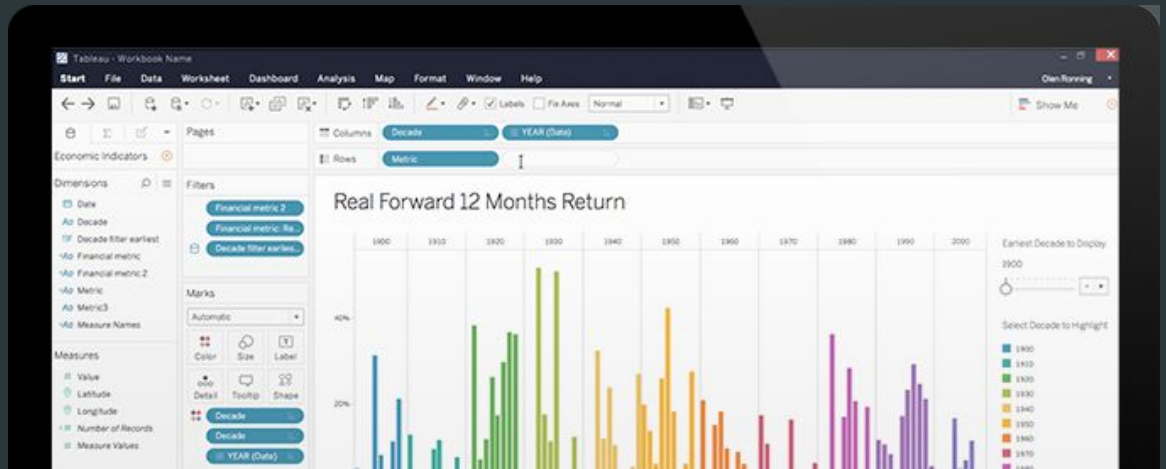
# Installation

Tableau (Desktop): **tableau.com**
Data: **bit.ly/2J0njbb**

**WIFI: Upcode Academy**
**Password: codewithus**

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# Data Storytelling with Tableau Desktop

8 May 2019

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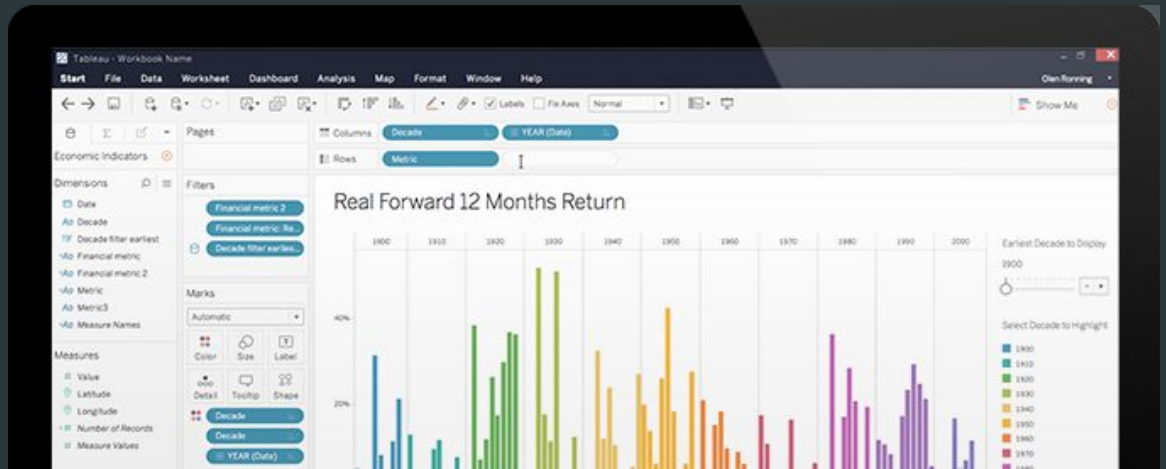
Data visualization is the graphical representation of information and data. By using visual elements like charts, graphs, and maps, data visualization tools like Tableau provide an accessible way to see and understand trends, outliers, and patterns in data.

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

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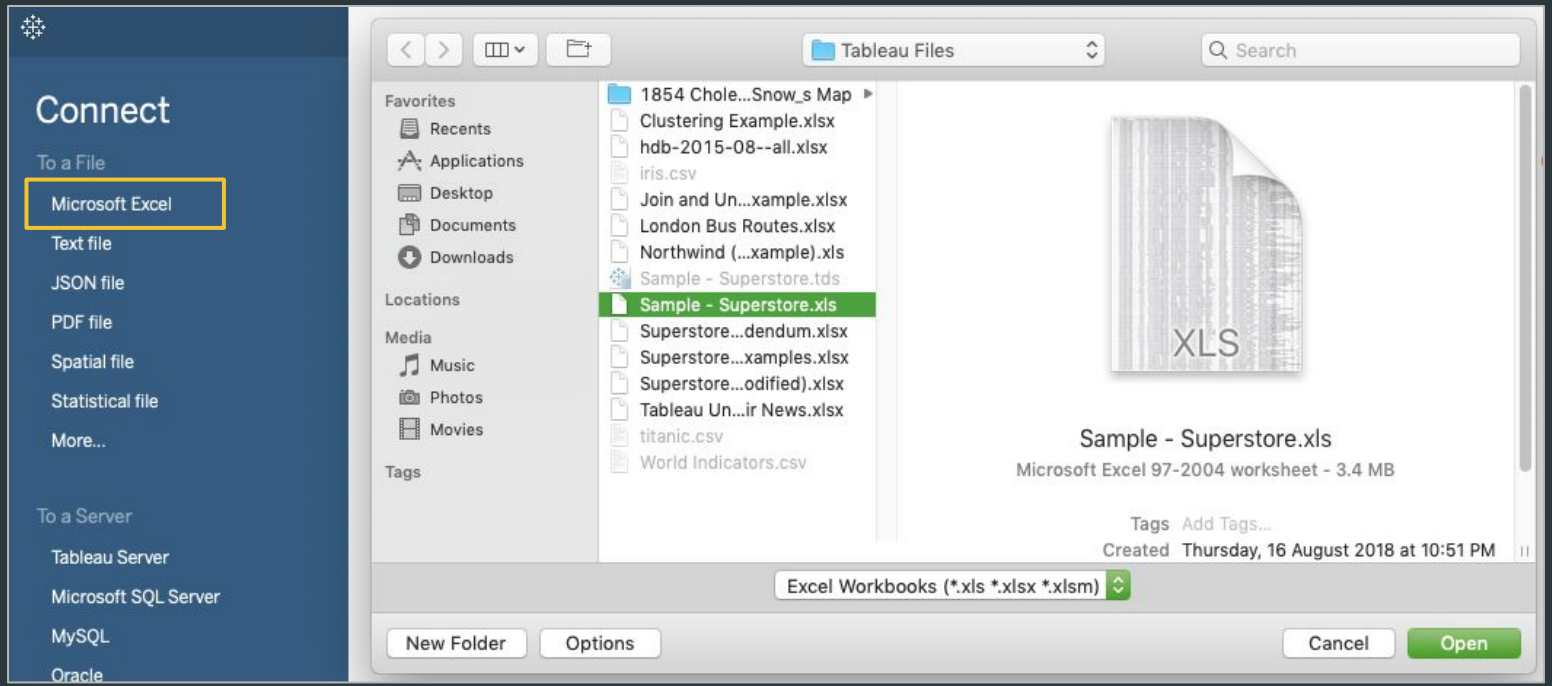


# Connecting to Data

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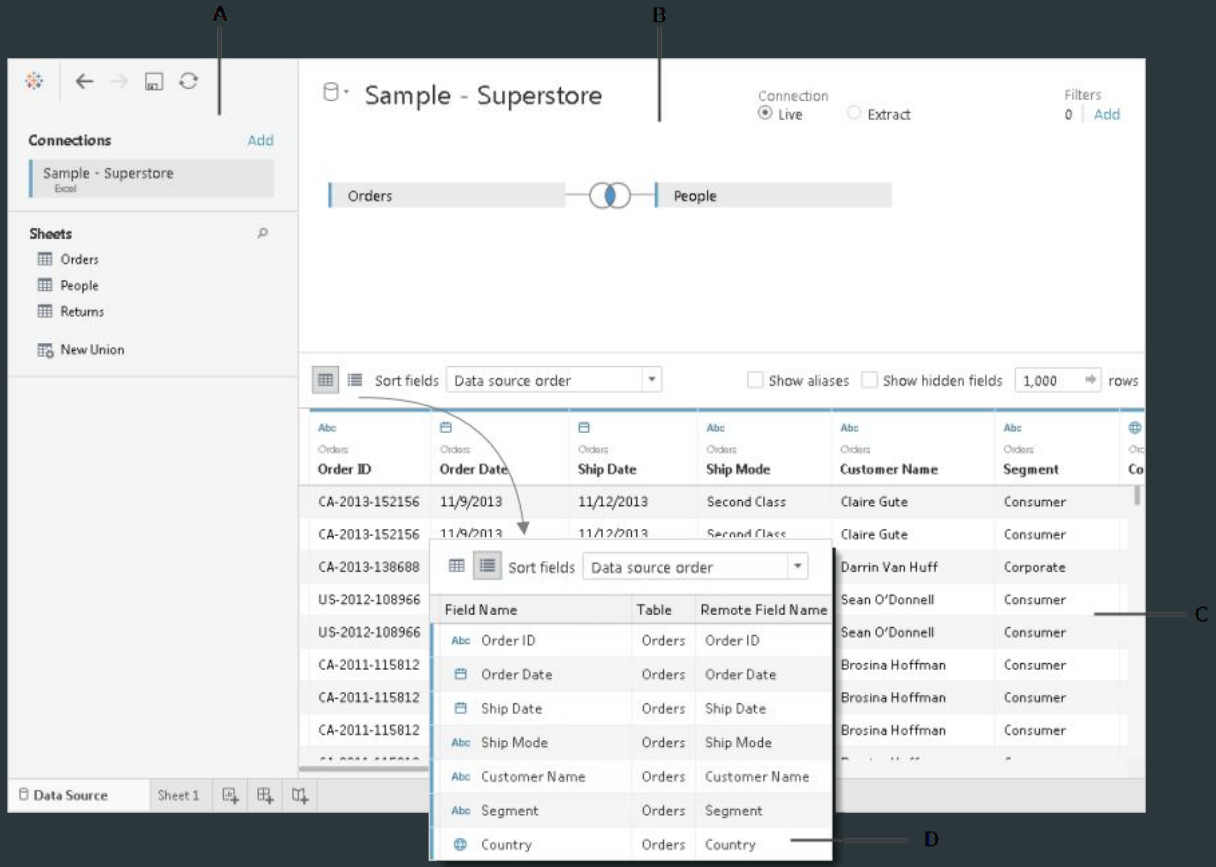


A. Left pane
Displays the connected data source and other details about the data.

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. Matadata grid
Displays the fields in the data source as rows.

# Data Source Page

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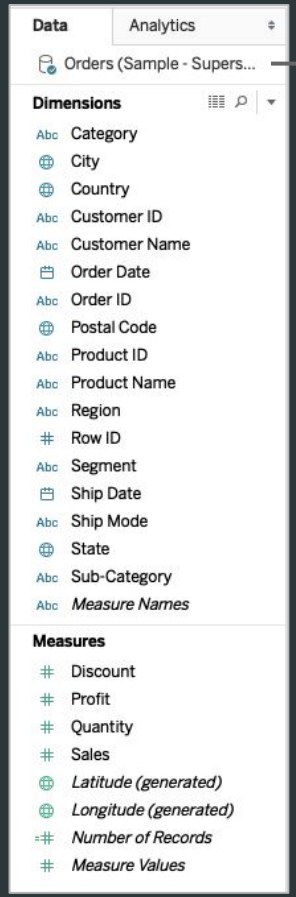


- Data Pane contains fields.
  - Each field corresponds to a column in the data source.

- 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

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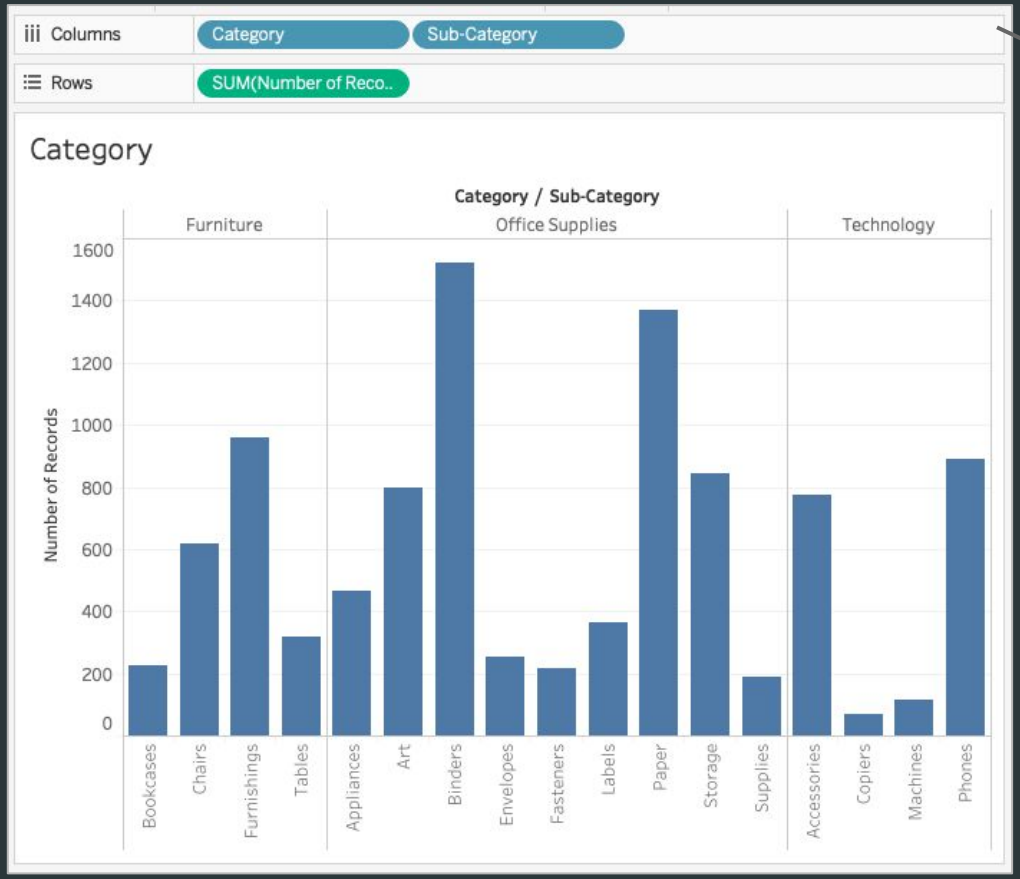


Start building a view by adding fields to the columns and rows shelves.

Shelves can hold any number of fields.

Tip: remove fields by dragging them out of the worksheet

# Building a View

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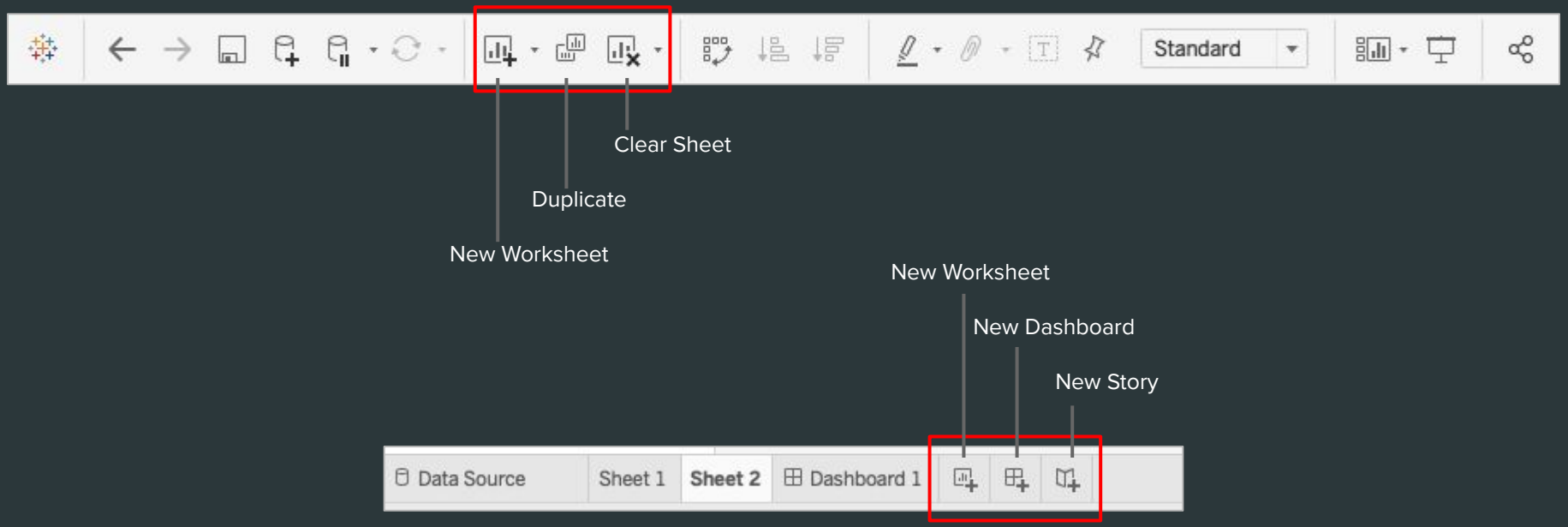


# Adding, Duplicating, Clearing, Renaming, Deleting Sheets

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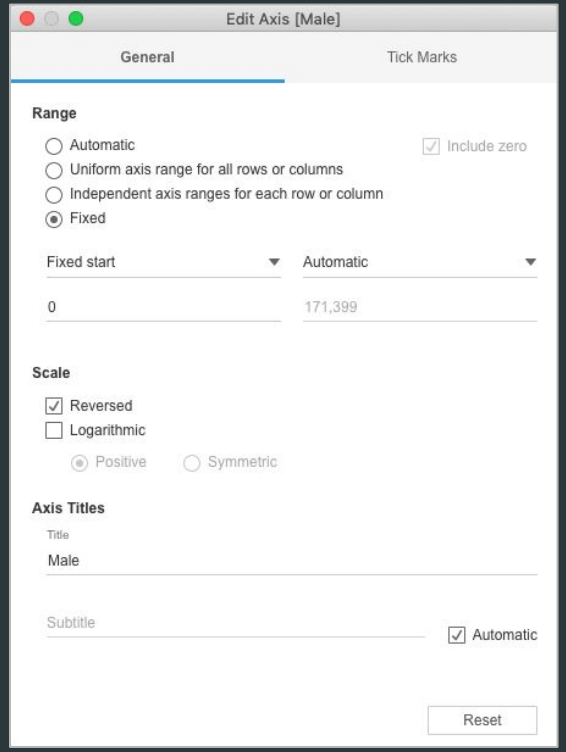


Right-click an axis to control its range, type of scaling, titles, and tick marks.

## Editing Axes

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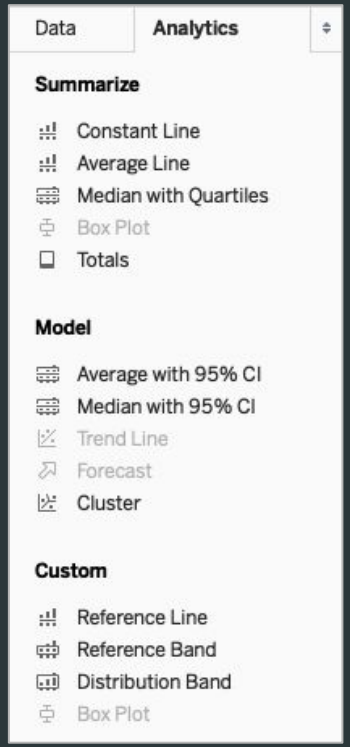


- Analytics Pane provides analytical tools that can be included into the view.
- Drag an option and drop it onto the intended corresponding option.

## Analytics Pane

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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 | *null* |
| 1002 | Brock | *null* |
| 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 |
| *null* | Faba | 77 |
| *null* | 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 | *null* |
| 1002 | Brock | *null* |
| 1003 | Cilan | 83 |
| 1004 | Dawn | 49 |
| 1005 | Elm | 91 |
| *null* | Faba | 77 |
| *null* | Gary | 71 |

# Join Types

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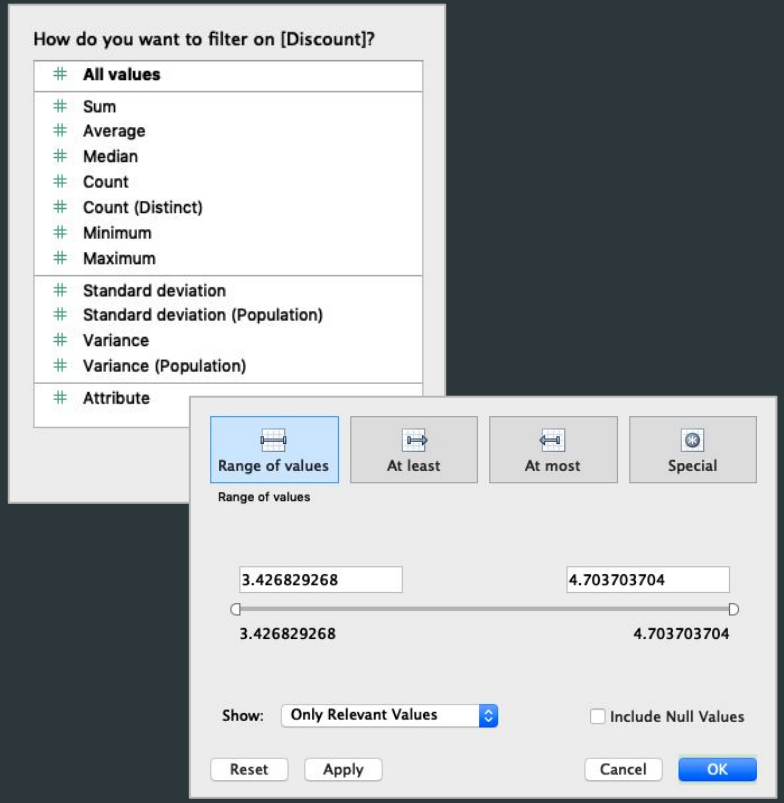
- Filtering is an essential part of analyzing data; Tableau provides multiple methods and levels of filtering.
- Simplest way: drag a field directly into the Filters shelf
    - Filter dialog box differs depending on whether the filter is on categorical, quantitative or date fields
    - Filtering measures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




## Filtering

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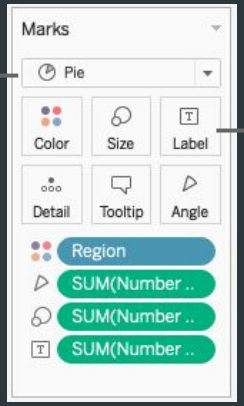
In a visualization, each mark represents a data point.

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

Mark type




Drag fields to buttons on the Marks card to encode the mark data.

Click the buttons to open Mark properties.

## Marks Card

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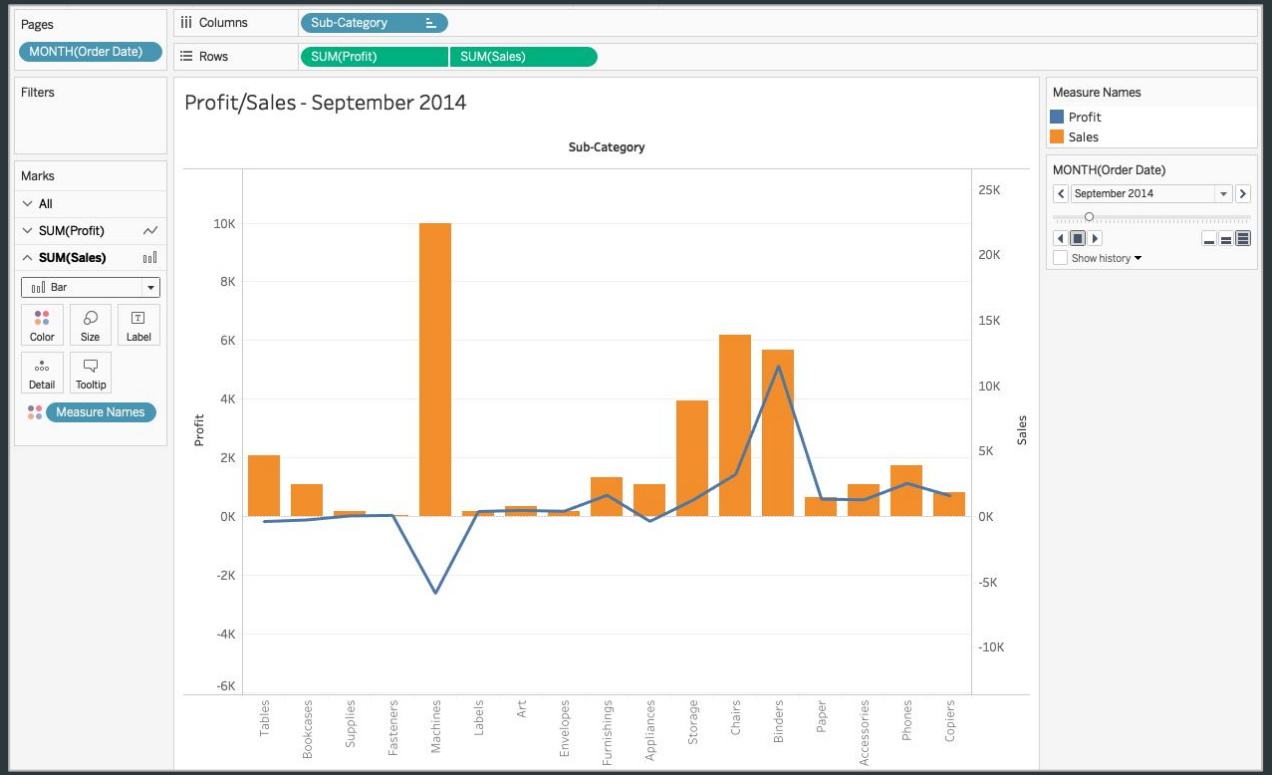
The Pages shelf breaks a view into a series of pages to better analyze how a specific field affects the rest of the data.

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




**Pages**

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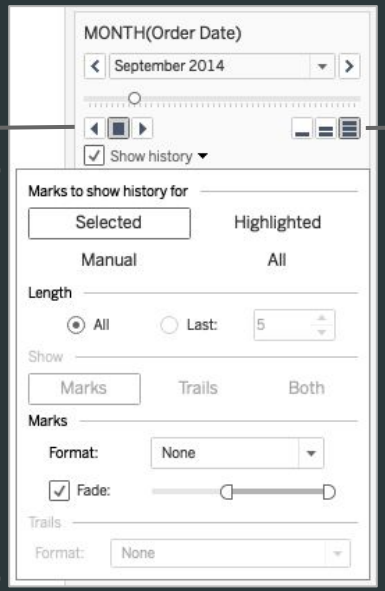
Page control

Playback control

Playback speed




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

Trails only supported for certain mark types

**Pages**

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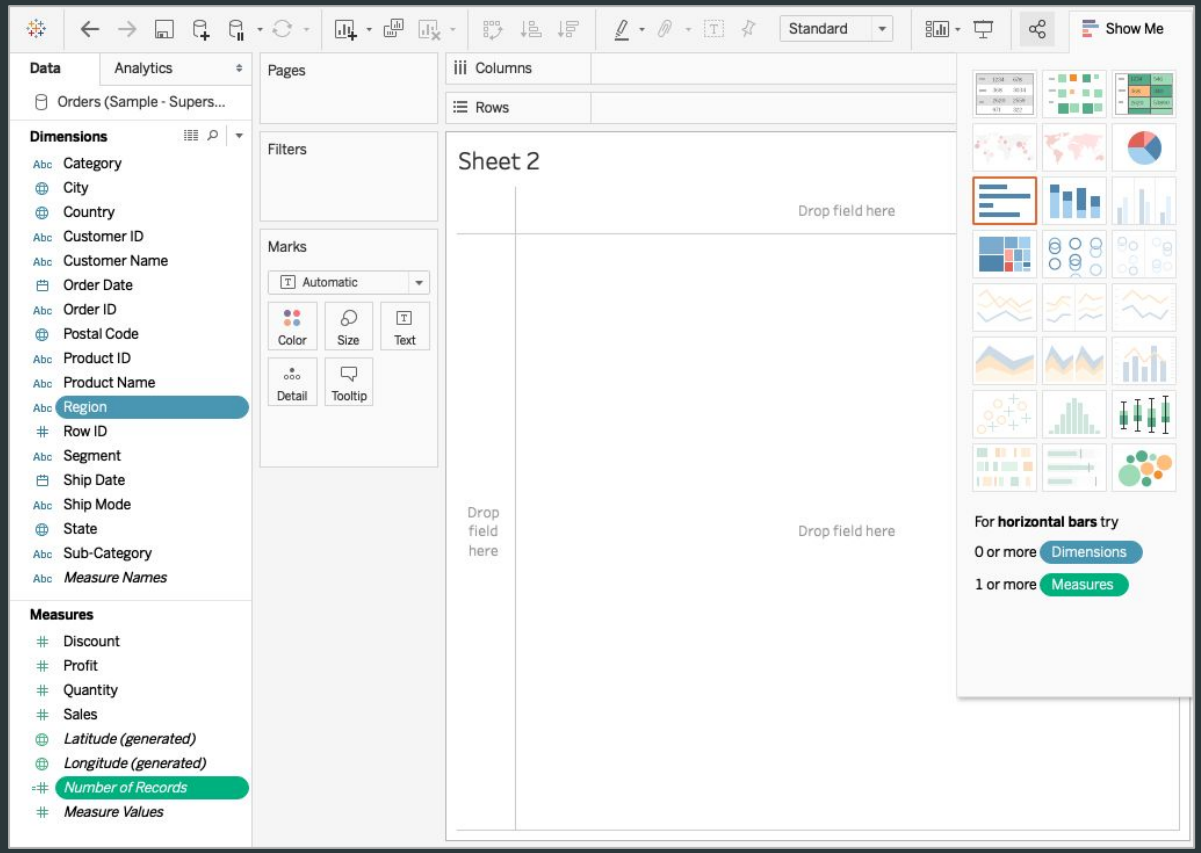


Tableau automatically evaluates the selected fields and gives the option of several types of views that would be appropriate for those fields.

# Show Me

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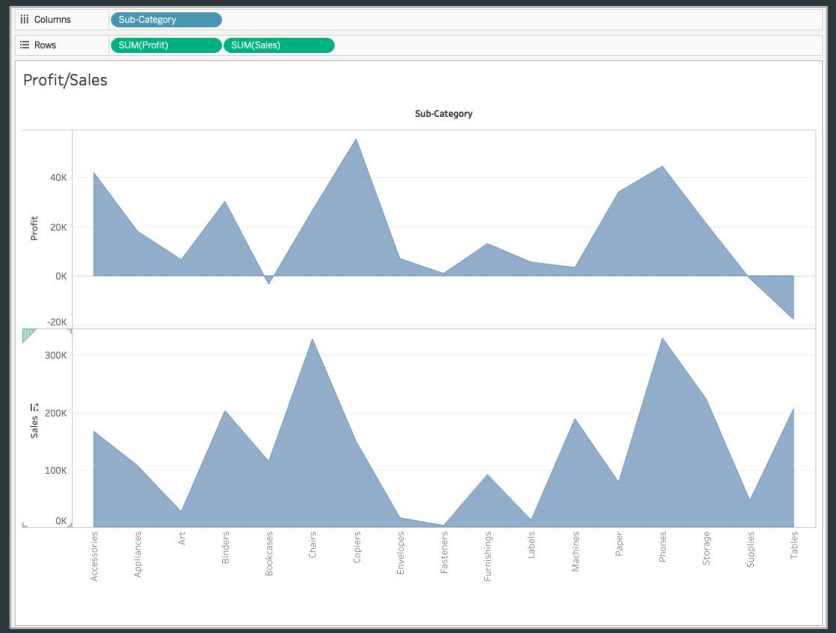


Placing multiple measures into Columns/Rows will create individual axes for each measure.

What if we want multiple measures to share an axis?

# Dual-Axis

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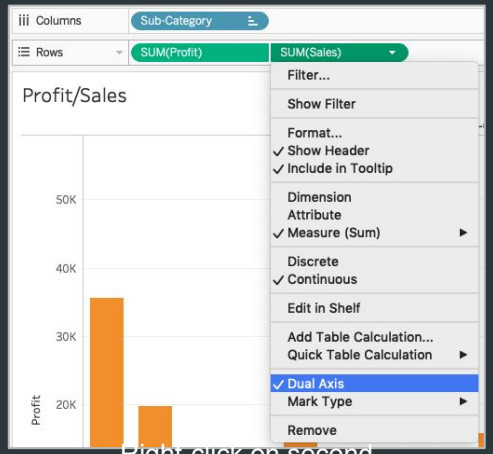
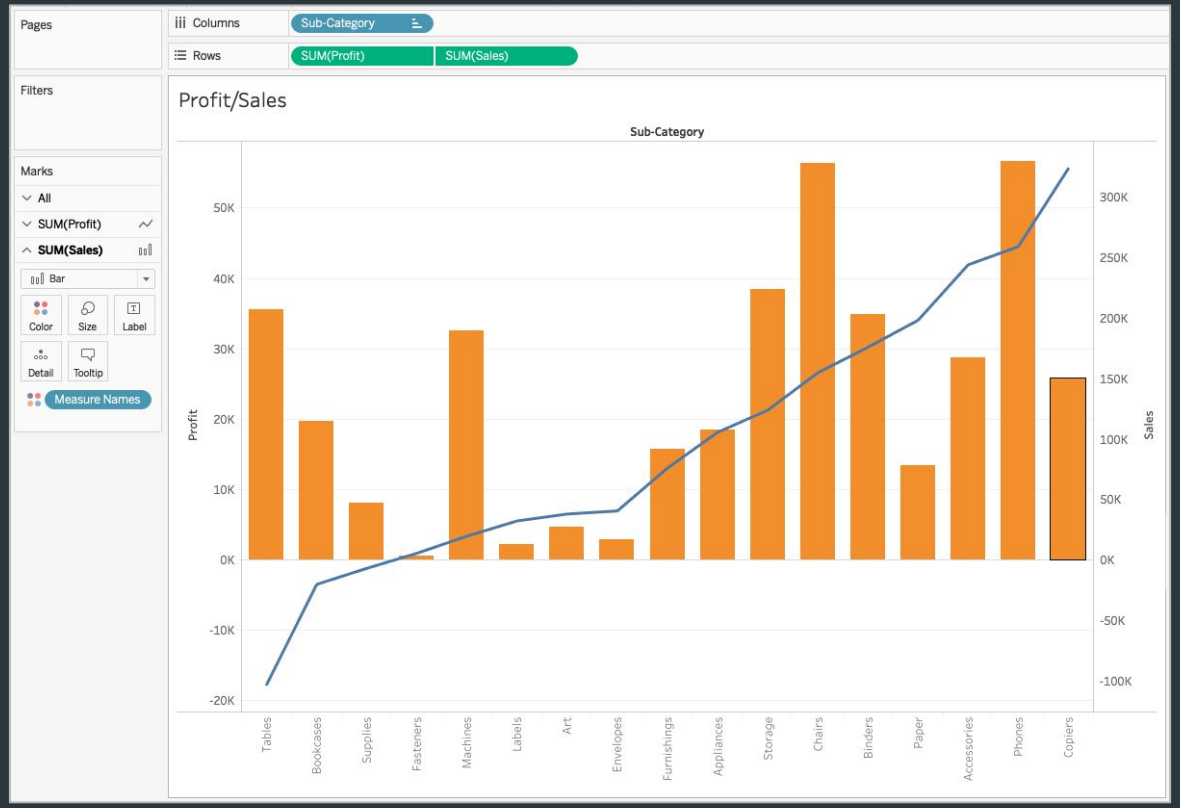
Dual-axis charts have two independent axes, allowing comparison of different measures.




Right-click on second measure




# Dual-Axis

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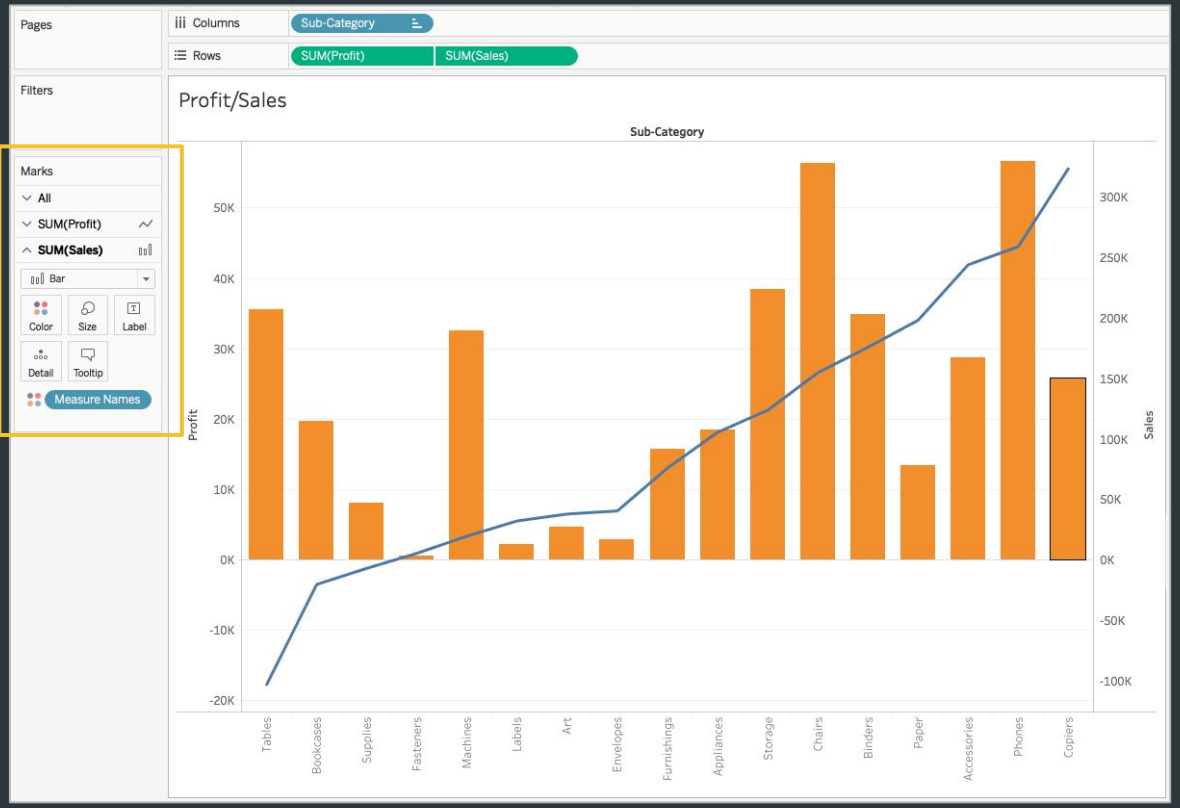
Marks card for each measure on the Rows and Columns shelves.

- 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.




## Dual-Axis

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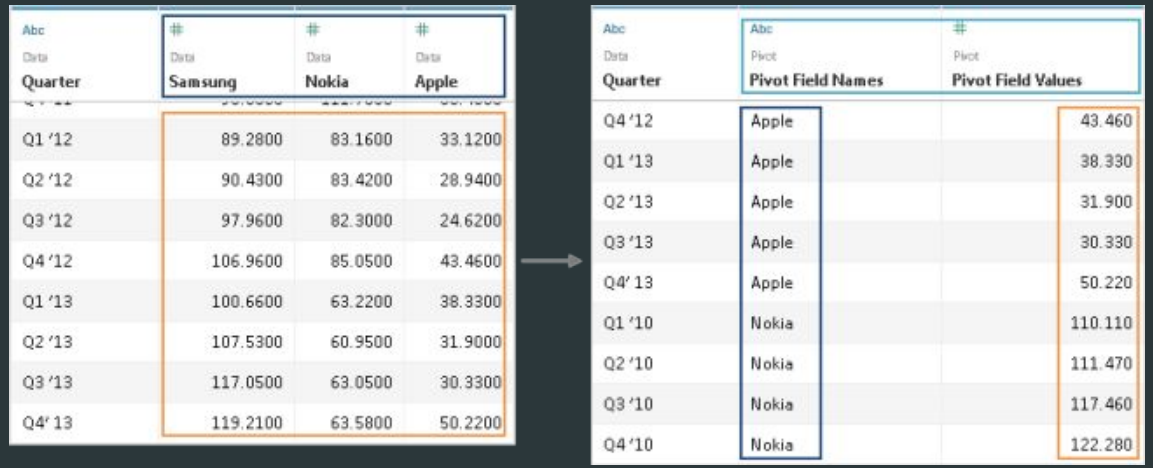
- Sometimes, analyzing data that is stored in a crosstab format can be difficult in Tableau.
- Pivot data from crosstab format into columnar format.



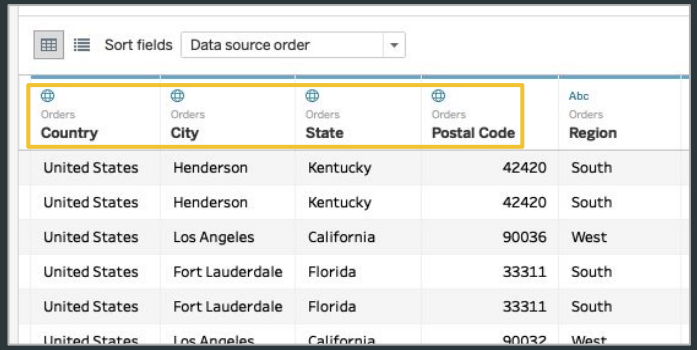
| Quarter | Samsung | Nokia | Apple |
|---|---|---|---|
| Q1 '12 | 89.2800 | 83.1600 | 33.1200 |
| Q2 '12 | 90.4300 | 83.4200 | 28.9400 |
| Q3 '12 | 97.9600 | 82.3000 | 24.6200 |
| Q4 '12 | 106.9600 | 85.0500 | 43.4600 |
| Q1 '13 | 100.6600 | 63.2200 | 38.3300 |
| Q2 '13 | 107.5300 | 60.9500 | 31.9000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

| Quarter | Pivot Field Names | 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 |

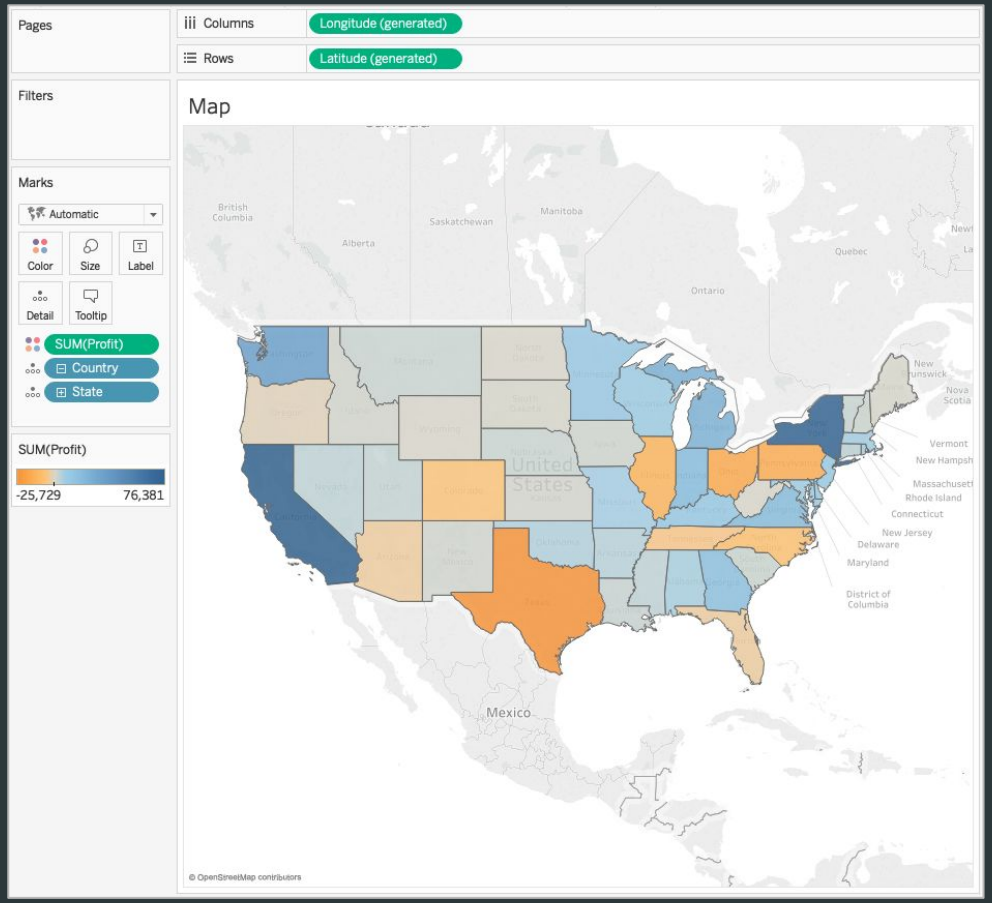
**Pivoting**

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.



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




## Maps & Geographical Data

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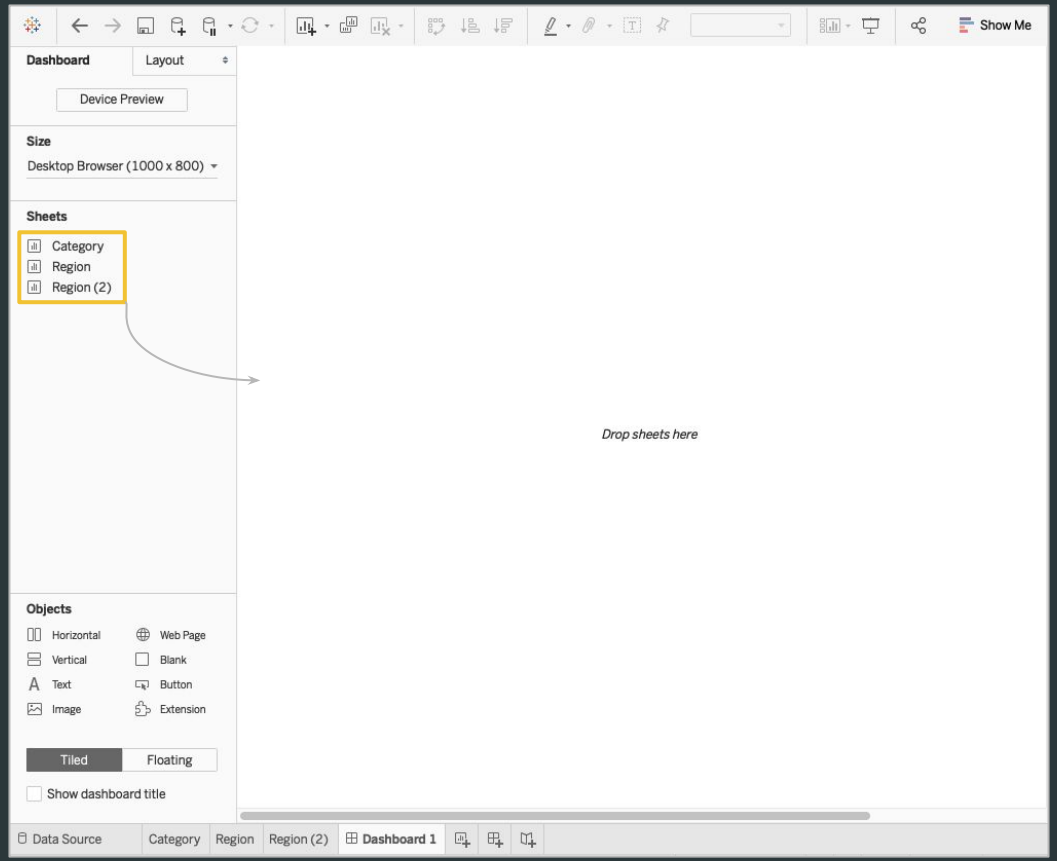


Start building a dashboard by dragging sheets into the view.

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

# Dashboards

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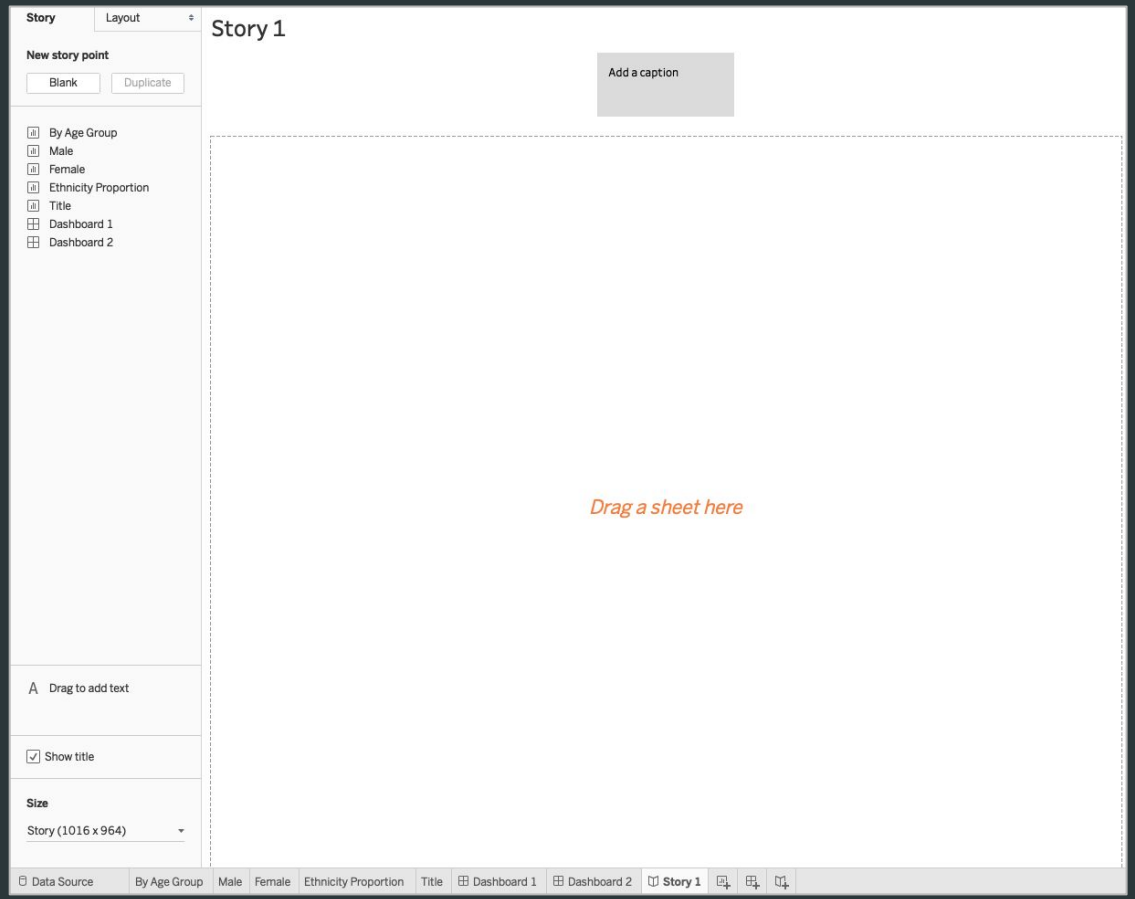


A story is a sequence of visualizations that work together to convey information.

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

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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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# TABLEAU

## UPCOMING BOOTCAMP


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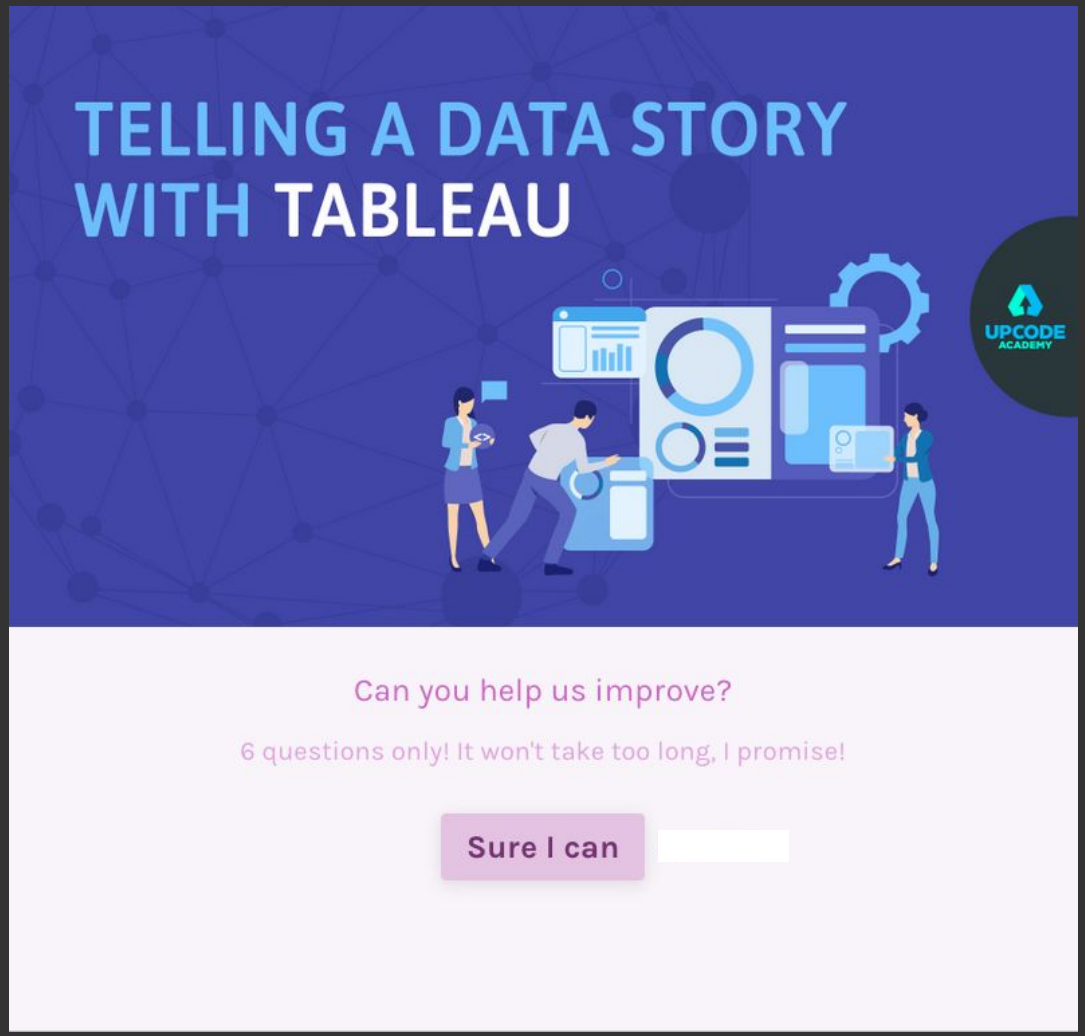


https://upcode.link/DVT0805