title	Sample Text		
Activity Type	Sample Text		
Status	Sample Text		
Phase	Sample Text		
Documentation Complete	✓		
Description	Sample Text		
Estimated Effort (in hours)	9,868		
Account	Sample Text		

Important Dates

Start Date	10/10/2018	Request Date	10/10/2018
End Date	10/10/2018		

System Information (Header visible on edit only)

Created By	Sample Text	Last Modified By	Sample Text
------------	-------------	------------------	-------------

Custom Links (Header visible on edit only)

- Next let's drag and arrange some the fields in the information section over to the right column in that section. Drag the following fields to the right column -
 - Estimated Effort (in hours)
 - Phase
 - Documentation Complete
 - Owner
 - Account

The screen should look like following

SETUP > OBJECT MANAGER Request

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Object Limits

Record Types

Related Lookup Filters

Search Layouts

Triggers

Validation Rules

Save Quick Save Preview As... Cancel Undo Redo Layout Properties

Fields

Section	Created By	Estimated Effort ...	Request Date	Status
Blank Space	Description	Last Modified By	Request Number	
Account	Documentation Com...	Owner	Request Title	
Activity Type	End Date	Phase	Start Date	

Information (Header visible on edit only)

Request Number	GEN-2004-001234	Estimated Effort (in hours)	9,868
Request Title	Sample Text	Phase	Sample Text
Activity Type	Sample Text	Documentation Complete	✓
Status	Sample Text	Owner	Sample Text
Description	Sample Text	Account	Sample Text

Important Dates

Start Date	10/10/2018	Request Date	10/10/2018
End Date	10/10/2018		

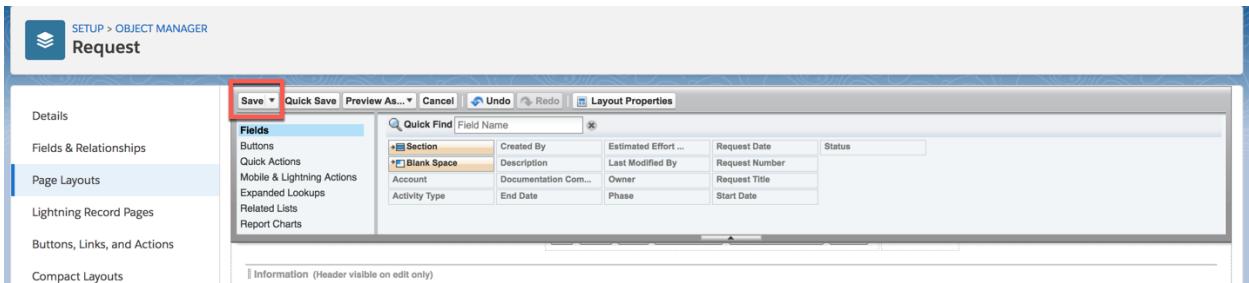
System Information (Header visible on edit only)

Created By	Sample Text	Last Modified By	Sample Text
------------	-------------	------------------	-------------

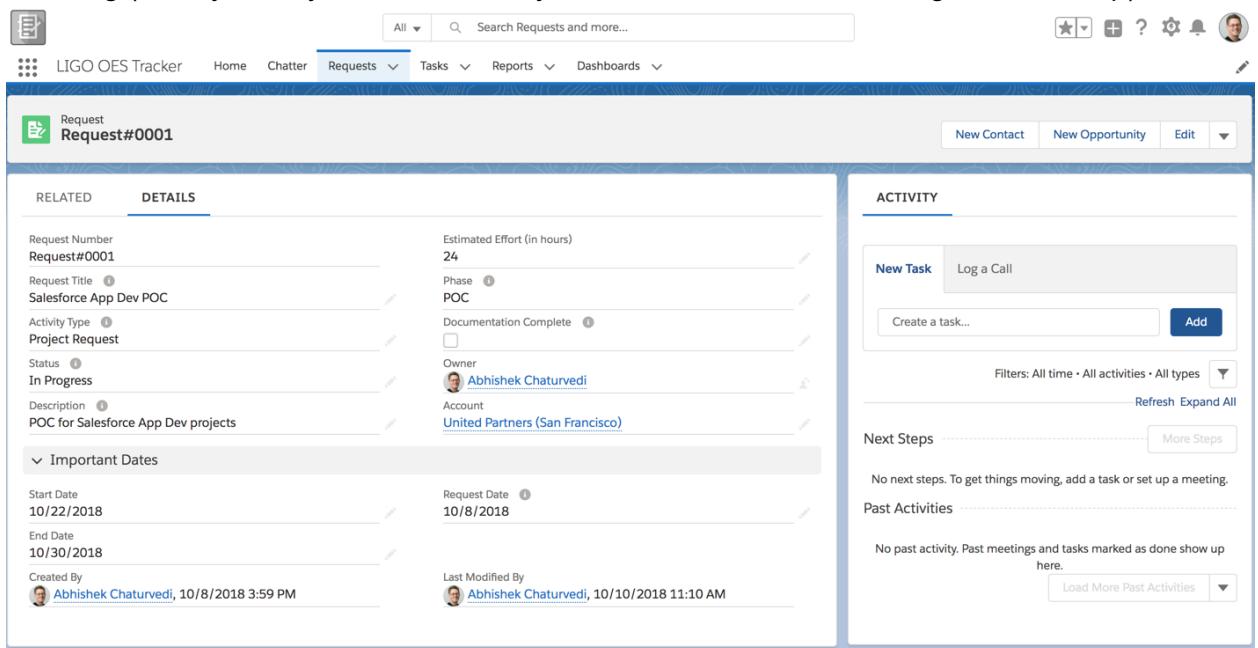
Custom Links (Header visible on edit only)

Mobile Cards (Salesforce mobile only)

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

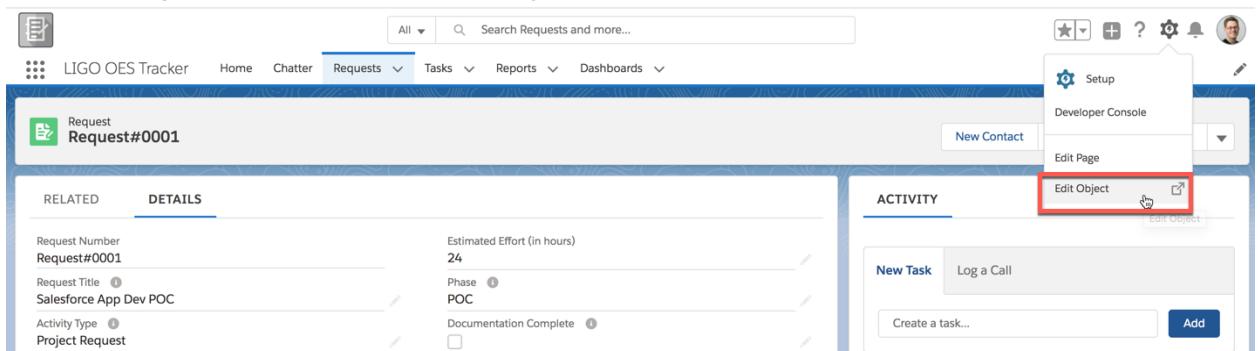


10. Navigate back to one of your Request records and look at the page. It should now look like the following (note: you may need to refresh your browser for the new changes to show up).



Add the Task Related List on the Request page

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



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

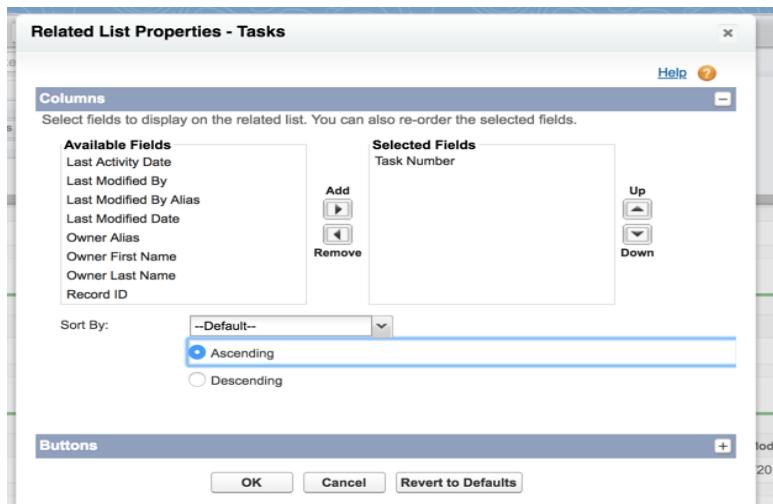
PAGE LAYOUT NAME	CREATED BY	MODIFIED BY
Request Layout	Abhishek Chaturvedi, 10/4/2018, 2:15 PM	Abhishek Chaturvedi, 10/10/2018, 12:31 PM

3. We are now back to the page layout editor we used earlier (notice that you used a different path to get here). Click on the **Related Lists** section on the top section of the page. This will auto-scroll the bottom section of the page and bring up the 'Related Lists' section.

Drag the **Tasks** related list to the top of the **Related Lists** section (see next page)

4. Click the wrench icon in the header tab for that section to configure the Tasks related list.

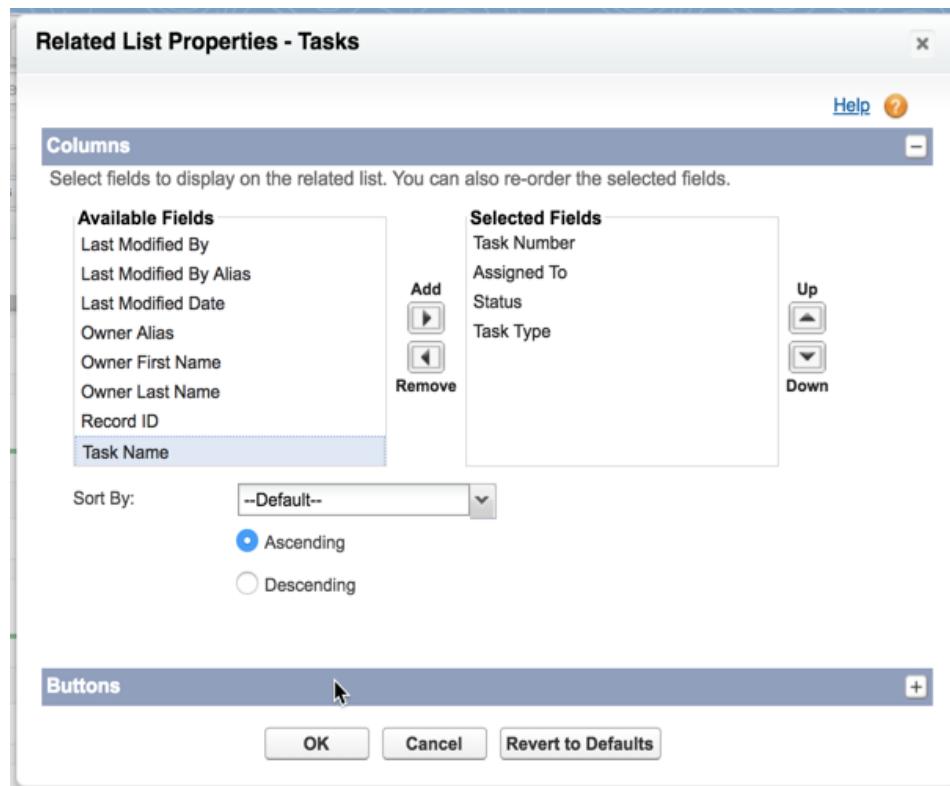
The following window will pop-up.



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

- Assigned To
- Status
- Task Type

Your screen should look like the following:



5. Select **OK** button to save your column changes. You may get asked if you want to “Overwrite Users’ Related Lists Customizations.” Click **Yes**. Then click **Save** in top-left on the page layout to save your changes for the page.
6. Navigate back to a Request 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.

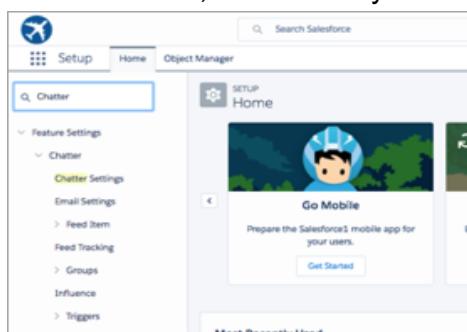
Lab 5 – Collaboration and Mobility

Enable Record Collaboration

Salesforce includes built in capabilities to collaborate within a Salesforce org and in the context of a record as well. You can follow people as well as data. This includes being able to collaborate around a single record in Salesforce. Here is an overview of the main Chatter tab.

The screenshot shows the Salesforce Chatter interface. On the left, there's a sidebar with 'What I Follow' and 'Streams'. The main area has a 'Post' button, a search bar, and a 'Search Feed' button. A red box highlights the 'Post an update, ask a question, give thanks or post a poll' button. The right sidebar shows 'Notifications' and 'Einstein Recommendations' with user profiles. A red box highlights the 'Trending Topics' section.

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**”



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 **Request**.
4. Click the **Enable Feed Tracking** checkbox near the middle of the screen.
5. Also click on a few fields like **Description**, **End Date**, **Status**, **Estimated Effort (in hours)** and **Start Date**. 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.

The screenshot shows the Salesforce Setup interface under the 'Feed Tracking' section. On the left, there's a sidebar with a search bar containing 'feed trac'. The main area lists various objects with their field counts: Partner Fund Allocation (0 Fields), Partner Fund Claim (0 Fields), Partner Fund Request (0 Fields), Partner Marketing Budget (0 Fields), Product (0 Fields), Quote (0 Fields), Record (0 Fields), Request (highlighted with a red box), Reward Fund Type (0 Fields), Service Contract (0 Fields), Site (0 Fields), Skill (2 Fields), Skill User (3 Fields), Social Post (0 Fields), Solution (0 Fields), Task (0 Fields), Territory Model (0 Fields), Topic (0 Fields), User (6 Fields), Work Order (0 Fields), and Work Order Line Item (0 Fields). On the right, the 'Fields in requests' section allows selecting up to 13 fields. A red box highlights the 'Enable Feed Tracking' checkbox. Below this, another red box highlights the 'Request' object in the list.

6. Click **Save** button.
7. Navigate back to the **Request Tracker App** and click on the **Request** tab. Select a **Request** record. You should see a record detail page like below. You should have a **Chatter** tab on right-side of screen as highlighted.
8. Update any of the fields you enabled feed tracking for and check the Chatter update.

The screenshot shows the LIGO OES Tracker application. At the top, there's a navigation bar with 'Home', 'Chatter', 'Requests', 'Tasks', 'Reports', and 'Dashboards'. The main area is titled 'Request#0001'. It has two tabs: 'Details' (selected) and 'Related'. The 'Details' tab contains fields for Request Number (Request#0001), Request Title (Salesforce App Dev POC), Activity Type (Project Request), Status (In Progress), Description (POC for Salesforce App Dev projects), Total Task Hours (154.00), and Status Indicator (blue circle). The 'Related' tab shows 'Important Dates' with Start Date (10/22/2018) and End Date (10/30/2018). The right side of the screen features a 'Chatter' tab with a 'Post' section. A red box highlights the '+ Follow' button at the top of the Chatter tab. Another red box highlights the 'Share an update...' input field in the Chatter post section. A post from 'Abhishek Chaturvedi' is visible, showing a profile picture and the date 10/8/2018.

You can also 'Follow' any updates to the fields on the record or any Chatter posts that are made to this record by clicking the '+ Follow' button.

Mobile Access for the Request Tracker App

For this exercise we need to access the Salesforce mobile app. You can access the Salesforce app via the Apple App Store or the Google Play Store. Use the following links to download them on your device –

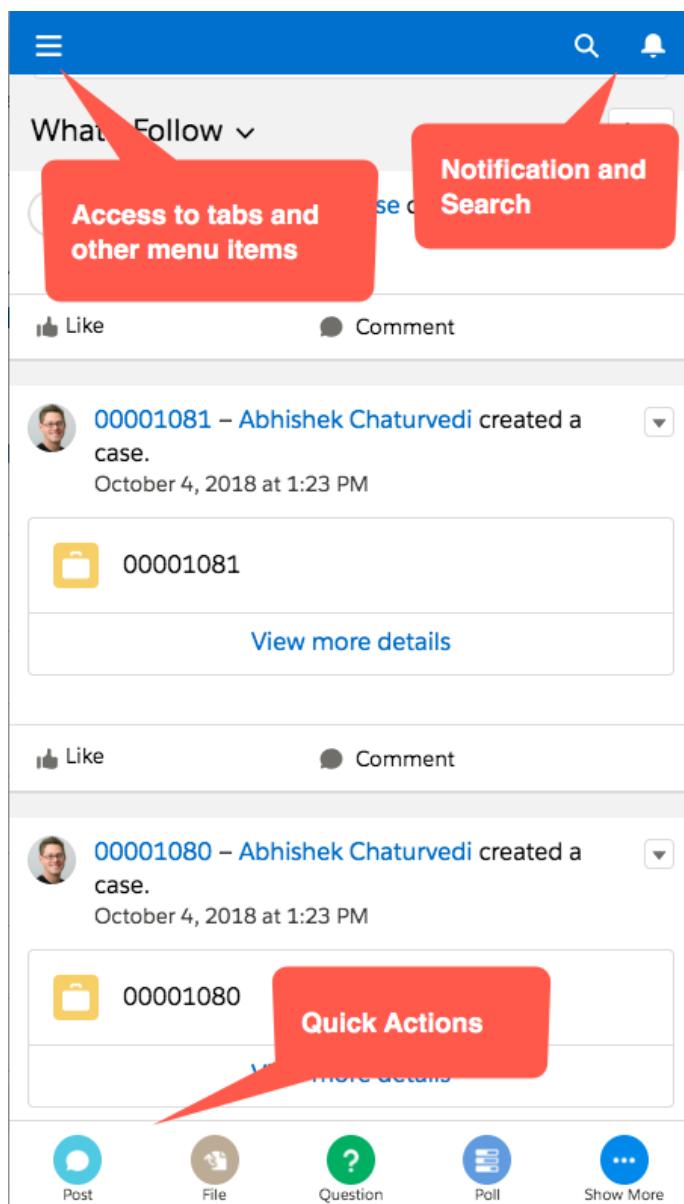
[Salesforce Mobile on the Apple App Store](#)

[Salesforce Mobile on the Google Play Store](#)

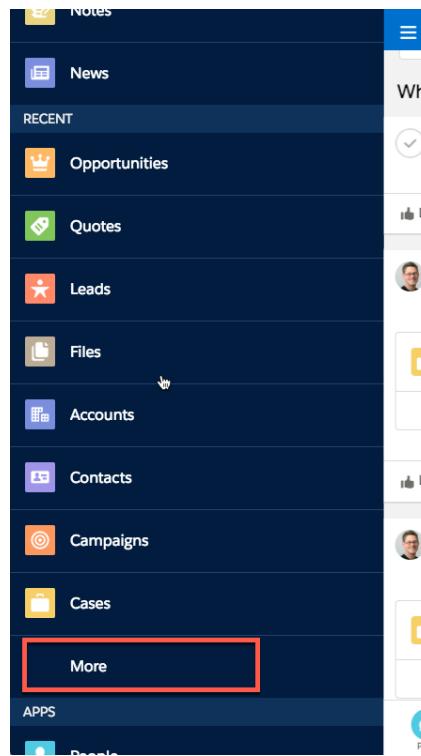
You can also use the following Chrome extension from the Chrome Web Store to emulate a mobile form factor

[S1 Demo Chrome Extension](#)

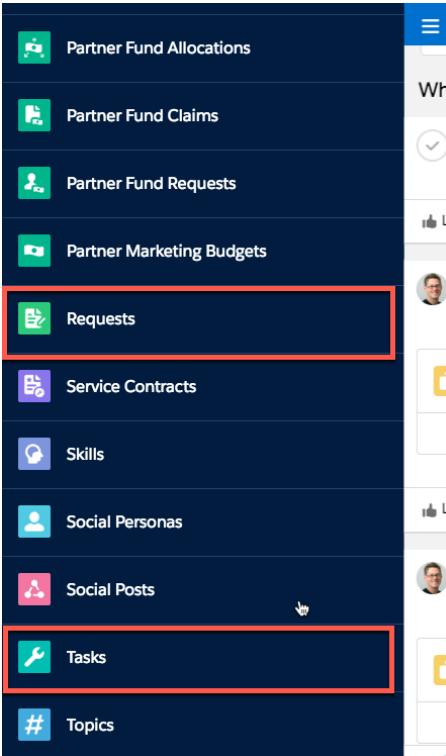
1. Open the mobile app or the chrome extension and log in with your Salesforce user name and password. You should see the following screen.



2. Click on the hamburger menu to reveal menu items. Scroll down to see the different sections if the menu. Under the 'Recent' section click on 'More' to reveal more tabs.



3. Scroll down to see the 'Requests' and 'Tasks' tab. Click on the 'Request' tab.



4. You can see the list views you created, recent Request records you accessed and a button to create new Request records.

The screenshot shows the 'Recent Requests' screen in a mobile application. At the top, there's a header with a 'Recent Requests' icon and a 'New' button, which is highlighted with a red box. Below the header, there are two list views: 'In Progress Requests' (also highlighted with a red box) and 'All'. Underneath these, there's a 'More List Views' button, also highlighted with a red box. The main list displays several request records, each with a small icon, a title like 'Request#0005', and a brief description. The first few records are:

- Request#0005: Morbi vestibulum, velit id pretium iaculis, diam ...
- Request#0100: Test Request
- Request#0001: Salesforce App Dev POC
- Request#0019: Integer ac neque.
- Request#0003: In blandit ultrices enim.
- Request#0029: Suspendisse potenti. In eleifend quam a odio. I...

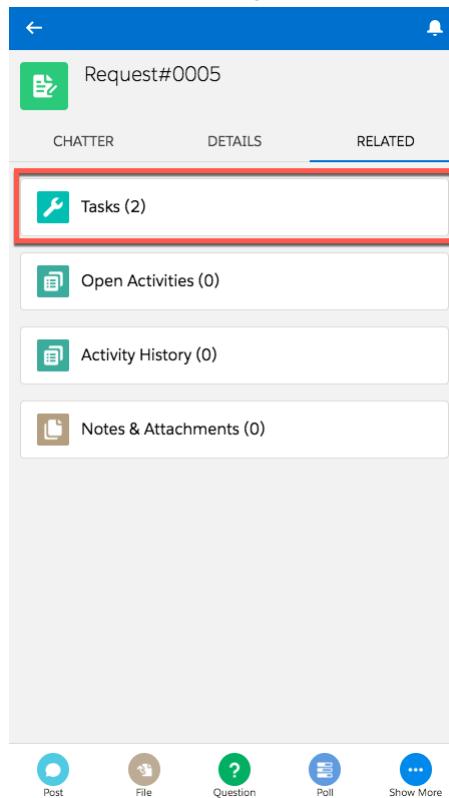
5. Click on a Request Record. You will see the same fields that you added to the Page layout on the mobile screen. The permissions you set for record access will also be respected in the mobile app.

The screenshot shows a detailed view of a Request record titled 'Request#0005'. The screen has a blue header with a back arrow and a bell icon. Below the header, there are three tabs: 'CHATTER', 'DETAILS' (which is selected and highlighted with a blue underline), and 'RELATED'. The 'DETAILS' tab contains the following fields with their values and detailed descriptions:

- Request Number:** Request#0005
- Request Title:** Morbi vestibulum, velit id pretium iaculis, diam erat fermentum justo, nec condimentum neque sapien placerat ante. Nulla justo. Aliquam quis turpis eget elit sodales scelerisque. Mauris sit amet eros. Suspendisse accumsan tortor quis turpis. Sed ante.
- Activity Type:** Change Request
- Status:** Not Started
- Description:** Nullam porttitor lacus at turpis. Donec posuere metus vitae ipsum. Aliquam non mauris.
- Total Task Hours:** 49.00
- Status Indicator:** (A blue circular icon with a white dot)

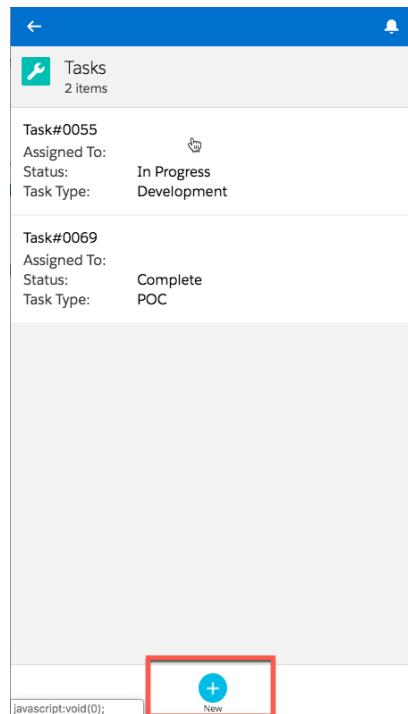
At the bottom of the screen, there are five action buttons: 'Post', 'File', 'Question', 'Poll', and 'Show More'.

6. Click on the 'Related' tab to see the Tasks associated with the Request. Click on the Tasks cards. You should see a screen like the following.



7.

8. You will see high level details of the Tasks. You can click into each Task record to see more details. You can also create a new Task by clicking the 'New' button.



Lab 6 - Add Business Logic

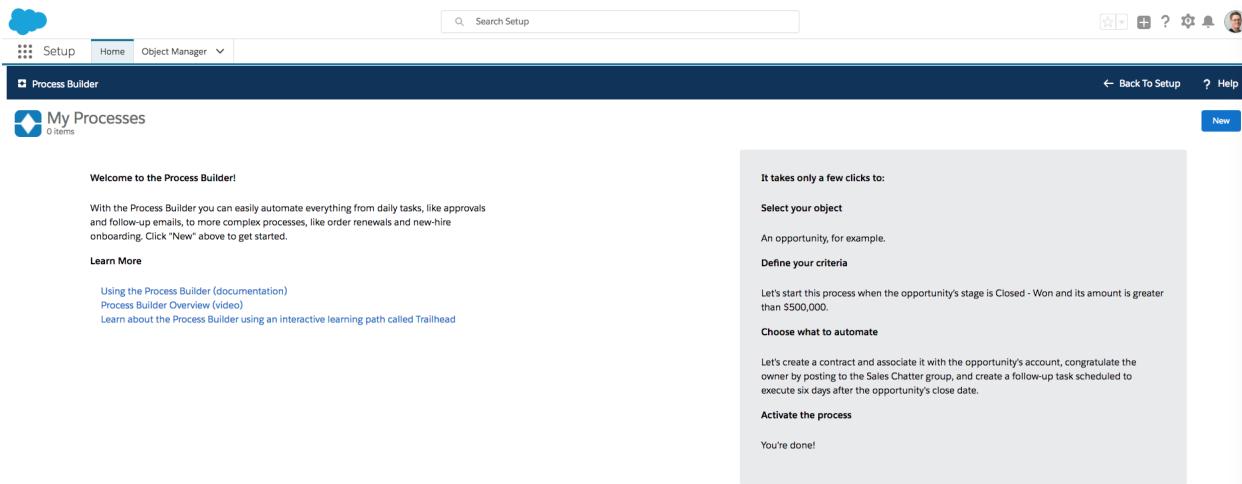
Create a Workflow for creating a Task for Every New Request

The last business rule functionality we will implement before testing our application is to automatically create a placeholder task for every request that changes to In Progress status. The task will have it's status set to 'Not Started' and will @mention the owner of the request. 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 a programming language

Let's now create a process that uses the **create record** process builder action to create the new task.

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	Create Task for Request
API Name	Create_Task_for_Request (this will automatically get set when you tab out of the Process Name field)
Description	Leave blank
The process starts when	A record changes

Your screen should look like following:

New Process

Process Name *

API Name * ⓘ

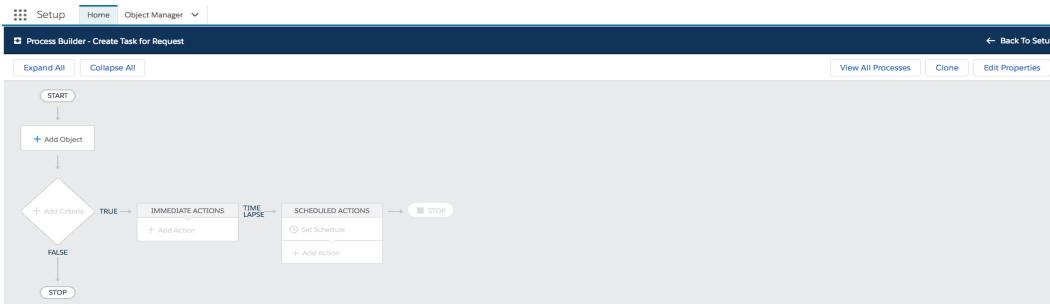
Description

The process starts when *

A record changes

Cancel
Save

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



7. 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:

Choose Object and Specify When to Start the Process

Object*

Start the process*

only when a record is created
 when a record is created or edited

> Advanced

8. Set the following parameters

Parameter	Value
Find an object...	Request
Start the process	Choose “when a record is created or edited” option
Advanced	<i>Do not change</i>

9. Click Save button.

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

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 [Request__c].... Q	Equals	Picklist	In Progress

Conditions *

All of the conditions are met (AND)
 Any of the conditions are met (OR)
 Customize the logic

11. 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	Request is In Progress
Criteria for Executing Actions	Conditions are met
Set Conditions	<i>Create a rule: Request__c.Status__c = In Progress</i>
Conditions	All of the conditions are met (AND)
Advanced	<i>Do not change</i>

Your window should look like the following (see next page):

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 <input style="border: none; width: 20px; height: 20px;" type="button" value="+"/>	[Request__c].... <input style="border: none; width: 20px; height: 20px;" type="button" value="🔍"/>	Equals <input style="border: none; width: 20px; height: 20px;" type="button" value="▼"/>	Picklist <input style="border: none; width: 20px; height: 20px;" type="button" value="▼"/>	In Progress <input style="border: none; width: 20px; height: 20px;" type="button" value="▼"/>	<input style="border: none; width: 20px; height: 20px;" type="button" value="X"/>
+ Add Row					

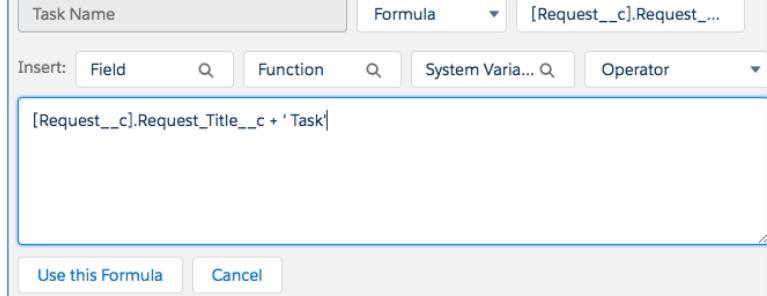
Conditions *

All of the conditions are met (AND)
 Any of the conditions are met (OR)
 Customize the logic

> Advanced

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

Parameter	Value
Action Type	Create a Record
Action Name	Create Not Started Task
Record Type	Task (select the second ‘Task’ that appears in the list)
Field - Associated Request	<ul style="list-style-type: none"> Select ‘Field Reference’ for Type. Select ‘Record ID’ as field.

	<p>Request__c ➔</p> <input type="text" value="Type to filter list..."/> <ul style="list-style-type: none"> Owner ID (User) > Account__c Created By ID Last Modified By ID Owner ID Record ID 
Field - Task Name	<ul style="list-style-type: none"> • Select 'Formula' for Type. Paste the following formula in the window that appears - • <i>[Request__c].Request_Title__c + ' Task'</i> • Click on 'Use this Formula' 
Click on 'Add Row' and select the 'Status' field	Select value as 'Not Started'

Your window should look like the following:

Select and Define Action 

Action Type *

Action Name * 

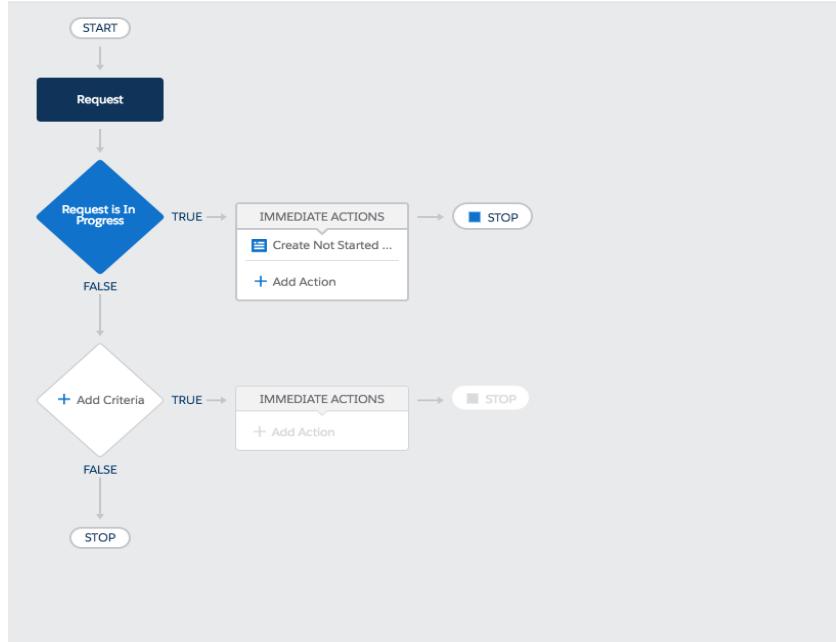
Record Type *

Set Field Values

Field *	Type *	Value *
Associated Request	Field Reference	<input type="text" value="Request__c.Id"/> 
Task Name	Formula	<input type="text" value="Request__c.Request_Title__c + ' Task'"/>
Status	Picklist	Not Started

[+ Add Row](#)

15. Click **Save** button.
16. You have now configured a business process that will create a task for an in progress request. Your process will look like following.



17. One last step is needed for this process. Click the **Activate** button in upper-right. Click **Confirm** on the pop-up window.

Test the Workflow

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

1. Navigate to the **Request** Tab.
2. Open the Request#0001 record.
3. One of the first things you should notice is the **Total Hours Worked** roll-up summary field that was added to your record detail page. This should show the totals of the hours for each related Task record.
4. Try adding a new Task or changing the Hours Worked for an existing Task (via the RELATED tab on the Request record). You will see the Total Hours Worked adjust accordingly.
5. Lastly we will check the processing logic to automatically create a Task when a Request is created with or updated to In Progress status. On your record detail page, click the **Edit** button.
6. Create a new Request record or Edit an existing Request record whose status is not already set to 'In Progress' record so that it has the **Status** field set to **In Progress**.
7. Click **Save** button.
8. After the record is saved, check the Related List tab to view the newly created Task record. Check the Assigned To, Status and Task Name fields.

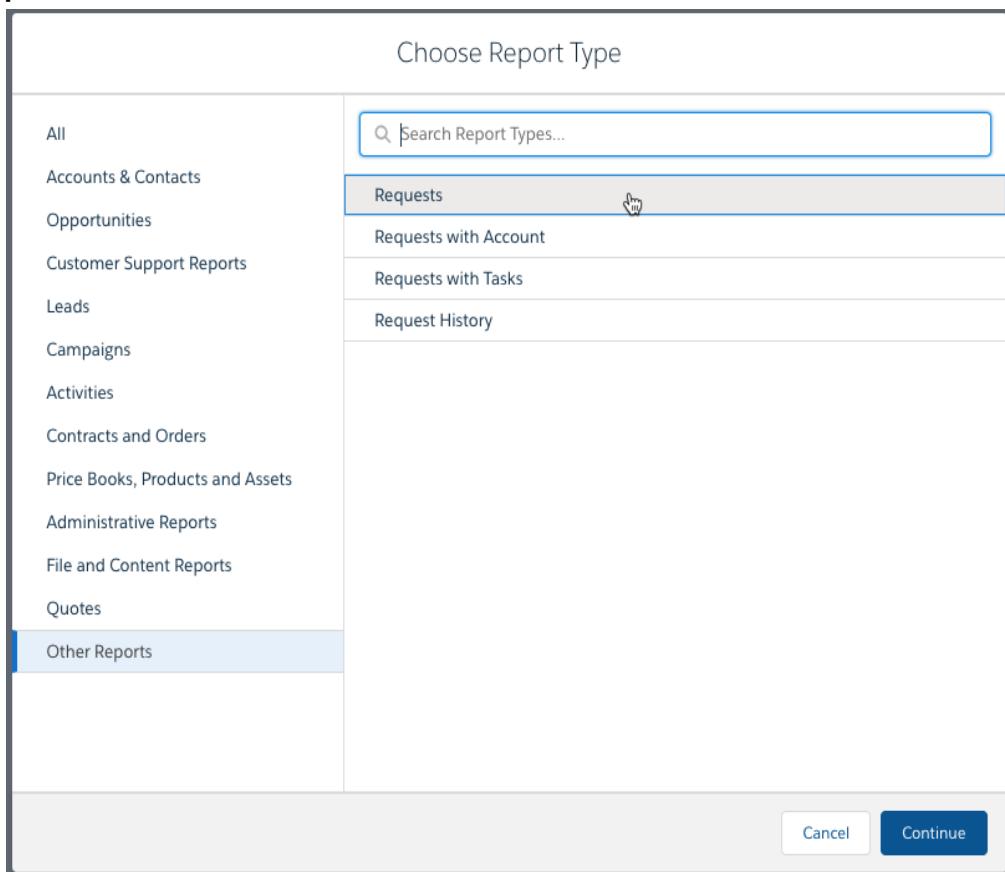
Lab 7 - Reports and Dashboards

Every object created in Salesforce is instantly available for creating reports and dashboards. In this lab we will create reports for the Request and Task Objects. Subsequently we will also add a dashboard that contains these reports.

Create Request by Status Report

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

1. Navigate to the Request Tracker App and click the **Reports** tab.
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 **Requests** within that folder.



4. Click **Continue** 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.

- **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”.

The screenshot shows a dashboard header with 'OUTLINE' and 'FILTERS' tabs. The 'FILTERS' tab is active, indicated by a blue underline and a circular badge with the number '1'. Below the tab, there's a 'Filters' dropdown, an 'Add filter...' button with a magnifying glass icon, a 'Show Me' section containing 'My requests', and an 'End Date' section with the option 'All Time'.

- **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. You also have options to move columns left or right, sort columns or delete columns.

The screenshot shows a table with three columns: 'Request: Request Number', 'End Date', and 'Request Date'. A context menu is open over the 'Request Date' column, displaying the following options: Sort Ascending (with an upward arrow icon), Sort Descending (with a downward arrow icon), Group Rows by This Field, Group Columns by This Field, Move Left (with a left arrow icon), Move Right (with a right arrow icon), and Remove Column (with a cross icon). The table data is as follows:

	Request: Request Number	End Date	Request Date
1	Request#0100	11/16/20	
2	Request#0002	12/13/20	
3	Request#0003	1/19/20	
4	Request#0004	2/13/20	
5	Request#0005	12/13/20	
6	Request#0006	10/15/20	
7	Request#0007	11/23/20	
8	Request#0008	1/21/20	
9	Request#0009	5/15/20	
10	Request#0010	6/28/20	

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

The screenshot shows the 'New Requests Report' in the Report Builder. On the left, there's a 'Fields Sections with type ahead search' panel containing a list of fields like Request: ID, Request: Request Number, etc. A red callout points to it with the text: 'To add a field to the report double click a field on the left or by searching here'. In the center, there's a 'FILTERS' section with 'Groups' and 'Columns' tabs. A red callout points to the 'Groups' tab with the text: 'Group report by one or more fields'. Below these are 'Preview Section' and 'Run' buttons. The main area shows a preview of 27 records, each with a Request: Request Number and a date column labeled 'Start Date'.

6. Let's drag the following fields from the left-hand side to the columns in the report:
 - Request Title
 - Status
 - Request Date
 - Start State
 - End Date

If you are dragging and dropping a field, you will see a blue indicator that highlights where a field can be dropped

The screenshot shows a preview of a report with the message: '1 Previewing a limited number of records. Run the report to see everything.' The table has two columns: 'Request: Request Number' and 'Start Date'. The data is as follows:

	Request: Request Number	Start Date
1	Request#0100	10/12/2018
2	Request#0002	7/13/2018
3	Request#0003	8/19/2018
4	Request#0004	9/13/2018
5	Request#0005	7/13/2018
6	Request#0006	5/15/2018
7	Request#0007	6/23/2018
8	Request#0008	8/21/2018
9	Request#0009	12/15/2017
10	Request#0010	1/30/2018

Your report should now look like the following:

The screenshot shows the Report Builder interface with the following details:

- Outline:** Groups - Group Rows, Add group...; Columns - Request: Request Number, Request Title, Status, Request Date, Start Date, End Date.
- Filters:** Previewing a limited number of records. Run the report to see everything.
- Preview Area:**

	Request: Request Number	Request Title	Status	Request Date	Start Date	End Date	
1	Request#0100	Test Request	In Progress	↑ Sort Ascending	18	11/16/2018	
2	Request#0002	Quisque arcu libero, rutrum ac, lobortis vel, dapibus.	Ongoing	↓ Sort Descending	18	12/13/2018	
3	Request#0003	In blandit ultrices enim.	Not Started		18	1/19/2019	
4	Request#0004	Integer pede justo, lacinia eget, tincidunt eget, temp	Ongoing	Group Rows by This Field	18	2/13/2019	
5	Request#0005	Morbi vestibulum, velit id pretium iaculis, diam erat f	Not Started	Group Columns by This Field	18	12/13/2018	
6	Request#0006	Integer aliquet, massa id lobortis convallis, tortor risu	Canceled	Bucket This Column	18	10/15/2018	
7	Request#0007	Cum sociis natoque penatibus et magnis dis parturie	Completed		18	11/23/2018	
8	Request#0008	Suspendisse potenti. In eleifend quam a odio. In hac	Completed	← Move Left	18	1/21/2019	
9	Request#0009	Integer a nibh. In quis justo. Maecenas rhoncus aliqu	Not Started	→ Move Right	18	5/15/2018	
10	Request#0010	Praesent lectus. Vestibulum quam sapien, varius ut, t	In Progress		18	6/28/2018	
11	Request#0011	Nulla tempus. Vivamus in felis eu sapien cursus vesti	Not Started	Remove Column	18	11/2/2018	
12	Request#0012	Proin risus. Praesent lectus. Vestibulum quam sapien	Completed		7/8/2018	8/8/2018	12/8/2018
13	Request#0013	Vestibulum rutrum rutrum neque. Aenean auctor gr	In Progress		1/27/2018	2/27/2018	6/27/2018
14	Request#0014	Etiam vel augue. Vestibulum rutrum rutrum neque. A	Canceled		7/5/2018	8/5/2018	12/5/2018
15	Request#0015	Ut tellus. Nulla ut erat id mauris vulputate elementur	On Hold		1/28/2018	2/28/2018	6/28/2018

7. In the Preview Section, click on the icon next to the **Status** column and select “**Group Rows by This Field**”. The report will now be grouped by **Status**.
8. Click the **Save and Run** button near the top-right section of Report Builder and set the following parameters for the report

Parameter	Value
Report Name	Request by Status Report
Report Unique Name	Request_by_Status_Report
Report Description	Leave blank
Report Folder	Unfiled Public Reports

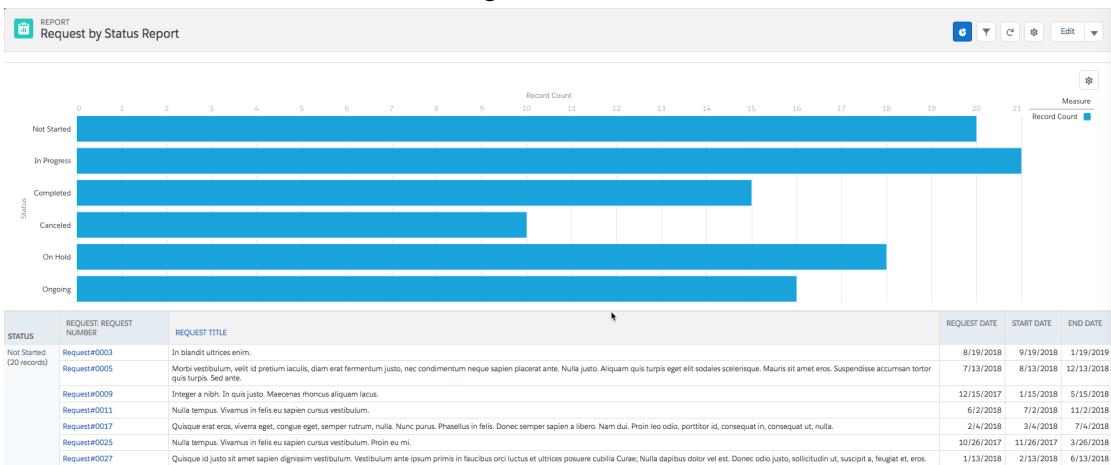
9. Your screen will look like following:

REPORT Request by Status Report					
Total Records 100		REQUEST DATE	START DATE	END DATE	
STATUS	REQUEST: REQUEST NUMBER	REQUEST TITLE			
Not Started (20 records)	Request#0003	In blandit ultrices enim.	8/19/2018	9/19/2018	1/19/2019
	Request#0005	Morbi vestibulum, velit id pretium iaculis, diam erat fermentum justo, nec condimentum neque sapien placerat ante. Nulla justo. Aliquam quis turpis eget elit sodales scelerisque. Mauris sit amet eros. Suspendisse accumsan tortor quis turpis. Sed ante.	7/13/2018	8/13/2018	12/13/2018
	Request#0009	Integer a nibh. In quis justo. Maecenas rhoncus aliquam lacus.	12/15/2017	1/15/2018	5/15/2018
	Request#0011	Nulla tempus. Vivamus in felis eu sapien cursus vestibulum.	6/2/2018	7/2/2018	11/2/2018
	Request#0017	Quisque erat eros, viverra eget, congue eget, semper rutrum, nulla. Nunc purus. Phasellus in felis. Donec semper sapien a libero. Nam dui. Proin leo odio, porttitor id, consequat in, consequat ut, nulla.	2/4/2018	3/4/2018	7/4/2018
	Request#0025	Nulla tempus. Vivamus in felis eu sapien cursus vestibulum. Proin eu mi.	10/26/2017	11/26/2017	3/26/2018
	Request#0027	Quisque id justo sit amet sapien dignissim vestibulum. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Nulla dapibus dolor vel est. Donec odio justo, sollicitudin ut, suscipit a, feugiat et, eros.	1/13/2018	2/13/2018	6/13/2018
	Request#0031	Integer aliquet, massa id lobortis convallis, tortor risus dapibus augue, vel accumsan tellus nisi eu orci. Mauris lacinia sapien quis libero. Nullam sit amet turpis elementum ligula vehicula consequat. Morbi a ipsum. Integer a nibh.	7/17/2018	8/17/2018	12/17/2018
	Request#0032	Pellentesque at nulla. Suspendisse potenti. Cras in purus eu magna vulputate luctus.	2/19/2018	3/19/2018	7/19/2018
	Request#0034	Nulla justo. Aliquam quis turpis eget elit sodales scelerisque. Mauris sit amet eros.	6/11/2018	7/11/2018	11/11/2018
	Request#0045	Nulla tempus. Vivamus in felis eu sapien cursus vestibulum.	2/13/2018	3/13/2018	7/13/2018
	Request#0046	Nulla ac enim. In tempor, turpis nec euismod scelerisque, quam turpis adipiscing lorem, vitae mattis nibh ligula nec sem. Duis aliquam convallis nunc. Proin at turpis a pede posuere nonummy.	1/20/2018	2/20/2018	6/20/2018
	Request#0055	Ut at dolor quis odio consequat varius. Integer ac leo. Pellentesque ultrices mattis odio.	1/1/2018	2/1/2018	6/1/2018
	Request#0058	Etiam justo. Etiam pretium iaculis justo. In hac habitasse platea dictumst. Etiam faucibus cursus urna.	9/13/2018	10/13/2018	2/13/2018
	Request#0059	Nulla nisl. Nunc nisl. Duis bibendum, felis sed interdum venenatis, turpis enim blandit mi, in porttitor pede justo eu massa.	6/27/2018	7/27/2018	11/27/2018
	Request#0066	Phasellus in felis.	9/4/2018	10/4/2018	2/4/2019
	Request#0071	Praesent blandit facinla erat. Vestibulum sed magna at nunc commodo placerat. Praesent blandit. Nam nulla. Integer pede justo, lacinia eget, tincidunt eget, tempus vel, pede.	3/20/2018	4/20/2018	8/20/2018
	Request#0077	Integer aliquet, massa id lobortis convallis, tortor risus dapibus augue, vel accumsan tellus nisi eu orci. Mauris lacinia sapien quis libero. Nullam sit amet turpis elementum ligula vehicula consequat. Morbi a ipsum.	12/22/2017	1/22/2018	5/22/2018
	Request#0081	Etiam justo. Etiam pretium iaculis justo. In hac habitasse platea dictumst. Etiam faucibus cursus urna. Ut tellus.	11/4/2017	12/4/2017	4/4/2018
	Request#0094	Duis at velit eu est congue elementum. In hac habitasse platea dictumst.	10/17/2017	11/17/2017	3/17/2018
In Progress (21 records)	Request#0100	Test Request	10/12/2018	10/12/2018	11/16/2018
	Request#0010	Praesent lectus. Vestibulum quam sapien, varius ut, blandit non, interdum in, ante.	1/30/2018	2/28/2018	6/28/2018
	Request#0013	Vestibulum rutrum rutrum neque. Aenean auctor gravida sem. Praesent id massa id nisl venenatis lacinia. Aenean sit amet justo.	1/27/2018	2/27/2018	6/27/2018
	Request#0022	In hac habitasse platea dictumst. Etiam faucibus cursus urna. Ut tellus. Nulla ut erat id mauris vulputate elementum. Nullam varius. Nulla facilisi. Cras non velit nec nisi vulputate nonummy. Maecenas tincidunt lacus at velit.	10/1/2018	11/1/2018	3/1/2019

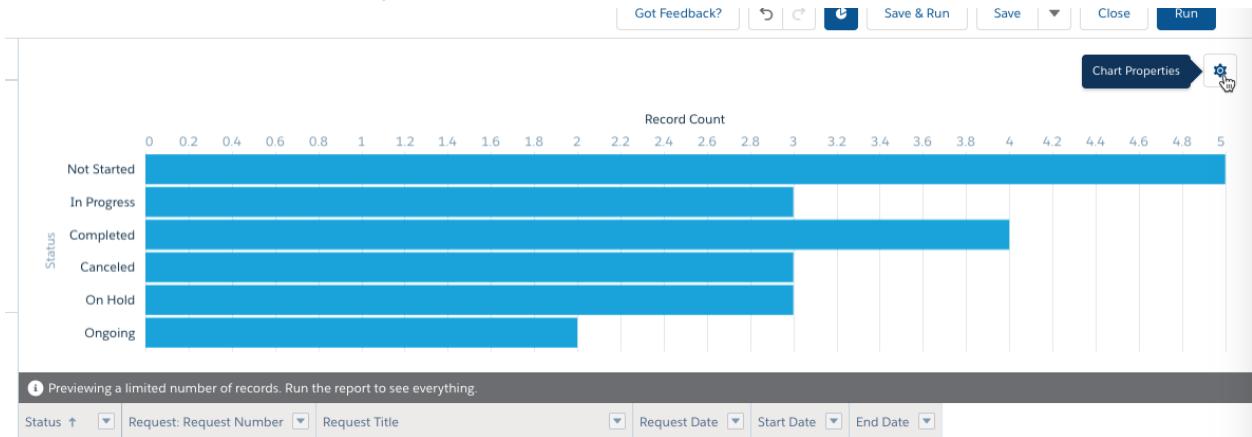
10. Toggle the Chart button to see a chart representing the report data.

The screenshot shows the 'Request by Status Report' interface. At the top, there are buttons for 'Got Feedback?', 'Save & Run', 'Save', 'Close', and 'Run'. Below these are dropdown menus for 'Request Date', 'Start Date', and 'End Date', with the values set to 8/19/2018, 9/19/2018, and 1/19/2019 respectively. The 'Add Chart' button is highlighted with a red box. The main area displays a table of request data.

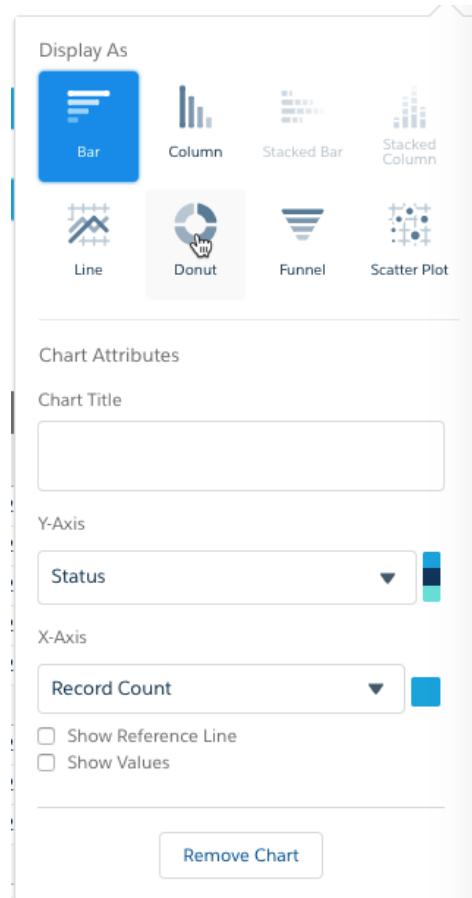
11. Your screen will look like the following



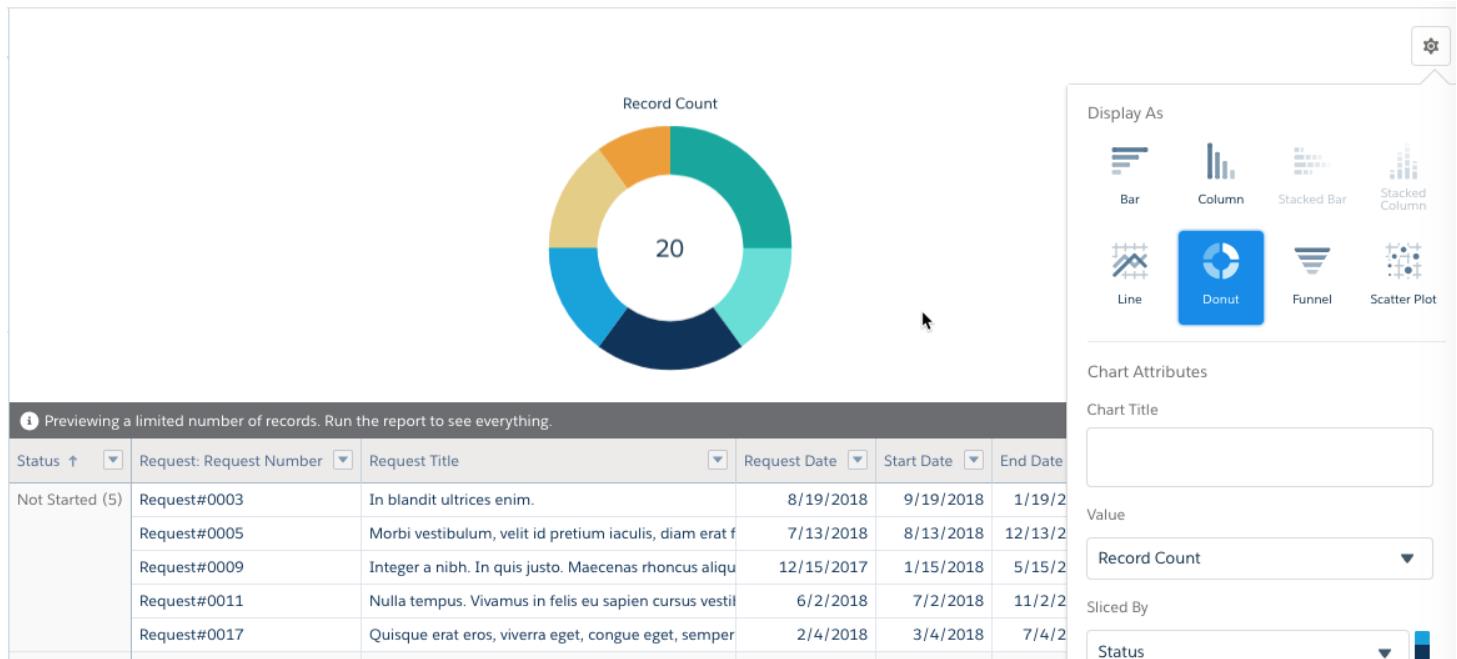
12. To change the chart type, click on 'Chart Properties' on the top right corner of the chart and select a different chart type.



13. Select the **Donut** chart type.



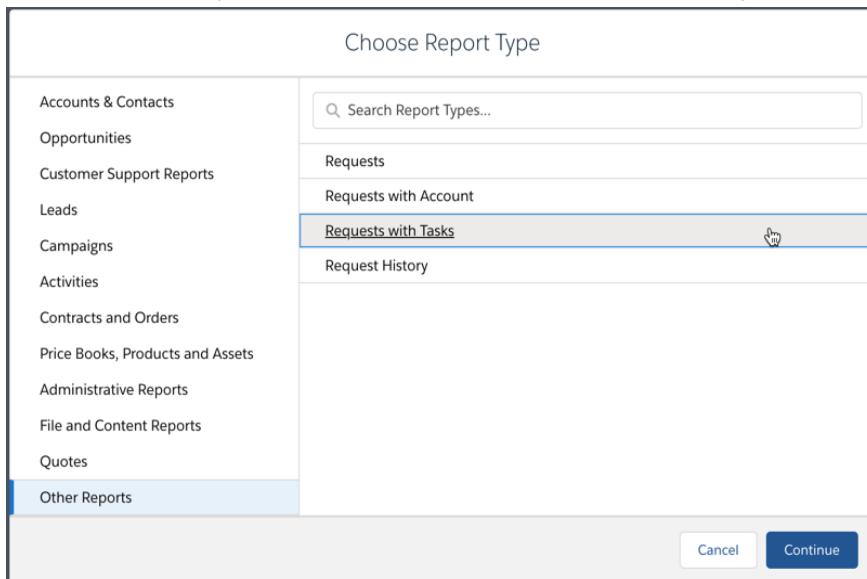
14. Your screen should look like the following.



Create Task Summary for Request Report

Let's create another report for our dashboard.

1. Navigate to the reports tab and 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 **Requests with Tasks** within that folder. Since Tasks is the child of a Master Detail relationship, the OOTB report type for Tasks is linked with it's parent object.



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

- You are now presented with the report builder. By default you will see the **Request : Request Number** field and the **Task: Task Number** field.
- Remove the **Request Number** column

The screenshot shows a report preview with two columns: 'Request: Request Number' and 'Task: Task Number'. A context menu is open over the 'Request: Request Number' column. The 'Remove Column' option is highlighted with a red box and a cursor icon. Other options in the menu include Sort Ascending, Sort Descending, Group Rows by This Field, Group Columns by This Field, Bucket This Column, Move Left, and Move Right.

	Request: Request Number	Task: Task Number
1	Request#0001	
2	Request#0001	
3	Request#0001	
4	Request#0001	
5	Request#0002	
6	Request#0006	
7	Request#0008	
8	Request#0010	
9	Request#0011	
10	Request#0015	
11	Request#0016	
12	Request#0017	Task#0005
13	Request#0018	Task#0031
14	Request#0020	Task#0015

- Let's group the report by request, task type and request owner. On the left hand side, under '**GROUP ROWS**' search and the following fields
 - Request: Request Number
 - Request: Owner Name
 - Task Type

The screenshot shows the report builder interface. On the left, under 'Fields > Groups', there is a 'GROUP ROWS' section with three items: 'Request: Request Number', 'Request: Owner Name', and 'Task Type'. These three items are highlighted with a red box. Below this is a 'GROUP COLUMNS' section which is currently empty. On the right, the report preview shows grouped data. The first row shows 'Request#0001 (4)' and 'Abhishek Chaturvedi (4)'. Below this are two 'Subtotal' rows.

REQUESTS WITH TASKS	
Request: Request Number ↑	Request: Owner Name ↑
Request#0001 (4)	Abhishek Chaturvedi (4)
Subtotal	
Subtotal	

6. Let's add the Hours Worked field from the Task object to report as a column

New Requests with Tasks Report

REQUESTS WITH T

Fields >

OUTLINE FILTERS 1

Groups

GROUP ROWS

Request: Request Number

Request: Owner Name

Task Type

GROUP COLUMNS

Columns

Hour

REQUEST: INFO

Estimated Effort (in hours)

Total Task Hours

TASK: INFO

Hours Worked

Subtotal

Request#0008 (1)

Request#0011 (1)

Request#0015 (1)

Row Counts

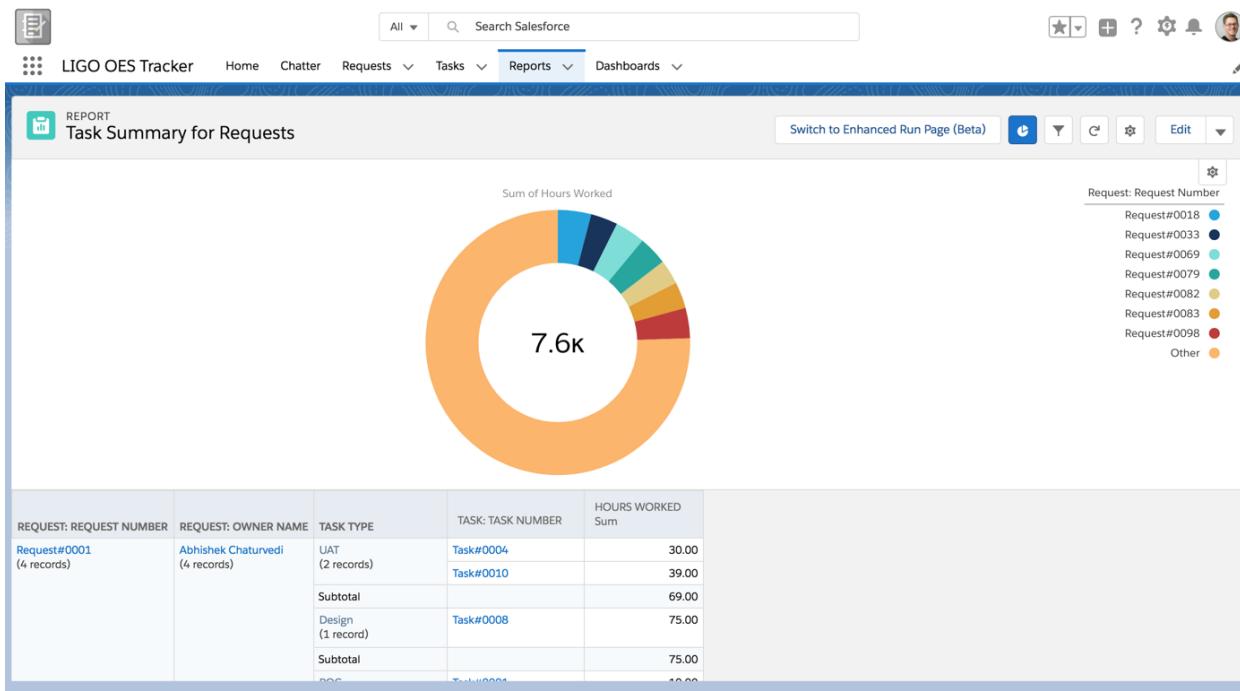
7. Your report should now look like the following (Notice the toggle switches for the different counts within the report. Toggle them to see how the report changes.) :

Previewing a limited number of records. Run the report to see everything.				
Request: Request Number	Request: Owner Name	Task Type	Task: Task Number	Hours Worked
Request#0001 (4)	Abhishek Chaturvedi (4)	UAT (2) Subtotal Design (1) Subtotal POC (1) Subtotal Subtotal	Task#0004	30.00
			Task#0010	39.00
			Subtotal	69.00
			Task#0008	75.00
			Subtotal	75.00
			Task#0001	10.00
			Subtotal	10.00
				154.00
		Subtotal		154.00
Request#0008 (1)	Abhishek Chaturvedi (1)	POC (1)	Task#0014	98.00
			Subtotal	98.00
		Subtotal		98.00
Subtotal				98.00
Request#0011 (1)	Abhishek Chaturvedi (1)	Design (1)	Task#0018	31.00
		Subtotal		31.00
		Subtotal		31.00
Subtotal				31.00
Request#0015 (1)	Abhishek Chaturvedi (1)	UAT (1)	Task#0016	18.00
		Subtotal		18.00
<input checked="" type="checkbox"/> Row Counts <input checked="" type="checkbox"/> Detail Rows <input checked="" type="checkbox"/> Subtotals <input checked="" type="checkbox"/> Grand Total				

- Similar to the last report, create a donut chart for this report. Use 'Sum of Hours Worked' as the 'Value' for the chart and **Request: Request Number** for the 'Sliced By' field.
- Click **Save & Run** save the report. Set the following parameters for the report

Parameter	Value
Report Name	Task Summary for Requests
Report Unique Name	Task_Summary_for_Requests (this will automatically get set when you tab out of the Name field)
Report Description	Leave blank
Report Folder	Private Reports

10. Your report should look like the following



We now have two reports that we can use to create our dashboard.

Create Request and Task Tracker Dashboard

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

Parameter	Value
Name	Request and Task Tracker
Description	Leave blank
Folder	Private Dashboards

The screenshot shows a modal dialog box titled "New Dashboard". It contains fields for "Name" (filled with "Request and Task Tracker"), "Description" (empty), and "Folder" (set to "Private Dashboards"). A "Select Folder" button is also visible next to the folder selection field. At the bottom right are "Cancel" and "Create" buttons.

3. Click the **Create** button.
4. 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.

LIGO OES Tracker

Home Chatter Requests Tasks Reports Dashboards

Request and Task Tracker

+ Component + Filter ⌂ ⌄ ⌅ ⌆ ⌇ Save Done

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

Select Report

REPORTS

Recent

Created by Me

Private Reports

Public Reports

All Reports

FOLDERS

Created by Me

Shared with Me

All Folders

Search Reports and Folders...

Task Summary for Requests
Abhishek Chaturvedi · Oct 15, 2018 12:23 PM · Private Reports

New Requests with Tasks Report
Abhishek Chaturvedi · Oct 15, 2018 12:03 PM · Private Reports

Request by Status Report
Abhishek Chaturvedi · Oct 12, 2018 1:18 PM · Private Reports

Biggest Open Deals
Abhishek Chaturvedi · Oct 4, 2018 1:23 PM · Sales Executive Dashboard

Cancel Select

6. Click on the **Request by Status Report** and click the **Select** button. You will then be presented with option to configure your widget.

Add Component

Report

Request by Status Report X

Use chart settings from report

Display As

1
2
3
4
5
6

7
8
9
10
11
12

Y-Axis

Status

X-Axis

Record Count

Display Units

Shortened Number

Preview

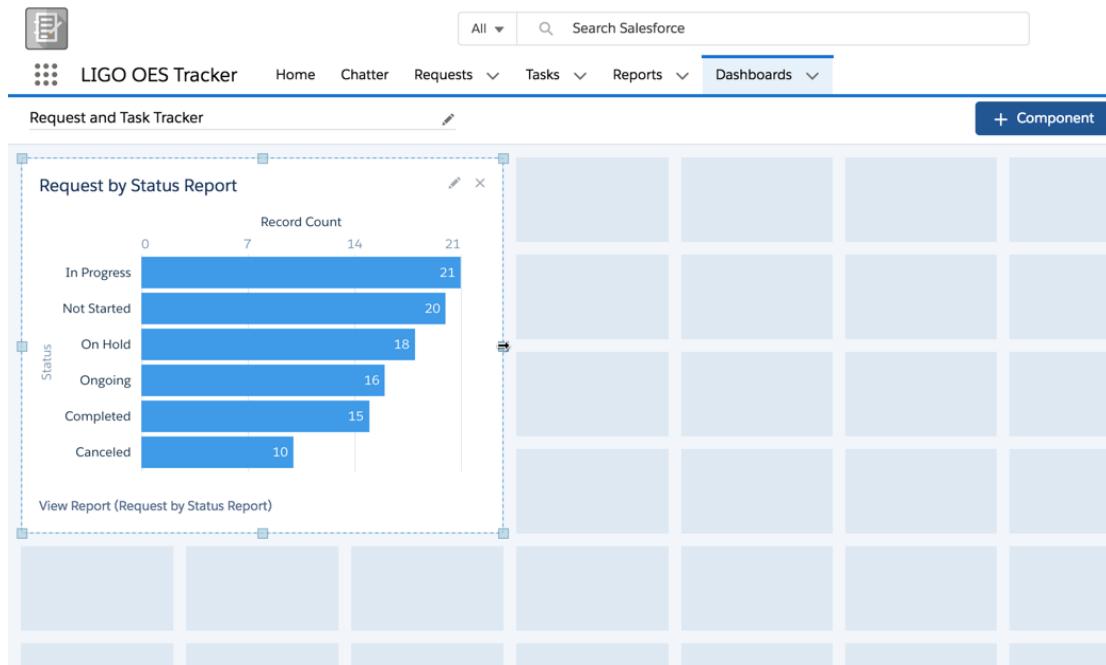
Request by Status Report

Status	Record Count
In Progress	21
Not Started	20
On Hold	18
Ongoing	16
Completed	15
Canceled	10

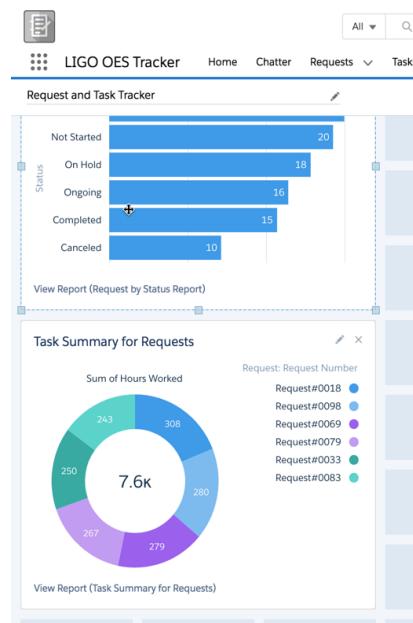
[View Report \(Request by Status Report\)](#)

Cancel
Add

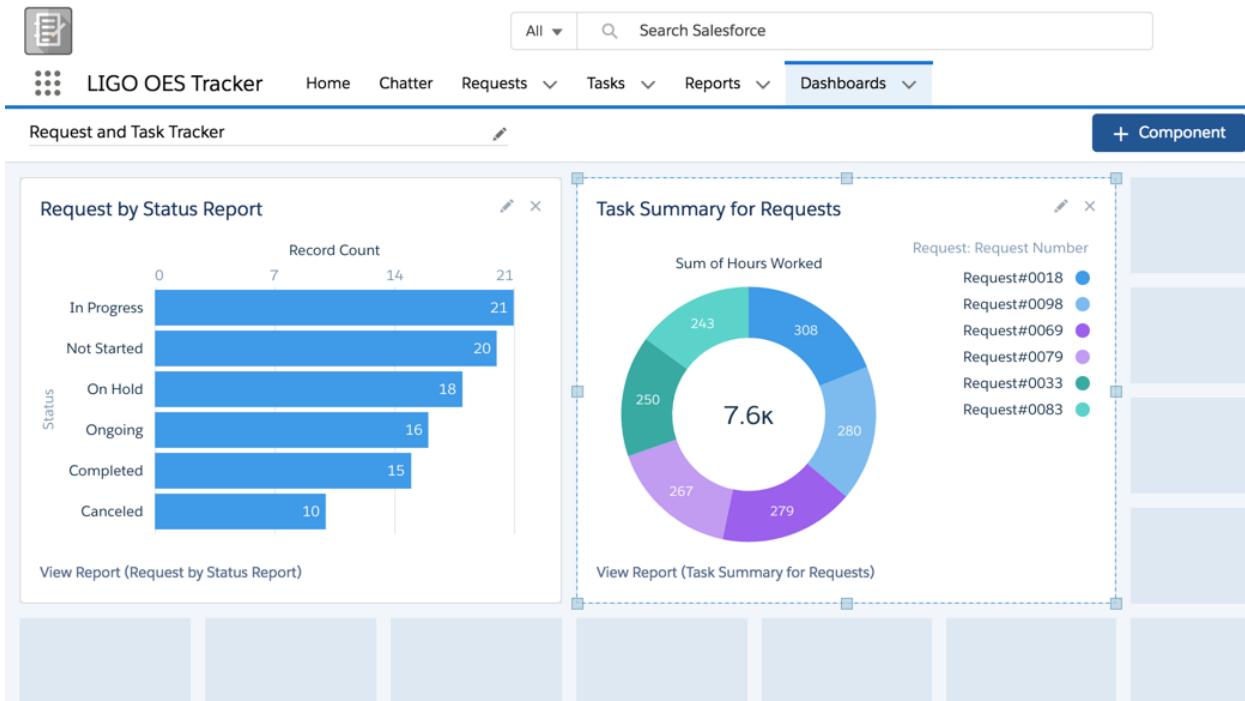
7. Keep the default values and select **Add**. Your dashboard will look like the following with your new component added. You can change the size of the widget by dragging it.



8. Click the **+ Component** button again to add our other report.
9. Select the **Task Summary for Requests** report and click the **Select** button. Let's make this a Donut Chart and click the **Add** button.
10. 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.

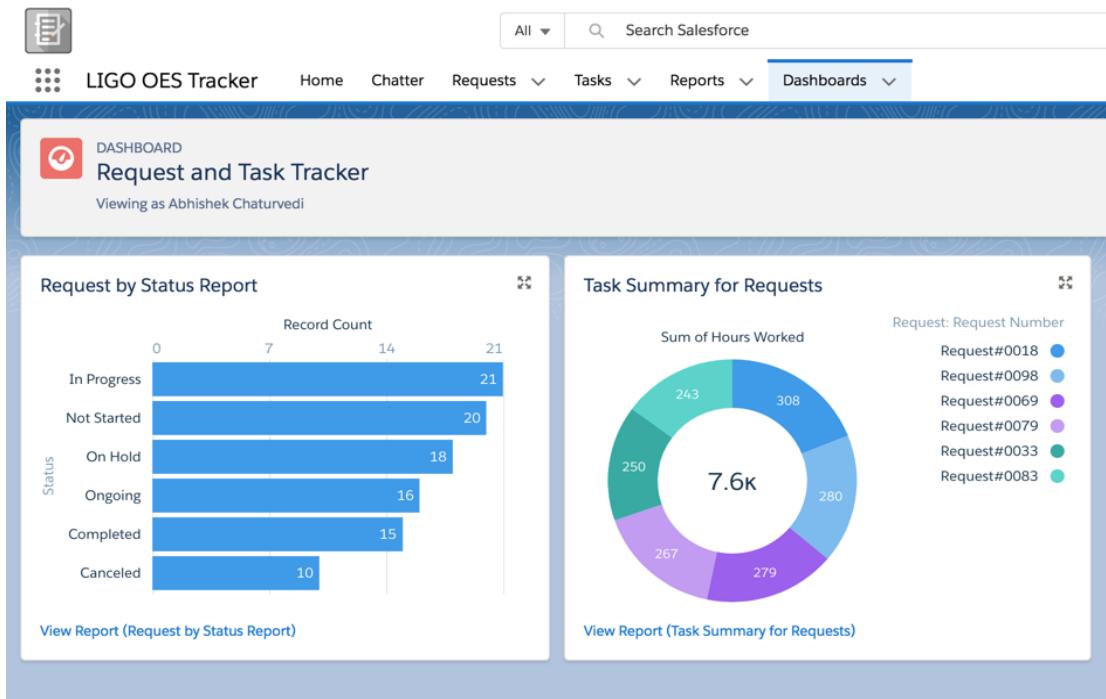


11. Screen should now look like following.



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.



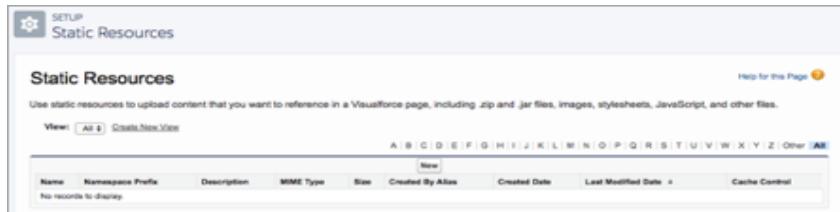
Lab 8- Optional / Homework

Create Formula Fields to Show Status Indicator

In this optional lab we will create a field on the Request 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 Request.

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 **status_indicators.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. Navigate to the Setup page.
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



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

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

Your screen should look like the following

A screenshot of the 'Static Resource Edit' page for 'status_indicator'. The page title is 'Static Resource'. It shows a 'Static Resource Information' section with fields: Name (status_indicator), Description (empty), File (Choose File: status_indicator.zip), and Cache Control (Public). There are 'Save' and 'Cancel' buttons at the bottom.

5. Click the **Save** button.

6. 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.
7. 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 **Request**.
8. Select the **Fields & Relationships** section on left-hand side of screen.
9. 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:

Request
New Custom Field

Help for this Page

Step 2 of 5

Previous Next Cancel

Field Label	Status Indicator
Field Name	Status_Indicator

Formula Return Type

None Selected

Select one of the data types below.

Checkbox

Calculate a boolean value.
Example: [TODAY()>CloseDate]

Currency

Calculate a dollar or other currency amount and automatically format the field as a currency amount.
Example: [GrandTotal = Amount - Cost__c]

Date

Calculate a date, for example, by adding or subtracting days to other dates.
Example: [Reminder Date = CloseDate + 1]

Date/Time

Calculate a date/time, for example, by adding a number of hours or days to another date/time.
Example: [Next = NOW() + 1]

Number

Calculate a numeric value.
Example: [FarmerNet = 1.8 * Celcius_c + 32]

Percent

Calculate a percent and automatically add the percent sign to the number.
Example: [DiscountedAmount = Discounted_Amount__c / Amount]

Text

Create a text string, for example, by concatenating other text fields.
Example: [Full Name = LastName & " " & FirstName]

Time

Calculate a time, for example, by adding a number of hours to another time.
Example: [Next = TIMEVALUE(NOW()) + 1]

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 , 'Not Started') , IMAGE("/resource/status_indicator/status_info.gif", "In Progress", 20, 20) , IF ( ISPICKVAL( Status__c , 'Completed') , IMAGE("/resource/status_indicator/status_good.gif", "Completed", 20, 20) , IF ( ISPICKVAL( Status__c , 'Canceled') , IMAGE("/resource/status_indicator/status_expired.gif", "Canceled", 20, 20) , IF ( ISPICKVAL( Status__c , 'On Hold') , IMAGE("/resource/status_indicator/status_warning.gif", "In Progress", 20, 20) , IF ( ISPICKVAL( Status__c , 'On Going') , IMAGE("/resource/status_indicator/status_info.gif", "Rejected", 20, 20) , IMAGE("/resource/status_indicator/status_info.gif", "In-Process", 20, 20))))))
```

Your window should look like the following:

The screenshot shows the Microsoft Dynamics 365 formula editor interface. At the top, there are tabs for "Simple Formula" and "Advanced Formula", with "Advanced Formula" selected. Below the tabs are buttons for "Insert Field", "Insert Operator", and a dropdown menu for "Functions". The main area contains the formula code:

```
IF (ISPICKVAL(Status_c, 'Not Started'), IMAGE("/resource/status_indicator/status_info.gif", "In Progress", 20, 20), IF (ISPICKVAL(Status_c, 'Completed'), IMAGE("/resource/status_indicator/status_good.gif", "Completed", 20, 20), IF (ISPICKVAL(Status_c, 'Cancelled'), IMAGE("/resource/status_indicator/status_expired.gif", "Canceled", 20, 20), IF (ISPICKVAL(Status_c, 'On Hold'), IMAGE("/resource/status_indicator/status_warning.gif", "In Progress", 20, 20), IF (ISPICKVAL(Status_c, 'On Going'), IMAGE("/resource/status_indicator/status_info.gif", "Rejected", 20, 20), IMAGE("/resource/status_indicator/status_info.gif", "In-Process", 20, 20))))))
```

To the right of the formula, a sidebar titled "Functions" lists several functions: ABS, ADDMONTHS, AND, BEGINS, BLANKVALUE, and BR. Below the list is a button labeled "Insert Selected Function". At the bottom left, a status bar says "Check Syntax: No syntax errors in merge fields or functions. (Compiled size: 830 characters)". Below the formula editor are sections for "Description" (empty text box) and "Help Text" (empty text box). At the bottom, there is a "Blank Field Handling" section with two options: "Treat blank fields as zeroes" (selected) and "Treat blank fields as blanks".

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 **Request** object. Access a Request record and check it out.

Switch your List View to a Kanban View in 4 clicks

The Kanban view displays a visual summary for a selection of records. By seeing all your records at once, you can more effectively monitor your work and keep your processes moving forward efficiently.

The following is an overview of the Kanban view for your records -

A screenshot of the Salesforce Opportunities Kanban view. The view shows five columns: Qualification, Needs Analysis, Proposal, Negotiation, and Closed Won. Each column contains two cards. Red numbers 1 through 10 are overlaid on various elements:

- 1: A red box around the "All Opportunities" dropdown in the top left.
- 2: A red box around the "New" button in the top right.
- 3: A red box around the "Grid" icon in the top right.
- 4: A red box around the search bar in the top right.
- 5: A red box around the "VEHICLES & PARTS (9)" tab in the center top.
- 6: A red box around the "Proposal (2)" tab in the center top.
- 7: A red box around the "Needs Analysis (2)" tab in the center top.
- 8: A red box around the "10 Wingtips" card in the "Needs Analysis" column.
- 9: A red box around the "New Task" and "New Event" buttons in the "Negotiation" column info area.
- 10: A red box around the "BULK ORDERS (1)" tab in the center top.

1. The records in the Kanban view are based on the selected list view .
2. Easily toggle between the list view grid view and the Kanban view
3. Filter your records to select a single record type or view a particular subset of your records
4. Search for records in the current view
5. Records are separated based on record type
6. Records are grouped into columns
7. Change how columns are organized and summarized using Kanban settings
8. Quickly move a record to a different column by dragging the card

Let's switch to a Kanban view for the 'In Progress Requests'

1. Click on the grid icon in the top right section of the list view.

2. Select 'Kanban'.

The screenshot shows the LIGO OES Tracker interface with the 'Requests' tab selected. Under 'In Progress Requests', there is a single item: Request#0001, titled 'Salesforce App Dev POC', dated 10/8/2018, categorized as a 'Project Request' in 'In Progress' status, and starting on 10/22/2018. The 'DISPLAY AS' dropdown is set to 'Table'. In the top right corner of the table header, there is a 'Kanban' button, which is highlighted with a red box.

3. On the popup that appears select the following values

Parameter	Value
Summarize By	Estimated Effort (in hours)
Group By	Status

The screenshot shows the 'Kanban Settings' dialog box. It has two main sections: 'Summarize By' and 'Group By'. The 'Summarize By' section contains a dropdown menu set to 'Estimated Effort (in hours)'. The 'Group By' section contains a dropdown menu set to 'Status'. At the bottom right of the dialog box are 'Cancel' and 'Save' buttons, with the 'Save' button being highlighted with a red box.

4. Your screen should look like the following

Not Started (0)	In Progress (21)	Completed (0)	Canceled (0)	On Hold (0)	Ongoing (16)
	3,396				1,953
	Request#0001 Salesforce App Dev POC 10/8/2018 Project Request				Request#0002 Quisque arcu libero, rutrum ac... 7/13/2018 Change Request
	Request#0010 Praesent lectus. Vestibulum qu... 1/30/2018 Break-fix				Request#0004 Integer pede justo, lacinia eget... 9/13/2018 Project Request
	Request#0013 Vestibulum rutrum rutrum neq... 1/27/2018 Project				Request#0023 In blandit ultrices enim. Lorem... 12/5/2017 Project
	Request#0019 Integer ac neque. 12/4/2017 Maintenance & Support				Request#0033 Sed ante. Vivamus tortor. Duis ... 7/14/2018 Project Request

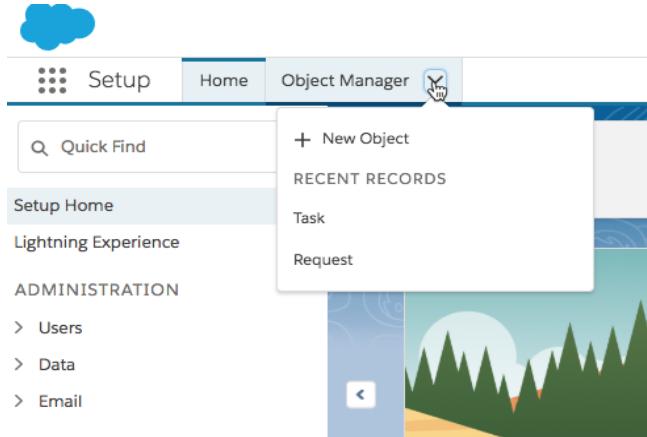
5. Try dragging the card for Request#0001 to the ‘On Hold’ Column. After the card has been dragged, the Status of the request will change to ‘On Hold’ behind the scenes. Go ahead and take a look by clicking on the Request# of the card,

Not Started (0)	In Progress (21)	Completed (0)	Canceled (0)	On Hold (0)	Ongoing (16)
	3,396			0	1,953
	Request#0001 Salesforce App Dev POC 10/8/2018 Project Request				Request#0002 Quisque arcu libero, rutrum ac, lobortis ... 7/13/2018 Change Request
	Request#0010 Praesent lectus. Vestibulum quam sapie... 1/30/2018 Break-fix				Request#0004 Integer pede justo, lacinia eget, tincidunt...
	Request#0013 Vestibulum rutrum rutrum neque. Aenea...				Request#0023 In blandit ultrices enim. Lorem ipsum do...
	Request#0019 Integer ac neque. 12/4/2017 Maintenance & Support				Request#0033 Sed ante. Vivamus tortor. Duis mattis eg...
	Request#0022 In hac habitasse platea dictumst. Etiam f...				Request#0039 Nulla neque libero, convallis eget, eleifend...

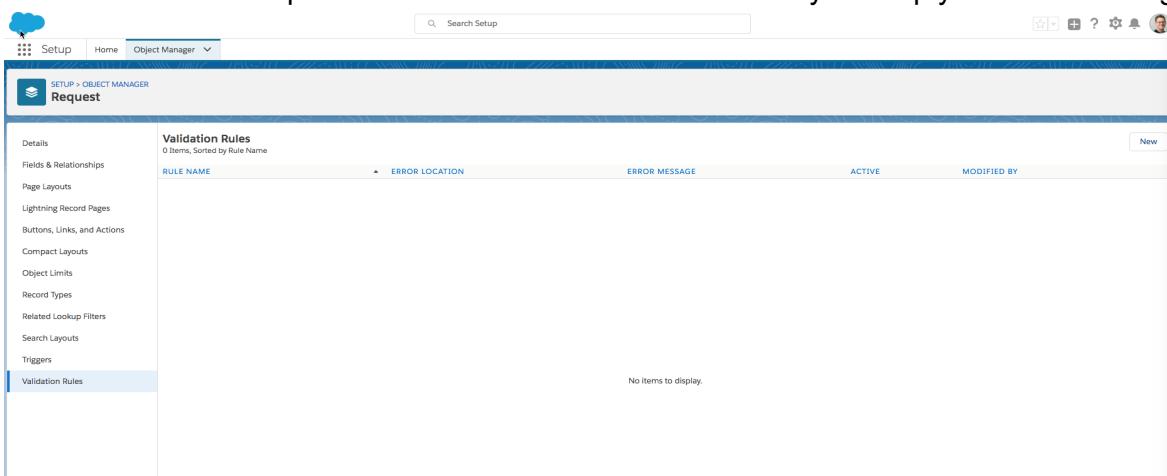
Create Validation Rules to Enforce Future Dates

Let's now create a validation rule to enforce that a Request end date must always be \geq the 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 Request 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 **Request** object from the drop-down list.
4. You should now be on the configuration page for the Request object. Click on the **Validation Rules** option on left-hand side. It should currently be empty like the following.



Validation Rules				
0 items, Sorted by Rule Name				
RULE NAME	ERROR LOCATION	ERROR MESSAGE	ACTIVE	MODIFIED BY
No items to display.				

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

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

Request 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

Save Save & New Cancel

Rule Name Active

Description

Quick Tips
Operators & Functions

Error Condition Formula

Example: Discount_Percent__c>0.30 More Examples...
Display an error if Discount is more than 30%
If this formula expression is true, display the text defined in the Error Message area

Insert Field Insert Operator

Functions All Function Category
ABS ADDMONTHS AND BEGINS BLANKVALUE BR
Insert Selected Function
ABS(number)
Returns the absolute value of a number; a number without its sign
Help on this function

Check Syntax

Error Message

Example: Discount percent cannot exceed 30%
This message will appear when Error Condition formula is true
Error Message

6. Create a new validation rule with the following

Parameter	Value
Rule Name	End Date Validation
Active	<i>Make sure to keep this selected/checked.</i>
Description	Validate that the end date for a request is greater than the start date
Condition Formula	$End_Date_c \leq Start_Date_c$ NOTE: When writing a validation rule, your condition formula should return "true" for your false condition.
Error Message	Please make sure the end date is greater than or equal to the start date
Error Location	Select Field and pick "End Date" as the location for the error

Your screen should look like the following

The screenshot shows the 'Validation Rule Edit' window. At the top, there are buttons for Save, Save & New, and Cancel. The 'Rule Name' field contains 'End_Date_Validation'. The 'Active' checkbox is checked. The 'Description' field contains the text 'Validate that the end date for a request is greater than the start date'.

Error Condition Formula

Example: `Discount_Percent__c>0.30` More Examples...
Display an error if Discount is more than 30%
If this formula expression is true, display the text defined in the Error Message area

Insert Field Insert Operator

Functions: ABS, ADDMONTHS, AND, BEGINS, BLANKVALUE, BR. A tooltip for ABS(number) is shown: 'Returns the absolute value of a number, a number without its sign'. A link to 'Help on this function' is provided.

Error Message

Example: `Discount percent cannot exceed 30%`
This message will appear when Error Condition formula is true
Error Message: Please make sure the end date is greater than or equal to the start date

This error message can either appear at the top of the page or below a specific field on the page
Error Location: Top of Page

Save Save & New Cancel

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

Request Validation Rule

[Back to Request](#)

Validation Rule Detail		Edit	Clone	Active	✓
Rule Name	End_Date_Validation				
Error Condition Formula	<code>End Date__c <= Start Date__c</code>				
Error Message	Please make sure the end date is greater than or equal to the start date			Error Location	End Date
Description	Validate that the end date for a request is greater than the start date			Created By	Abhishek Chaturvedi, 10/11/2018 10:26 AM
Created By	Abhishek Chaturvedi, 10/11/2018 10:26 AM			Modified By	Abhishek Chaturvedi, 10/11/2018 10:36 AM
		Edit	Clone		

8. Click the **Back to Request** link directly under the name of your rule. Your screen should look like the following if you click on Validation Rules:

The screenshot shows the Salesforce Setup interface for the Request object. On the left, there's a sidebar with various configuration options like Details, Fields & Relationships, Page Layouts, etc. The 'Validation Rules' option is selected. The main area is titled 'Validation Rules' and shows a single item: 'End_Date_Validation'. The table columns include Rule Name, Error Location, Error Message, Active status (which is checked), and Modified By (Abhishek Chaturvedi). The error message is: 'Please make sure the end date is greater than or equal to the start date'.

9. Try your validation rule by updating an existing Request record or creating a new one.

The screenshot shows a Request record detail page for Request#0019. The 'Details' tab is selected. In the 'Important Dates' section, the 'End Date' field contains the value '12/12/2017', which is earlier than the 'Start Date' of '1/4/2018'. A red error message at the bottom of the 'Important Dates' section states: 'Please make sure the end date is greater than or equal to the start date'. The 'Last Modified By' field shows Abhishek Chaturvedi, and the 'Last Modified' timestamp is 10/11/2018 10:33 AM. At the bottom right, there are 'Cancel' and 'Save' buttons.

Create the Total Hours Roll-up Summary Field

Next we will create a field on the Request object that automatically sums up the total amount of Hours from the related Tasks. 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 **Request** object. Select **Fields & Relationships** section on left-hand side.
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 Task Hours
Field Name	Total_Task_Hours (this will automatically get set when you tab out of the Field Label field)

The screen will look like following:

The screenshot shows the 'New Custom Field' setup page for the Request object. At the top, it says 'Request' and 'New Custom Field'. Below that, a blue header bar says 'Step 2. Enter the details'. The form fields are as follows:

Field Label	Total Task Hours	<small>i</small>
Field Name	Total_Task_Hours	<small>i</small>
Description	[Empty text area]	
Help Text	[Empty text area]	

Click **Next**.

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

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

Your window should look like the following:

Step 3. Define the summary calculation

Select Object to Summarize

Master Object Request
Summarized Object Tasks

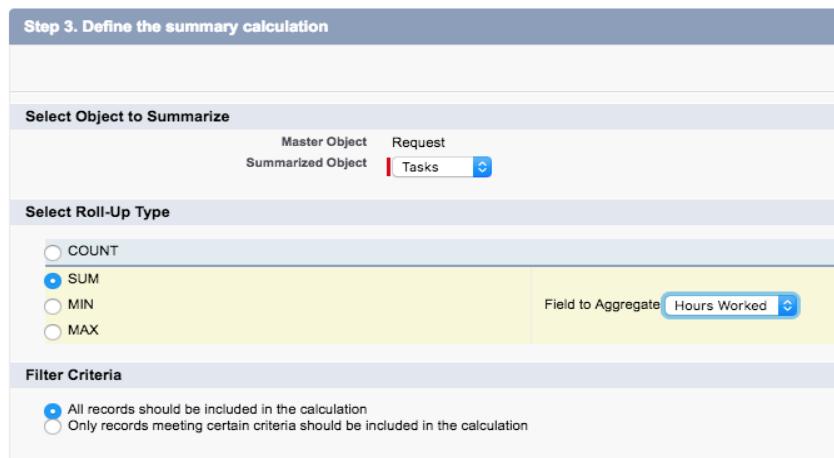
Select Roll-Up Type

COUNT
 SUM
 MIN
 MAX

Field to Aggregate Hours Worked

Filter Criteria

All records should be included in the calculation
 Only records meeting certain criteria should be included in the calculation



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 **Request** object that will automatically sum up the hours on the Tasks. It has been automatically added to your page layout also.