

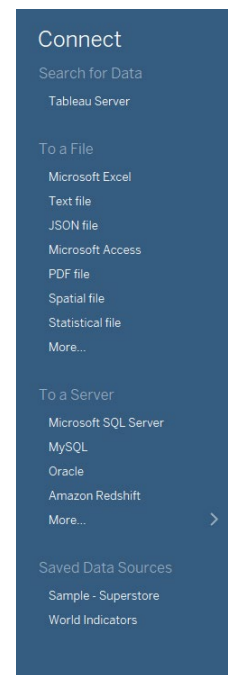
Connecting to Data

Tableau allows you to connect to a wide range of data sources. This is done via the Data Connection page, which lists the most common file types and database types (although you can connect to less common ones as well if needed).

You will need to do this if you open Tableau to create a workbook from scratch rather than use an existing workbook with extracted data. Similarly, if you have a workbook that contains a data connection but does not include a data extract then you will have to reconnect to the original data source.

To Create a Live Data Connection to a Single Table

1. Open Tableau Desktop
2. On the connection panel select the type of data source you want to connect to. This handout uses the Excel file **Workshop 2.2 Global Superstore** data.
3. Under **Sheets**, double click on the table you want to connect to, or click and drag it to the area marked **Drag tables here**.
4. Tableau will automatically create a connection to the data source and will show in the top right of the workspace that a live connection has been made.



At this point Tableau will show a table name, list of fields, and the first 1000 rows of the data source in a table in the lower half of the workspace. This area is known as the *Metadata Grid*.

Name	Type	Field Name	Physical Table	Remote File Name
Orders	Table	Order ID	Orders	Order ID
Orders	Table	Order Date	Orders	Order Date
Orders	Table	Ship Date	Orders	Ship Date

Editing and Saving a Data Source

Tableau defines a *Data Source* as a link to a file or other resource that contains data. You can save data attributes (metadata) for the source, e.g. if you want to change the name of a field then that change is stored as part of the definition of the Data Source. N.B. the change is not saved back to the original resource file, but whenever you open a Tableau worksheet using that Data Source it will always apply the metadata changes you have made. Data Sources are saved as .tds files.

Metadata Grid

The Metadata Grid can be used to:

- Rename fields
- Hide fields from the view
- Split fields into multiple sections, either automatically or with a custom format.

These changes can also be made via the Data Pane in the worksheet but it is generally easier to do them during the data connection phase.

Orders (Global Superstore) Connection: Live Extract Filters: 0 Add

Orders

Sort fields: Data source order Show aliases: Show hidden fields: 1,000 rows

Country	Postal Code	Market	Region	Product ID	Product Name	Sales	Quantity
United States	10024	US	East	TEC-AC-10003033	Plantronics CS510 - O...	2,309.65	
Australia	null	APAC	Oceania	FUR-CH-10003950	Novimex Executive Le...	3,709.40	
Australia	null	APAC	Oceania	TEC-PH-10004664	Nokia Smart Phone, ...	5,175.17	
Germany	null	EU	Central	TEC-PH-10004583	Motorola Smart Phon...	2,892.51	
Senegal	null	Africa	Africa	TEC-SHA-10000500	Sharp Wireless Fax, H...	2,832.96	
Australia	null	APAC	Oceania	TEC-PH-10000030	Samsung Smart Phon...	2,862.68	
New Zealand	null	APAC	Oceania	FUR-CH-10004050	Novimex Executive Le...	1,822.08	
New Zealand	null	APAC	Oceania	FUR-TA-10002958	Chromcraft Conferen...	5,244.84	
United States	95823	US	West	OFF-BI-10003527	Fellowes PB500 Elect...	5,083.96	
United States	28027	US	South	FUR-TA-10000198	Chromcraft Bull-Nose...	4,297.64	

To rename a field

1. Click on the field name to activate editing
2. Type the new name

To hide a field

1. Click on the drop-down next to the field type
2. Select Hide... from the menu

To unhide a field

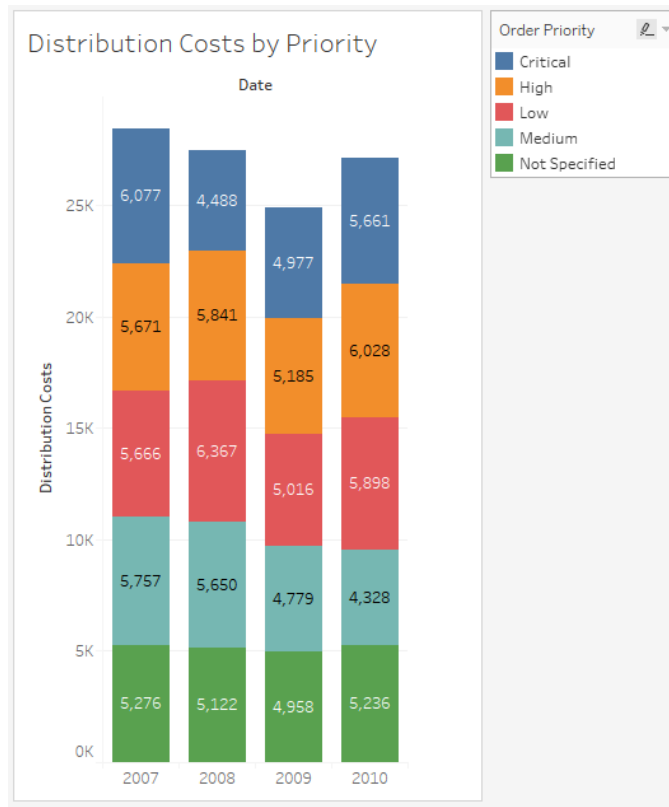
1. Click on the **Show hidden** fields box in the centre right of the view
2. Click on the drop-down next to the field type
3. Select Unhide... from the menu

To split fields into multiple sections

1. Click on the drop-down next to the field type
2. Select Split from the menu. This will look at the structure of the data and work out a sensible place to split it (e.g. a space, dash or comma character). To split by number of columns or other complex criteria, use the Complex Split... menu item.

Worked Example

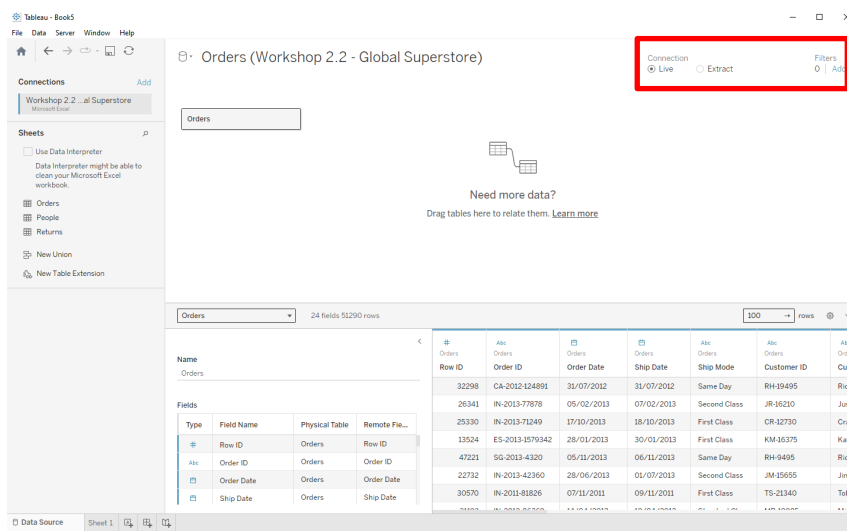
1. Open Tableau
2. Connect to the **Workshop2.1 – SuperDrugs Prescriptions.xls** file
3. Connect to the **Distribution** table of the data source
4. Rename the **Dispensed Pharmacist** field to **Dispensing Pharmacist**
5. Rename **Dispensed Region** to **Pharmacy Region**
6. Create the following chart:



7. Save the workbook as **DrugPrescription.twb**
8. Close the workbook and Tableau, then reopen Tableau, load **DrugPrescription.twb** and check that it has loaded as expected.

Saving Files with Extracted Data

If you want to embed the data within your Tableau worksheet then the save process is a little different. The connection type must be set to *Extract* rather than *Live*.



By default, all data will be stored in the .twbx file, but this can be limited using filters if desired.

Exercises

1. Open Tableau
2. Open the **DrugPrescription.twb** workbook and confirm that the changes you made earlier are still present
3. Change the connection to an Extract and save the workbook as **DrugPrescription.twbx**
4. Close Tableau, then reopen it and check that the workbook with the data extract functions as expected.

Working with Multiple Tables

Tableau will allow you to create a data connection based on multiple tables in the same file (or in multiple files, but that's more advanced than we have time for). This is useful because it allows you to create database-like joins between tables, allowing for more sophisticated analysis than is possible for a single table.

To Create a Live Data Connection to Multiple Tables

1. Open Tableau Desktop
2. On the connection panel select the type of data source you want to connect to.
3. Under **Sheets**, double click on the first table you want to connect to, or click and drag it to the area marked **Drag sheets here**. The **Drag sheets here** label will disappear and be replaced by a list of the tables included in the data source (only one table at present).
4. Under **Sheets**, double click on the table you want to connect to, or click and drag it to the tables list area. Tableau will join the tables using a standard INNER JOIN, although you can change the join type by clicking on the join line and selecting the type of join required. N.B. There must be a field in each table that can act as a primary key / foreign key pairing for this to work.
5. Tableau will automatically create a connection to the data source and will show in the top right of the workspace that a live connection has been made. Scrolling through the Metadata Grid will show the joined tables at the far right of the grid; each of the fields has a pale grey label saying which table it was imported from.

The screenshot shows the Tableau Desktop interface with a live connection to a Microsoft Excel data source. The 'Orders' table is selected, and the 'People' table is joined to it. The Metadata Grid shows the joined tables and their fields.

Type	Field Name	Physical Table	Remote File...
#	Row ID	Orders	Row ID
Abc	Order ID	Orders	Order ID
Calendar	Order Date	Orders	Order Date
Calendar	Ship Date	Orders	Ship Date

Exercises

1. Open Tableau.
2. Connect to the **Workshop 2.2 - GlobalSuperstore.xls** file.
3. Connect to the **Orders** table of the data source.
4. Join the **People** table of the data source.
5. Create the following chart:

