

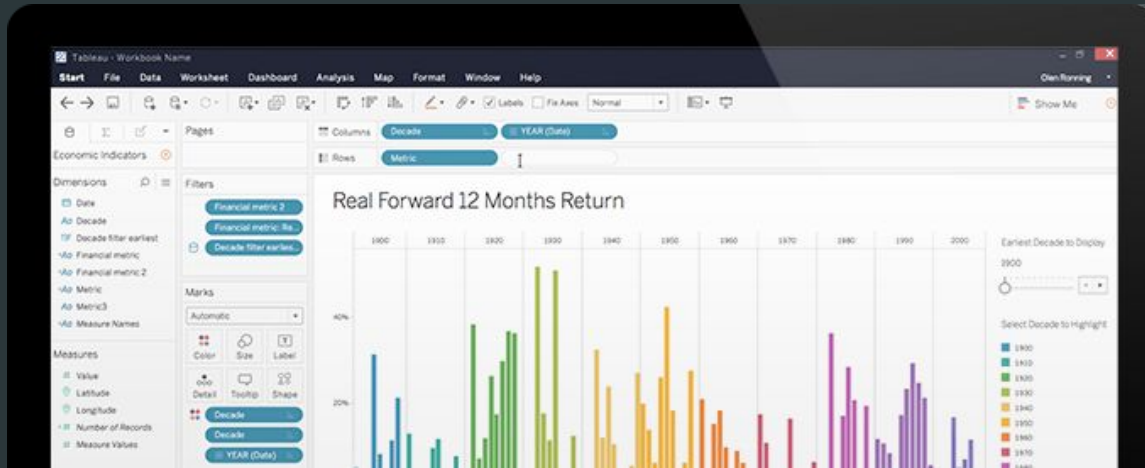
Installation

Tableau (Desktop): tableau.com

Data: bit.ly/2J0njbb

WiFi: Upcode Academy

Password: codewithus



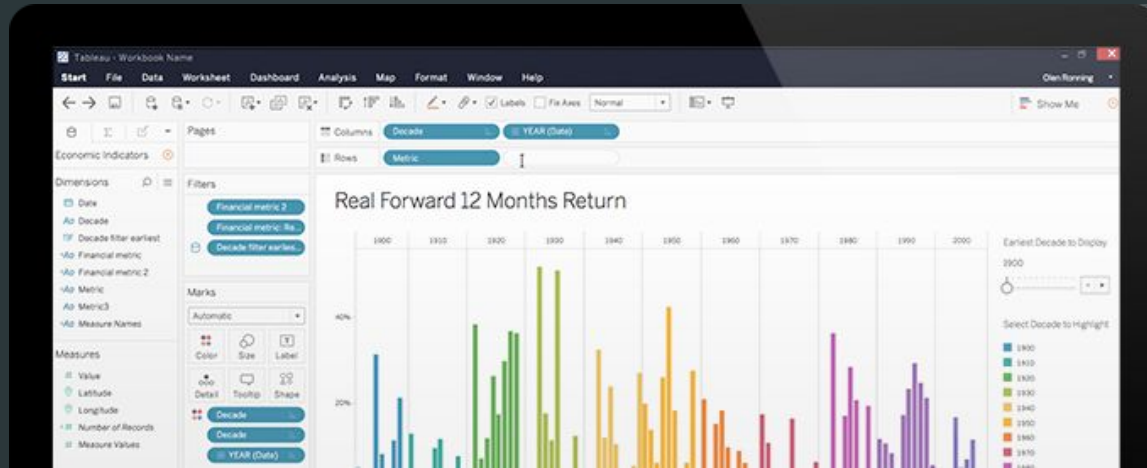
Data Storytelling with Tableau Desktop

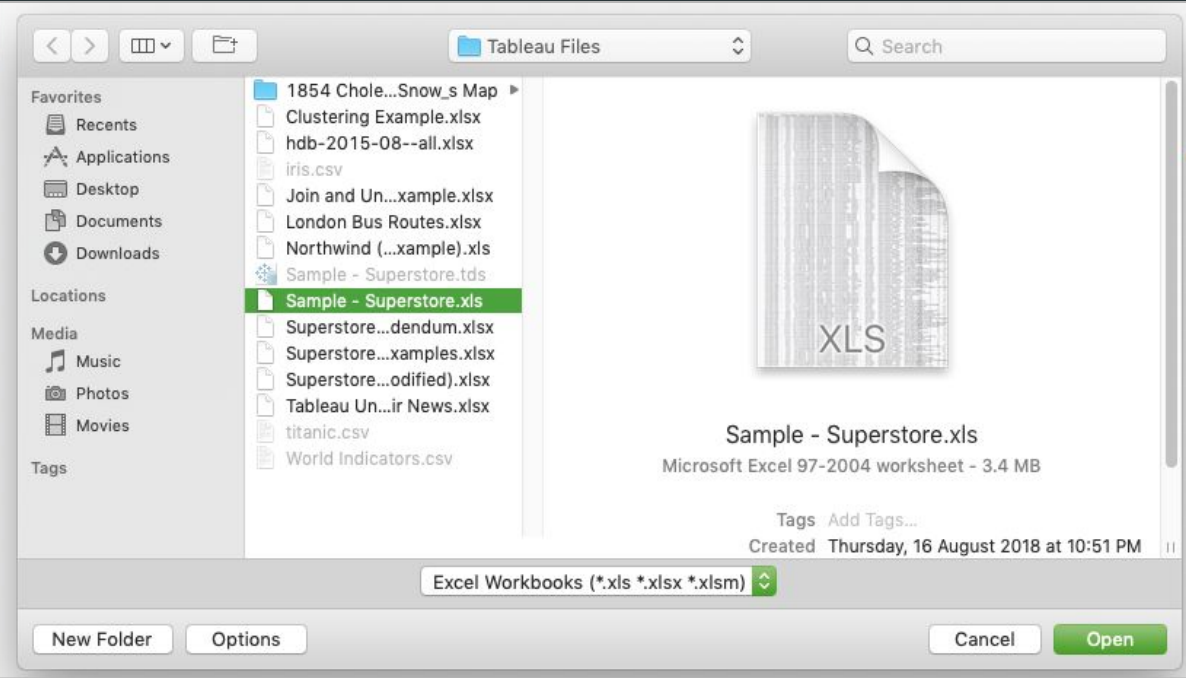
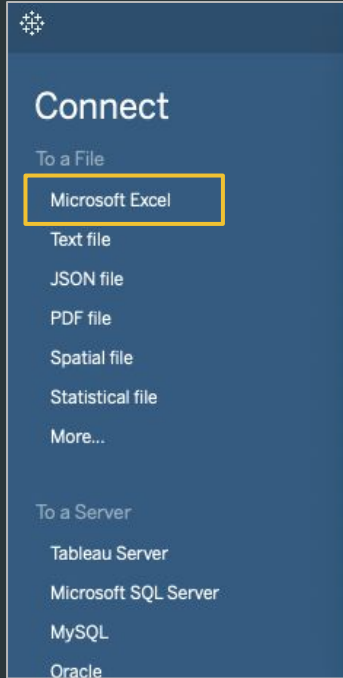
8 May 2019

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Data visualization is the graphical representation of information and data. By using visual elements like charts, graphs, and maps, data visualization tools like Tableau provide an accessible way to see and understand trends, outliers, and patterns in data.

Data visualization helps to tell stories by removing noise from data and highlighting useful information.





Connecting to Data

Connections Add

Sample - Superstore
Excel

Sheets p

Orders
People
Returns
New Union

Sample - Superstore

Connection ☒ Live ☐ Extract

Filters 0 | Add

Orders People

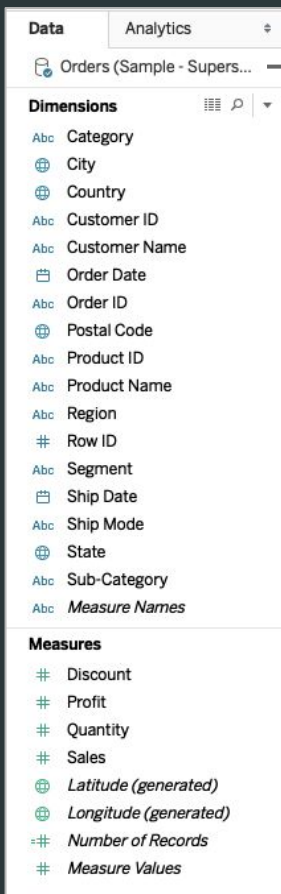
Sort fields Data source order ☐ Show aliases ☐ Show hidden fields 1,000 rows

Order ID	Order Date	Ship Date	Ship Mode	Customer Name	Segment
CA-2013-152156	11/9/2013	11/12/2013	Second Class	Claire Gute	Consumer
CA-2013-152156	11/9/2013	11/12/2013	Second Class	Claire Gute	Consumer
CA-2013-138688				Darrin Van Huff	Corporate
US-2012-108966				Sean O'Donnell	Consumer
US-2012-108966				Sean O'Donnell	Consumer
CA-2011-115812				Brosina Hoffman	Consumer
CA-2011-115812				Brosina Hoffman	Consumer
CA-2011-115812				Brosina Hoffman	Consumer

Field Name	Table	Remote Field Name
Order ID	Orders	Order ID
Order Date	Orders	Order Date
Ship Date	Orders	Ship Date
Ship Mode	Orders	Ship Mode
Customer Name	Orders	Customer Name
Segment	Orders	Segment
Country	Orders	Country

- A. Left pane
Displays the connected data source and other details about the data.
- B. Canvas
Displays information about how the data source is set up and options for combining the data.
- C. Data grid
Displays 1,000 rows of the data contained in the data source.
- D. Metadata grid
Displays the fields in the data source as rows.

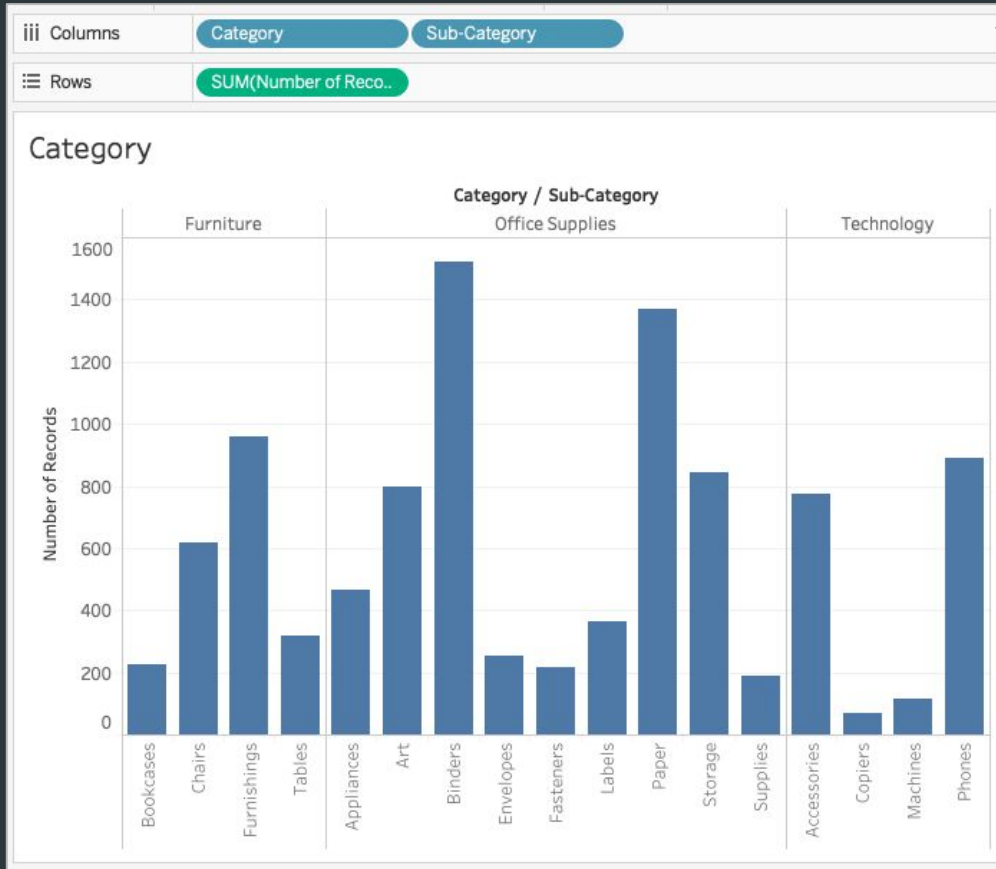
Data Source Page



Connected data source

- Data Pane contains fields.
 - Each field corresponds to a column in the data source.
- Dimensions vs Measures
 - Dimensions contain qualitative values.
 - To categorize, segment, reveal details
 - e.g. names, dates, or geographical data
 - Measures contain numeric, quantitative values.
 - Aggregated by default
 - e.g. sales, profit, temperature

Side Bar - Data Pane

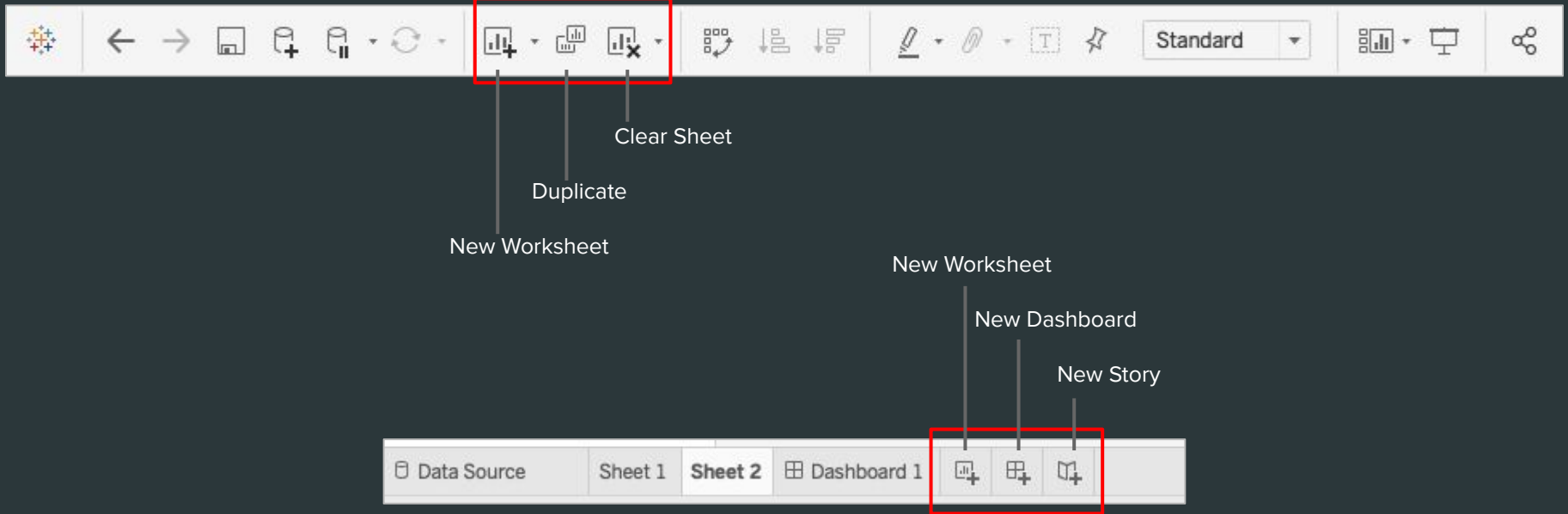


Start building a view by adding fields to the columns and rows shelves.

Shelves can hold any number of fields.

Tip: remove fields by dragging them out of the worksheet

Building a View



Adding, Duplicating, Clearing, Renaming, Deleting Sheets

Edit Axis [Male]

General Tick Marks

Range

☐ Automatic ☒ Include zero

☐ Uniform axis range for all rows or columns

☐ Independent axis ranges for each row or column

☒ Fixed

Fixed start Automatic

0 171,399

Scale

☒ Reversed

☐ Logarithmic

☒ Positive ☐ Symmetric

Axis Titles

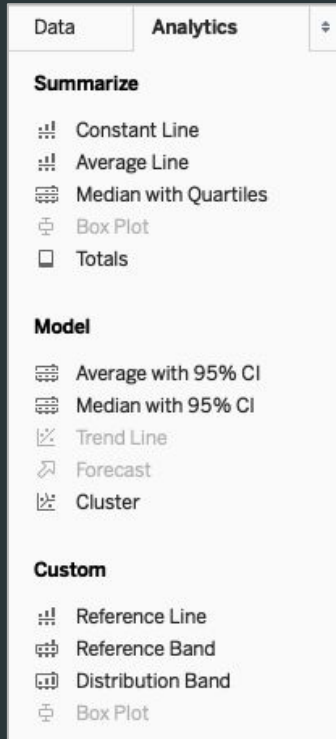
Title

Male

Subtitle ☒ Automatic

Reset

Right-click an axis to control its range, type of scaling, titles, and tick marks.



- Analytics Pane provides analytical tools that can be included into the view.
- Drag an option and drop it onto the intended corresponding option.

Joins and unions combine data from multiple tables.

- A join combines tables that are related by specific fields, i.e columns.
- A union combines tables by appending rows of one table to another.

An incorrect join can result in incomplete or incorrect data for analysis down the line.

Table 1

Student ID	Name
1001	Ash
1002	Brock
1003	Cilan
1004	Dawn
1005	Elm

Table 2

Name	Test Score
Cilan	83
Dawn	49
Elm	91
Faba	77
Gary	71

Join Example

Left Join



Student ID	Name	Test Score
1001	Ash	<i>null</i>
1002	Brock	<i>null</i>
1003	Cilan	83
1004	Dawn	49
1005	Elm	91

Right Join



Student ID	Name	Test Score
1003	Cilan	83
1004	Dawn	49
1005	Elm	91
<i>null</i>	Faba	77
<i>null</i>	Gary	71

Inner Join



Student ID	Name	Test Score
1003	Cilan	83
1004	Dawn	49
1005	Elm	91

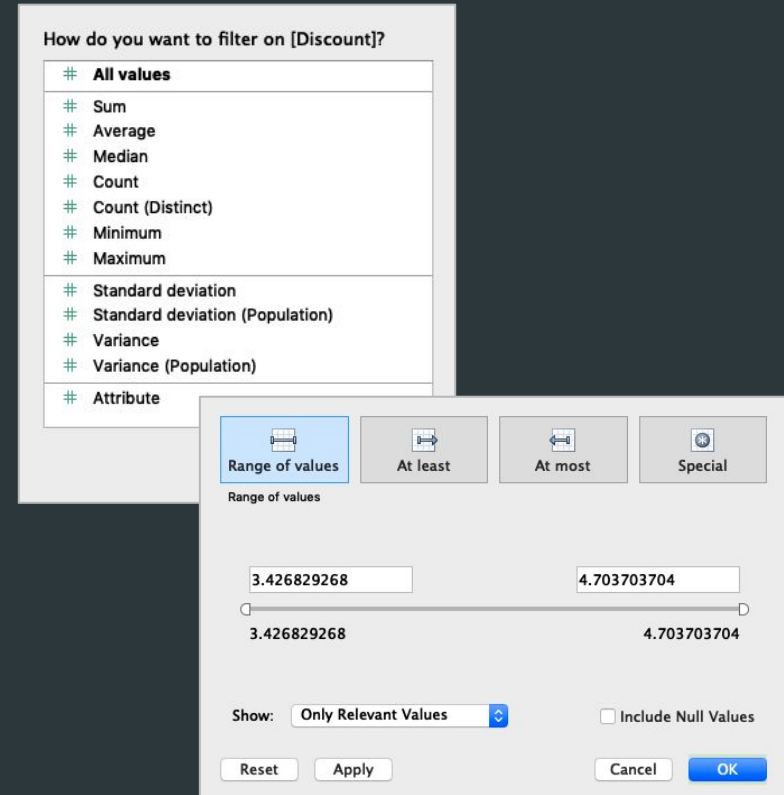
Full Outer Join



Student ID	Name	Test Score
1001	Ash	<i>null</i>
1002	Brock	<i>null</i>
1003	Cilan	83
1004	Dawn	49
1005	Elm	91
<i>null</i>	Faba	77
<i>null</i>	Gary	71

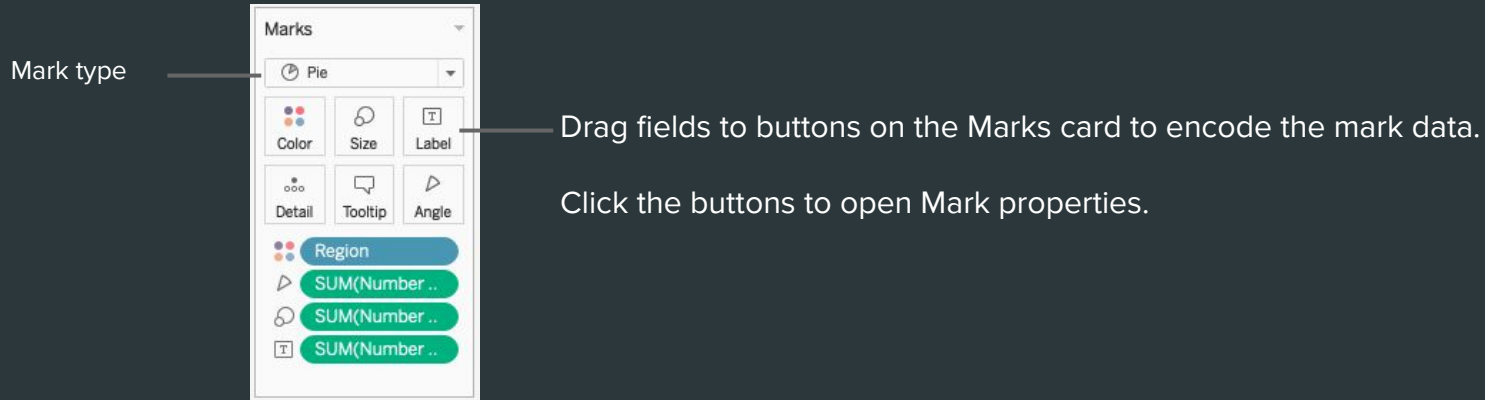
Join Types

- Filtering is an essential part of analyzing data; Tableau provides multiple methods and levels of filtering.
- Simplest way: drag a field directly into the Filters shelf
 - Filter dialog box differs depending on whether the filter is on categorical, quantitative or date fields
 - Filtering measures generally involves selecting a range of values to include.



In a visualization, each mark represents a data point.

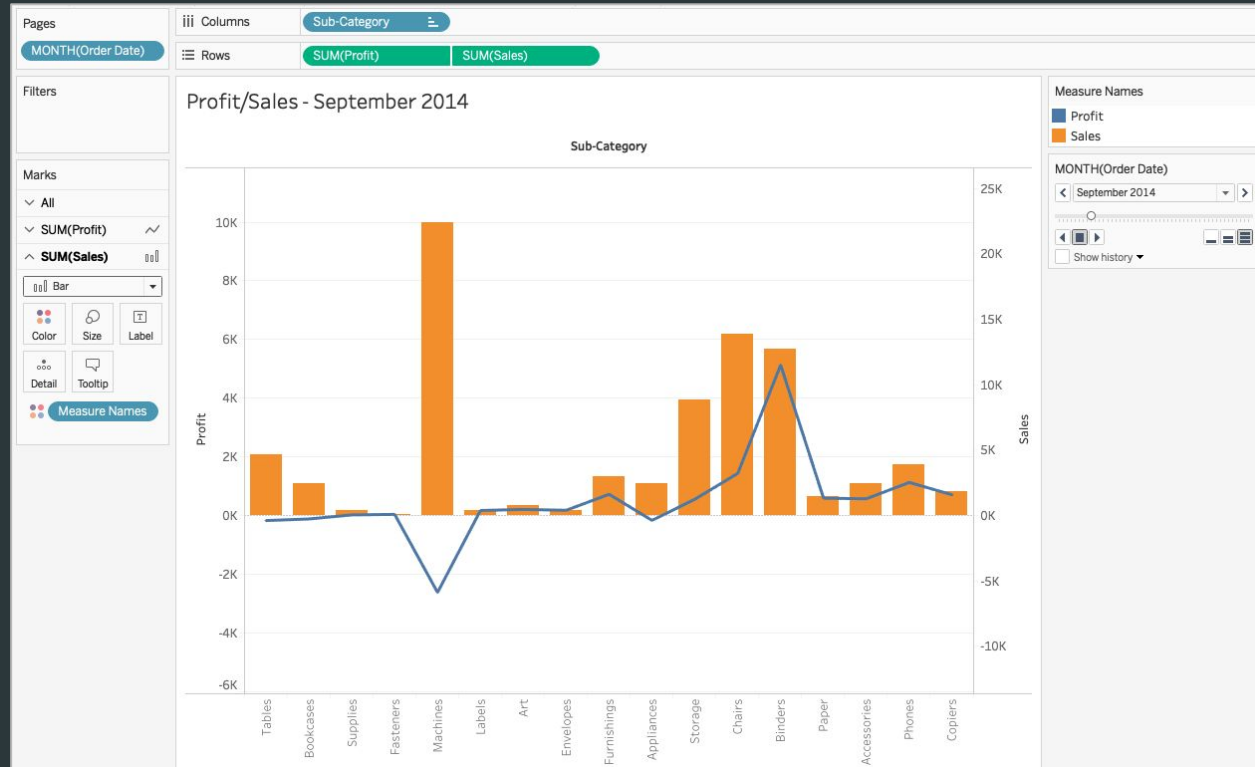
The Marks card provides context and detail to the marks in the view.



Marks Card

The Pages shelf breaks a view into a series of pages to better analyze how a specific field affects the rest of the data.

Each page contains a different view, based on a member of the field placed on the Pages shelf.



Page control

Page history, marks from previous pages are shown on the current page

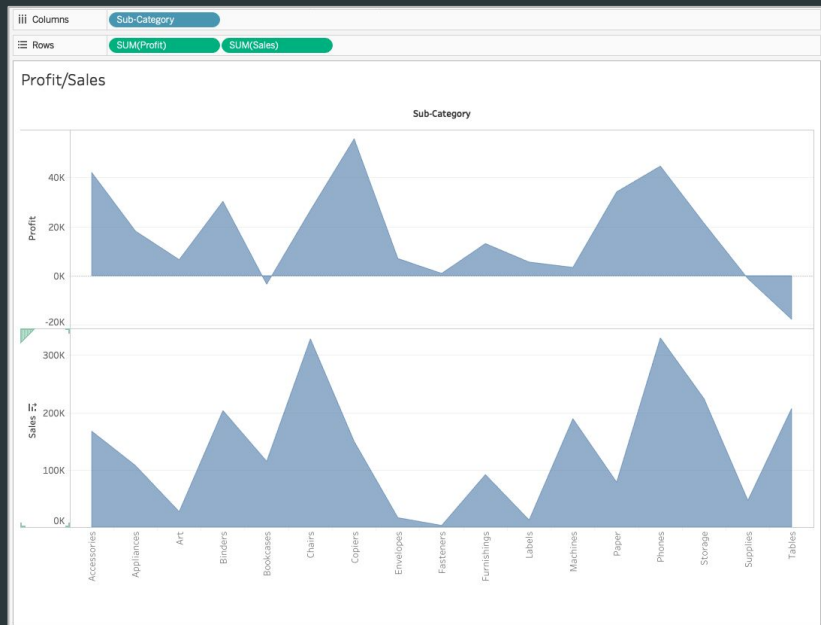
Trails only supported
for certain mark types

Pages

The screenshot displays the Tableau desktop application interface. On the left, the 'Data' pane is visible, showing a list of dimensions and measures. The 'Dimensions' list includes Category, City, Country, Customer ID, Customer Name, Order Date, Order ID, Postal Code, Product ID, Product Name, Region (highlighted), Row ID, Segment, Ship Date, Ship Mode, State, Sub-Category, and Measure Names. The 'Measures' list includes Discount, Profit, Quantity, Sales, Latitude (generated), Longitude (generated), Number of Records (highlighted), and Measure Values. The main workspace is titled 'Sheet 2' and contains two large empty areas with the text 'Drop field here'. On the right, the 'Show Me' panel is open, displaying a grid of various chart types. Below the grid, it suggests 'For horizontal bars try 0 or more Dimensions' and '1 or more Measures'.

Tableau automatically evaluates the selected fields and gives the option of several types of views that would be appropriate for those fields.

Show Me

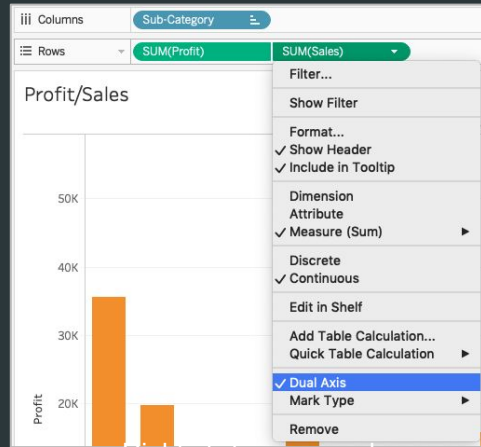


Placing multiple measures into Columns/Rows will create individual axes for each measure.

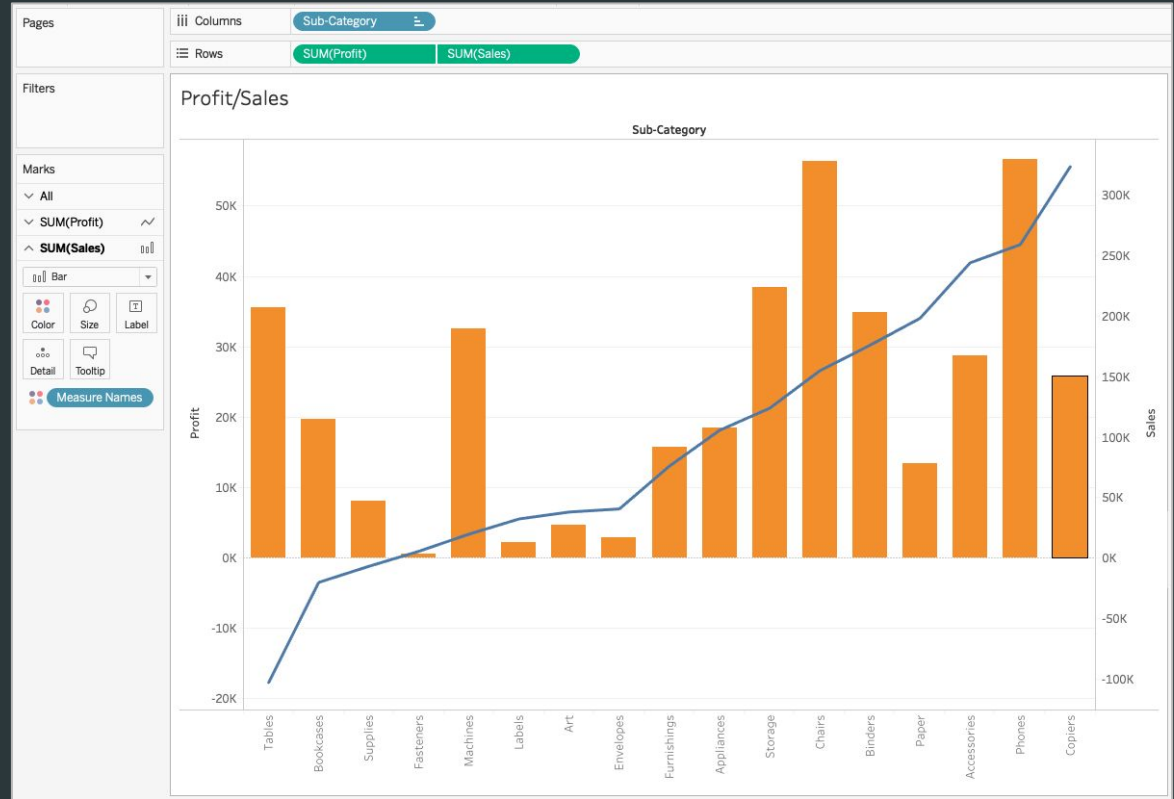
What if we want multiple measures to share an axis?

Dual-Axis

Dual-axis charts have two independent axes, allowing comparison of different measures.



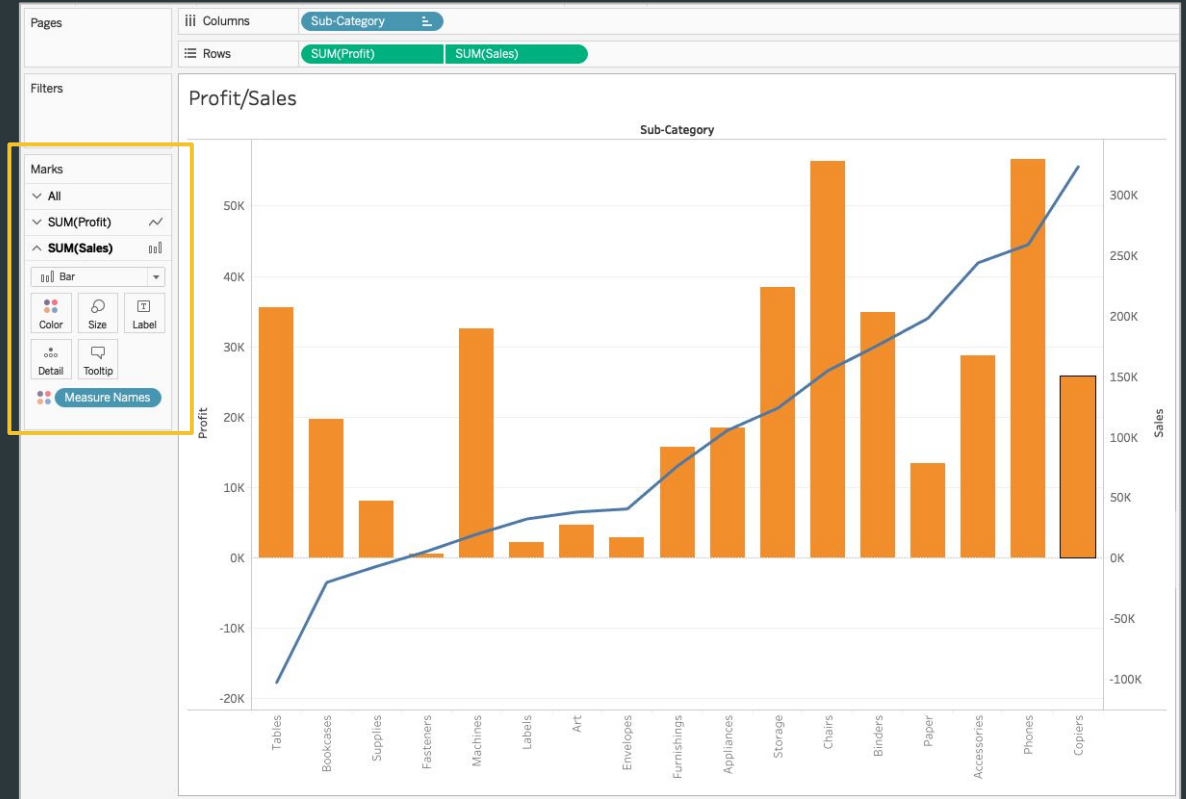
Right-click on second measure



Dual-Axis

Marks card for each measure on the Rows and Columns shelves.

- Select a field in the Marks card to modify only its properties.
- Select the All Marks card to modify properties for all measures at once.



- Sometimes, analyzing data that is stored in a crosstab format can be difficult in Tableau.
- Pivot data from crosstab format into columnar format.

Abc Data Quarter	# Data Samsung	# Data Nokia	# Data Apple
Q1 '12	89.2800	83.1600	33.1200
Q2 '12	90.4300	83.4200	28.9400
Q3 '12	97.9600	82.3000	24.6200
Q4 '12	106.9600	85.0500	43.4600
Q1 '13	100.6600	63.2200	38.3300
Q2 '13	107.5300	60.9500	31.9000
Q3 '13	117.0500	63.0500	30.3300
Q4 '13	119.2100	63.5800	50.2200

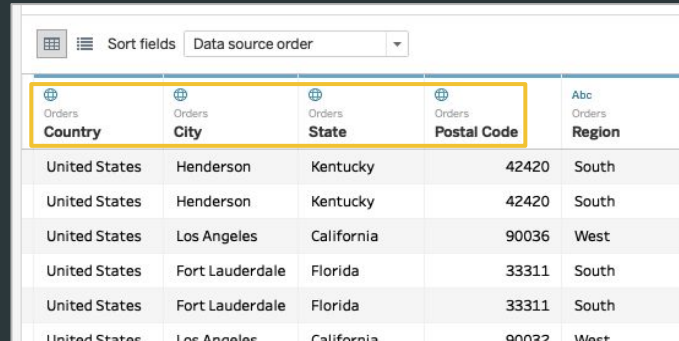
→

Abc Data Quarter	Abc Pivot Pivot Field Names	# Pivot Pivot Field Values
Q4 '12	Apple	43.460
Q1 '13	Apple	38.330
Q2 '13	Apple	31.900
Q3 '13	Apple	30.330
Q4 '13	Apple	50.220
Q1 '10	Nokia	110.110
Q2 '10	Nokia	111.470
Q3 '10	Nokia	117.460
Q4 '10	Nokia	122.280

Pivoting

A geographic role associates each value in a field with a latitude and longitude value, by matching it to Tableau's geocoding database.

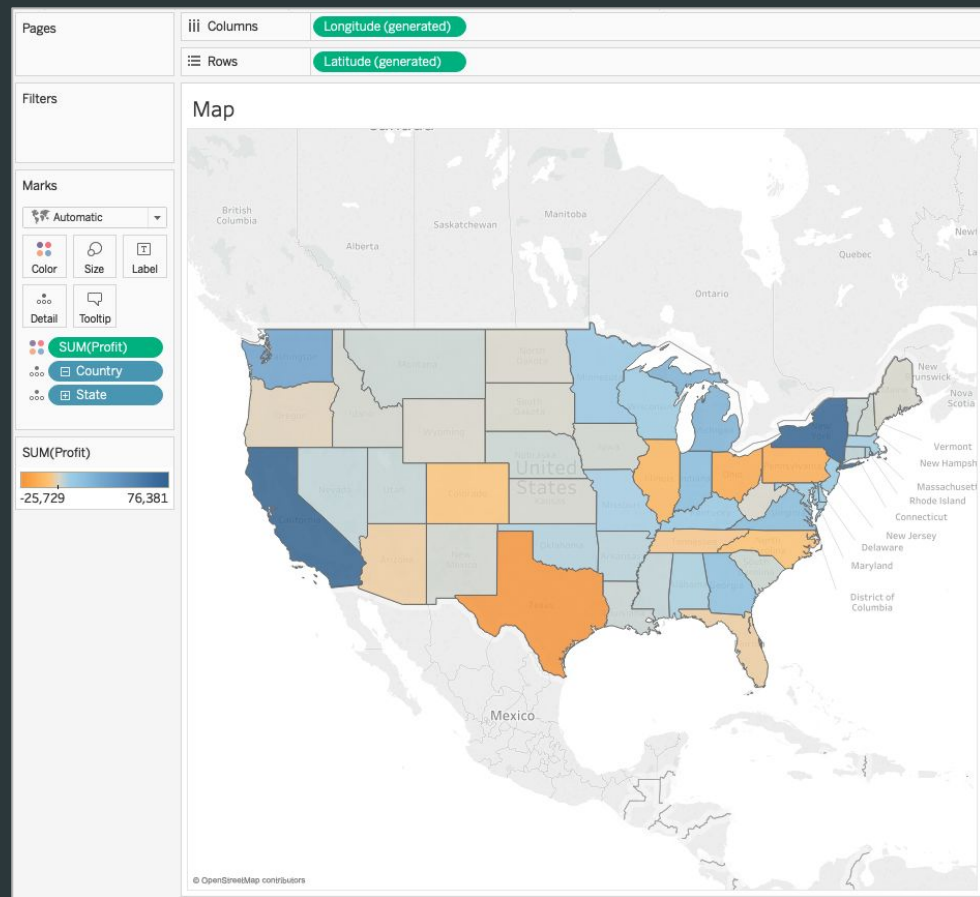
Geographical roles are automatically assigned for some fields.

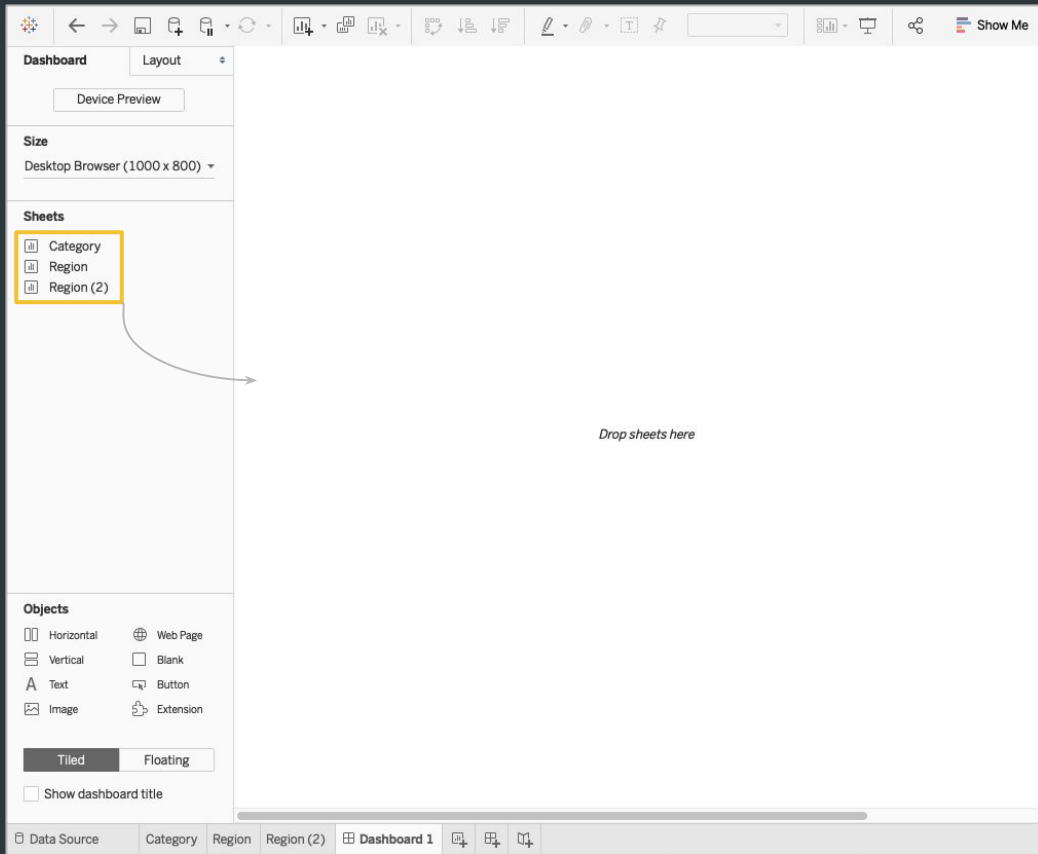


The screenshot shows the Tableau interface with a list of fields from the 'Orders' data source. The fields are: Country, City, State, Postal Code, and Region. The first four fields (Country, City, State, and Postal Code) are highlighted with a yellow border, indicating they have been assigned a geographic role. The Region field is not highlighted. The table below shows sample data for these fields.

Country	City	State	Postal Code	Region
United States	Henderson	Kentucky	42420	South
United States	Henderson	Kentucky	42420	South
United States	Los Angeles	California	90036	West
United States	Fort Lauderdale	Florida	33311	South
United States	Fort Lauderdale	Florida	33311	South
United States	Los Angeles	California	90032	West

When fields with geographical roles are added to a view, the Longitude and Latitude fields are automatically added to the Columns and Rows shelves.

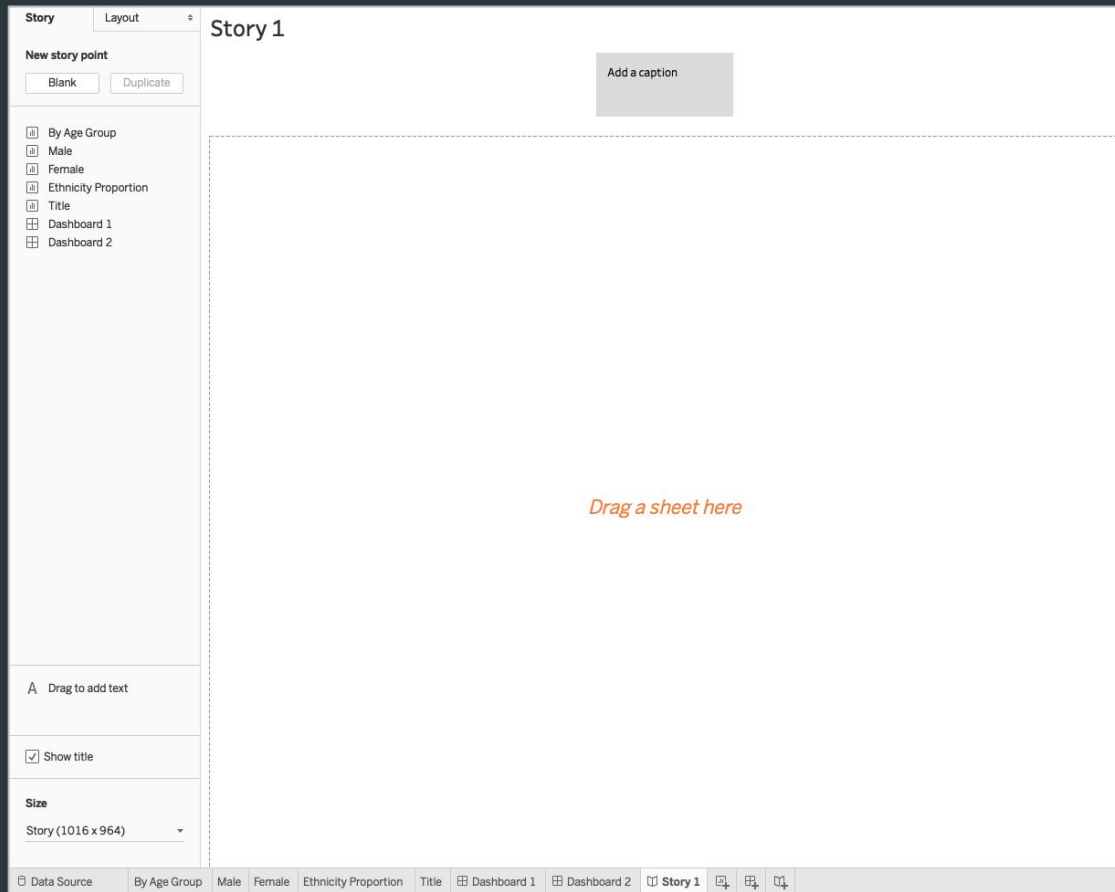




Start building a dashboard by dragging sheets into the view.

A gray, shaded area indicates where views can be dropped.

Dashboards



A story is a sequence of visualizations that work together to convey information.

Use stories to tell a data narrative, provide context, demonstrate how decisions relate to outcomes, or to simply make a compelling case.

Think of stories as Tableau's Powerpoint.

Stories

Use Caption Boxes as mini-titles

Each story point can hold exactly one worksheet or one dashboard.



All interactivities in dashboards are available

Stories



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OUR EVENTS

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TABLEAU

May 11, 2019

(2 sessions)

The Cathay

LESSON DATES/TIMINGS

May 11, 2019

1300 - 1600 hrs

May 11, 2019

1630 - 1930 hrs

The Cathay

The Cathay, 2 Handy Road #03-06
Singapore 229233

Instructor

Shawn Soo

Register

**UPCOMING
BOOTCAMP**

TELLING A DATA STORY WITH TABLEAU



Can you help us improve?

6 questions only! It won't take too long, I promise!

Sure I can

<https://upcode.link/DVT0805>

