Tableau CRM Innovation Day Hands On Activity

This document is the step-by-step guide to the hands on exercises for Tableau CRM & Einstein Discovery Innovation Day.

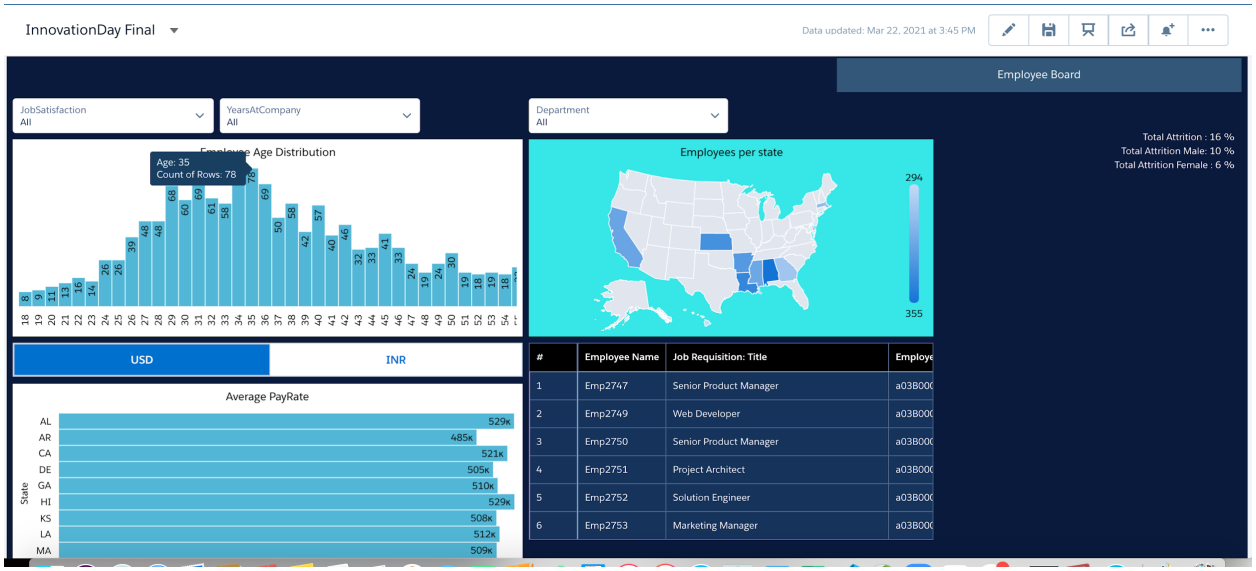
- **You should have received an email with your username for your trial org for today's activity. The username will be <your email><random number>.trial**

NOTE: If you haven't already registered, please go to https://pbo-lab-developer-edition.na156.force.com/signup/s/ and fill out the form. You will receive an email with credentials to a trial org.

Use Case Description:

As part of this hands-on exercise, we will build an Employee Attrition Dashboard. Included in your trial org, is the data we'll need for all exercises like employee data such as demographics, role, and years at the company which was imported from other systems. Our objective is to build a dashboard that provides insights into the employee data from two different sources. We will also provide compensation information in two currencies for agents sitting in two different countries. Finally, we will use actions to navigate between Salesforce and Analytics.

The final product will be a dashboard that looks similar to the one below. We've also included the final version of the dashboard in the InnovationDayFinal app in Analytics Studio for reference.



Dataset Description:

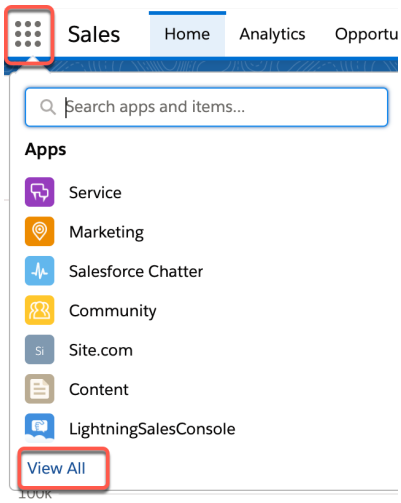
Your org comes with these datasets.

1. **EmployeeObject**- Dataset is based on Employee Custom object. This dataset will be used to create the "**Employees per State**" chart.
2. **HR-Employee-Attrition**- Dataset is created using external data loaded from a csv file. We will use this dataset to create multiple charts such as "**Employee Age Distribution"**.
3. **CurrencyType** - Dataset is created using **CurrencyType** custom object
4. **EmployeeDS**- This is created using CurrencyType and Employee Objects. This is used to create the Employee Datatable chart.

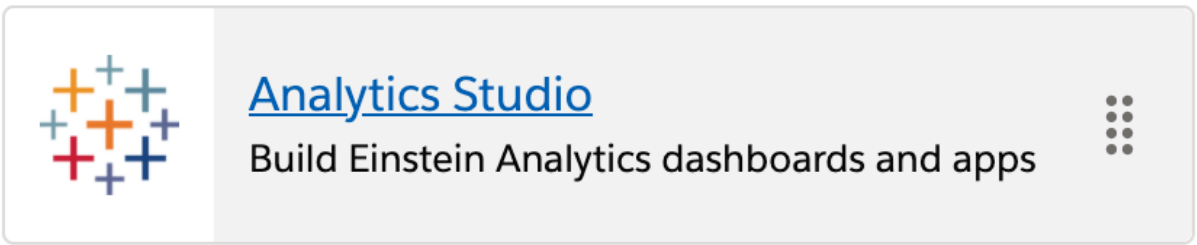
Exercise 0: Sync the data with the Analytics Cloud

To be able to see data in the datasets, the first thing we need to do is bring the data from CRM (Employee, Currency type) objects into the datasets.

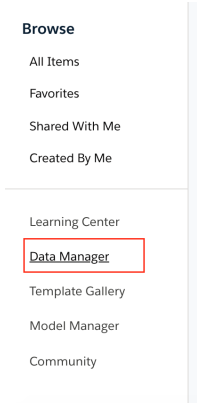
1. From Salesforce, Open App Launcher by clicking on the **App grid**. Then click **View All**.



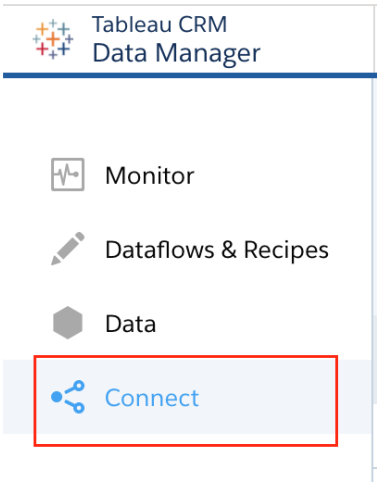
2. Click **Analytics Studio.**



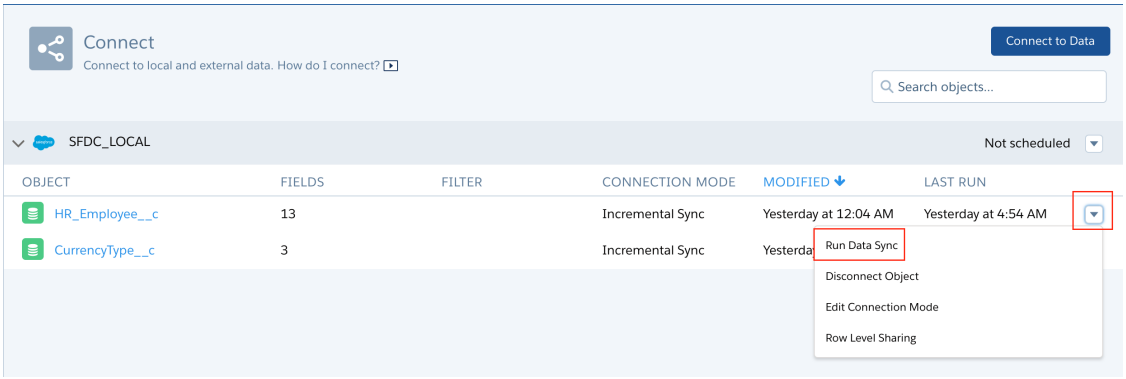
3. On the Analytics home screen, scroll down, click **Data Manager** on the left bar.



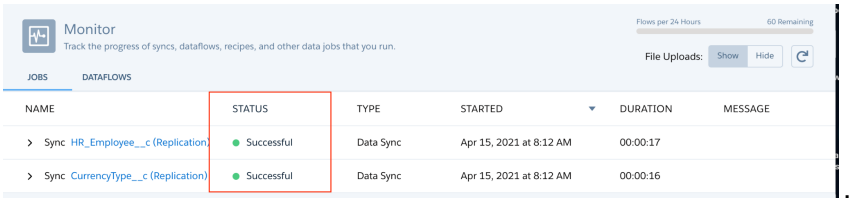
4. Click on **Connect**



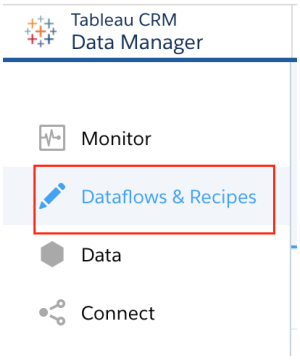
5. Click on the down arrow  at the right side of object name **HR_Employee__c** under **SFDC_LOCAL**
6. Click on **Run Data Sync**



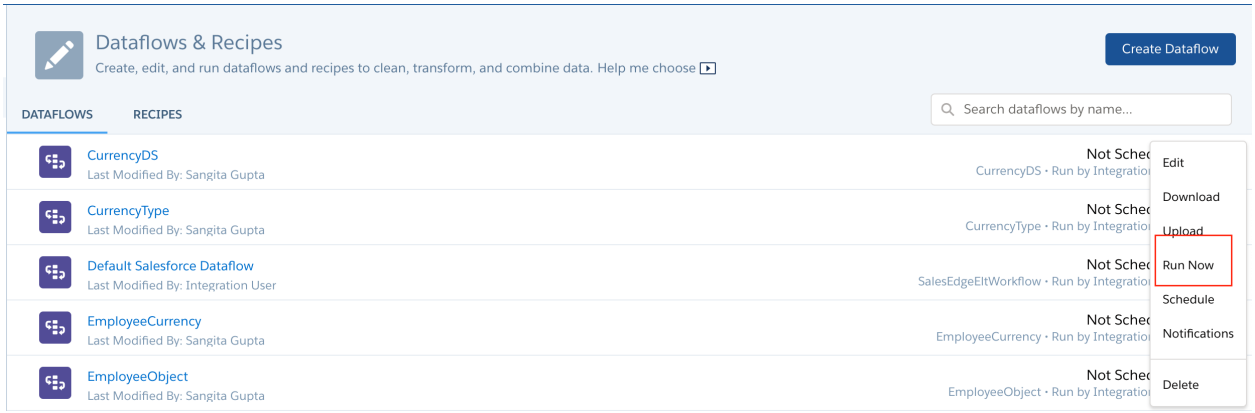
7. Repeat steps 5 and 6 for **CurrencyType__c** object as well
8. Confirm that Data Sync completes successfully under the **Monitor** screen



9. Click on Dataflow and Recipes on Data Manager



10. Right Click on the arrow  at the right side to EmployeeObject Dataflow
11. Click on **“Run Now”**

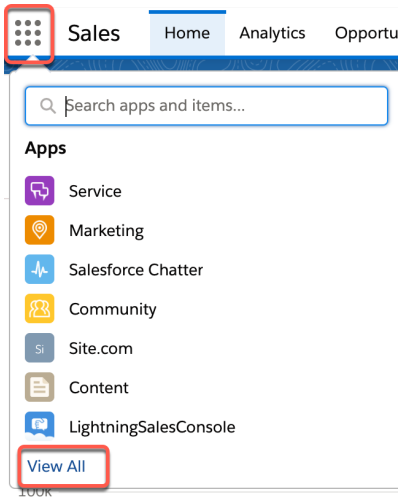


12. Repeat steps 10,11 for **EmployeeDS** and **CurrencyType** dataflows.

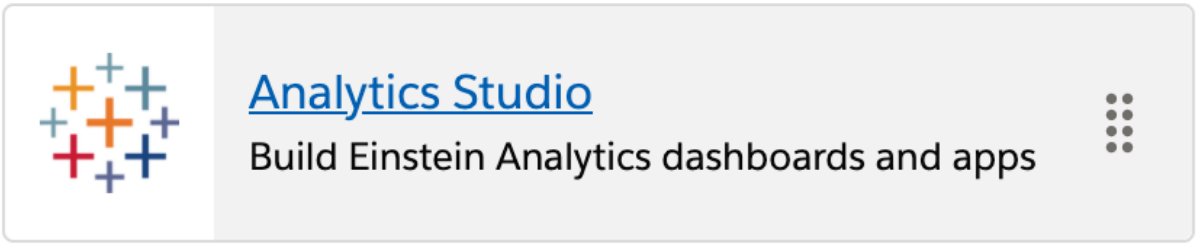
Exercise 1: Create an App

The first thing we need to do is create an app to contain our dashboard. This app will contain the dashboards and charts that we are building today.

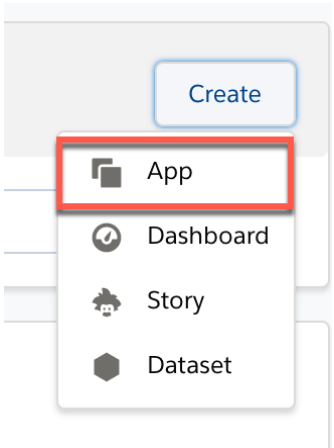
1. From Salesforce, Open App Launcher by clicking on the **App grid**. Then click **View All**.



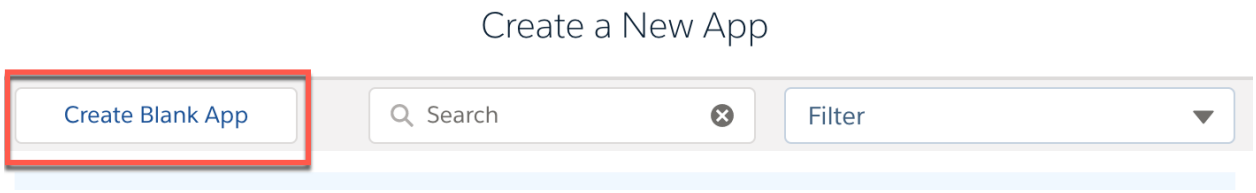
2. Click **Analytics Studio.**



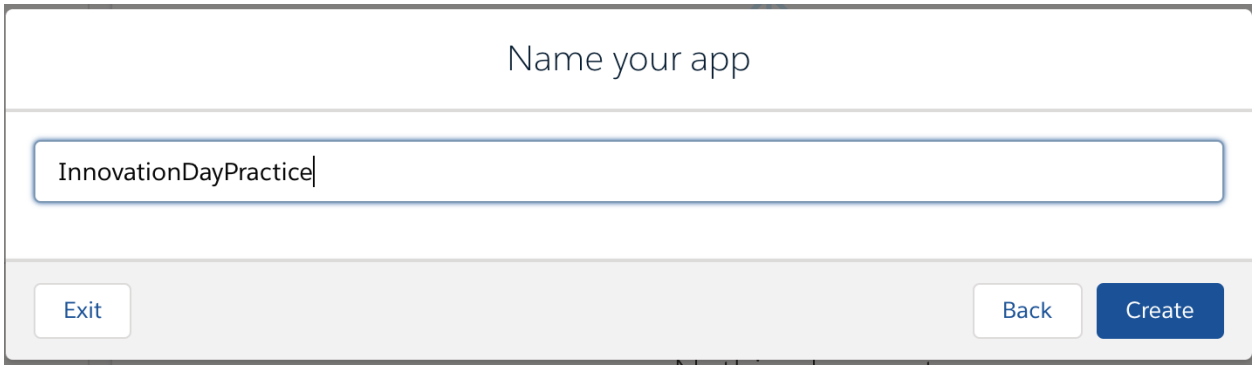
3. On the Analytics home screen, click **Create**, then select **App**.



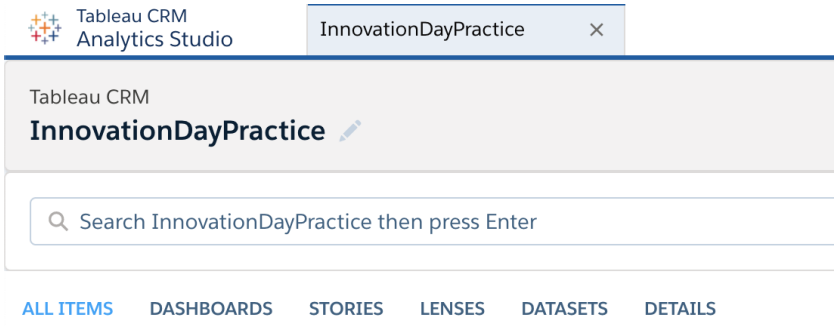
4. Select the **Create Blank App** button. Then click **Continue**.



5. Give your app a name of your choice. I'm choosing **InnovationDayPractice**. Then click **Create**.



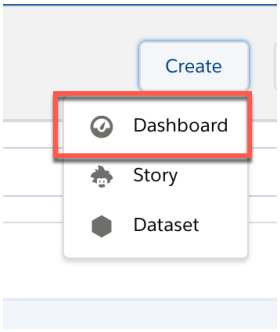
6. You'll then see a blank app with the title you created.



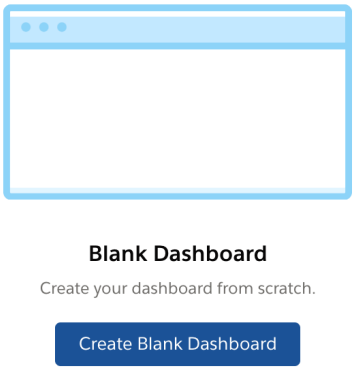
Exercise 2: Create a dashboard

We're now going to create the dashboard where we'll add all our components.

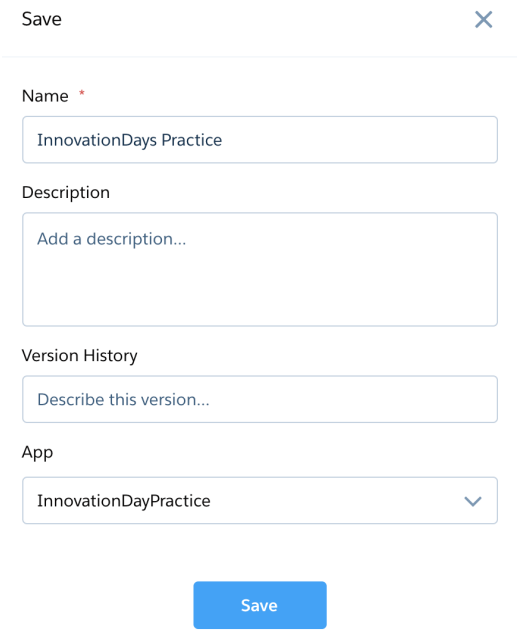
1. Click **Create** then select **Dashboard.**



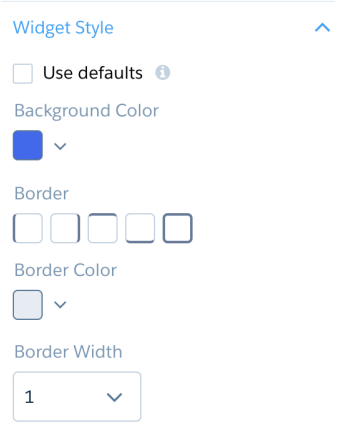
2. Select **Create Blank Dashboard**.



3. Click **Save** icon.
4. Give the dashboard a name of your choosing. Let's call it **InnovationDays Practice**. Set the app to the **InnovationDayPractice** App we defined in the previous exercise.



5. Then click **Save**.
6. Next, we're going to place a container on the canvas. Click the  and drag it onto the canvas.
7. A widget editor will pop up on the right side of the page. Click the **widge style** and select the background color to be **blue**.

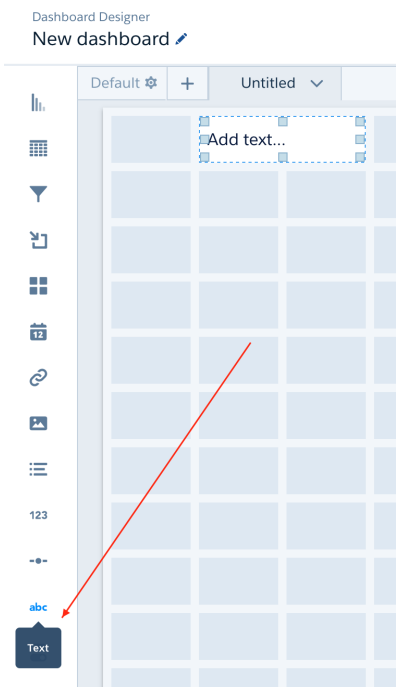


8. Size the container to the full length of the page by clicking on it and dragging the handle.
9. Click **Save**.

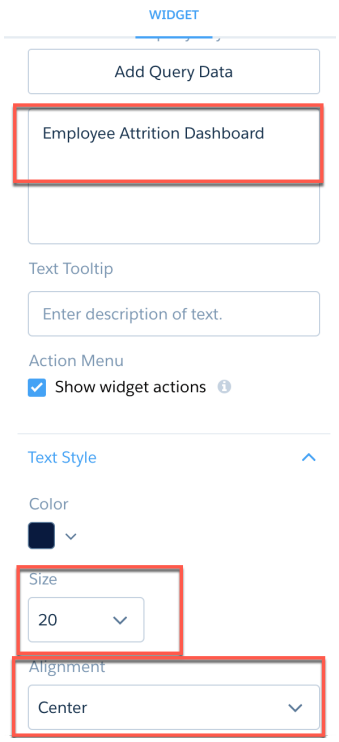
Exercise 3: Title the Dashboard

We now need to add a title to the dashboard.

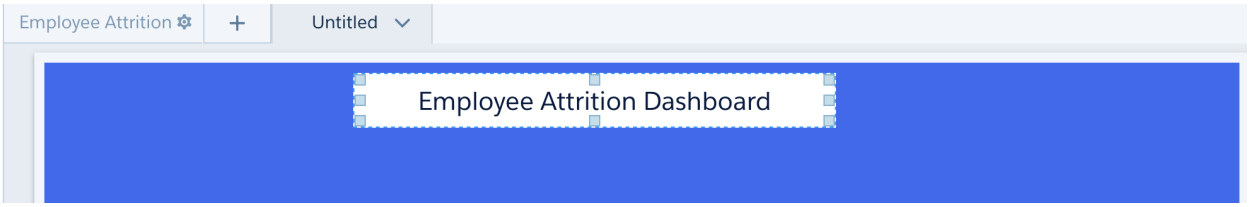
1. Drag the text widget to the container.



2. In the widget properties, modify the text to give it a title. Let's call it **Employee Attrition Dashboard**. Under text style, you can also adjust the text size and alignment. Let's set it to size **20** and alignment to **Center**.



3. Move the text widget to the center of the container.



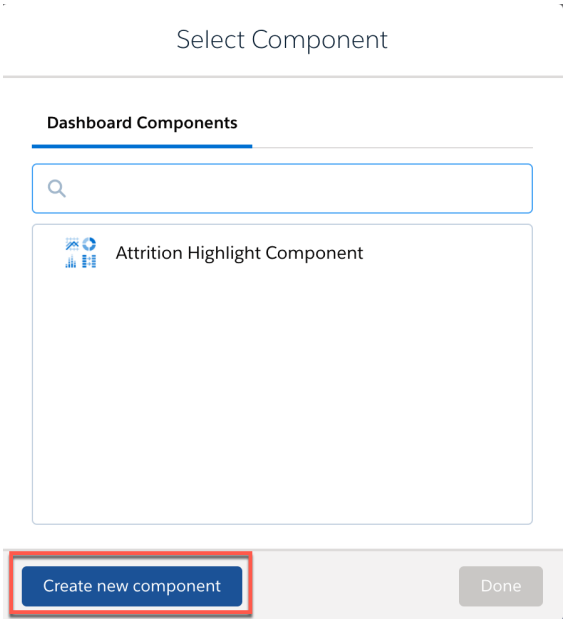
4. Click **Save**.

Exercise 4: Create Metrics Component

Let's now create our first graphic component. This component will display the total percentage of attrition based on gender. We'll first create a number of queries to use in the component. We'll then create the component and assign it to the page.

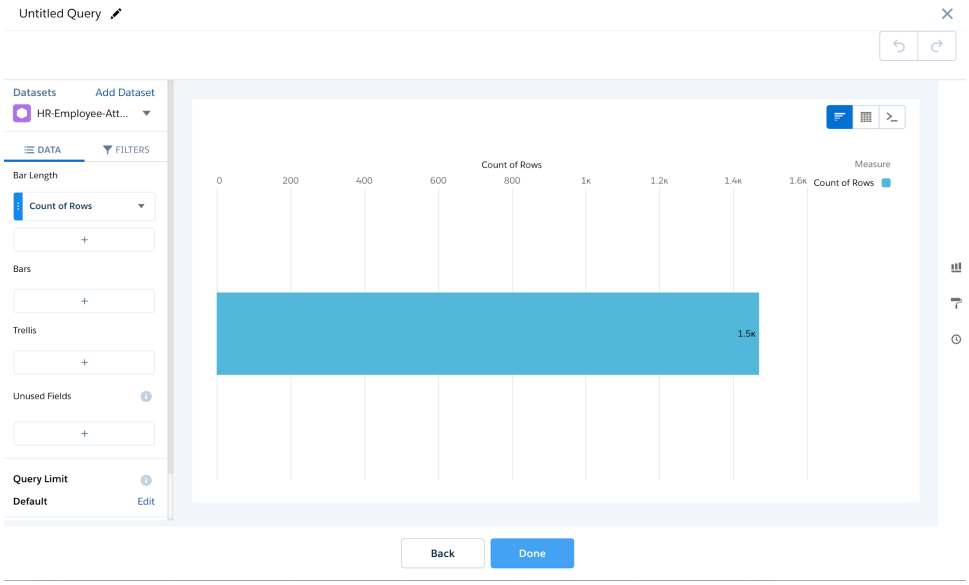
1. Drag a component on the canvas.
2. Click on the component.

3. Click the **Create new component** button. This will open up the component designer.

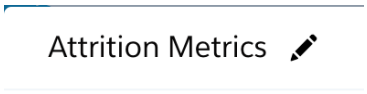


4. Click anywhere on the component to open up the query editor.
5. Click the **Create Query** button.

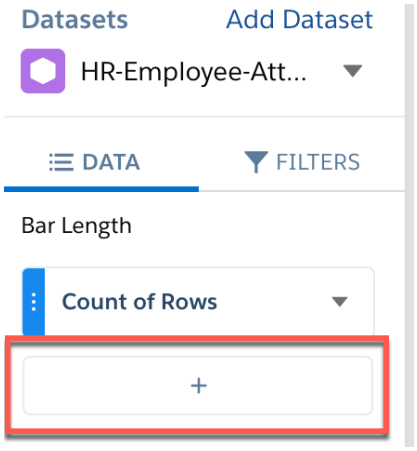
6. Select the **HR-Employee-Attrition** dataset. You'll see the query wizard display.



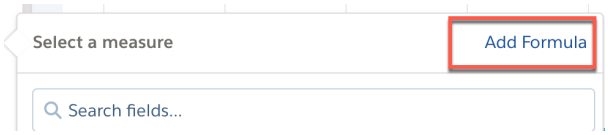
7. On the top left of the query wizard, name the query **Attrition Metrics**.



8. You'll notice that the bar length is set to Count of Rows. Click the **+** underneath.

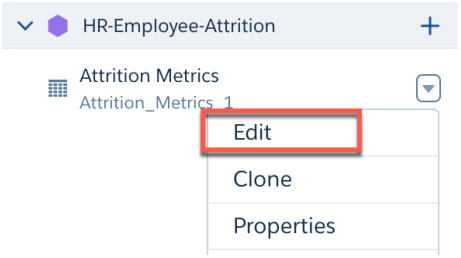


9. Click the **add formula** link.

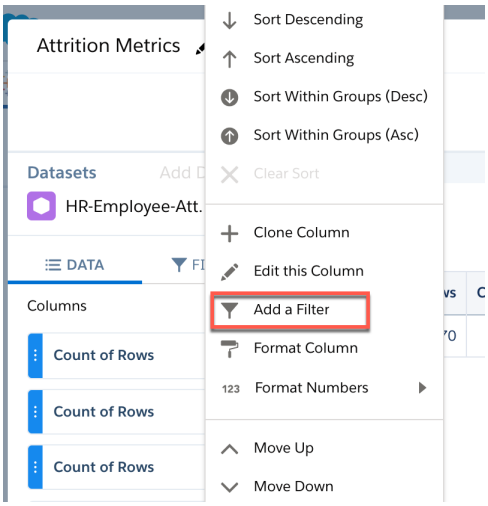


10. Click the **+** button to add another column. You'll now have 3 columns. If you don't, click the + button again to add the third column.

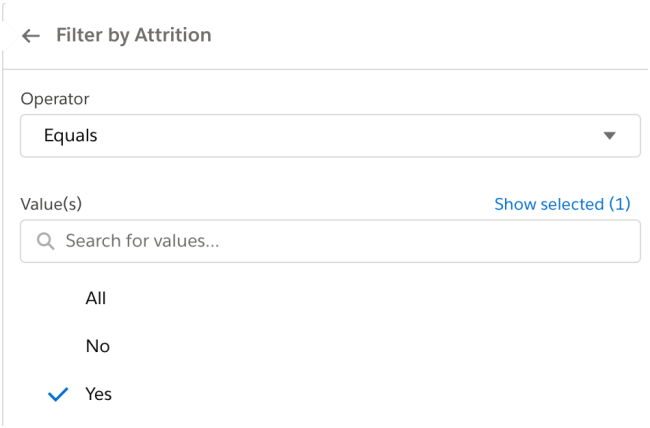
11. Click **Done**. This will save the query as AttritionMetrics.
12. Reopen the query by clicking the drop down then select **Edit**.



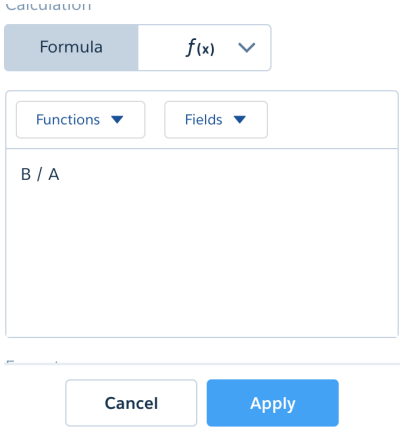
13. Click the second column of Count of Rows and select **Add a Filter**.



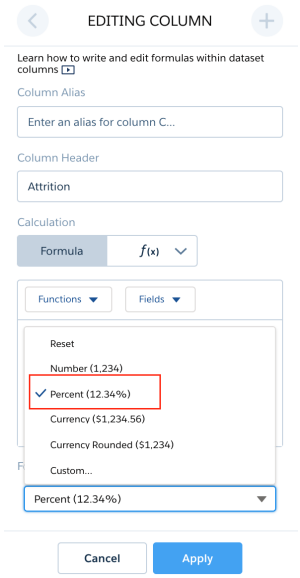
14. Search and select **Attrition**. Set the value to **Yes**.



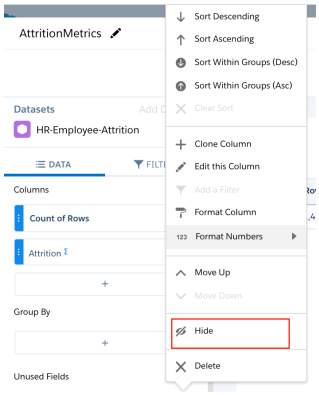
15. Click **Apply**.
16. For Column C, let's assign it a formula. Click the third Column of rows on the left hand side of the page and select **Edit this Column**.
17. Set the formula to be B / A.



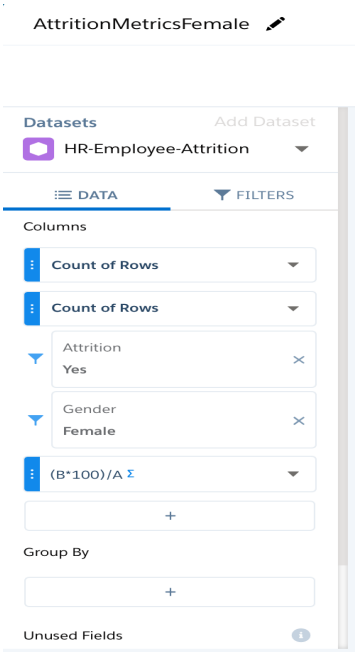
18. Click **Apply**. Then click **Close**.
19. Click the down arrow, hover over format numbers and select **percent.**



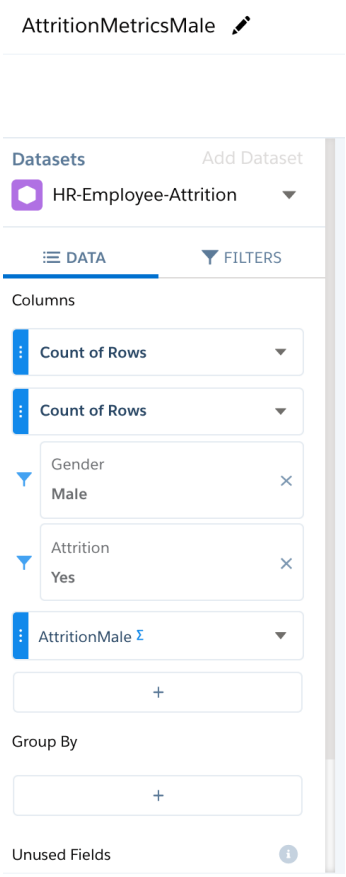
20. On the first two Columns, click the drop down arrow and select **Hide.**



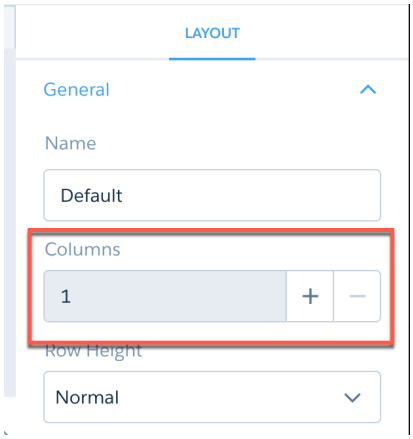
21. Click **Update**.
22. **Repeat steps 5 - 21** for to create the **AttritionMetricsFemale** and **AttritionMetricsMale** queries.
    a. For AttritionMetricsFemale, you'll add an additional filter in Step 14 that is **Gender equals female**.



    b. For AttritionMetricsMale, you'll add an additional filter in Step 14 that is **Gender equals male**.

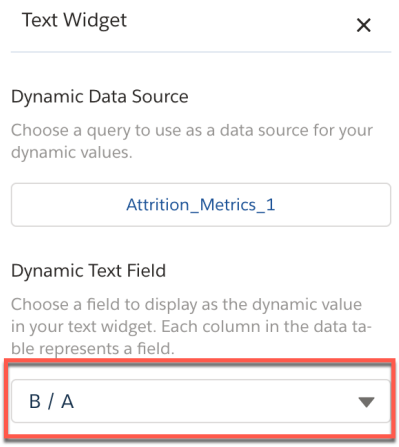


23. Before we create the visualization, let's format the component canvas to only be one column. On the canvas, select the **gear**. In the layout editor, set the columns to **1**.

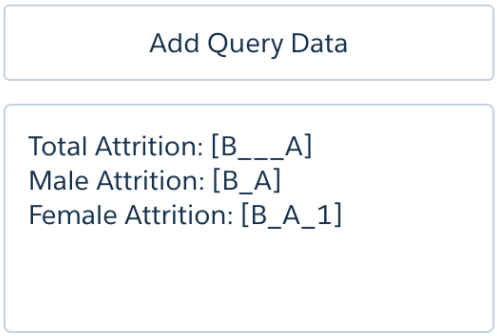


24. Let's now add text to the component. Drag the text component on to the page.
25. Add the text component to the canvas.
26. For the widget editor, click **Add Query Data**

27. Click **Select Query**. Select **Attrition Metrics**. Then select the dynamic field to be **B / A**.

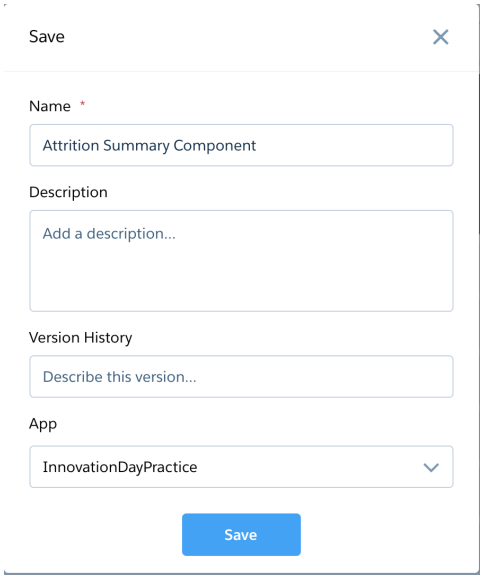


28. Click **Done**.
29. In the text box you'll see the field from the query. Modify the text to be **Total Attrition:**
30. Repeat steps 26-29 for Male Attrition and Female Attrition selecting the associated query. The result should look like the image below.



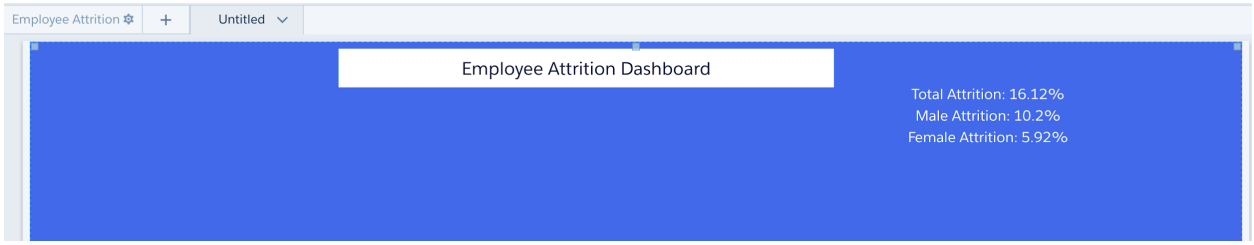
31. To have the background styling match the dashboard canvas, Navigate to widget style and set the background color to **blue**.
32. To have the text display better on the blue background, go to text style and change the color to **white** and alignment to **center**.

33. Click the **Save icon** to save the component. Name it **Attrition Summary Component,** set the App to be **InnovationDayPractice**.



34. Click **Save**.
35. Back on your dashboard, click the component that we placed on there and select the **Attrition Summary Component** that we just created. Click **done**.

36. Resize the component to fit properly and drag in to where you want to place it on the page.



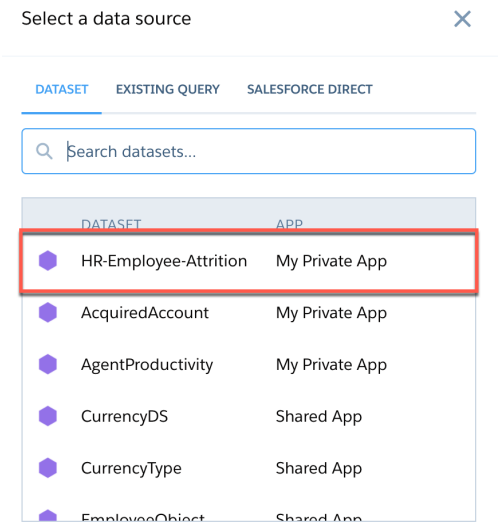
37. Click **Save** to save the dashboard.

Exercise 5: Create Charts to Explore the Data

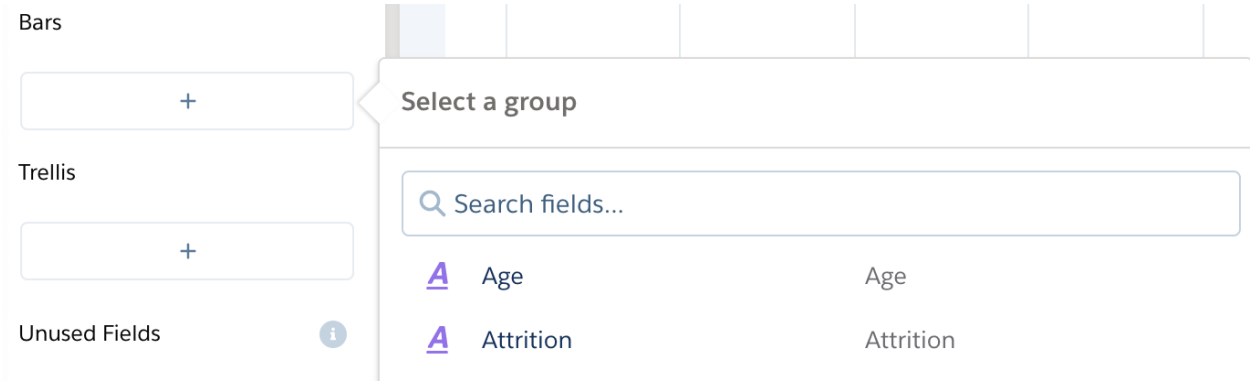
What we want to do now is to answer the question “What factors are impacting employee attrition?”. To do this, we’re going to dive into the numbers by adding a chart to the dashboard.

1. Drag a chart widget onto the dashboard.

2. Click the chart to select **HR-Employee-Attrition** as the data source.

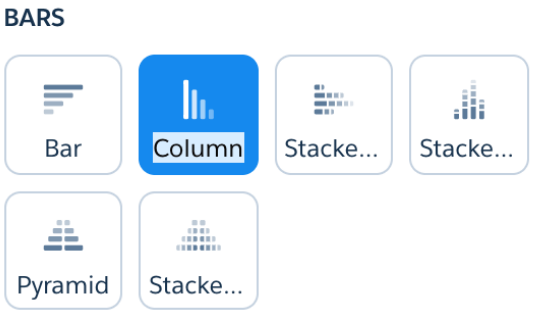


3. When the editor opens, under bars, click the **+** to select **Age** as a bar

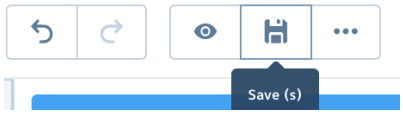


4. On the right hand side, you'll see a chart selector. Click it.

5. Select the column chart.



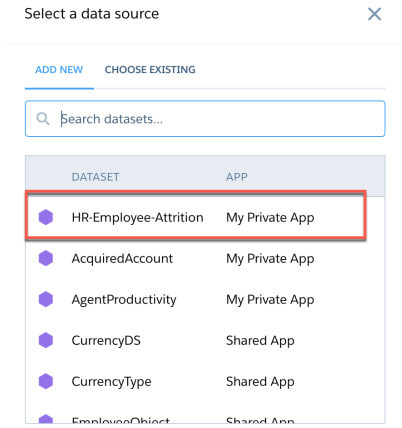
6. Name the Chart as **ExploreAge**
7. Click **Done**.
8. Save the Dashboard.



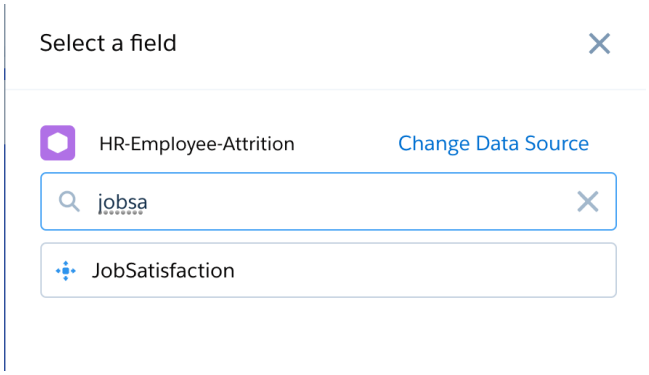
Exercise 6: Adding Filters

To make this dashboard interactive and allow us to explore the data, we'll need to add filters.

1. To create a filter, drag the filter widget on to the dashboard.
2. Click the filter and select the **HR-Employee-Attrition** Dataset.

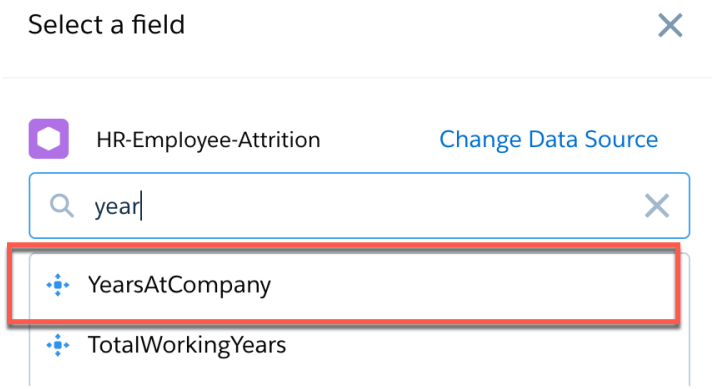


3. Select **JobSatisfaction** as the filter.



4. Then click **Create**.
5. Drag another filter widget onto the dashboard. Select the **HR-Employee-Attrition** dataset.

6. Select **YearsAtCompany** as the field.

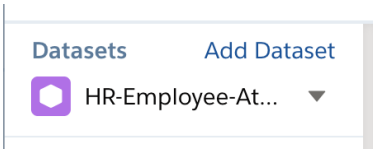


7. Click **Create**.
8. Click on the eye icon to test how the filters and charts react. You should find that when you select a filter value, the chart filters based on the selected values.
9. Save the dashboard.

Exercise 7: Connect Two Different Data Sources for Faceting

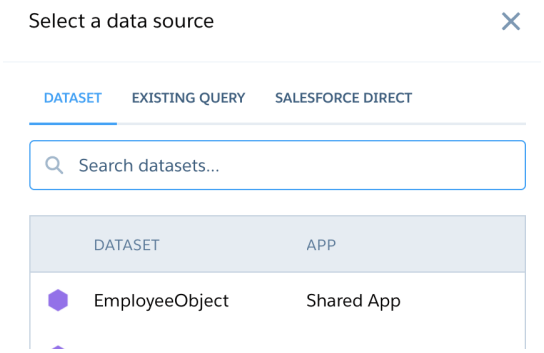
Data can be sourced from Salesforce as well as external sources. In order to explore multi-faceted data from several data sources, we need to join them with a common field. In our exercise, we will connect two data sources **EmployeeObject** and **HR-Employee-Attrition. Department** is the common field.

1. Drag the chart widget onto the dashboard. Select the chart to open up the chart wizard.
2. If the dataset is set to HR-Employee-Attrition by default (check top left of chart wizard), you'll need to change it to the **EmployeeObject**.

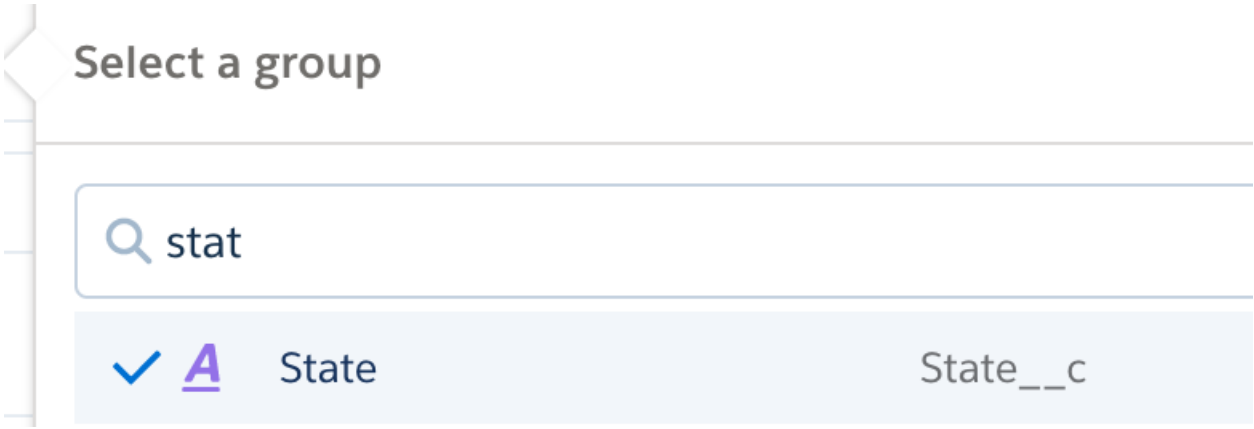


   a. Click the **Back** button.

b. Select the **EmployeeObject** dataset.

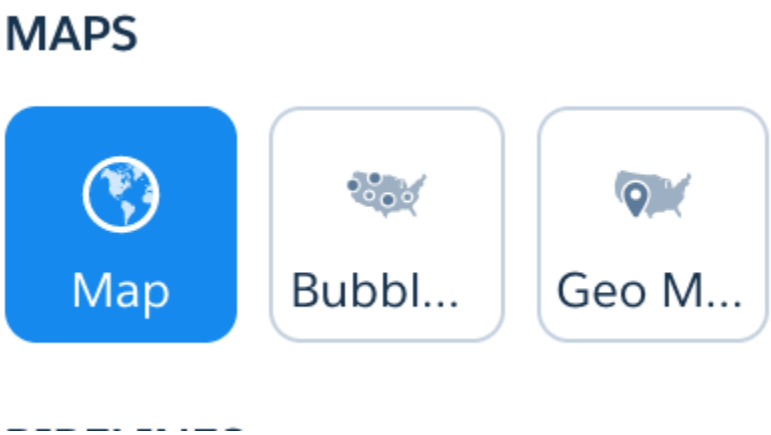


3. Click the **+** under the bars section.
4. Select **State** as the bar.



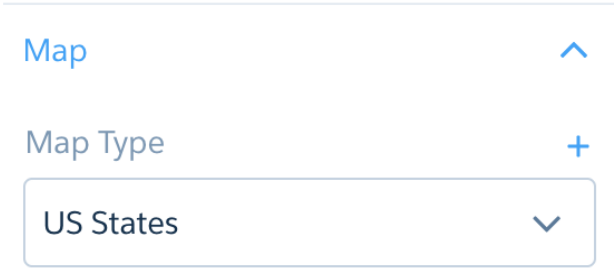
5. Click the chart selector on the right hand side of the widget.

6. Scroll until you see the map section. Select **Map**.

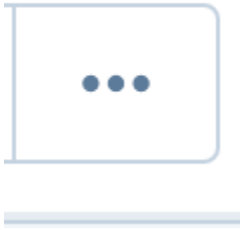


7. Click the formatting selector

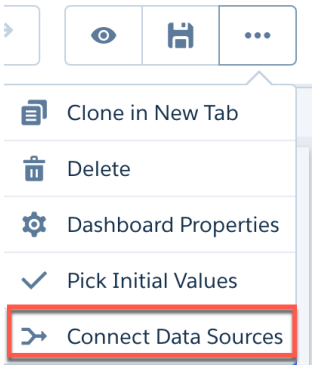
8. Under Map, set the Map Type to **US States**.



9. Click **Done**.
10. Near the top of the dashboard next to the save button you'll see the three dot icon for more options. Click it.

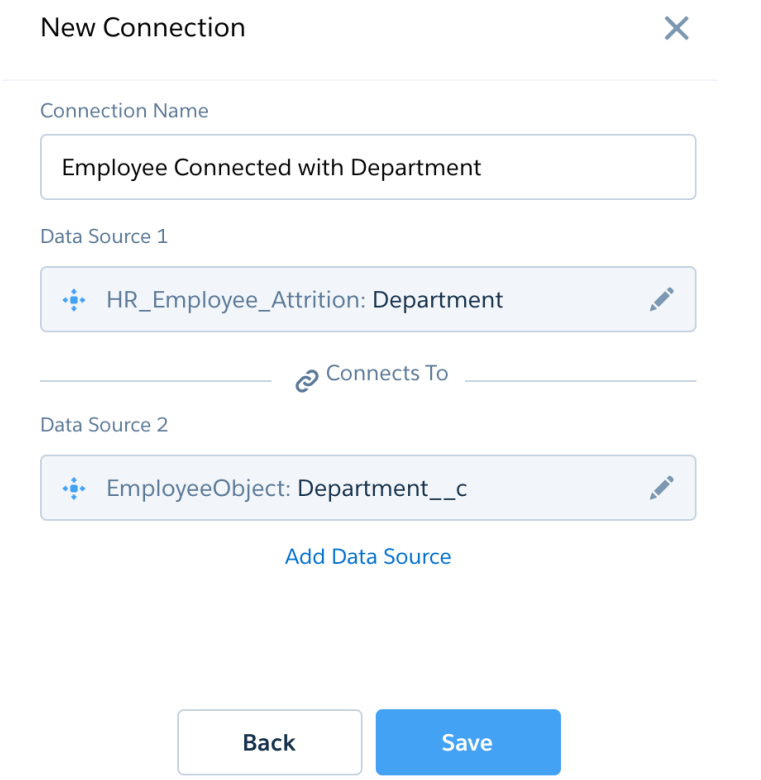


11. Select Connect Data Sources.

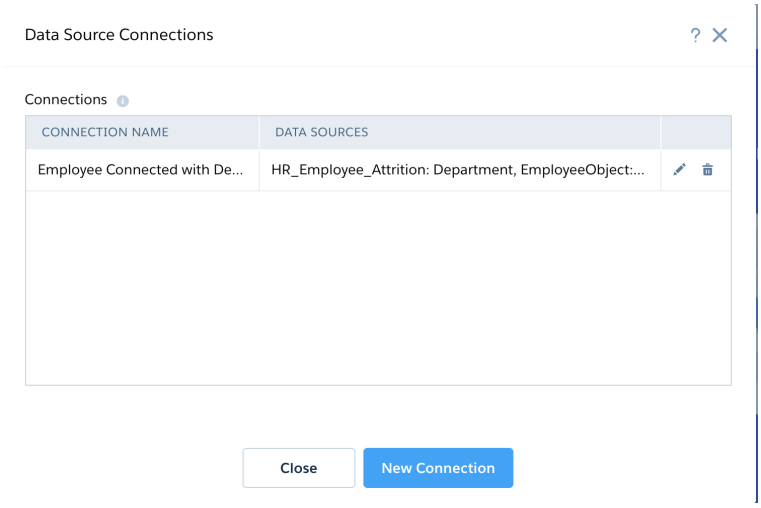


12. Click **New Connection**.
13. Set the Name to **Employee Connected with Department**.

14. Select Datasource 1 as **HR_Employee_Attrition: Department**.
15. Select Data Source 2 as **EmployeeObject: Department__c**.

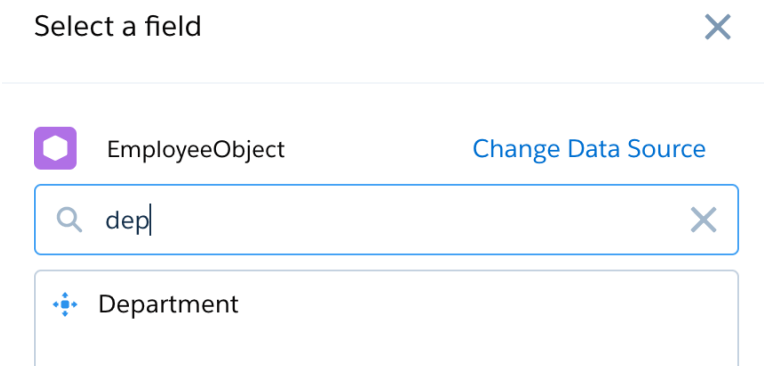


16. Click **Save**.
17. Then click **Close**.



18. Finally, Drag another filter to the dashboard and place it over the Map chart.
19. Click the filter.

20. Select **EmployeeObject** as the dataset and **Department** as the field.



21. Click **Create**.
22. Test this functionality by changing the department. You'll notice both charts change.

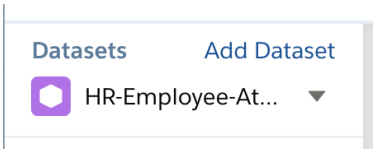
Exercise 8: Take CRM action from the dashboard

Let's now set a table widget to interact with CRM. Goal is to be able to access CRM records from the Analytics Studio.

1. Drag a table widget 

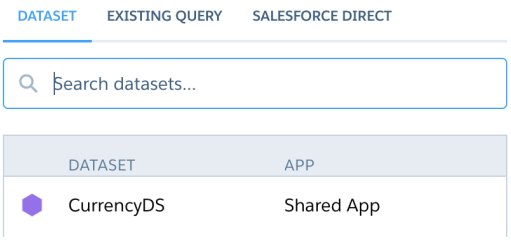
to the dashboard.
2. Click on the table widget.
3. Click on the table icon at the right corner of the wizard. Select **Values Table**.

4. If the dataset is set to something other than **CurrencyDS** (check top left of chart wizard), you'll need to change it to **CurrencyDS**.

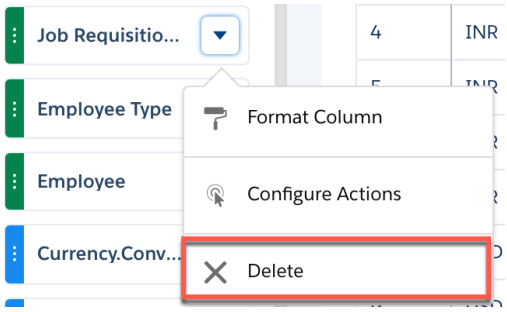


   a. Click the **Back** button.

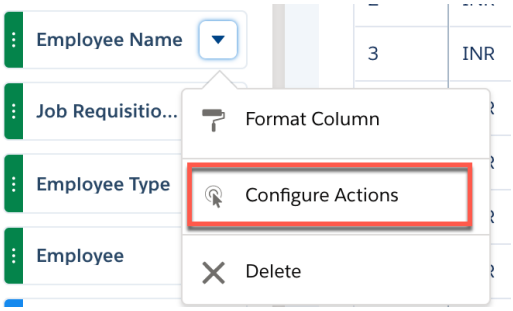
b. Select the **CurrencyDS** dataset.



5. Select and deselect the needed fields. In this case, we want at a minimum the **Employee, Record Id, and Department** fields. To deselect, click the drop down on the fields and select delete.

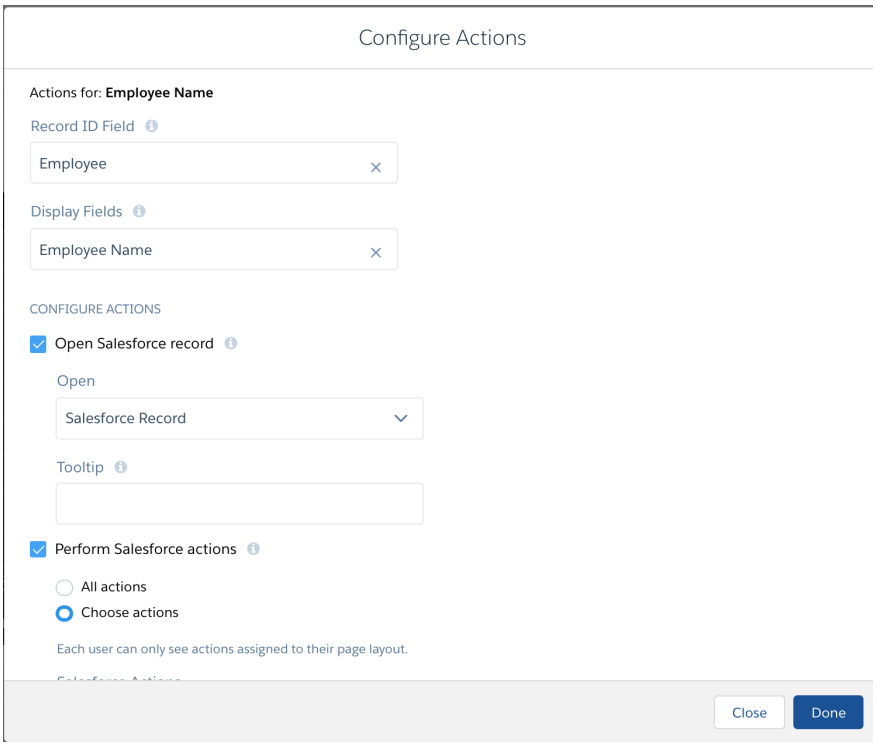


6. On the Employee field, click the drop down and select **Configure Actions**.

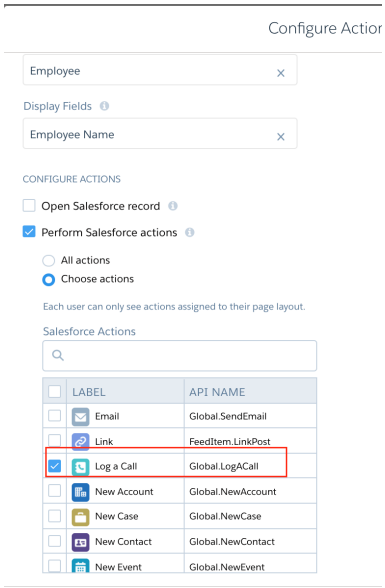


7. Select the values based on the diagram below.
    a. Set the Record ID field to **Record ID**
    b. Set Display Field to **Employee**.
    c. Select the **Open Salesforce Record** checkbox and have it open **Salesforce Record**.
    d. Select the **Perform Salesforce actions** checkbox.

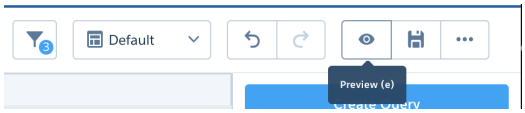
e. Select **Choose Actions**.



8. Select **Log a Call**



9. Click **Done**.
10. You'll need to resize the table on the dashboard to show all the fields.
11. Save the Dashboard.
12. In order to test it, click on the **Preview** icon

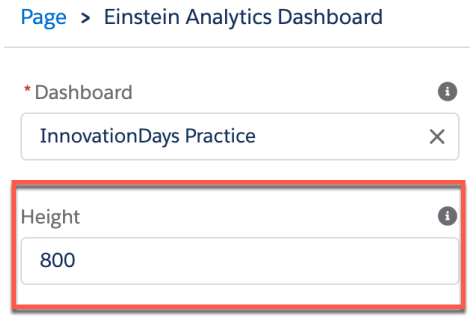


13. Click the dropdown on the Employee Column First row.
14. Click on the **Open Record Action** to see the Employee Record in CRM

Exercise 9: Add to CRM page

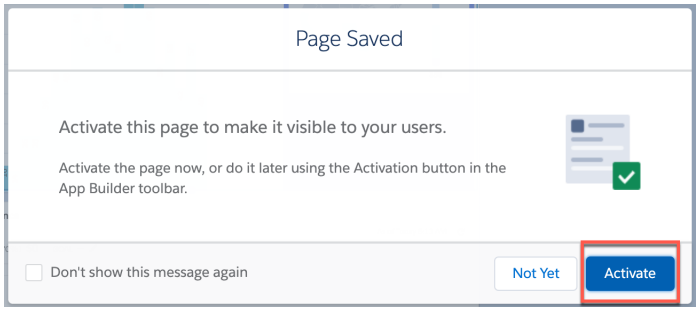
1. To go back to your Sales In the upper right hand corner of the page, click on the app launcher. Select **Sales** app.
2. On the home screen click the gear and select the **Edit Page**.
3. Drag the Einstein Analytics Dashboard component to the page canvas.

4. Set the height of the component to 800.



5. Click **Save**.

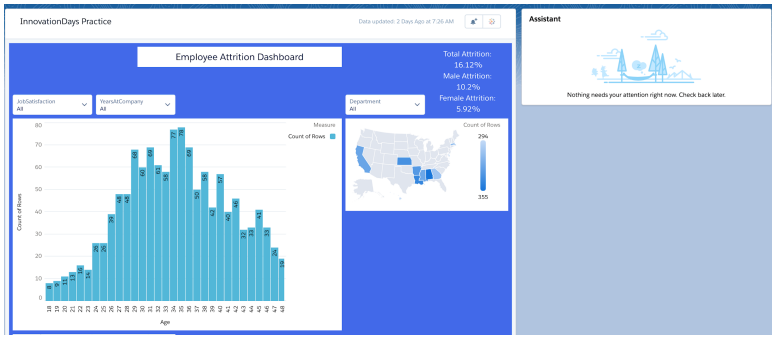
6. Click **Activate** to enable the Lightning App Page.



7. Click **Assign as Org Default**.

8. Click **Save**.
9. Click the back button from the designer.

10. You should now see the dashboard on the home screen.

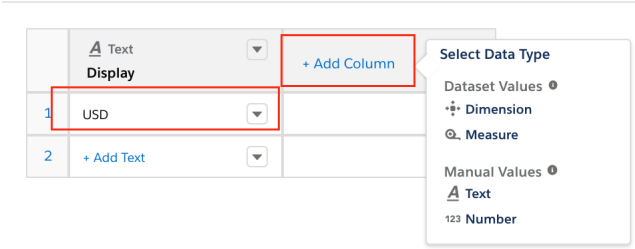


Bonus Exercise 10: Dynamic Binding

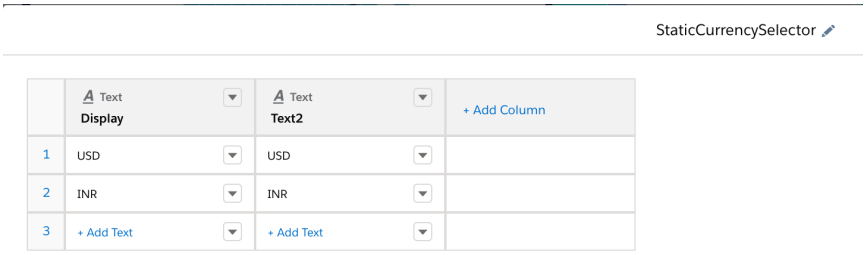
The final bonus exercise is to set up dynamic binding. This will allow us to show employee pay in different currencies.

1. The first thing we'll need to do is create a static query. To do that, you'll click anywhere on the dashboard and then click on the **new custom query**.
2. Rename the Query to "**StaticCurrencySelector**"

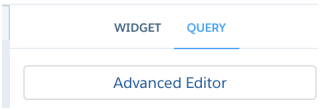
3. Click on the first row dropdown under **Text Display**
4. Enter USD
5. Click on **+Add Column** and Select **Manual Value > Text.**
6. Type USD



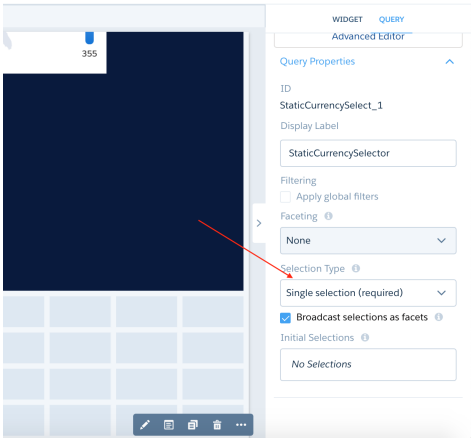
7. Repeat Steps 3-6 and enter “INR” at the second currency. Final result will look like this.



8. Click **Done**.
9. Drag the query **StaticCurrencySelector** on the Dashboard.
10. Resize to make it readable.
11. Click on the **StaticCurrencySelector** widget again
12. Click on the Query Tab

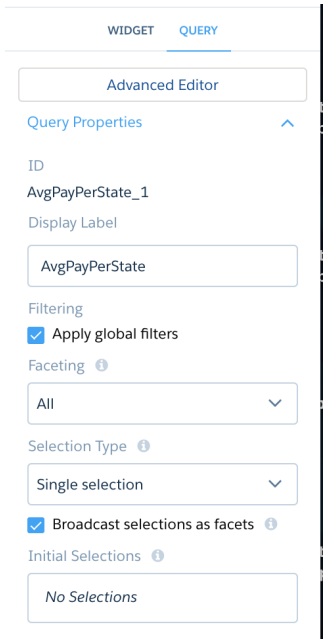


13. Scroll down to the **Selection Type** section and Select “**Single Selection Required”** from the drop down.
14.



15. Drag a chart widget onto the dashboard and place it underneath the **StaticCurrencySelector** Widget
16. Select the chart to open up the chart wizard.
17. If the dataset is set to **HR-Employee-Attrition** by default (check top left of chart wizard), you'll need to change it to the **CurrencyDS**.
18. Double Click on the Chart
19. Select **Avg of INR_Amount** under Bar Length and **State** under Bars

20. Rename the Chart to **AvgPayPerState**
21. Make sure that "Broadcast selection as facets is checked

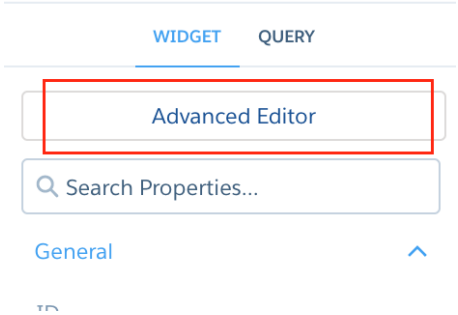


22. Click on the Query mode icon on the right hand corner

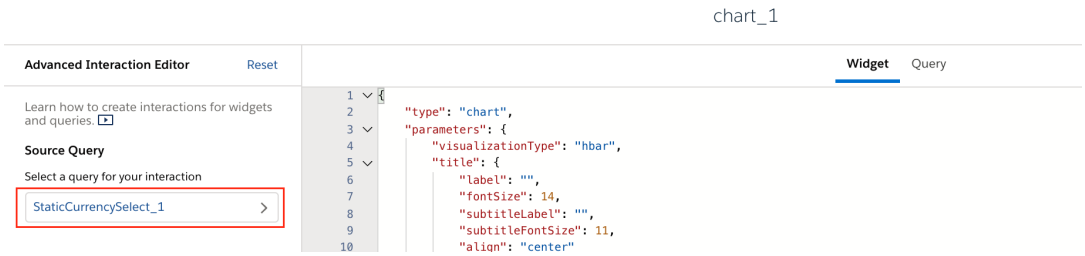
23. You will see the query as follows

```
q = load "CurrencyDS";
q = group q by 'State__c';
q = foreach q generate 'State__c' as 'State__c',
avg('INR_Amount')
as 'avg_INR_Amount';
q = order q by 'State__c' asc;
q = limit q 2000;
```

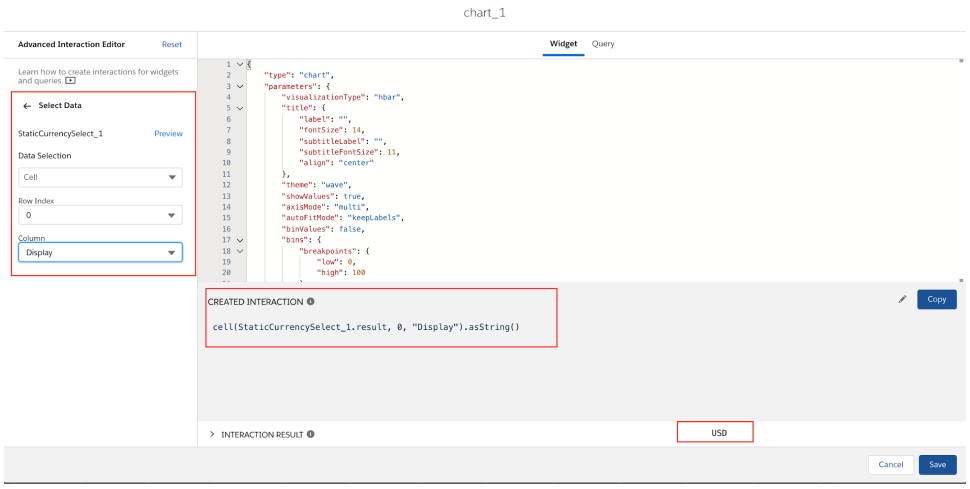
24. This query needs to bind to the "**StaticCurrencySelector"** widget so that when the user selects a currency, the average payment amount will change.
25. Save the chart by clicking **Done**
26. **Click the chart.**
27. Select **Advanced Editor** on the right hand side window



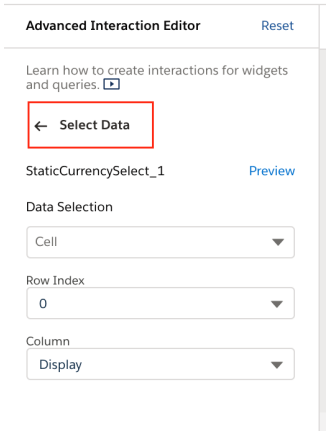
28. You will be presented with a popup window
29. Select the query "**StaticCurrencySelect_1**" under **Source Query**



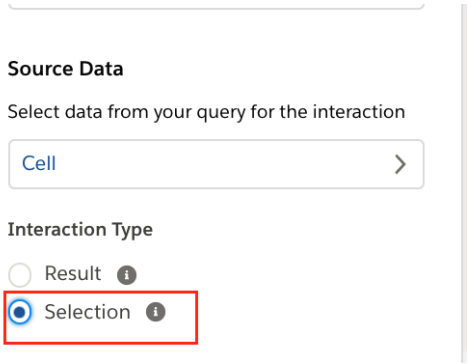
30. Click the next selection "**Source Data"**
31. **Select Data** on the left side window, select **Cell** under **Data Selection**, **0** under **row index** and "**Display**" under **Column.**



32. Observe the generated expression under **“Created Interaction”.** Also notice “**USD**” under **“Interaction Result”.** This means that the generated expression will evaluate to “USD” if it binds to the query **StaticCurrencySelect_1.**
33. Click on **“Select Data”**



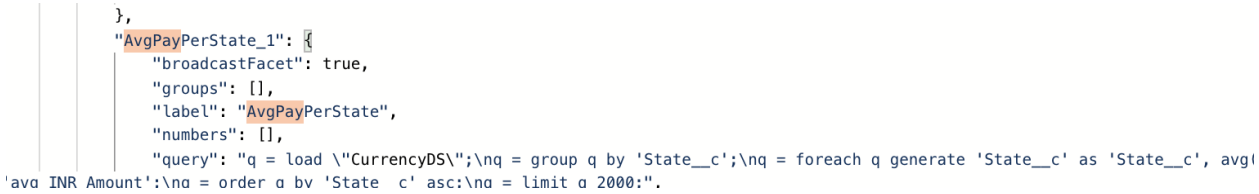
34. Choose “**Selection**” from the radio box. User needs to **select** a currency for binding to work.



35. Copy the generated Interaction by clicking the “**Copy**” button. We will use this expression on the dashboard JSON for binding. Save it to your desktop.

```
cell(StaticCurrencySelect_1.selection, 0, \"Display\").asString()
```

36. Click **cancel** to get out of the pop up window.
37. Press **CMD+e** to view the Dashboard JSON
38. Type **CMD+F** to search for **AvgPayPerState_1.** This chart needs to bind with the **CurrencySelector** Widget using the copied expression.
39. Keep hitting next until you reach the query node on the json. This query needs to be modified to bind with the expression.



40. Replace the query with the following. Notice that the "**INR**" part of the **avg('INR_Amount')** has been replaced with the generated expression. Notice the **{{ double moustache** that tells the engine that it is a bind expression.

```
"query": "q = load \"CurrencyDS\";\nq = group q by 'State__c';\nq = foreach q
generate 'State__c' as 'State__c',
avg('{{cell(StaticCurrencySelect_1.selection, 0,
\"Display\").asString()}}_Amount') as 'avg_INR_Amount';\nq = order q by
'State__c' asc;\nq = limit q 2000;",
```

41. Click "**Done**".
42. Click on the preview icon to test.
43. Select either USD or INR currency to toggle and see the changed pay rate on the chart.
44. Click **Save.**