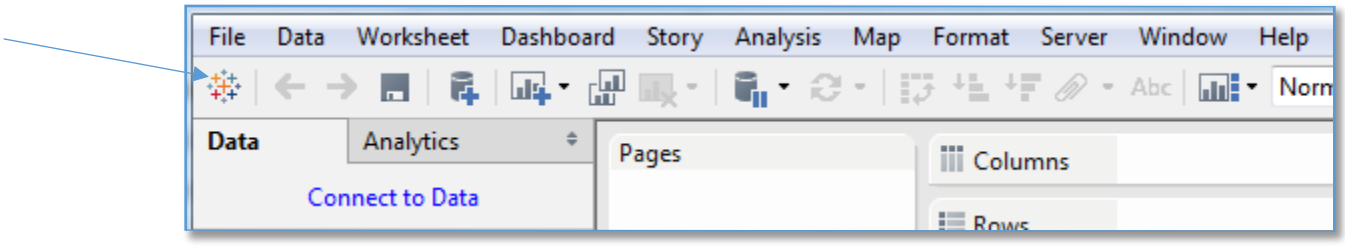
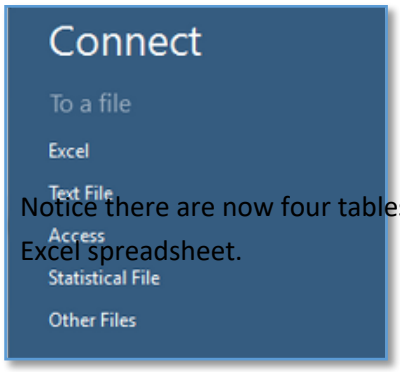
Connecting to an Excel File with Multiple Tabs

If the data you want to include in a Tableau visualization is included in a single excel file, Tableau provides the tools to set up the relationship easily. To give you some experience in our second example, we'll connect to an excel file with more than one table or tab.

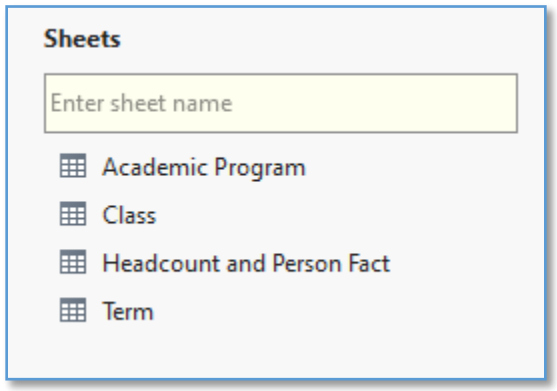
1. In Tableau, on the **File** menu click **New** to open a new session. Click the **Go to Start Page** icon.



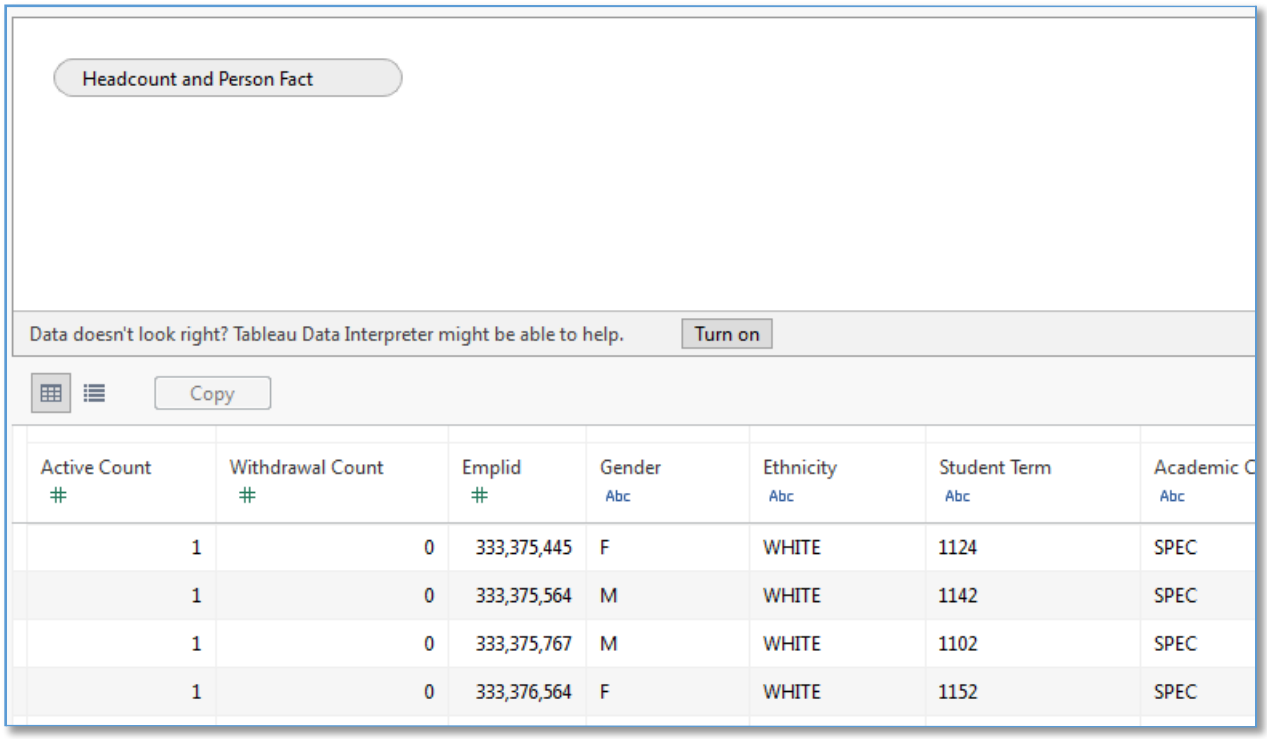
2. Click **Excel** to connect to an Excel file.
3. Select **Headcnt_Fact and Dim combined**.



Notice there are now four tables from which to choose. Each of these represents a tab on the underlying Excel spreadsheet.

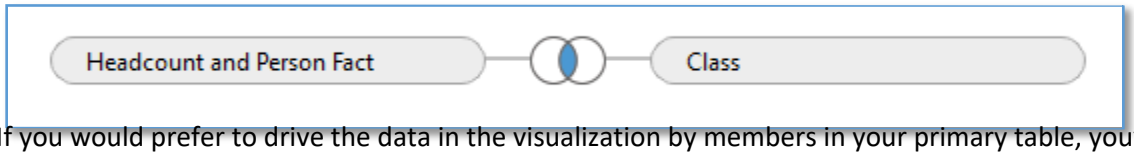


4. Double-click the table you want to use for your primary connection. We'll use **Headcount and Person Fact**. This will show the table in the upper area of the connection window and the details for the table into the preview pane.

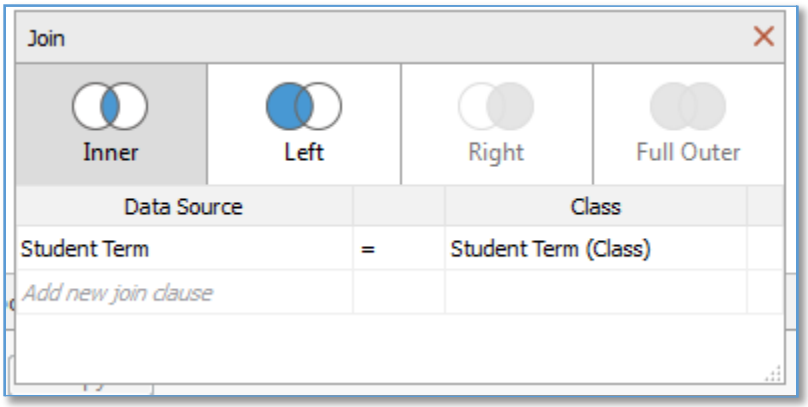


Active Count	Withdrawal Count	Emplid	Gender	Ethnicity	Student Term	Academic C
#	#	#	Abc	Abc	Abc	Abc
1	0	333,375,445	F	WHITE	1124	SPEC
1	0	333,375,564	M	WHITE	1142	SPEC
1	0	333,375,767	M	WHITE	1102	SPEC
1	0	333,376,564	F	WHITE	1152	SPEC

5. Now select a second table to use. Double-click **Class**. Tableau will automatically select an inner join by default. This will work if you want only members that exist in both tables.

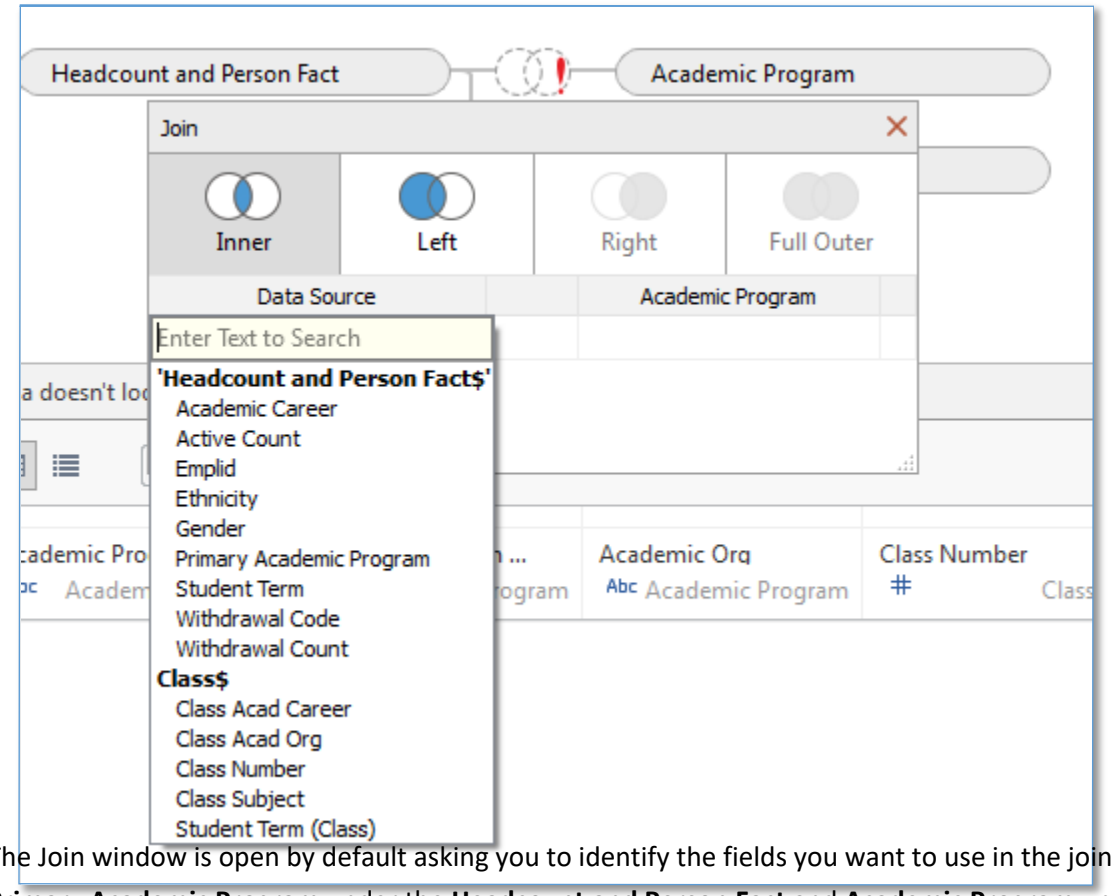


If you would prefer to drive the data in the visualization by members in your primary table, you'll want to
change to join type. To do this, click the overlapping circle. This will open the **Join** window.



Here you have the option to select the join type you want and to edit the field(s) used in the join. Tableau will automatically try to join on matching field names. For our exercise, change the join type to a left join by clicking **Left** and then click the red **X** to close the **Join** window.

6. Next select a third table to use. Double-click the **Academic Program**. You'll notice several things. There is a red exclamation point indicating that the join has no join clauses.

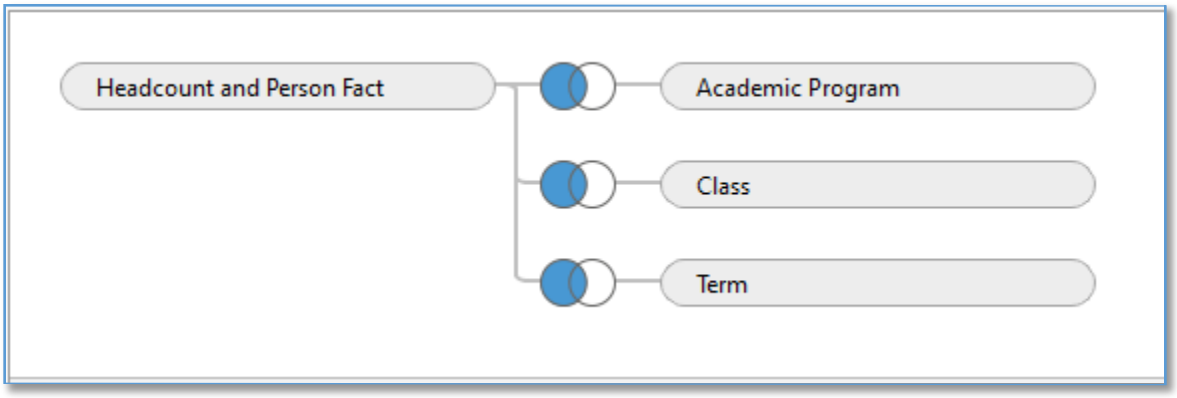


The Join window is open by default asking you to identify the fields you want to use in the join. Click **Primary Academic Program** under the **Headcount and Person Fact** and **Academic Program** under **Academic Program**. Then click the **Left** join selection and the red **X** to close the Join window.

Finally, double-click the **Term** table and set the join type to be a left join as you did in the two previous examples.

7.

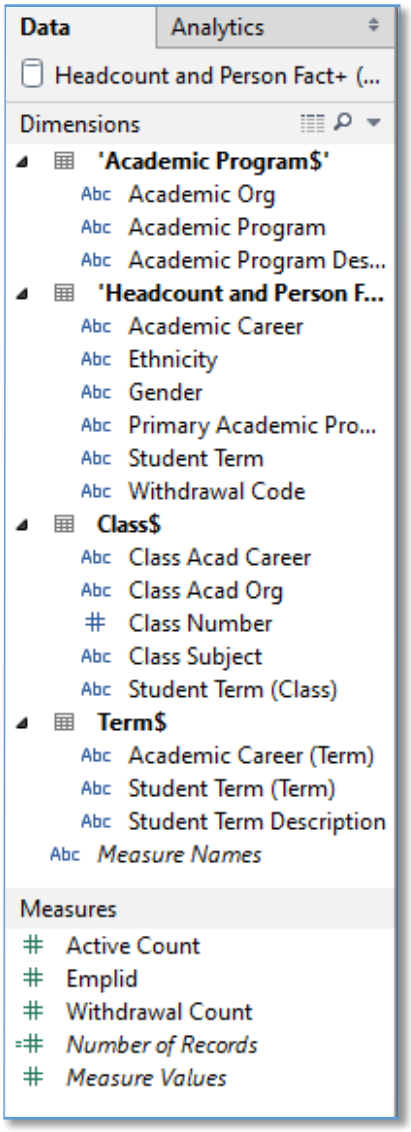
8. When you're complete, your table connections should look like this.



9. Once your data connections are set, click **Sheet 1** to navigate to your first worksheet.

Your Data window is grouped by Data Source table by default and will look like this.

Now when creating visualizations, you can include fields from all of the files.

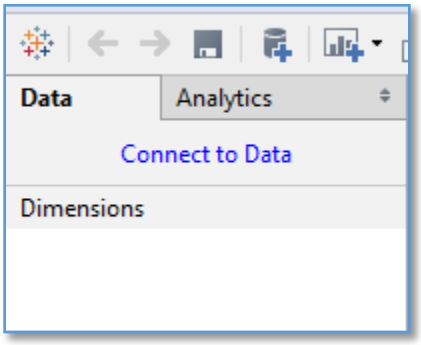


Connecting to More than One Separate File

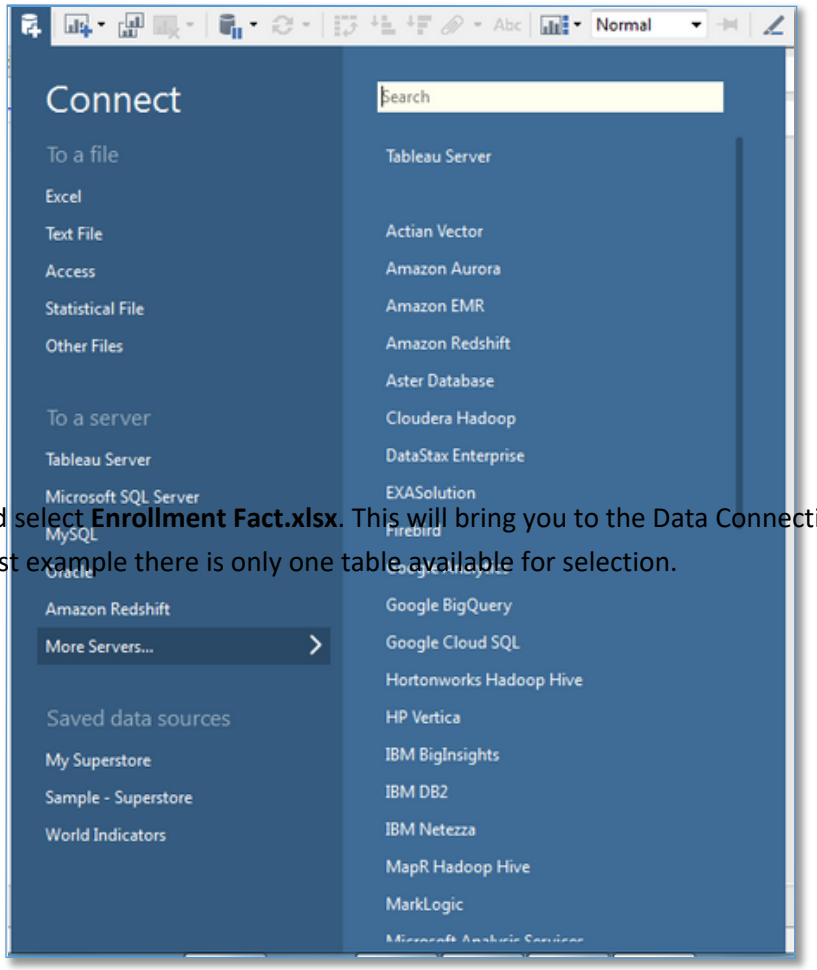
Data Blending

If you have files from more than one source you can still include these in the same visualization. You just need to take separate steps to join them in Tableau. When using a Data Blend, the secondary data is aggregated when joined to the first. You can practice this in our third example.

1. In Tableau, on the **File** menu click **New** to open a new session. This time we'll connect to our data sources directly in our **Data** window. Click **Connect to Data**.

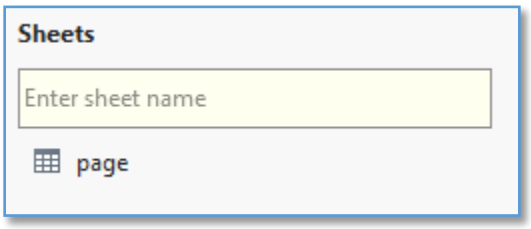


The Data Connection selection from the Start Page will open.



Click **Excel** and select **Enrollment Fact.xlsx**. This will bring you to the Data Connection page. Notice that as with our first example there is only one table available for selection.

2.



3 Click **Sheet 1** to navigate to your worksheet.

. In order to connect to a second table, on the **Data** menu select **New Data Source**.

4

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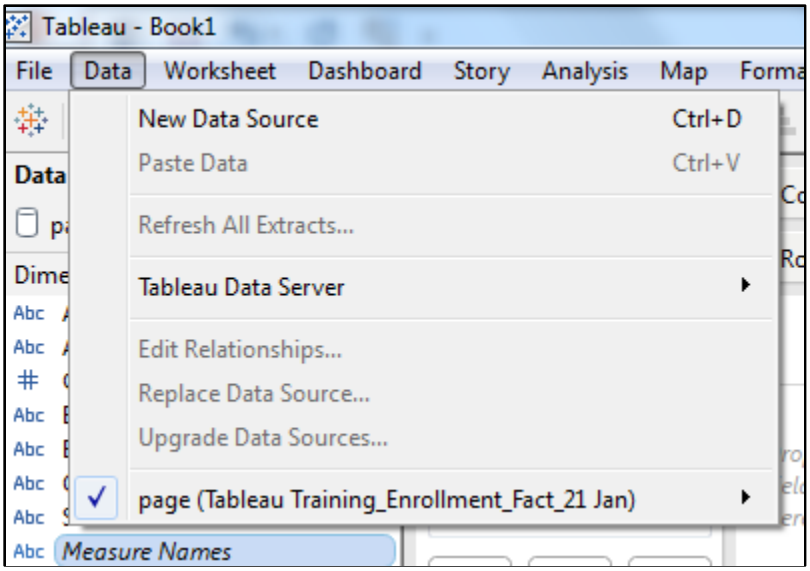
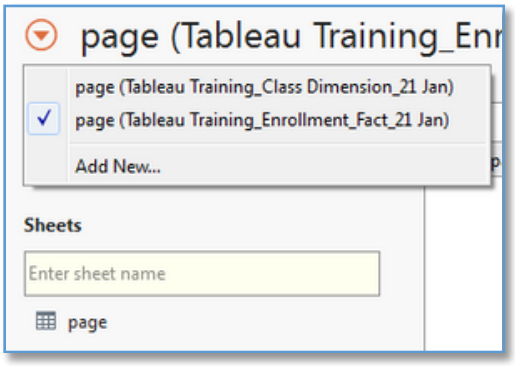


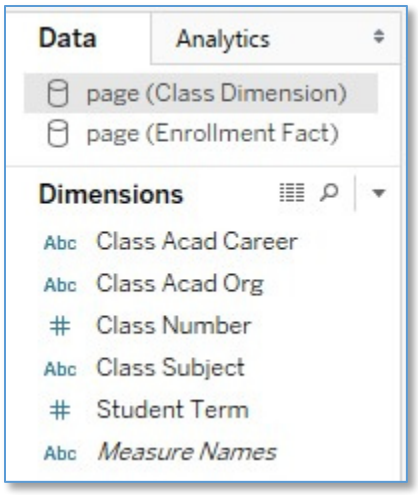
5. Select **Excel** and then choose **Class Dimension.xlsx**. This will bring you again to the Data Connection window. This time you'll notice that again there is only one table displayed but this time the preview shows the data from the **Class Dimension** file.

   You do have the option to switch between data sources by clicking the orange arrow to the left of the data source name. However, you do not have the option to define the connections between the tables here.

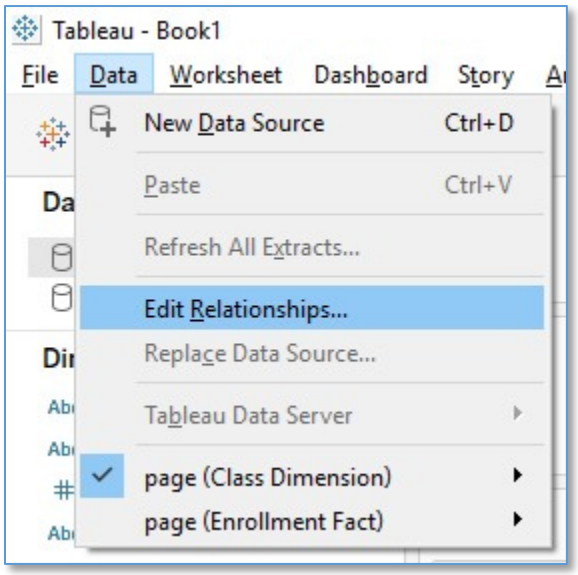


6. Click **Sheet 1** to return to your worksheet.

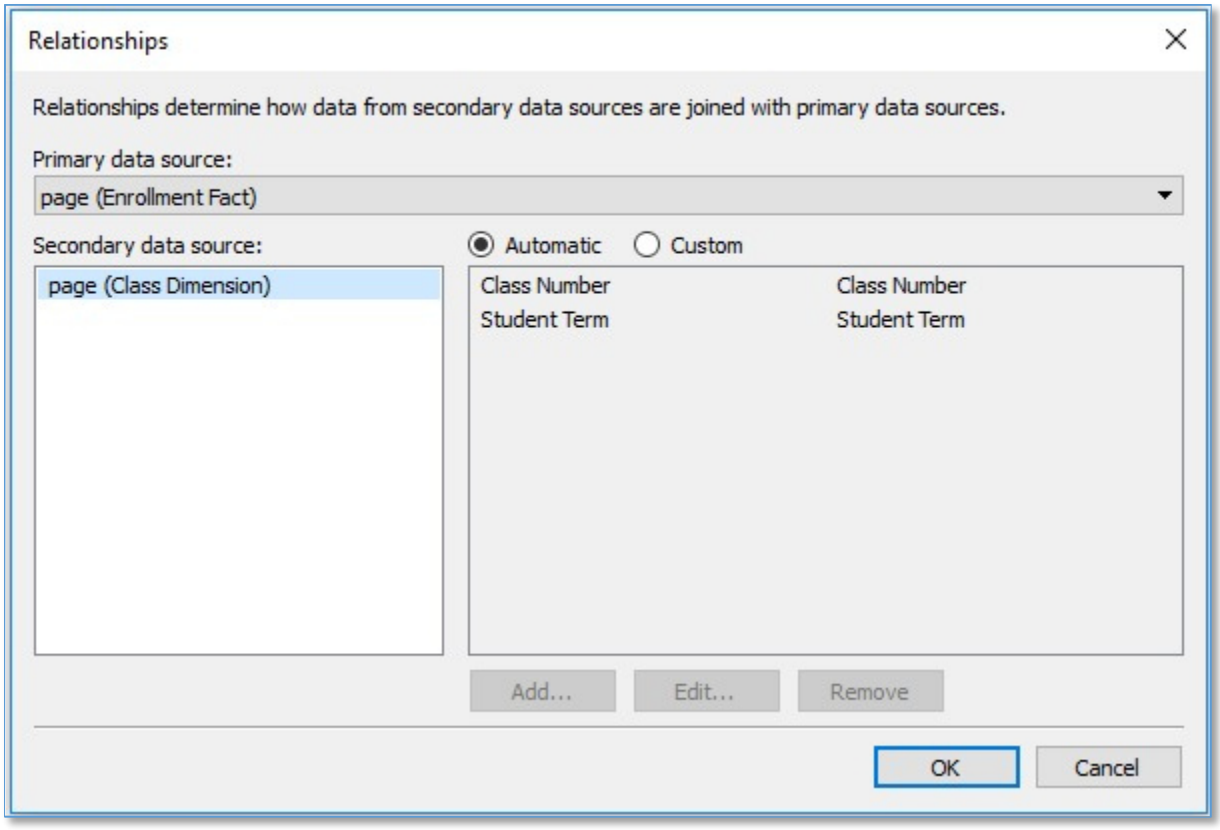
7. In the **Data** window notice that you now have two data sources shown, both **Enrollment Fact** and **Class Dimension**. The Dimensions and Measures will reflect the specific Data source you have selected.



8. You'll want to ensure that the two files have the correct relationships defined. To do this, click the **Data** menu and select **Edit Relationships**. Note: you can only create relationships for Dimensions. Since a relationship is required between Student Term on both files, ensure that this field is set as a Dimension.



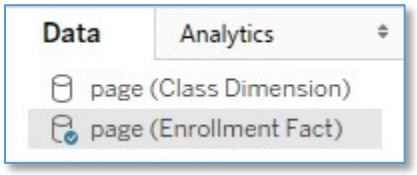
The **Relationships** window will open. You can select the table you want to be primary in your join here. Tableau will automatically attempt to map the two tables based on matching column descriptions. You can choose to leave the mapping or make changes by adding, editing, or removing these selections by selecting the **Custom** radio button. For our example, we will accept the mapping that Tableau has suggested. Click **OK** to close the window.



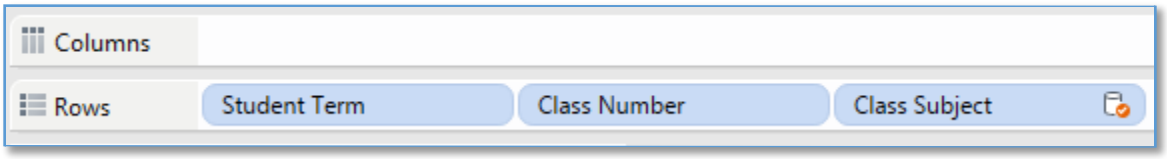
9. Tableau defines a left outer join relationship when tables are joined in this way. When adding fields to a visualization, be mindful that you add fields from the table you want to be primary. Your results may change depending on which table is primary.

10. Drag the Dimensions **Student Term** and **Class Number** to **Rows**.

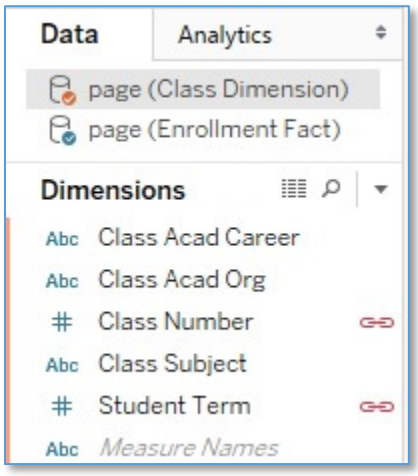
Enrollment Fact is now the primary file and will be indicated with a blue check mark.



Click your other file, **Class Dimension**, and drag the Dimension **Class Subject** to **Rows** to the right of **Class Number**. Notice that the field from the secondary file has an orange check mark next to it.



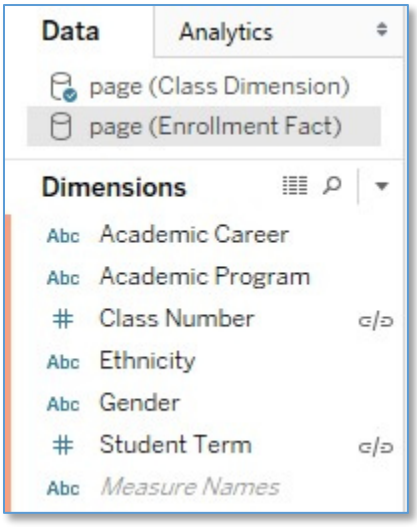
Additionally, the file will be indicated with an orange check mark in the Data window. The fields joined to the primary file will also have orange links next to them.



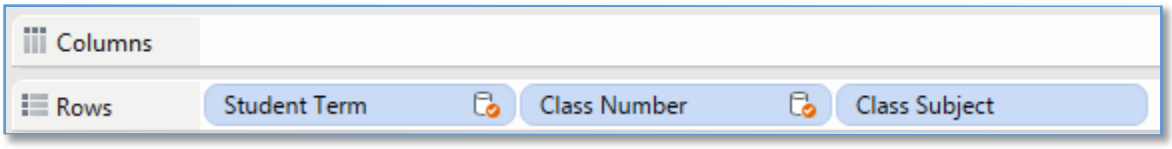
It's important to understand how the interaction between these tables can affect your results. Because of the left outer join, if you set a more restrictive table as primary your results will not include the full set of data from your other file.

11. To demonstrate this point, we'll create a second worksheet but bring the fields to our visualization in the opposite order. Click the **New Worksheet** icon to the right of Sheet 1.

12. First drag **Class Subject** from **Class Dimension** to Rows. Notice that the blue check mark is now next to this table indicating that it is primary. When you click **Enrollment Fact**, notice that the two links are shown as broken.



13. Click a link to activate it. This will set **Enrollment Fact** as secondary and will show an orange check mark next to the file name.
14. Drag the Dimensions **Student Term** and **Class Number** to Rows to the left of Class Subject. Notice this time the secondary file indicator is shown against these two fields.

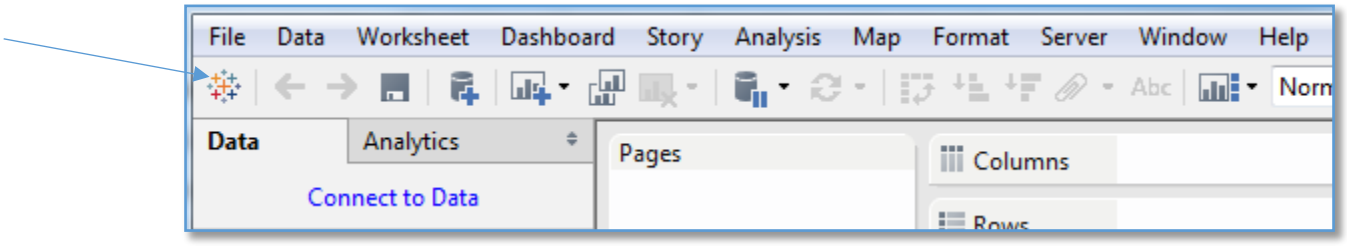


15. Compare the two worksheets and notice the differences in the data. Even though they have the same fields in the same order, because of the join limitations they are showing different results. As you're building your visualizations, it's important to understand these mechanics in order to ensure you are delivering the expected results.

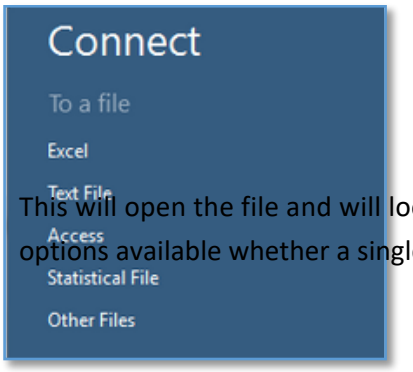
Cross Database Joins

Joining functionality has been greatly enhanced with the advent of Tableau 10. The capability now exists to join multiple data sources together within the Data Source window. The view and options available are the same as those seen when joining multiple tabs of an Excel workbook.

1. In Tableau, on the **File** menu click **New** to open a new session. Click the **Go to Start Page** icon.

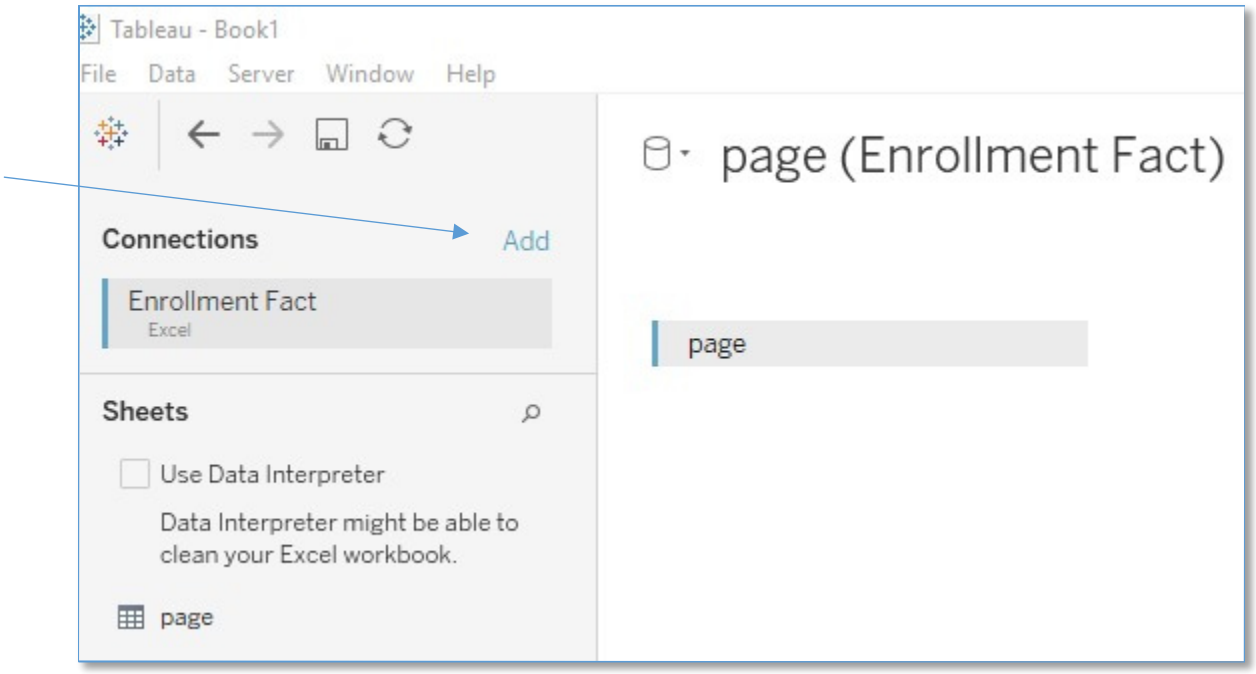


2. Click **Excel** to connect to an Excel file.
3. Select **Enrollment Fact**.

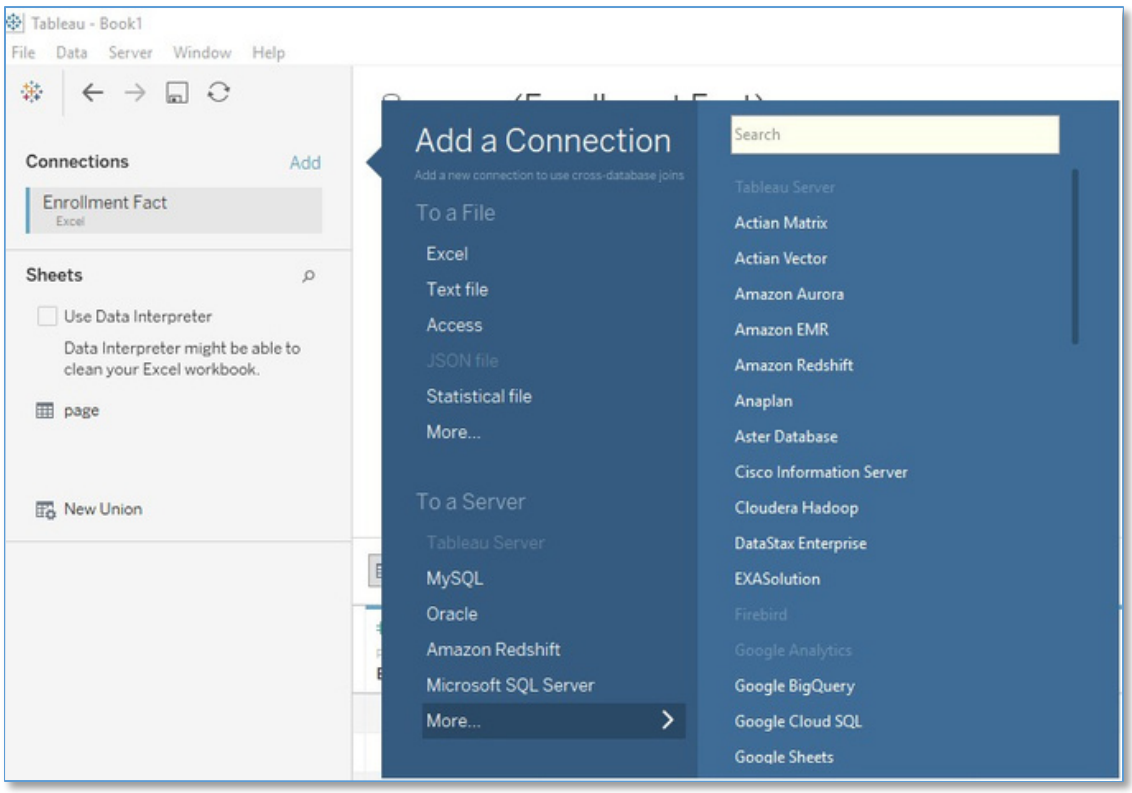


This will open the file and will look the same as it did when opening any Excel file. You have the same options available whether a single or multiple tabs exist.

4. In order to connect to a second file, click on the **Add** link next to the **Connections** header.

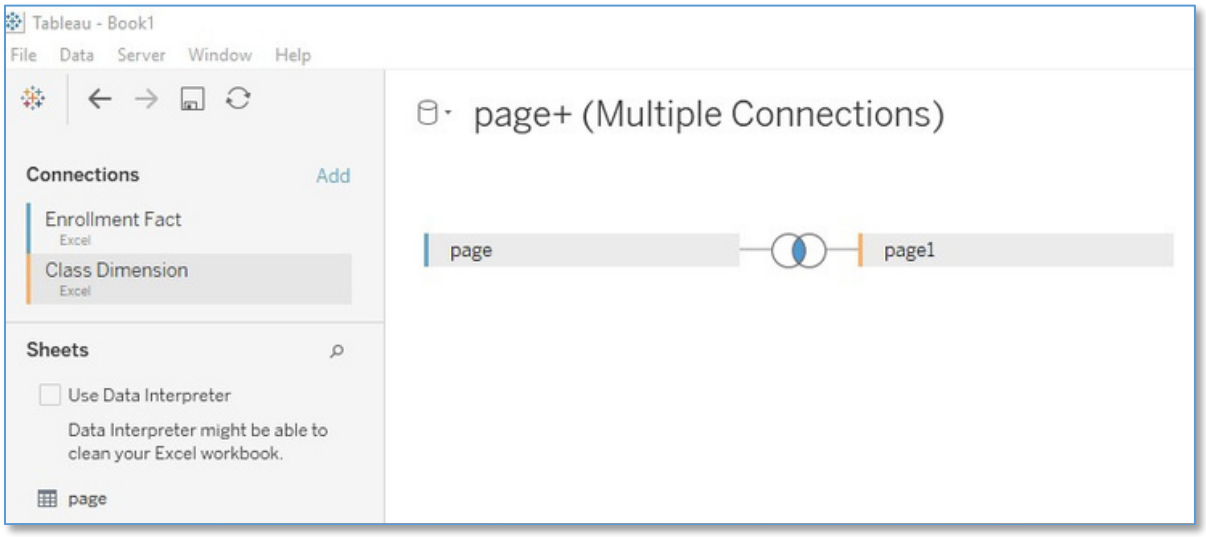


5. Indicate the file you'd like to open selecting from the connection options available.



Select the Excel file **Class Dimension**.

6. Notice that Tableau will automatically set the join if there is only one tab.



Also, notice that each connection is identified with a color that corresponds to its data connection.

You have the same options for defining the join types as outlined when explored with the multi-tabbed Excel file.

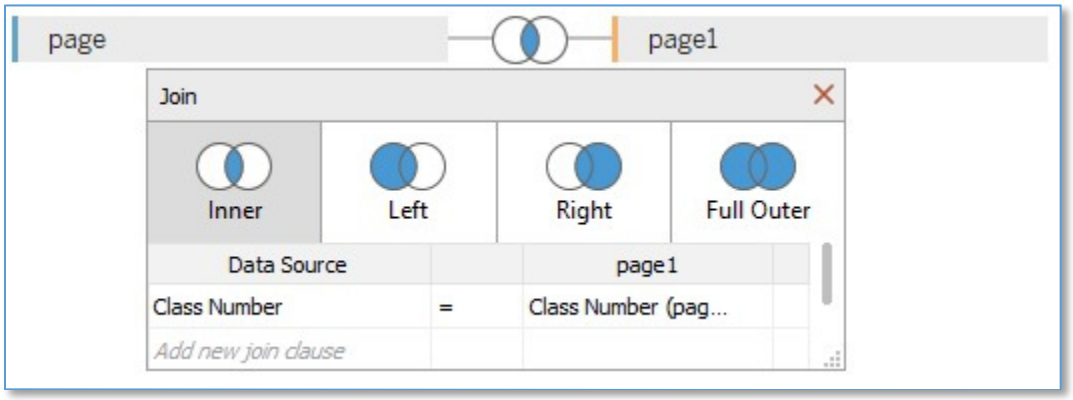
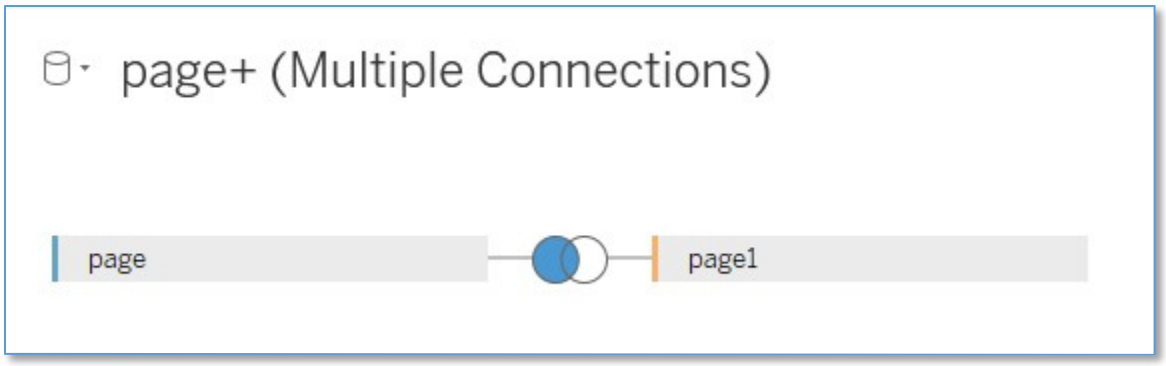


Tableau will automatically try to join on matching field names. If the initial join is not correct, fields may be added or removed and the join type changed. For our exercise, leave Class Number as the only join field and change the join type to a left join by clicking **Left** and then click the red **X** to close the **Join** window.

7. When complete, your connections should look like this.



8. Once your data connections are set, click **Sheet 1** to navigate to your first worksheet.