Introduction to Tableau 10

Tableau is a data visualisation tool originally developed at Stanford to visualise the contents of large databases. It uses a simple interface to allow users to build complex visualisations by simply dragging data fields to parts of the Tableau workspace and then customising the resulting graphic by manipulating colours, shapes, labels and calculated elements. This results in clear visualisations as well as speed-of-thought analysis.

Connect to data sources

Open previously-viewed workbooks (top) and sample workbooks (bottom)

Connect to online resources

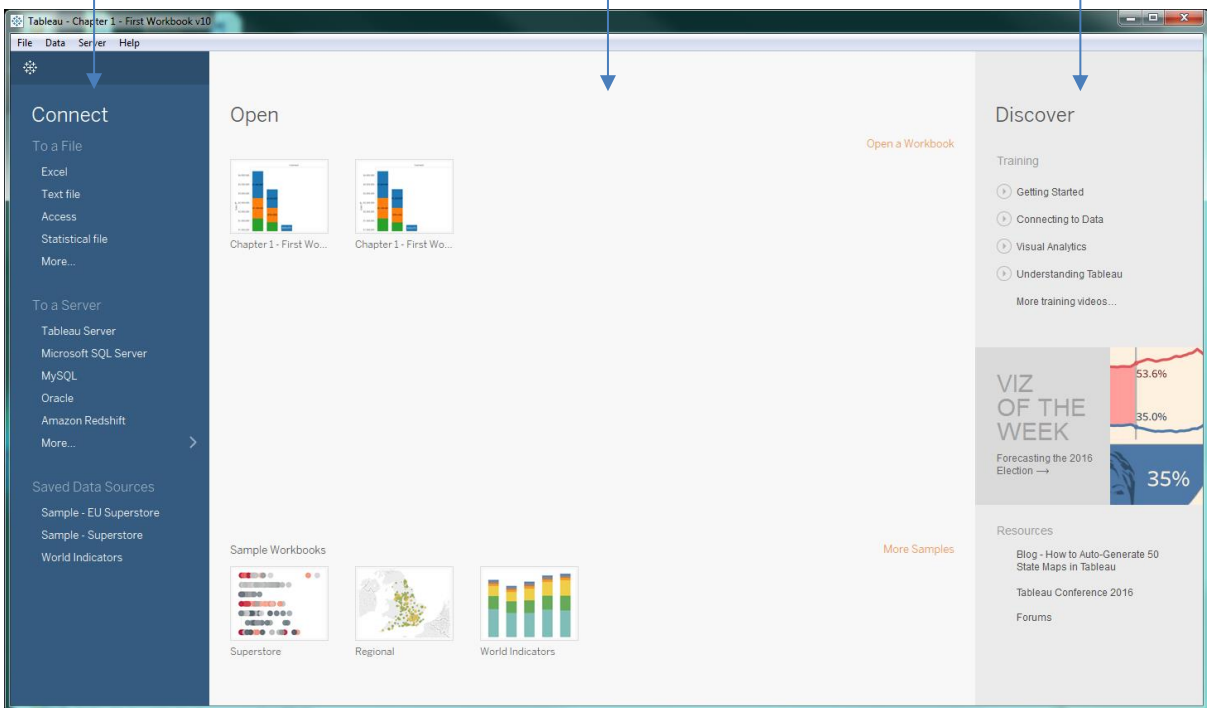


FIGURE 1: TABLEAU START SCREEN

There are two types of existing Tableau workbooks, each of which can be accessed either by clicking on the file's thumbnail image or by using the normal File|Open process.

- Standard Tableau Workbooks (.twk). These contain worksheets and dashboard definitions but no data. If you no longer have read access to the data source used to generate the visualisations (e.g. the file has been moved or is on a different drive, or you no longer have a connection to the database) then you won't be able to work with the data.
- Tableau Packaged Workbooks (.twbx). These contain not only worksheets and dashboard definitions but also data extracted from the original data source. These are self-contained and can be used without connections to the original data source. N.B. While .twbx files are great for portability the files can get very large due to the volumes of data stored within them.

If you try to create a new workbook from scratch you will have to connect to a data source. This will be covered later in this workshop, so for now we will work with the file *Workshop 1 – The Tableau Interface.twbx*.

The Tableau Interface

On opening the file you will be presented with the main Tableau worksheet interface showing a visualisation of the data stored within the workbook. This looks complex, but we will recreate it as we look at the different elements of the interface.

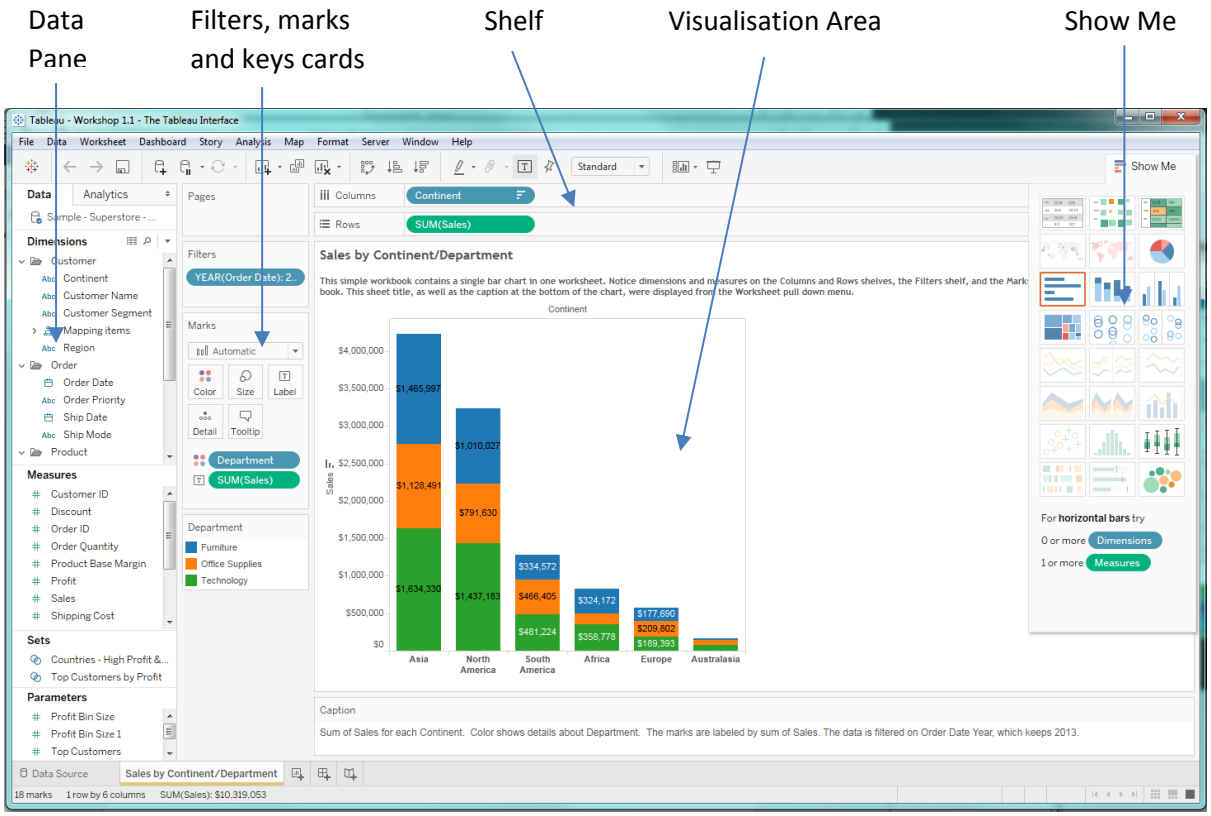


FIGURE 2: THE TABLEAU INTERFACE

Elements of the interface

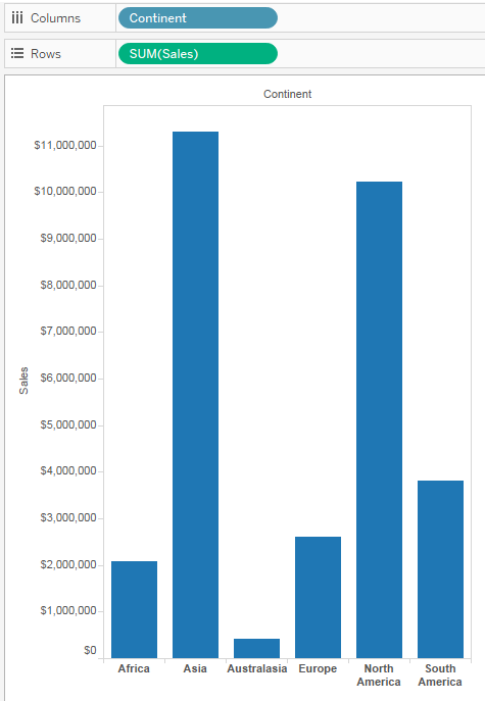
The Data Pane The side bar on the left shows the data and analytics panes. Most of the time you will need the *Data Pane*, which shows all of the fields from your data source. It is split into two sections: *Dimensions* (non-number fields or categorical data) and *Measures* (numerical fields that can be aggregated as sums, averages and so on). Creating a bar chart of sales by continent would have a number of bars defined by the number of different categories in the continent dimension while the height of each bar would be determined by the sum of the sales measure for that country.

The Shelf There are two main ways to create visualisations. You can either drag measures and dimensions to the Visualisation Area, or you can drag them to the *Shelf*. Dimensions always appear on the shelf in blue, while measures appear in green.

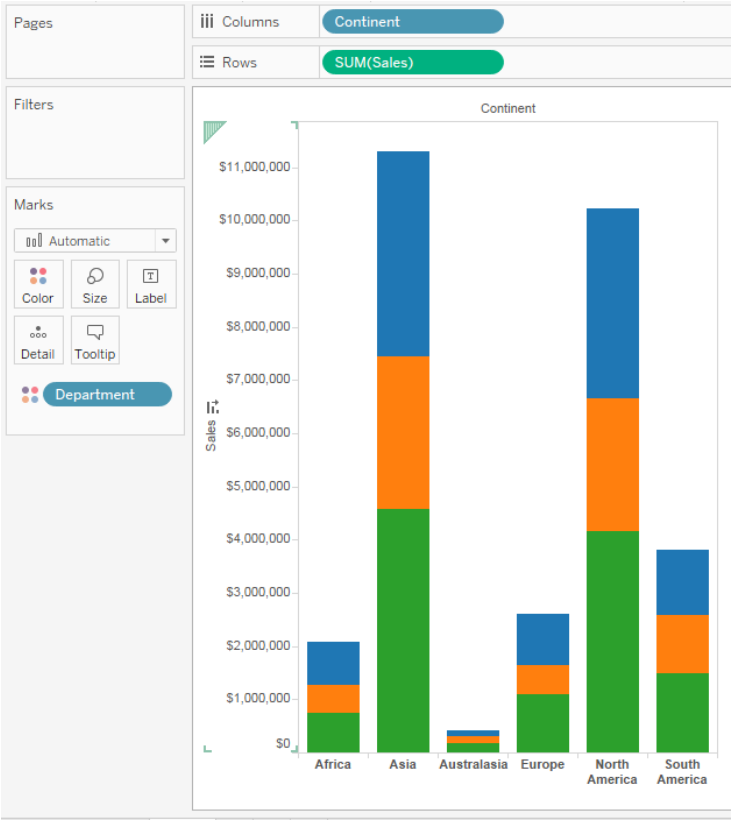
The Marks Pane This contains sections that allow you to change how things are displayed. Dragging and dropping a field onto the Color icon automatically recolours data based on the value of the field. Similarly, the Size icon changes a mark's size based upon the value of the field. The Label icon allows you to add labels to your chart. Clicking on the icons allow you to customise the marks by changing their size or format. For now we'll just use the default values but will look at them in more detail in a later workshop.

Tasks

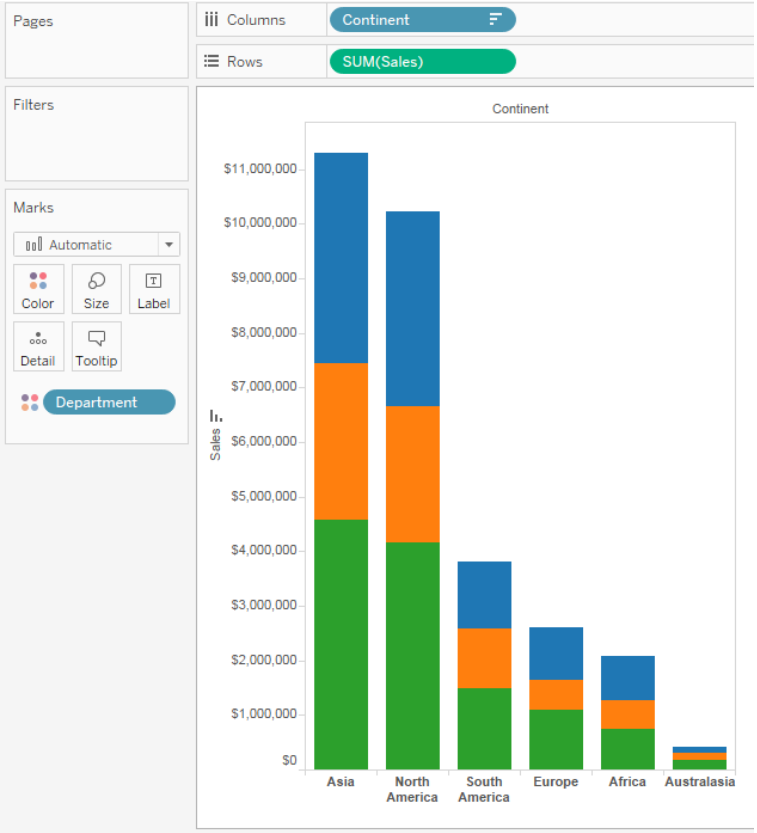
1. Open Tableau and open the workbook *Workshop 1.1 – The Tableau Interface*.
2. Create a new worksheet using either Ctrl-M or the Worksheet|New Worksheet menu item.
3. Drag the **Continent** dimension to the Columns shelf and the **Sales** measure to the Rows shelf. You should get a graph that looks something like this:



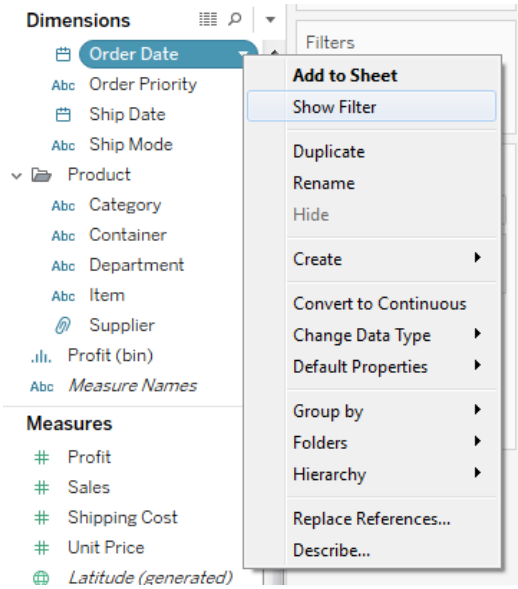
4. Drag the **Department** category onto the Color section of the Marks Card. You should get a graph that looks something like this:



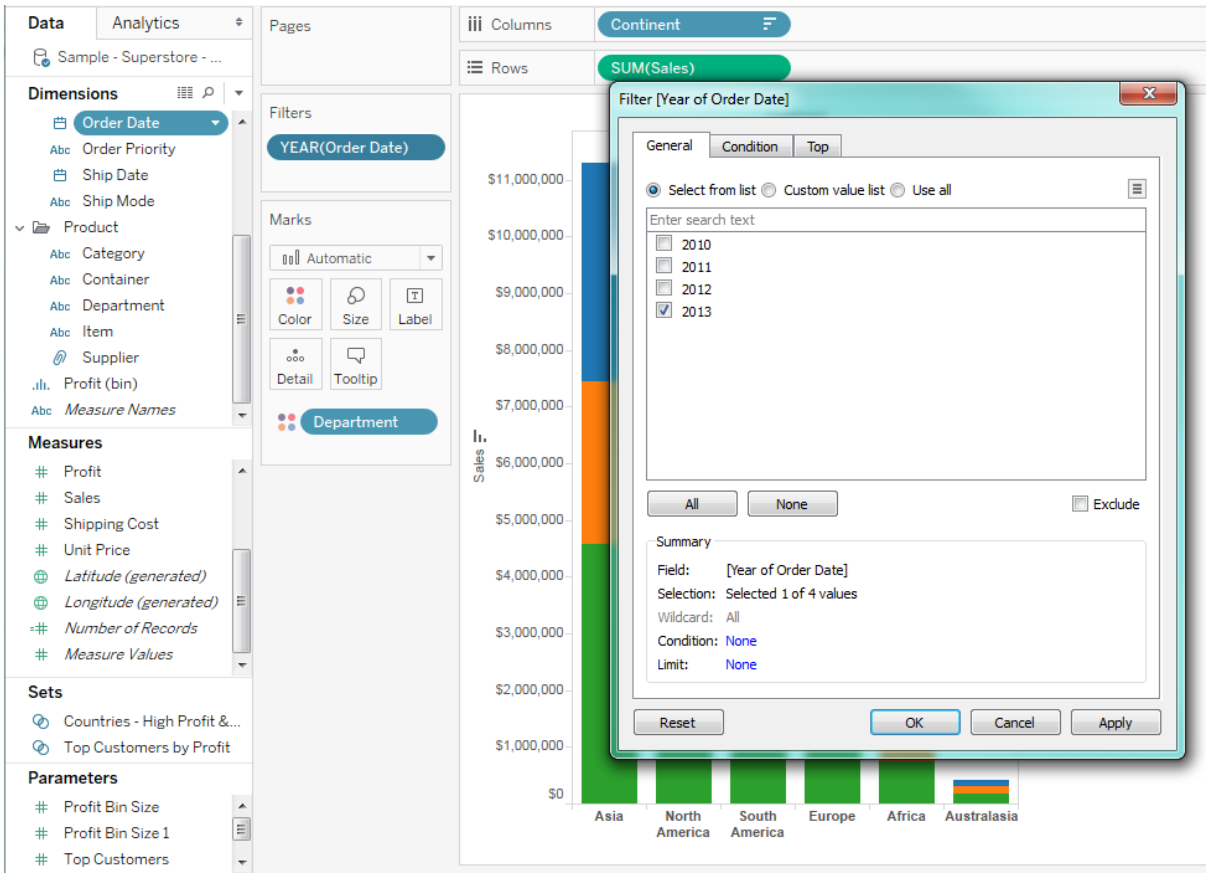
5. Click on the re-order icon next to the Sales axis title to re-order the column in order of decreasing size. You should get a graph that looks something like this:



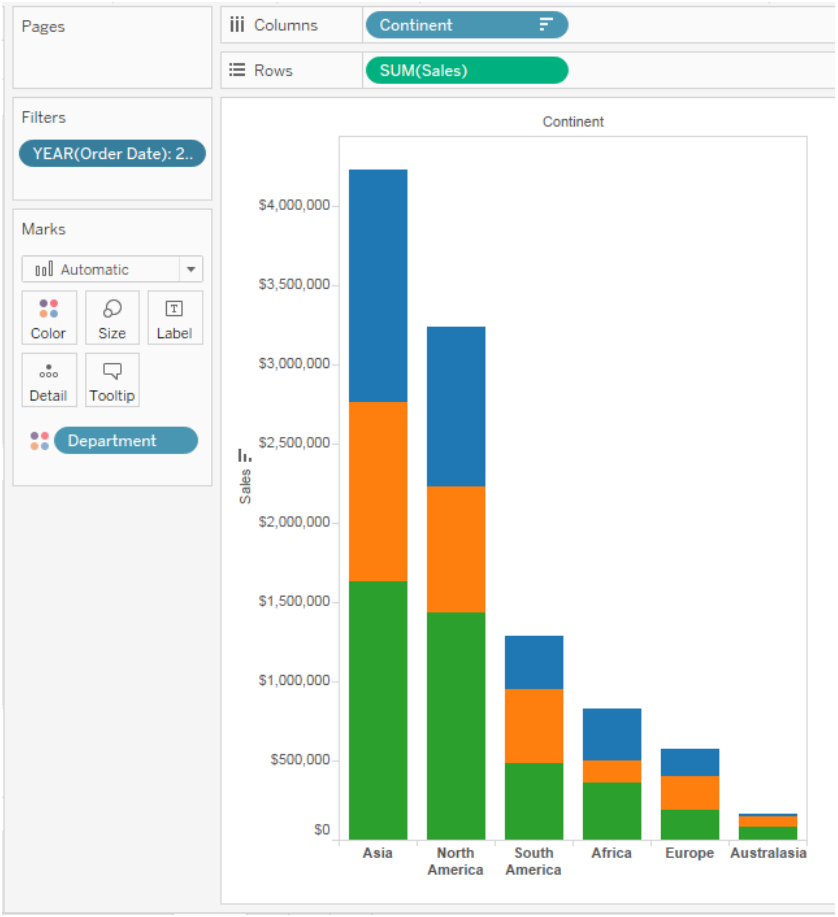
6. We now want to limit this to the 2013 data by adding a filter. In the Data Pane, click on the **Order Date** dimension and then on the small triangle on the right of the dimension to bring up a floating menu. Select Show Filter.



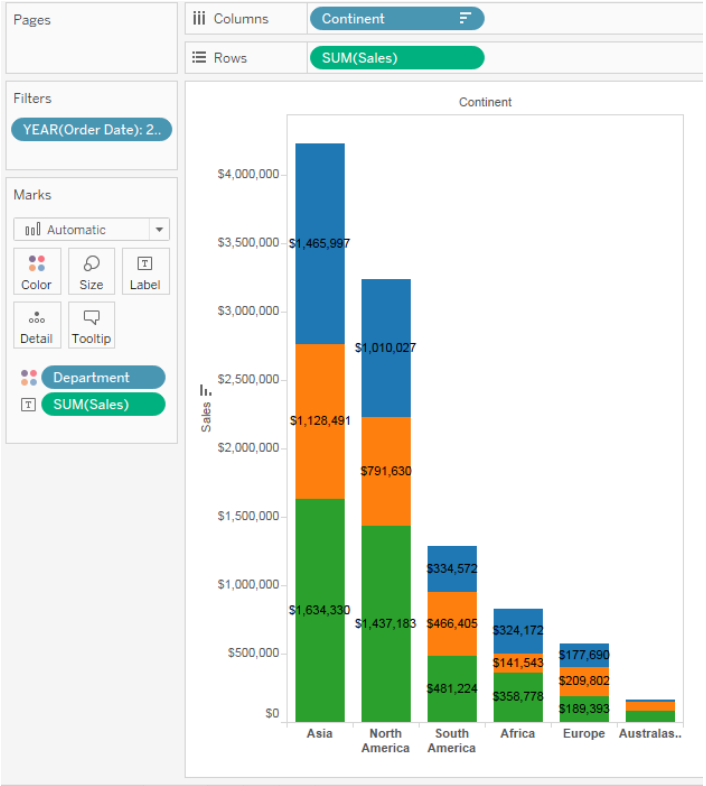
7. This will add a new filter in the Filter Card. Double-click on this to open the filter selector and select only the data for 2013:



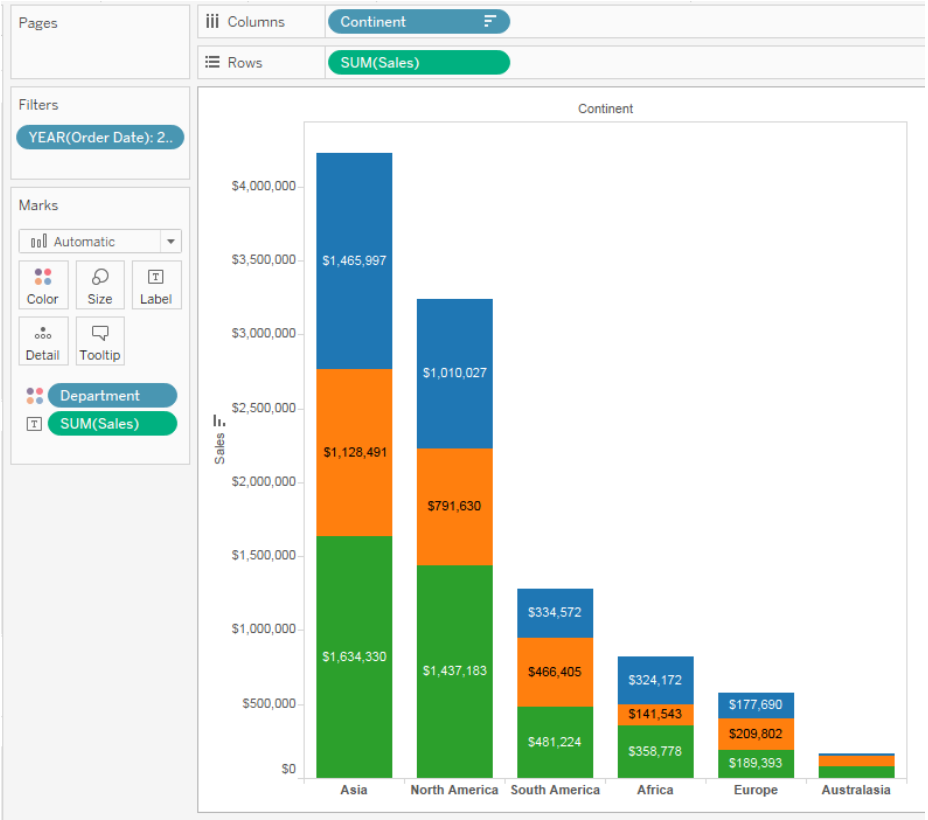
8. Click on OK to accept the filter. Your graph should now look something like this:



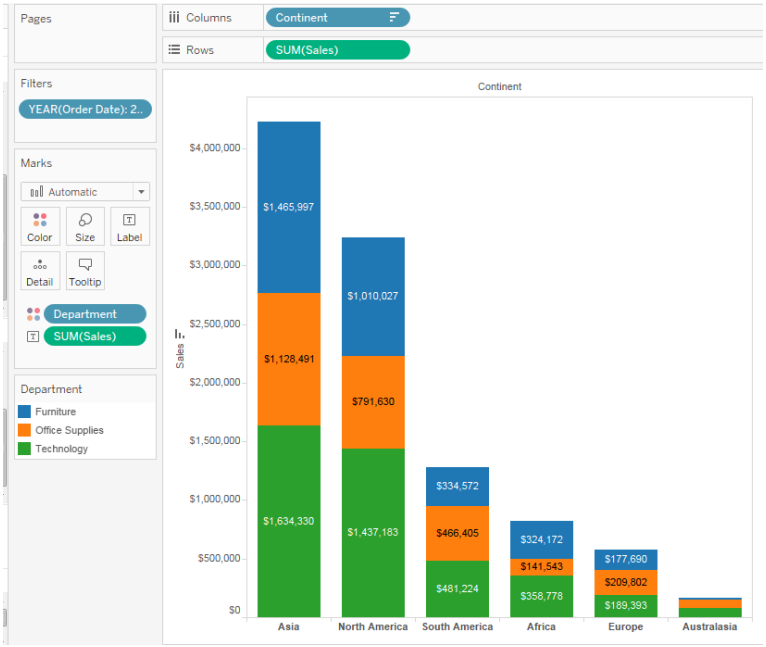
9. We want to add labels to show the sales generated by each department. Drag the **Sales** measure to the Label section of the Marks Card. This will add a label to each of the column segments:



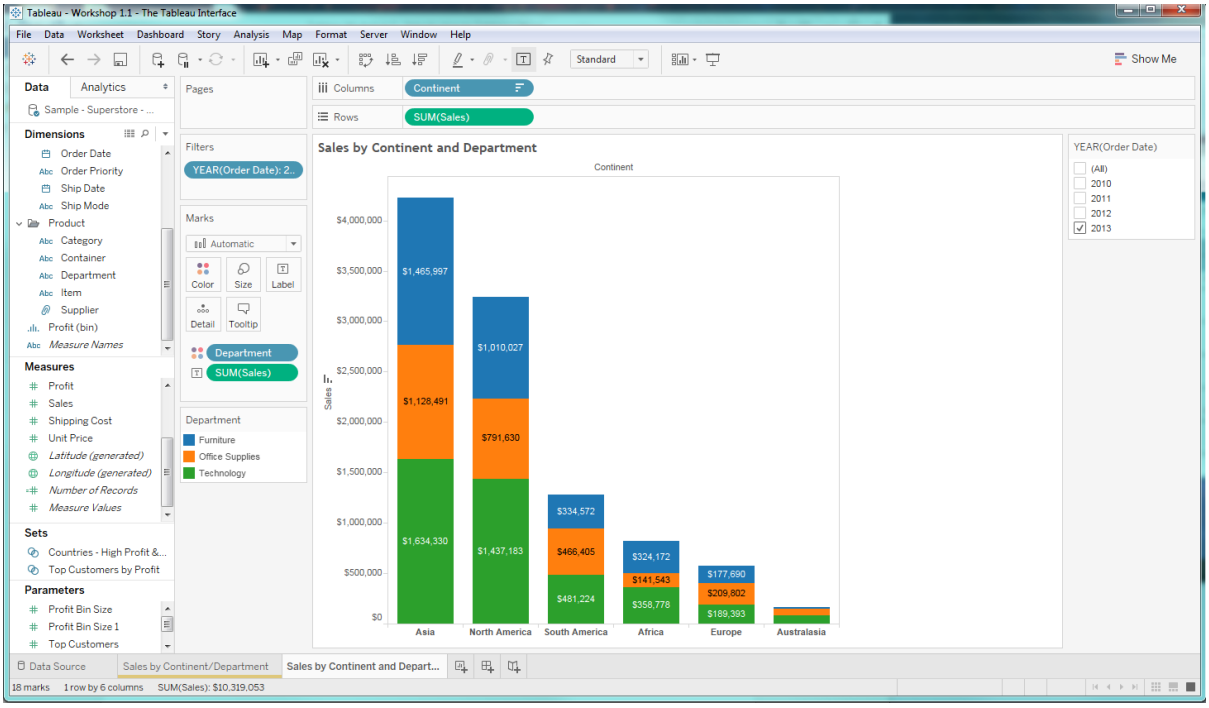
10. At this point we have all of the information we want but would like to neaten things up a bit. First, move the mouse over the bounding vertical at the right of the chart and, when it changes to a double-headed arrow, click and resize the chart so that the labels all fit within the columns:



11. It would be useful to be able to see which department is represented by each colour. Tableau automatically created such a key when the **Department** dimension was added to the Marks Pane but it is hidden behind the Show Me panel. Click on Show Me to hide the pane, then click and drag the department key to under the Marks Pane. You should also be able to see the Quick Filter, which allows you to easily change the filter values.



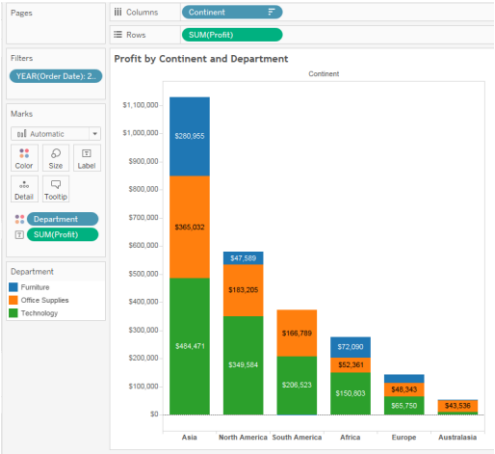
12. Finally, we need to add a title to the chart. At the bottom of the window double-click on the tab marked “Sheet 2” and type “Sales by Continent and Department” (this works the same way as renaming a worksheet in Excel). Next, add the title to the Visualisation Area using the Worksheet|Show Title menu item. Your completed worksheet should look like this:



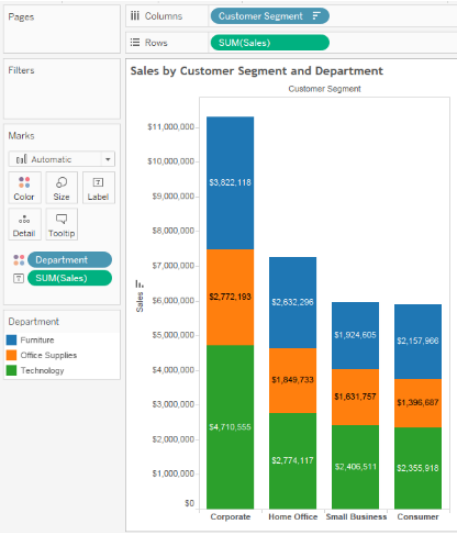
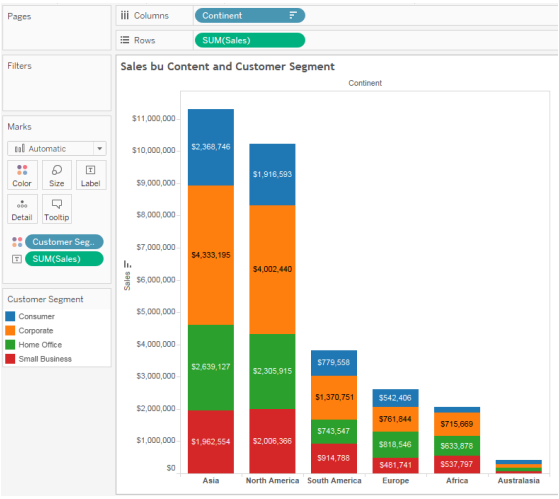
Further Tasks

Using the techniques introduced above, create the following visualisations:

Profit by Continent and Department for 2013



Sales by Customer Segment and Department for all years



Sales by Continent and Customer Segment for all years