Salesforce Developer Campfire

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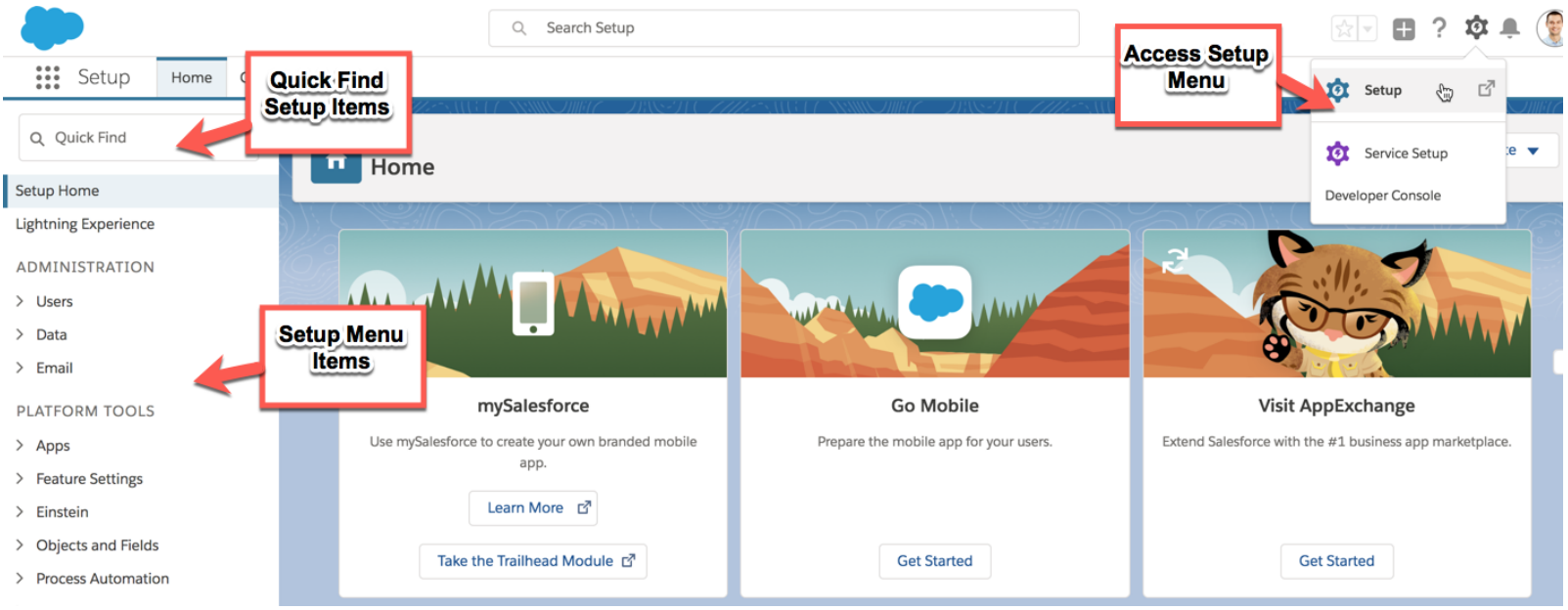
Introduction

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

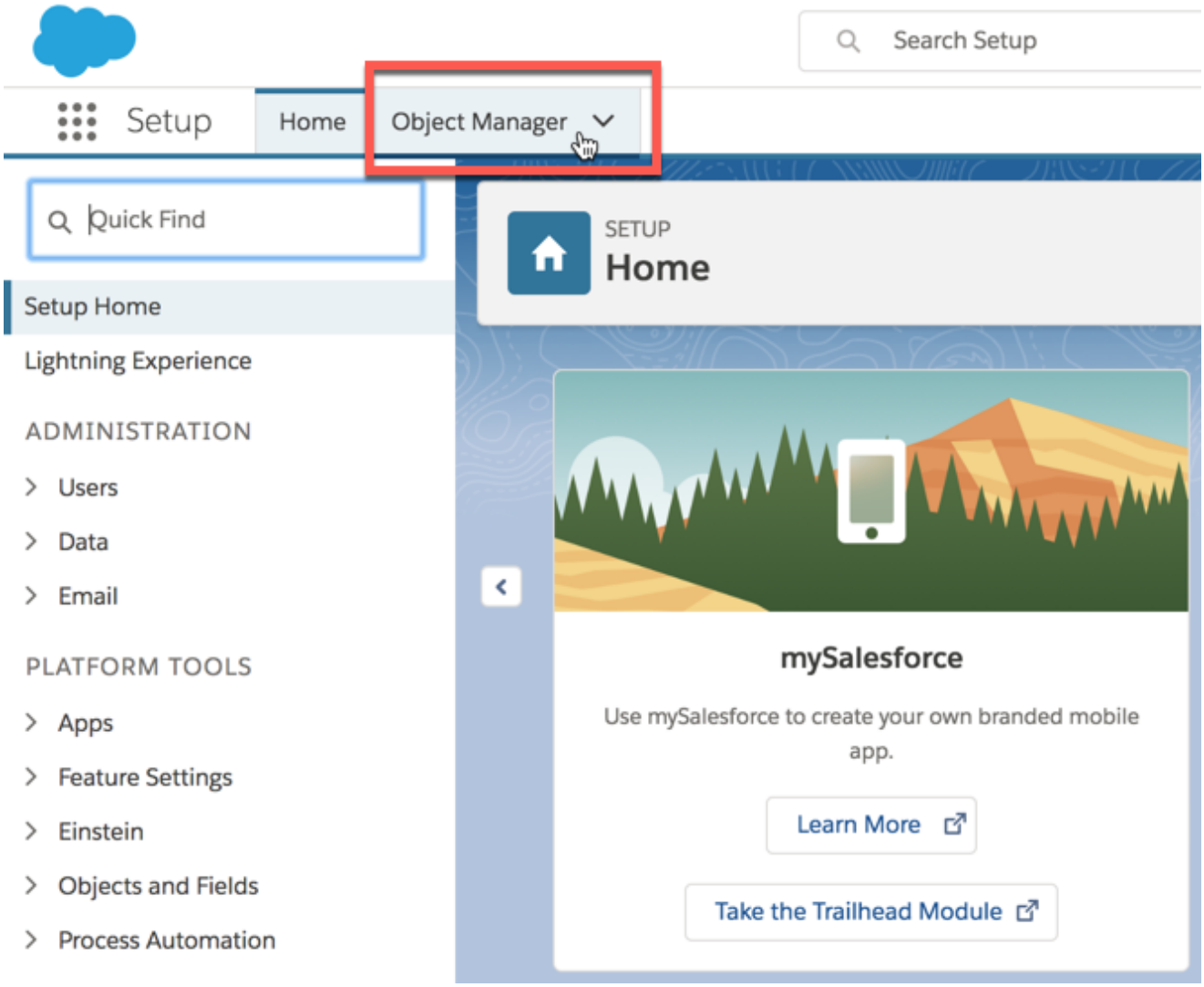
In this lab, we will start building out the data model for our application. We will build a new custom object from scratch, add different field types to it and create relationships with standard objects supplied by Salesforce.

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

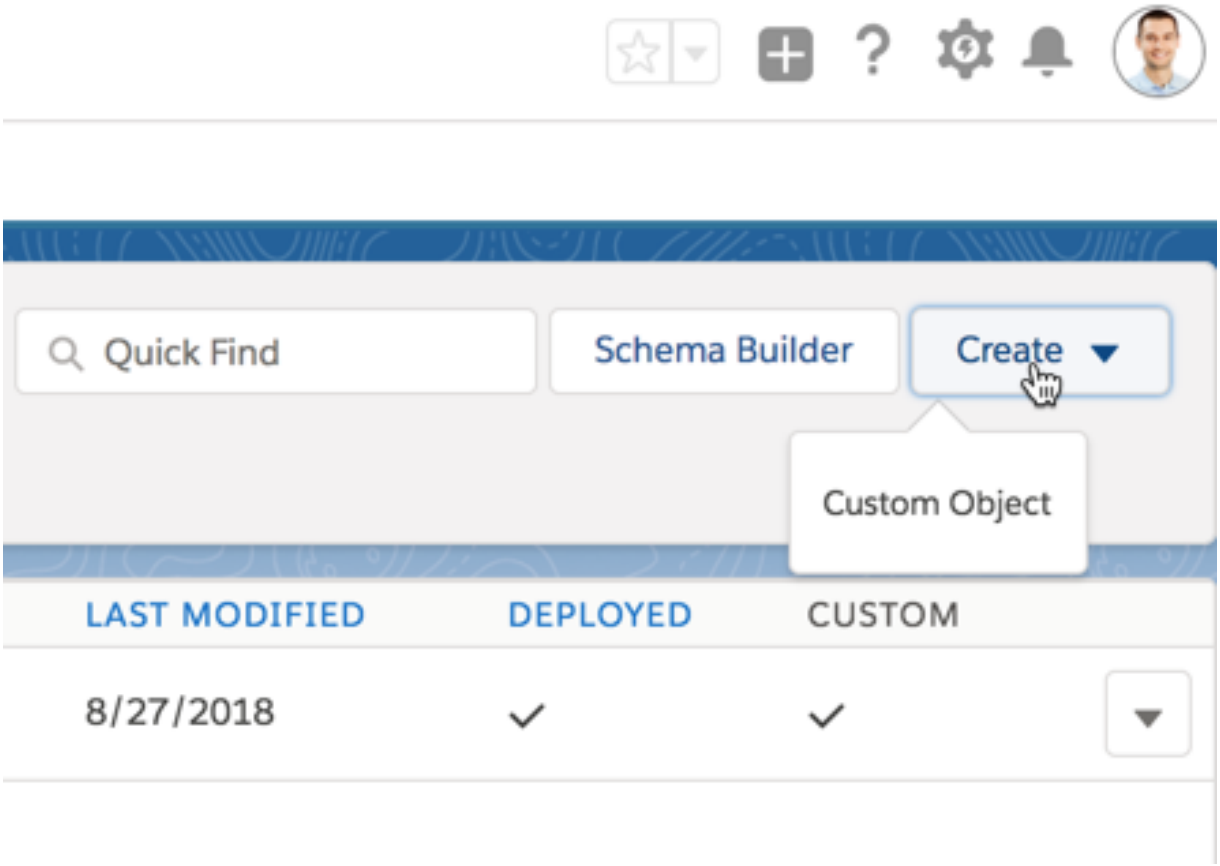
a. Launch your browser and go to https://login.salesforce.com
b. Enter your user name and password and click **`Log In`**

Create the Request Object

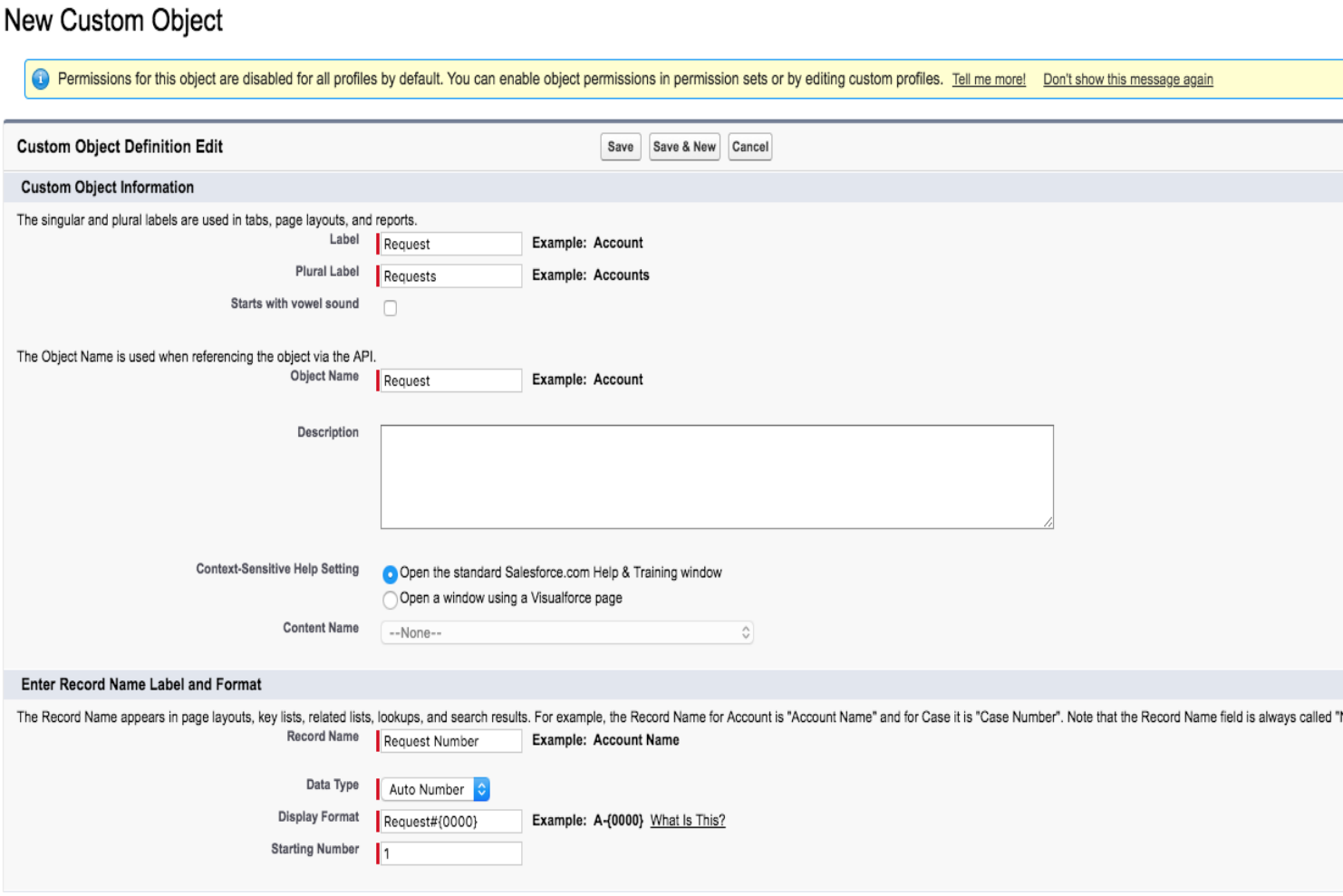
1. Click the gear icon at the top of the page and click on **Setup.**
2. Click the **Object Manager**



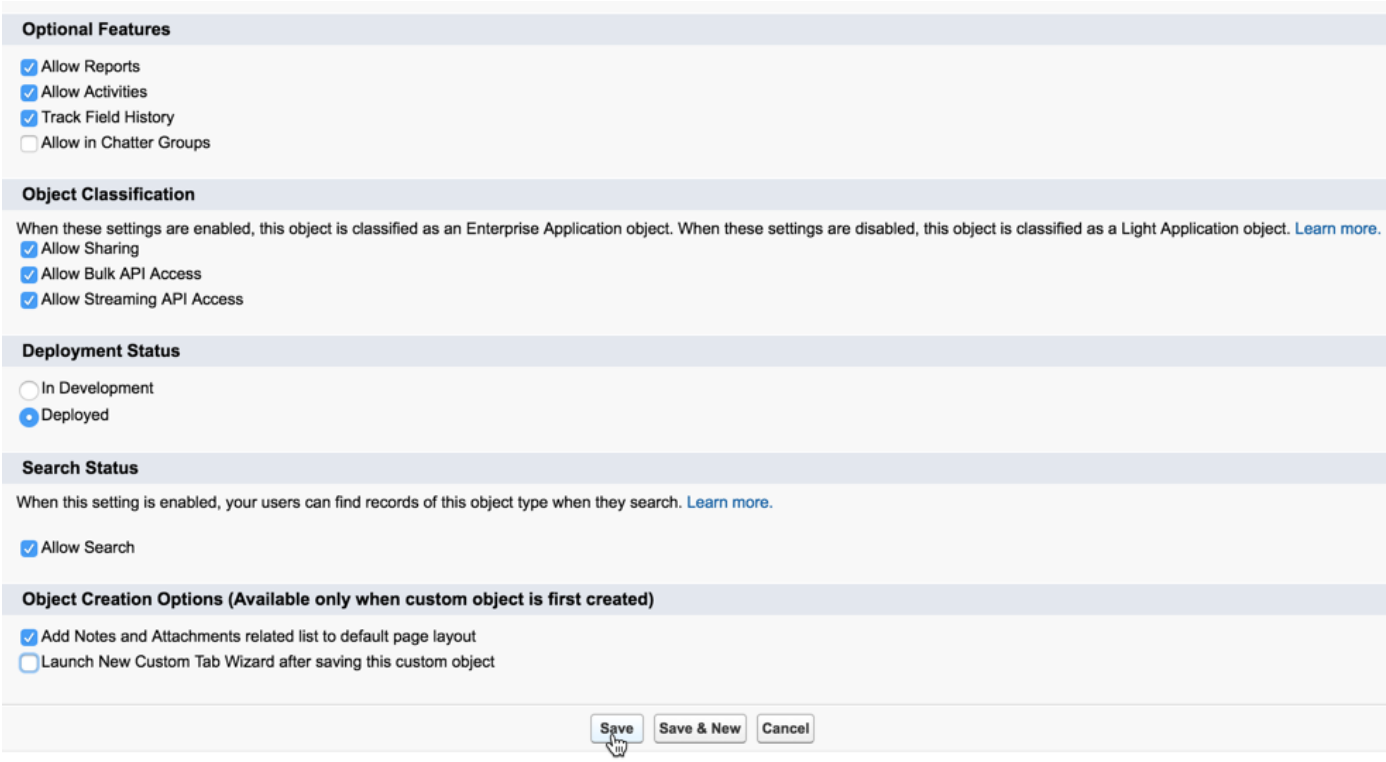
3. Click **Create** | **Custom Object** in the top right corner



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**'.
   a. **Display Format -** Request#{0000}
   b. **Starting Number -** 1



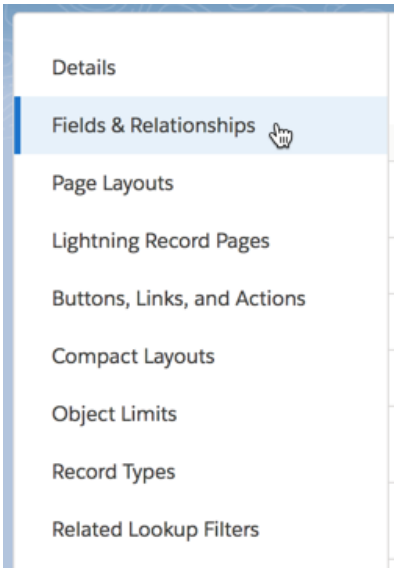
8. **Don't click Save yet**. We need to set a few more parameters first. Scroll down and select the following **additional** options:
   a. Allow Reports
   b. Allow Activities
   c. Track Field History
   d. Allow Search
   e. Add notes and Attachments related list to default page layout



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**.

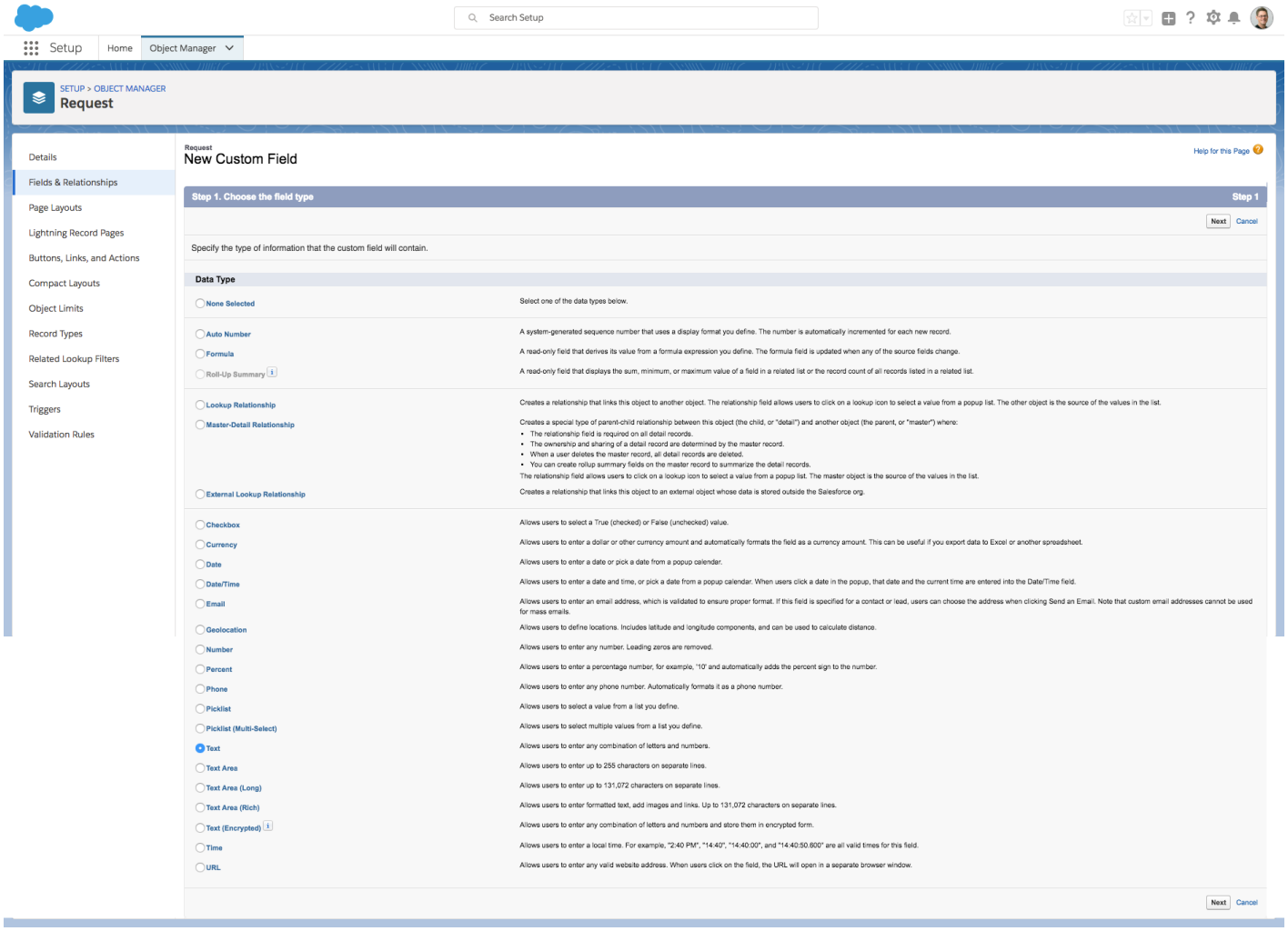
You are now directed to the object configuration page for the Request object. We will now create additional fields for the Request object. First, we need to make sure we are in the Fields & Relationships section of the object editor.

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



2. Let's create the **Request Title** field
   a. Click the **New** button towards the right of the screen to start the wizard to create a new field.

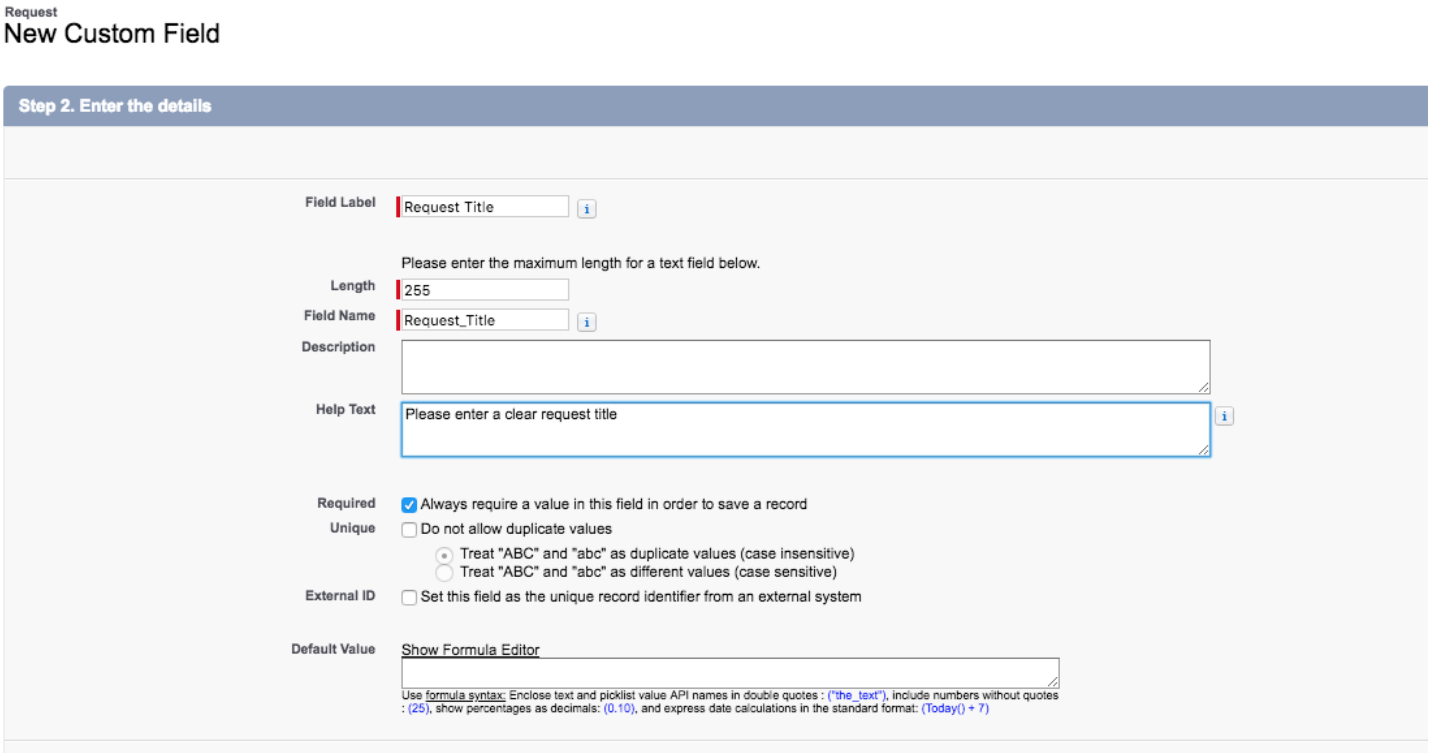
   b. On step 1 of the **New Custom Field** screen, you need to select the field data type. Click the **Text** option and select **Next** button



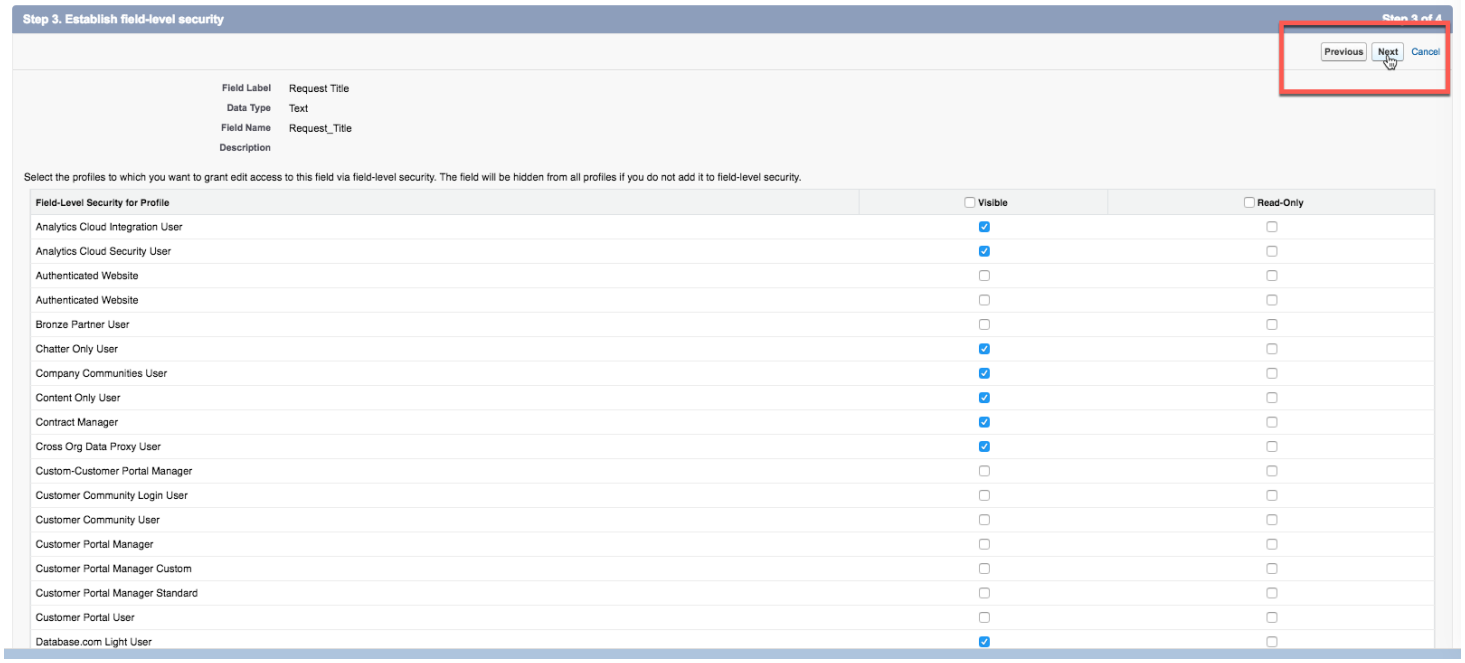
   c. **Step 1:** Select **Text** data type
   d. **Step 2:** Enter the following values for the field details

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	*Leave blank*
Help Text	Please enter a clear request title
Required	Checked
Unique	*Leave this unselected/unchecked*
External ID	*Leave this unselected/unchecked*

e. The screen will look like following:



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.



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

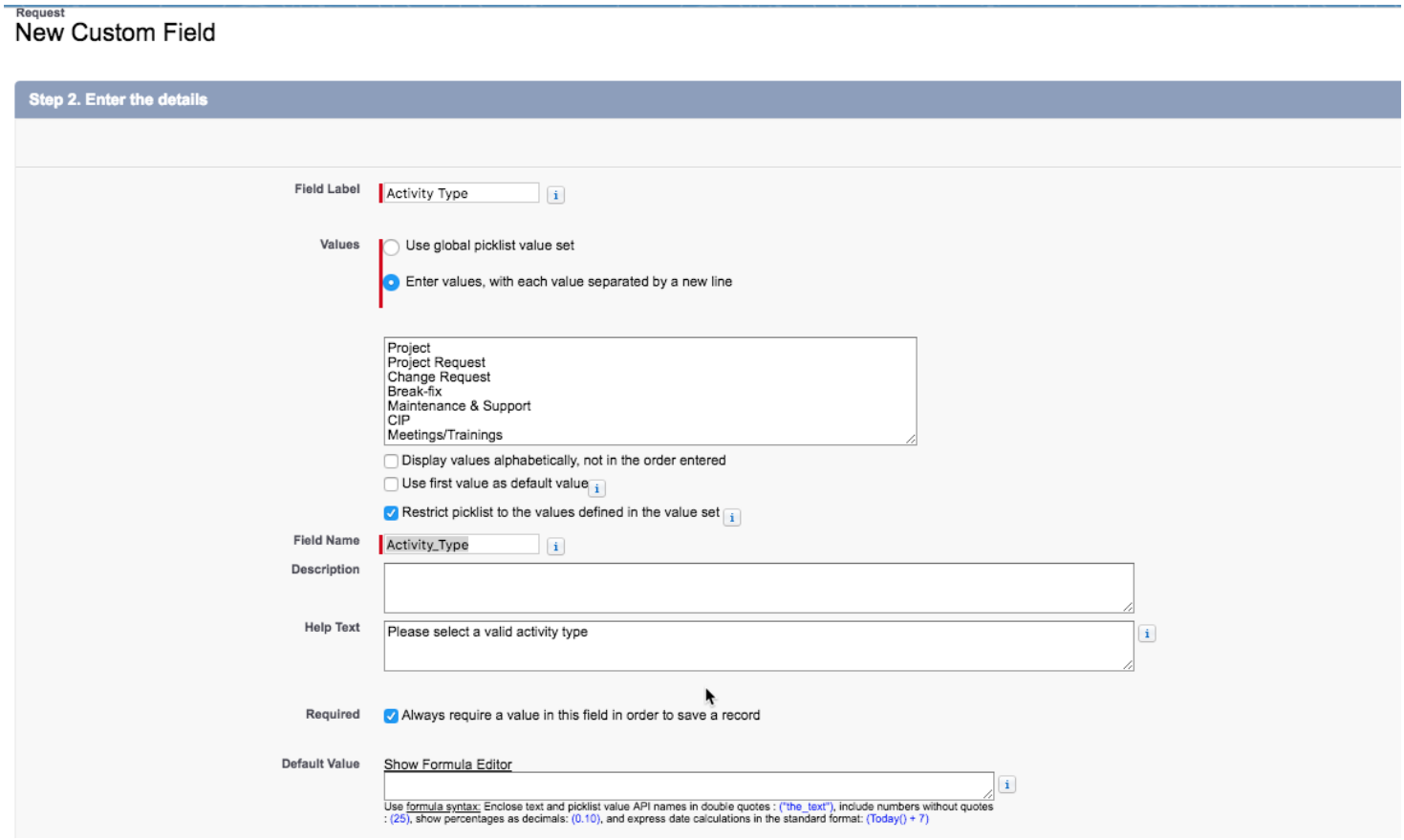
3. Create the **Activity Type** field
   a. **Step 1:** Select **Picklist** data type

   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	*Leave this selected/checked*

c. The screen will look like following:

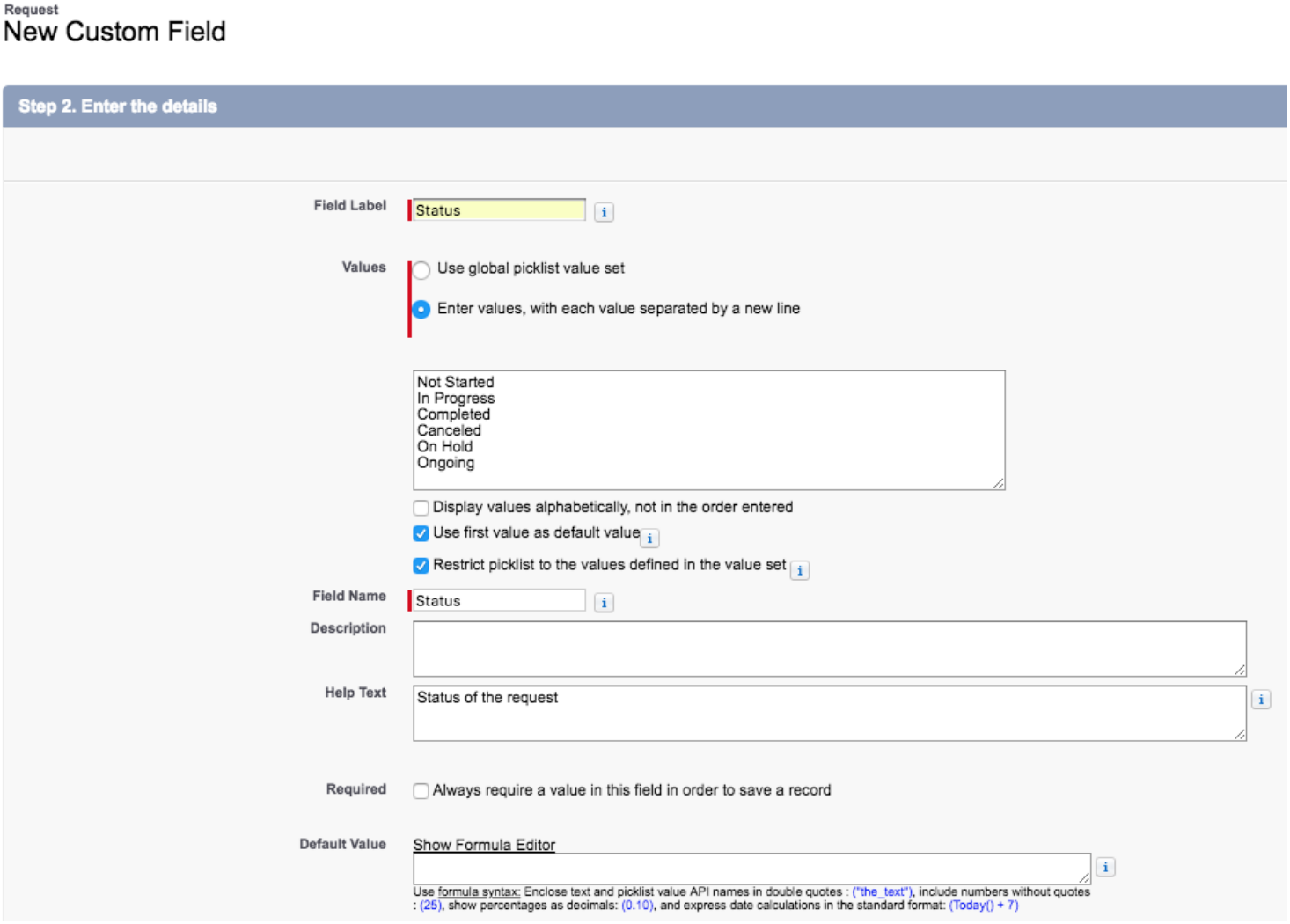


d. Click **Next**.
e. **Step 3:** Accept the default values. Click **Next**.
f. **Step 4:** Accept the default values. Click **Save & New**.

4. Create the **Status** field
    a. **Step 1:** Select **Picklist** data type
    b. **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	*Leave Blank*
Help Text	Status of the request
Required	*Unchecked*
Restrict picklist to the values defined in the value set	*Leave this selected/checked*

    c. The screen will look like following:



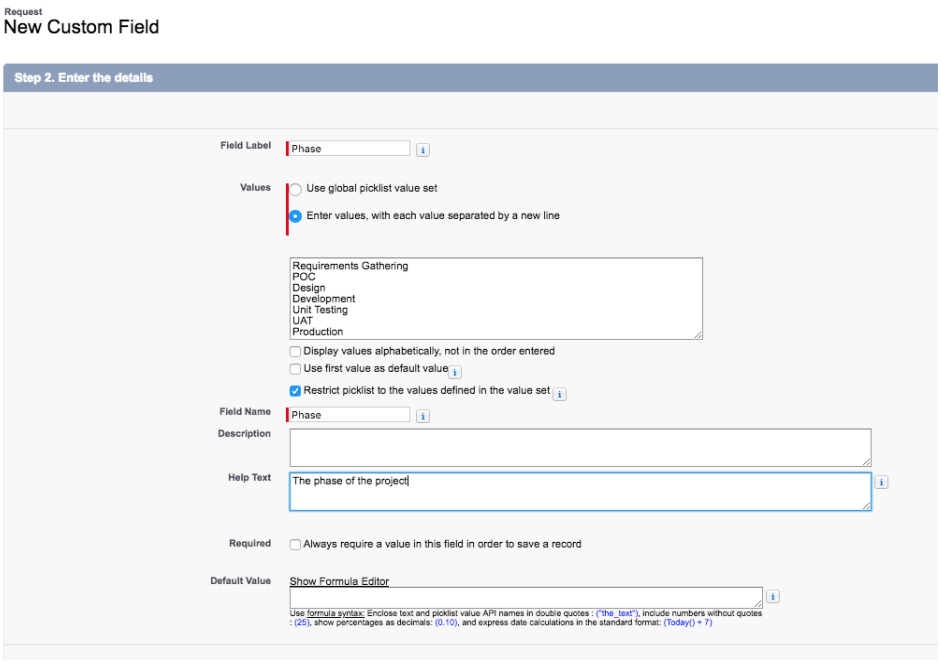
d. Click **Next**.
e. **Step 3:** Accept the default values. Click **Next**.
f. **Step 4:** Accept the default values. Click **Save & New**.

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	*Leave Blank*
Help Text	The phase of the project
Required	*Unchecked*
Restrict picklist to the values defined in the value set	*Leave this selected/checked*

c. The screen will look like following:

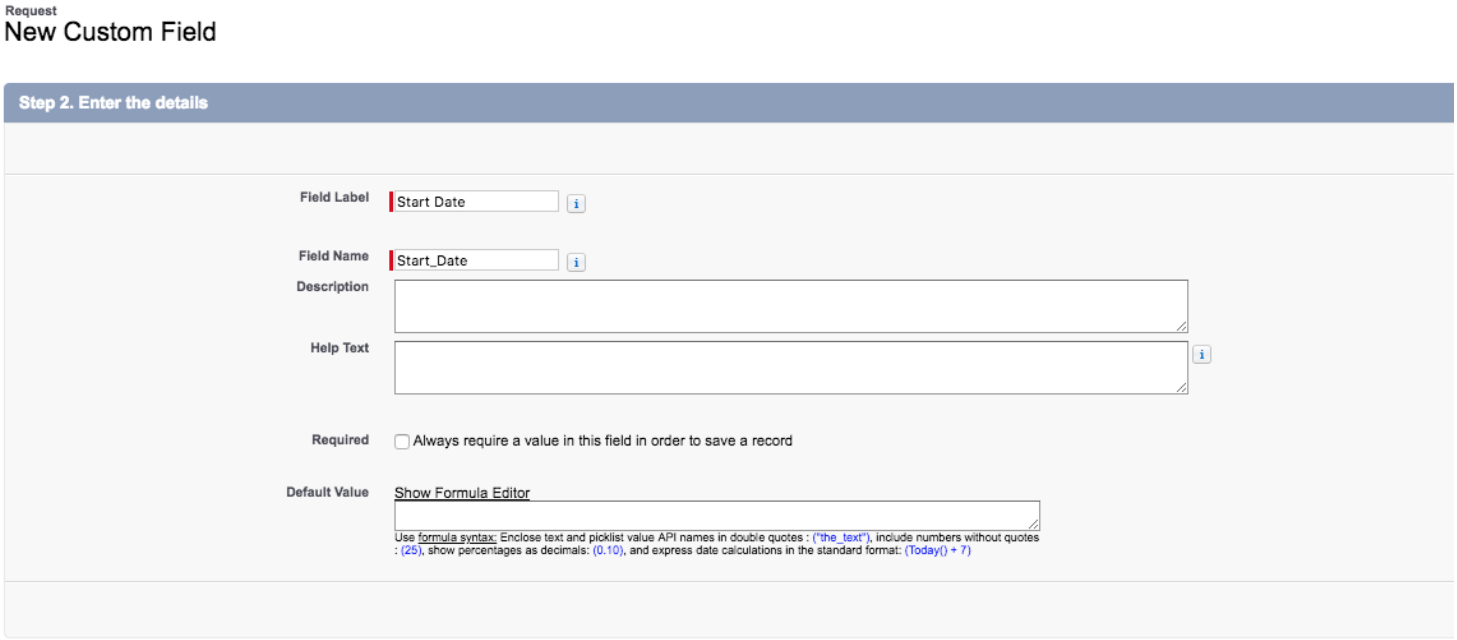


d. Click **Next**.
e. **Step 3:** Accept the default values. Click **Next**.
f. **Step 4:** Accept the default values. Click **Save & New**.

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	*Leave blank*
Help Text	*Leave blank*
Required	*Leave this unselected/unchecked*

c. The screen will look like following:



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

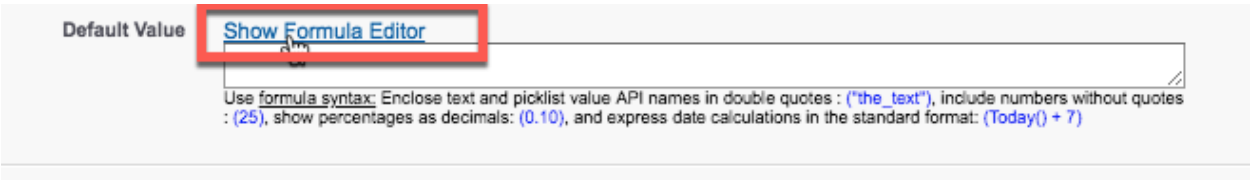
7. Create the **End Date field.**
    a. **Step 1:** Select **Date** data type
    b. **Step 2:** Enter the following values for the field details

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

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

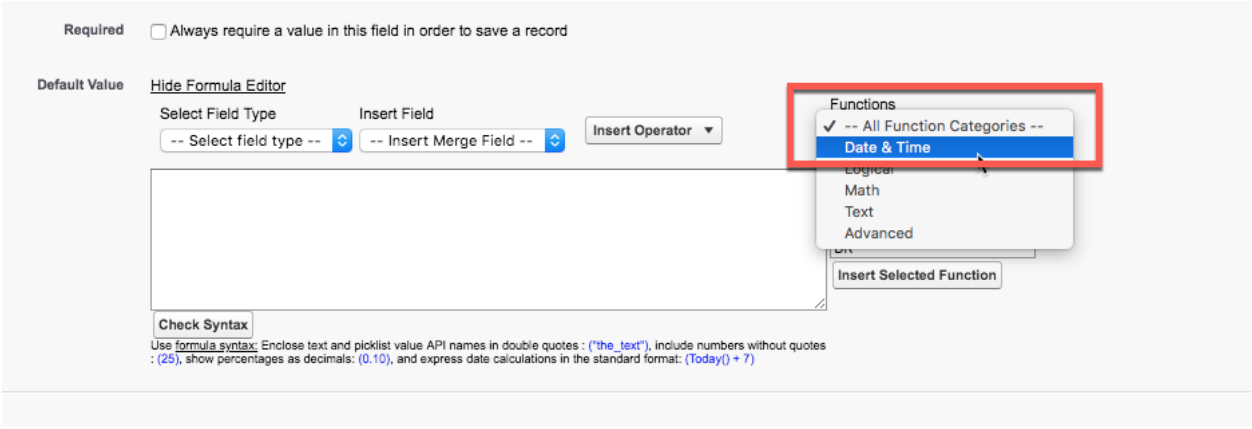
Parameter	Value
Field Label	Request Date
Field Name	Request_Date
Description	*Leave blank*
Help Text	*Leave blank*
Required	*Leave this unselected/unchecked*

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

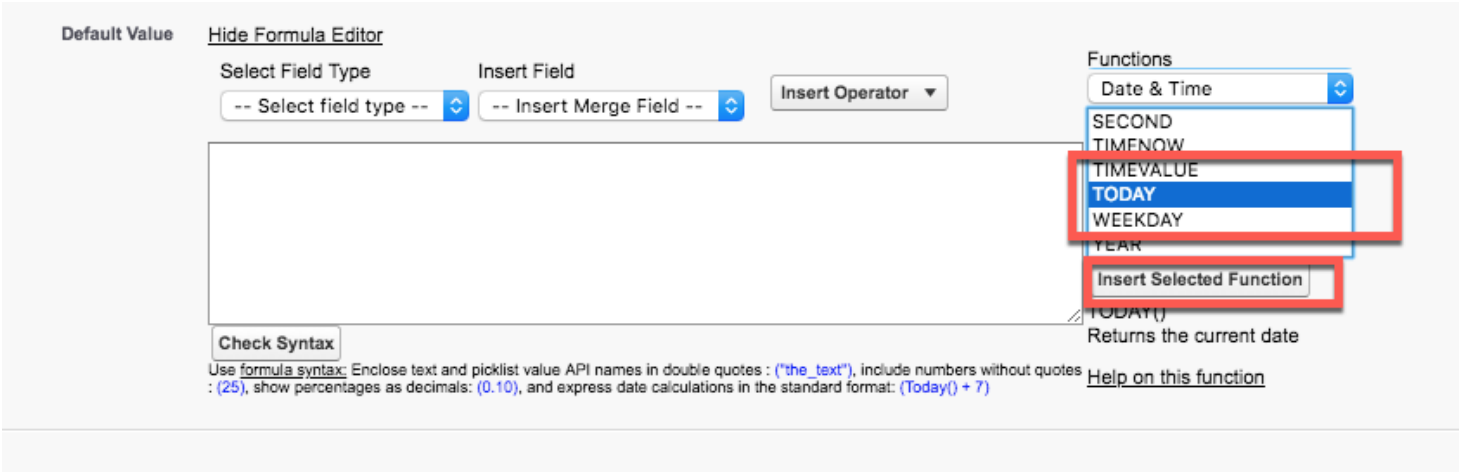


d. You will see the screen expand to show additional fields that can be configured to provide a default value for this field.

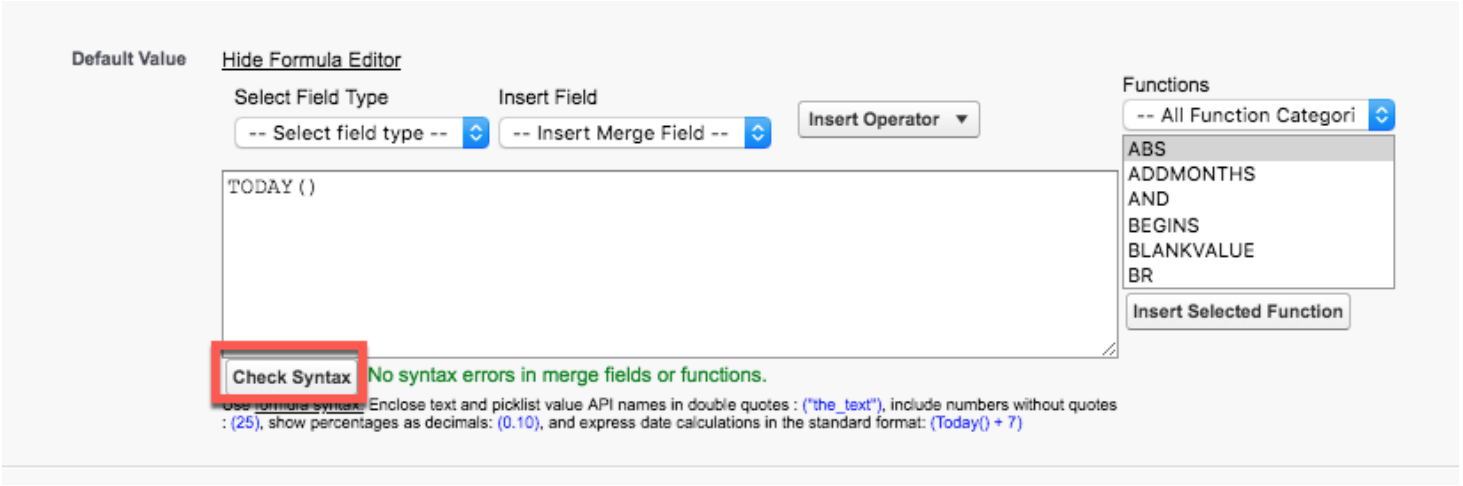
e. Click on the **Functions** dropdown and select the **Date & Time** category.



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.

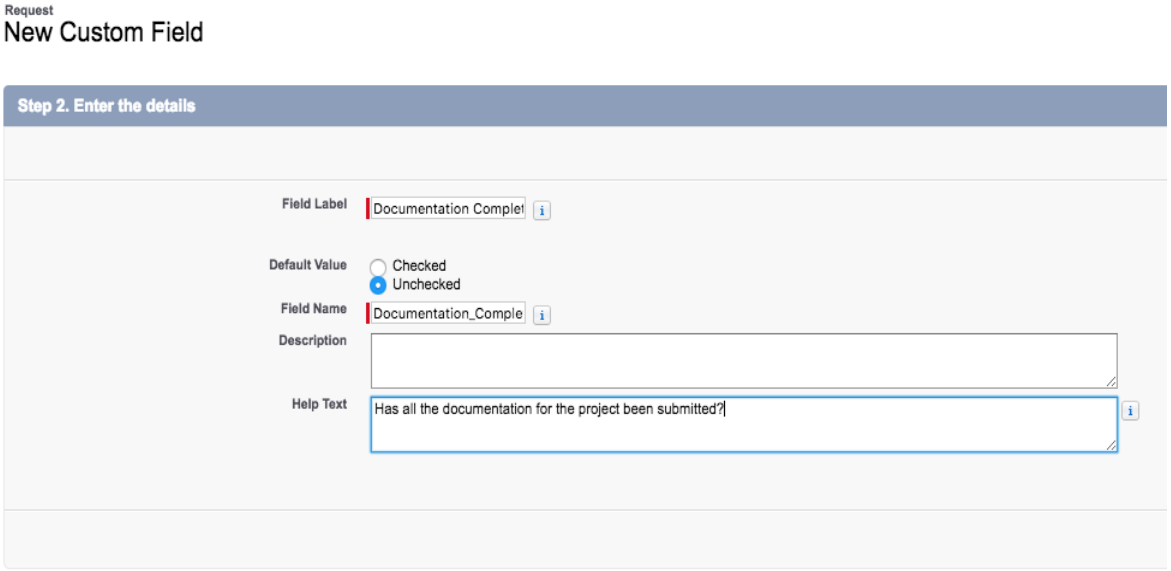


h. **Step 3:** Accept the default values. Click **Next**.
i. **Step 4:** Accept the default values. Click **Save & New**.

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	*Leave blank*
Help Text	Has all the documentation for the project been submitted?

c. The screen will look like following:

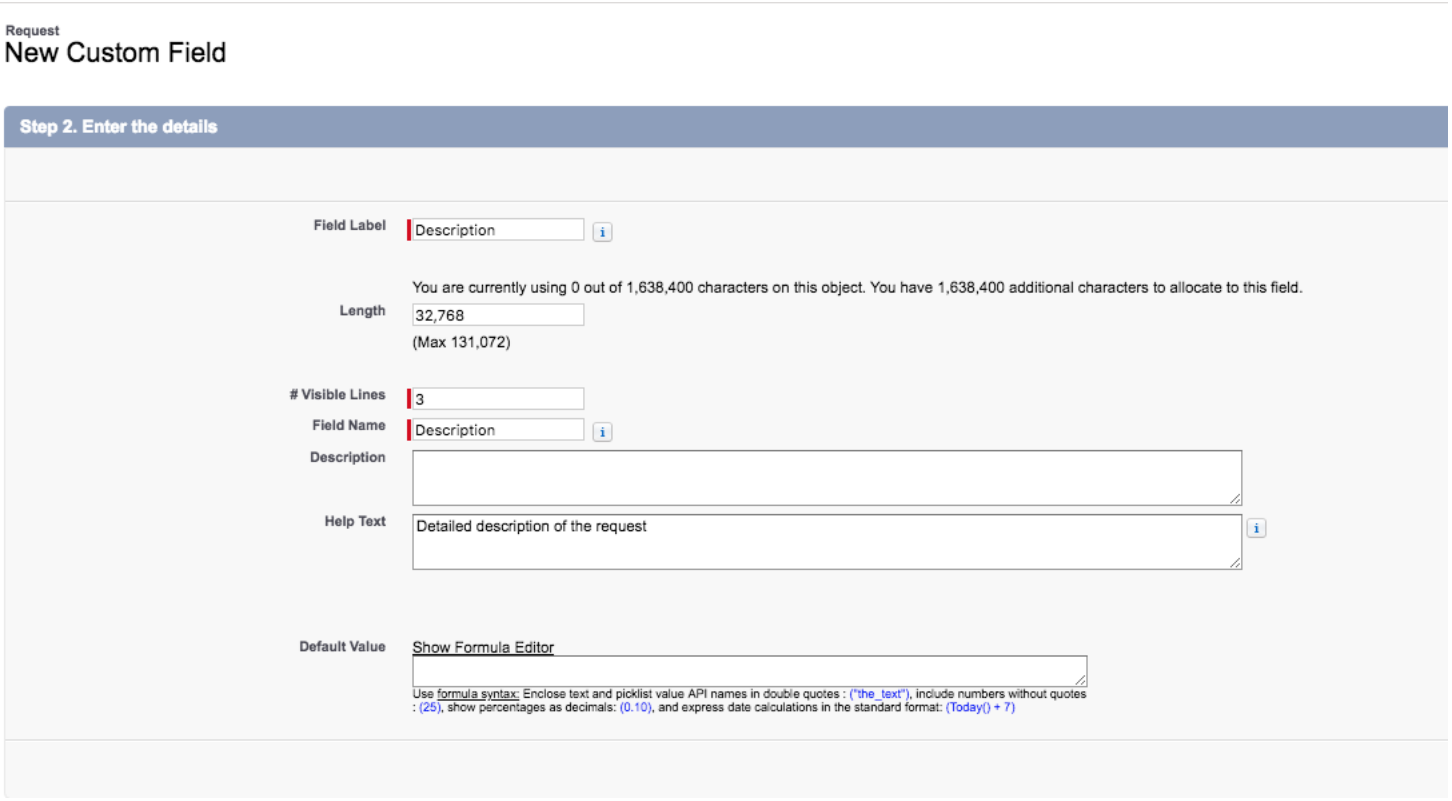


d. Click **Next**.
e. **Step 3:** Accept the default values. Click **Next**.
f. **Step 4:** Accept the default values. Click **Save & New**.

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	*Leave blank*
Help Text	Detailed description of the request

c. The screen will look like following:



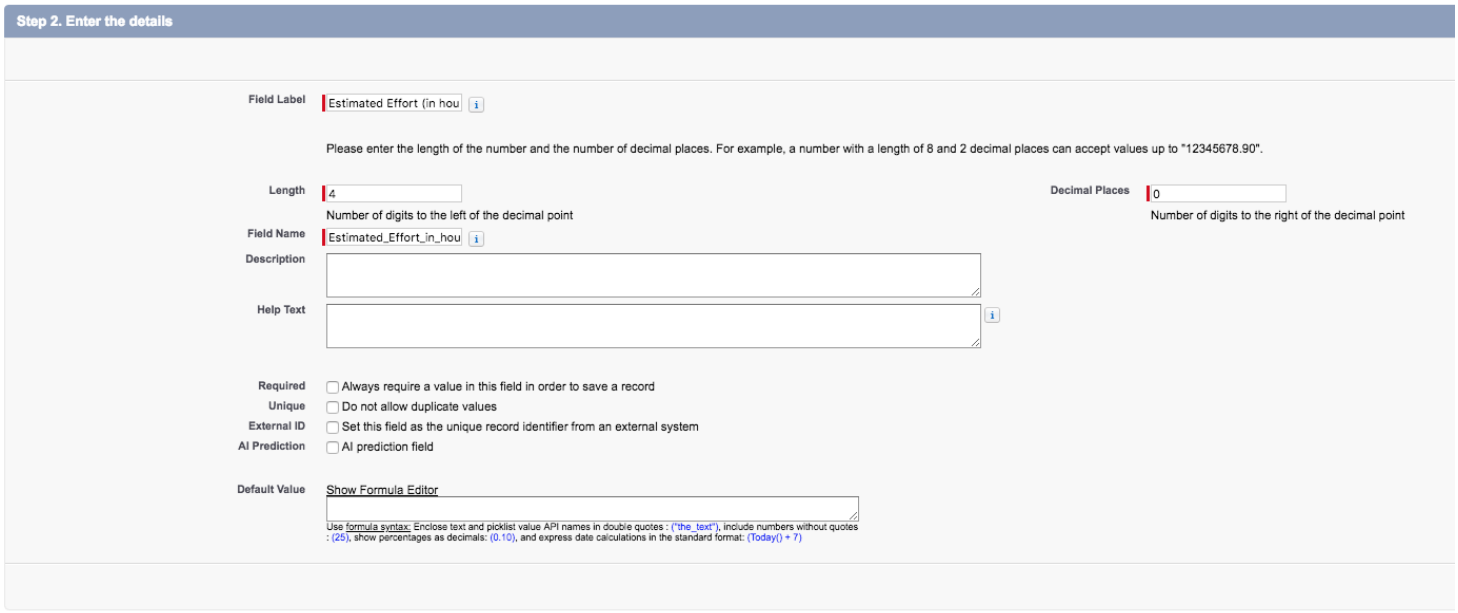
d. Click **Next**.
e. **Step 3:** Accept the default values. Click **Next**.
f. **Step 4:** Accept the default values. Click **Save & New**.

11. Create the **Estimated Effort (in hours)** field
    a. **Step 1:** Select **Number** data type
    b. **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 _)

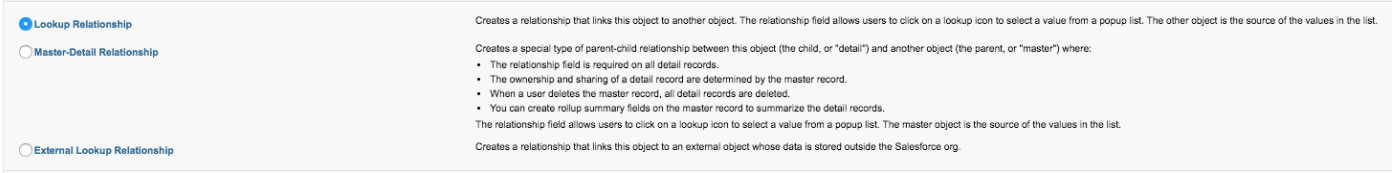
Description	*Leave blank*
Help Text	*Leave blank*
Required	*Leave Unchecked*
Unique	*Leave Unchecked*
External ID	*Leave Unchecked*
AI Prediction	*Leave Unchecked*

c. The screen will look like following:



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

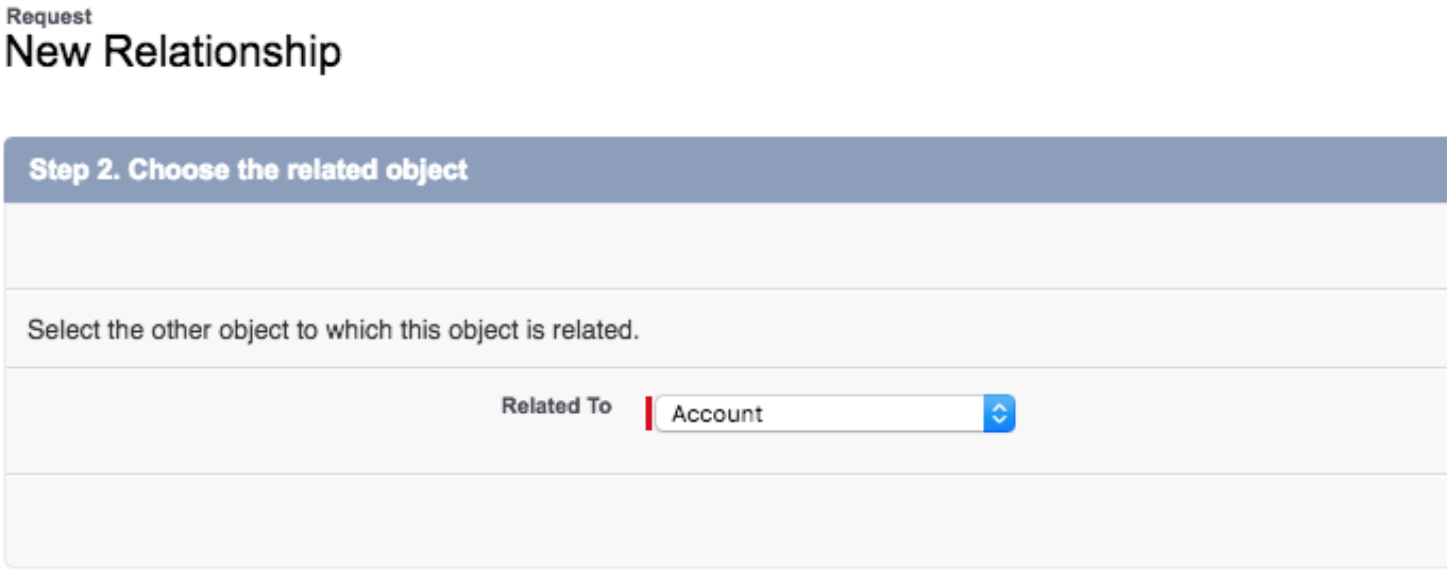
12. Create the **Account Name Lookup Relationship**
    a. **Step 1:** Select **Lookup Relationship** data type



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

Parameter	Value
Related To	Account

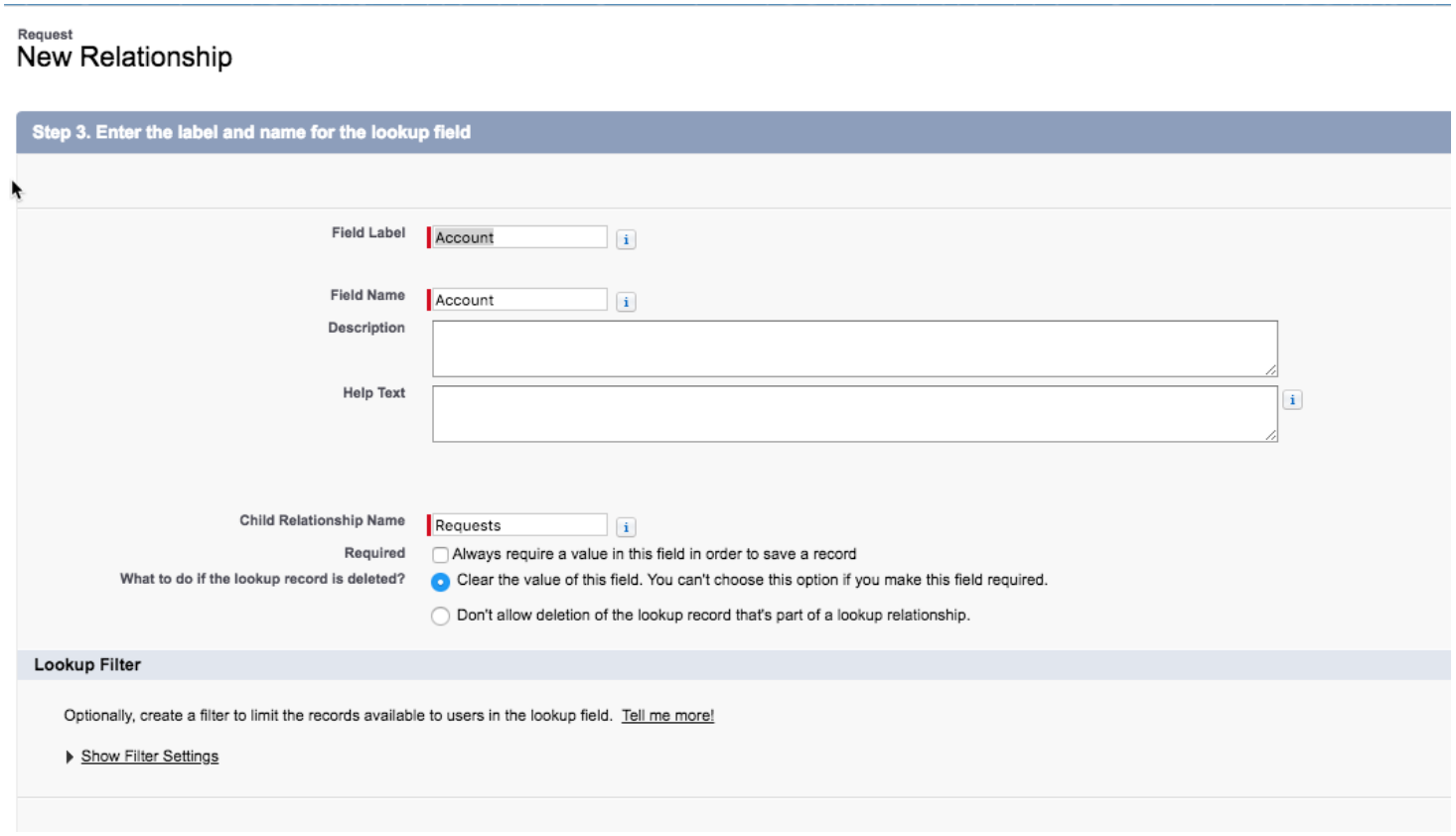
c. The screen will look like following



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

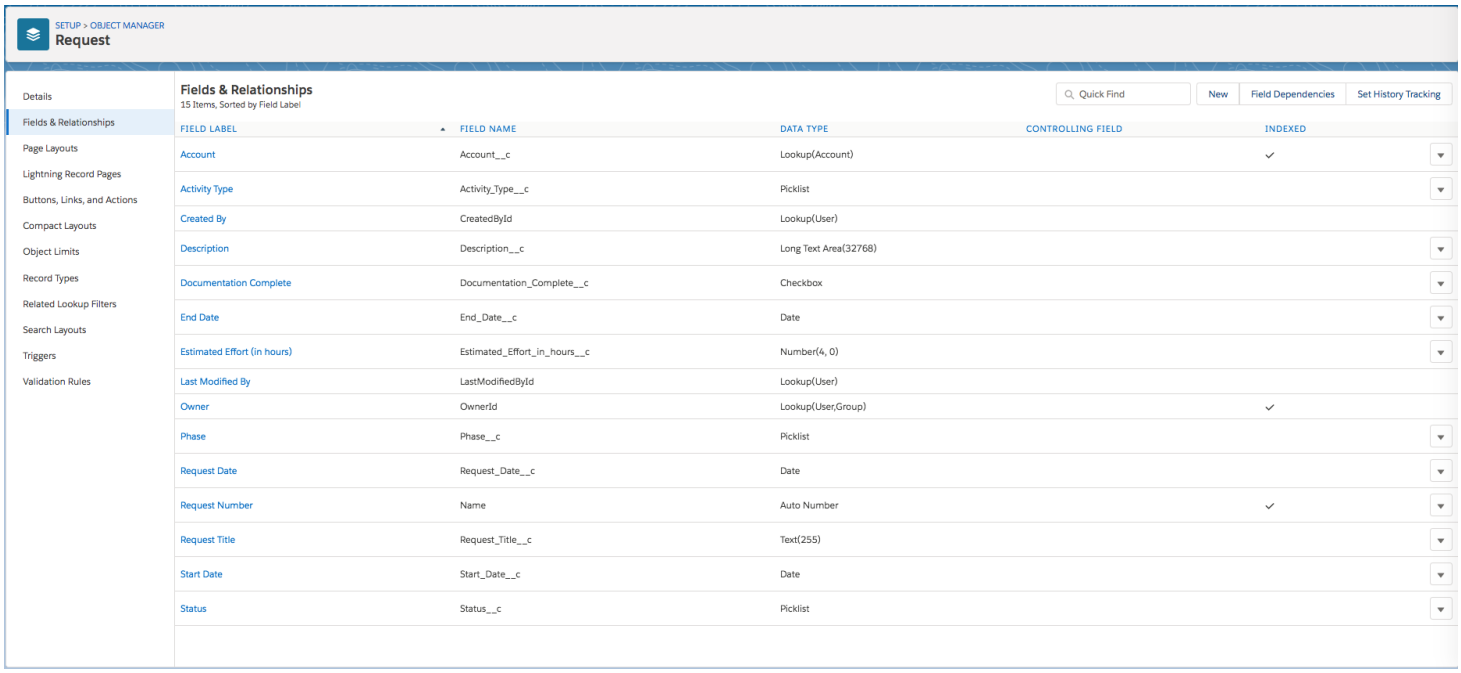
Parameter	Value
Field Name	Account
Description	*Leave Blank*
Help Text	*Leave Blank*

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



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:



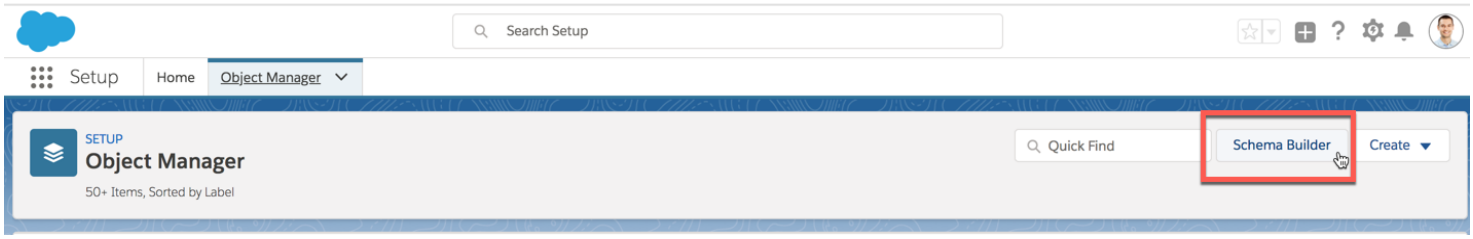
Create the Tasks Object

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.

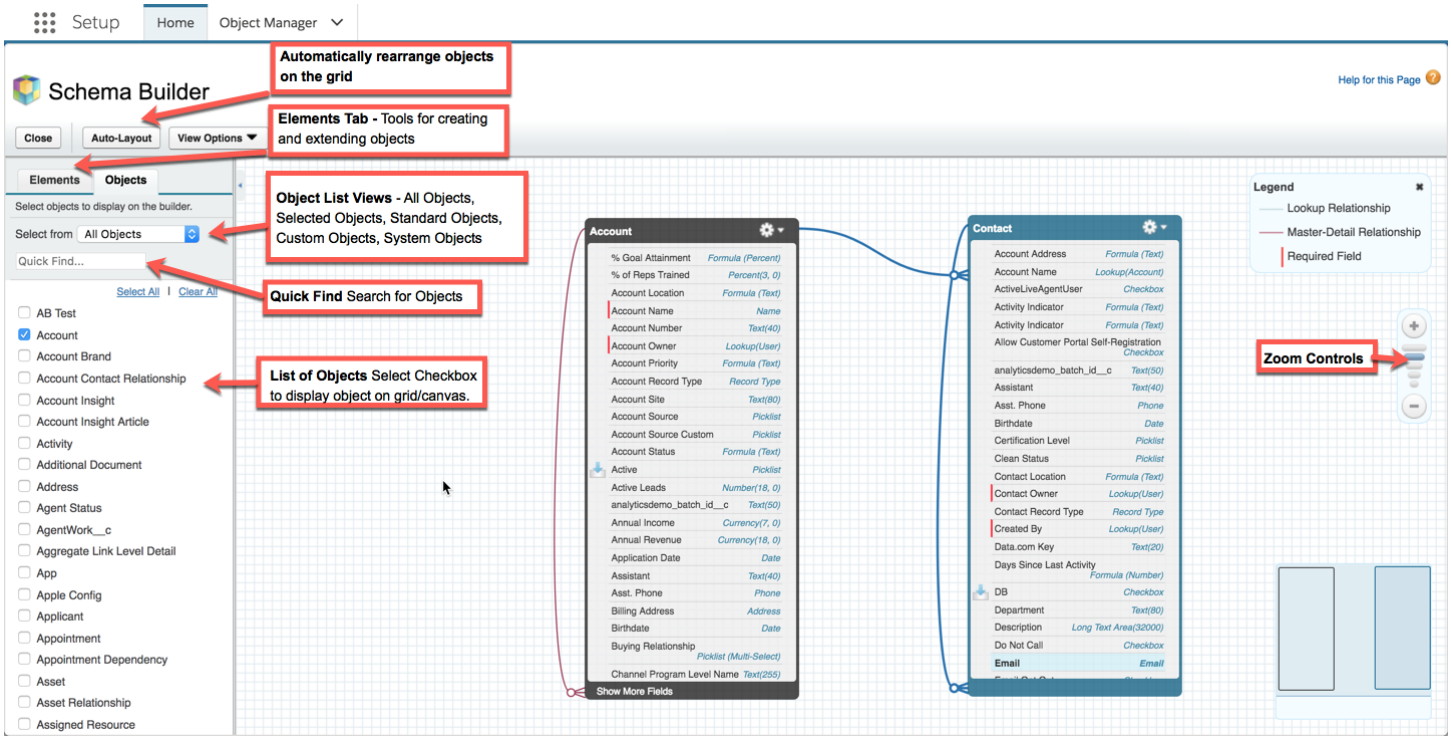
Schema Builder is great for visualization, but you can also use it to customize your data model. For example, you can manage the permissions for your custom fields directly in Schema Builder. Just right-click the field name and click Manage Field Permissions.

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.

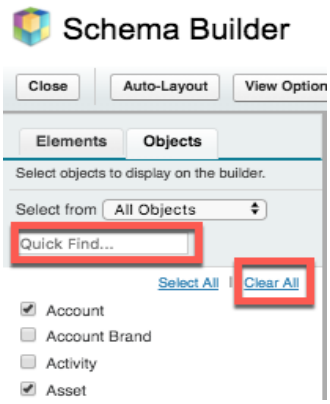
1. The Schema Builder can be accessed in a couple of ways.
   a. **Option 1** - Type '**Schema Builder**' in the '**Quick Find**' search box in **Setup**.
   b. **Option 2** - Click the **Object Manager** tab in the Setup screen and click on the **Schema Builder** button.



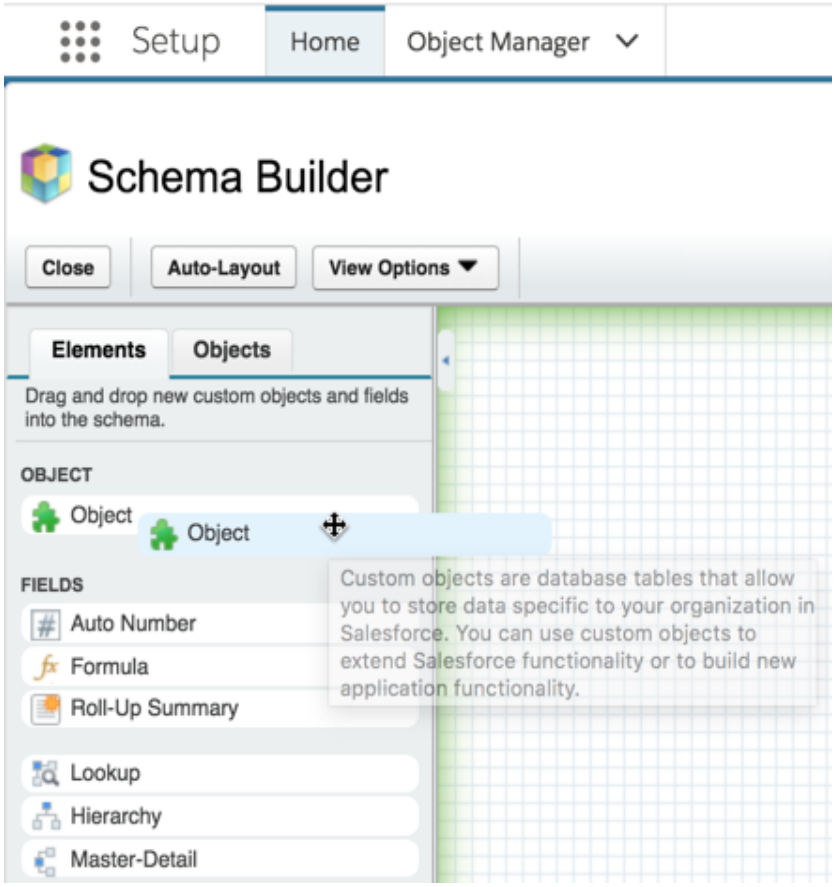
2. You should see something like the screen below once you access **Schema Builder**



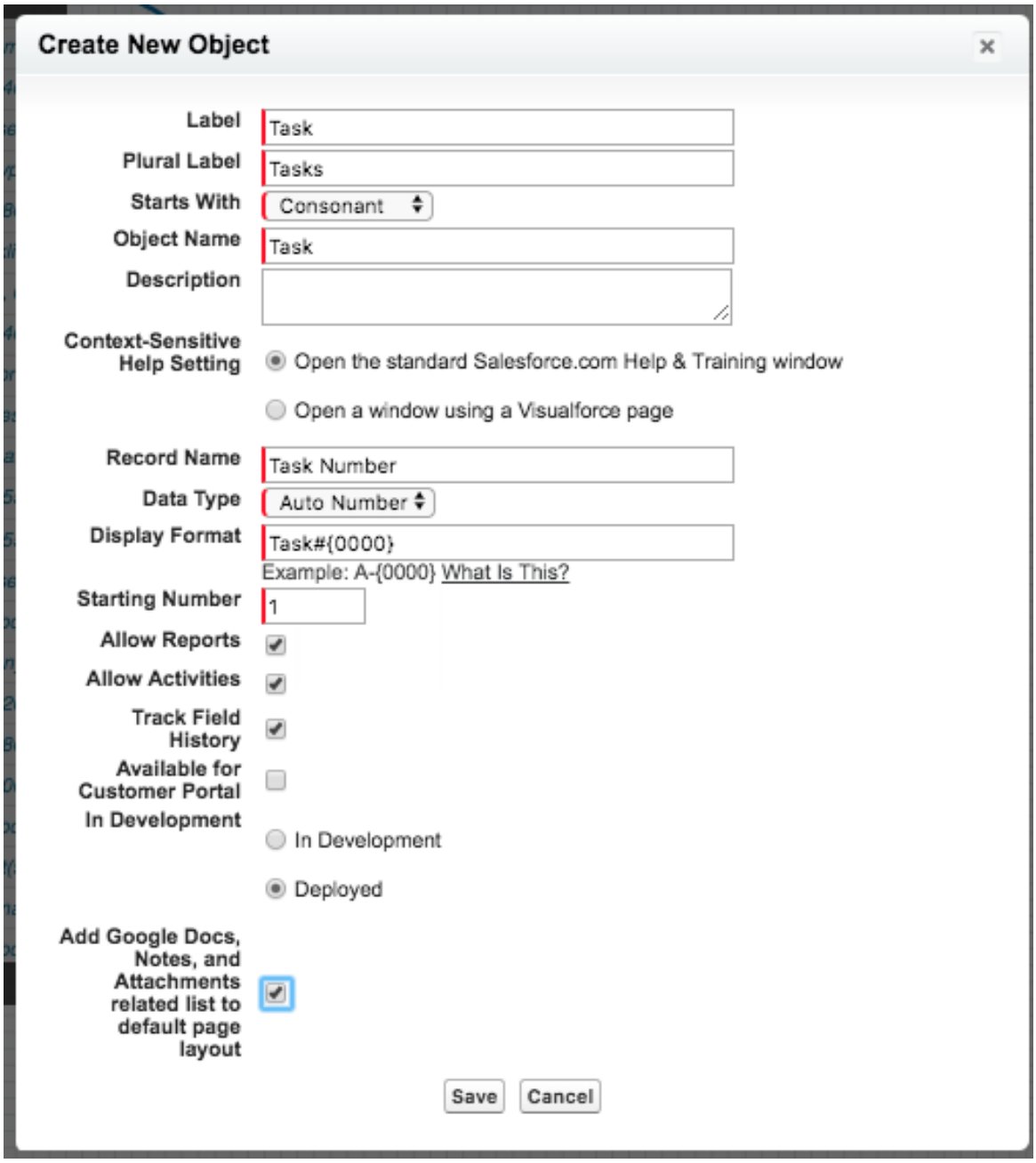
3. Click **Clear All** and type **Request** in the **Quick Find** box. Check the box next to **Request** and **Account.**



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

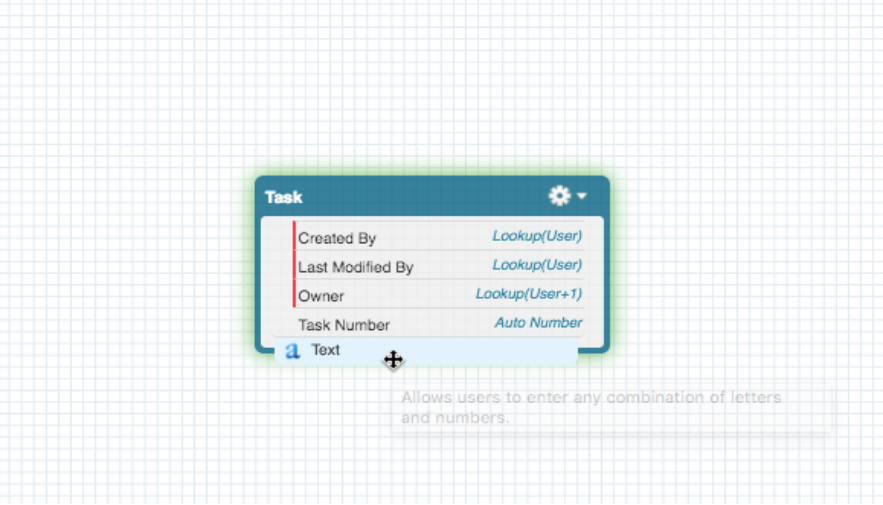


a. Enter the following values in the form that appears.

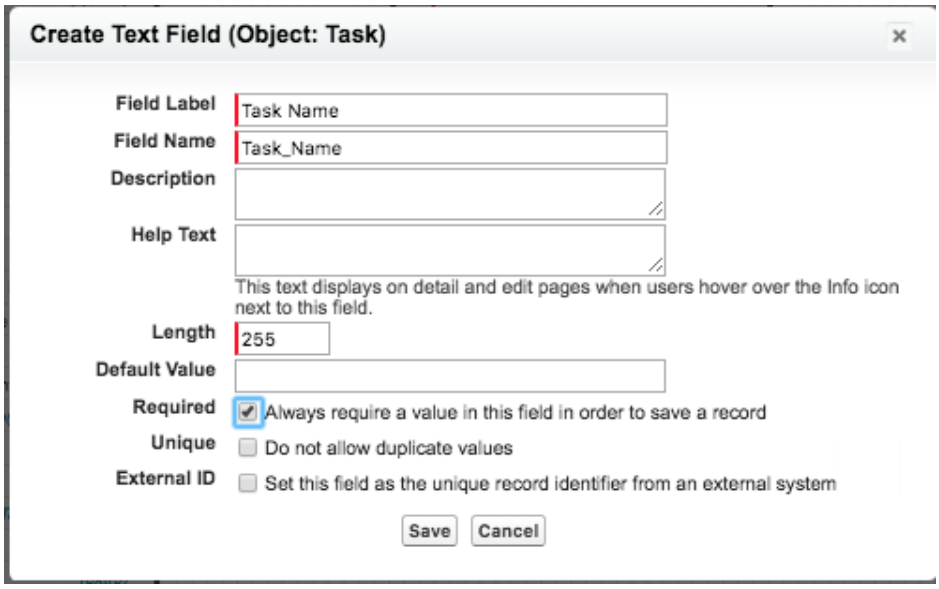
Parameter	Value
Label	Task
Plural Label	Tasks
Starts with vowel sound	*Leave Unchecked*
Object Name	(this will automatically get set when you tab out of the Label field)
Record Name	Task Number
Data Type	Auto Number
Display Format	Task#{0000}
Starting Number	1
'Allow Reports', 'Allow Activities', 'Track 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

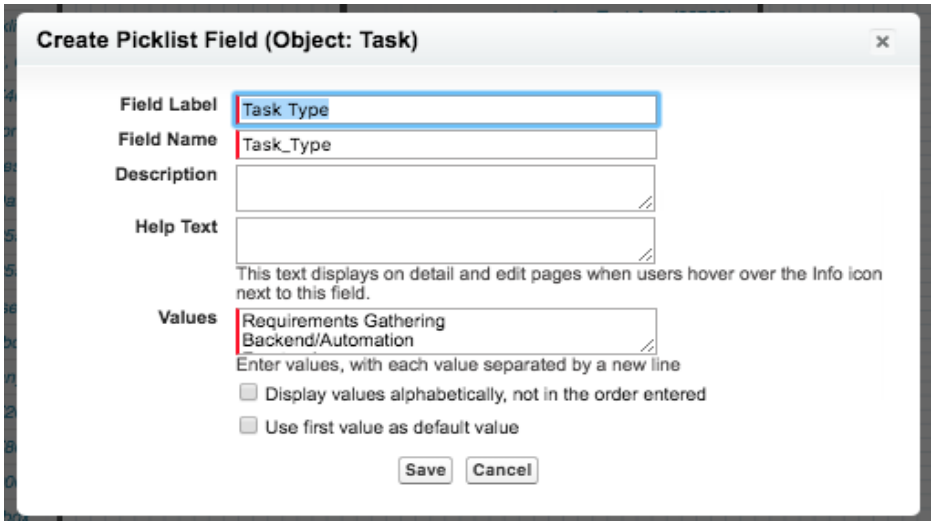


c. Enter the following details for the field

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

d. Click **Save**

7. Create the **Task Type** picklist field
   a. Drag a **Picklist** Element on to the Task object.
   b. 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	*Leave blank*
Help Text	*Leave blank*
Display values alphabetically, not in the order entered	*Leave this unselected/unchecked*
Use first value as default value	*Leave this unselected/unchecked*

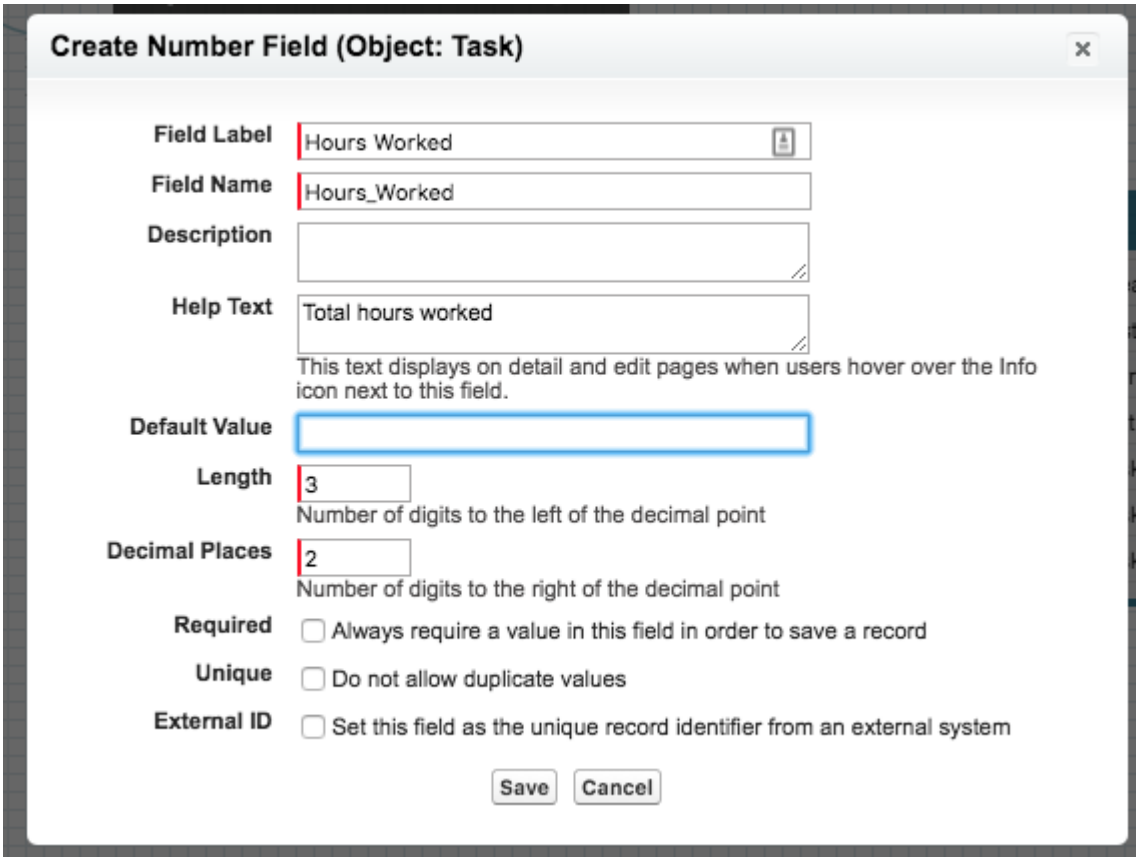
   c. Click **Save**

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	*Leave blank*
Help Text	*Leave blank*
Display values alphabetically, not in the order entered	*Leave this unselected/unchecked*
Use first value as default value	*Leave this unselected/unchecked*

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

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



   c. Enter the following details for the field

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

Required	Checked
Unique	*Leave this unselected/unchecked*
External ID	*Leave this unselected/unchecked*

d. Click **Save**

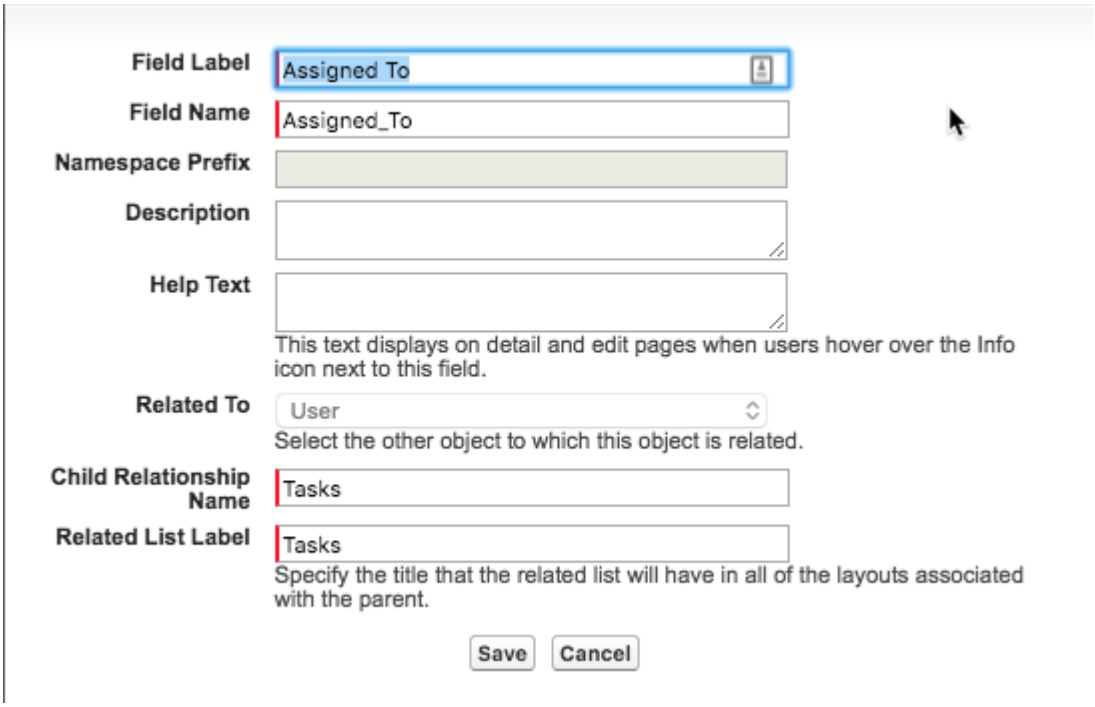
10. Create the **Associated Request Master-Detail Relationship**
    a. **Step 1:** Drag a **Master-Detail** element on to the Task Object
    b. **Step 2:** Enter the following values for the field details

Parameter	**Value**
Field Label	Associated Request
Field Name	Associated_Request
Description	*Leave this blank*
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

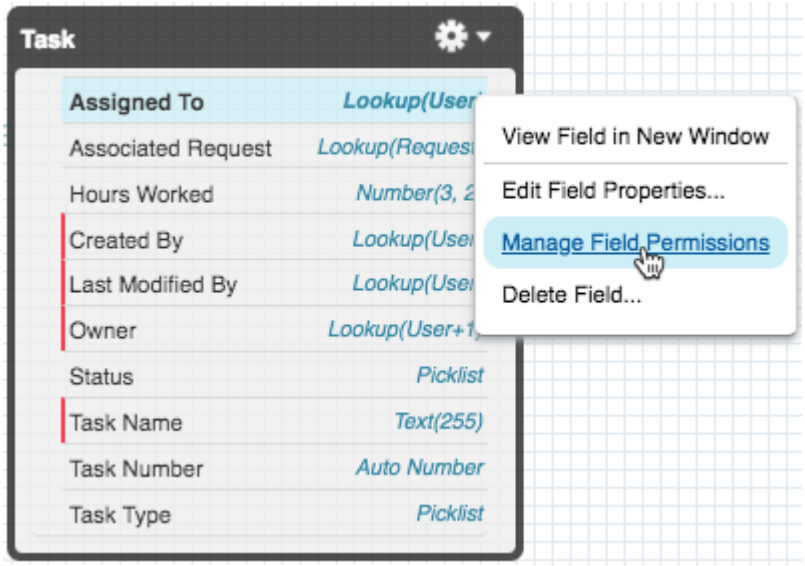
    b. **Step 2:** Enter the following values for the field detail



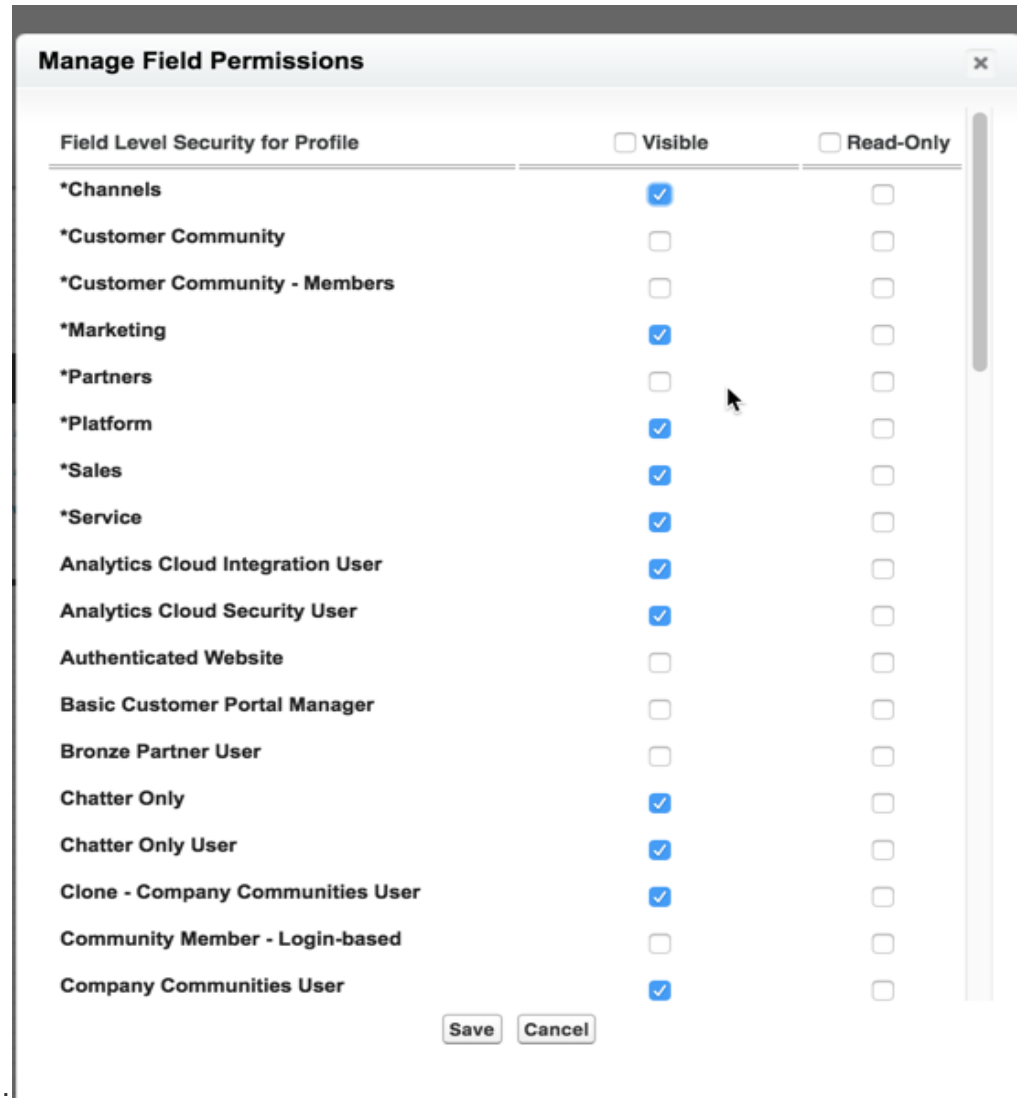
Parameter	Value
Field Label	Assigned To
Field Name	Assigned_To
Description	*Leave this blank*
Help Text	*Leave this blank*
Related To	Select the ‘User’ object from the dropdown
Child Relationship Name	Auto Populates to Tasks. Do not change this.
Related List Label	Tasks

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

13. Set the permissions for the custom fields of the Tasks object.
    a. To edit properties of a custom field, right-click the element name or label and select **Edit Field Properties**.



    b. 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



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.**

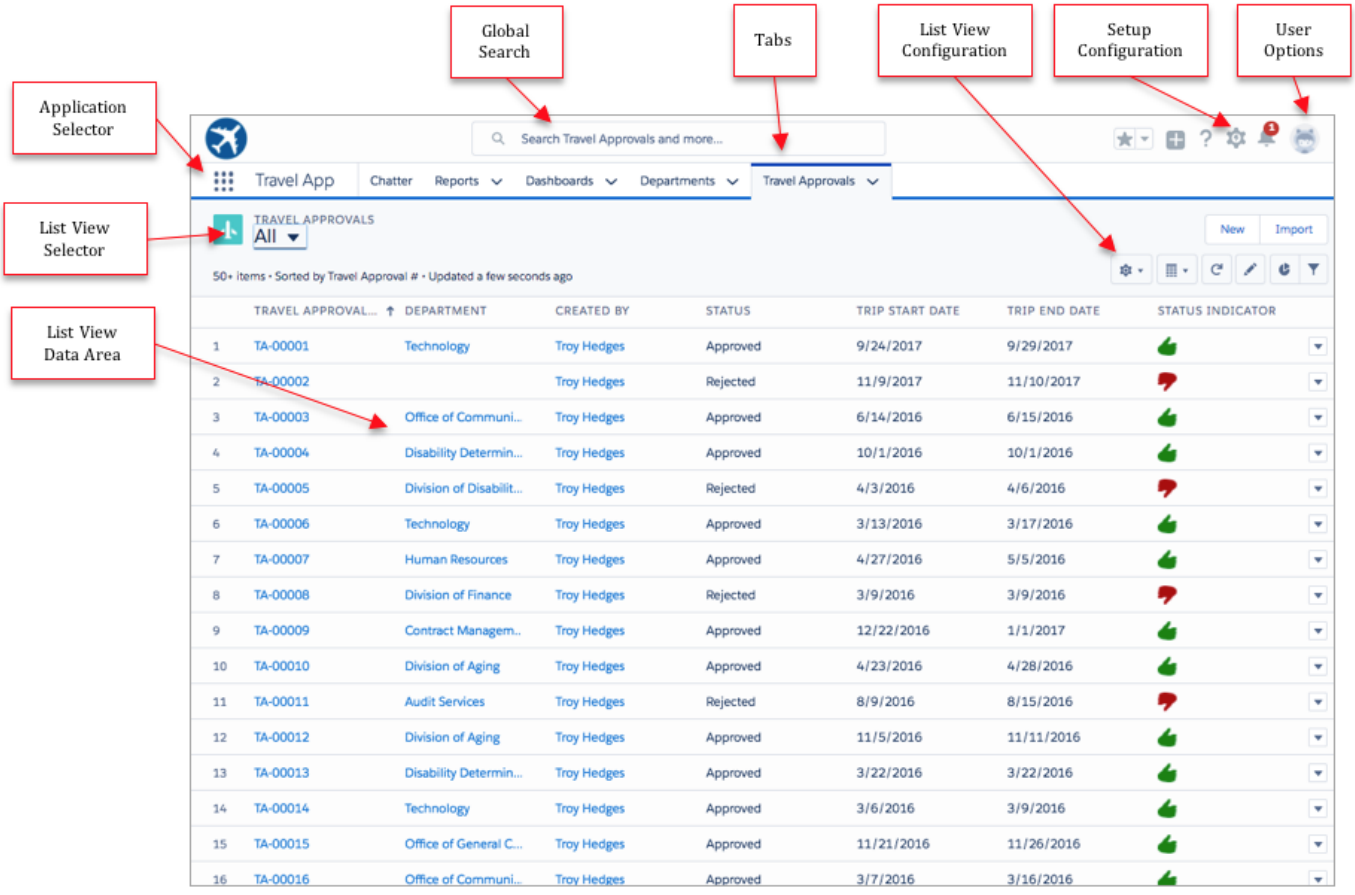
Lab 2 - UI - Create the Application and Tabs

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.

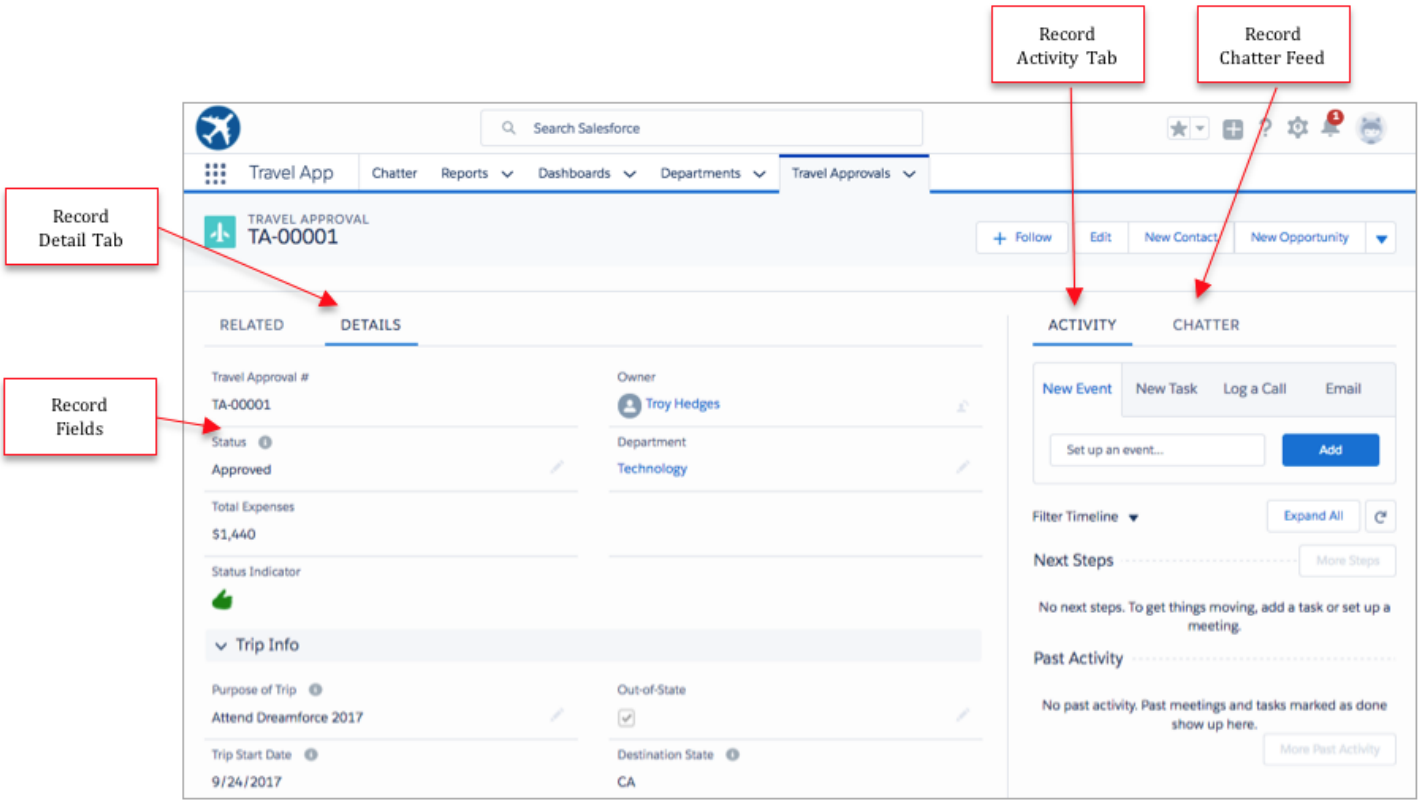
Below is a screenshot of a Travel Approval application. Highlighted are the main functional areas you will use in this workshop and a description of each is provided below.



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:

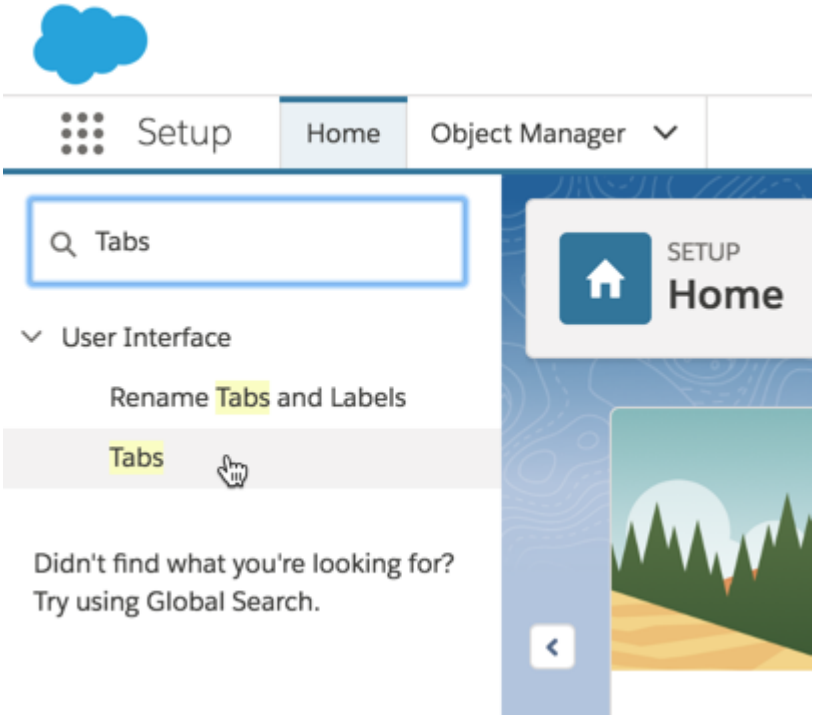
- **Record Detail Tab** – this tab shows the actual field information for the chosen record. The fields and field sections shown on this page can be configured by administrator and different views (i.e. page layouts) can be configured for different users. Thus, one user could have a different view of 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:

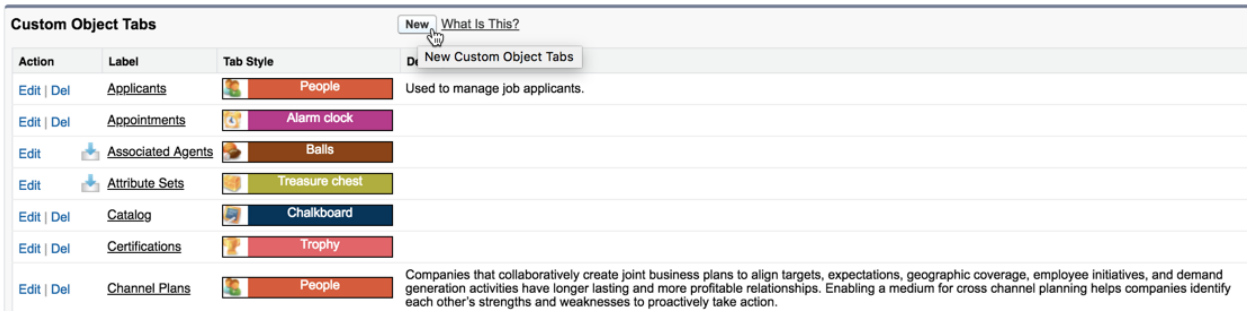
- **Related Tab** – click this tab to see the related lists (i.e. child objects) that are linked to this record
- **Related Lists -** related lists are a set of (child) related records associated, in this example, to the travel approval record you created. The Related List objects like (expense items, 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

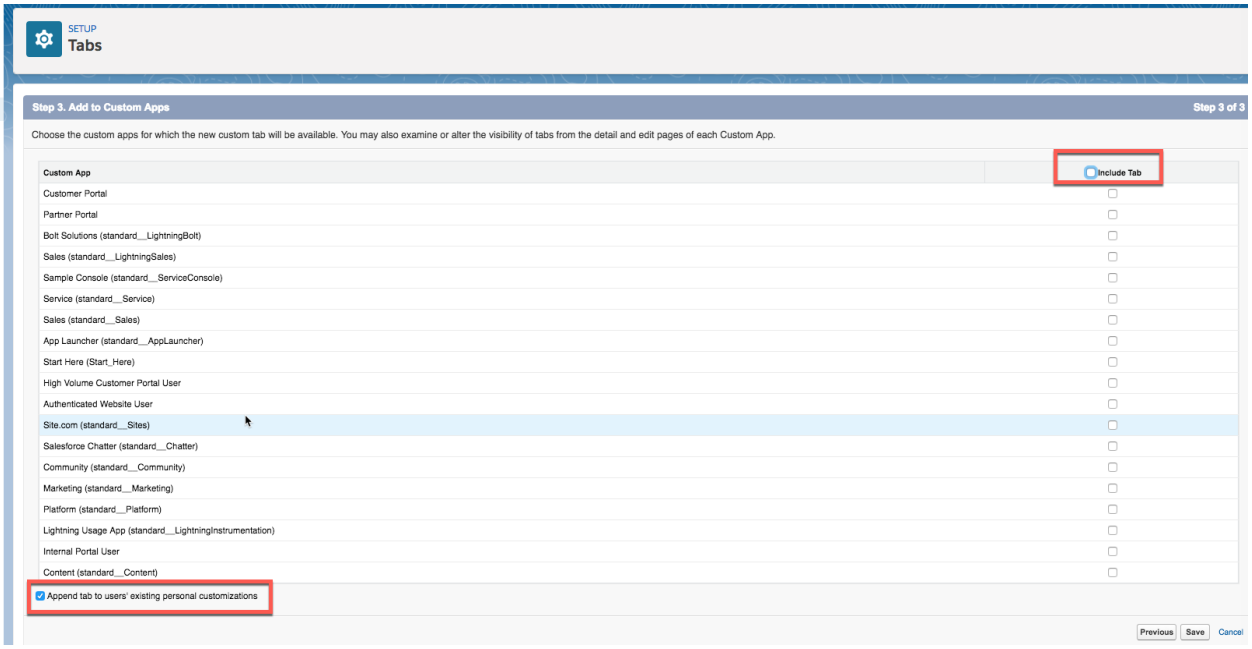
1. From Setup, enter **Tabs** in the Quick Find box, then select **Tabs**



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



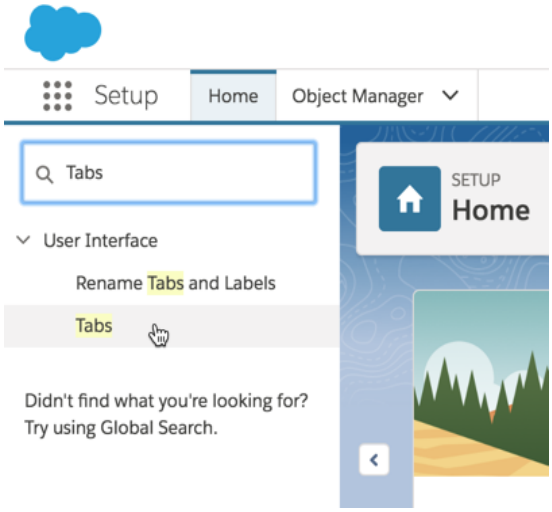
3. From the Object picklist, select **Request**.
4. For the Icon, Click  and select **Form**  .
5. Click **Next**.
6. Leave the profile as is and click **Next**.
7. In the Add to Custom Apps section:
    - Deselect **Include Tab**.
    - Select **Append tab to users' existing personal customizations**.



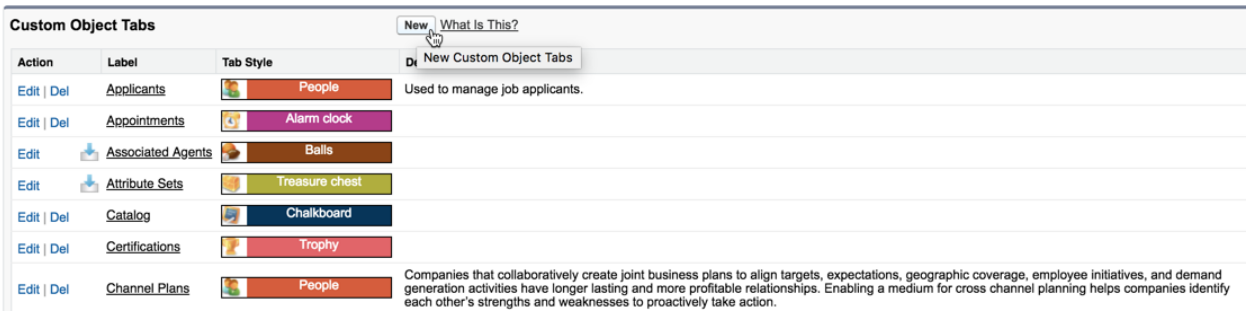
8. Click **Save**.

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**



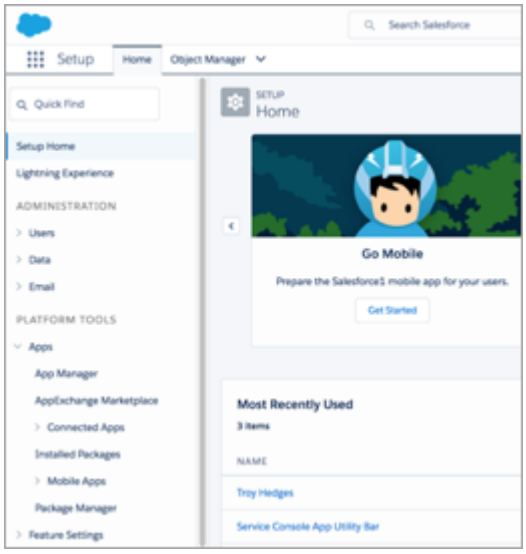
3. From the Object picklist, select **Task**.
4. For the Icon, Click  and select **Wrench**  .
5. Click **Next**.
6. Leave the profile as is and click **Next**.
7. In the Add to Custom Apps section:
   - Deselect **Include Tab**.
   - Select **Append tab to users' existing personal customizations**.
8. Click **Save**.

Create the Request Tracker App

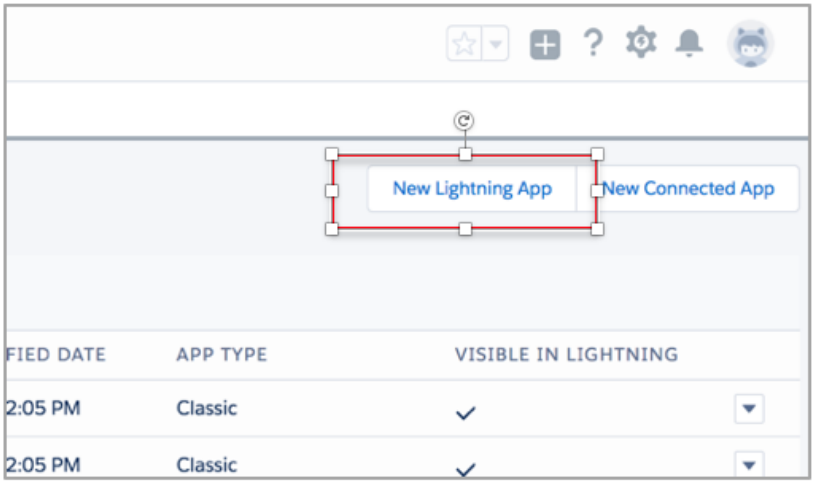
The next thing we need to do is to create the **Request Tracker** app that provides us a view in to Salesforce of our specific Request and Task objects which we just created. Remember that a Salesforce application is a grouping of tabs that give you access to corresponding object data.

1. Access the **Setup** menu

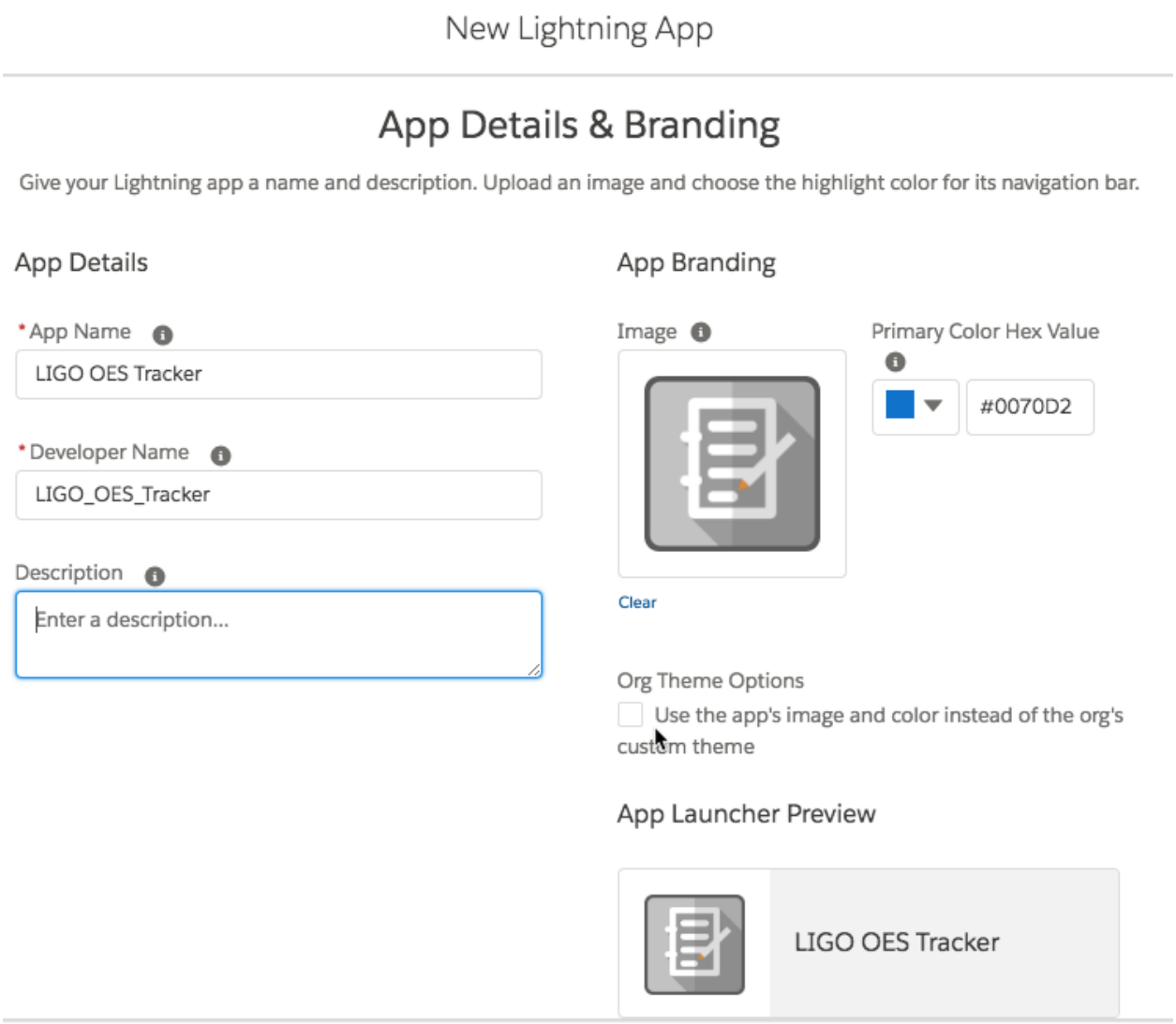
2. In left-hand side of main window, click on **Apps > App Manager**



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



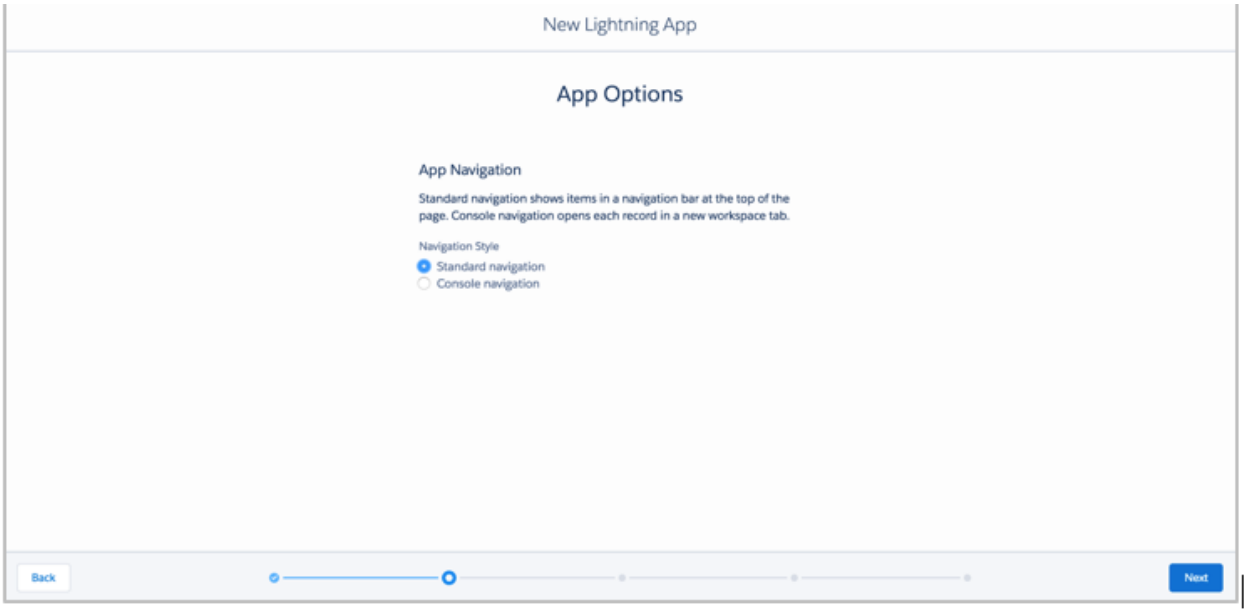
4. On the “App Details & Branding” window, enter the following:



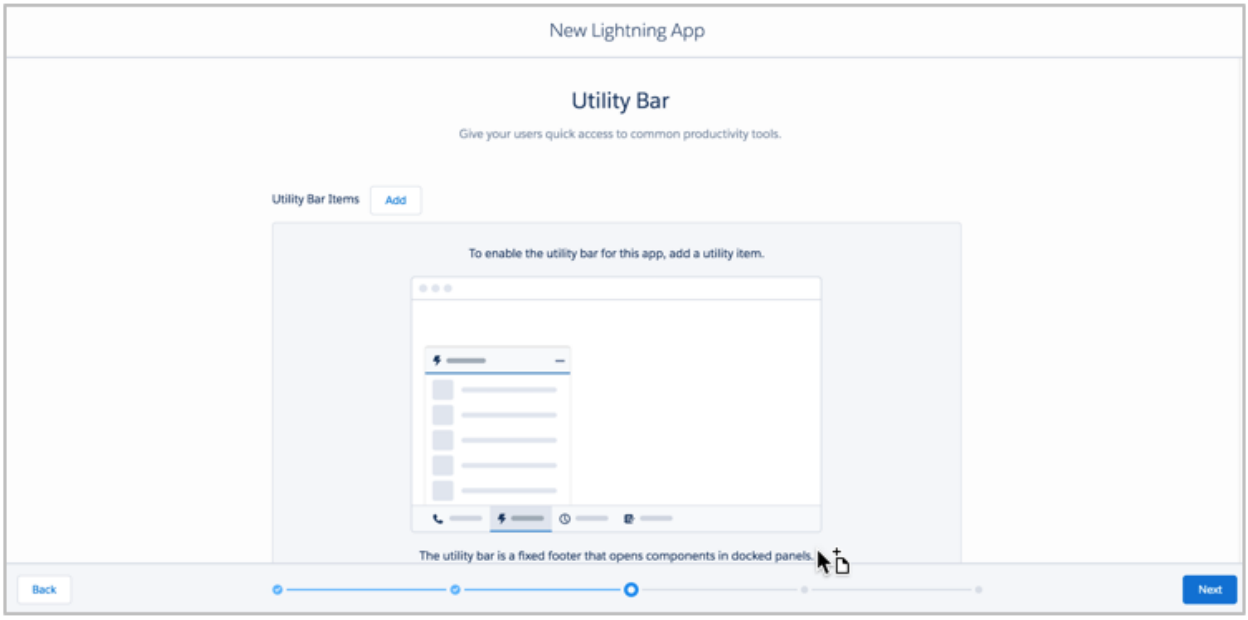
Parameter	Value
App Name	Request Tracker
Developer Name	LIGO_OES_Tracker (Auto populates)
Image	Upload the ‘**App Logo.png**’ image from the **Salesforce Workshop** folder you downloaded

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

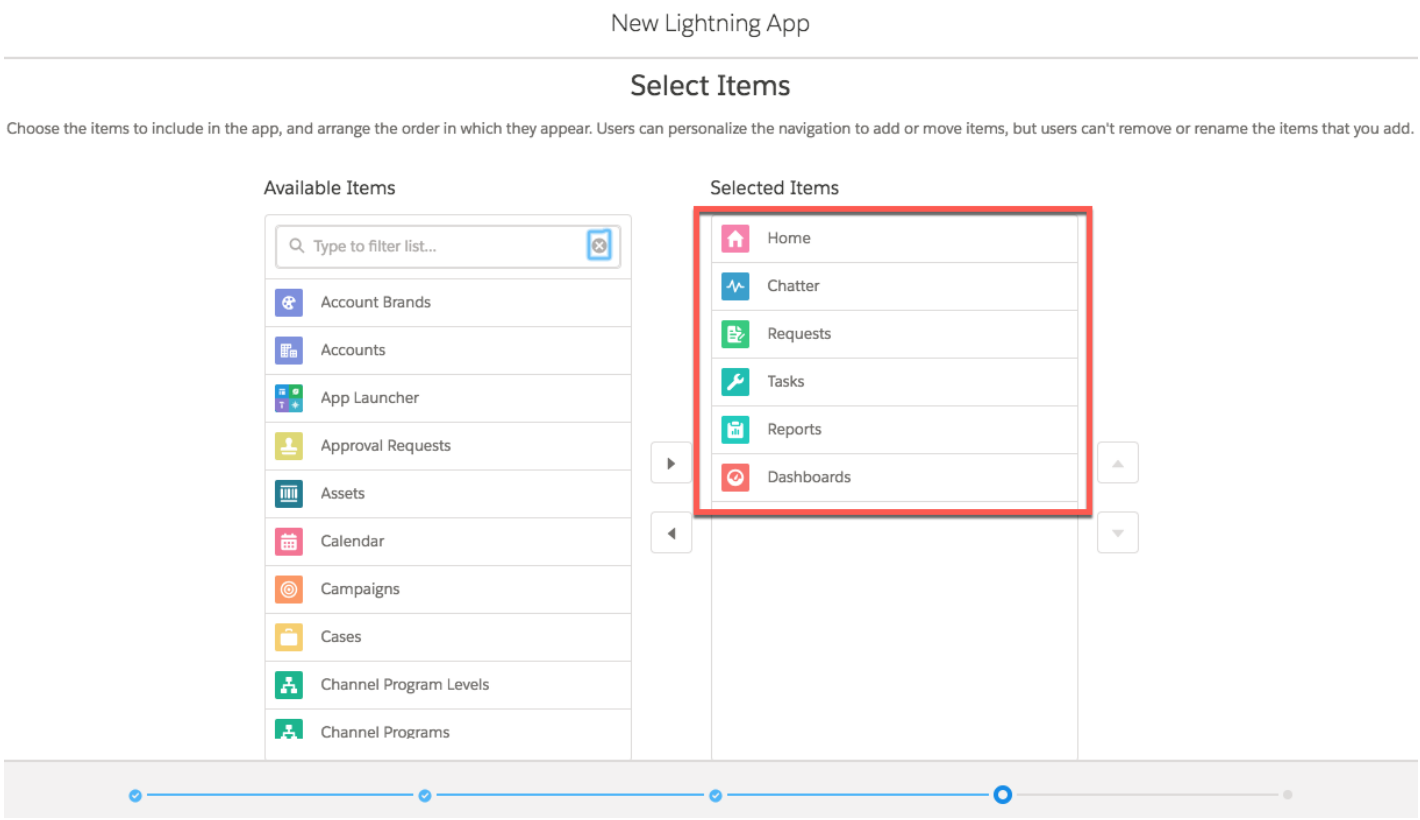
6. On **App Options** screen, select **Standard navigation** and click **Next** button in lower-right.



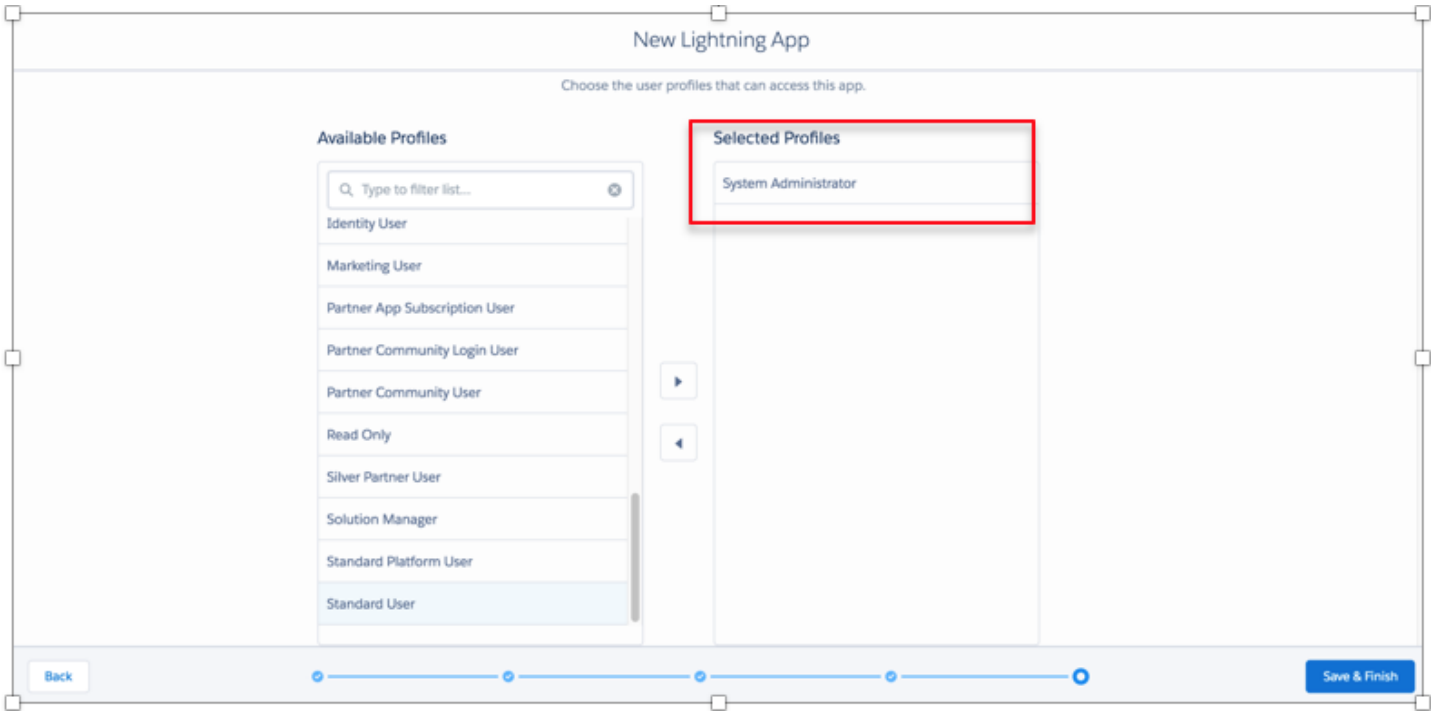
7. On Utility Bar screen, we will not add any utility bar items. Just click the **Next** button in lower-right.



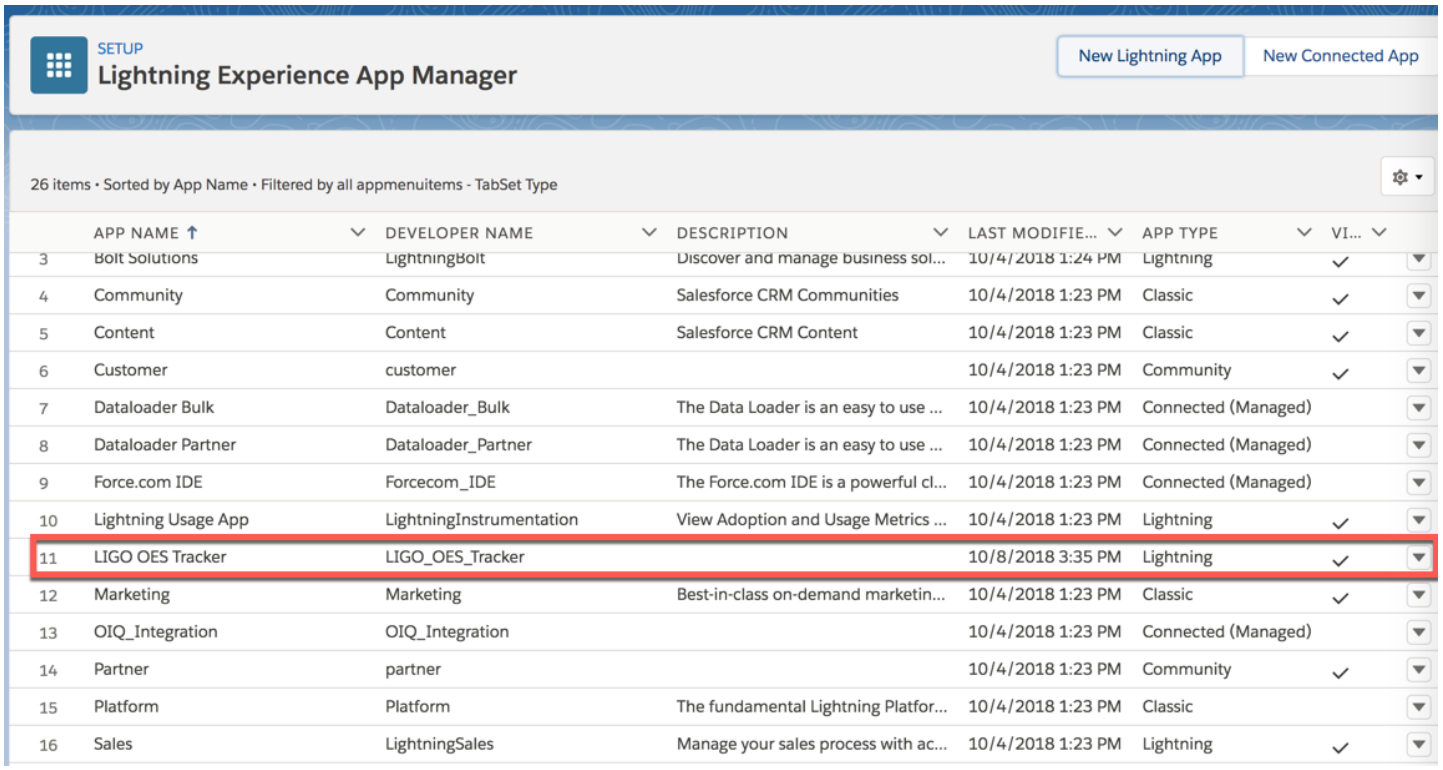
8. On **Select Items** screen, select the following items from the Available Items side and move them over to the Selected Items side: **Home**, **Chatter, Request, Tasks, Reports and Dashboards**. Your screen should look like the following. Click the **Next** button in lower-right.



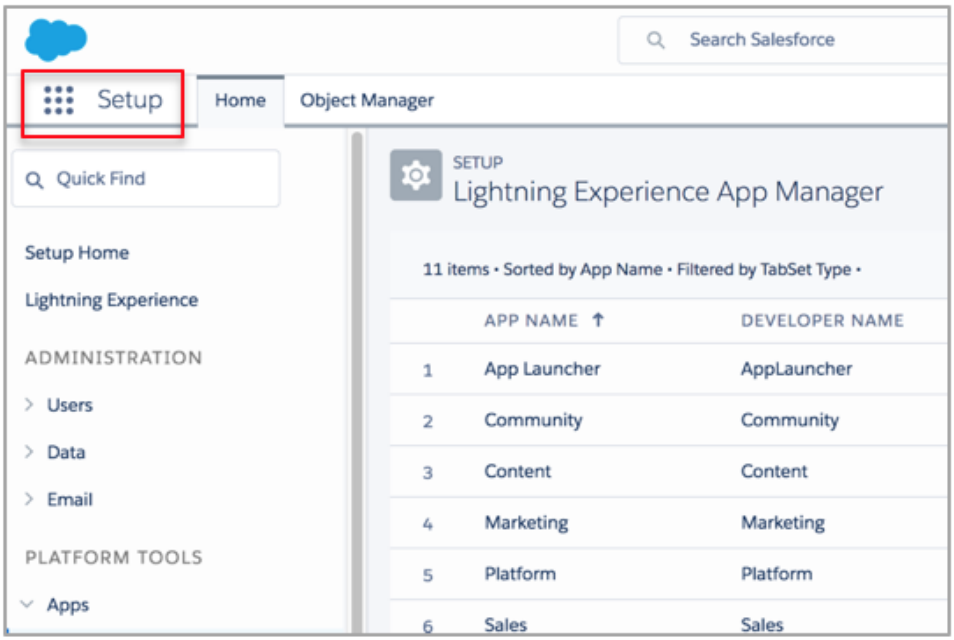
9. On the **Assign to User Profiles** screen, select **System Administrator** like the following screen. Click **Save & Finish** button in lower-right.



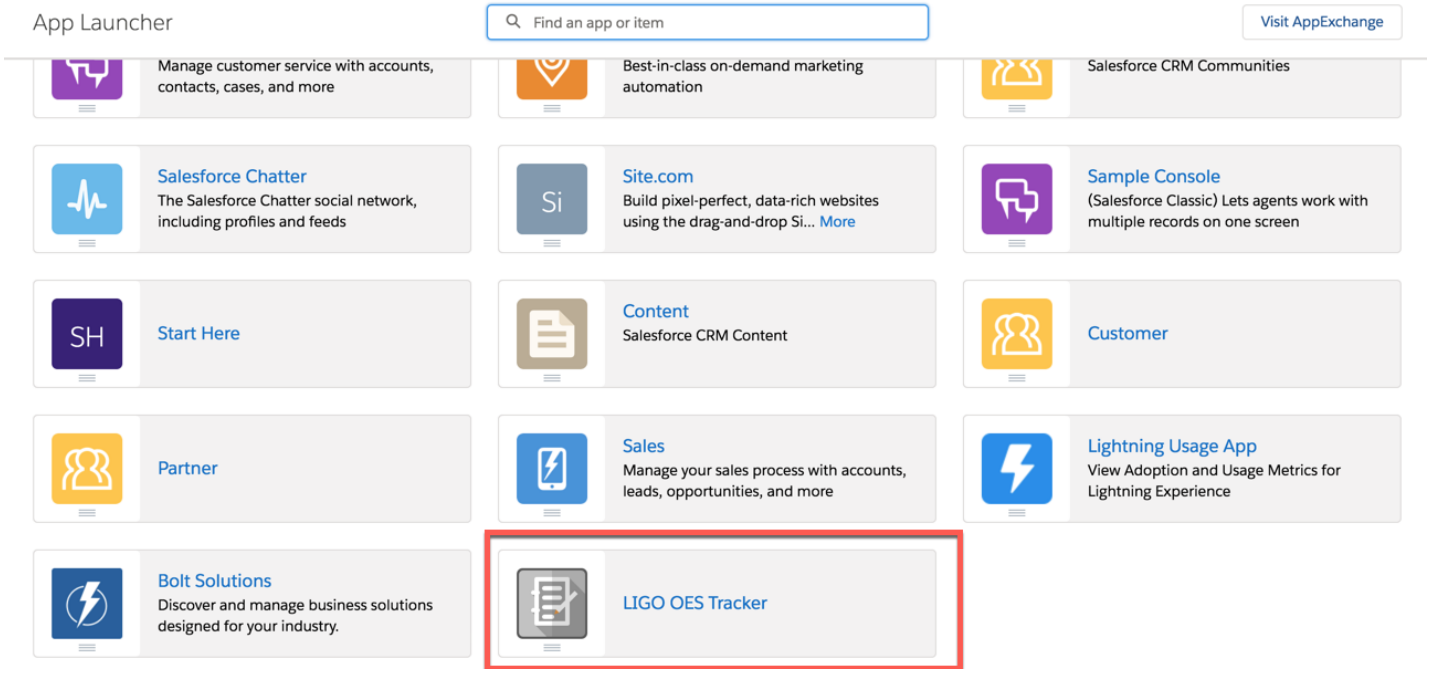
10. You should now have a new **Request Tracker** app on the **App Manager** screen like the following:



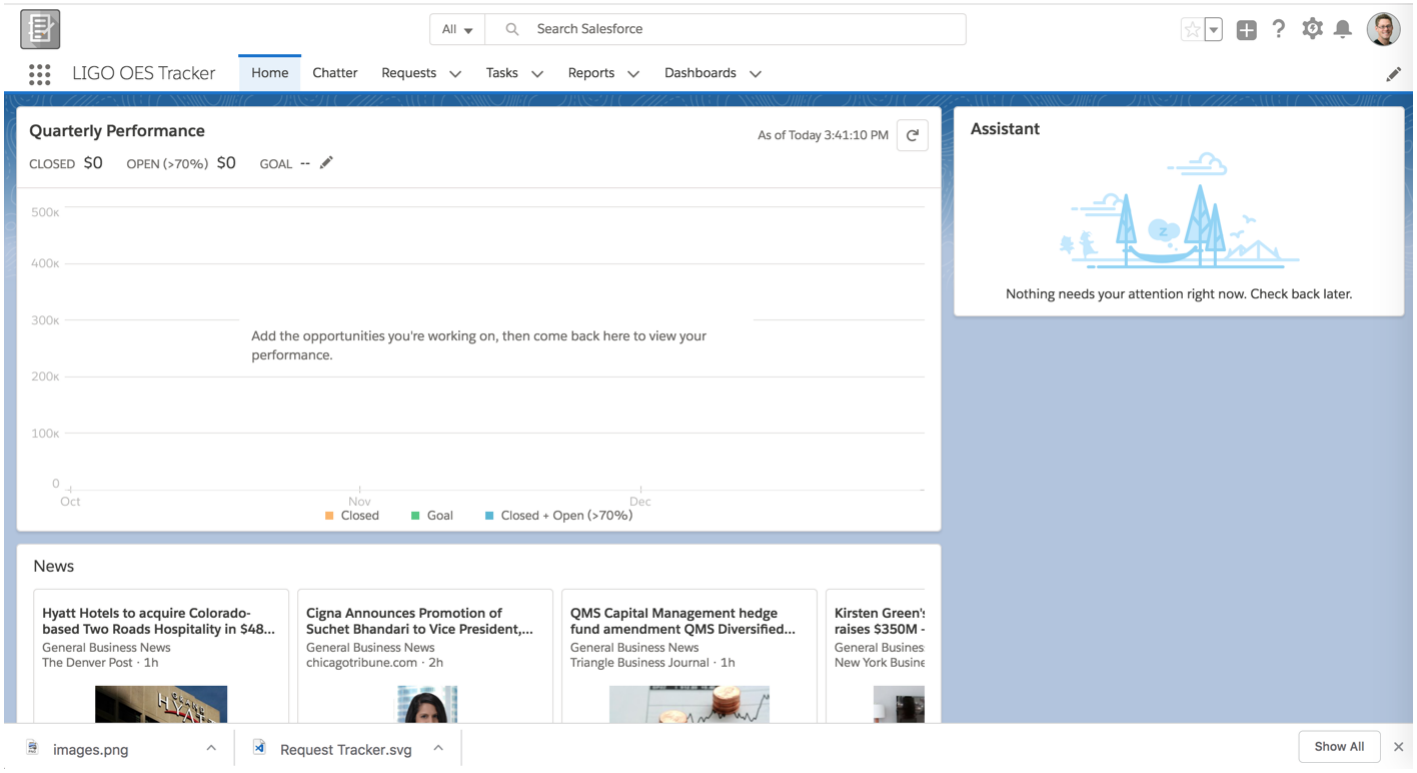
11. Let's now navigate to the **Request Tracker** application to see what it looks like so far. We will use the application selector to accomplish this.In top left of the Salesforce Lightning view, there is an application selector that has 9 dots and looks like following: . Click that and select the **Request Tracker** application (see next page).



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



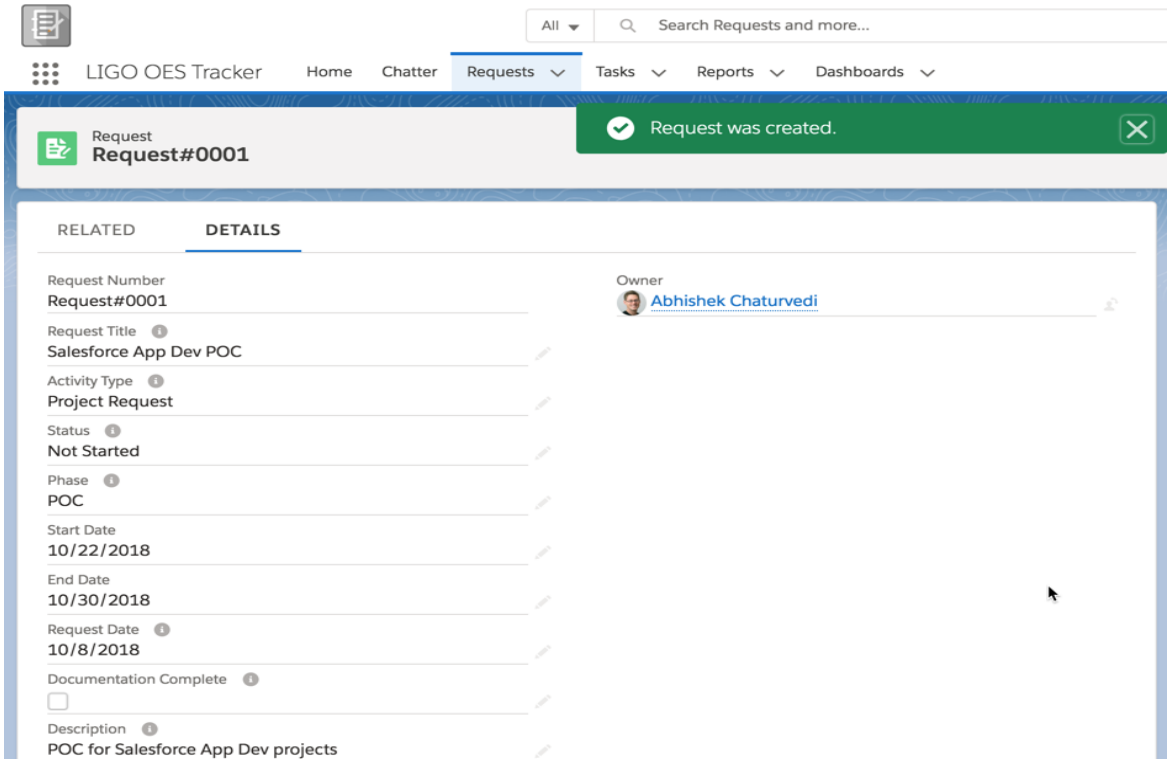
13. Your window should now look like the following. It currently has the Home, Chatter, Requests, Tasks, Reports, and Dashboards tabs as you defined while creating the application



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 Popuated (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’

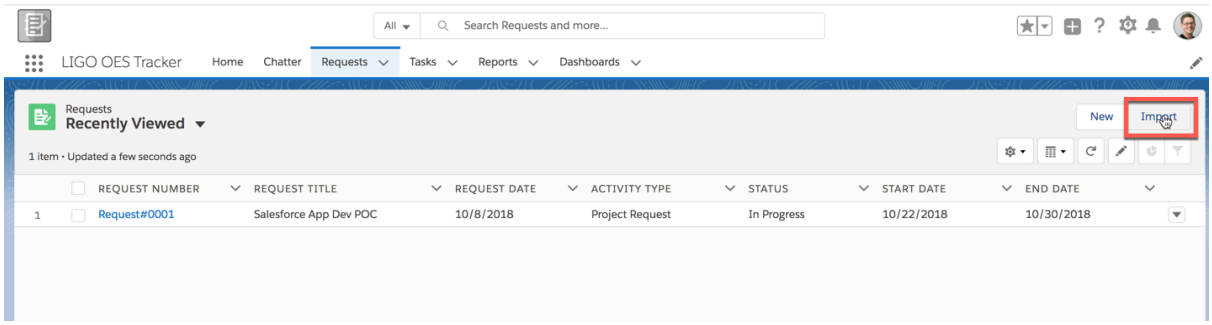


Lab 3 – Import Data for the Request and Task Objects

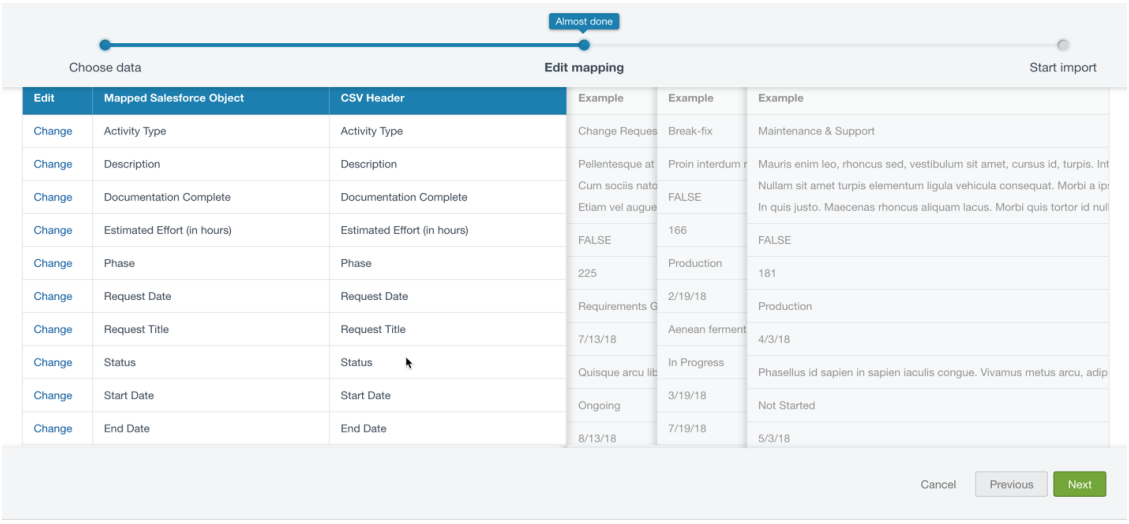
Import Data for the Request Object

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.

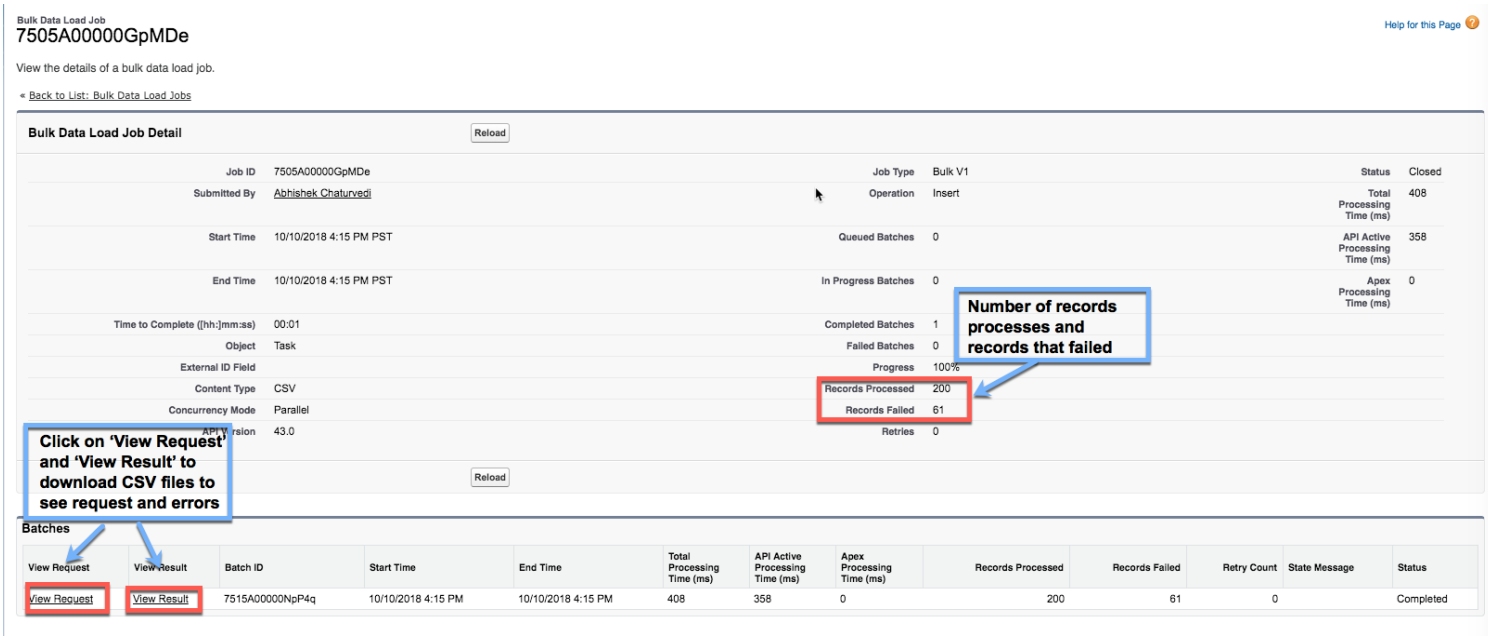
1. Access the Request tab and click the **Import** button on the top right corner.



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)



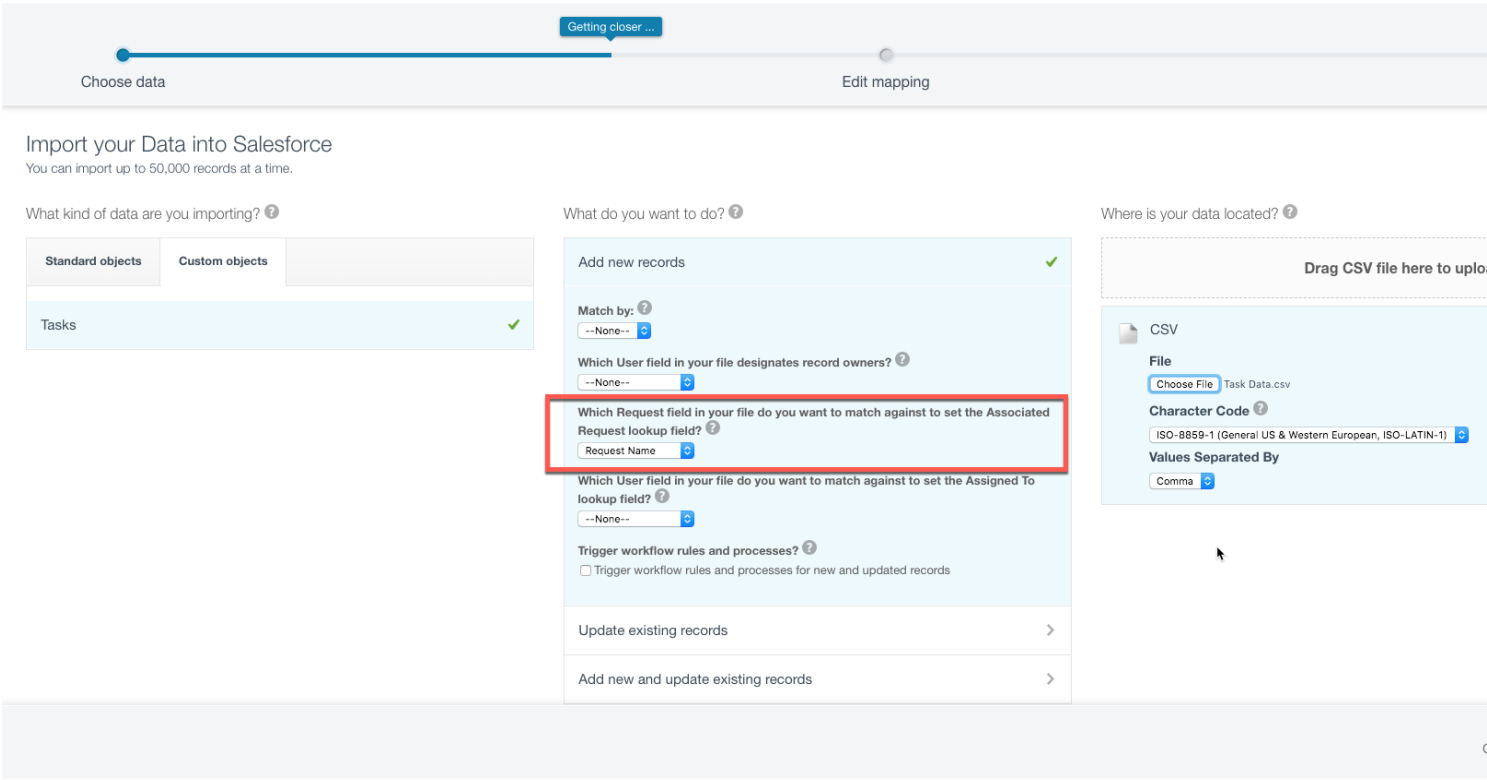
7. Click **Next**. On the success message popup that appears click on OK. The data is loaded as a background batch job and you will be redirected to the status of that batch job. These are very small files and the records should be uploaded instantly. You will see the following screen



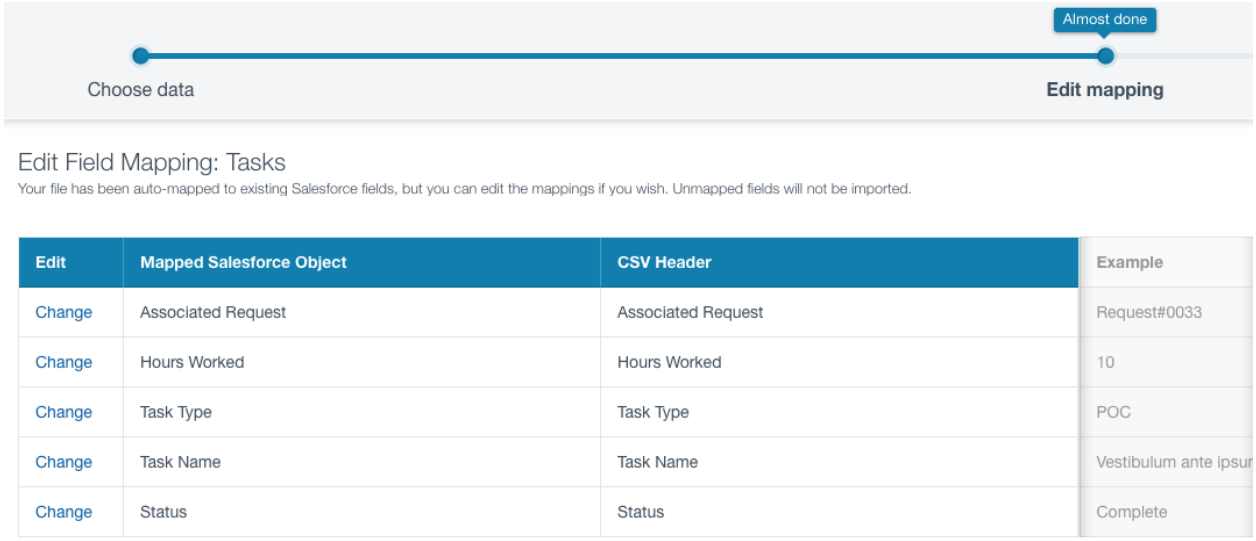
Import Data for the Task Object

1. Access the **Task** tab and click the **Import** button on the top right corner.
2. On the Data Import Wizard that opens up click on **Tasks** under the 'What kind of data are you importing?'.
3. 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

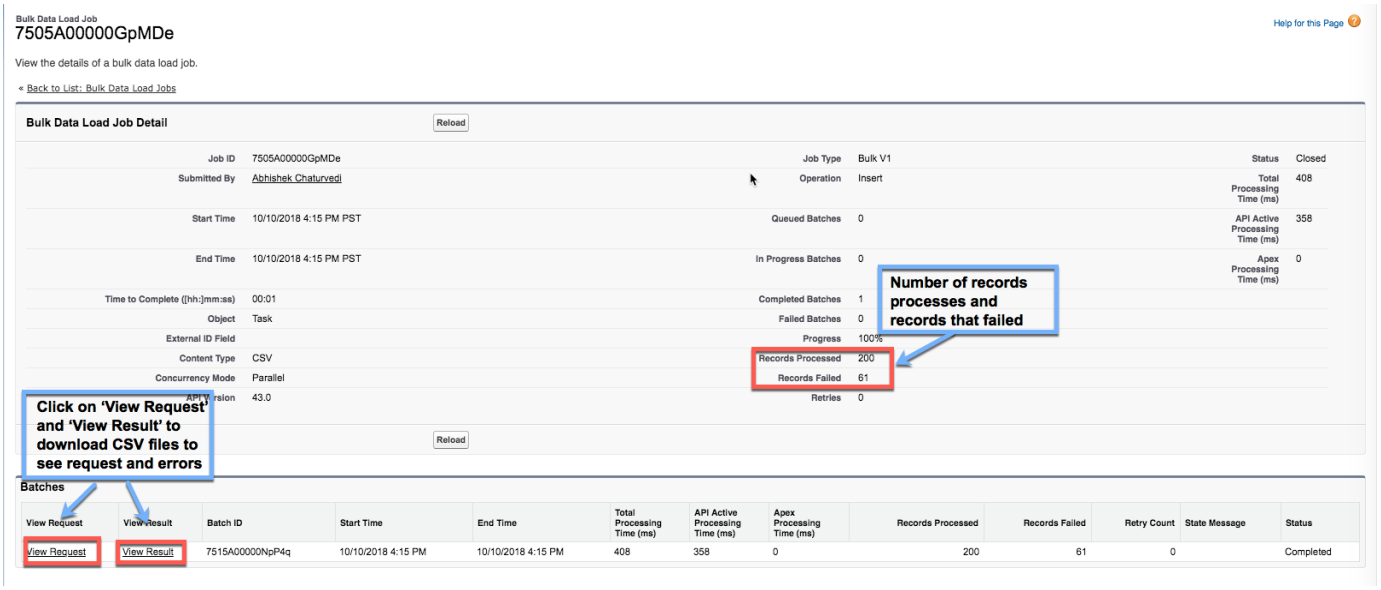
do you want to do?' section select the **Request Name** option under the 'Which Request field in your file do you want to match against to set the Associated Request lookup field?'



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



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

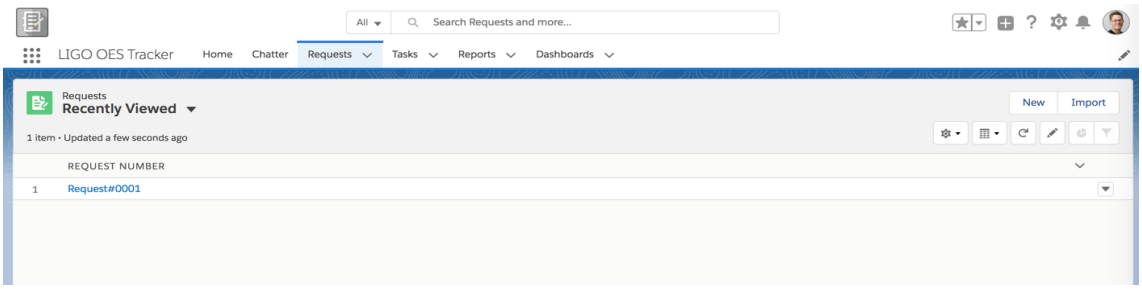

Bulk Data Load Job
7505A00000GpMDe
Help for this Page
View the details of a bulk data load job.
« Back to List: Bulk Data Load Jobs
Bulk Data Load Job Detail
Reload
Job ID 7505A00000GpMDe
Submitted By Abhishek Chaturvedi
Start Time 10/10/2018 4:15 PM PST
End Time 10/10/2018 4:15 PM PST
Time to Complete ([hh:]mm:ss) 00:01
Object Task
External ID Field
Content Type CSV
Concurrency Mode Parallel
API Version 43.0
Job Type Bulk V1
Operation Insert
Queued Batches 0
In Progress Batches 0
Completed Batches 1
Failed Batches 0
Progress 100%
Records Processed 200
Records Failed 61
Retries 0
Status Closed
Total Processing Time (ms) 408
API Active Processing Time (ms) 358
Apex Processing Time (ms) 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
Reload
Batches
View Request
View Result
Batch ID 7515A00000NpP4q
Start Time 10/10/2018 4:15 PM
End Time 10/10/2018 4:15 PM
Total Processing Time (ms) 408
API Active Processing Time (ms) 358
Apex Processing Time (ms) 0
Records Processed 200
Records Failed 61
Retry Count 0
State Message
Status Completed

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

Edit a List View

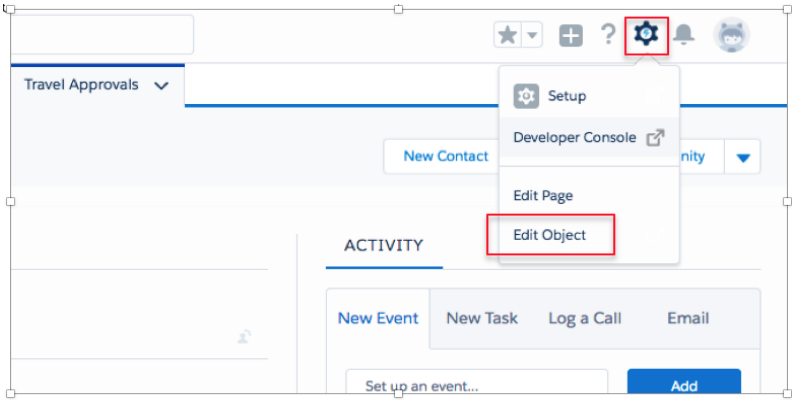
Before we change the detail layout of the **Request** object, you might have noticed that when you click on the **Request** tab that it currently only shows the **Request Number** field and no other columns. Give it a try and verify that you see screen like the following (i.e. navigate to your **Request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

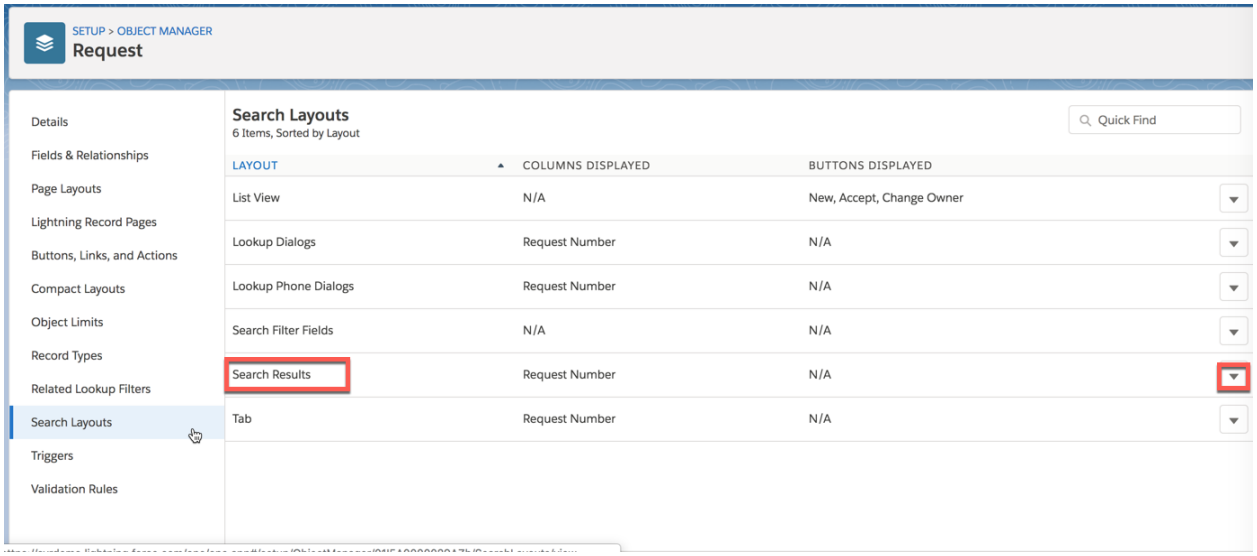


2. Let's first add some columns to the **Recently Viewed** list view which by default only shows the **Request Number** field. Click on the **Request#0001** record you created earlier so that you are now on the record detail page.

3. In top-right, click on gear icon and then **Edit Object**. This will load the object configuration page for the **Request** object.

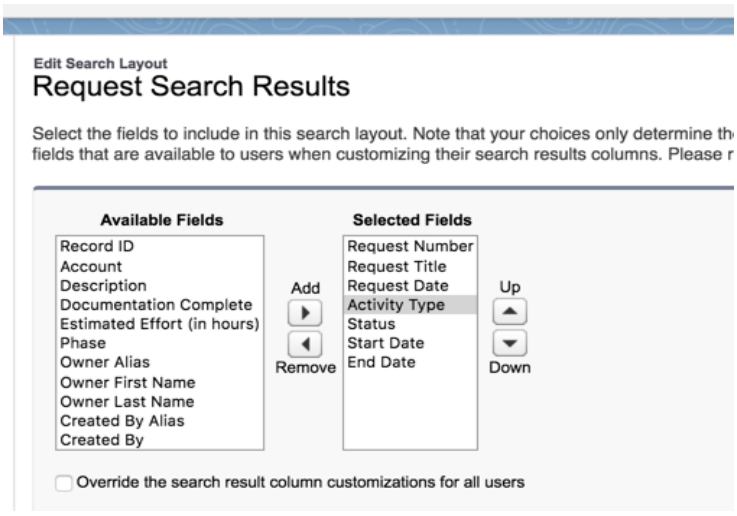


4. On left-hand side, click on the option **Search Layouts**. Click on the on the end of the **Search Results** row and select **Edit** from the drop-down.



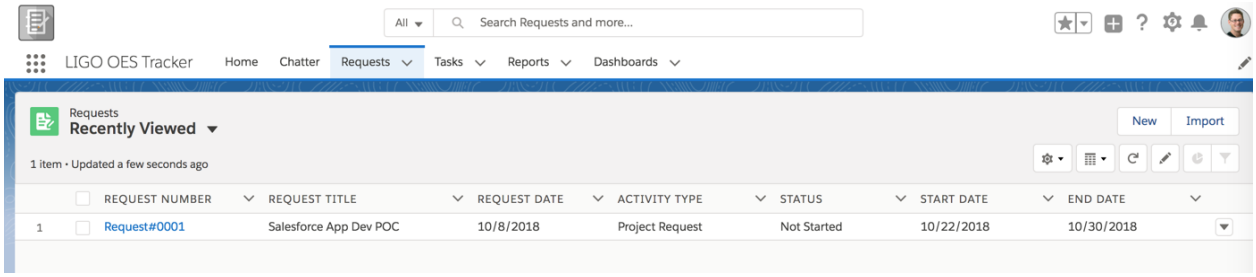
5. Let's now add the columns we want to show on the **Recently Viewed** list view. Select the following columns and using the arrows, move them from left-hand side to the right-hand side.
   - Request Number
   - Request Title
   - Request Date
   - Activity Type
   - Status
   - Start Date
   - End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

   Your screen should look like the following:



6. Click **Save** button.

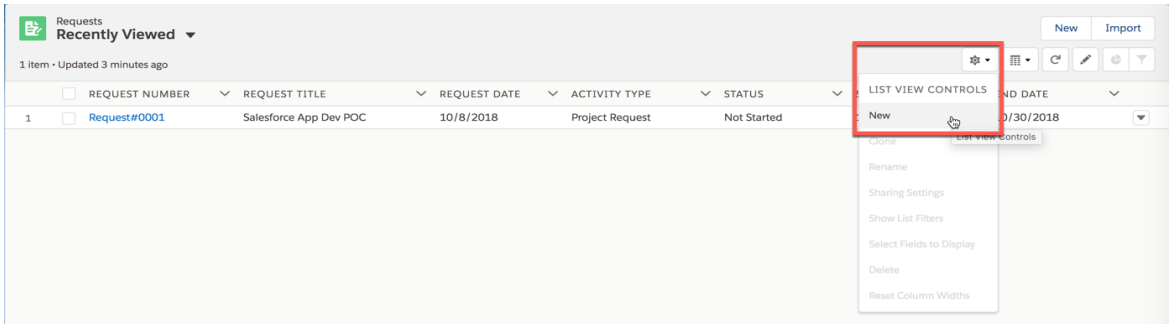
7. Navigate back to your **Request Tracker App** and click on the **Requests** tab to get back to your **Recently Viewed** list view. It should look like the following



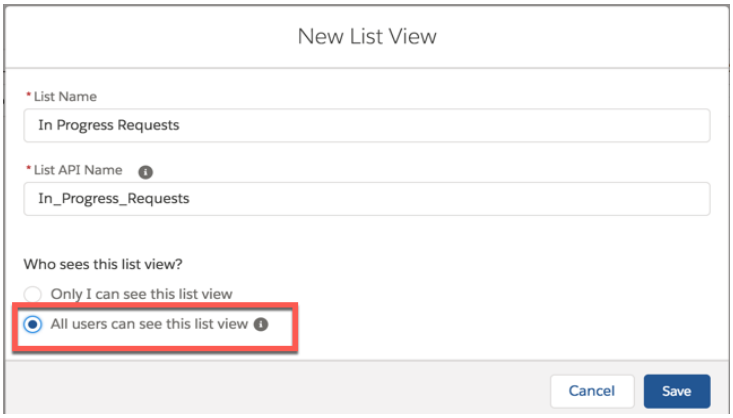
Create a Custom List View

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).

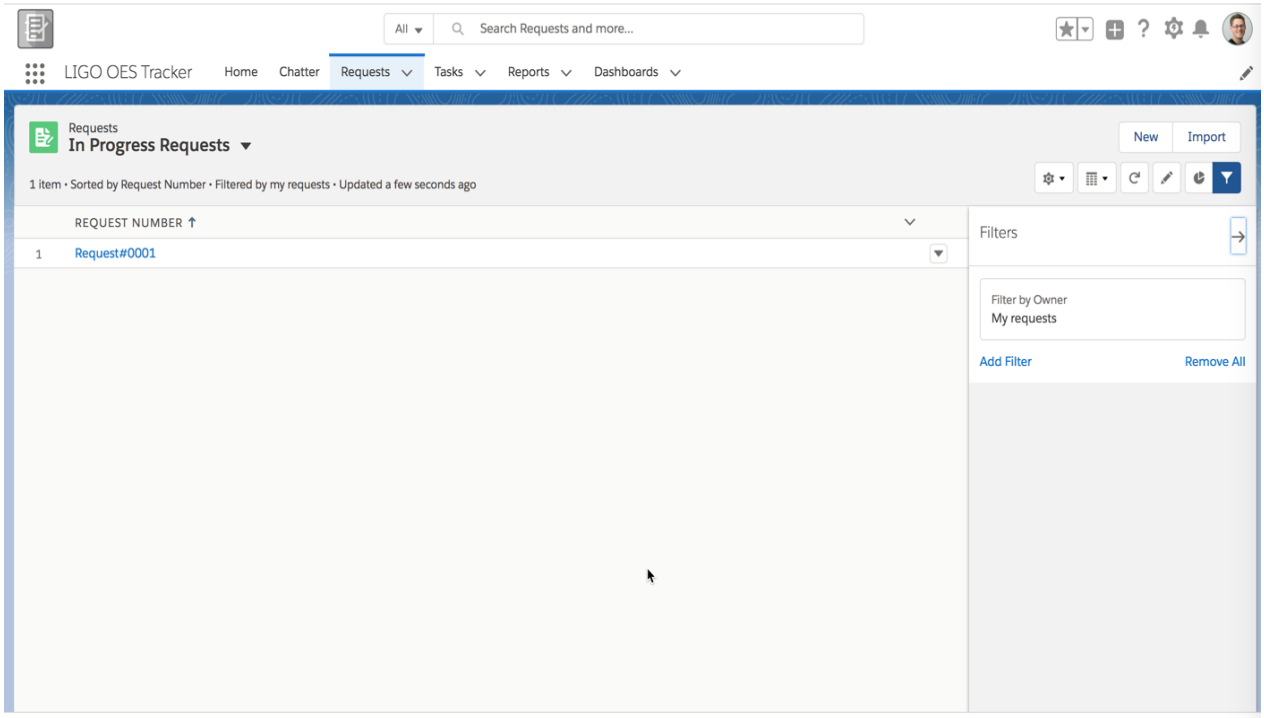
1. Click the List View gear icon and select **New** option.



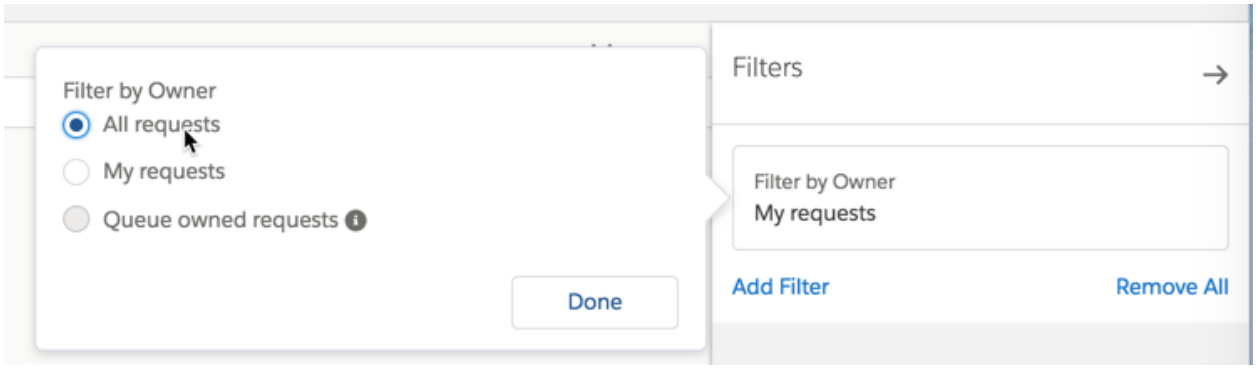
2. Name the new list view "**In Progress Requests**" and make sure that **"All users of the system can see this list view"** is selected. Your configuration window should look like following. Click the **Save** button.



3. Your screen will now look like the following.



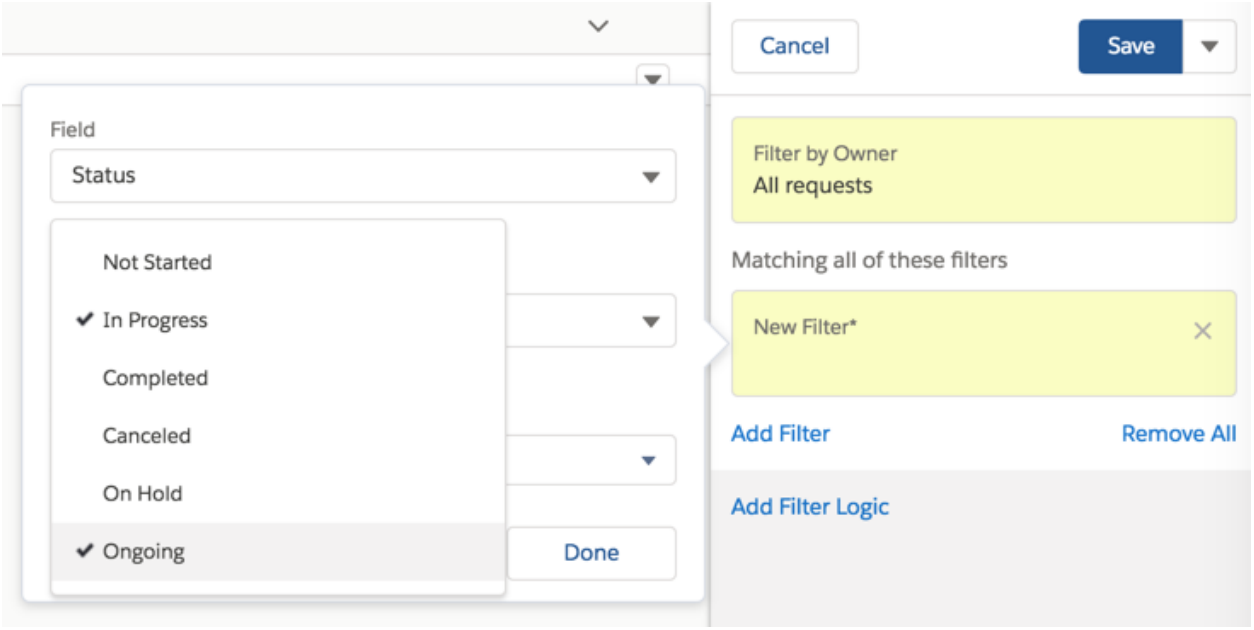
4. Let's change the '**Filter by Owner**' filter to look at requests logged by all users in our custom list view. Click on the '**Filter by Owner**' tile and select '**All Requests**' and click '**Done**'.



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:

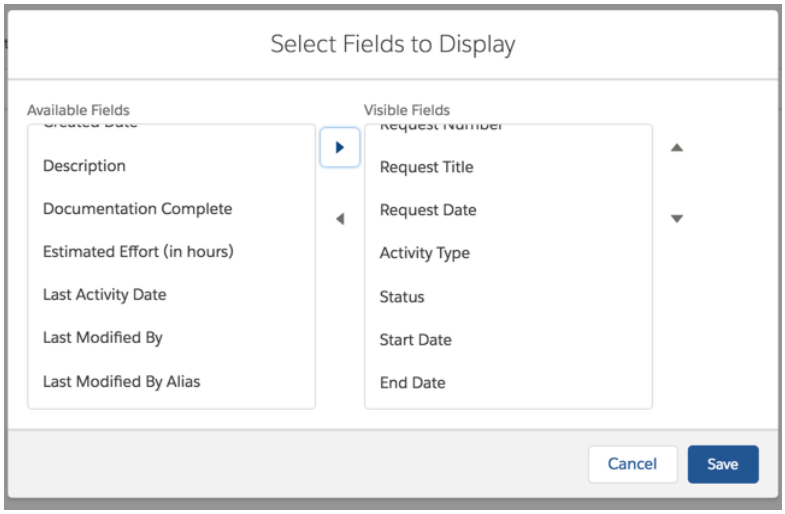
Parameter	Value
Field	Status
Operator	equals
Value	In Progress, Ongoing

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

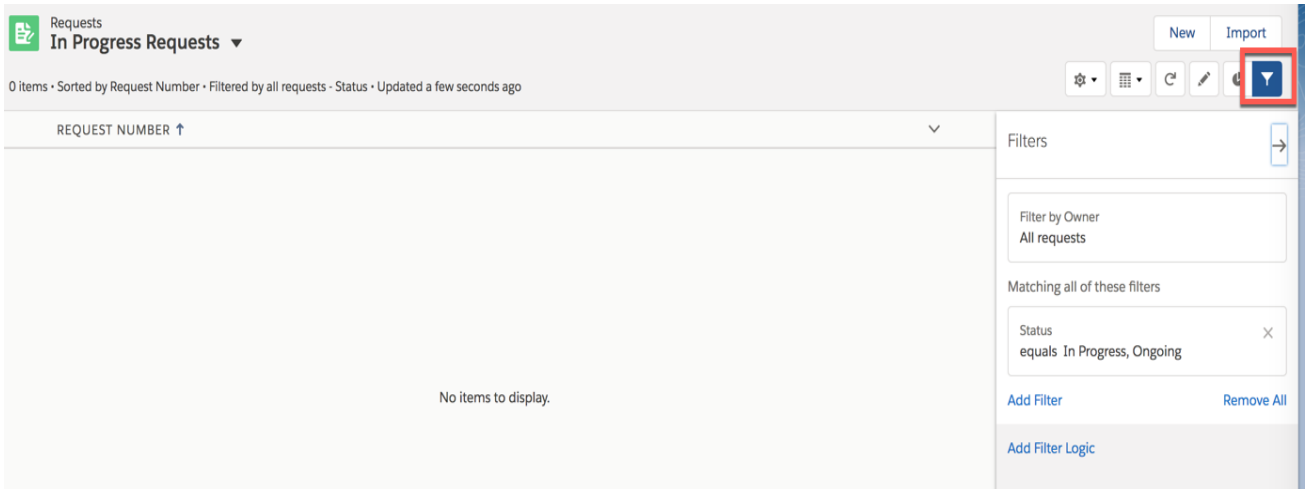


6. Click the **Save** button when filters are complete.
7. As we did earlier, let's add some columns now to this list view. We'll add the same columns as we did earlier. Click the **List View** gear icon on right and then select **Select Fields to Display** from drop-down.
   - Request Number
   - Request Title
   - Request Date
   - Activity Type
   - Status
   - Start Date
   - 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.



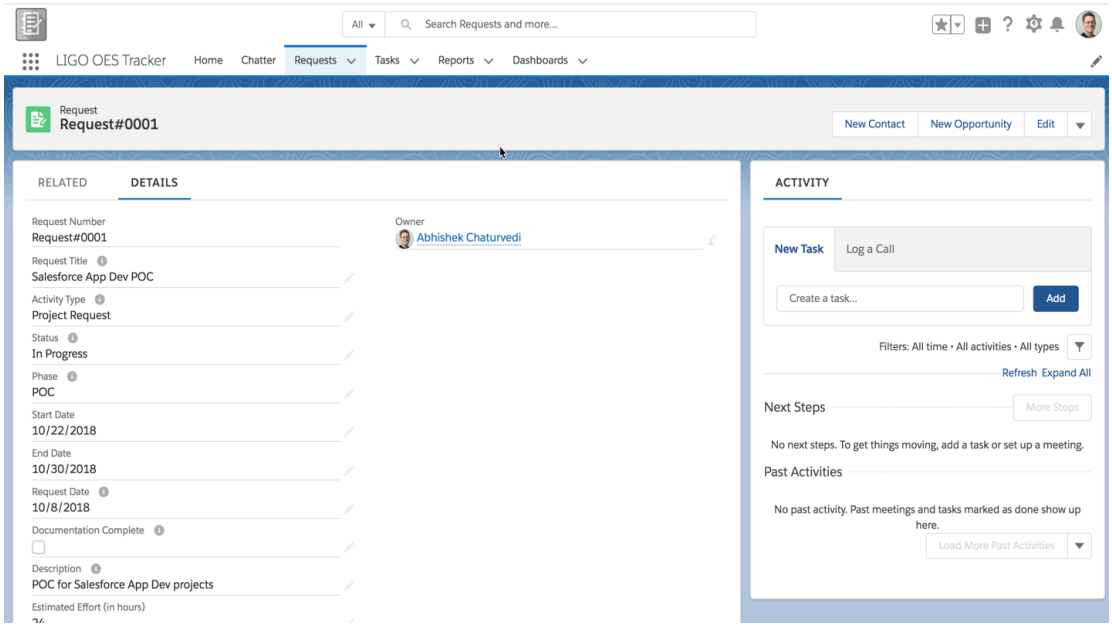
Modify the Page Layout of the Request Object

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.

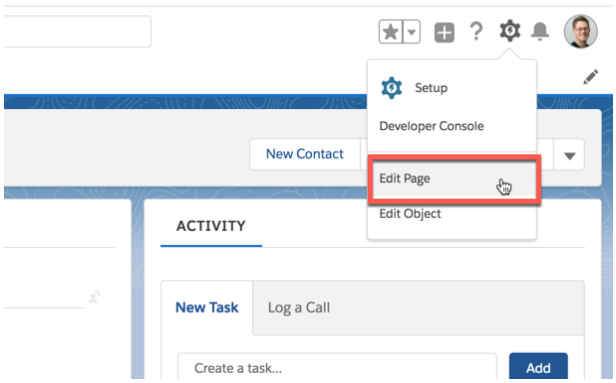
You can customize a page's contents, such as the fields and buttons that appear on the page, by using the page layout editor tool. The page layout editor, also known as page layouts, helps you manage the content of pages in both our Classic UI and in Lightning Experience. The page layout editor is what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

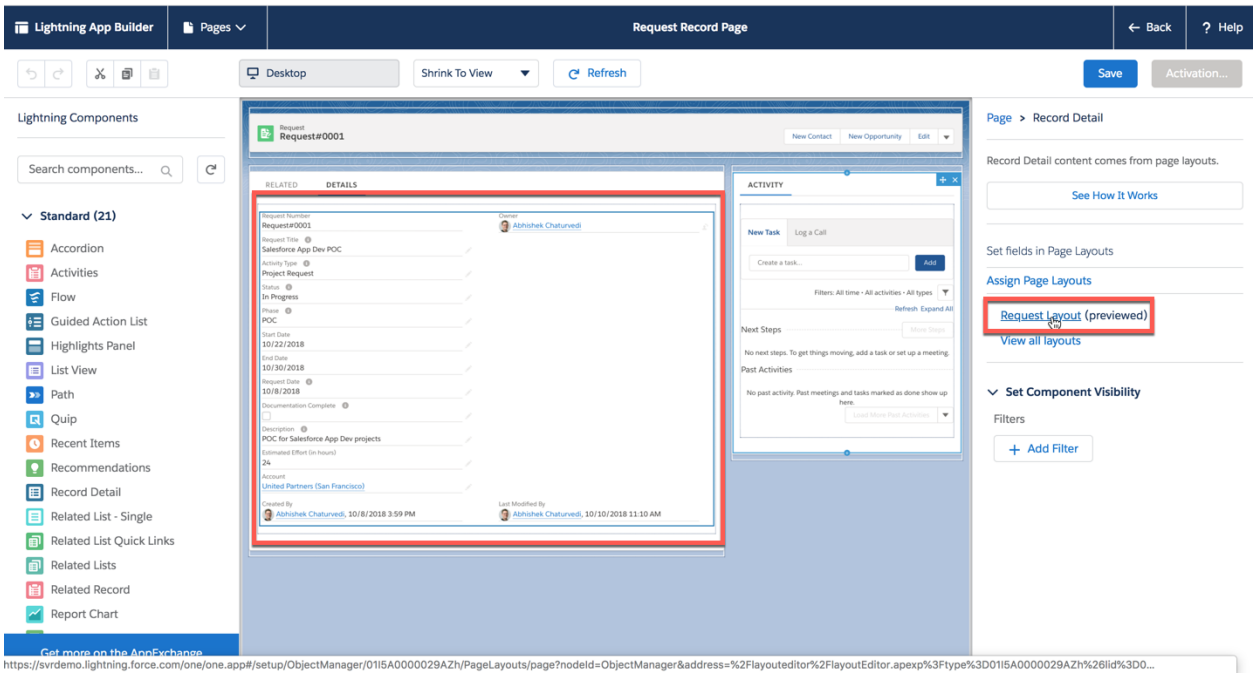


2. To edit the current page layout, click the setup gear icon in upper-right and select Edit Page.

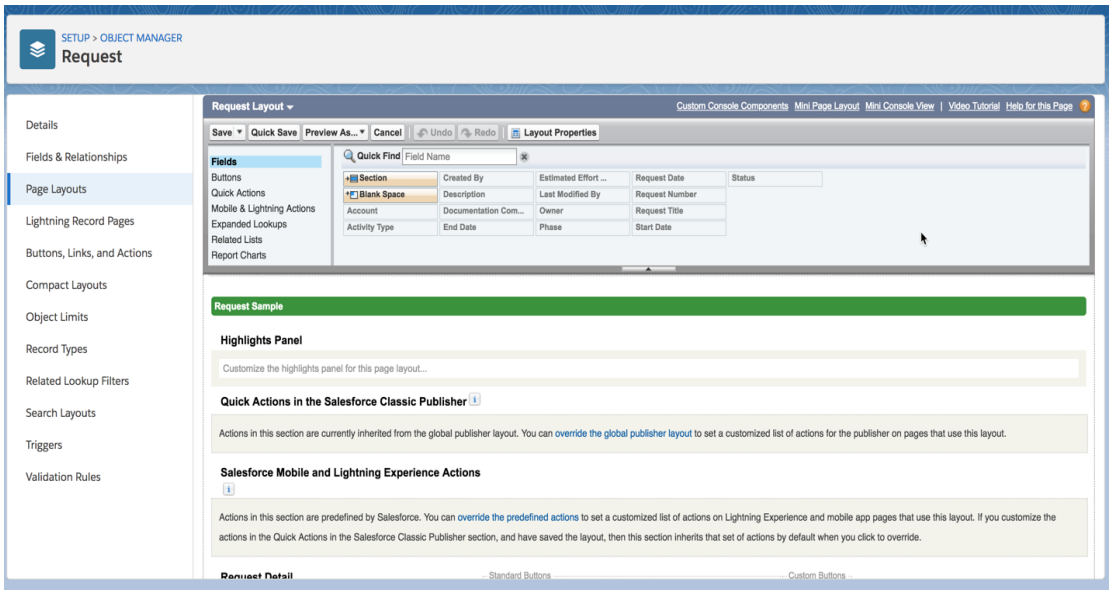


3. The next screen that loads is the Lightning App Builder that allows you to modify the components that show on the page. With the new Lightning Experience, your admins and developers have the ability modify which components are shown on a given page or even new pages themselves. In the screen below, 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)**.

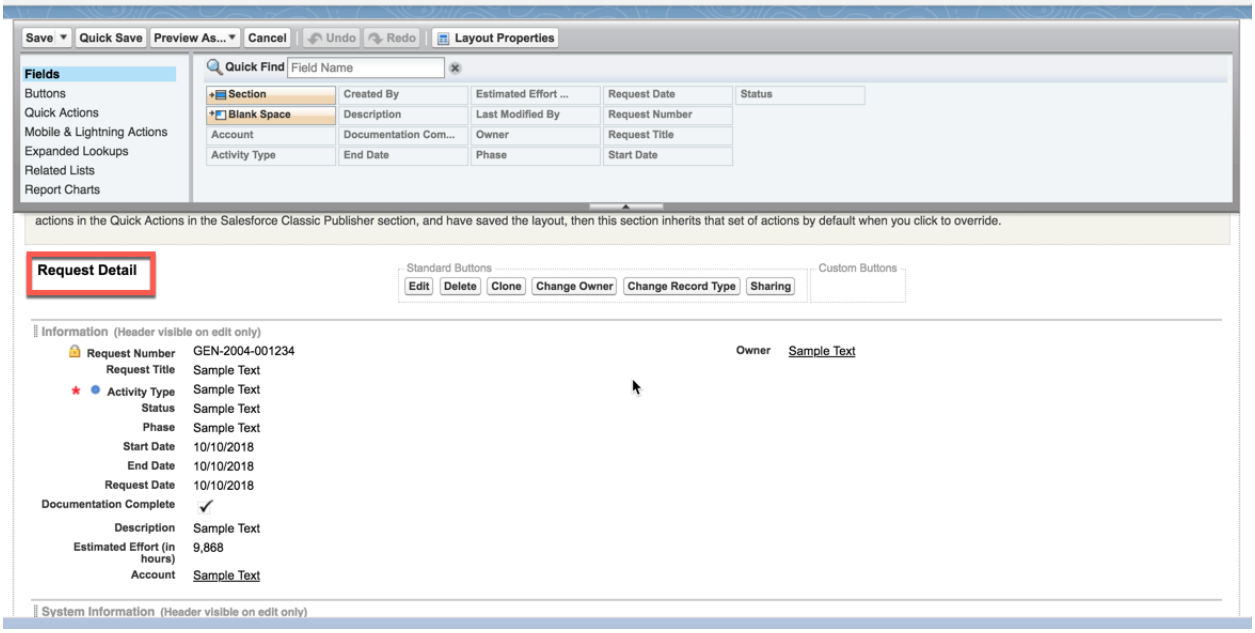


   You are now taken to the page layout editor as shown below.

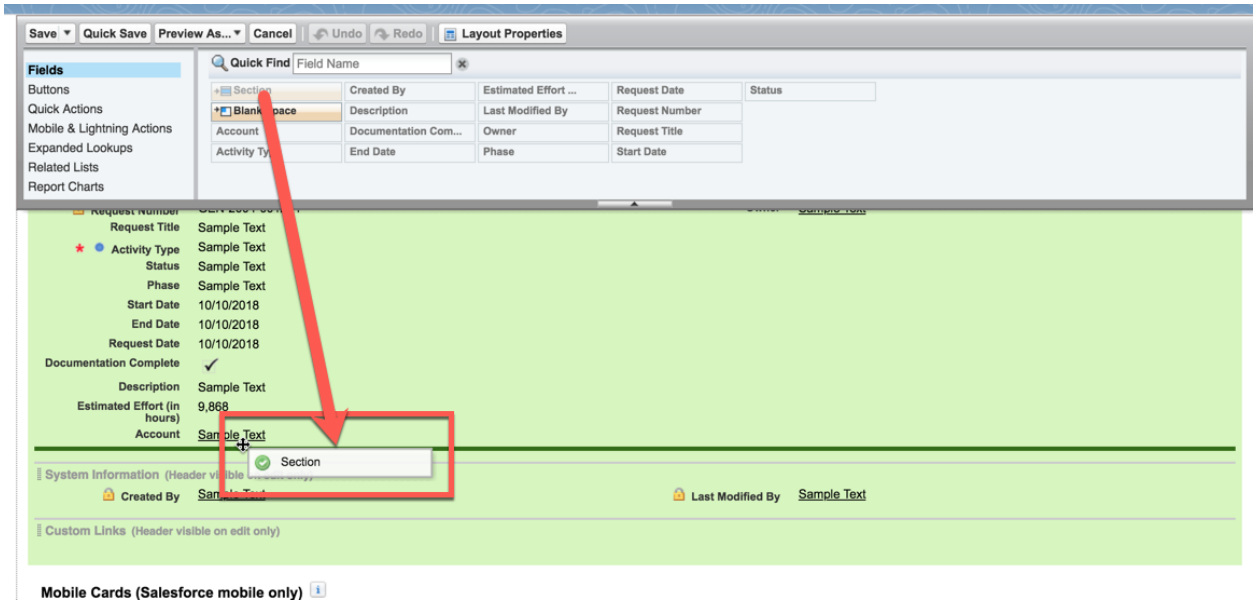


The layout editor allows you to configured which fields, buttons, or related lists to show on your page.

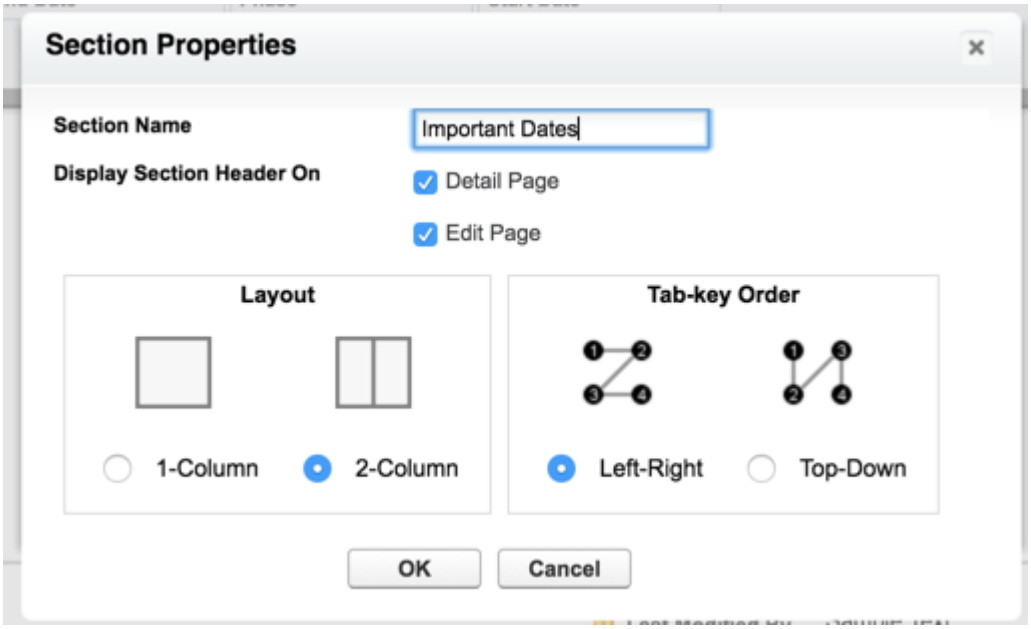
4. Scroll down until you can see the Travel Approval Detail section like the following. We will now change the order and position of some of the fields along with creating a new section to group the trip detail fields



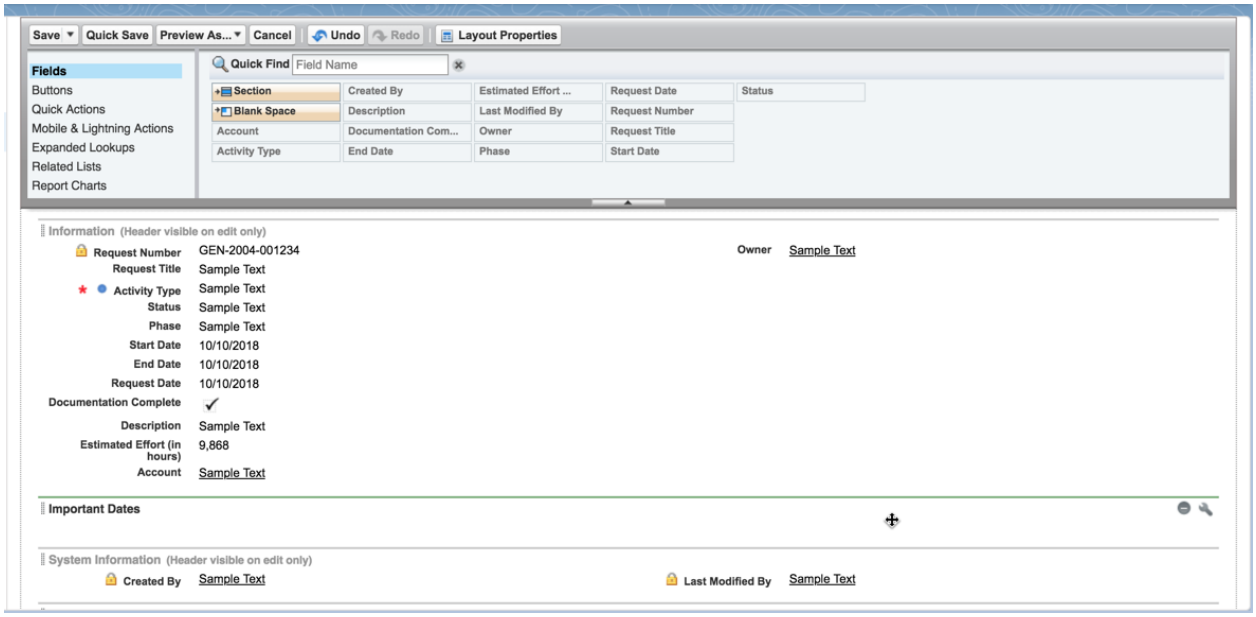
5. Let's first create a new section on the form called "Important Dates". Drag-n-drop a field section (which allows us to group a set of fields) down on the page directly below the Information section field. When dragging over the page, you will get a visual indicator of where you can drop the new section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



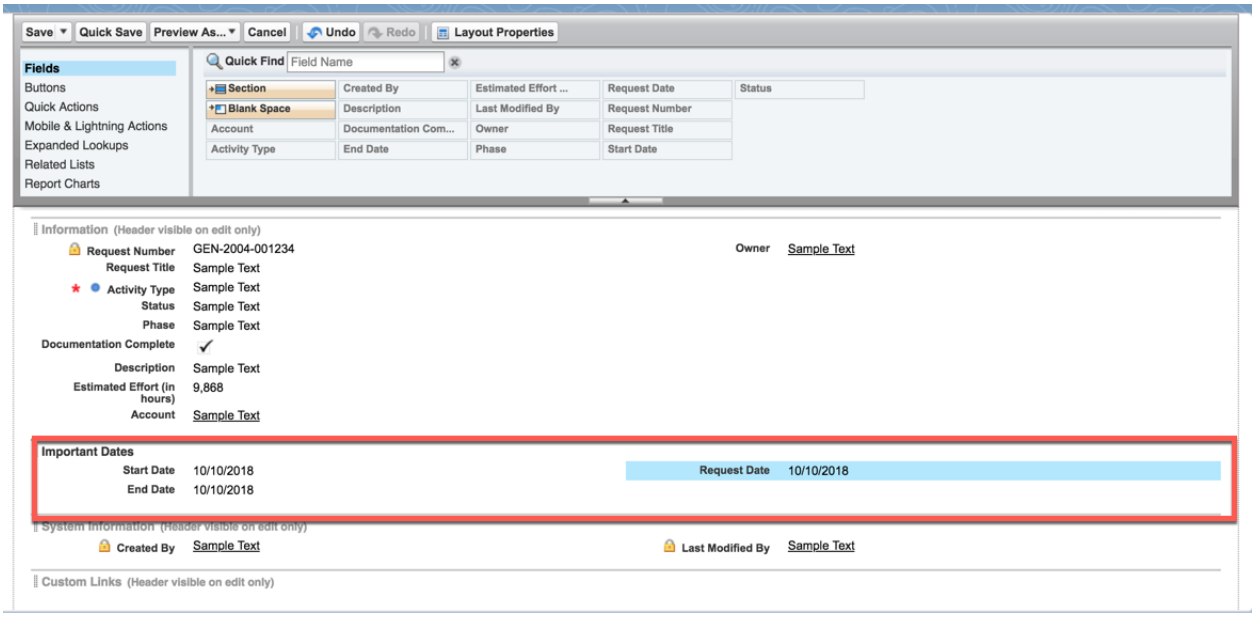
A pop-up like the following will show to allow us to configure this new section.



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.

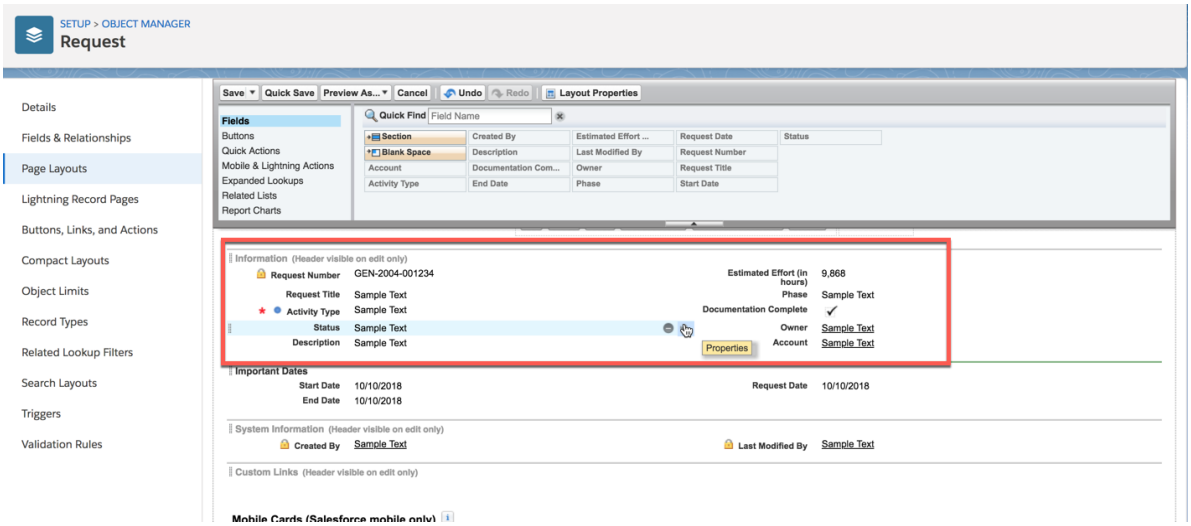


7. Now let’s reorganize some of the fields on the page. Drag the Start Date, End Date and Request Date fields down to the Important Dates section. Set them in the appropriate columns as shown in the image below. Your screen should look like following

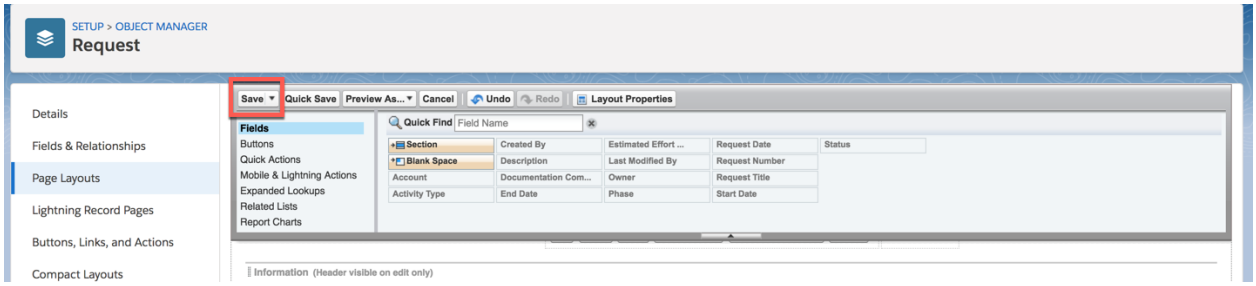


8. Next let's drag and arrange some the fields in the information section over to the right column in that section. Drag the following fields to the right column -
   - Estimated Effort (in hours)
   - Phase
   - Documentation Complete
   - Owner
   - Account

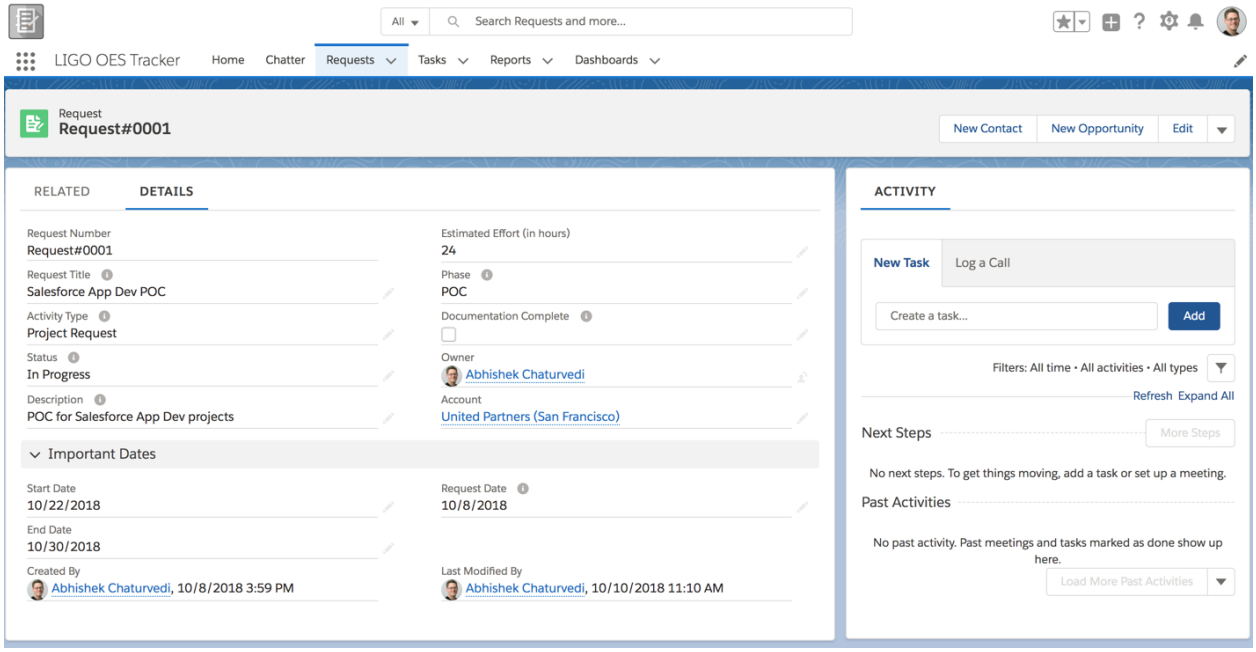
The screen should look like following



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

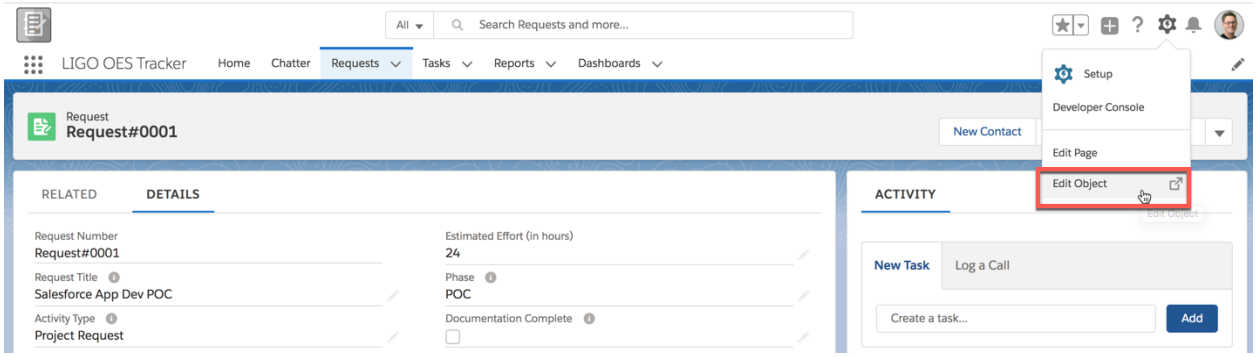


10. Navigate back to one of your Request records and look at the page. It should now look like the following (note: you may need to refresh your browser for the new changes to show up).

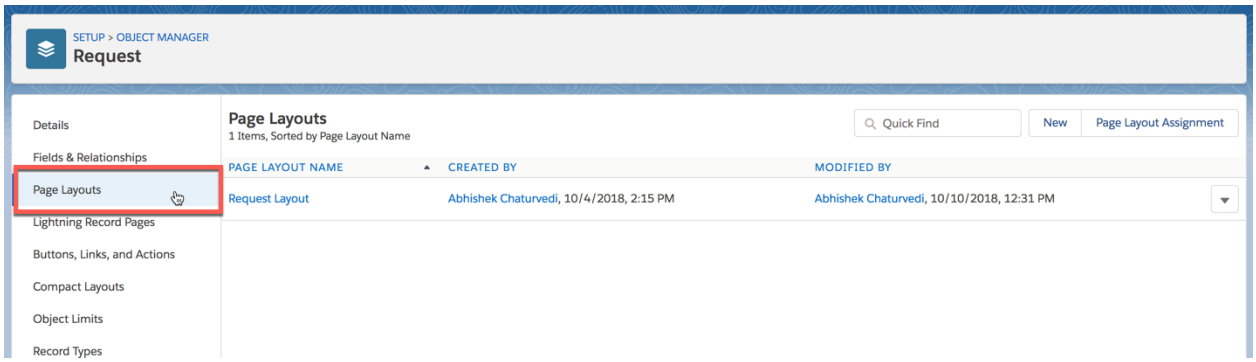


Add the Task Related List on the Request page

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

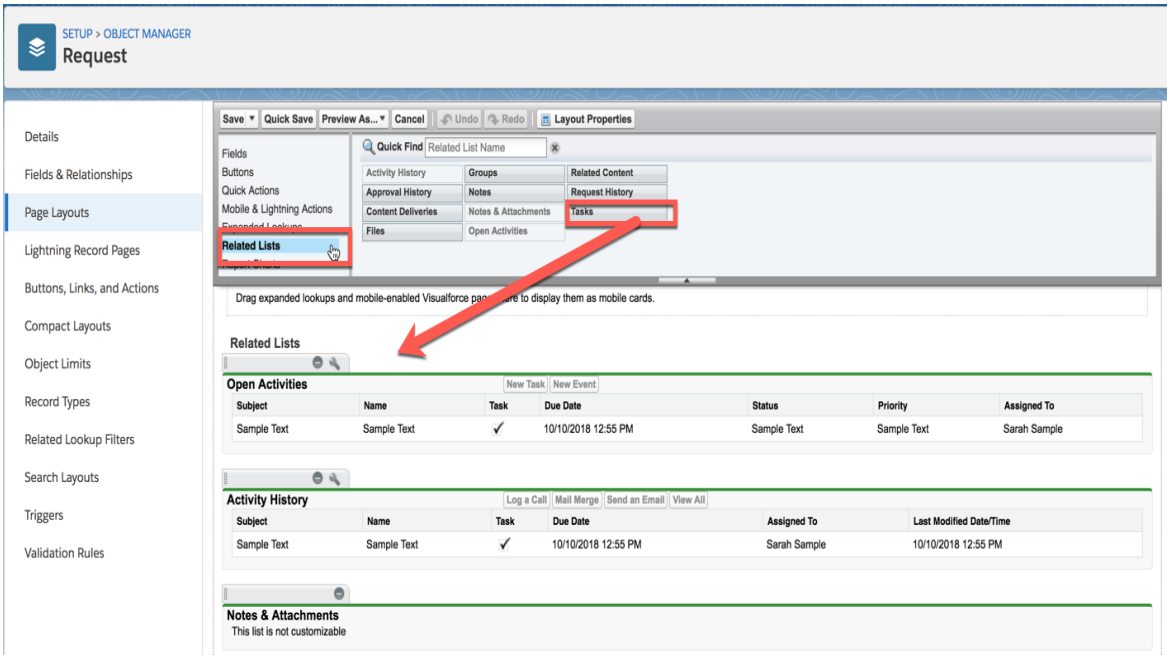


2. Select **Page Layouts** on left-hand side and select the **Request Layout** to edit the page layout.

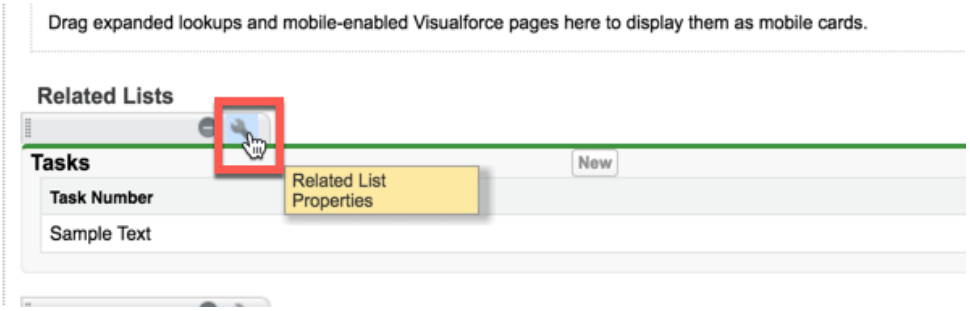


3. We are now back to the page layout editor we used earlier (notice that you used a different path to get here). Click on the **Related Lists** section on the top section of the page. This will auto-scroll the bottom section of the page and bring up the 'Related Lists' section.

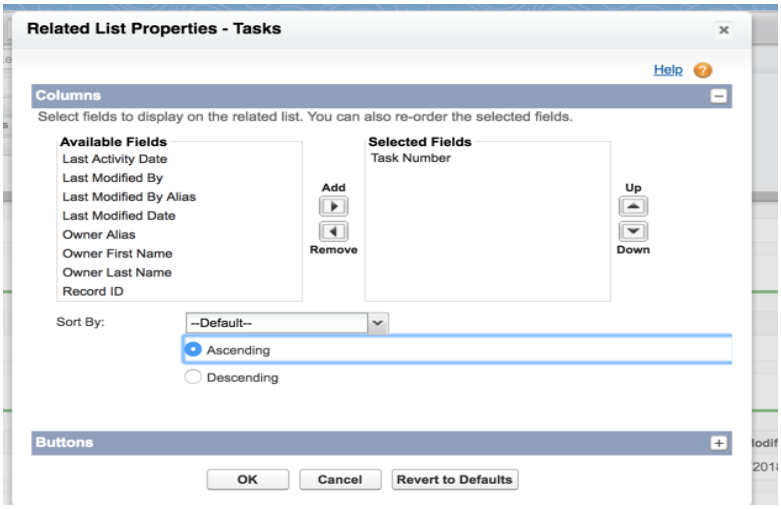
   Drag the **Tasks** related list to the top of the **Related Lists** section (see next page)



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



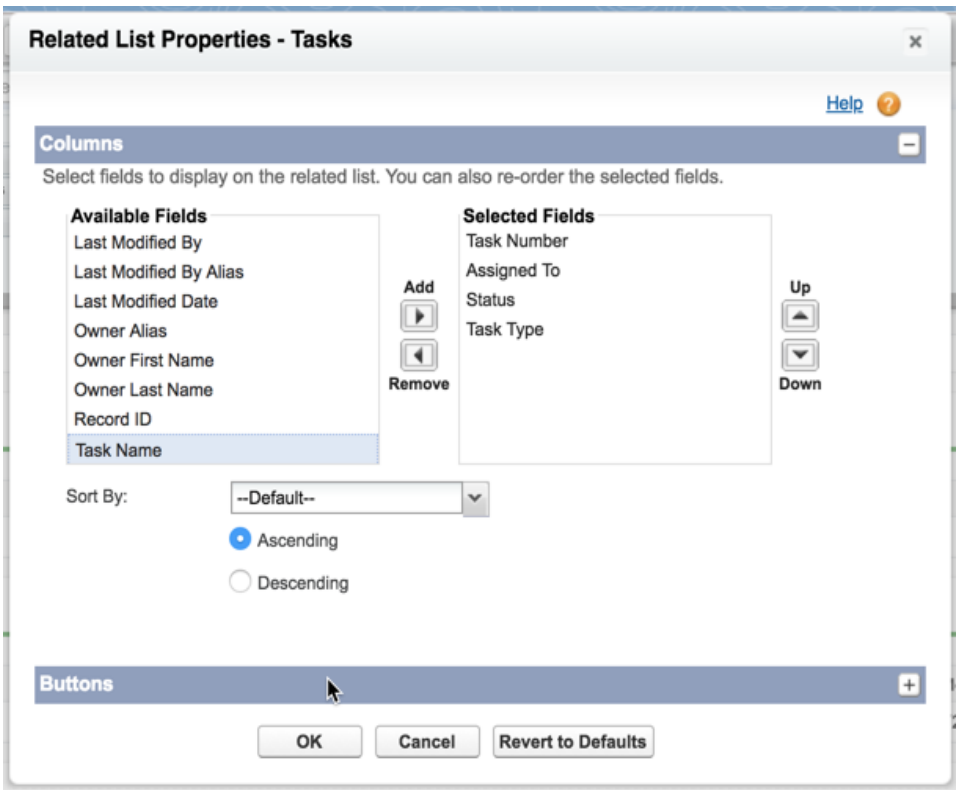
The following window will pop-up.



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:

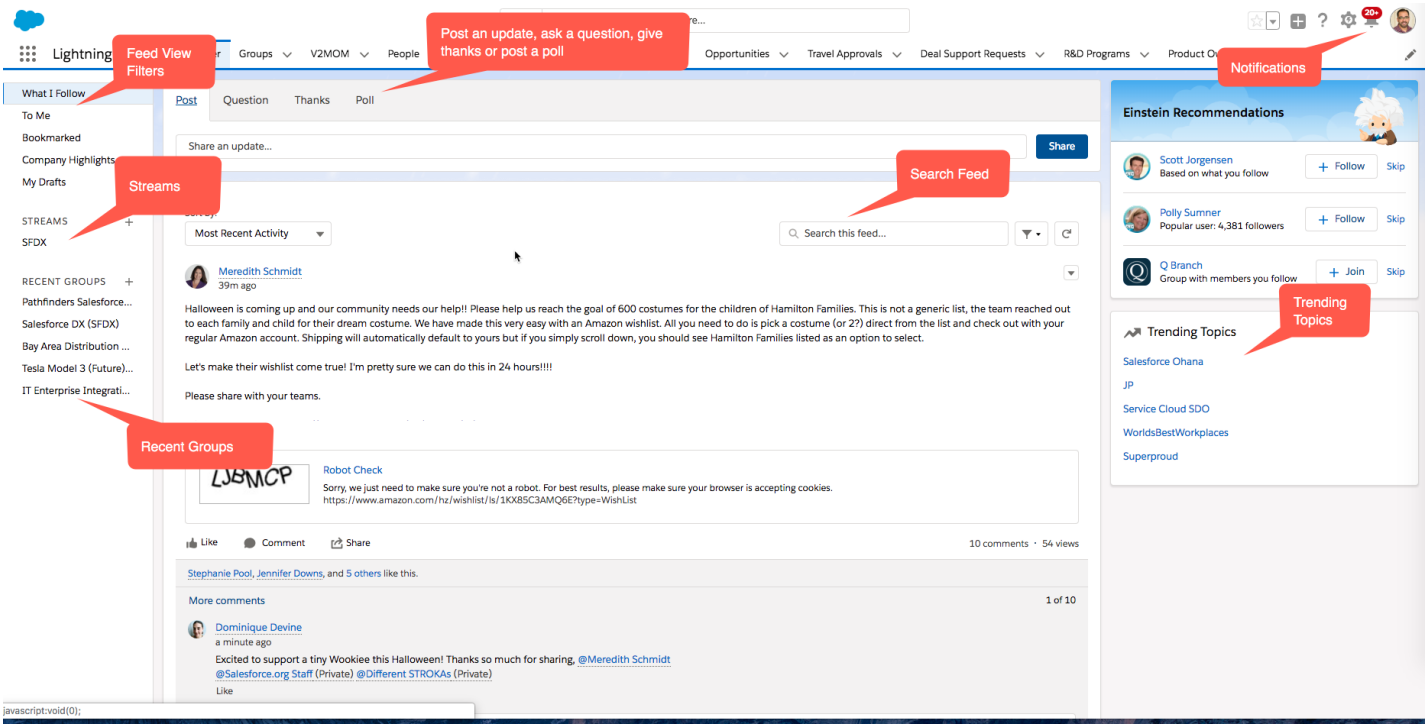


5. Select **OK** button to save your column changes. You may get asked if you want to "Overwrite Users' Related Lists Customizations." Click **Yes**. Then click **Save** in top-left on the page layout to save your changes for the page.
6. Navigate back to a Request record and look at the related lists. 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.

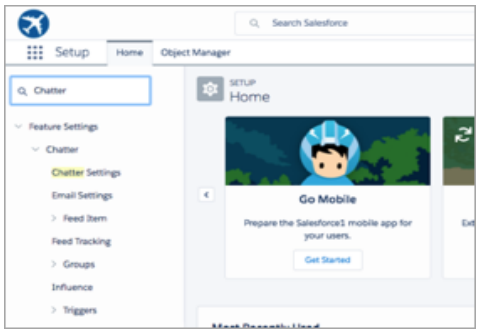
Lab 5 – Collaboration and Mobility

Enable Record Collaboration

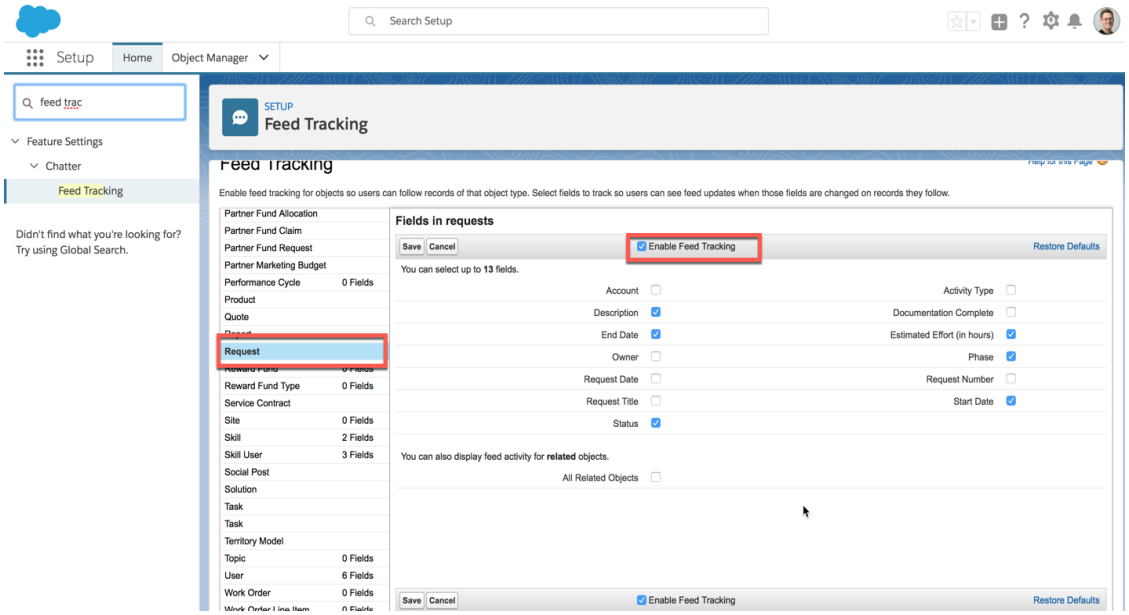
Salesforce includes built in capabilities to collaborate within a Salesforce org and in the context of a record as well. You can follow people as well as data. This includes being able to collaborate around a single record in Salesforce. Here is an overview of the main Chatter tab.



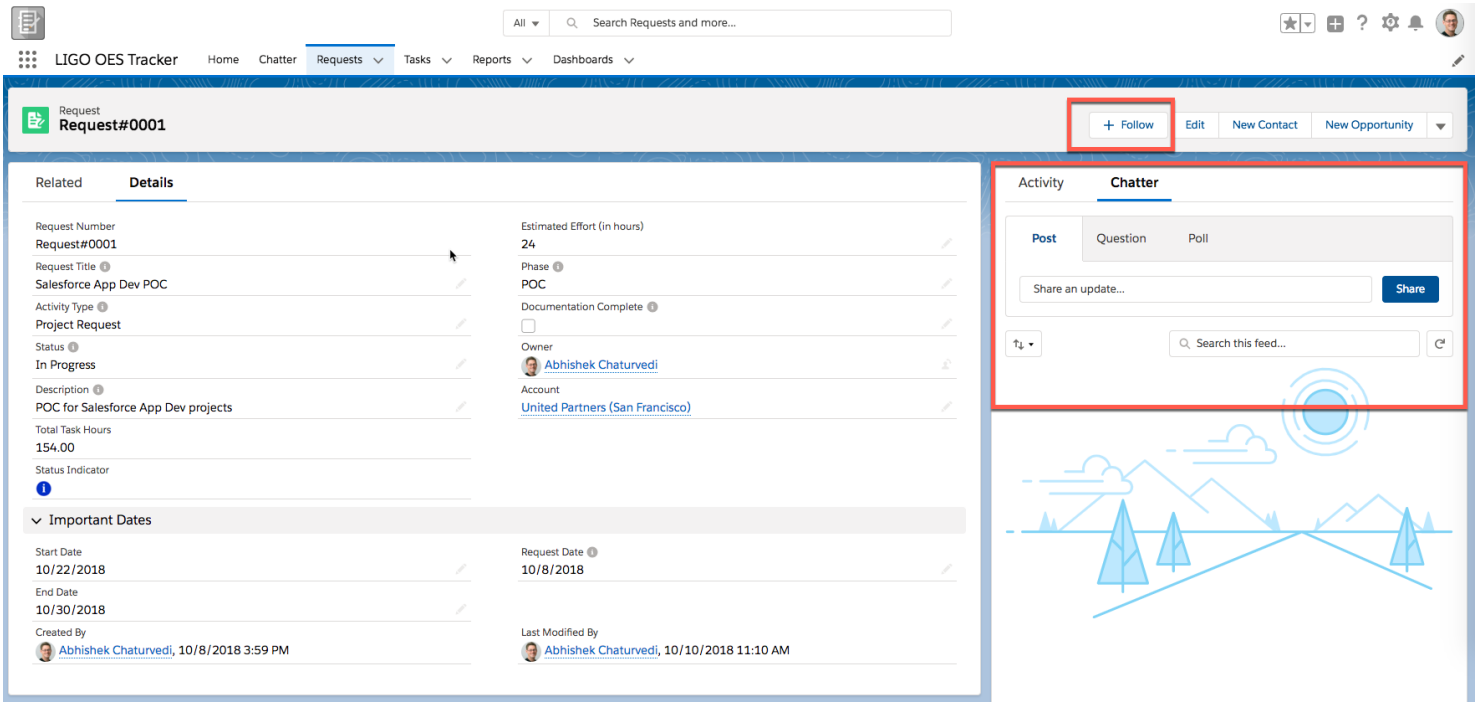
1. Access Setup by clicking the gear icon in upper-right and select **Setup**.
2. In the left-hand **Quick Find** search window, enter the keyword "**Chatter**"



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.



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.

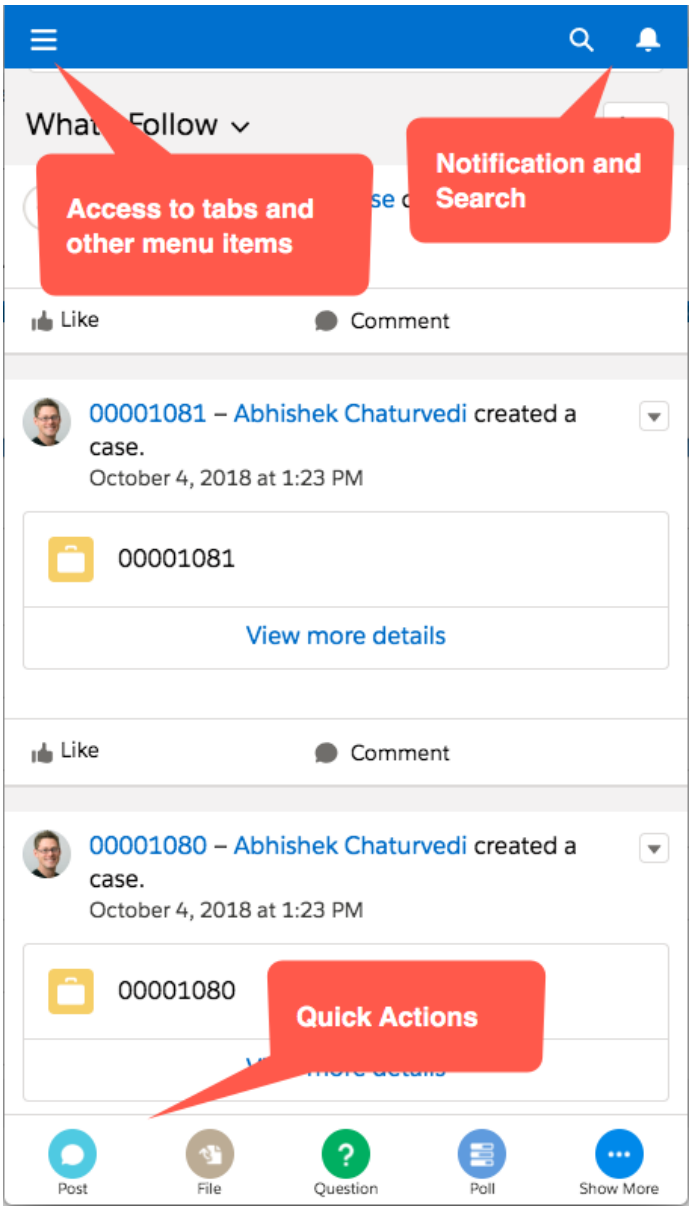


You can also 'Follow' any updates to the fields on the record or any Chatter posts that are made to this record by clicking the '+ Follow' button.

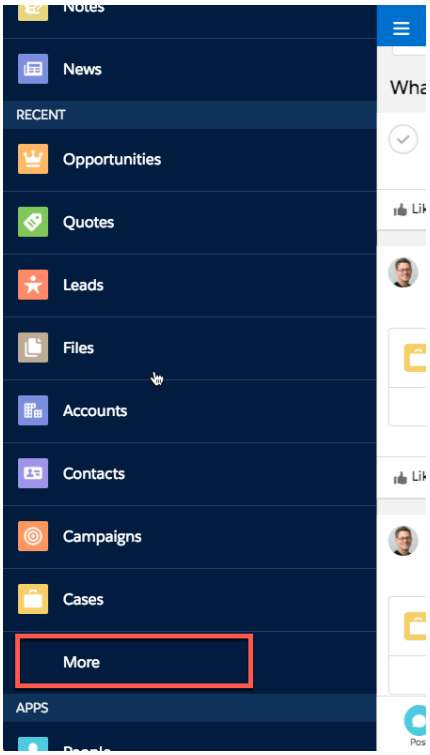
Mobile Access for the Request Tracker App

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

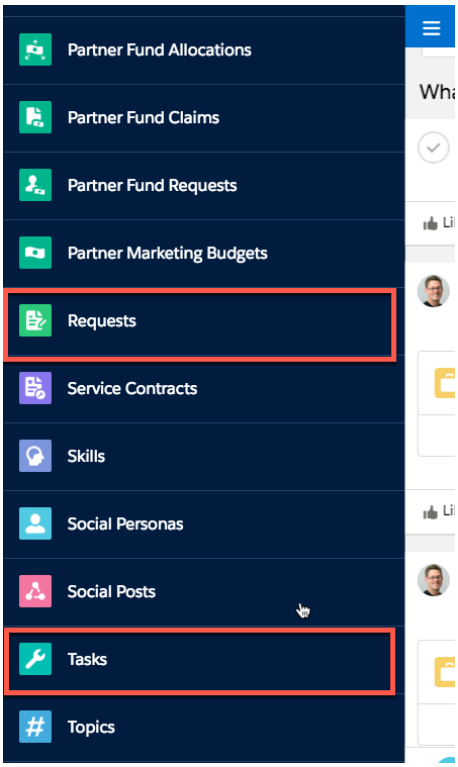
1. Open the mobile app or the chrome extension and log in with your Salesforce user name and password. You should see the following screen.



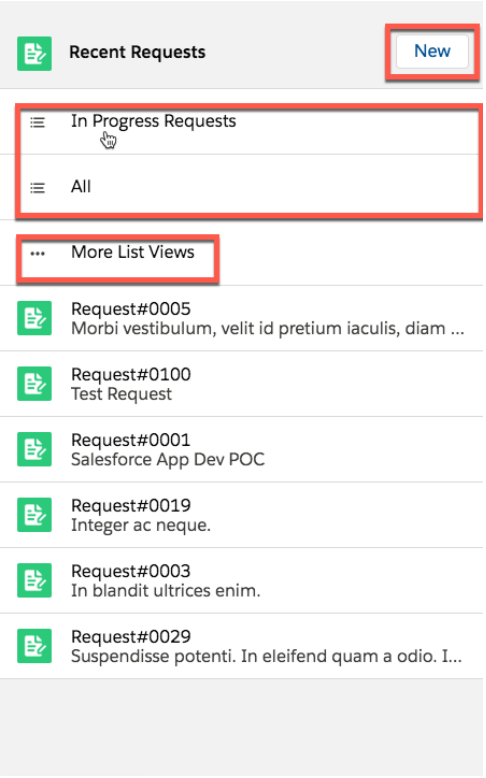
2. Click on the hamburger menu to reveal menu items. Scroll down to see the different sections if the menu. Under the ‘Recent’ section click on ‘More’ to reveal more tabs.



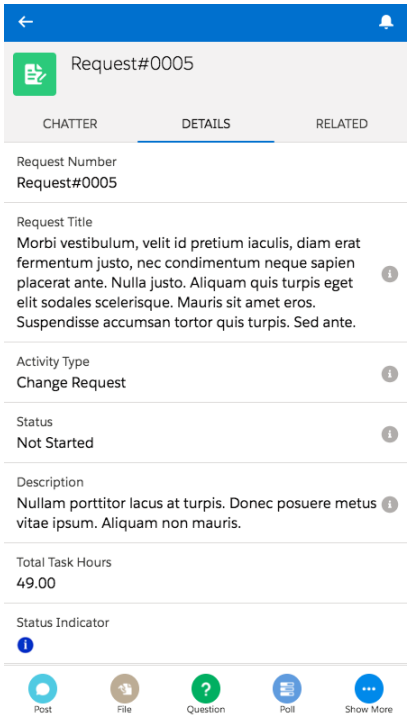
3. Scroll down to see the ‘Requests’ and ‘Tasks’ tab. Click on the ‘Request’ tab.



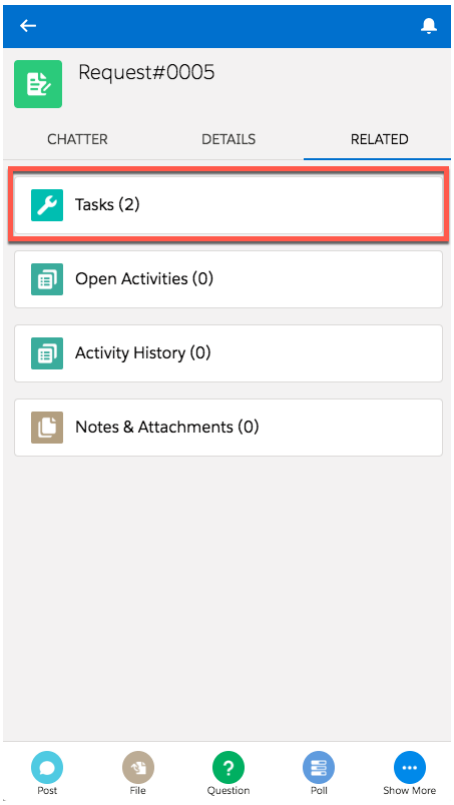
4. You can see the list views you created, recent Request records you accessed and a button to create new Request records.



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.

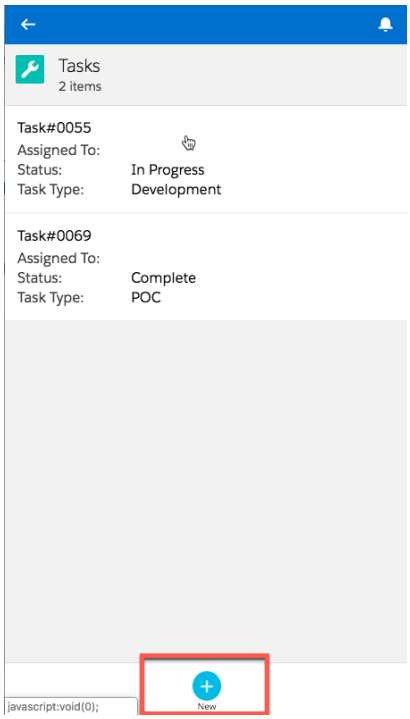


6. Click on the ‘Related’ tab to see the Tasks associated with the Request. Click on the Tasks cards. You should see a screen like the following.



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 creatie a new Task by clicking the ‘New’ button.



Lab 6 - Add Business Logic

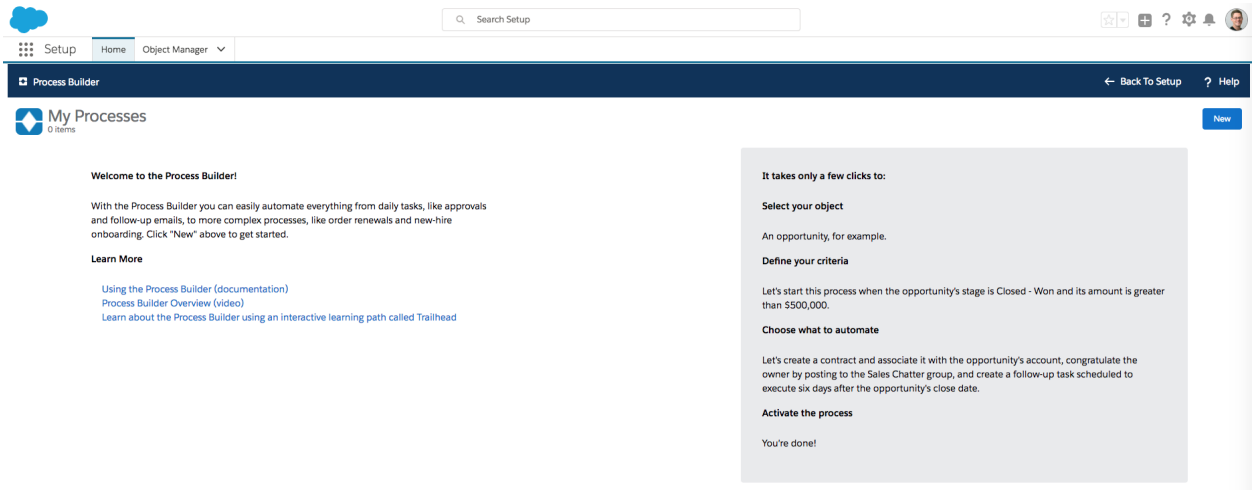
Create a Workflow for creating a Task for Every New Request

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.

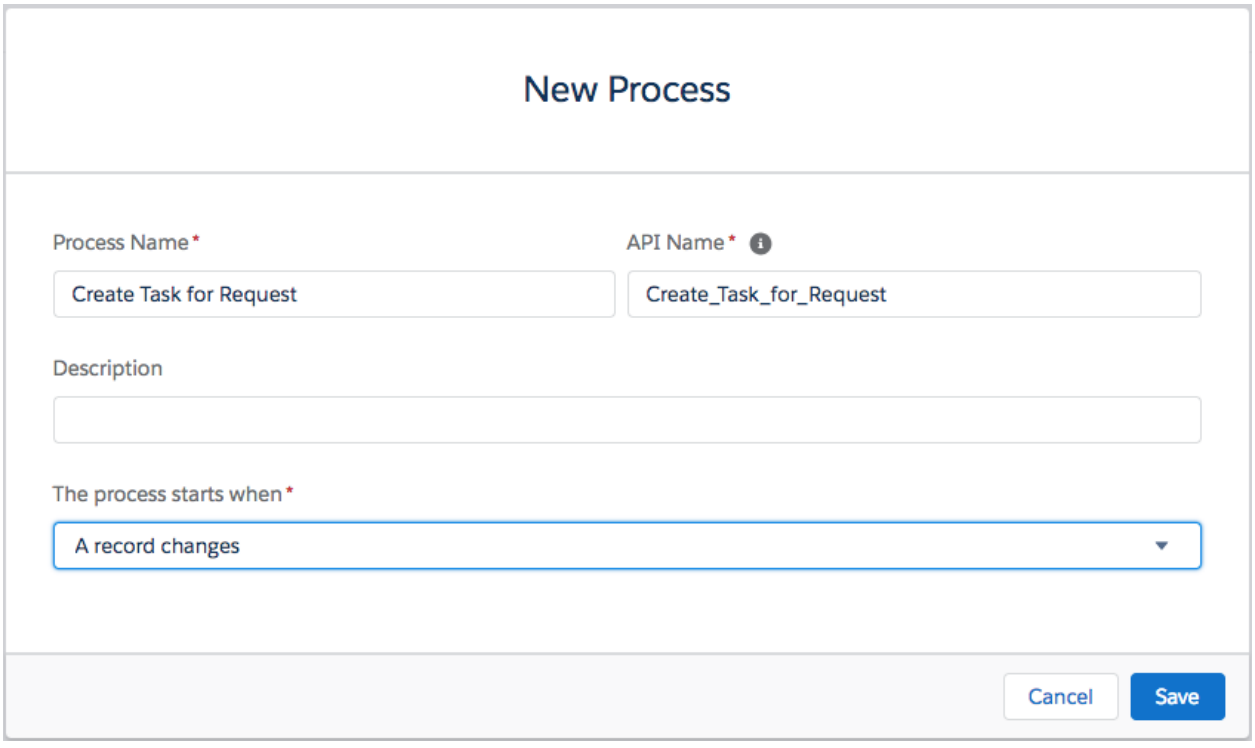
1. Access main Setup page by click on the Home tab.
2. On left-hand side, select **Process Automation > Process Builder** (or use the Quick Find and search on "Process"). You should see a window like the following:



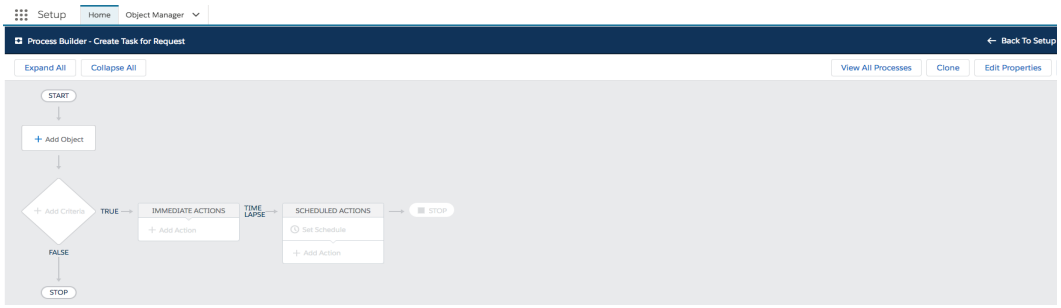
3. Click the **New** button in upper right.
4. Create a new Process with the following parameters.

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

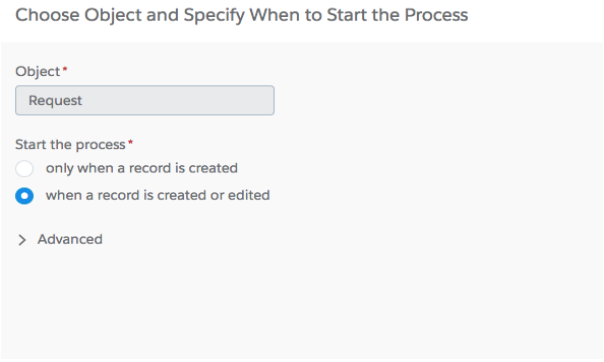
Your screen should look like following:



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:

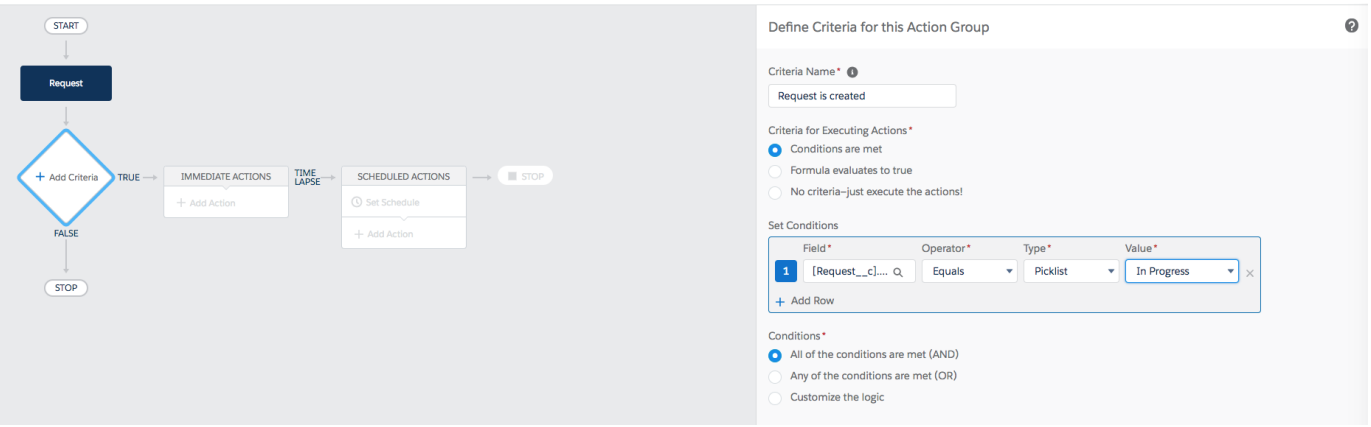


8. Set the following parameters

Parameter	**Value**
Find an object…	Request
Start the process	Choose “when a record is created or edited” option
Advanced	*Do not change*

9. Click Save button.

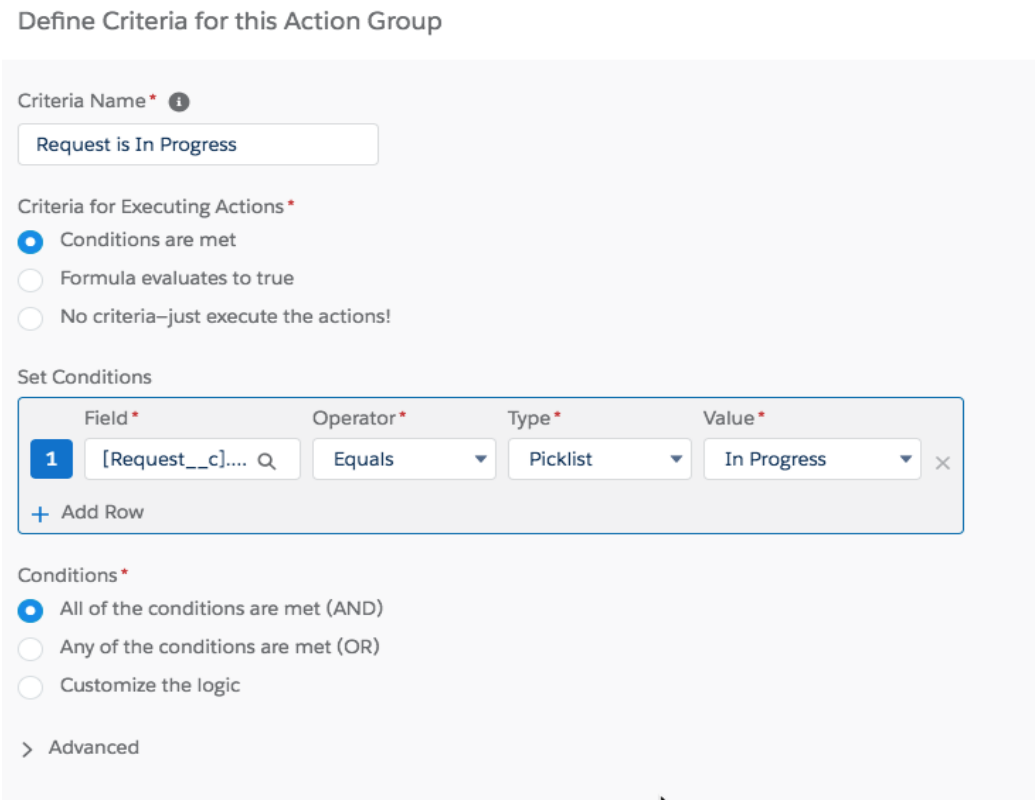
10. Next click on the **Add Criteria** icon on the process designer.



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	*Create a rule:* Request__c.Status__c = In Progress
Conditions	All of the conditions are met (AND)
Advanced	*Do not change*

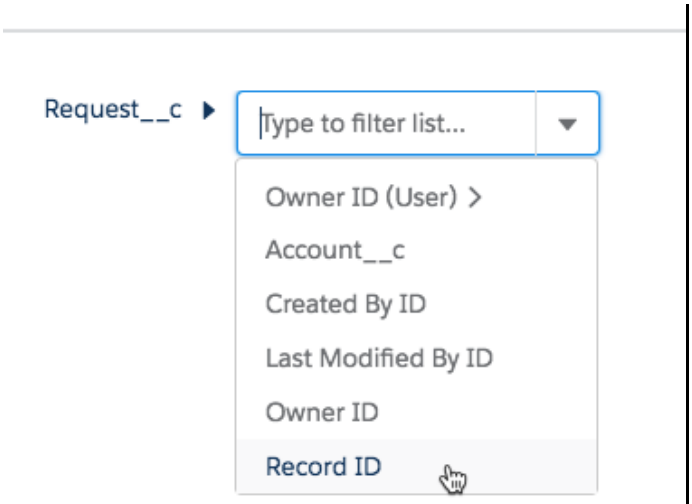
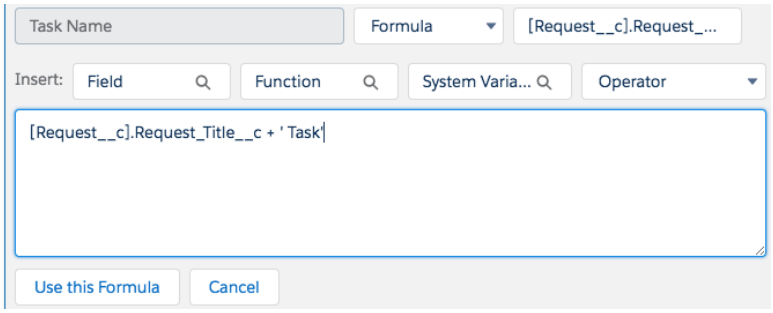
Your window should look like the following (see next page):



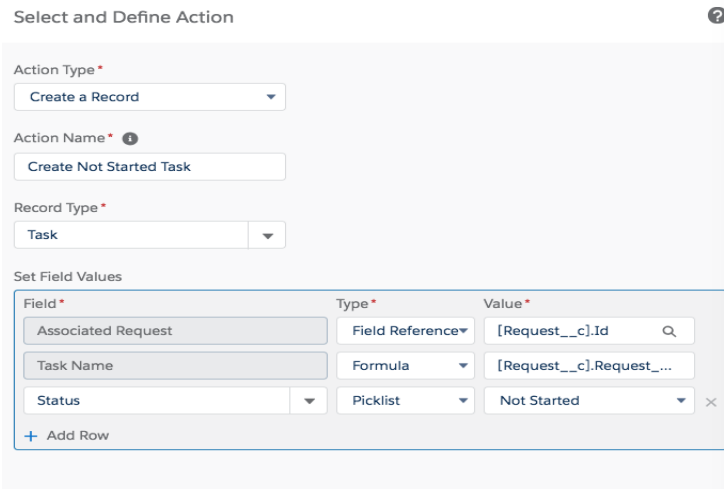
12. Click **Save** button.
13. Click on the **Add Action** link in the IMMEDIATE ACTIONS section to the right of the “Out of State Travel” decision box.

14. In the pop-up configuration window, set the following parameters:

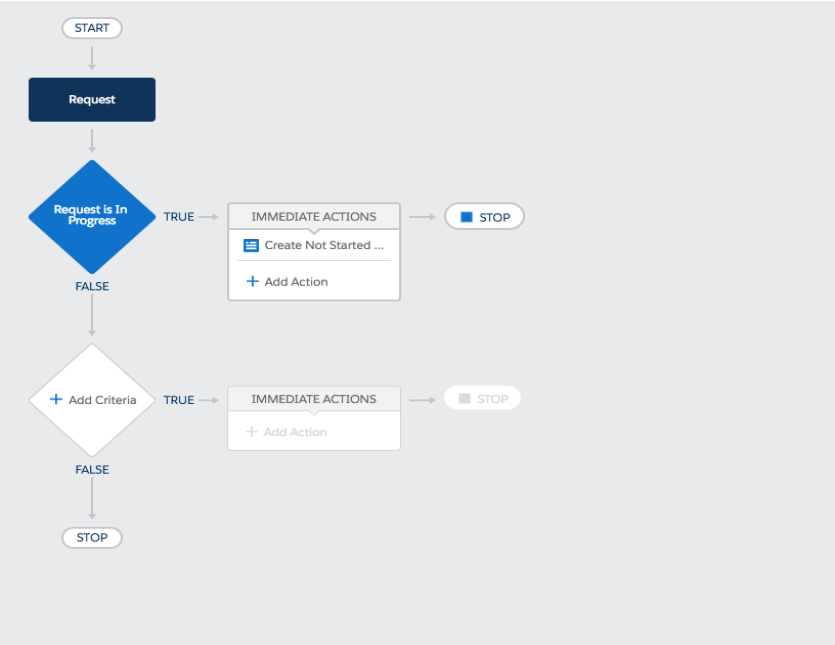
Parameter	**Value**
Action Type	Create a Record
Action Name	Create Not Started Task
Record Type	Task (select the second ‘Task’ that appears in the list)
Field - Associated Request	• Select ‘Field Reference’ for Type. • Select ‘Record ID’ as field.

	
Field - Task Name	• Select 'Formula' for Type. Paste the following formula in the window that appears - • *[Request__c].Request_Title__c + ' Task'* • 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:



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.

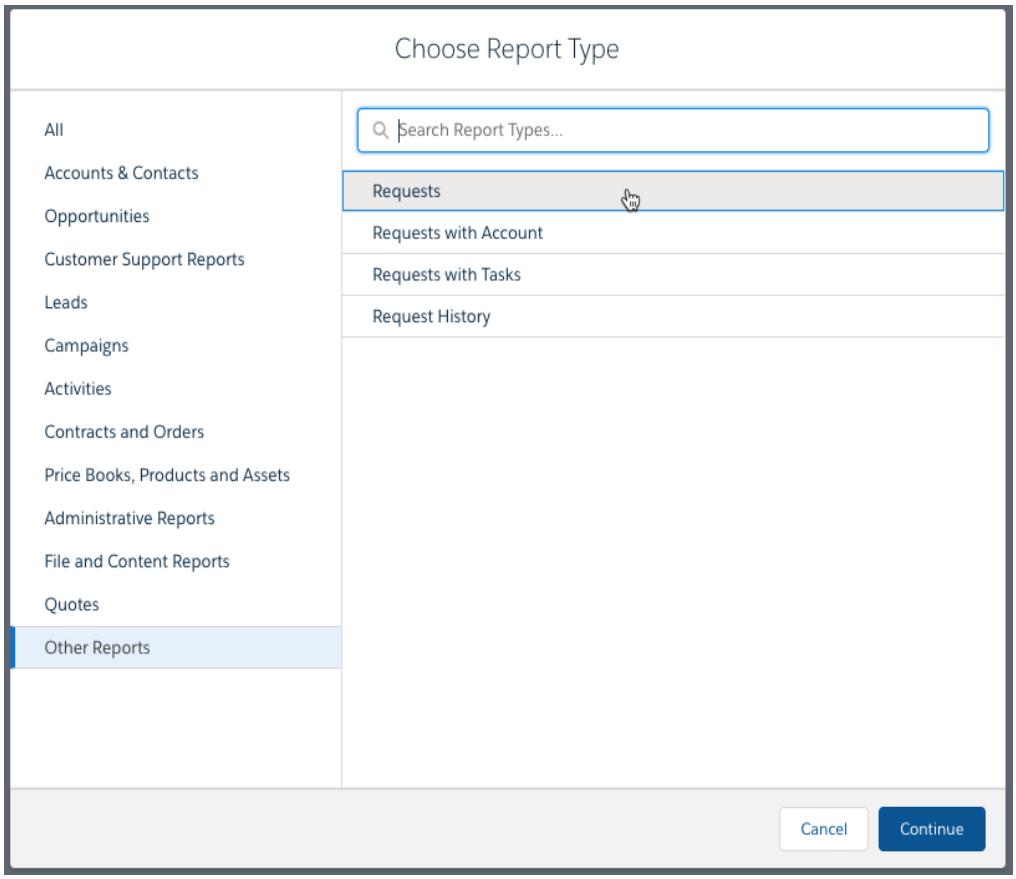
Lab 7 - Reports and Dashboards

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

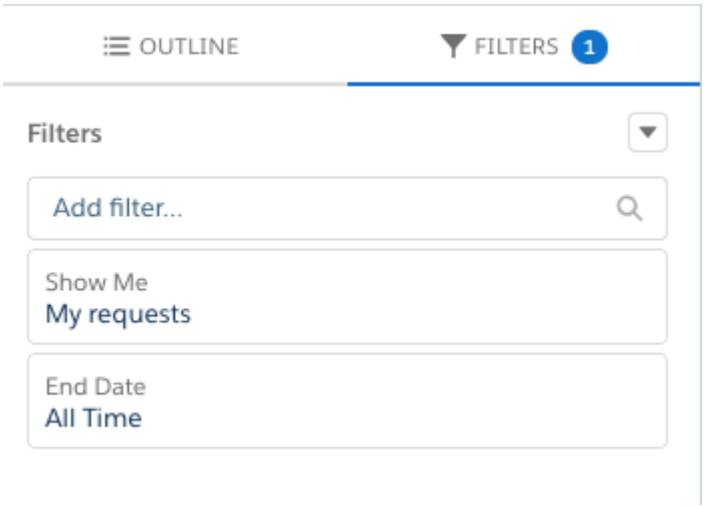
First, we will create a report to show number of travel approval requests by department.

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.

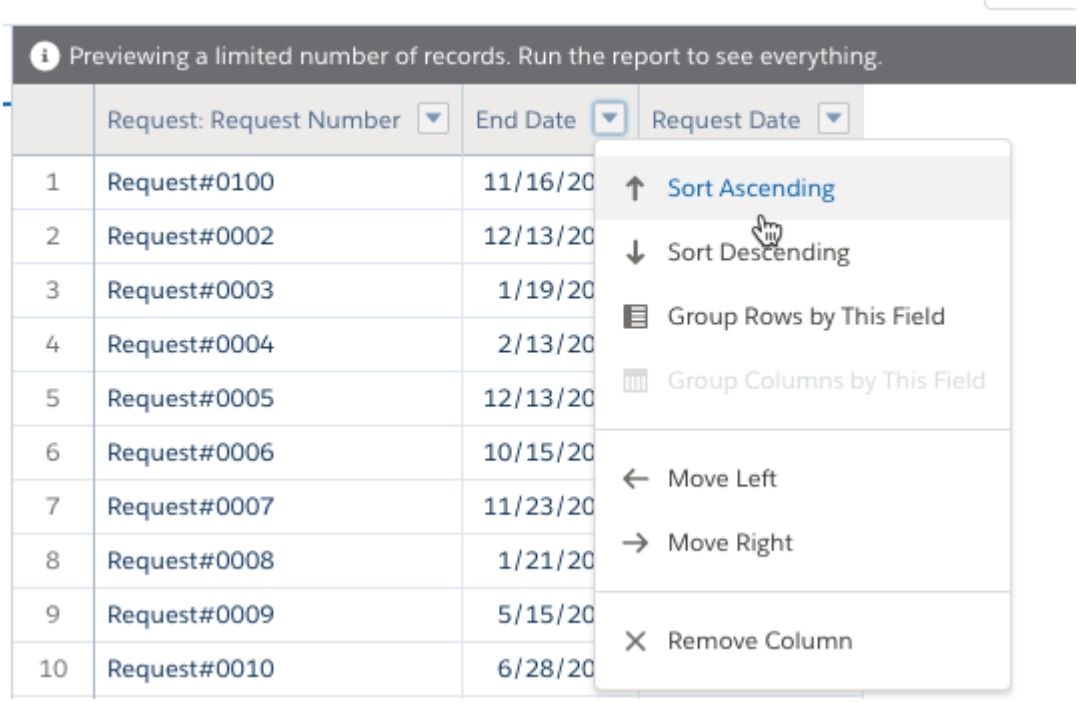


4. Click **Continue** button in lower-right.
5. You are now presented with the report builder. The report builder provides a drag-and-drop interface to easily build and customize your reports. The report builder consists of 3 main sections:
   - **Fields Section** – on the left-hand side is all the fields you have accessible to create your report. You can easily scroll throw the list of fields and drag them over to the preview section to add them to your report.

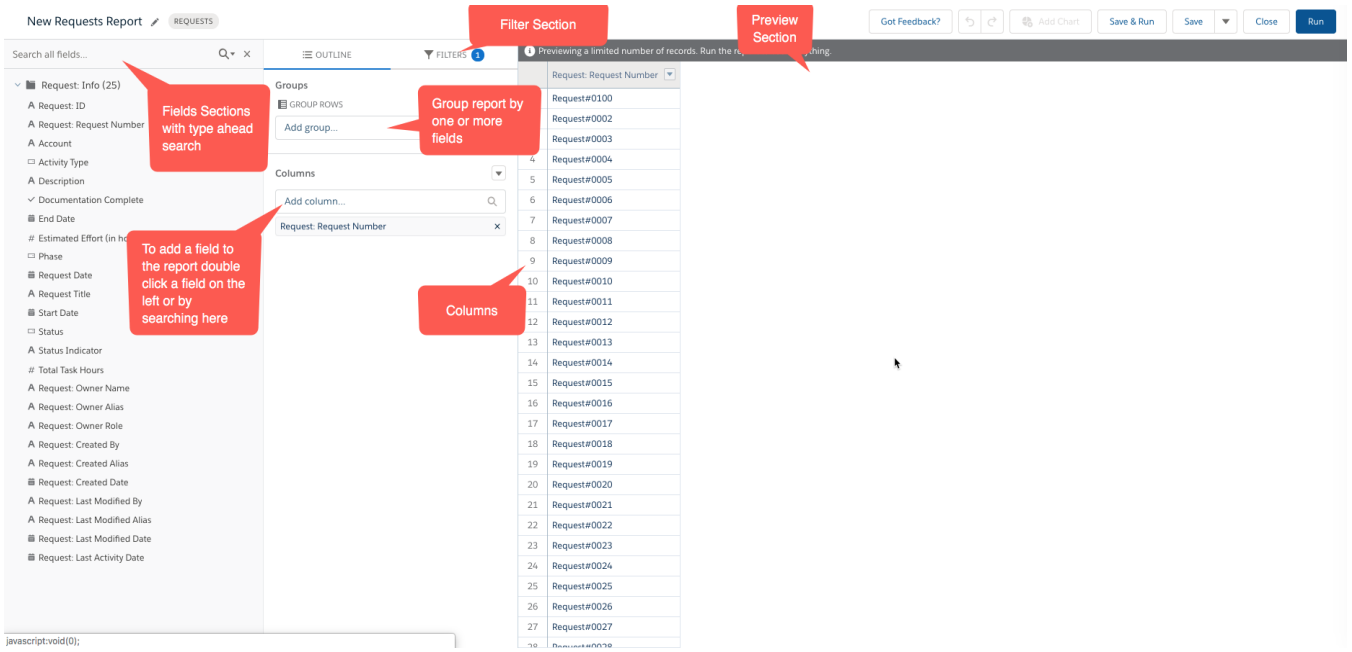
- **Filter Section** – this section allows you to define all the filters for your report to filter down to exactly the data you want to include. You have options to filter by any field available on an object include some built-in date/time filters that allow you to apply an automatic sliding window for “current quarter” or “current fiscal year”.



- **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.

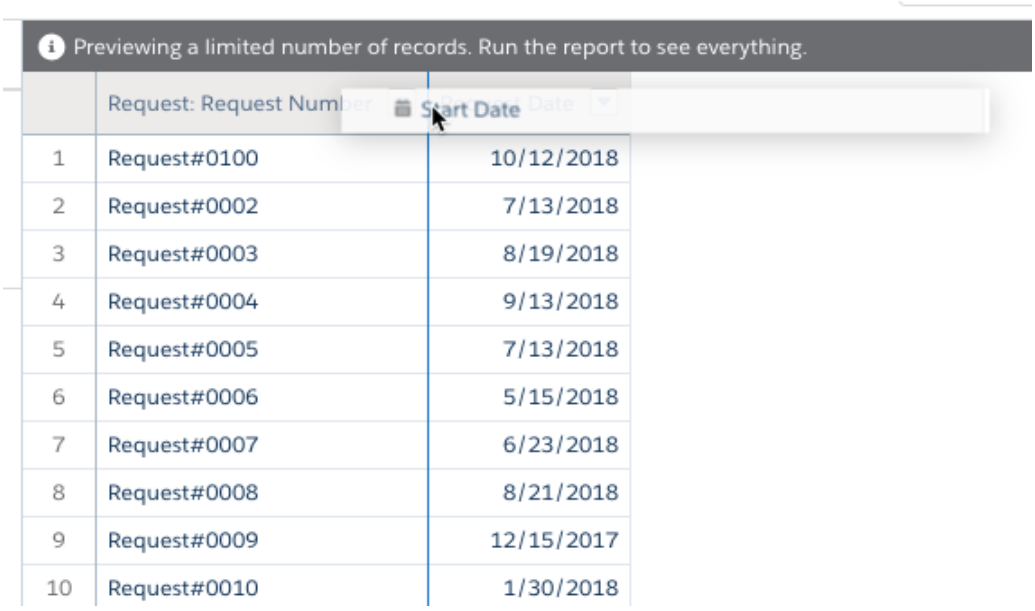


Review the notes provided on the report builder screen shot below. Ask your lab instructor if you have any questions.



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

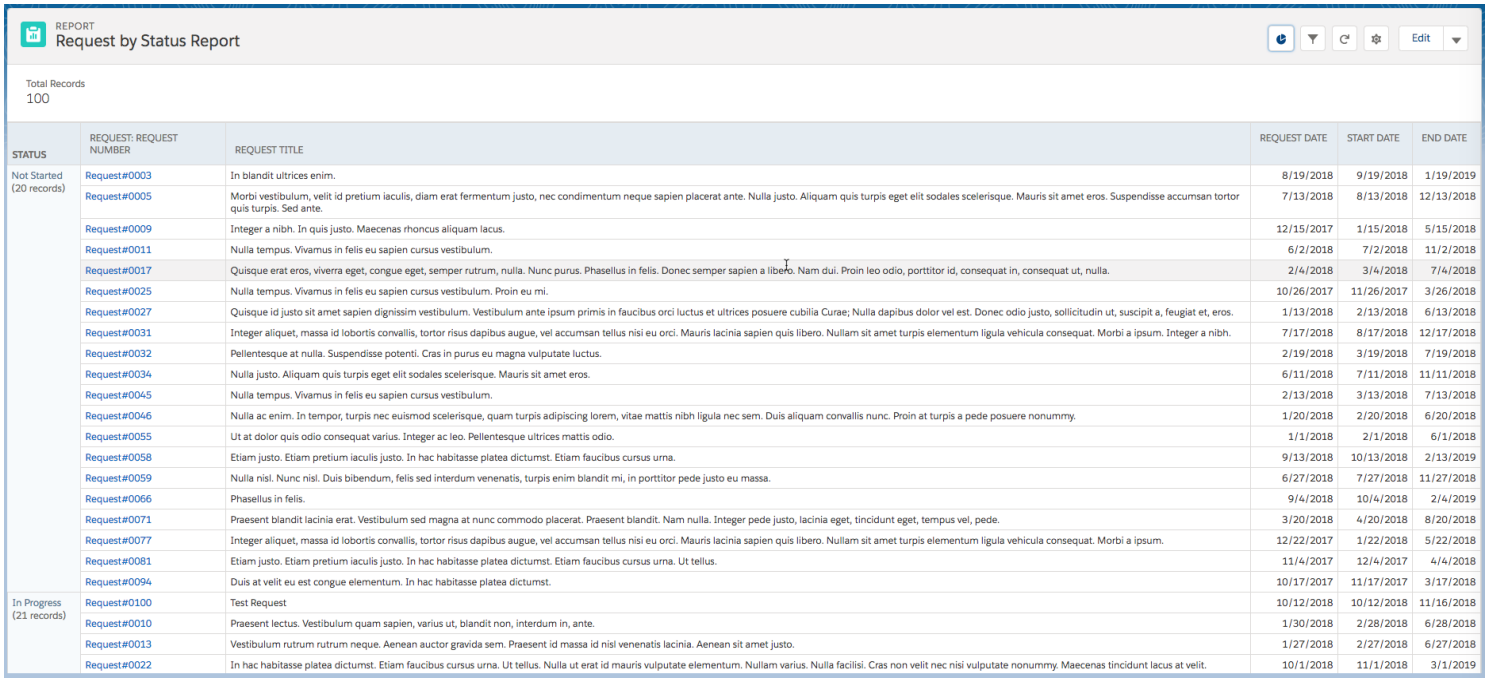


Your report should now look like the following:

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:



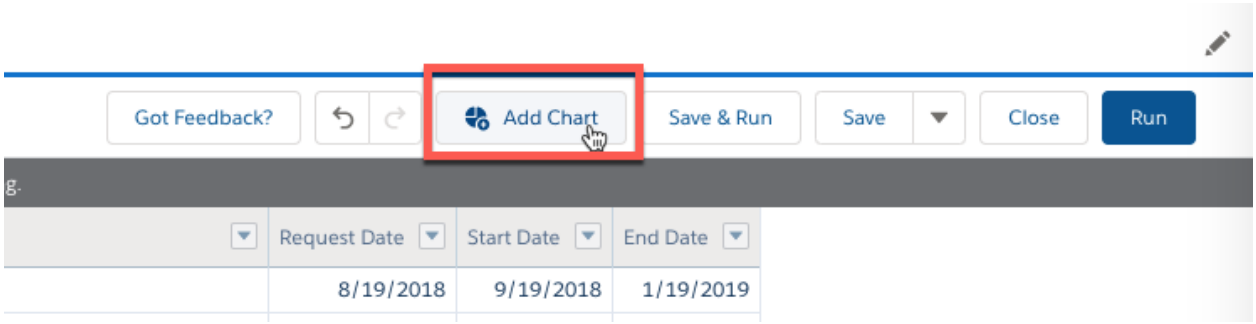
REPORT
Request by Status Report

Edit

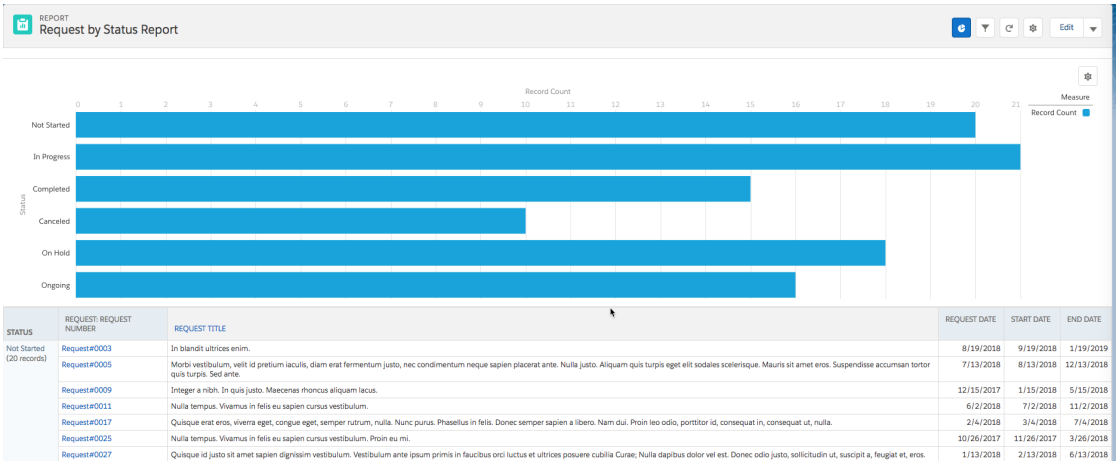
Total Records
100

STATUS	REQUEST: REQUEST NUMBER	REQUEST TITLE	REQUEST DATE	START DATE	END DATE
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	2/13/2019
	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 lacinia 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

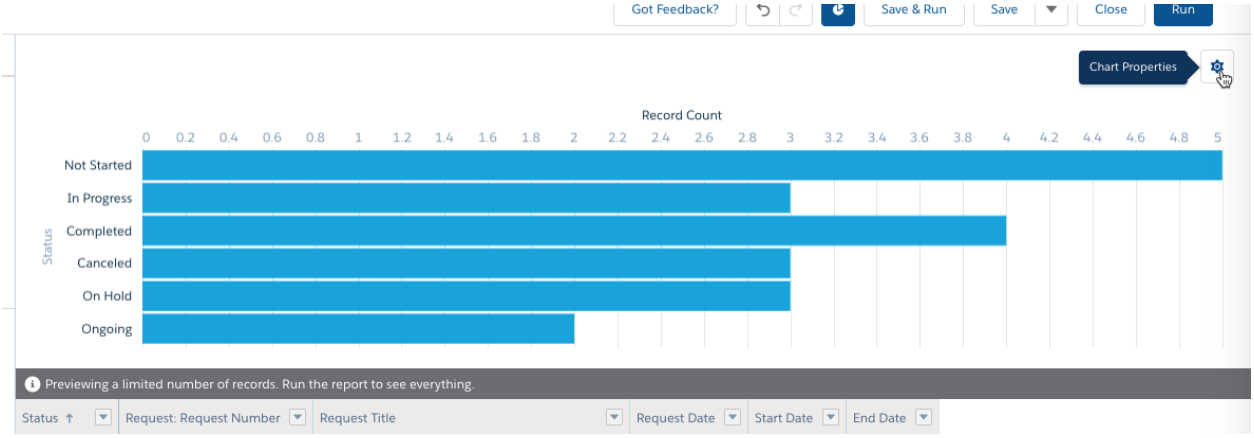
10. Toggle the Chart button to see a chart representing the report data.



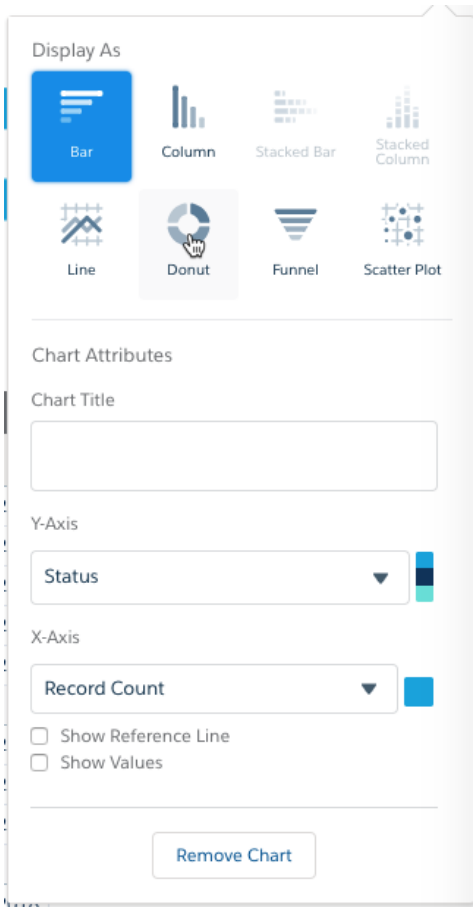
11. Your screen will look like the following



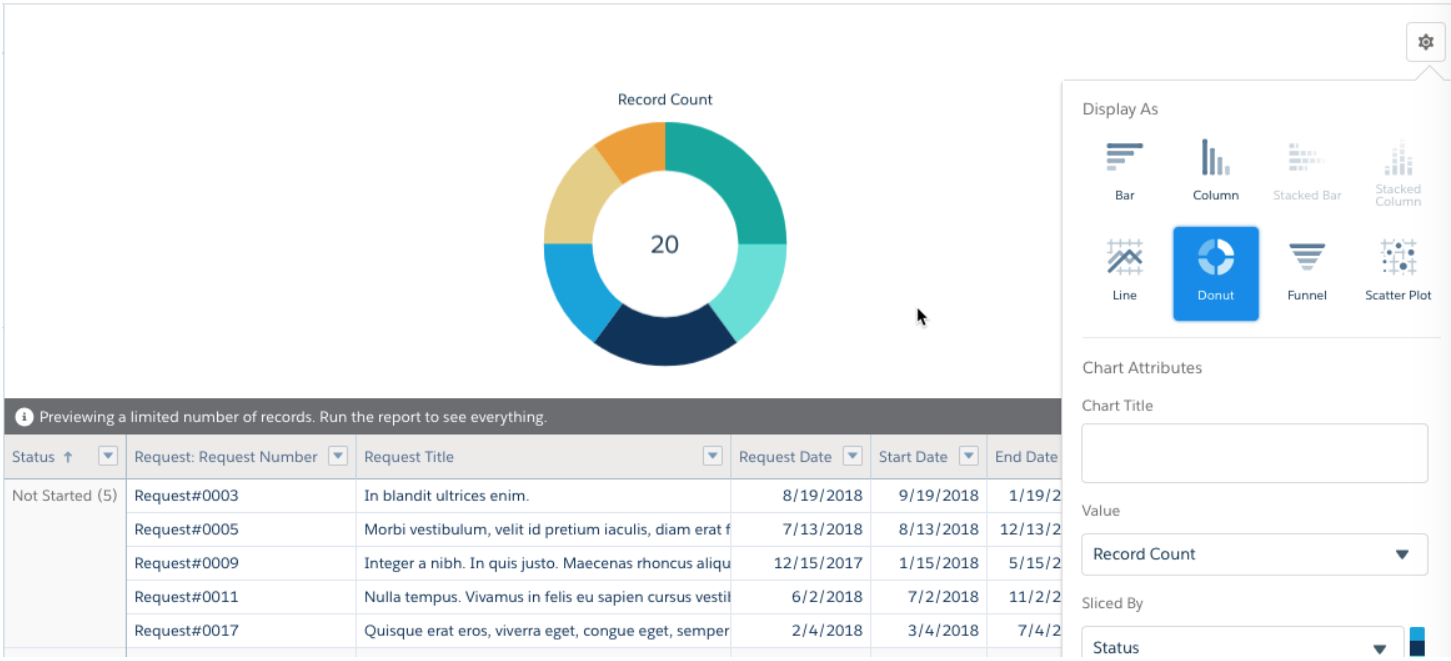
12. To change the chart type, click on ‘Chart Properties’ on the top right corner of the chart and select a different chart type.



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



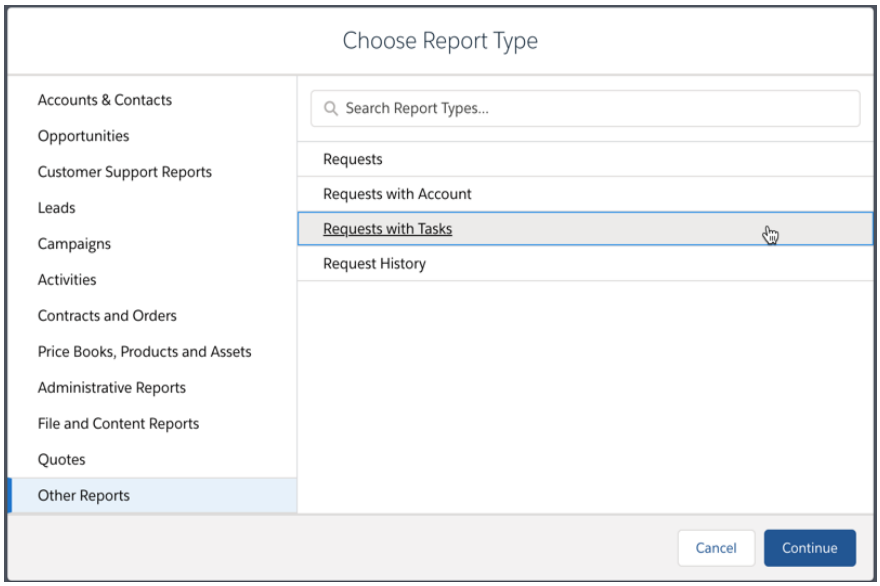
14. Your screen should look like the following.



Create Task Summary for Request Report

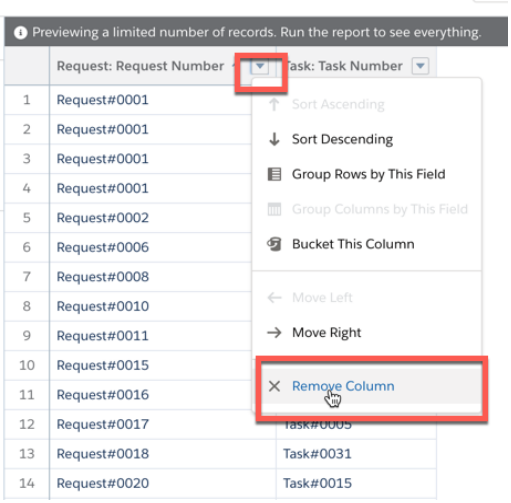
Let's create another report for our dashboard.

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.

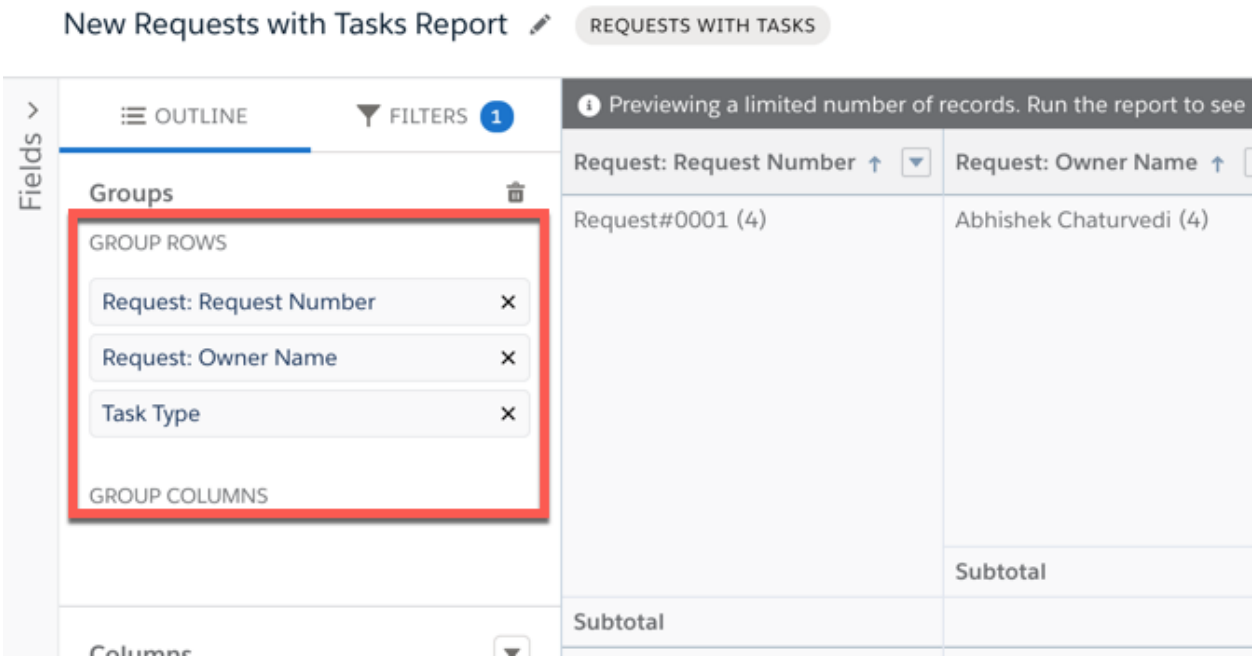


Click **Continue** button in lower-right.

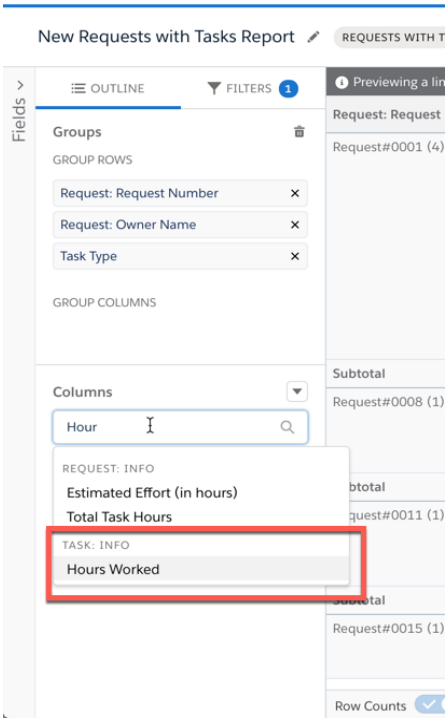
3. You are now presented with the report builder. By default you will see the **Request : Request Number** field and the **Task: Task Number** field.
4. Remove the **Request Number** column



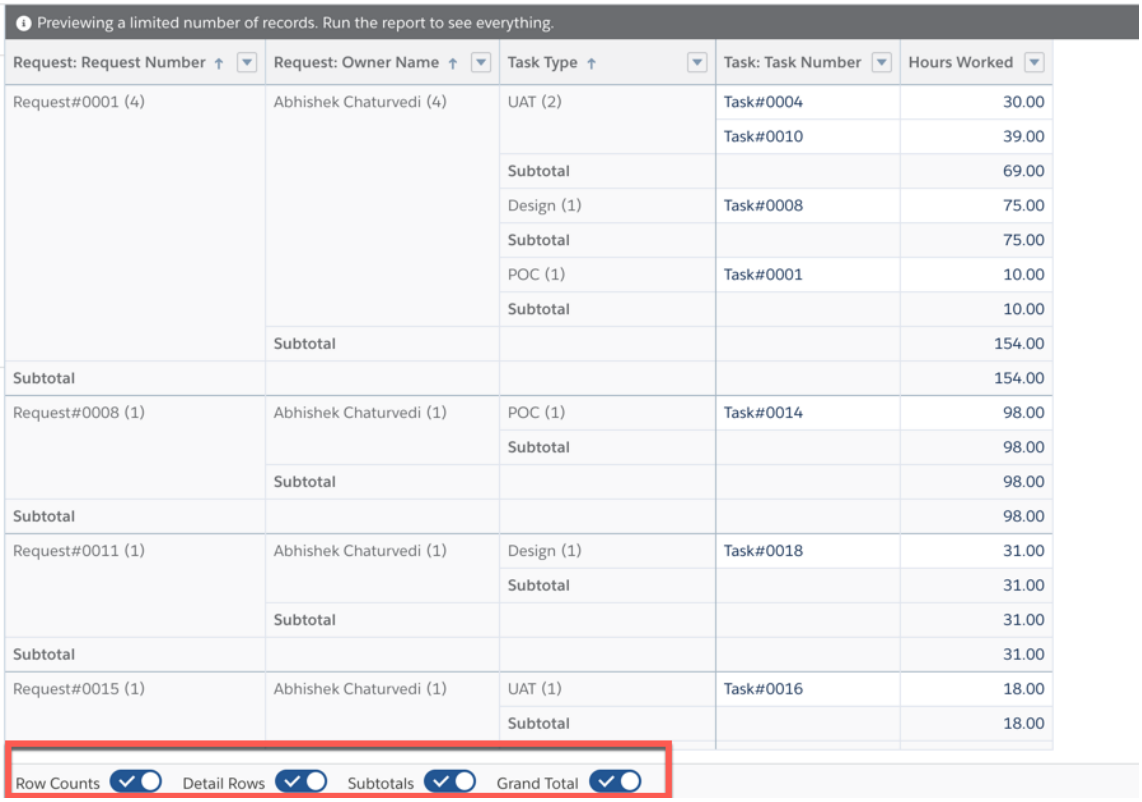
5. Let's group the report by request, task type and request owner. On the left hand side, under '**GROUP ROWS**' search and the following fields
   - Request: Request Number
   - Request: Owner Name
   - Task Type



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



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.) :

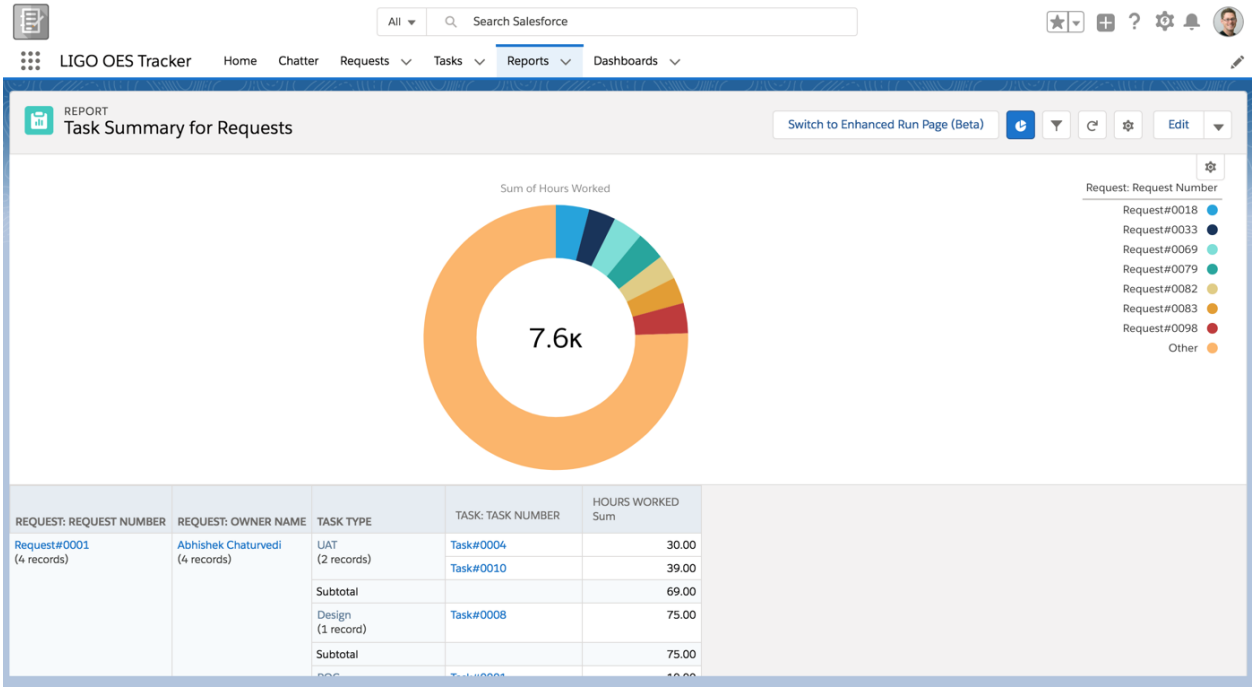


Request: Request Number	Request: Owner Name	Task Type	Task: Task Number	Hours Worked
Request#0001 (4)	Abhishek Chaturvedi (4)	UAT (2)	Task#0004	30.00
			Task#0010	39.00
		Subtotal		69.00
		Design (1)	Task#0008	75.00
		Subtotal		75.00
		POC (1)	Task#0001	10.00
		Subtotal		10.00
	Subtotal			154.00
Subtotal				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

8. 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.
9. 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

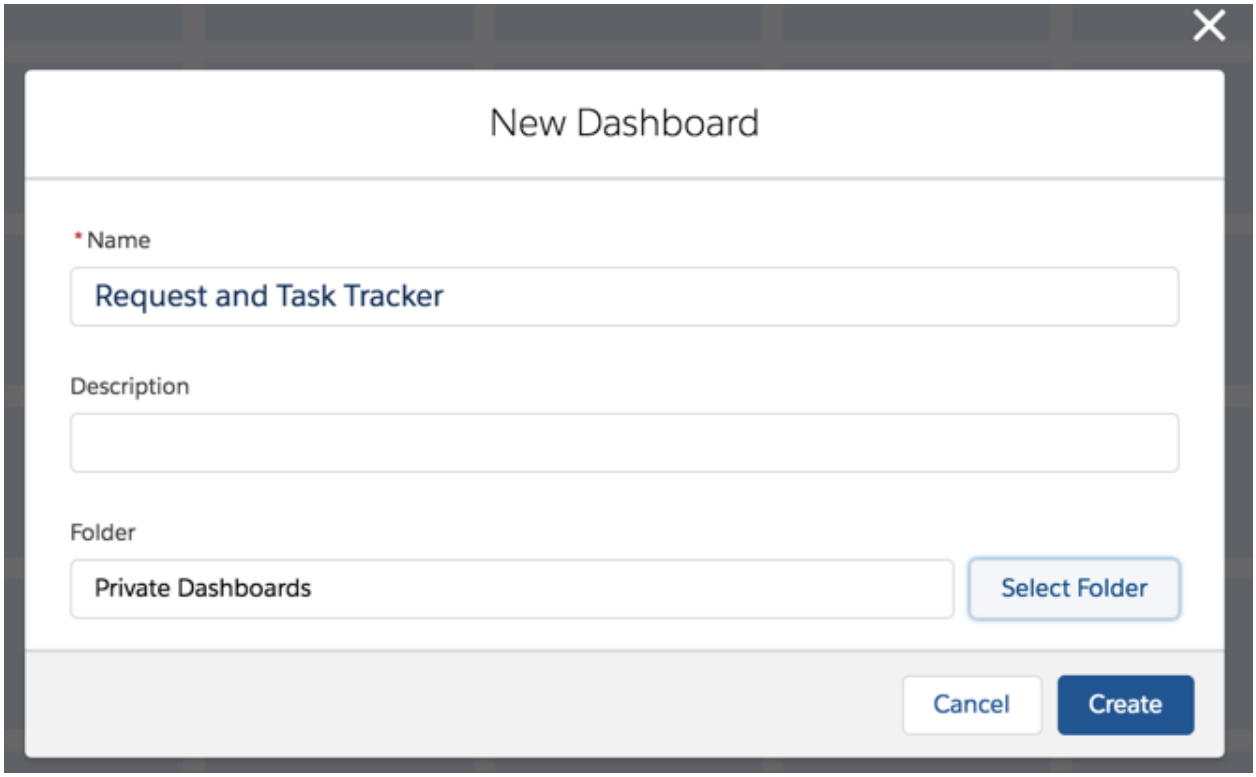


We now have two reports that we can use to create our dashboard.

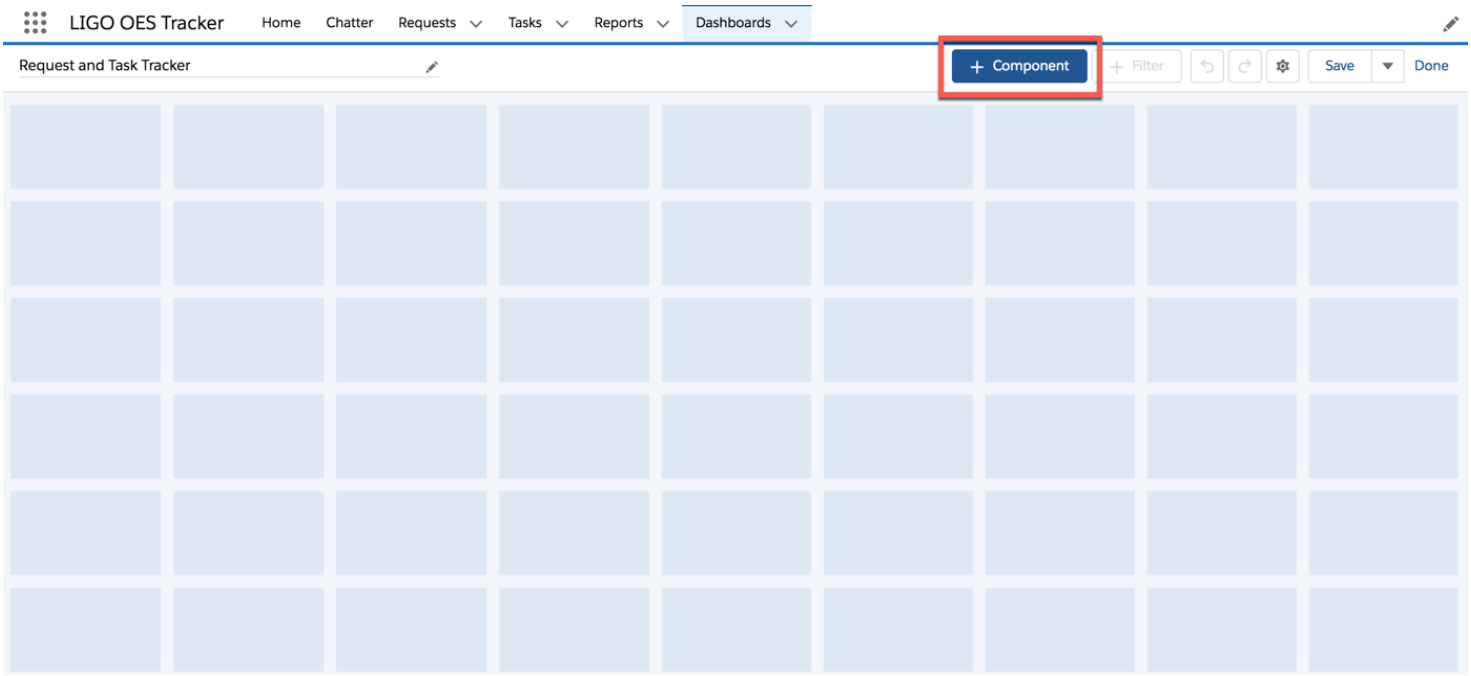
Create Request and Task Tracker Dashboard

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:

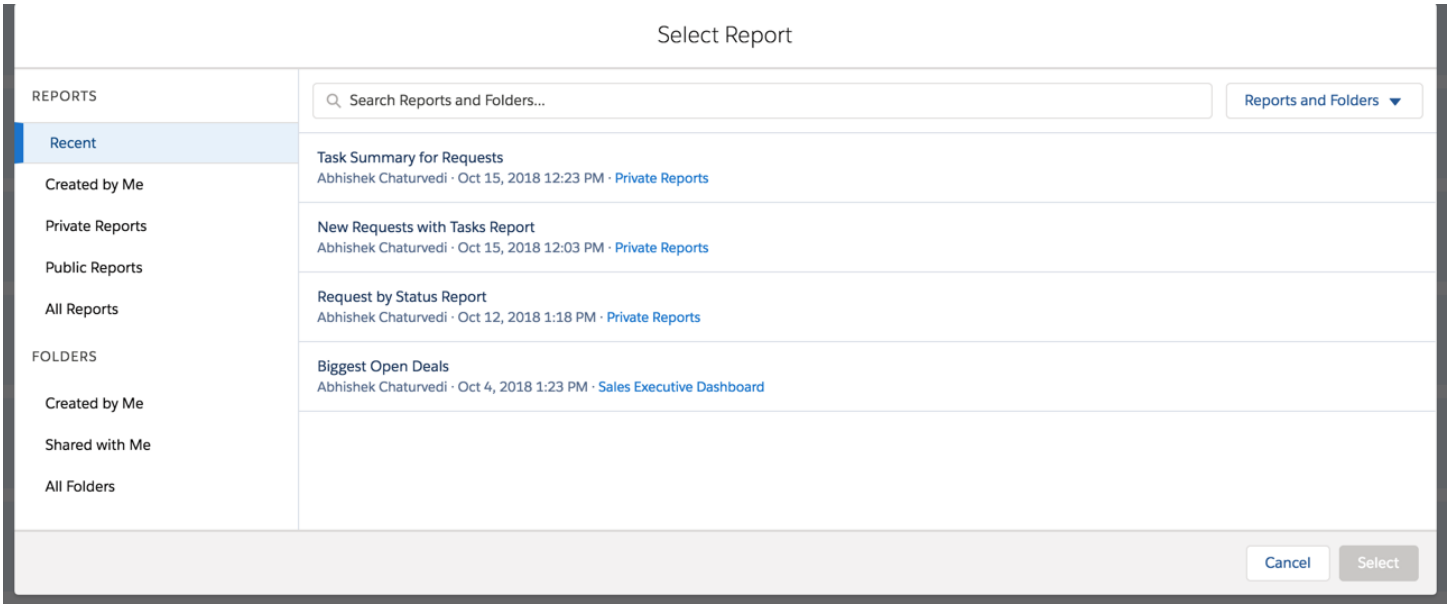
Parameter	Value
Name	Request and Task Tracker
Description	Leave blank
Folder	Private Dashboards



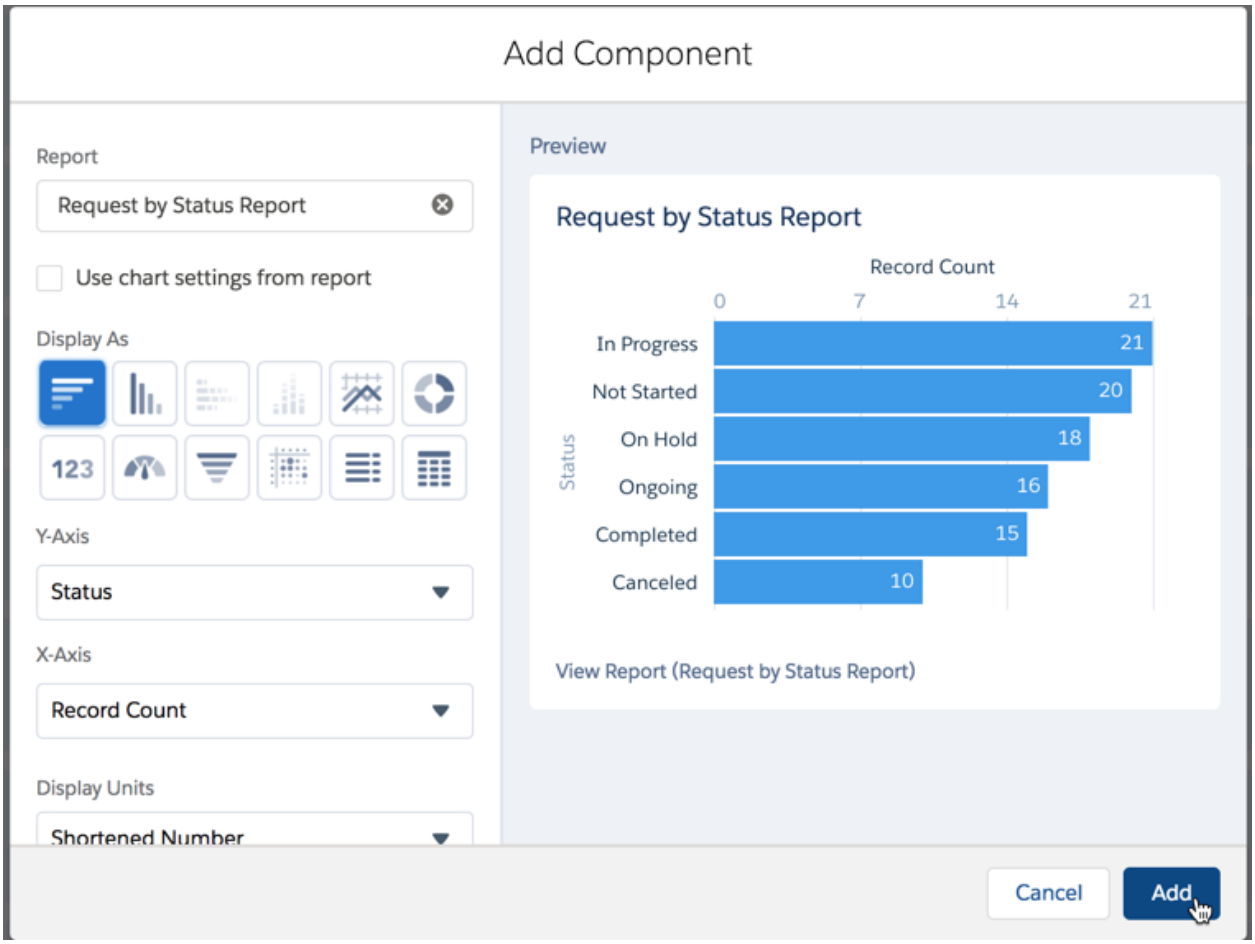
3. Click the **Create** button.
4. You will now be presented the dashboard builder with grid layout. You can now add reports to your dashboard and move them on to different sections of the dashboard. You can also stretch the components across the grid to have the exact layout of components you need for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



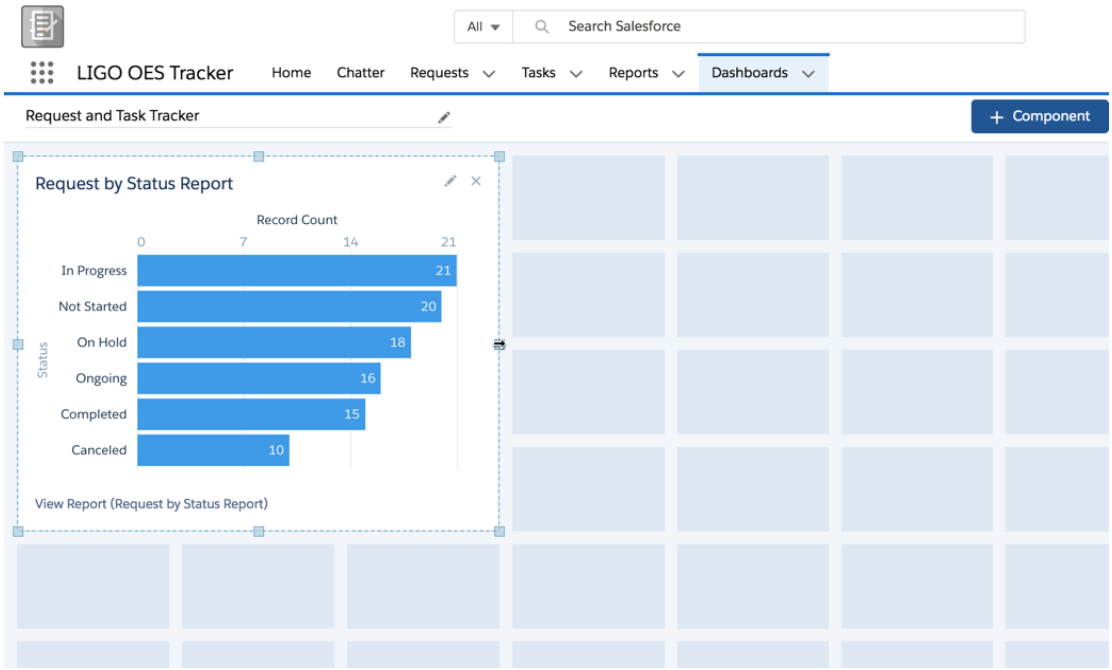
5. Click the + **Component** button. A window like the following will open.



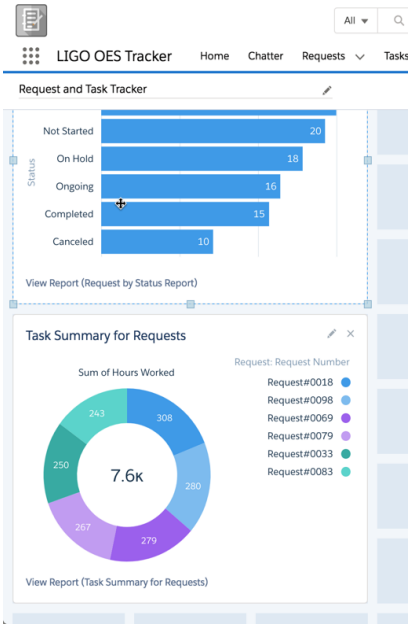
6. Click on the **Request by Status Report** and click the **Select** button. You will then be presented with option to configure your widget.



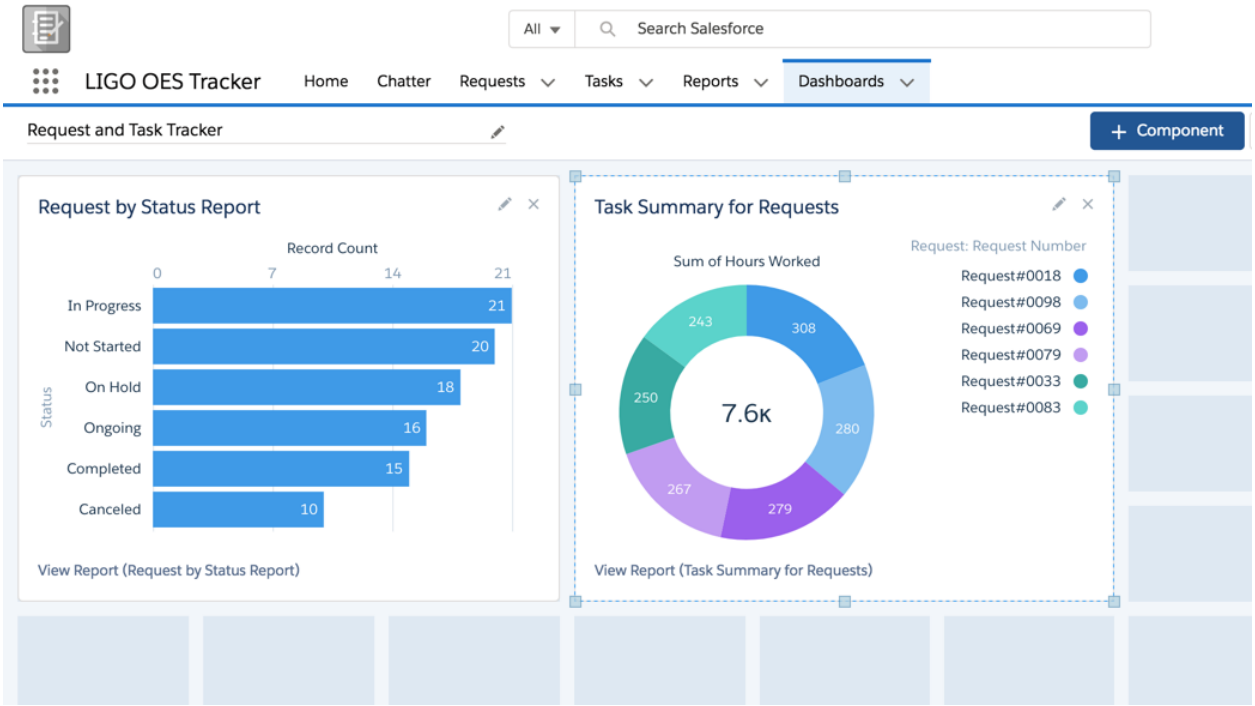
7. Keep the default values and select **Add**. Your dashboard will look like the following with your new component added. You can change the size of the widget by dragging it.



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.

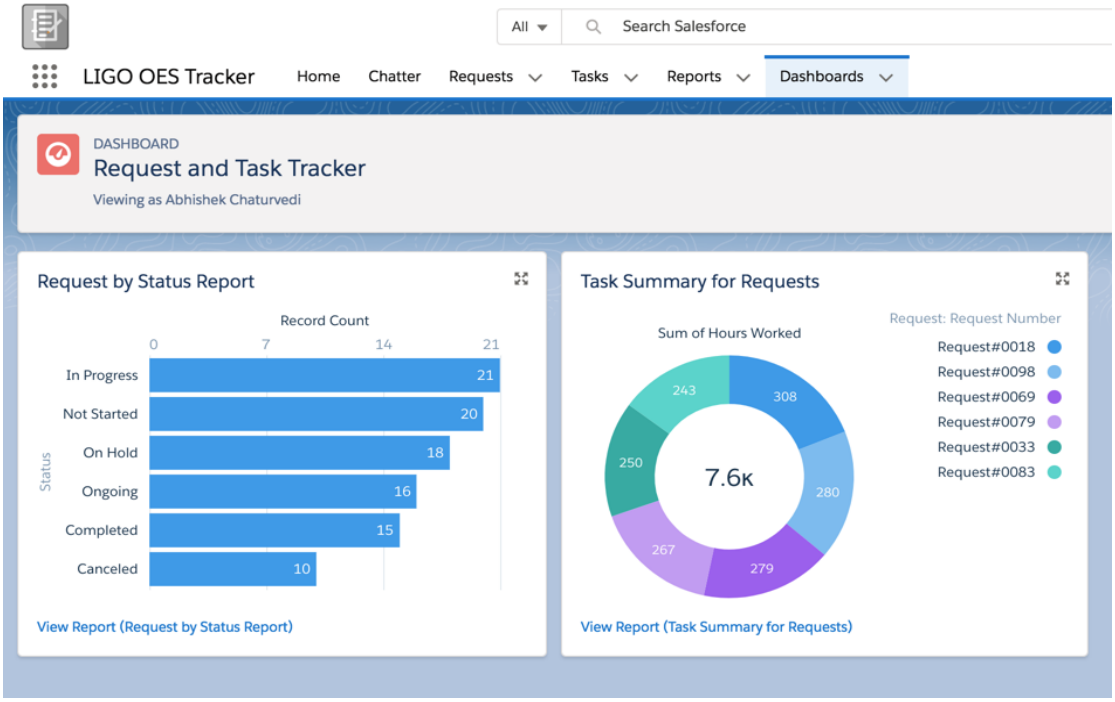


11. Screen should now look like following.



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.

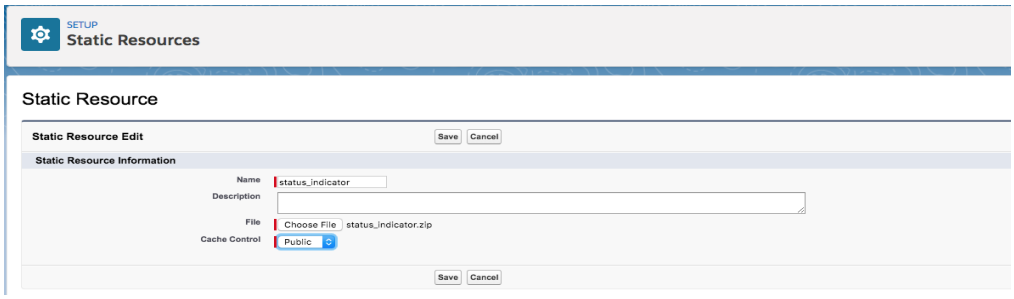
First, we need to upload a zip file to your Salesforce environment that contains all the images we will use. You should have a file titled **status_indicators.zip** that is part of your workshop files you downloaded at the beginning of the workshop. We will now upload that zip file as a static resource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

Your screen should look like the following

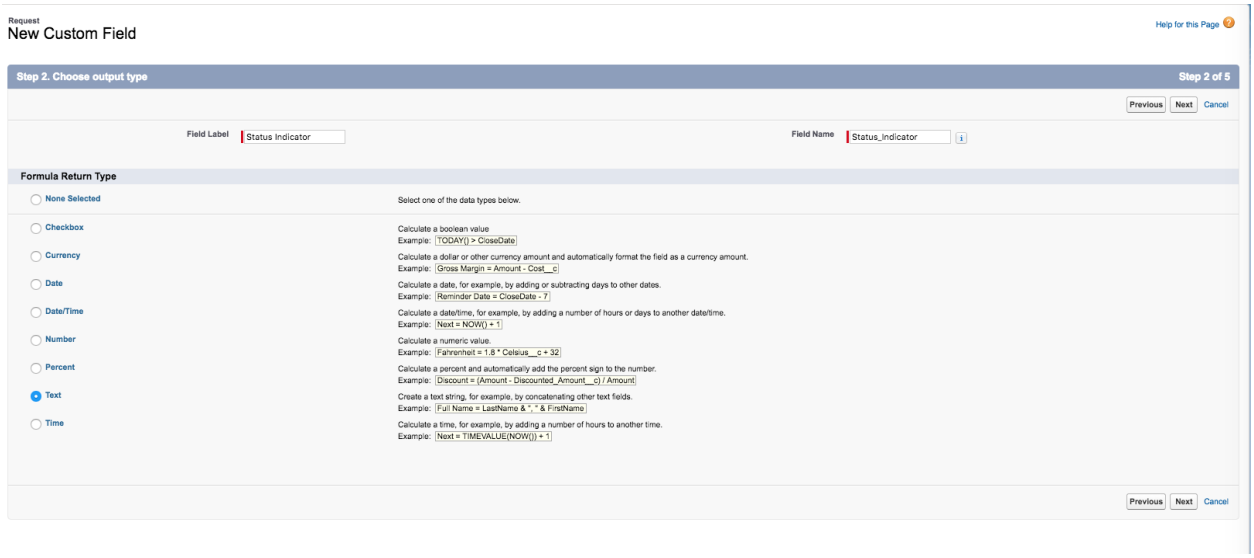


5. Click the **Save** button.

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

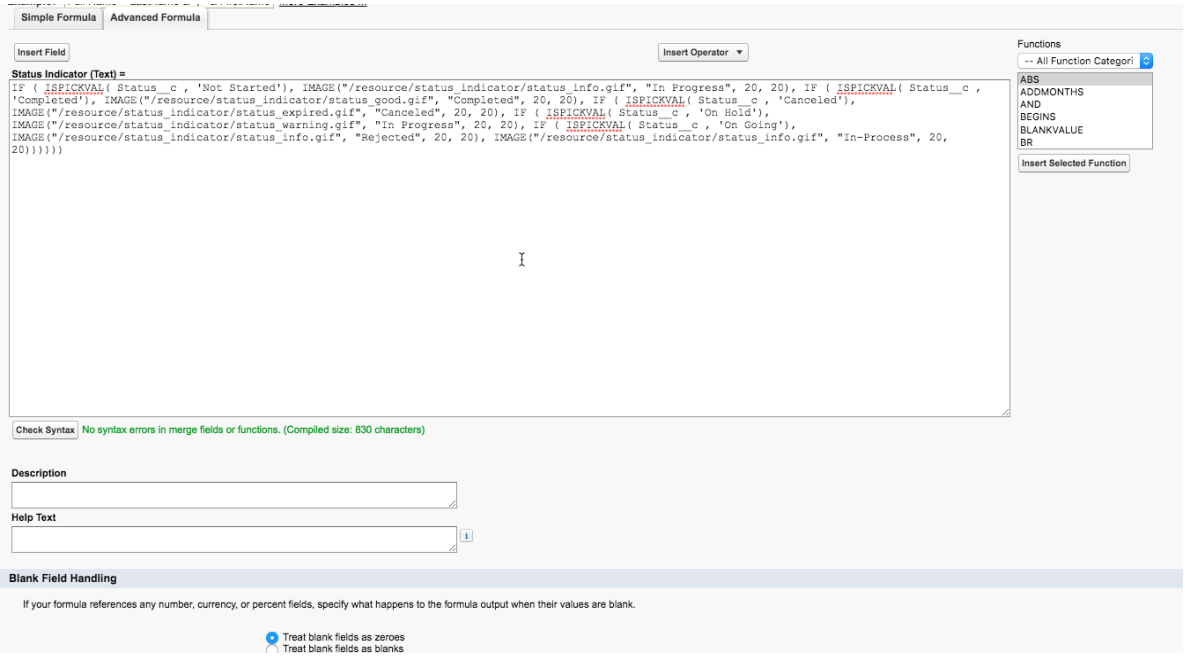
The screen will look like following:



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:



Click **Next.**

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

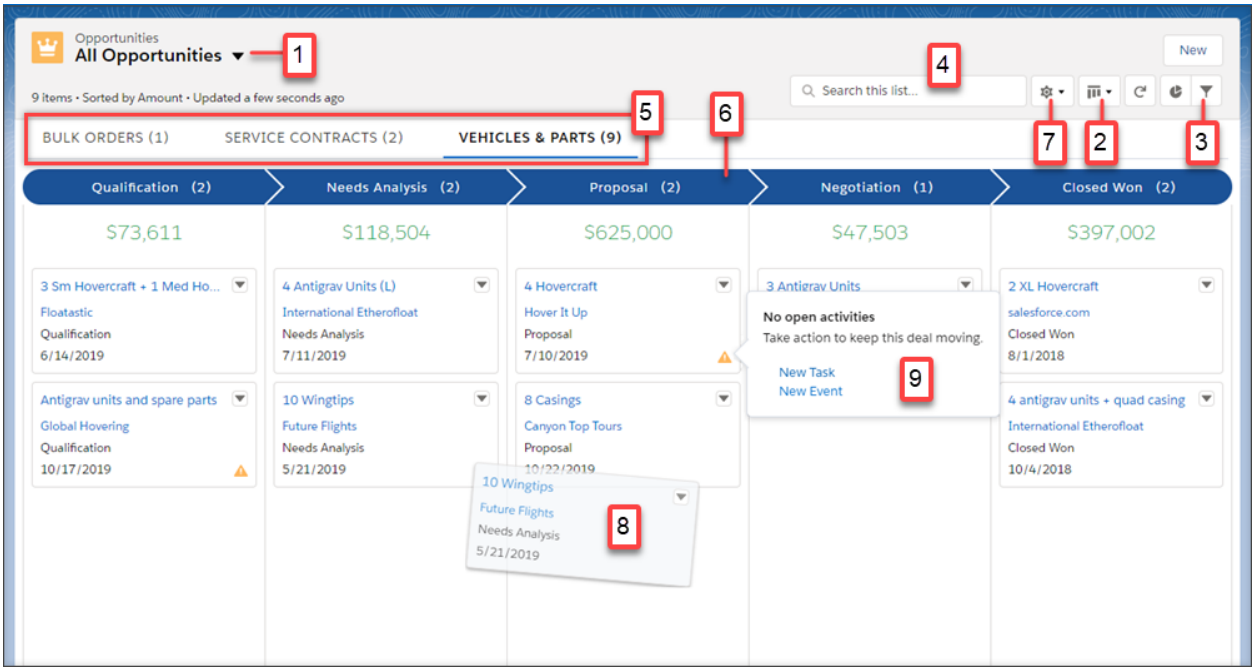
Step 5: Accept the default values. Click **Save**.

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 -

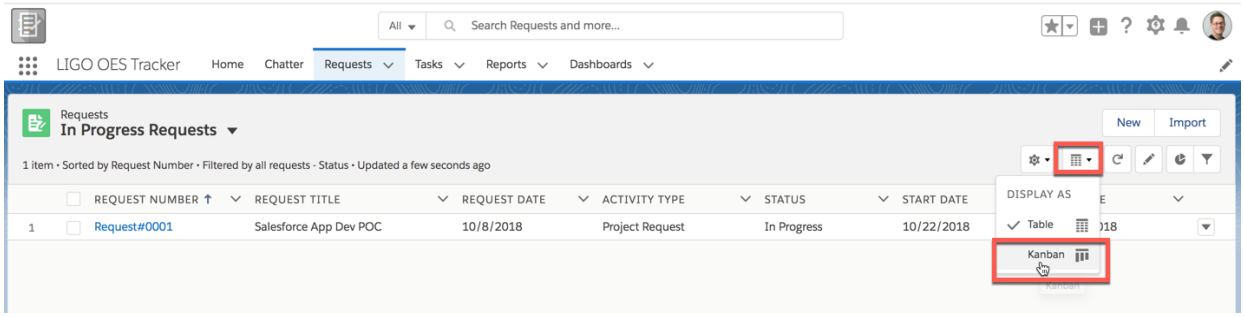


1. The records in the Kanban view are based on the selected list view .
2. Easily toggle between the list view grid view and the Kanban view
3. Filter your records to select a single record type or view a particular subset of your records
4. Search for records in the current view
5. Records are separated 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'

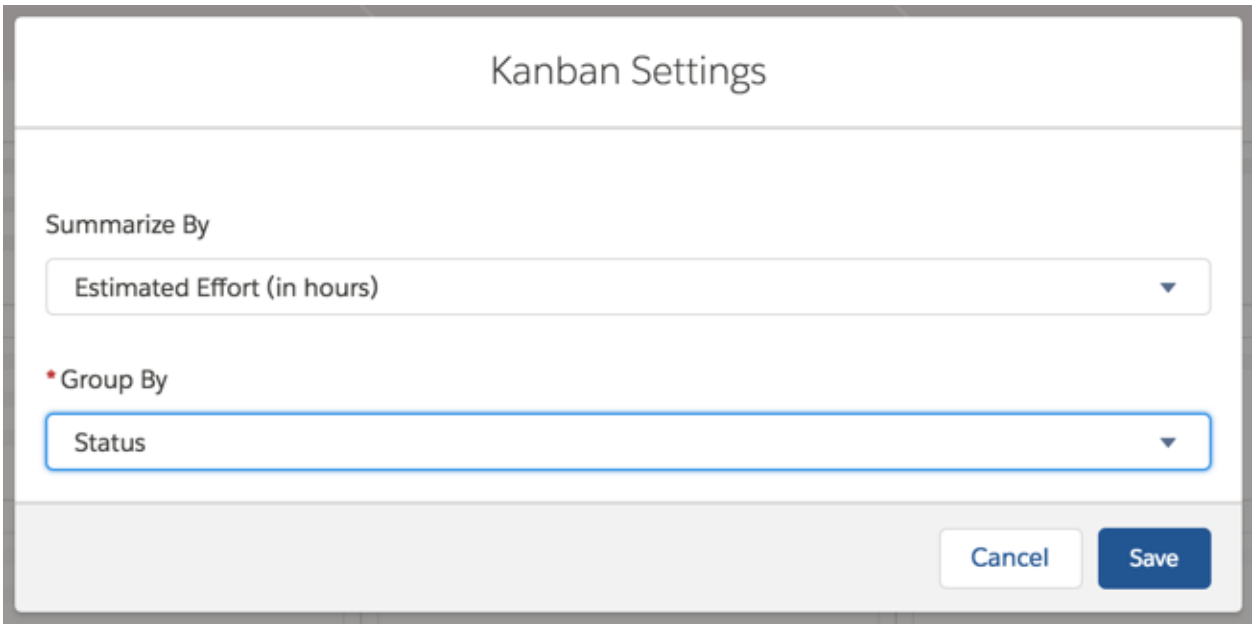
1. Click on the grid icon  in the top right section of the list view.

2. Select '**Kanban**'.

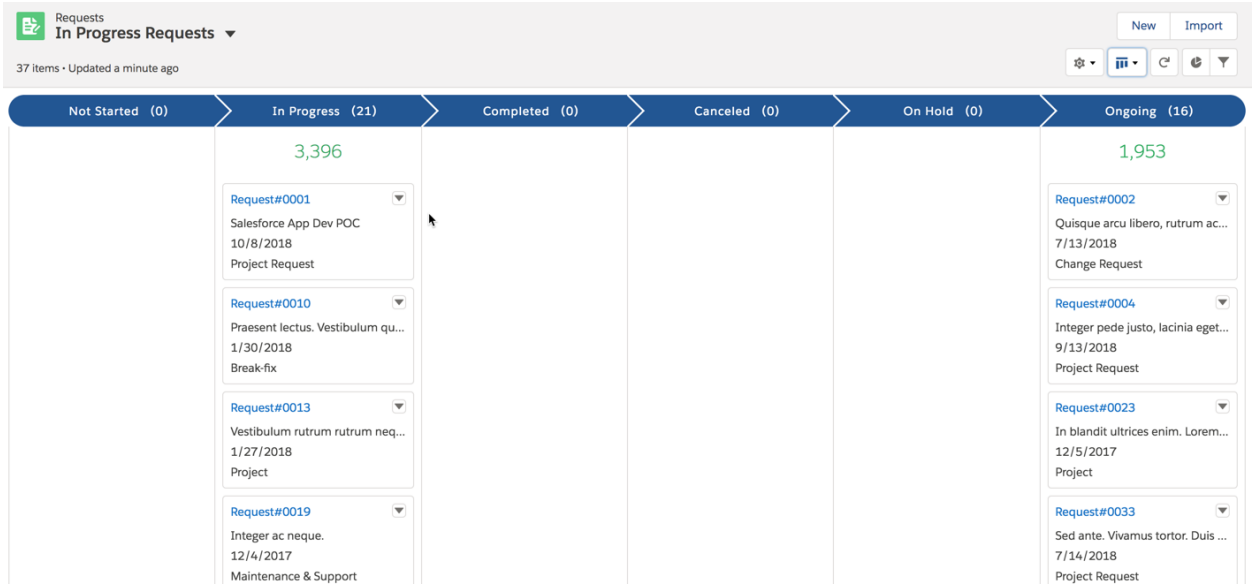


3. On the popup that appears select the following values

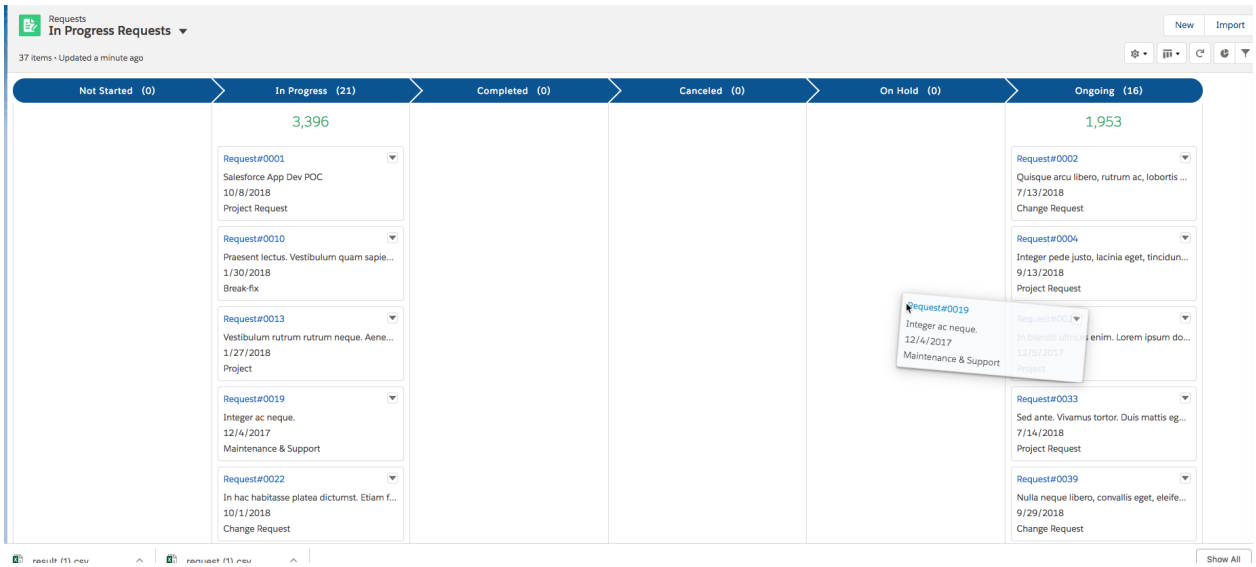
Parameter	Value
Summarize By	Estimated Effort (in hours)
Group By	Status



4. Your screen should look like the following



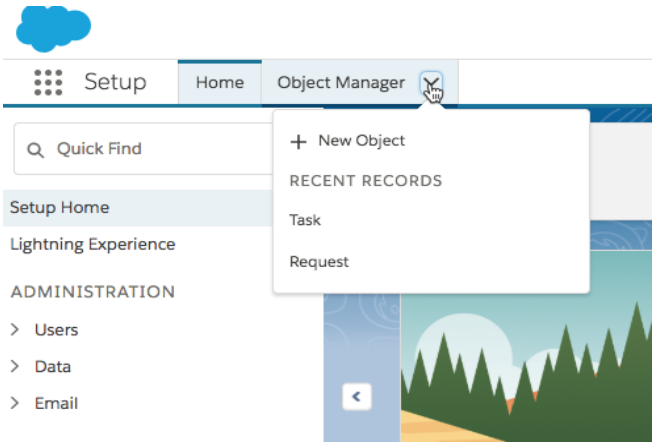
5. Try dragging the card for Request#0001 to the **'On Hold'** Column. After the card has been dragged, the Status of the request will change to '**On Hold**' behind the scenes. Go ahead and take a look by clicking on the Request# of the card,



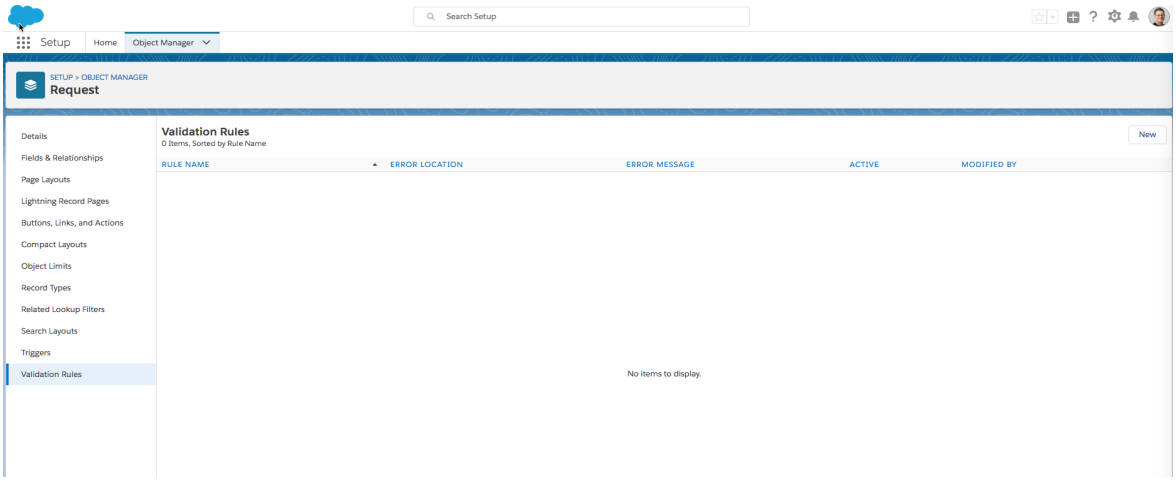
Create Validation Rules to Enforce Future Dates

Let's now create a validation rule to enforce that a Request end date must always be >= 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.

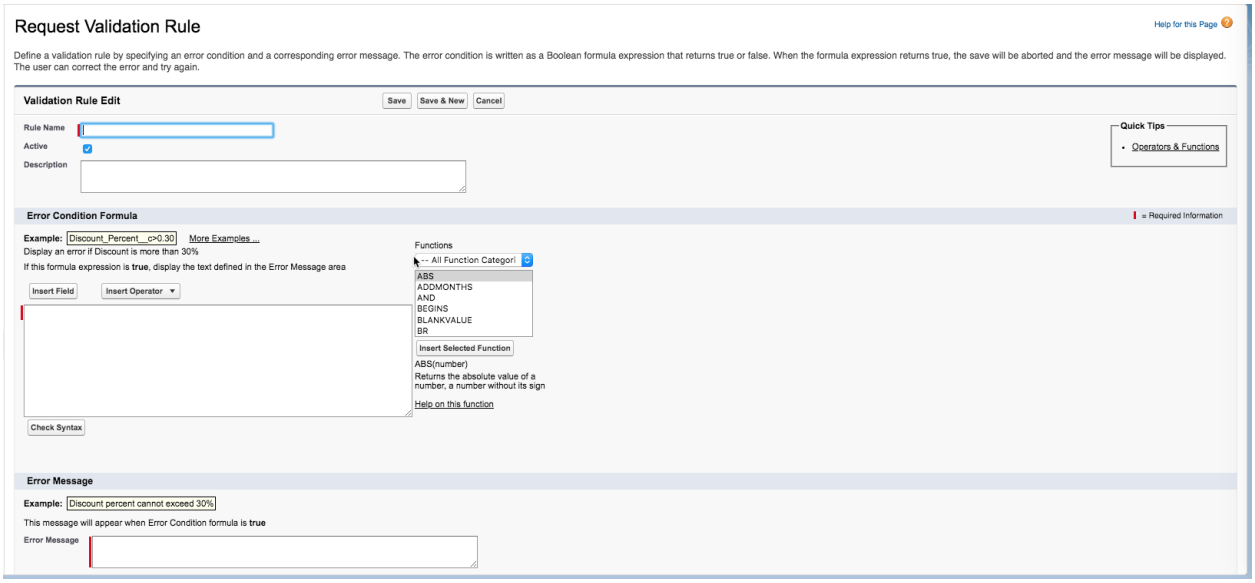


3. Click on the **Request** object from the drop-down list.
4. You should now be on the configuration page for the Request object. Click on the **Validation Rules** option on left-hand side. It should currently be empty like the following.



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

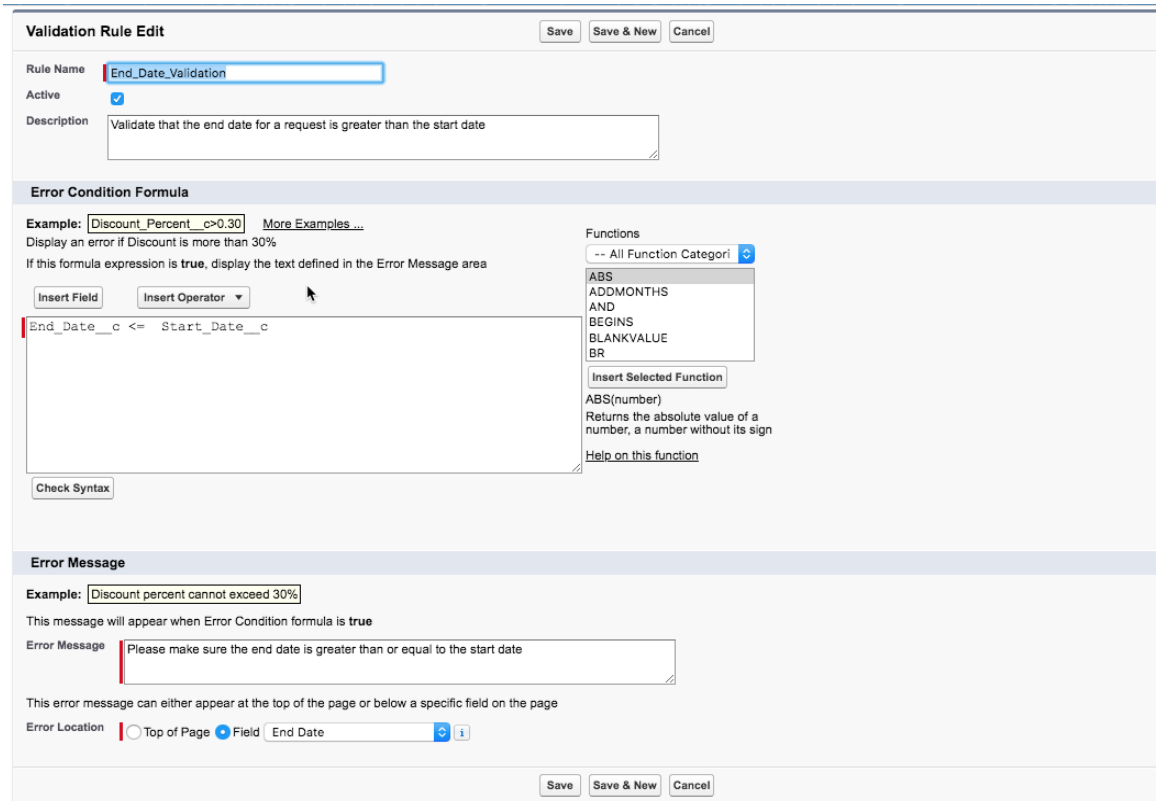
5. Click the **New** button on right-hand side of the Validation Rules section. A rule configuration window will open like the following:



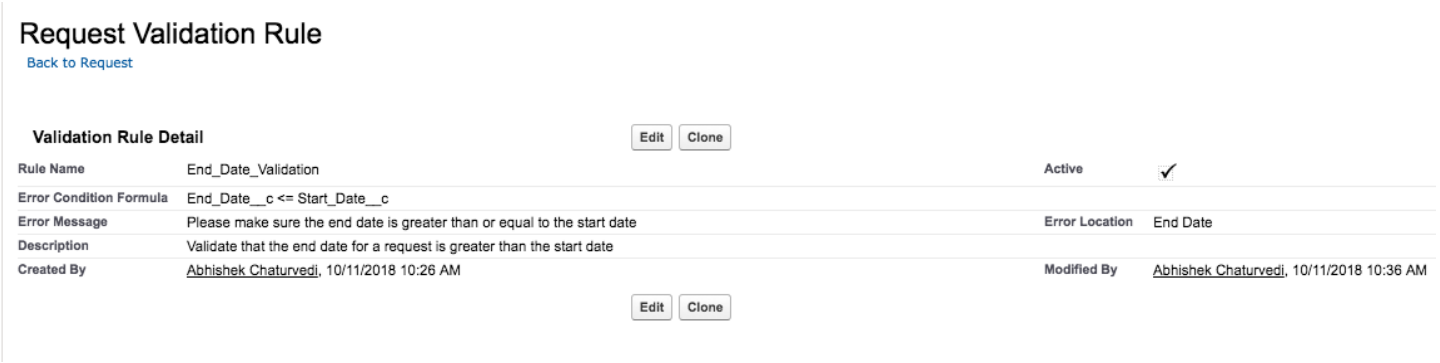
6. Create a new validation rule with the following

Parameter	Value
Rule Name	End Date Validation
Active	*Make sure to keep this selected/checked.*
Description	Validate that the end date for a request is greater than the start date
Condition Formula	End_Date__c <= 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

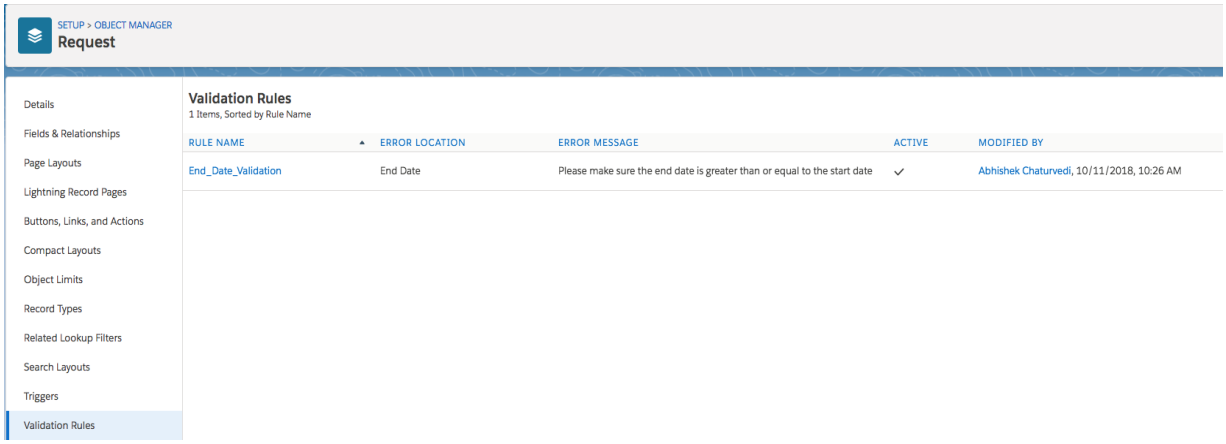
Your screen should look like the following



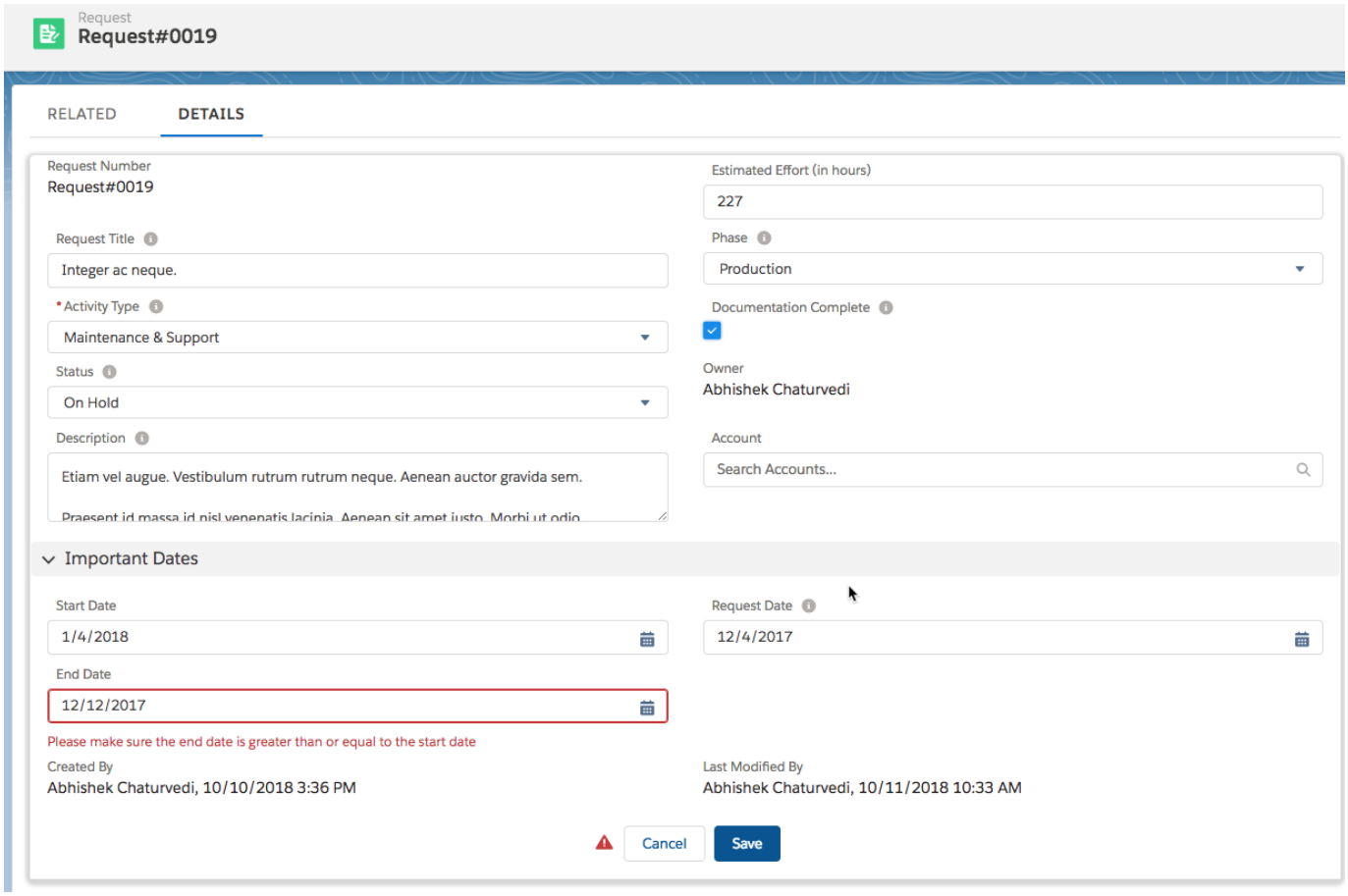
7. Click the **Save** button. The following window will display.



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:



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



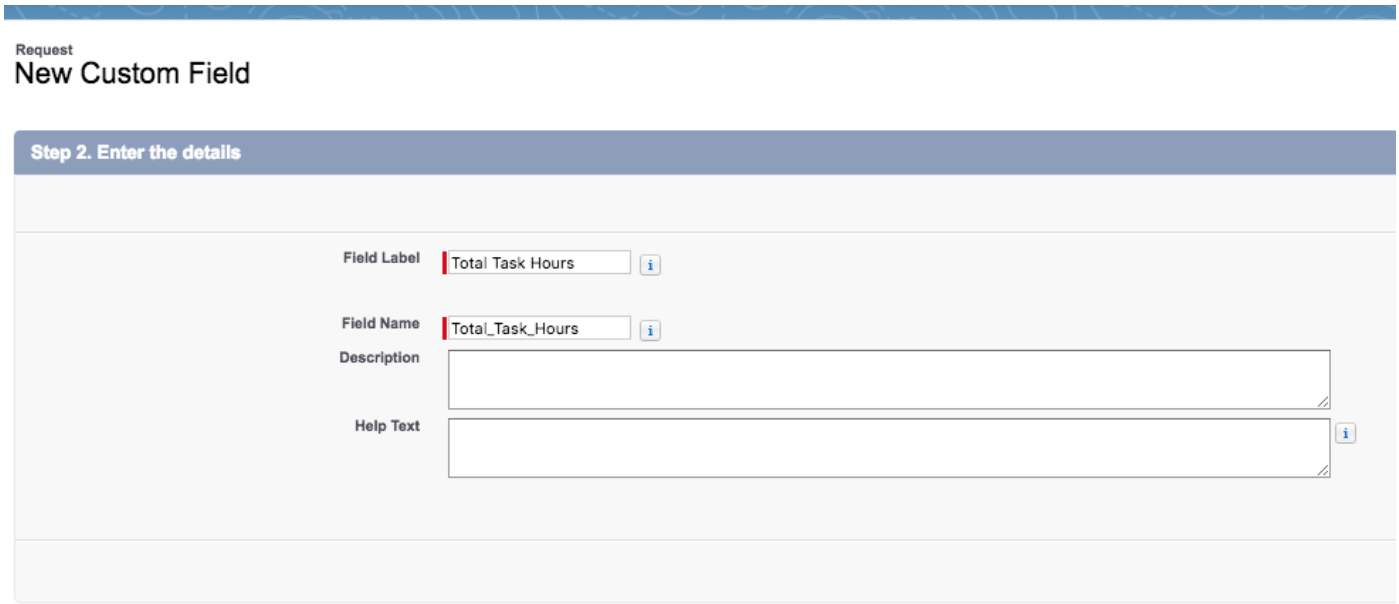
Create the Total Hours Roll-up Summary Field

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:

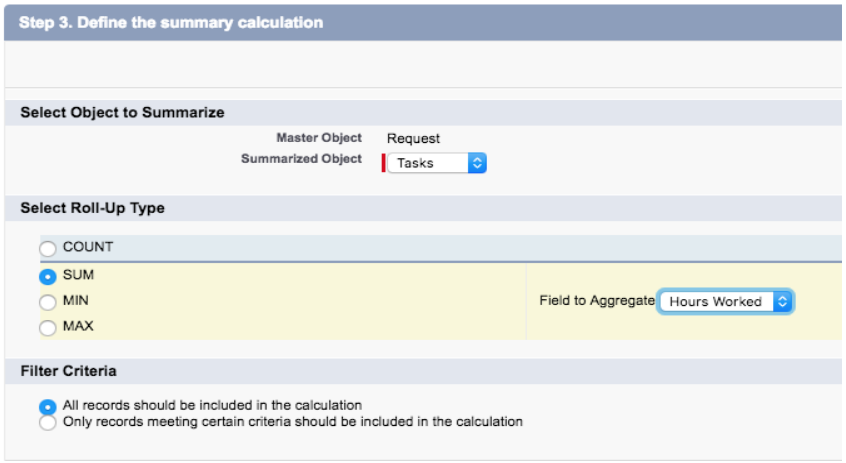


Click **Next**.

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:



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.