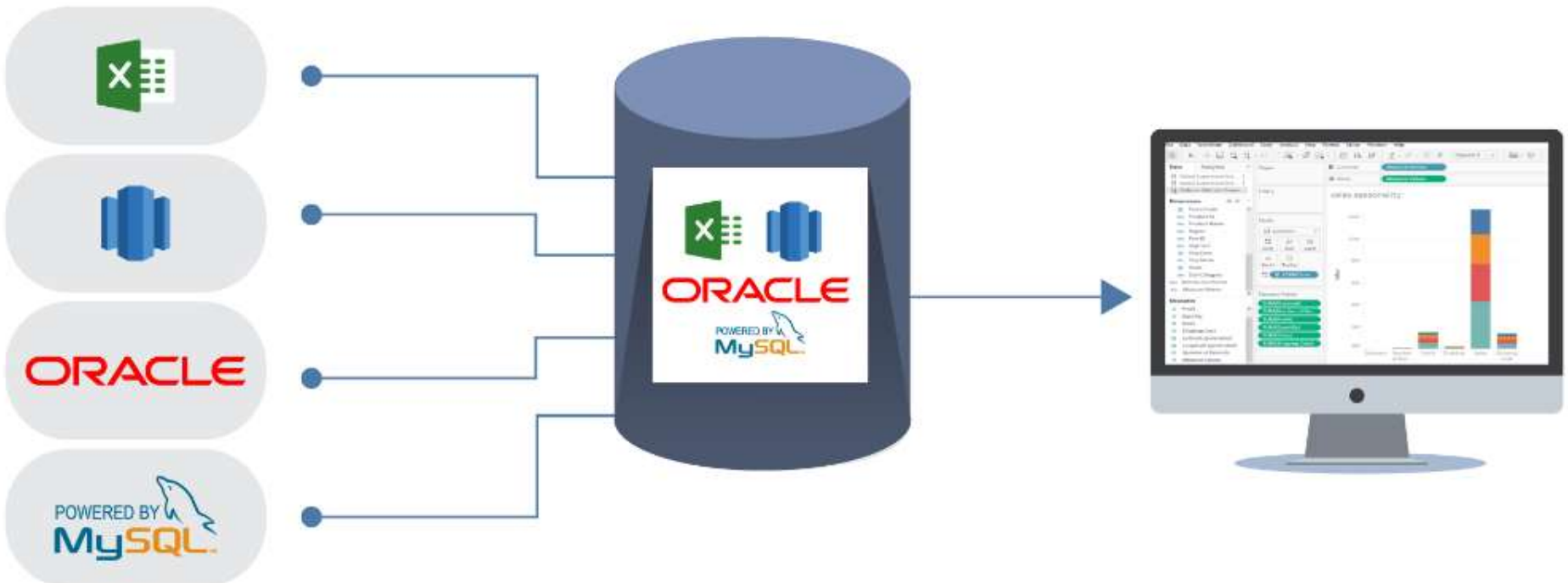
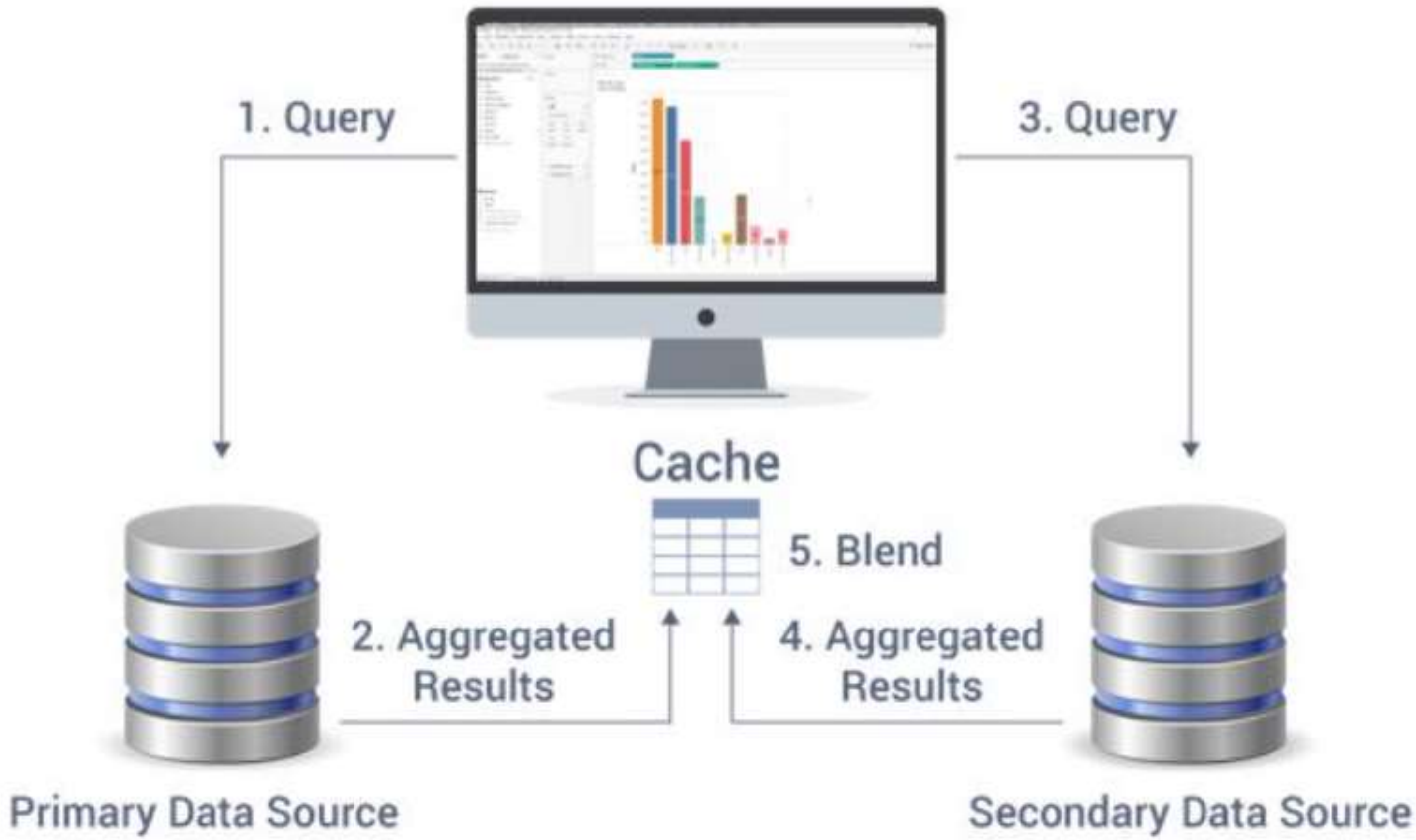
Data Blending

Data Blending

Data Blending is to issue two separate queries and then to blend them together to get aggregate results



Data Blending (Contd...)



Data Blending Process

Joins V/S Blending

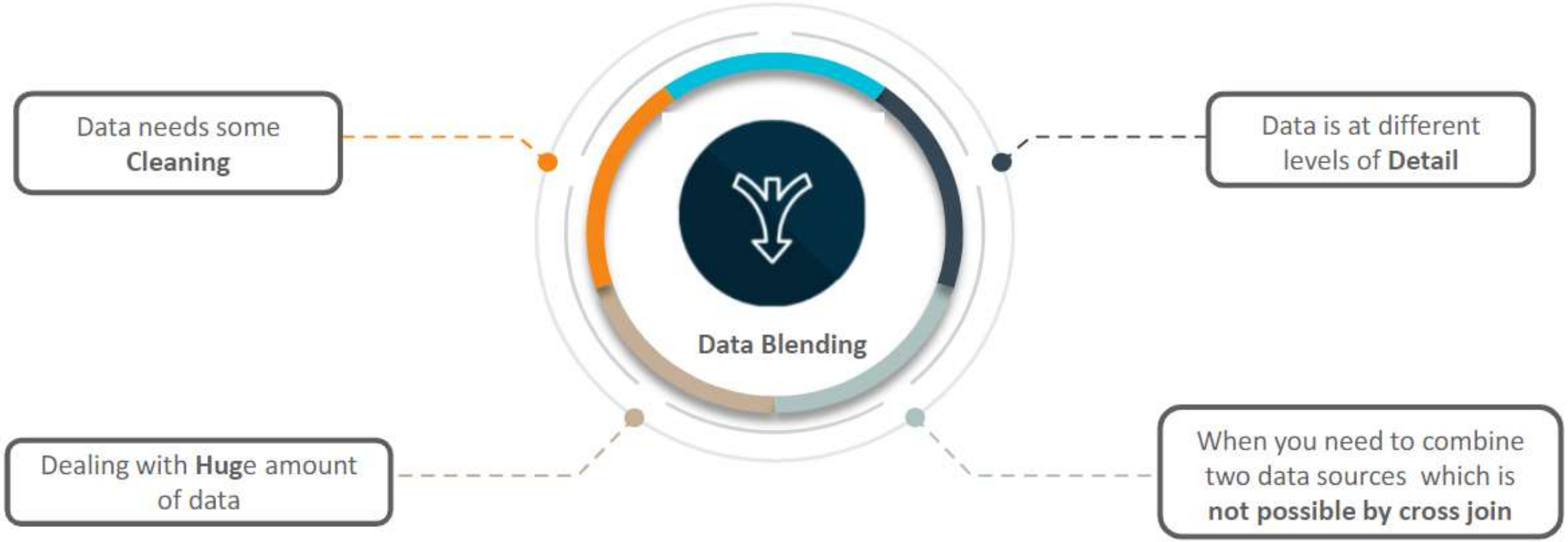
Data Joining

- Joining is done at **row level**
- Single query to a single data source
- For example, collecting information from two sheet tabs within a **single** Excel file

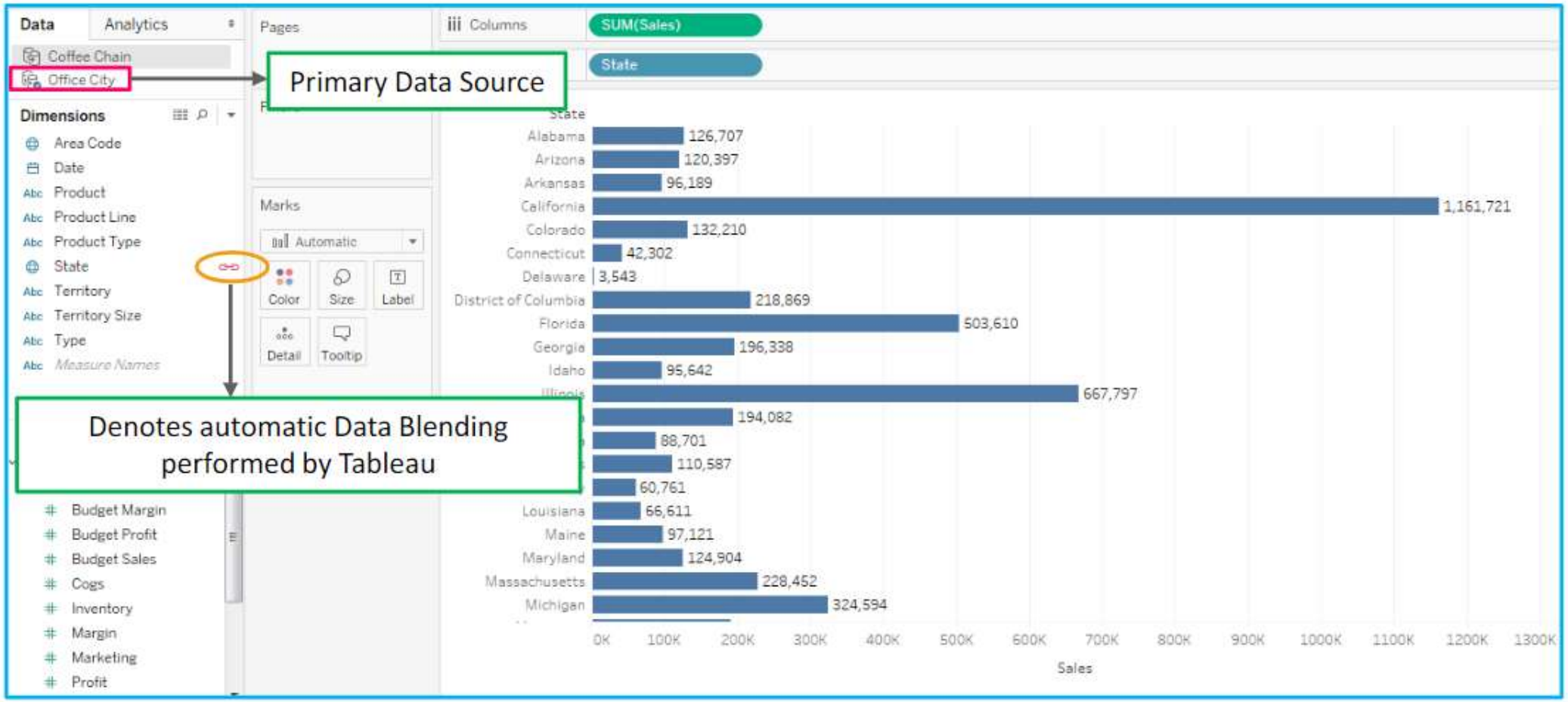
Data Blending

- Data blending is done at an **aggregate level**
- Different queries sent to each data source
- For example, collecting information was stored in **separate** (excel and csv. or from some other data source) files you would need to do a **data blend** in **Tableau**

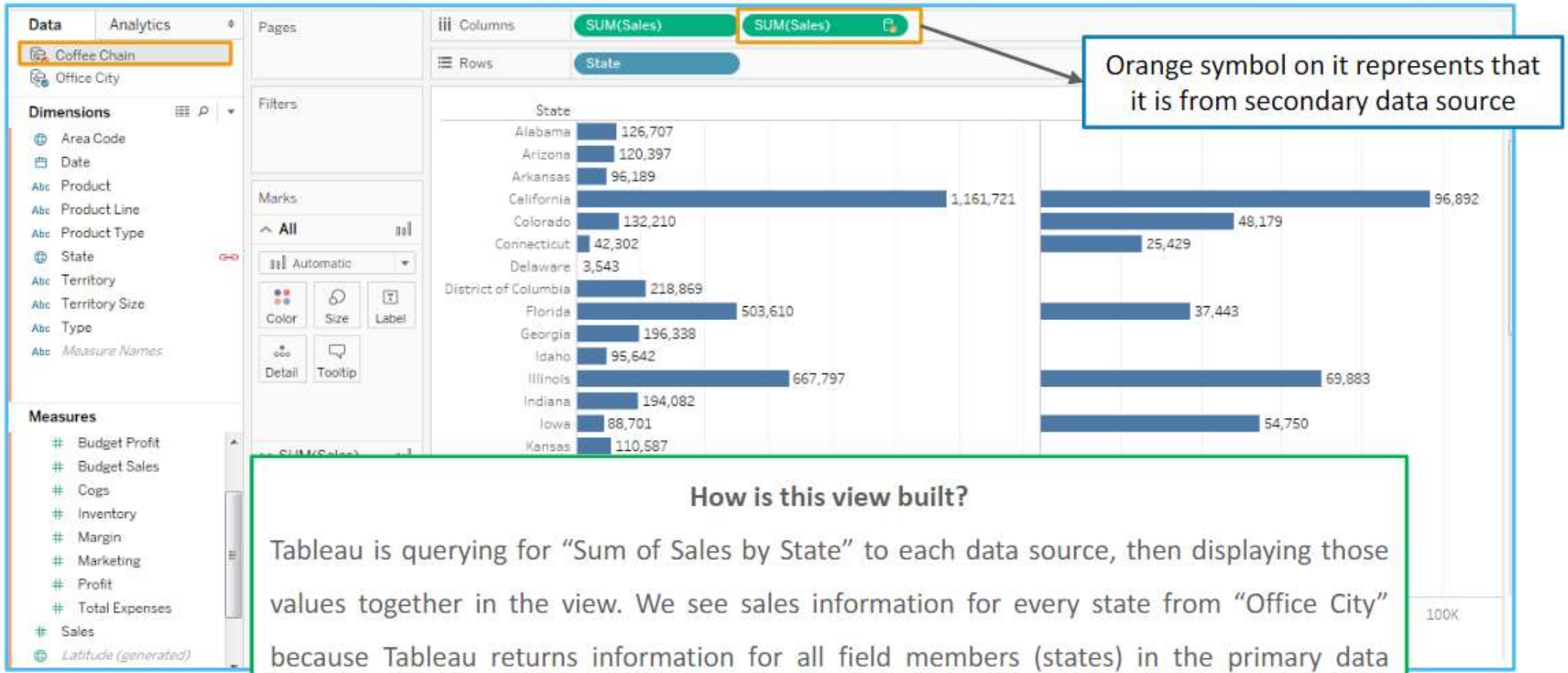
When To Use Data Blending?



Data Blending (Contd…)



Data Blending (Contd…)



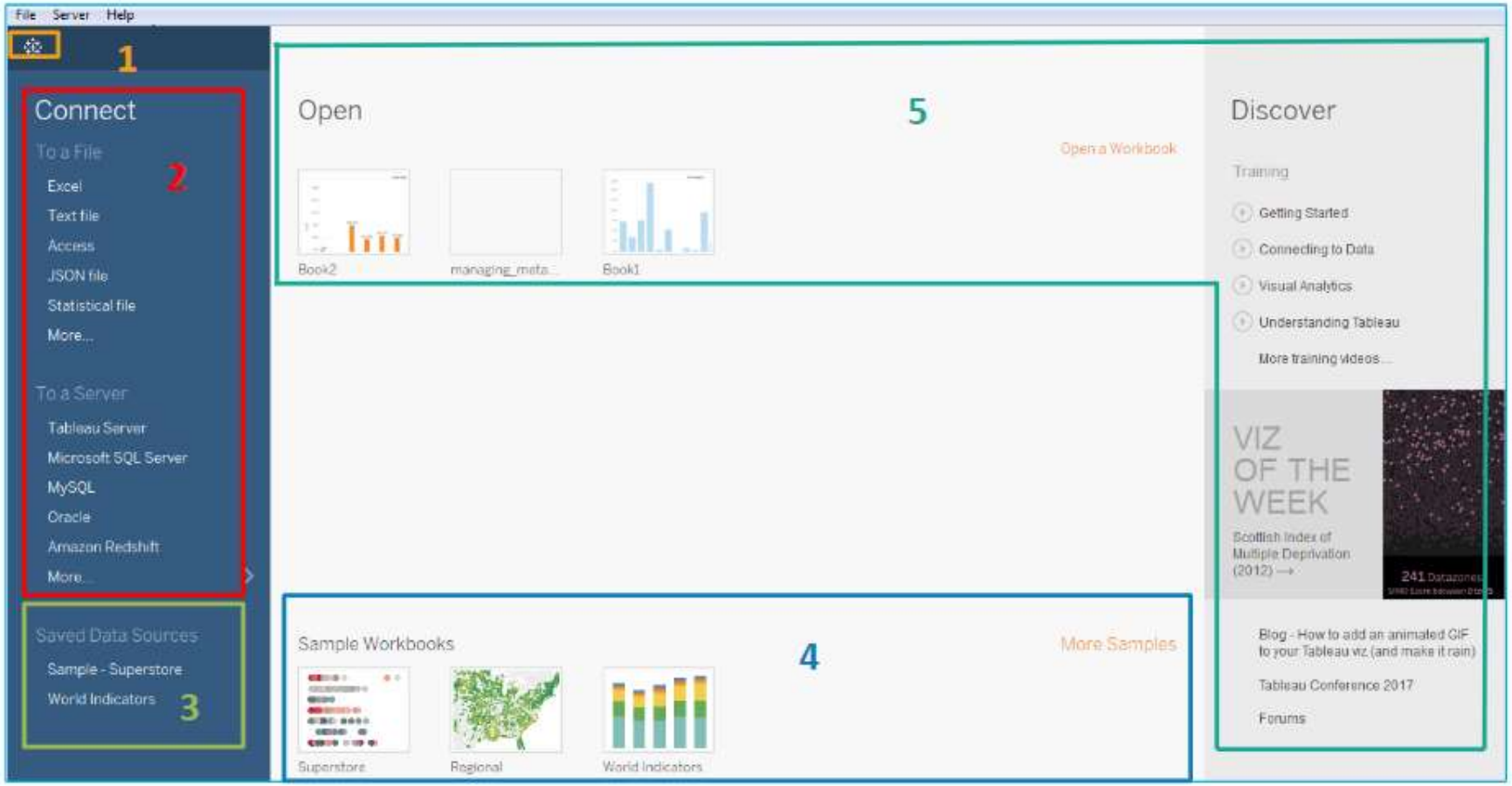
Note:

- To Create a relationship between all csv files in one connection you can create this relationship from data connections section.

- For creating relation between different data connections you need to use data blending option from tableau visualization section (Data → Edit Blind relationship) usually it will be done automatically and you can do it manually.

Tableau Desktop UI

Tableau UI - Home Screen



1 Menu Bar

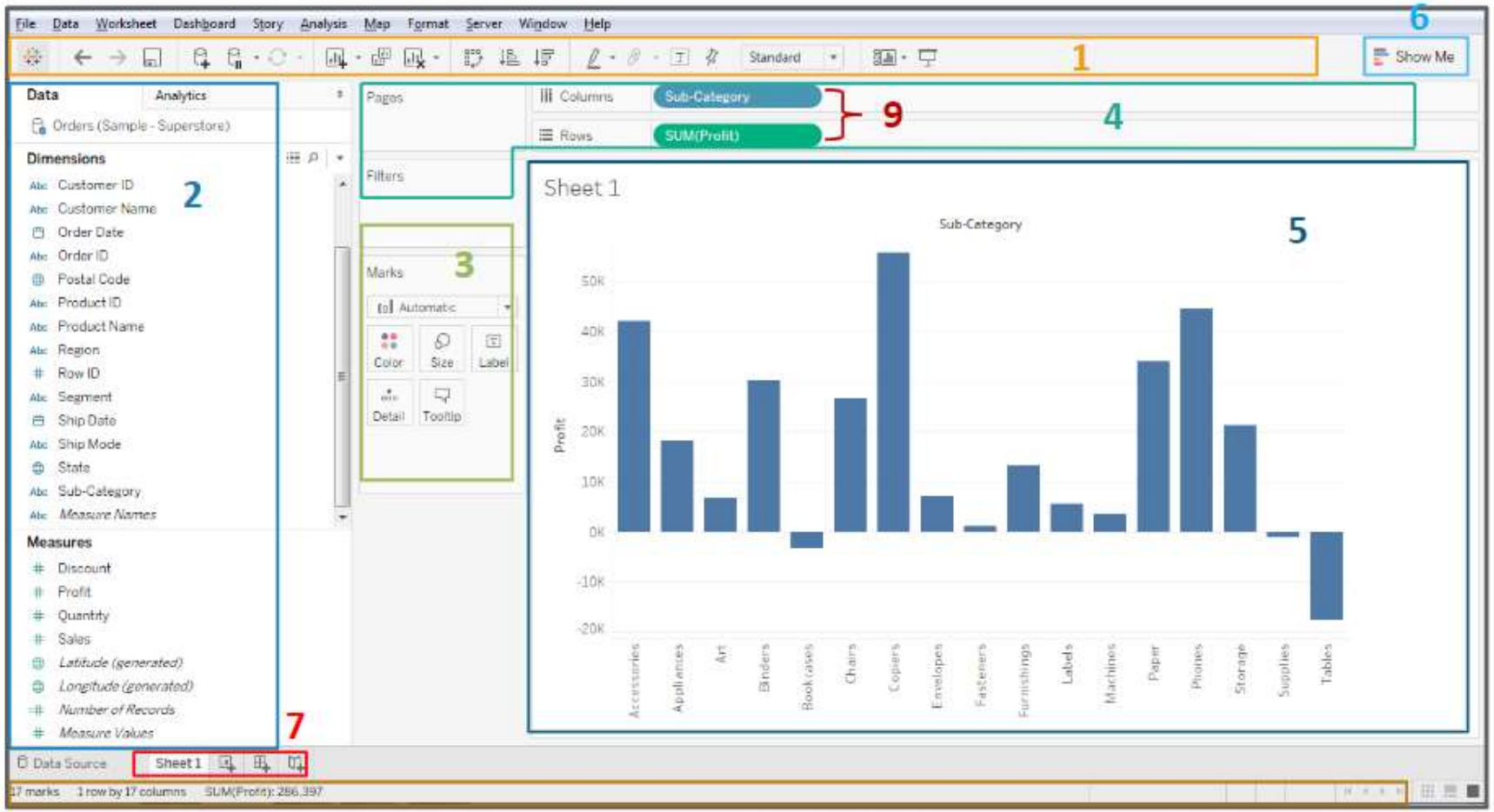
2 Connect

3 Saved Data sources

4 Sample Workbooks

5 Open and Discover

Tableau UI - Sheet



1 Toolbar

2 Side Bar

3 Marks Card

4 Column, Row, Pages and Filters Shelves

5 Canvas

6 Show me

7 Sheet

8 Status bar

9 Pills

Tableau UI - Sheet (Contd...)

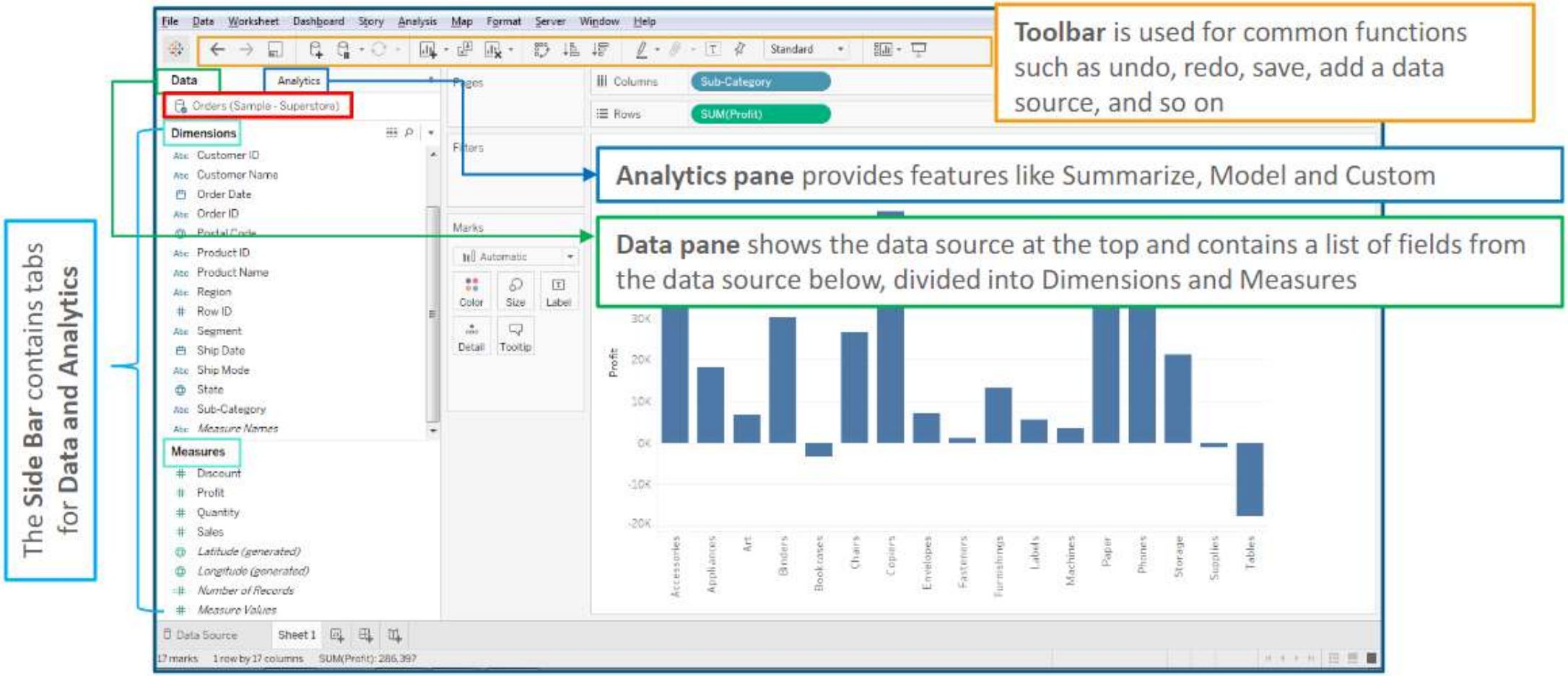


Tableau UI - Sheet (Contd…)

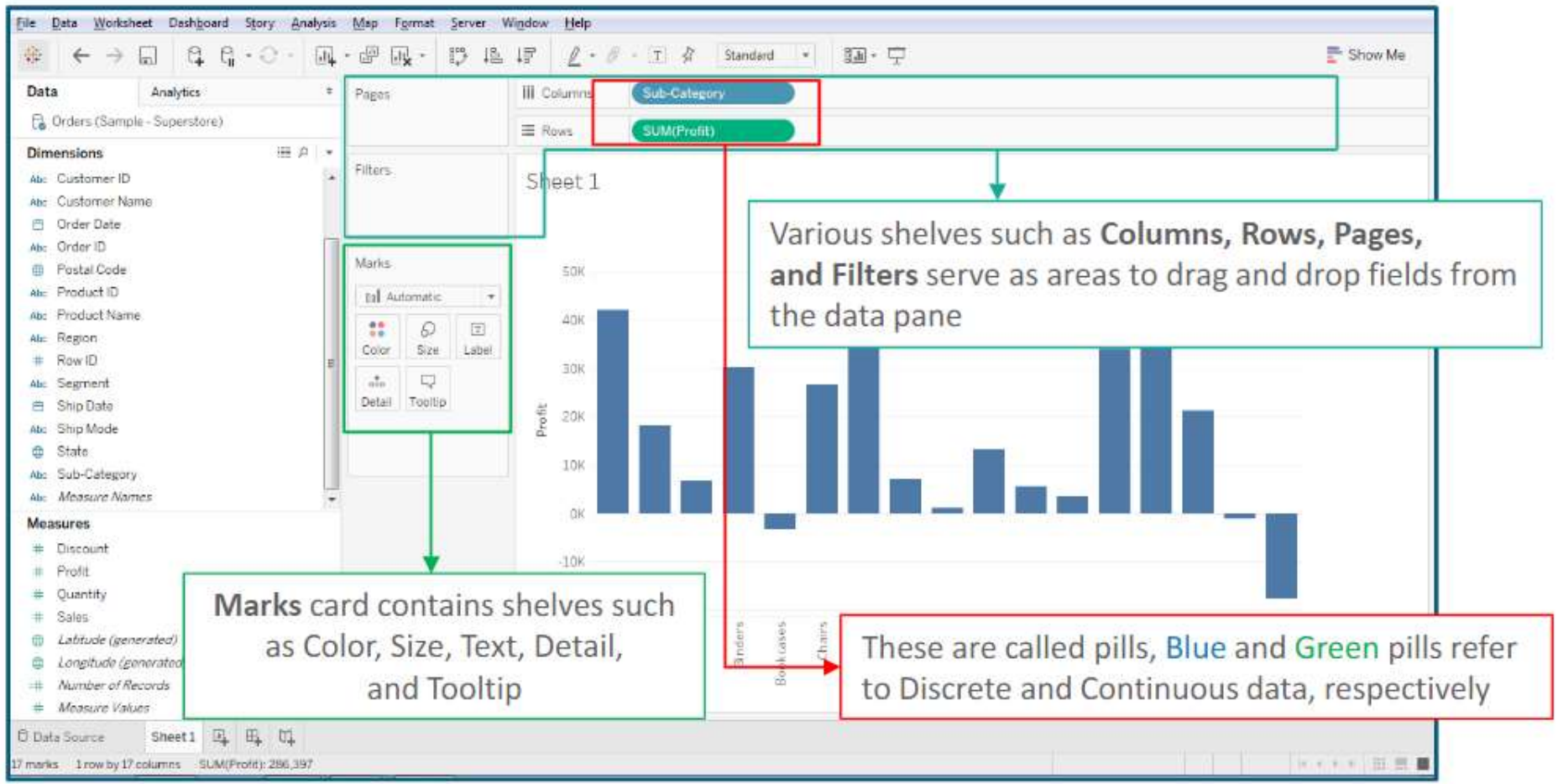
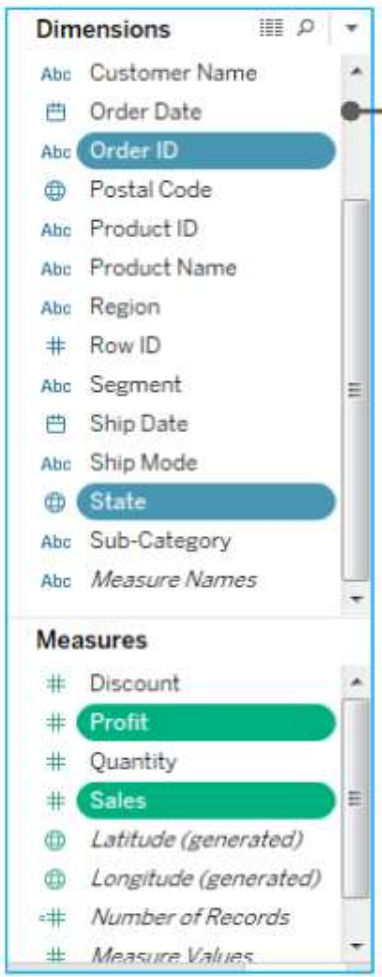


Tableau UI - Show Me



Select fields in the **Data** pane that you want to analyze.
Hold the Ctrl key to make multiple selections

Show Me smartly highlights view types (graphs) that work best with the field types (Attributes) in your data

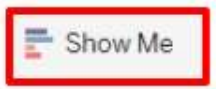
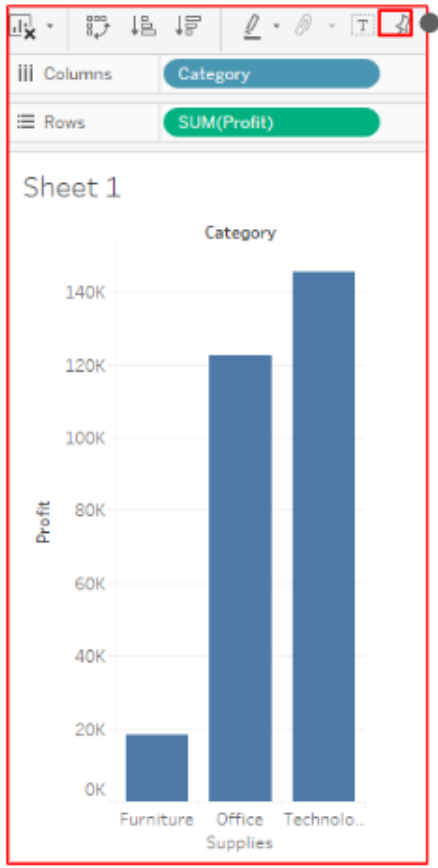
Open Show Me by clicking Show Me on the toolbar 

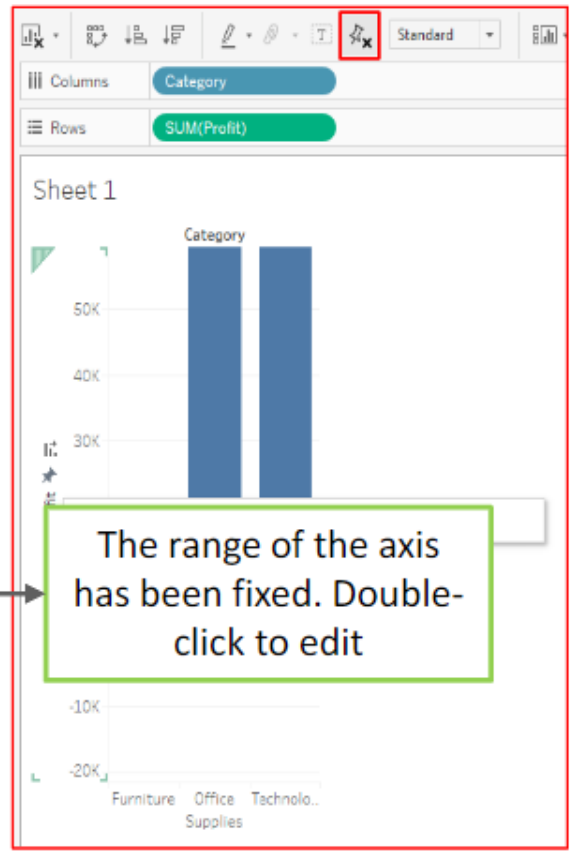
Tableau UI - Fix Axes



Click on this icon to fit axes and select ranges

Fit Axes adjusts the **range** based on the minimum and maximum values in the view.

Use Fit Axes by using  from the toolbar



The range of the axis has been fixed. Double-click to edit

Tableau UI - Fix Axes

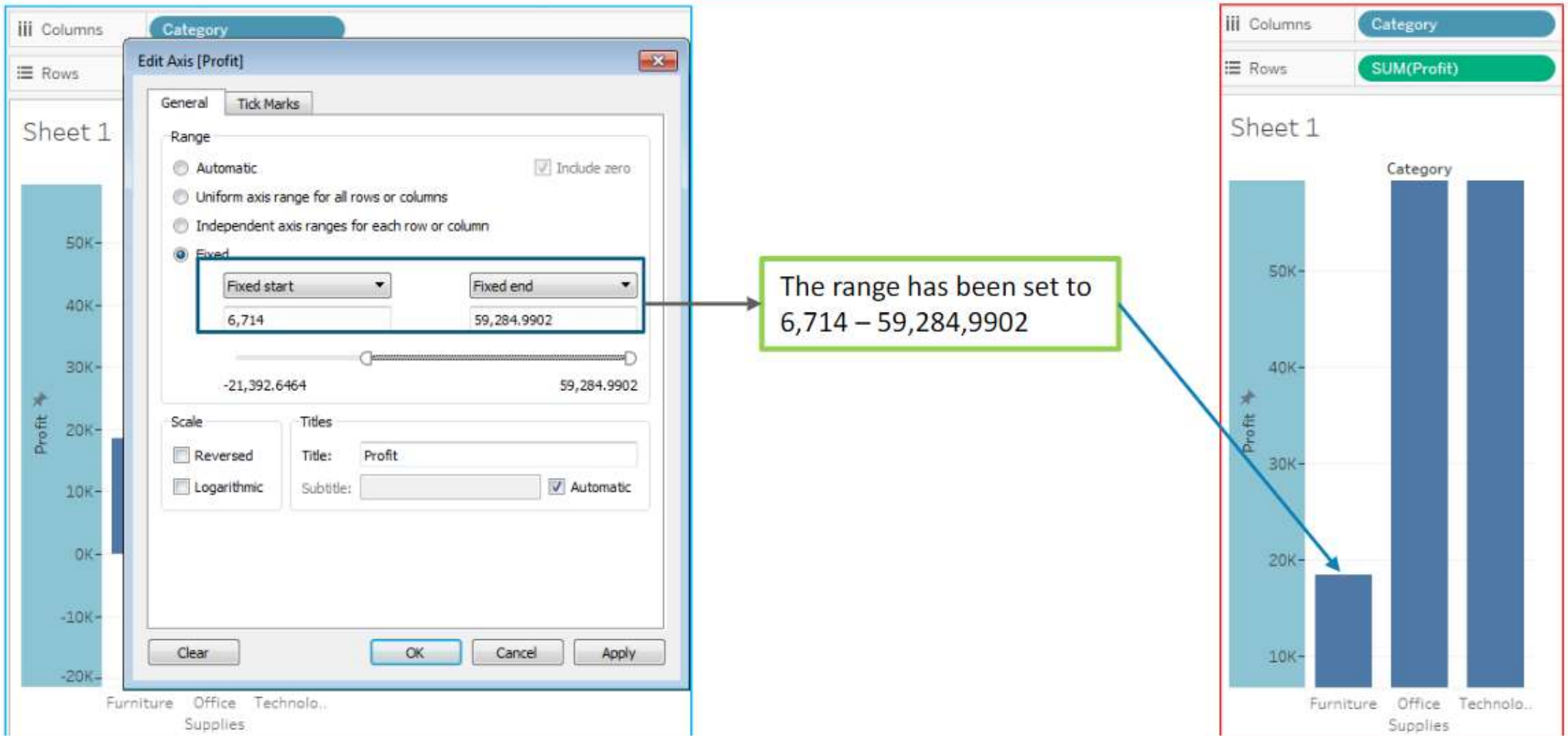
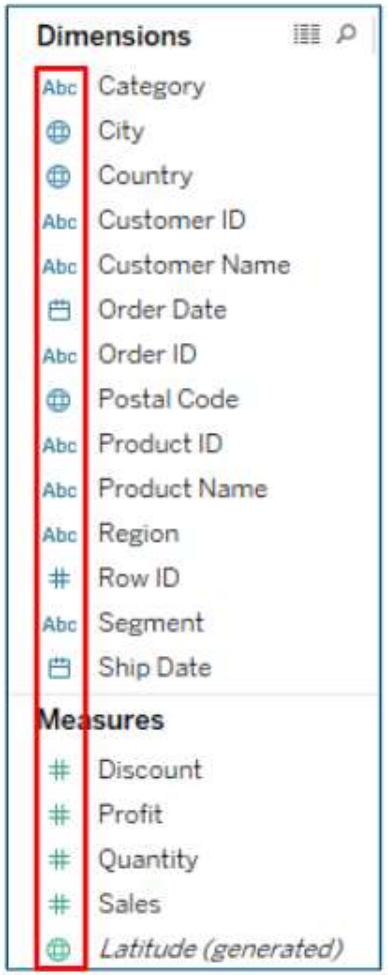


Tableau Data Types



Icons	Data Types
Abc	Text (string) values
	Date Values
	Date And Time values
#	Numerical Values
T|F	Boolean Values
	Geographic Values

Quiz

1 Which of the following does NOT appear in the Data Source page?

- Cross Join
- Full-Outer Join
- Inner Join
- Left-Outer Join

2

Which of the following tools offered by Tableau is used for building or preparing data?

- Tableau Reader
- Tableau Desktop
- Tableau Online
- Tableau Prep

3

At which step do we apply a filter?

- Cleaning Step
- Input Step
- Aggregate Step
- Pivot Step

4

Which of the following data connections should be established for connecting a CSV file within Tableau Prep?

- Excel
- Statistical File
- Text File
- Spatial File

5

What is the correct reason to use Data Extract instead of using a Live connection for a Dataset in Tableau?

- The data is constantly being updated and you want to make the viz based on a static data set and later change to a Live connection once the visualization is ready.
- Extract takes up less space as compared to Live connection
- Your data set is in CSV format, so you are required to create an extract
- The NULL values are dropped from the dataset once the connection type is changed to an Extract

6

While working with a Full-Outer Join, only the matching records from each Table are Joined. True or False?

- FALSE
- TRUE

Thank you !!

Tableau

(Business Intelligence)

By Eng. Mohammed Marwan Shahin

Outlines

- **Creating basic Visual Analytics using :**
  - Text Table
  - Bar chart
  - Stacked Bar Chart
  - Line graph
  - Area chart
  - Pie-chart
  - Scatter Plot
- **Demonstrate Different ways to share our charts statically.**
- **Viewing our charts using Tableau Reader**
- **Explain Some feature like** (Hierarchy, Highlight, Quick sort , group by, Filtering , sets)
- **Create calculated fields using** (text , Date , Logical, Aggregate and Arithmetic functions)

Visual Analytics

Why Visual Analytics?

Visual Analytics: Interactive graphical display of data used to generate analytical results and insights

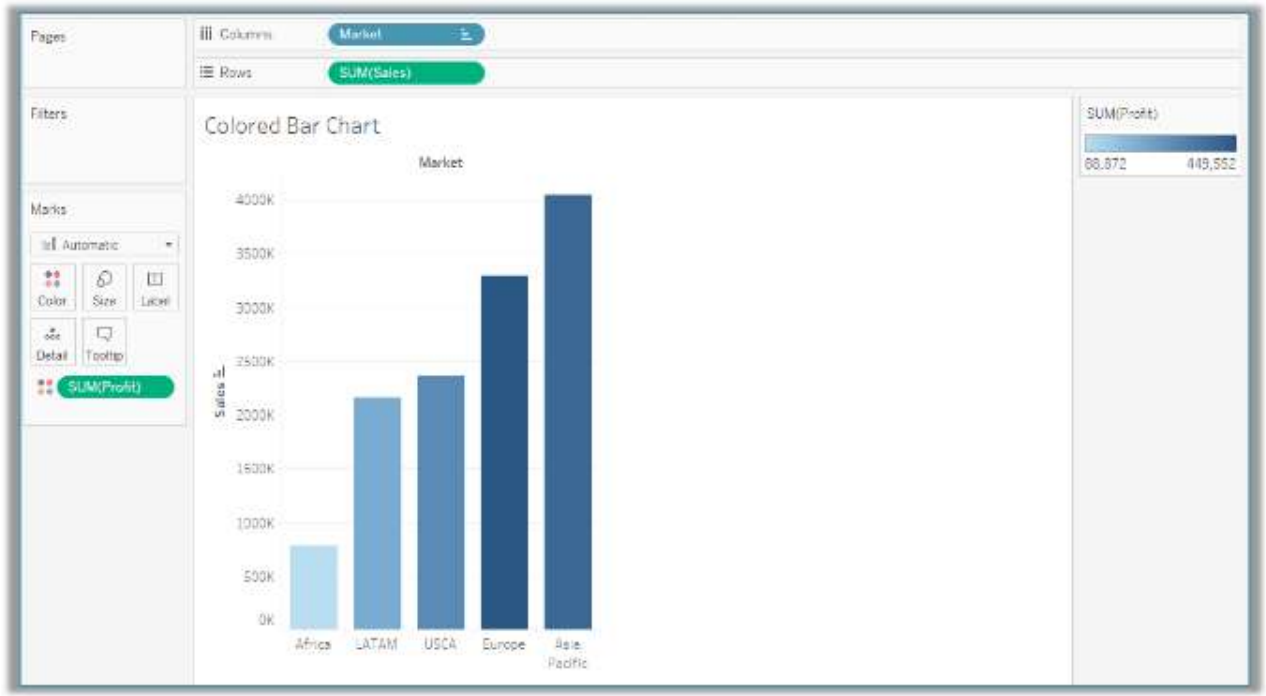
- Improves Decision Making
- Better Sense of Risk
- Better Key Strategic Initiative
- Good Financial Performance

Types Of Bar Charts

Bar Chart

A Bar Chart visually represents data in a way that makes comparison of values simpler

- Drag **Sales** field from Measures on to the Rows shelf
- Drag **Market** field from Dimensions on to the Columns shelf
- Drag **Profit** field from Measures on to the Color shelf

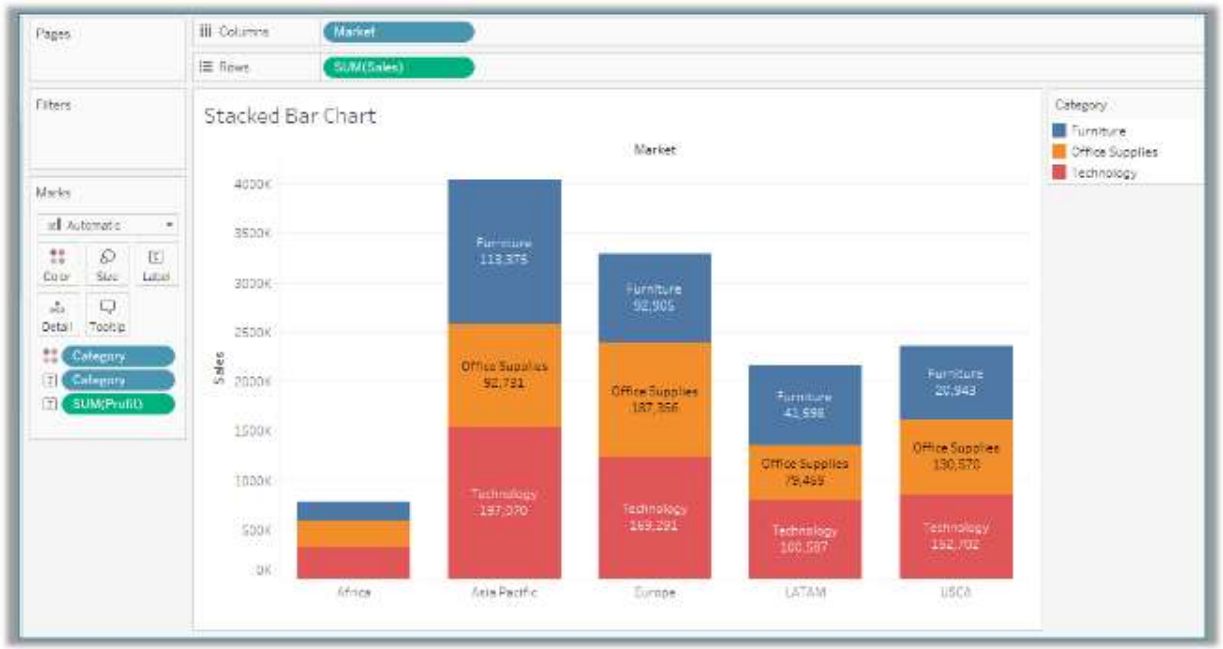


A Bar Chart displaying Market - Wise Sales

Stacked Bar Chart

A Stacked Bar Chart is useful for adding another level of detail in the Bar Chart

- Drag **Category** field from Dimensions on to the Color shelf
- Drag **Category** field from Dimensions on to the Label shelf
- Drag **Profit** field from Measures on to the Label shelf



The view shows how the various product categories have contributed to total sales across Market

Side By Side Bar Chart

- Drag **Market** field from Dimensions on to the Columns shelf
- Drag **Category** field from Dimensions on to the Columns shelf
- Drag **Profit** field from Measures on to the Color shelf

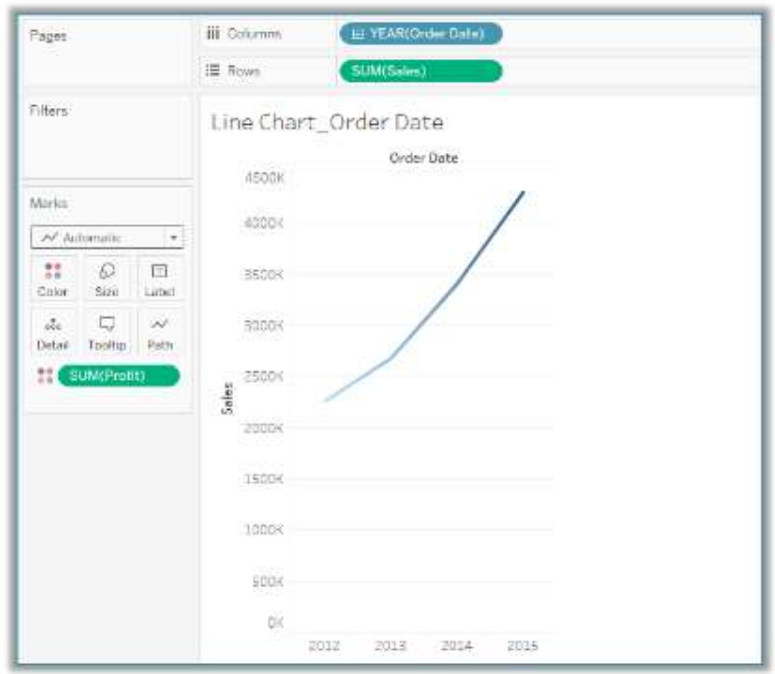
A Side By Side Bar Chart shows that profits are best for all the product categories in Asia Pacific Market

Types Of Line Charts

Line Chart

A Line Chart connects related marks in a visualization to display the relationship between them

- Drag **Sales** field from Measures on to the Rows shelf
- Drag **Order Date** field from Dimensions on to the Columns shelf
- Drag **Profit** field from Measures on to the Color shelf

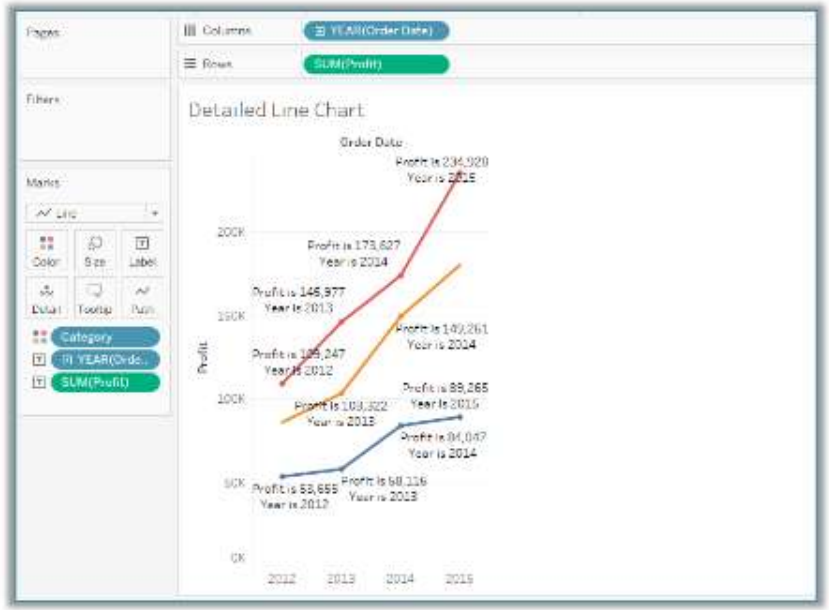


A Line Chart which displays year after year increase in sales

Labeled Line Chart

A Labeled Line Chart is a Line Chart wherein each of the points are labeled to make the values of the measure visible

- Drag **Category** field from Dimensions on to the Color shelf
- Drag **Order Date** field from Dimensions on to the Label shelf

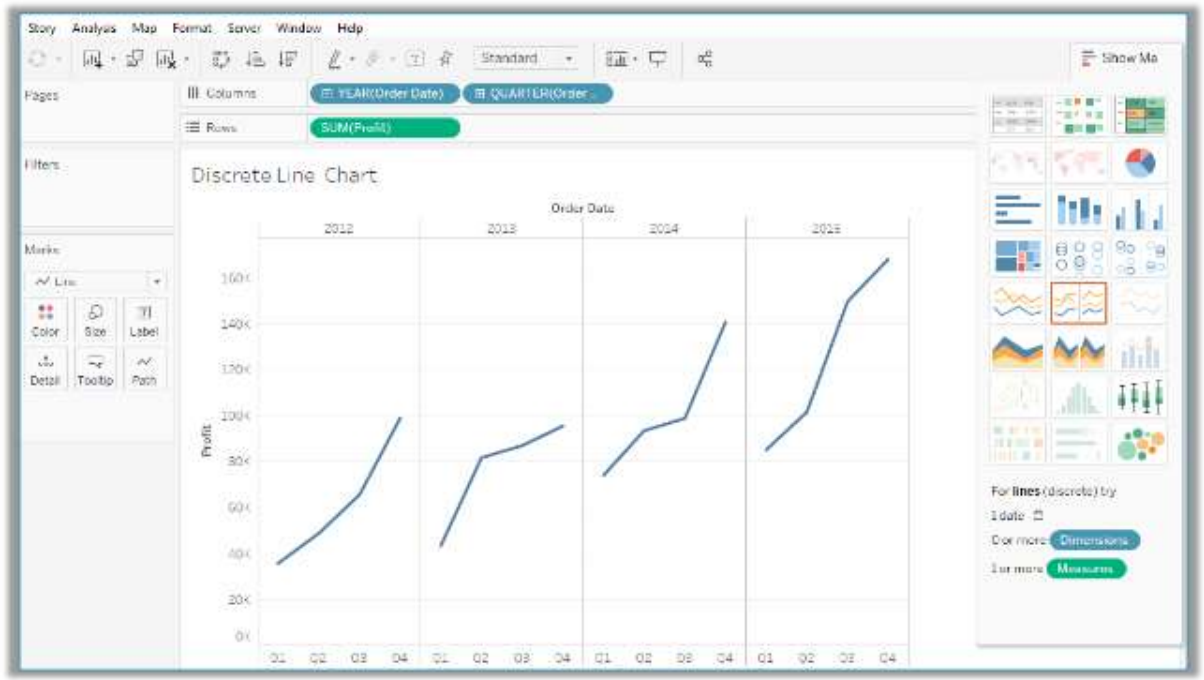


A Labeled Line Chart that displays year after year profit values of various product categories

Discrete Line Chart

A Discrete Line Chart represents values at specific points along the number line

- Drill down the **Order Date** field from the Columns shelf
- Quarter wise profits across years will be displayed

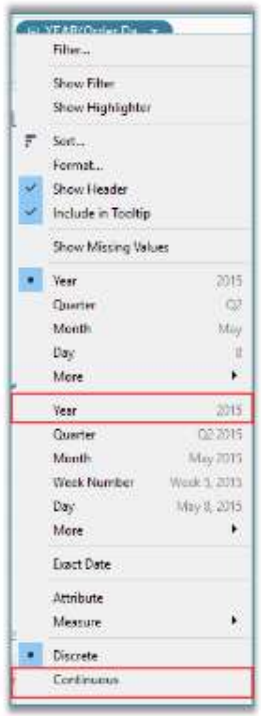


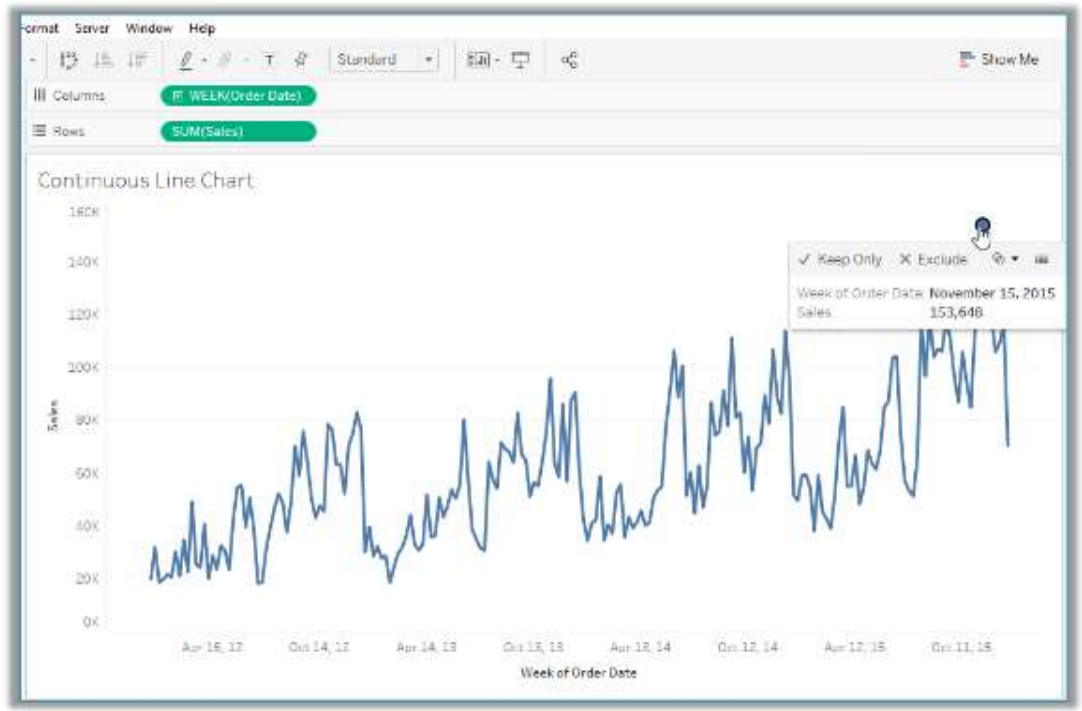
A Discrete Line Chart displays profits across various quarters

Continuous Line Chart

A Continuous Line Chart is a Line Chart which is used to display the development of a phenomenon over time

- Click on the **Order Date** field from the Columns shelf and select the Year option from the Continuous field
- Drill down the **Order Date** field from the Columns shelf to WEEK



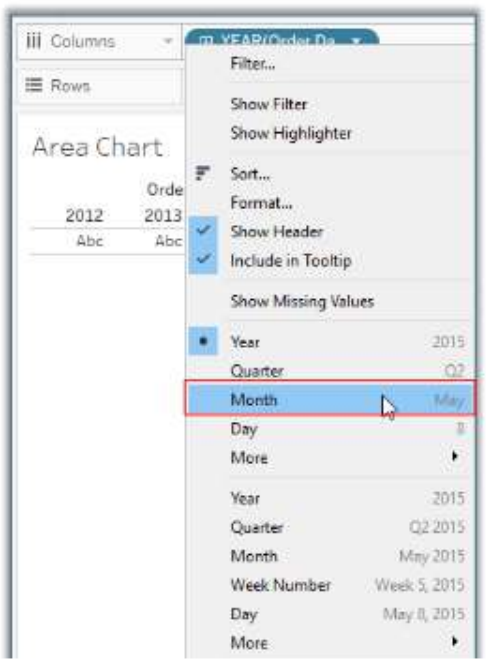


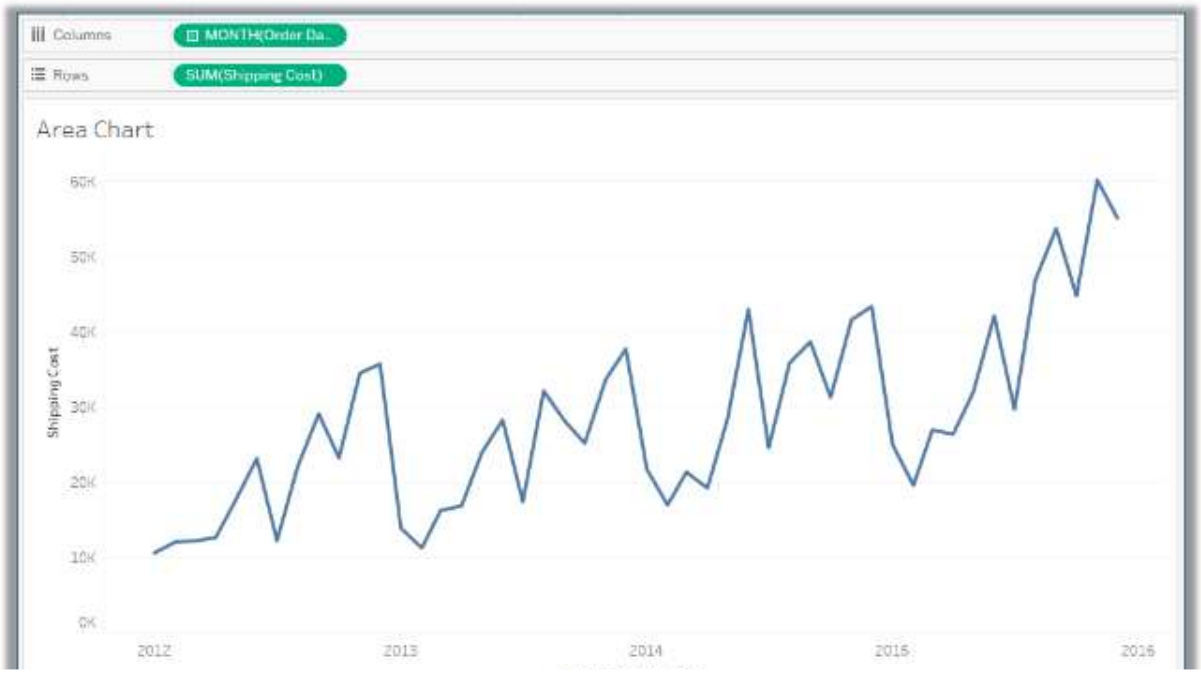
A Continuous Line Chart displaying week wise sales

Area Chart

Area Chart is a Line Chart wherein the area between the line and the axis are shaded

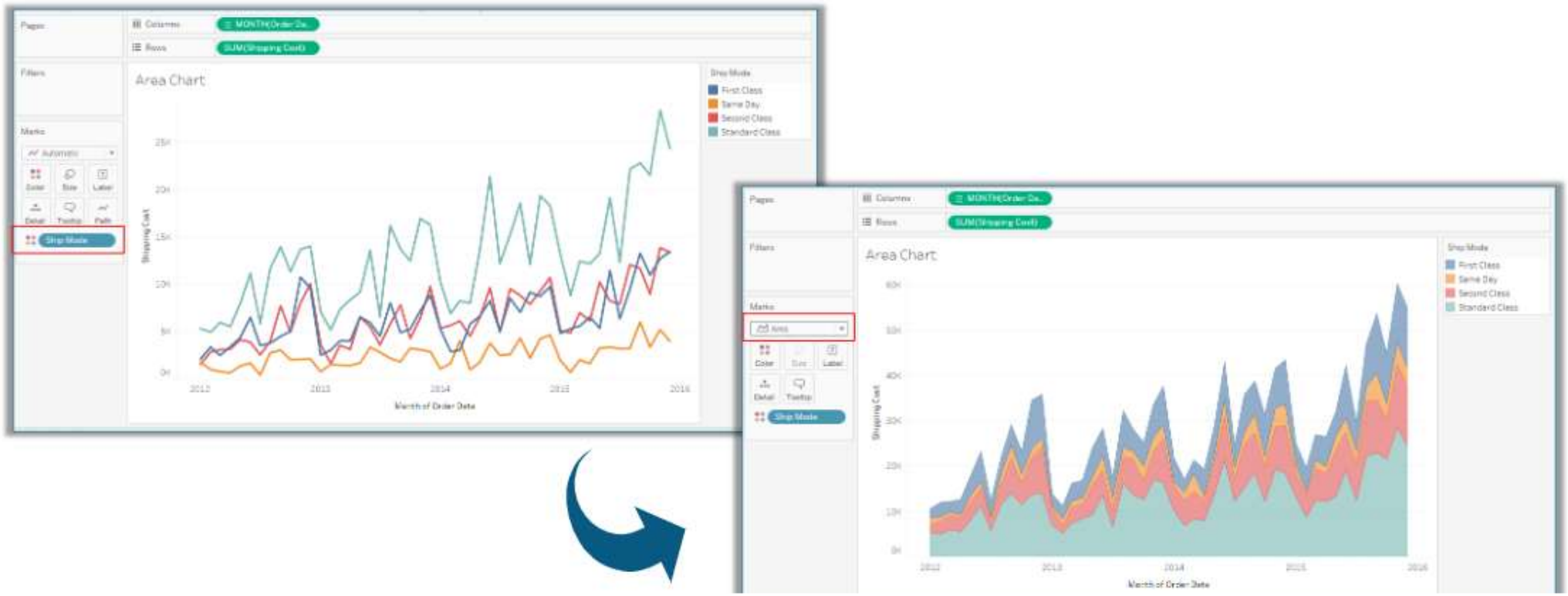
- Drag **Order Date** field from Dimensions on to the Columns Shelf
- Drag **Shipping Cost** from Measures on to the Rows Shelf





Area Chart

- Drag **Ship Mode** Field from Dimensions on to the Color shelf
- Select **Area** option from drop down menu of Marks Card

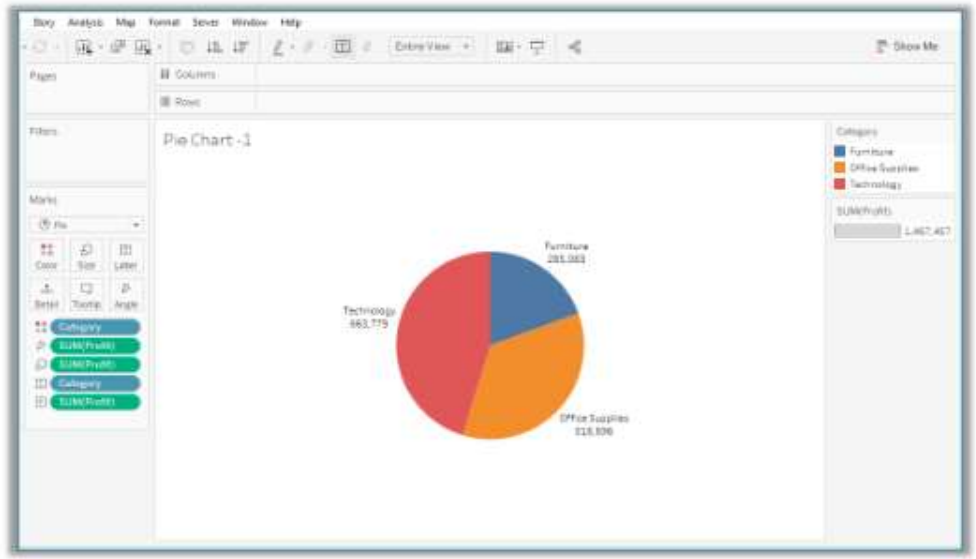


Pie Charts

Pie Chart Using Show Me Tool

A Pie Chart is best suited to show proportional or percentage relationships

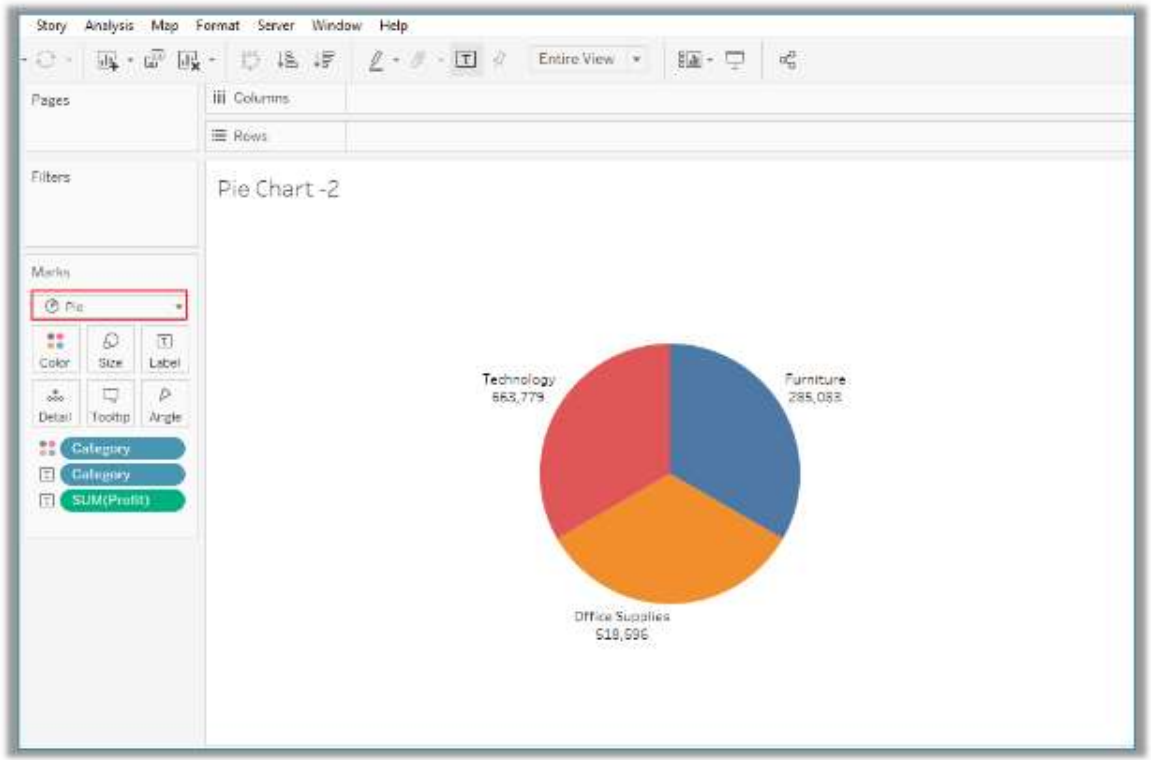
- Select **Category** field from Dimensions, press **Ctrl key** and select **Profit** field from Measures
- Select Pie chart from the **Show Me** Tool
- Choose the **Entire View** option from the Toolbar
- Drag **Category** and **Profit** field on to the Label



A Pie Chart showing Category Wise Profits

Pie Chart Through Marks Card

- Drag **Profit** field from Measures on to the pane
- Select the **Pie** option from the Marks Card
- Drag **Category** sales from Dimensions on to the Color shelf
- Choose the **Entire** view option from the toolbar
- Drag **Category** and **Profit** field on to the Label shelf



A Pie Chart showing Category Wise Profits through Marks Card

Pie Chart Through Marks Card

- Drag **Category** field from Dimensions on to the Rows shelf
- Select the **Pie** option from the Marks Card
- Drag **Profit** field from Measures on to the Size shelf
- Drag **Market** field from Dimensions on to the Color shelf
- Drag **Market** and **Profit** field on to the Label shelf

A Pie Chart showing Market Wise Profits through Marks Card

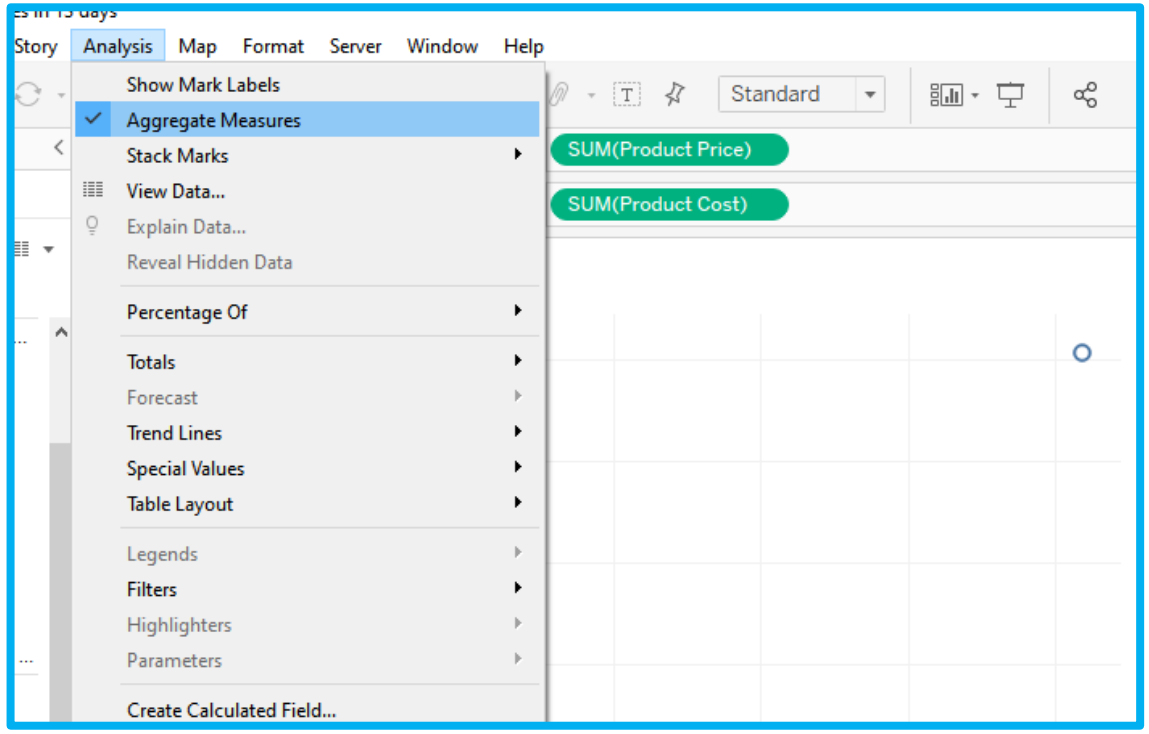
Scatter Plot

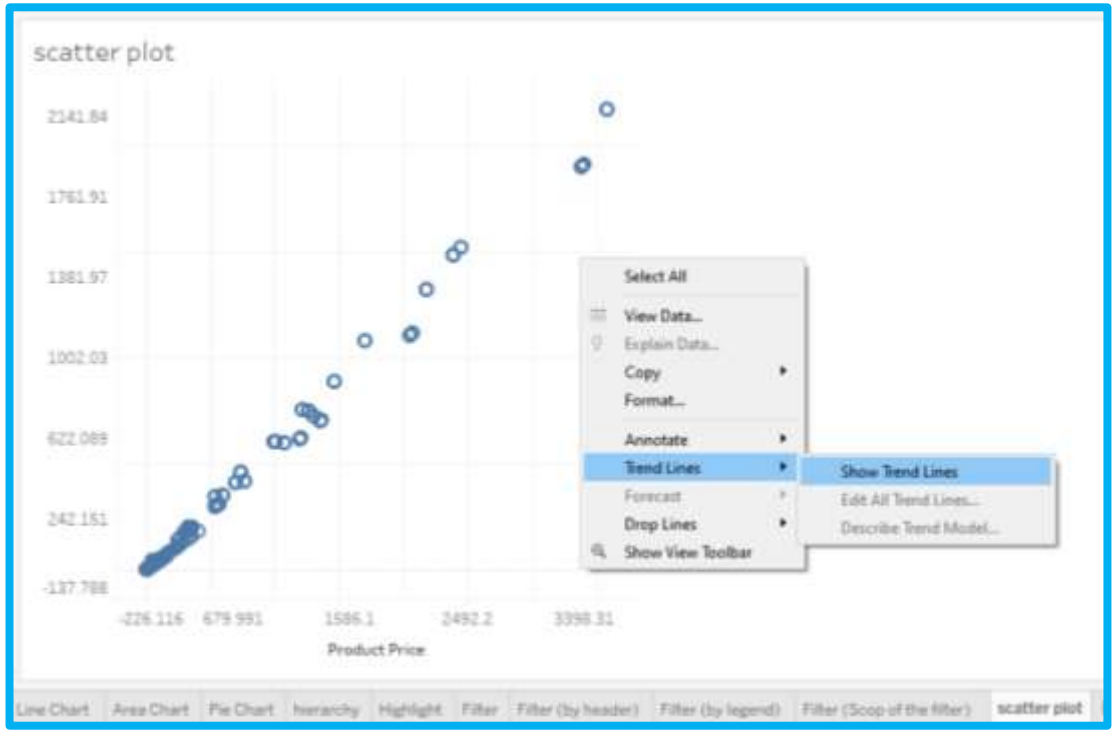
Scatter Plot

Can be used for correlation data analysis and predictions, scatterplot will tell us the (Direction) and (strength) of the relationship.

- What will be the output given the input?
- What will be the profit given sales?
- What will be the weight gained given the calories consumed?
- What will be the power output given the wind speed?

Scatter Plot





Scatter Plot

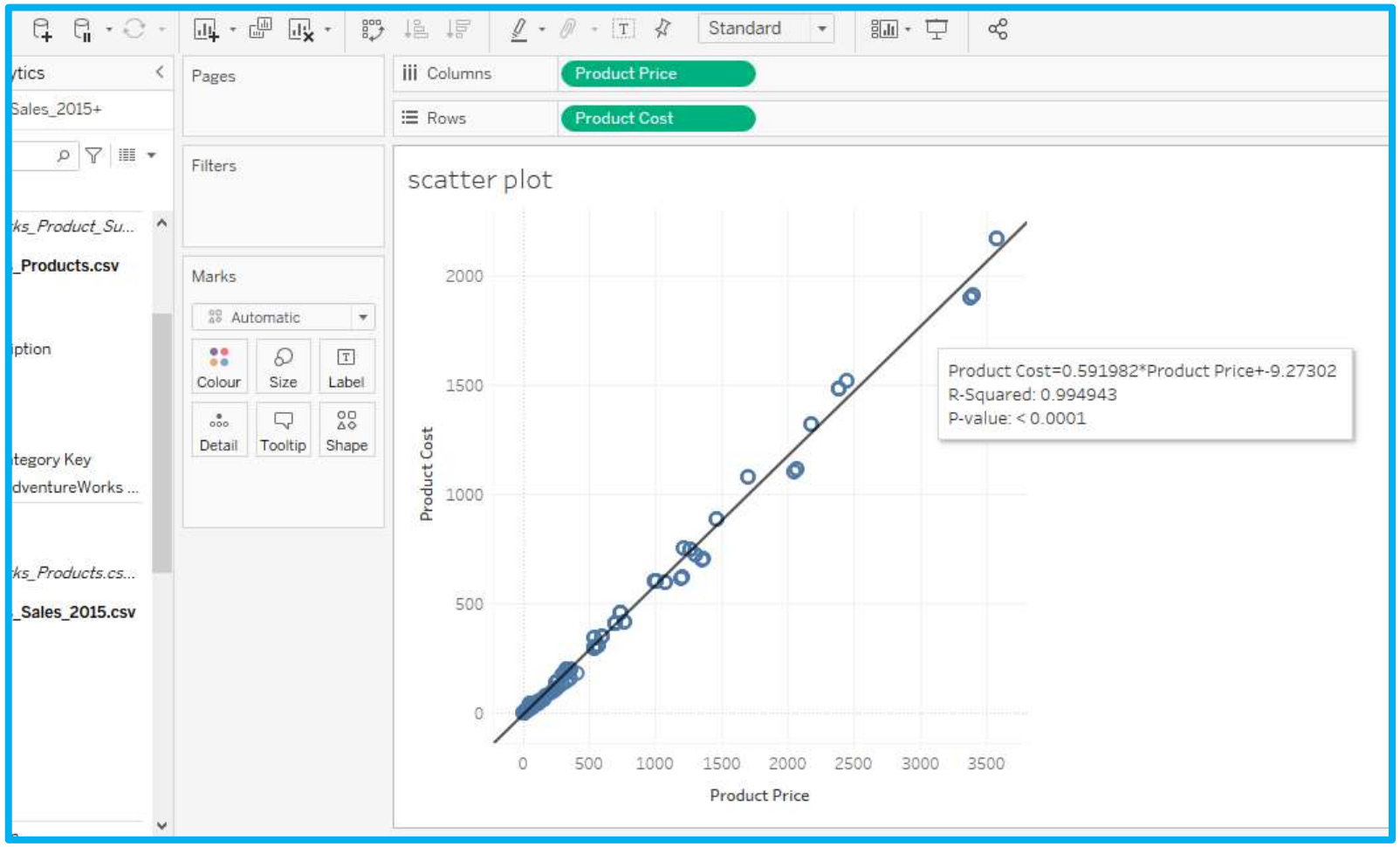


Tableau Reader

Tableau Reader

You Can share Tableau workbook with others using Tableau Readers, it will be an interactive visuals.

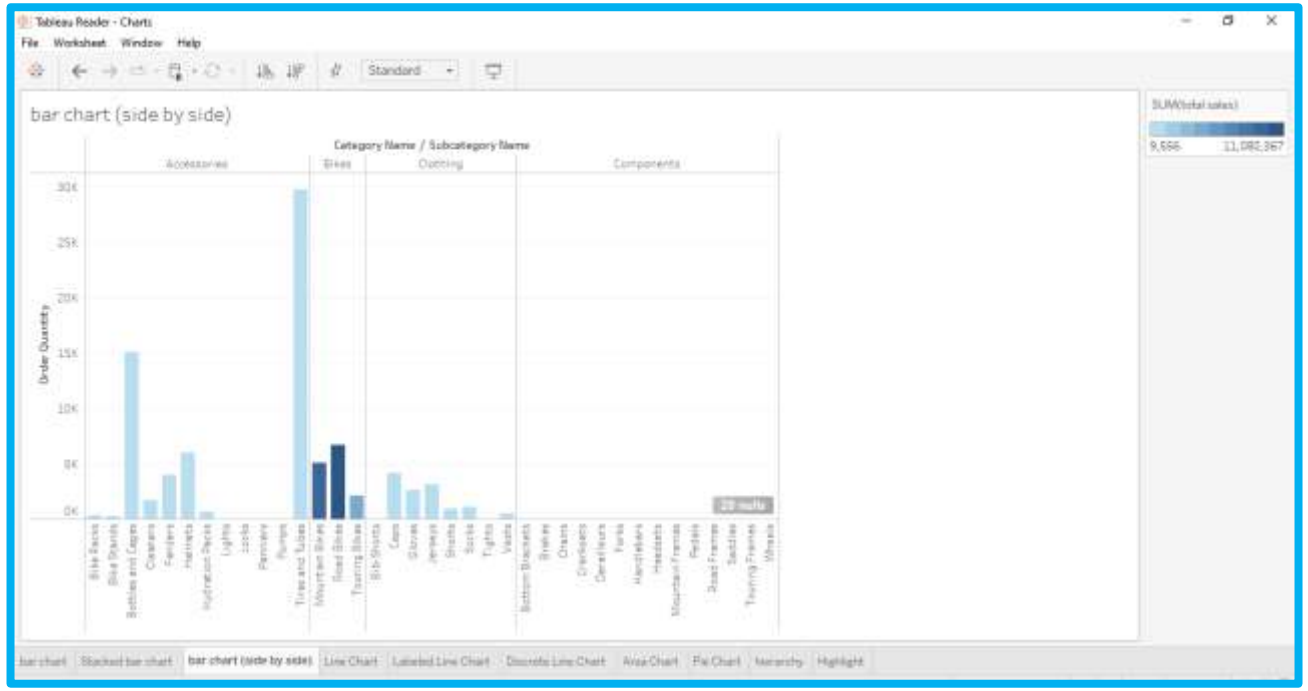


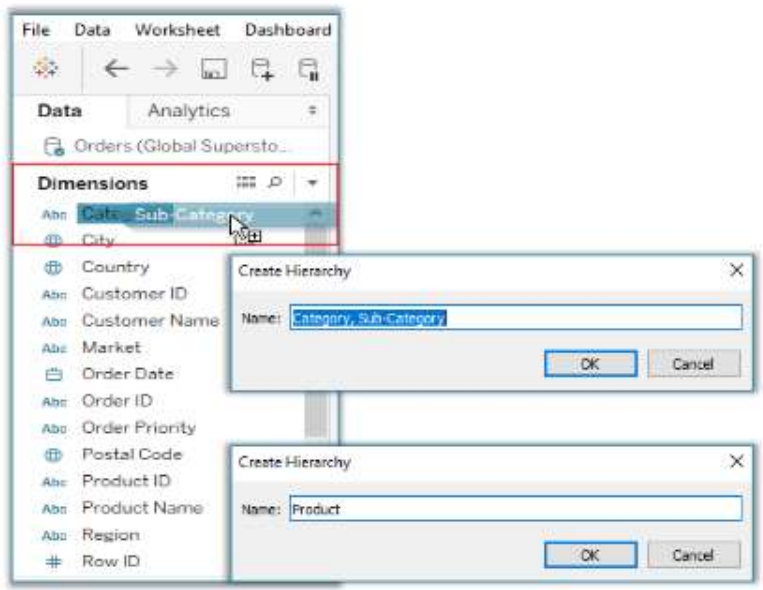
Tableau Reader Installation URL: https://www.tableau.com/products/reader

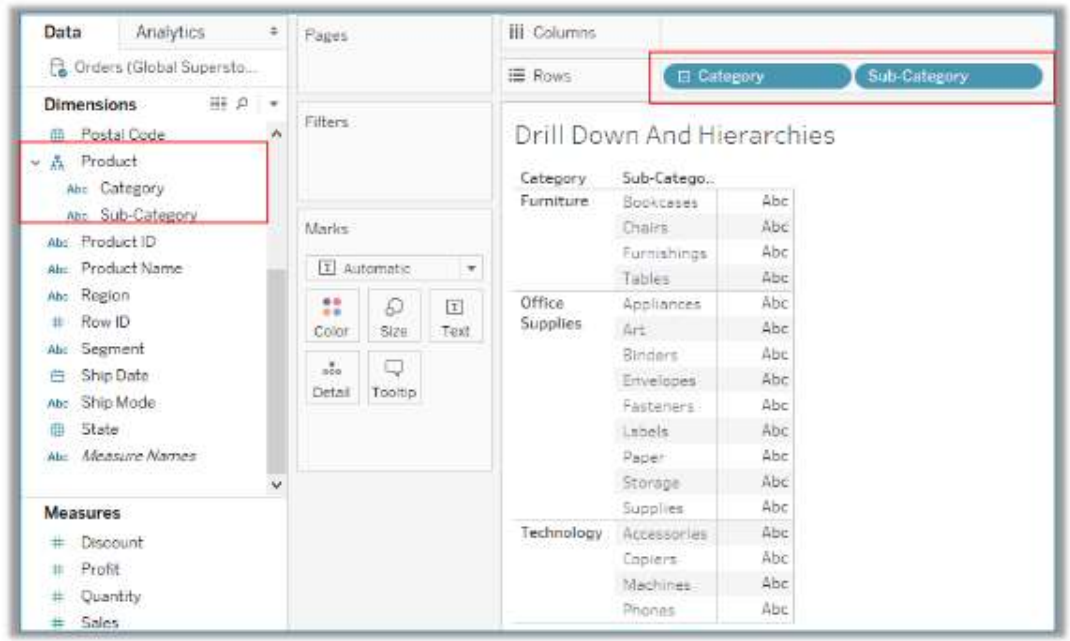
Note: Only packaged workbook can be opened in tableau reader

Hierarchies

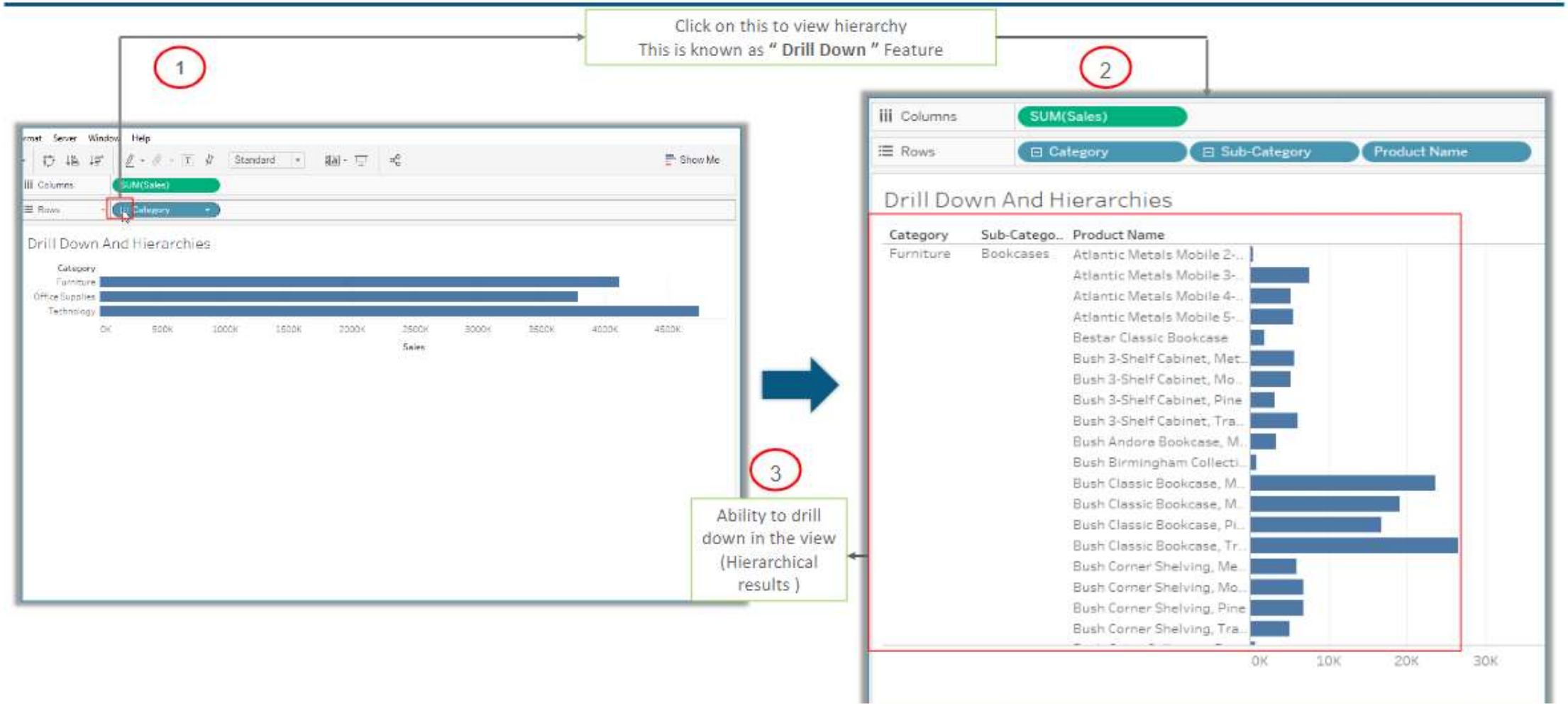
Create A Hierarchy

- Drag and drop Sub-Category field from Dimensions onto the Category field
- Name the Hierarchy as “Product”





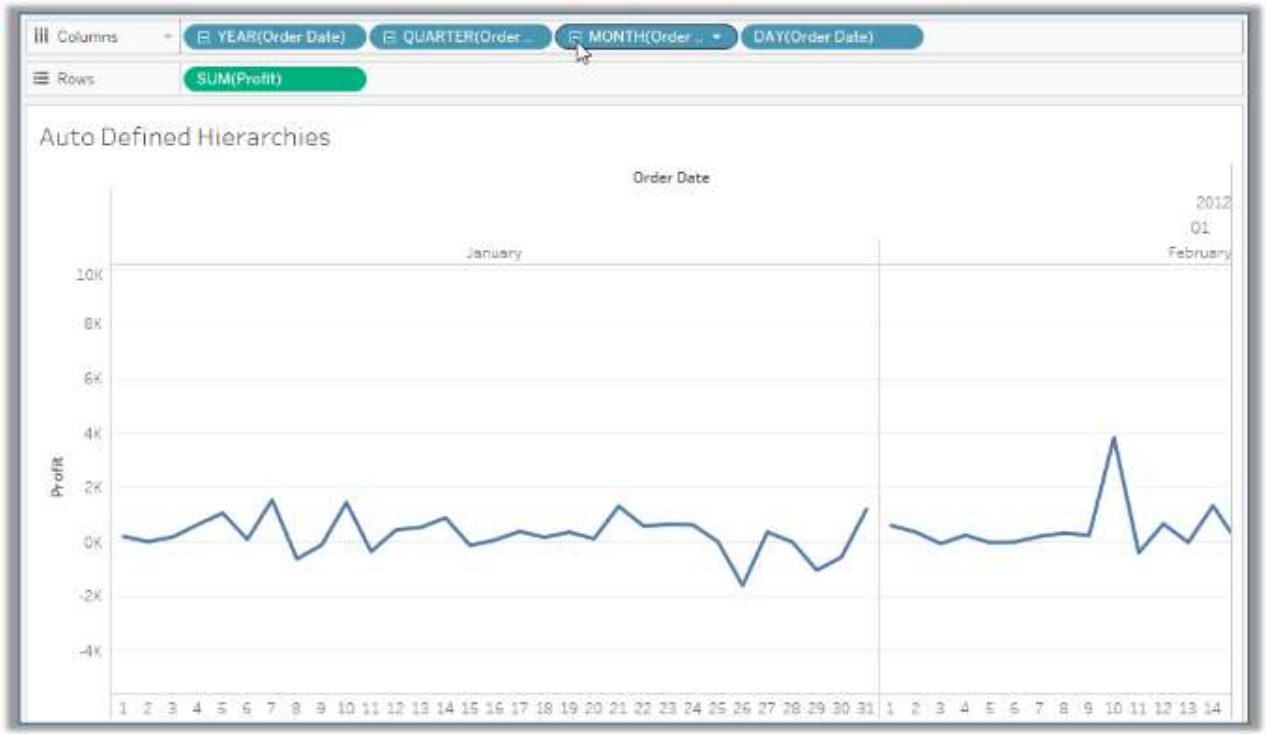
Hierarchies



Built In Hierarchies

Order Date field has a built-in hierarchy

- Year
  - Quarter
    - Month
      - Day

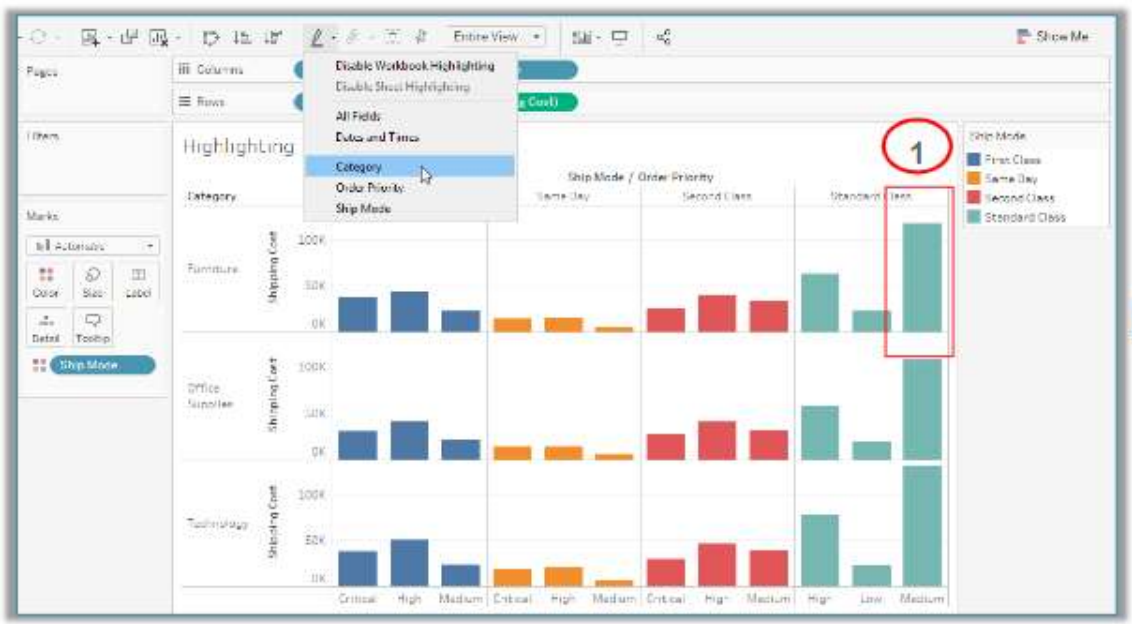


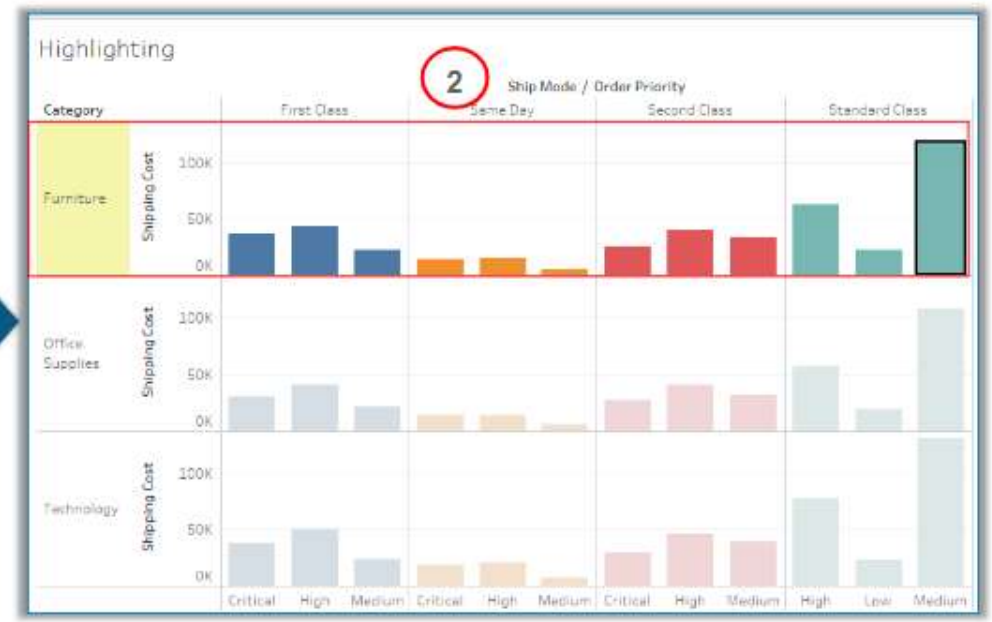
Profits based on the Timeline

Highlighting

Highlighting Feature In Tableau

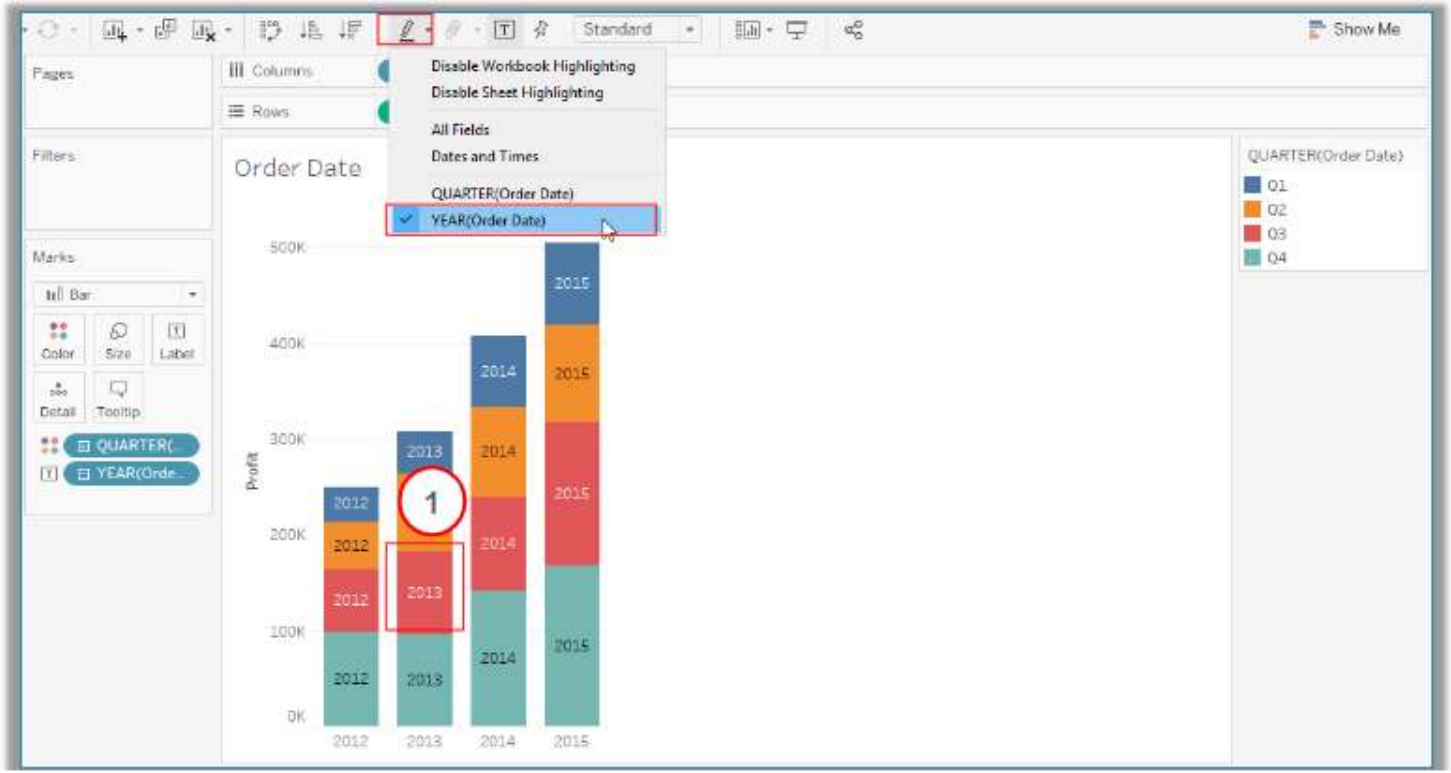
- Click on the Highlighting icon in the toolbar, and select the Category option from the drop-down menu
- Click on (1) , the corresponding row (Category) gets highlighted as displayed in (2)

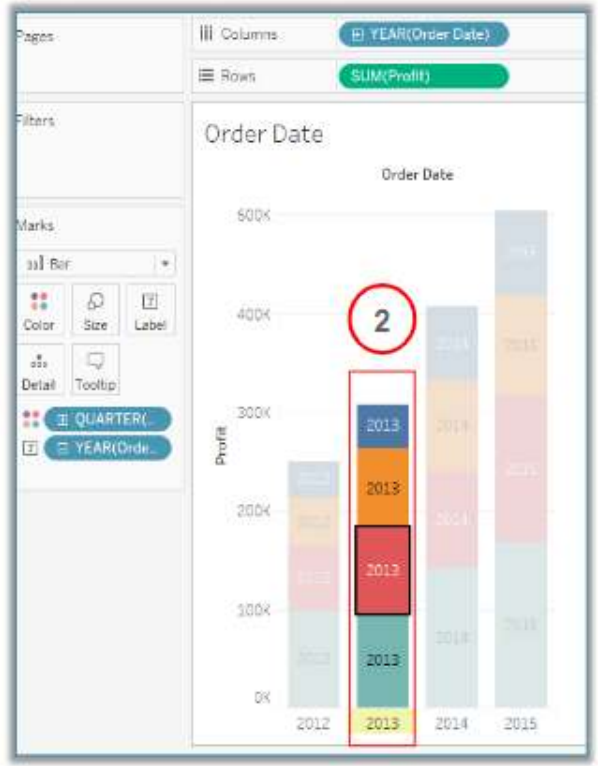




Highlighting Feature In Tableau

- Click on the Highlighting icon and select the Year (Order Date) option from the drop-down menu
- Click on (1) , the corresponding column (Year) gets highlighted as displayed in (2)



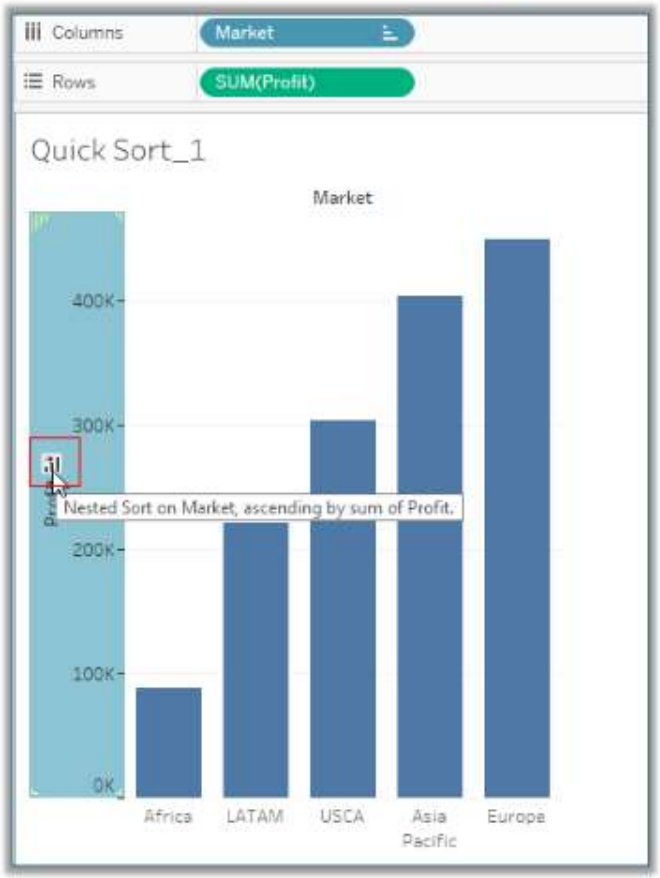


Sorting

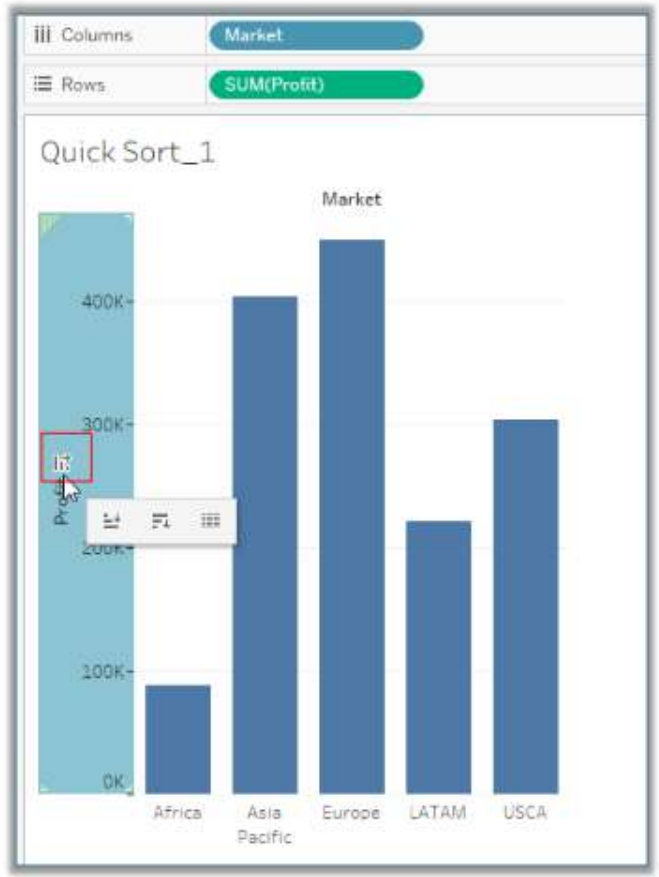
Quick Sort

1 st Click - Descending

2 nd Click - Ascending

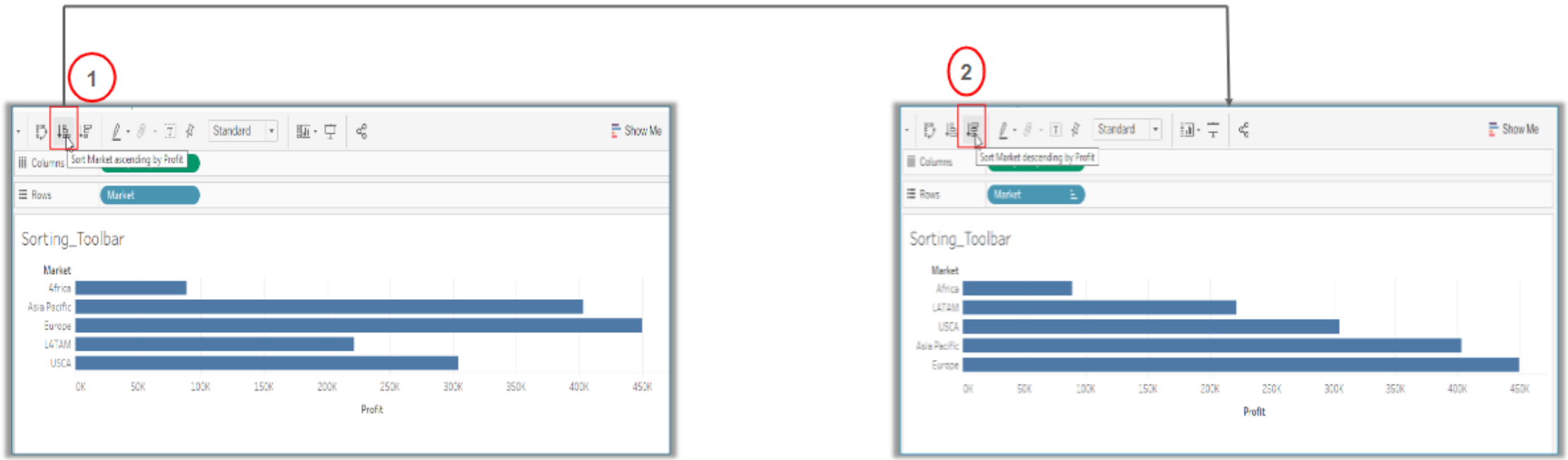


3rd Click - No Sort



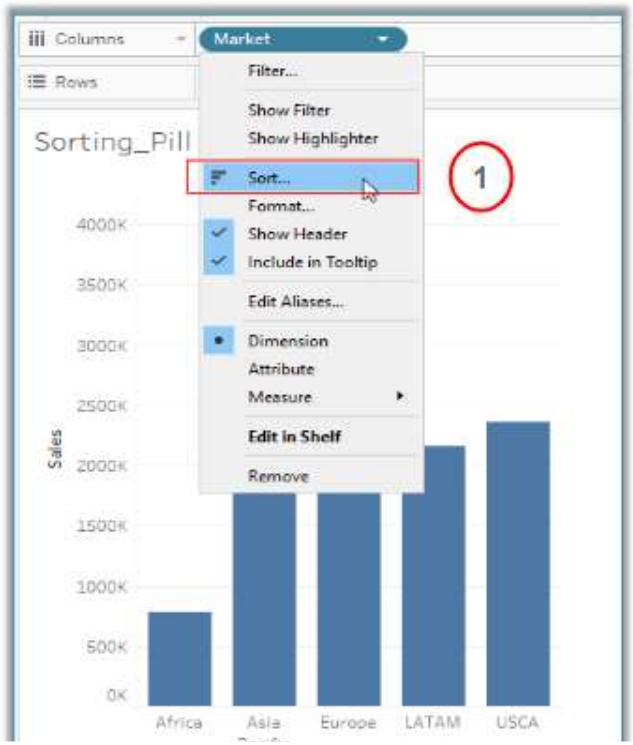
Sort Using Toolbar

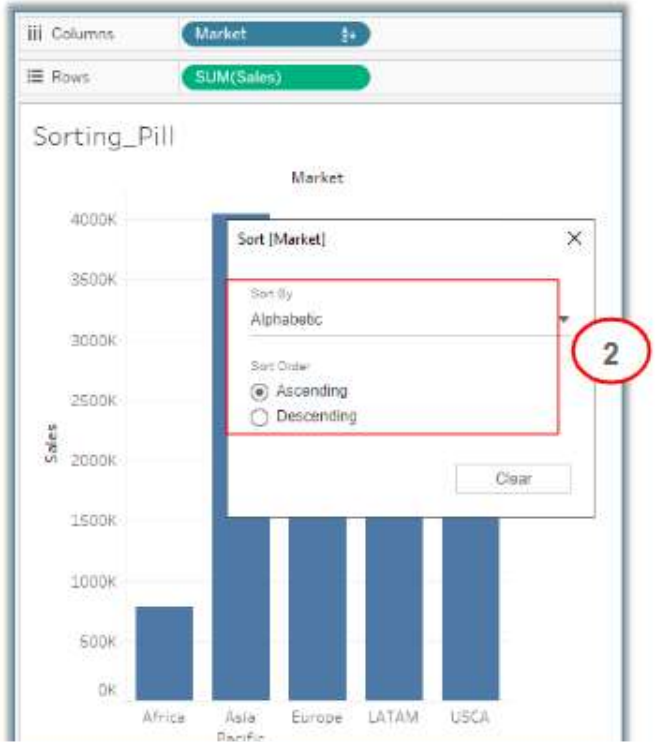
1. Click on the Sorting Icon from the toolbar which sorts the data in ascending order
2. Click on the Sorting Icon from the toolbar which sorts the data in descending order

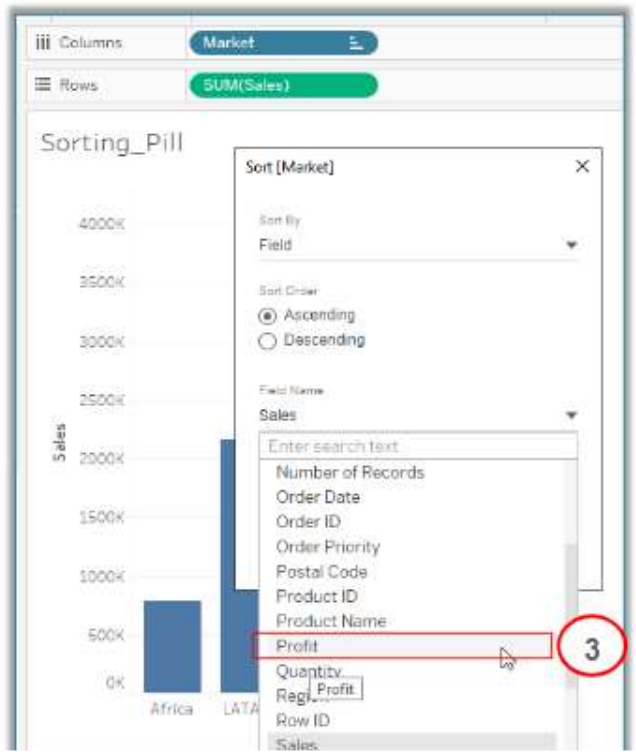


Sort Using Pill

1. Click on the Market pill and select the Sort option
2. Sort Alphabetically in Ascending order
3. Sort by Field by selecting this measure to sort the Market according to the Profit

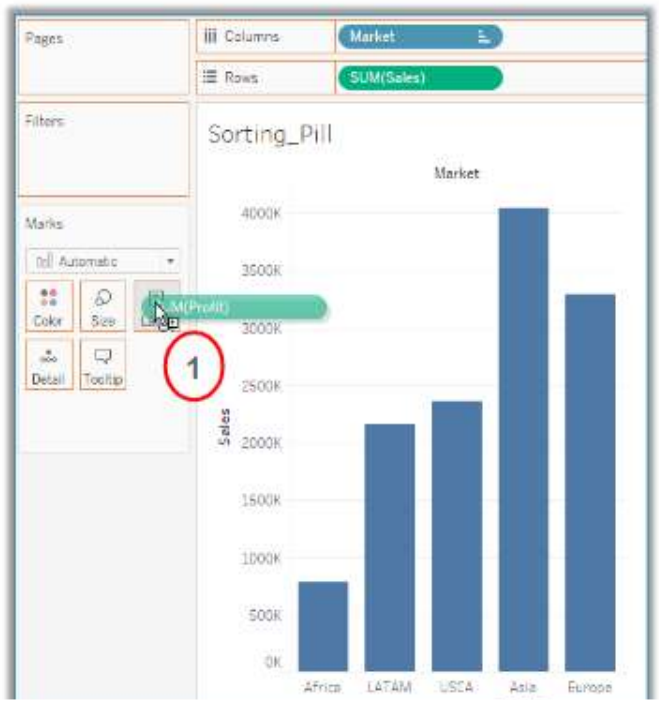


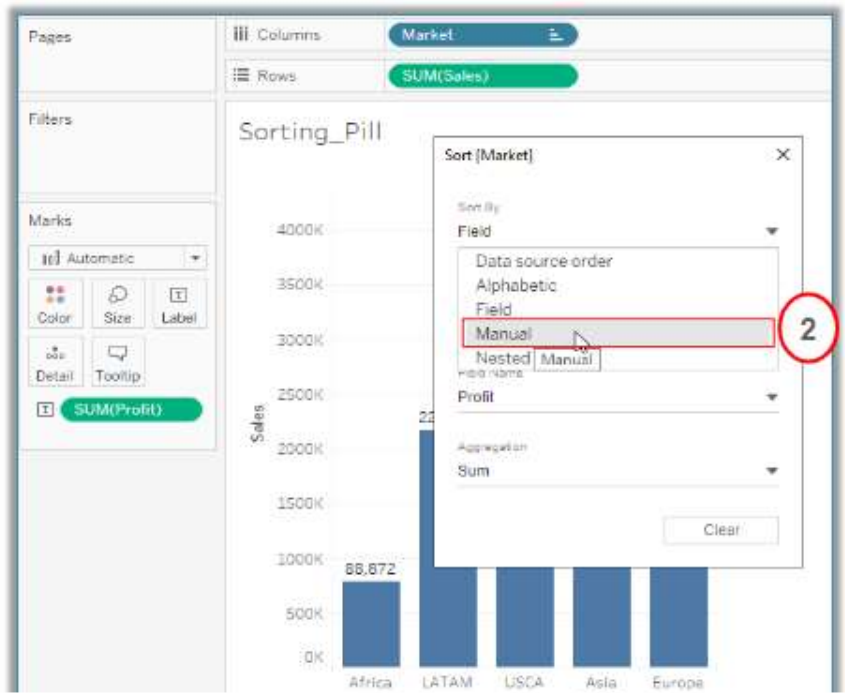


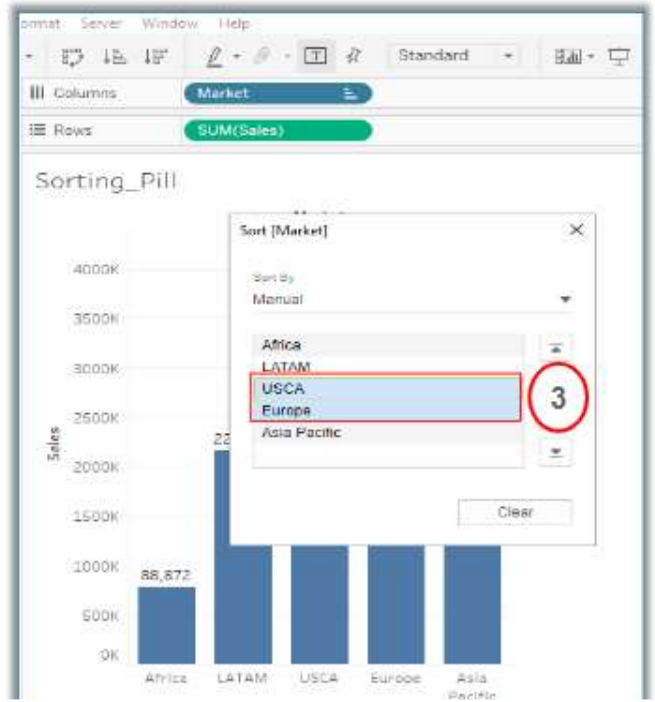


Sort Using Pill

1. Drag Profit field from Measures on to the Color shelf
2. Select Manual option from the drop - down menu
3. Perform Manual Sort

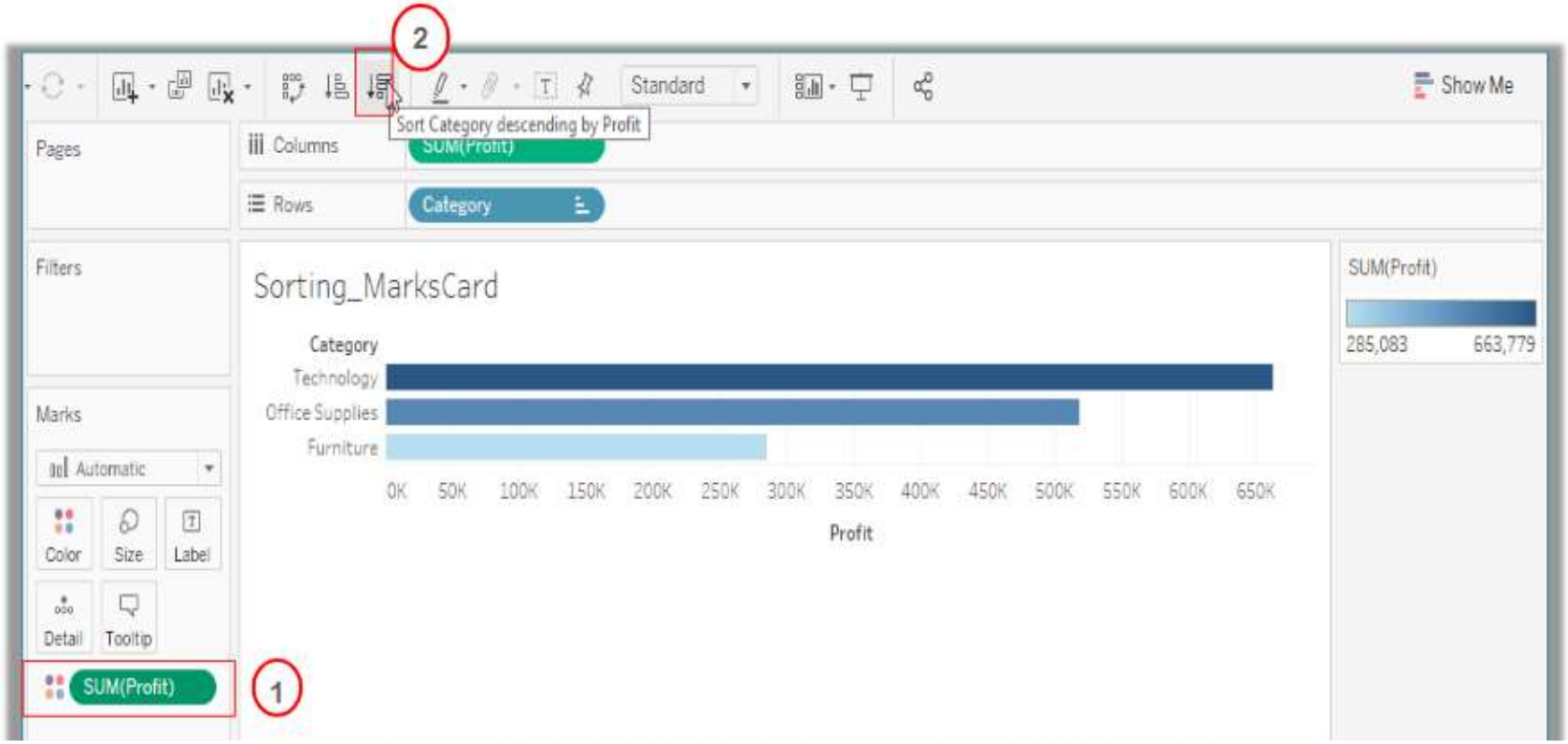






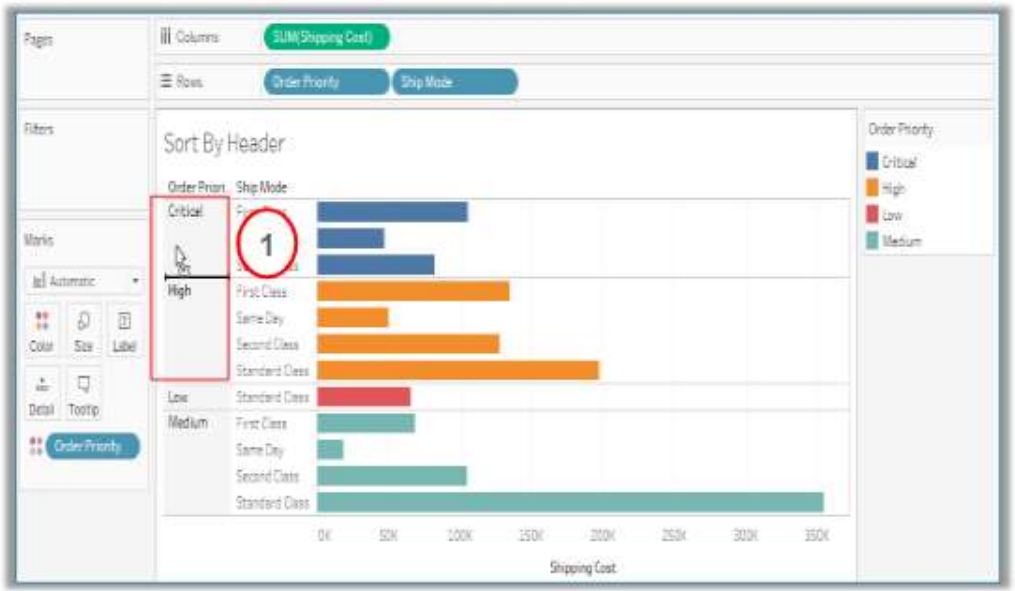
Sort Using Marks Card

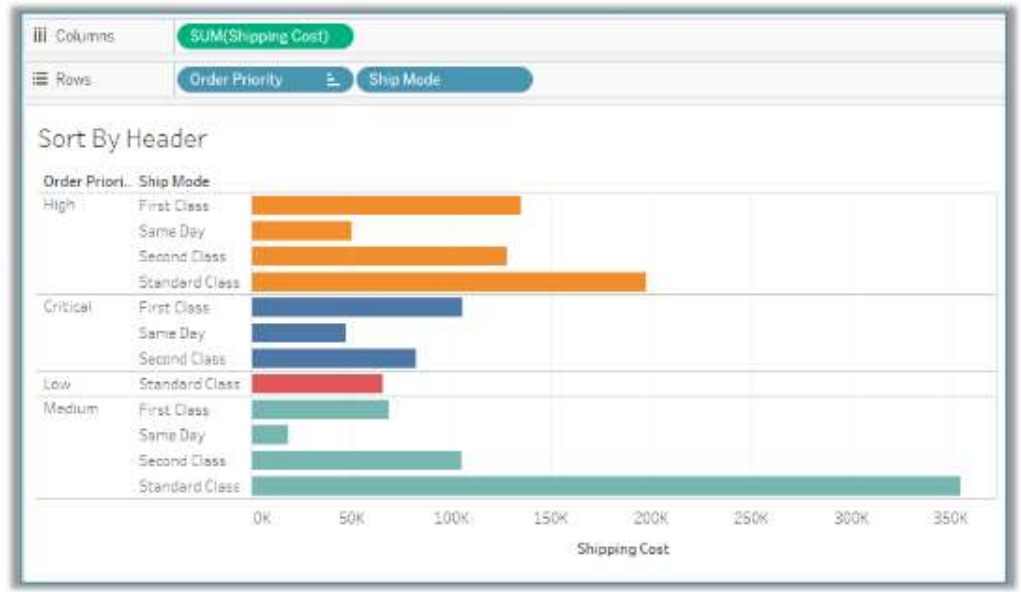
1. Click on the measure on the Marks Card
2. Select the Sort option from the toolbar



Sort By Headers

1 Drag the High over Critical to get the data sorted by Headers





Sort By Legends

1 Drag the Medium over Low in order to get the data sorted by Legends