Working With Dates

Tableau has a built-in date/time hierarchy, which means that when you import date/time data into Tableau you automatically have access to it not only as a date, but also as a month, a quarter and a year. By default, a date/time field will be treated as a Dimension within the Data pane.

When you add a date/time field to a shelf it is automatically set to the default date level, i.e. the highest level of multiple date instances. If the field contains data for multiple years then the default level will be years. If the field only contains data for one year then the default level will be months.

Change the Date Level for a Date Field

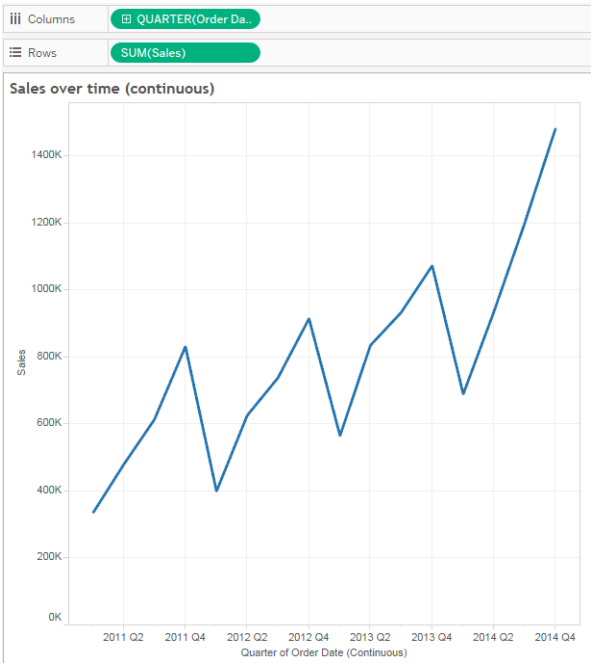
1. Drag a date field to the **Rows** or **Columns** shelf.
2. Click the drop-down arrow on the date field and select the date/time level (year, quarter, month, week, day, hour etc.).

Continuous and Discrete Dates

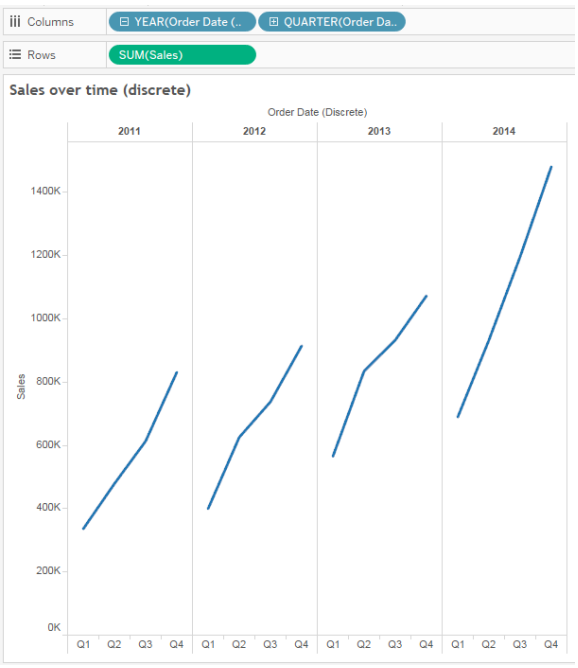
Continuous dates represent time as an ongoing progression. When you add a continuous date/time field to a Tableau view Tableau creates an axis as a timeline starting at the date/time of the first time data point and continuing to the date/time of the last time data point. Use continuous date data when you want to see a timeline.

Discrete date/time dimensions appear as independent of linear time, so Tableau creates a header for each category that is required, e.g. year and quarter. Use discrete time data when you want to show your data organised by date units, e.g. the Q2 value for each year.

These two different behaviours lead to different views of the data as shown below. The view on the left shows continuous dates (note that the date field on the shelf is green) while the one on the right shows discrete dates (note that the date field on the shelf is blue, and that there is both a year and a quarter field as there are headers for both years – top of the view – and quarters – bottom of the view).



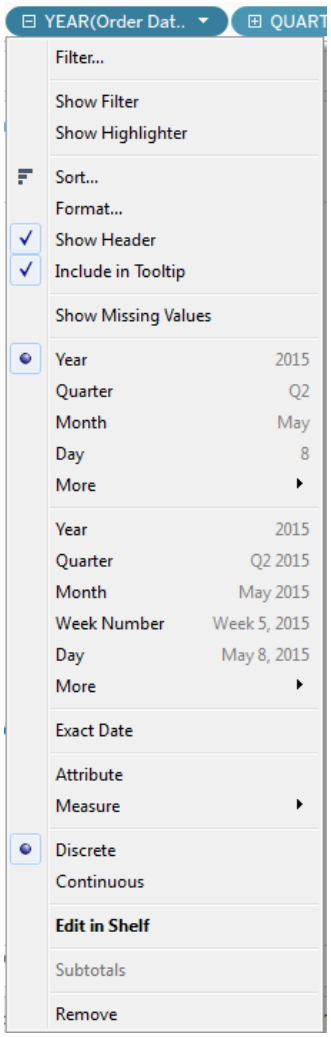
Continuous Time



Discrete Time

Changing Date Dimensions from Discrete to Continuous (or vice versa)

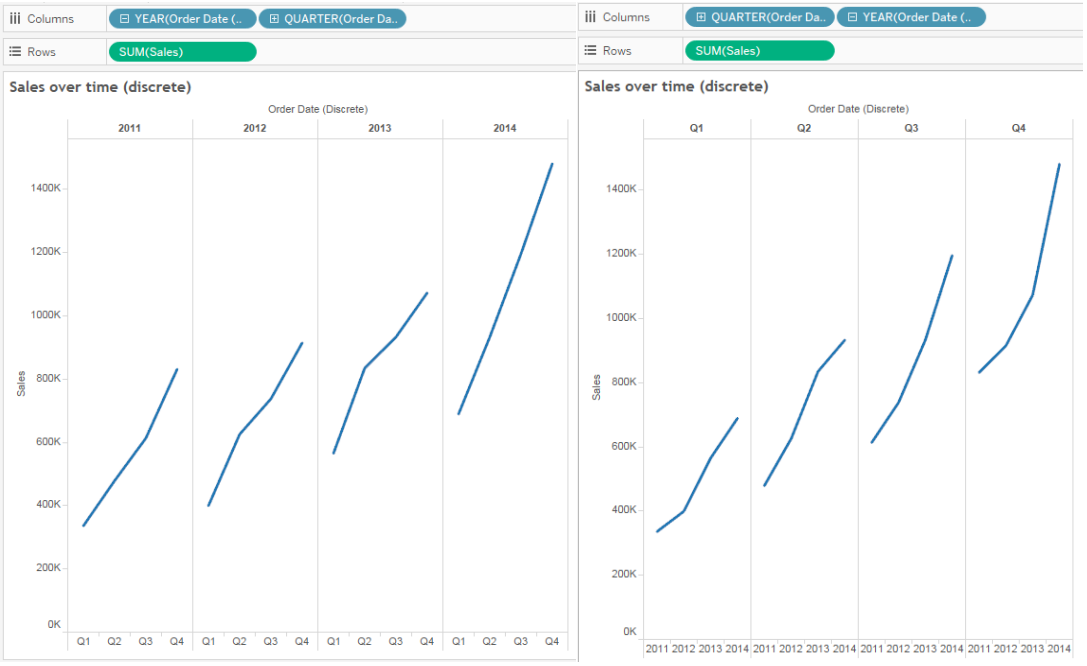
1. To convert from Continuous to Discrete, right-click on the field in the **Data** pane and select **Convert to Continuous**. Notice how the field icon turns green and produces a continuous timeline when added to a shelf.
2. To convert from Discrete to Continuous, right-click on the field in the **Data** pane and select **Convert to Discrete**.



3. To change between types in a view, right click on the field in the shelf select **Discrete** or **Continuous**. You can also set the default view level.

Reordering the Date Hierarchy

When working with discrete dates you can reorder them according to any hierarchy that suits your visualisation needs simply by dragging the fields around within the shelf.

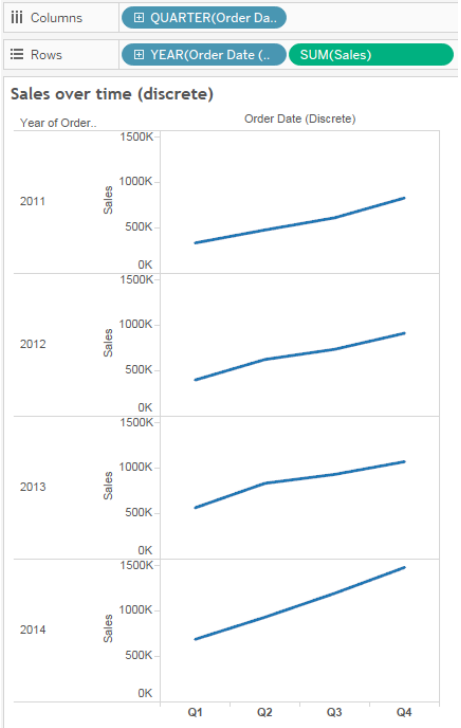


DIFFERENT VIEWS DUE TO DIFFERENT SHELF ORDER – YEAR, QUARTER (L) AND QUARTER, YEAR (R)

Different Date Parts on Different Shelves

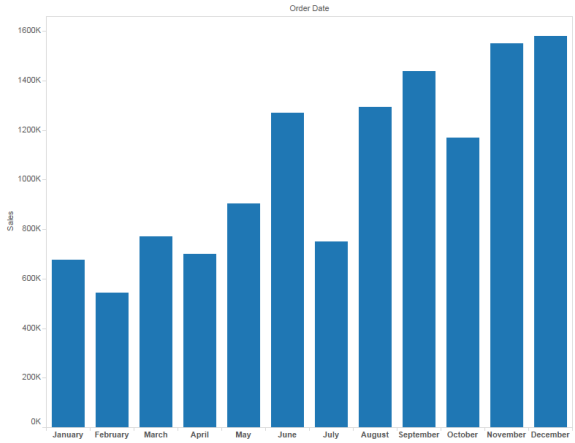
You can also drag different parts of the date to different shelves, enabling you to plot multiple time dimensions on a single graph. This is useful when, for example, you want to compare trends over multiple years.

1. Drag the discrete date field into the view and click the plus (+) sign to drill down.
2. Select one of the expanded parts and move it to a different shelf.

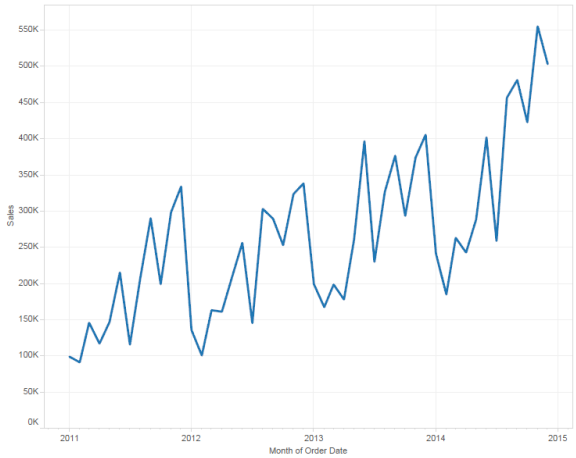


Tasks

1. Open the packaged workbook **Workshop 5 – Dates Starter.twbx**
2. Create a view on Sheet 1 that uses bars to show the aggregation of data by month.



3. Create a view on Sheet 2 in which dates are shown in a continuous time line at the month level

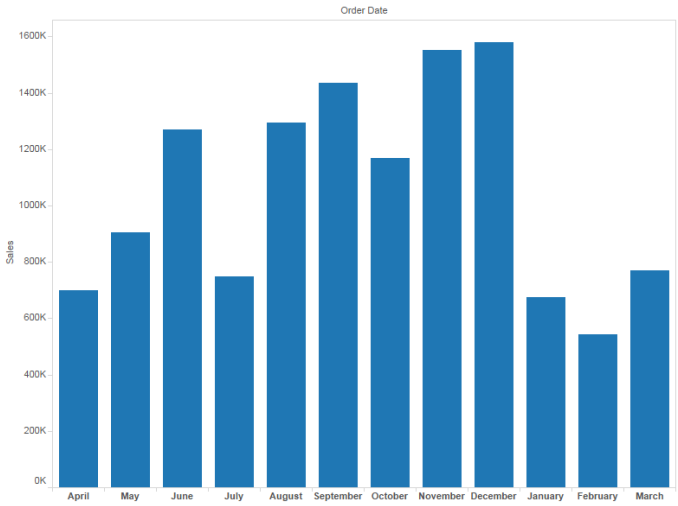


Defining a Fiscal Year

Calendar years run from January 1st to December 31st, but in the UK the financial year (for business reporting and taxation) runs from 1st April to 31st March, while the fiscal year (for personal taxation) runs from 6th April to 5th April. Individual companies, particularly those based outside the UK, may have fiscal years that start in any month, so Tableau allows you to define the start of a fiscal year to be used in graphs. A fiscal year must start on the first of the month.

Define a Date By Fiscal Year

1. Right-click the date dimension in the **Data** window, select **Default Properties**, and chose **Fiscal Year Start**.
2. On the context menu choose the starting month of the fiscal year.

Tasks

1. Create a new sheet (Sheet 3) in workbook **Workshop 5 – Dates Starter.twbx**
2. Change the fiscal year of the **Order Date** to start in April.
3. Create a view on Sheet 3 that uses bars to show the aggregation of data by month of the fiscal year.