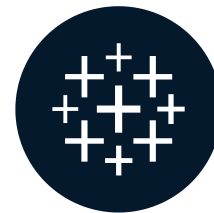


# Data properties

CONNECTING DATA IN TABLEAU



**Sara Billen**

Curriculum Manager, DataCamp

# Managing data



- Dimension/measure assignments
- Column name/alias changes
- Data types changes
- Default properties assignments

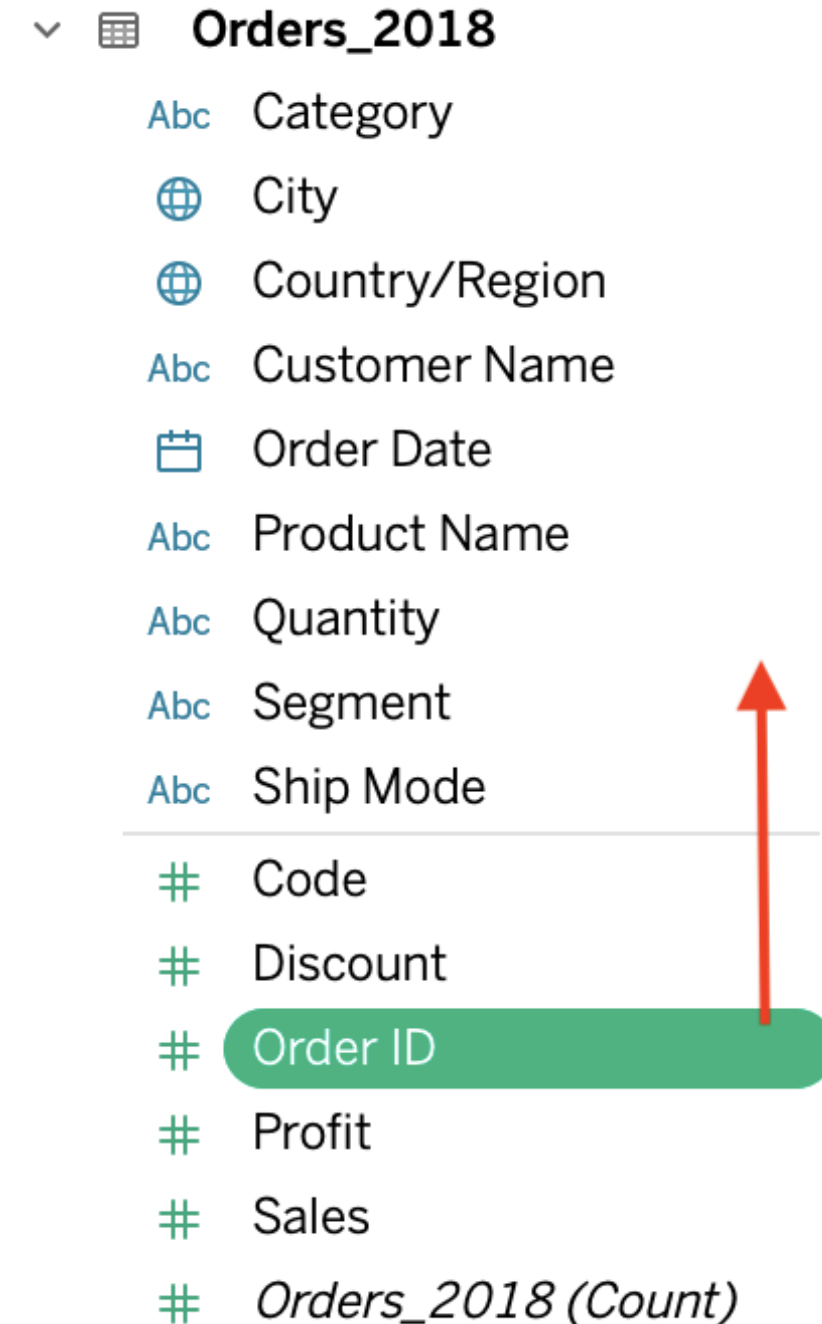
# Dimension vs. measures

## Dimensions

- Qualitative values
- E.g., names, dates, geographical data

## Measures

- Numeric/quantitative values
- E.g., price, duration, age



Orders_2018
Category
City
Country/Region
Customer Name
Order Date
Product Name
Quantity
Segment
Ship Mode
Code
Discount
Order ID
Profit
Sales
Orders_2018 (Count)

# Column names and aliases

## Change column names

Abc

Orders!2018

<del>Segment</del>	Type
Consumer	
Consumer	
Corporate	
Consumer	
Corporate	
Corporate	
Consumer	

## Change aliases

Abc

Orders!2018

Segment	
<del>Consumer</del>	b2c
<del>Consumer</del>	b2c
<del>Corporate</del>	b2b
<del>Consumer</del>	b2c
<del>Corporate</del>	b2b
<del>Corporate</del>	b2b
<del>Consumer</del>	b2c

# Data types

Data type	Example
String values	Celia
Number (integer) values	15
Date values	16-07-1993
Date and time values	18-03-2016 12:45:28 AM
Boolean values	True
Geographic values	United States
Cluster or mixed values	<i>A mix of the above</i>

<sup>1</sup> [https://help.tableau.com/current/pro/desktop/en-us/maps\\_geographicroles.htm](https://help.tableau.com/current/pro/desktop/en-us/maps_geographicroles.htm)

←

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Connections

Add

Orders 2018 with Mfg

Microsoft Excel

Sheets

Mfg

Orders\_2018

New Union

Orders\_2018+ (Orders 2018 with Mfg)

Connection

Live

Extract

Filters

0

Add

Orders\_2018Mfg

Sort fields

Data source order

Show aliases

Show hidden fields

1.000

rows

Orders!2018 Order ID	Orders!2018 Order Date	Orders!2018 Ship Mode	Orders!2018 Customer Name	Orders!2018 Segment	Orders!2018 Country/Region	Orders!2018 City
CA-2018-152156	08/11/2018	USPS Priority	Claire Gute	Consumer	United States	Henderson
CA-2018-152156	08/11/2018	USPS Priority	Claire Gute	Consumer	United States	Henderson
CA-2018-138688	12/06/2018	USPS Priority	Darrin Van Huff	Corporate	United States	Los Angeles
CA-2018-161389	05/12/2018	USPS Ground	Irene Maddox	Consumer	United States	Seattle
CA-2018-137330	09/12/2018	USPS Ground	Ken Black	Corporate	United States	Fremont
CA-2018-137330	09/12/2018	USPS Ground	Ken Black	Corporate	United States	Fremont
CA-2018-121755	16/01/2018	USPS Priority	Eric Hoffmann	Consumer	United States	Los Angeles
CA-2018-121755	16/01/2018	USPS Priority	Eric Hoffmann	Consumer	United States	Los Angeles

Data Source

Data Prep: Alias, Rename, & Pres...

# Default properties

Allows the analyst to assign characteristics to be consistently shown

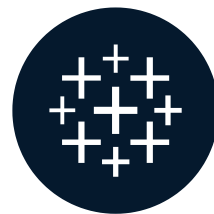
- Aggregation
- Comments
- Number formatting
- Color
- Shape
- Totals



**Let's practice!**  
CONNECTING DATA IN TABLEAU

# Managing the presentation of data

CONNECTING DATA IN TABLEAU



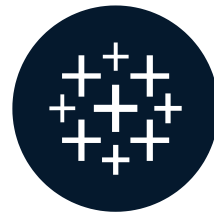
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Curriculum Manager, DataCamp

**Let's practice!**  
CONNECTING DATA IN TABLEAU

# More data management

CONNECTING DATA IN TABLEAU



**Sara Billen**  
Instructor

**Let's practice!**  
CONNECTING DATA IN TABLEAU

# Tableau connectors

CONNECTING DATA IN TABLEAU

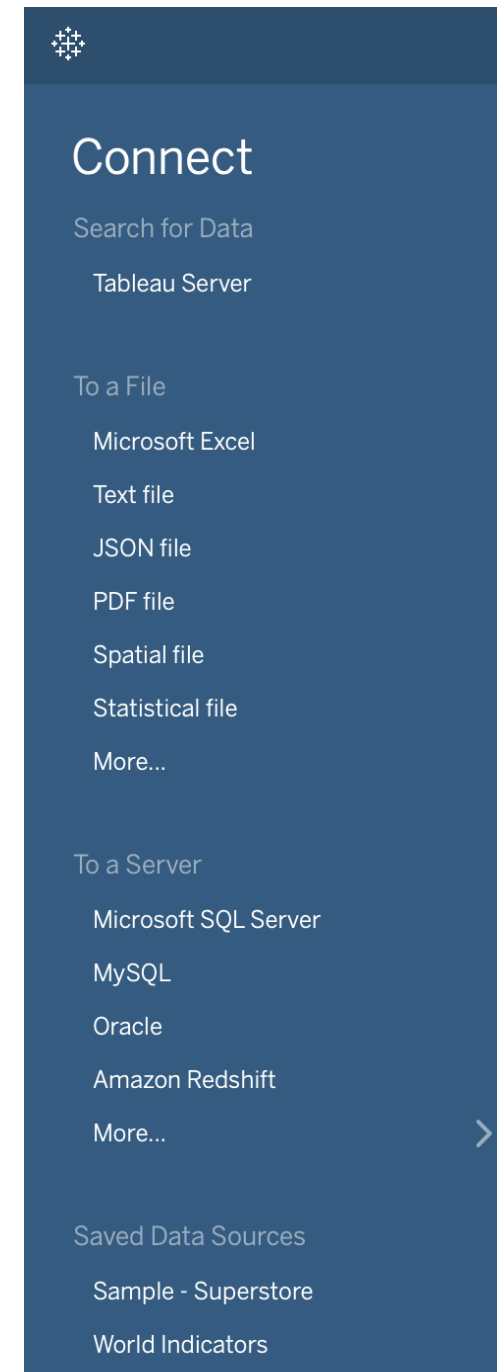


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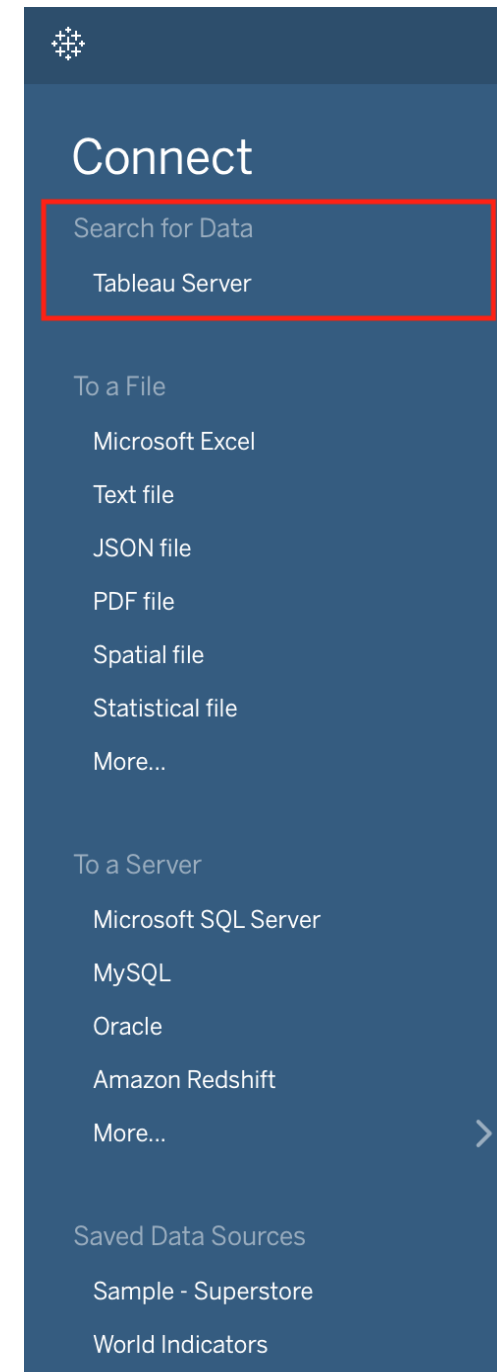
# Data connectors

- Four options:



# Data connectors

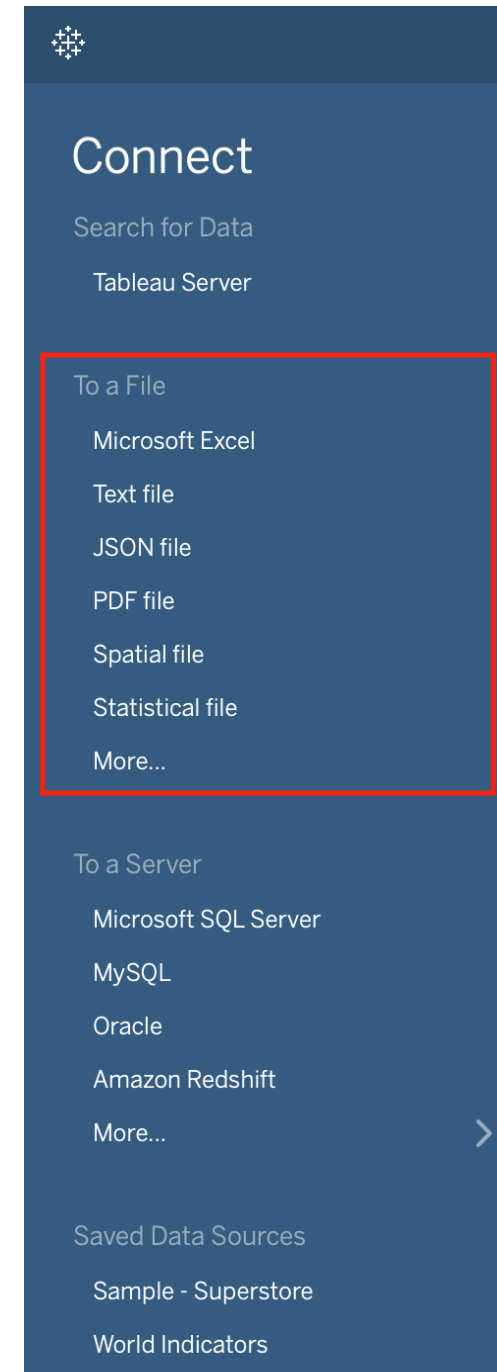
- Four options:
  - Tableau server





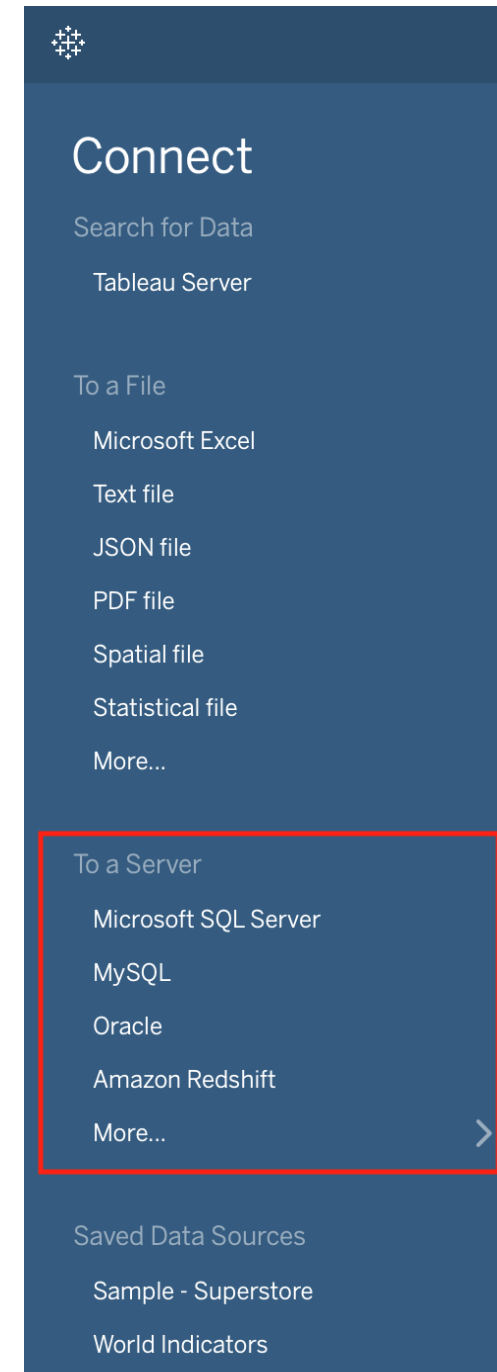
# Data connectors

- Four options:
  - Tableau server
  - File



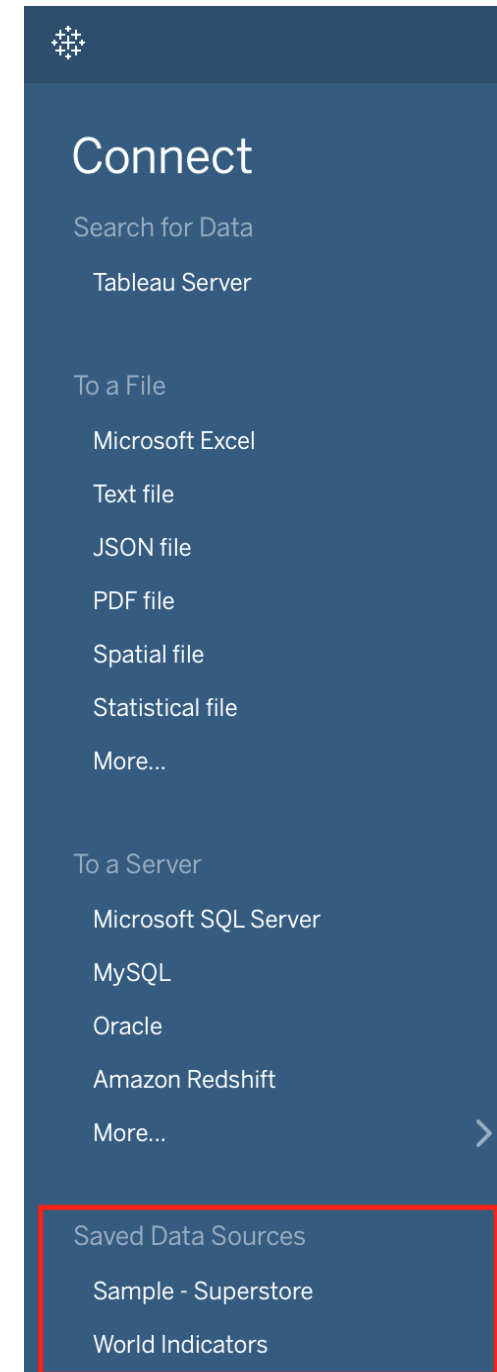
# Data connectors

- Four options:
  - Tableau server
  - File
  - Server



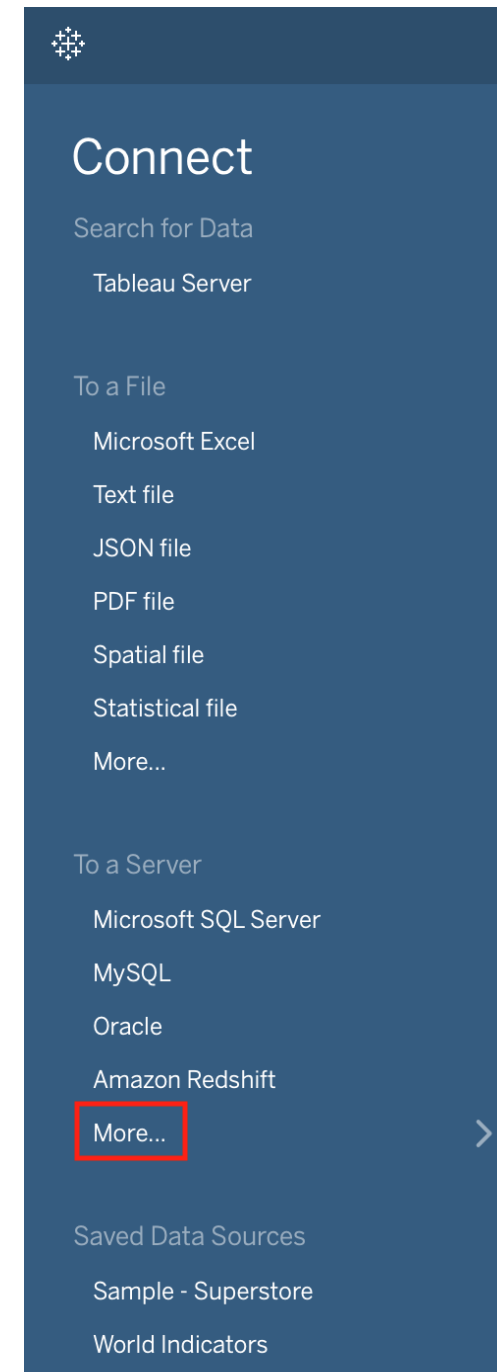
# Data connectors


- Four options:
  - Tableau server
  - File
  - Server
  - Saved data source



# Data connectors

- Four options:
  - Tableau server
  - File
  - Server
  - Saved data source





# Connect

Search for Data

Tableau Server

To a File

Microsoft Excel

Text file

JSON file

PDF file

Spatial file

Statistical file

More...

To a Server

Microsoft SQL Server

MySQL

Oracle

Amazon Redshift

More...

Saved Data Sources

Sample - Superstore

World Indicators

Search

Alibaba AnalyticDB for MySQL

Alibaba Data Lake Analytics

Alibaba MaxCompute

Amazon Athena

Amazon Aurora for MySQL

Amazon EMR Hadoop Hive

Amazon Redshift

Anaplan

Apache Drill

Aster Database

Azure Synapse Analytics

Box

Cloudera Hadoop

Databricks

Denodo

Dropbox

Esri ArcGIS Server

Exasol

Firebird 3

Google Ads

Google Analytics

Google BigQuery

Google Cloud SQL

Google Drive

Google Sheets

Hortonworks Hadoop Hive

Impala

Intuit QuickBooks Online

Kognitio

Kyvos

LinkedIn Sales Navigator

MapR Hadoop Hive

MariaDB

Marketo

MemSQL

Microsoft SQL Server

MongoDB BI Connector

MySQL

OData

OneDrive

Oracle

Oracle Eloqua

Pivotal Greenplum Database

PostgreSQL

Presto

Qubole Presto

Salesforce

SAP HANA

ServiceNow ITSM

SharePoint Lists

Snowflake

Spark SQL


Teradata

Vertica

Web Data Connector

Other Databases (JDBC)

Other Databases (ODBC)



# Connect

Search for Data

Tableau Server

To a File

Microsoft Excel

Text file

JSON file

PDF file

Spatial file

Statistical file

More...

To a Server

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Amazon EMR Hadoop Hive

Amazon Redshift

Anaplan

Apache Drill

Aster Database

Azure Synapse Analytics

Box

Cloudera Hadoop

Databricks

Denodo

Dropbox

Esri ArcGIS Server

Exasol

Firebird 3

Google Ads

Google Analytics

Google BigQuery

Google Cloud SQL

Google Drive

Google Sheets

Hortonworks Hadoop Hive

Impala

Intuit QuickBooks Online

Kognitio

Kyvos

LinkedIn Sales Navigator

MapR Hadoop Hive

MariaDB

Marketo

MemSQL

Microsoft SQL Server

MongoDB BI Connector

MySQL

OData

OneDrive

Oracle

Oracle Eloqua

Pivotal Greenplum Database

PostgreSQL

Presto

Qubole Presto

Salesforce

SAP HANA

ServiceNow ITSM

SharePoint Lists

Snowflake

Spark SQL


Teradata

Vertica

Web Data Connector

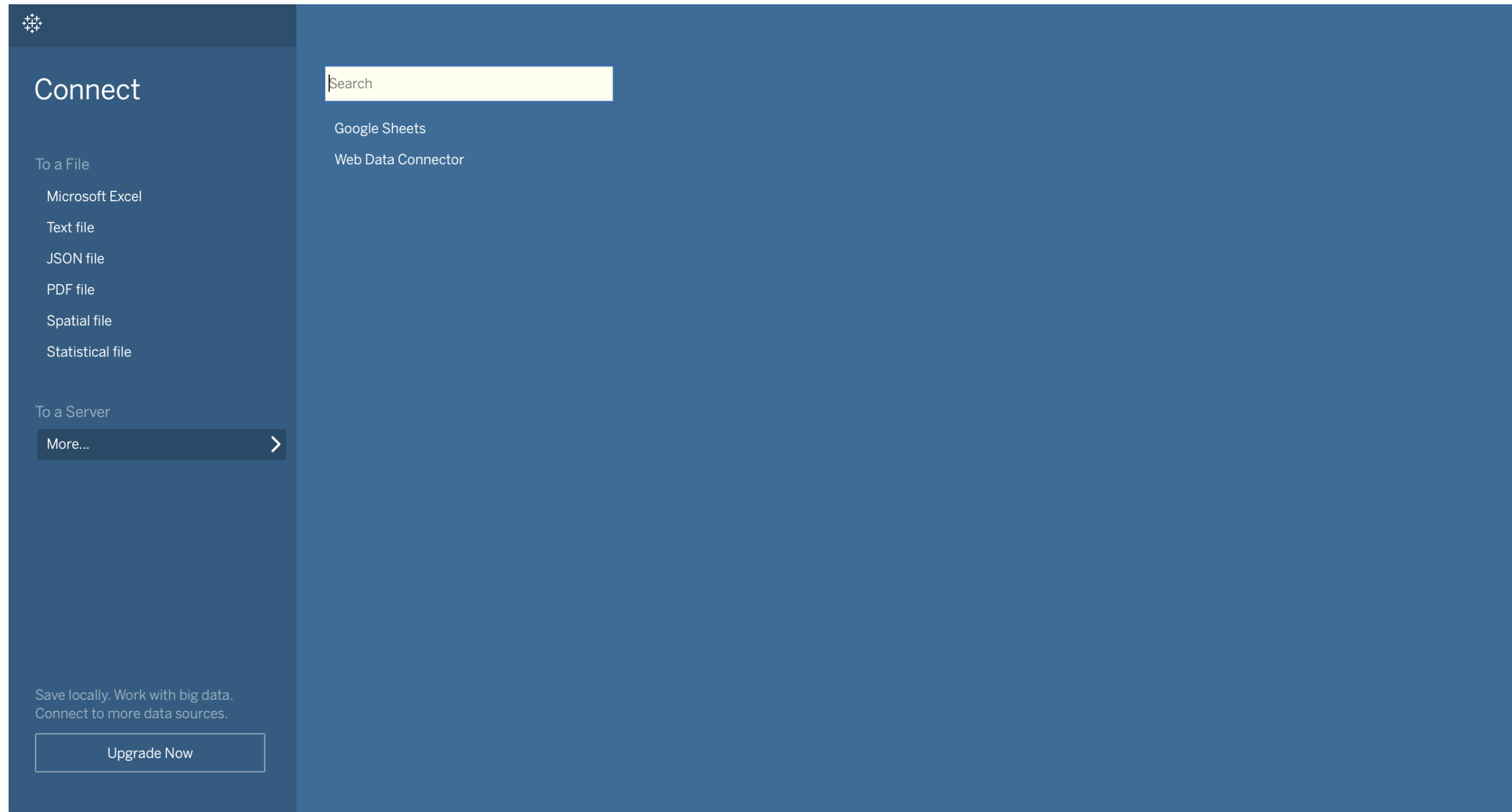
Other Databases (JDBC)

Other Databases (ODBC)

 datacamp

CONNECTING DATA IN TABLEAU

# Tableau Desktop vs Tableau Public



# Sharing your data

- Save as data source
- .tds file
- Does not contain actual data
- Includes:
  - **Information necessary to connect to the actual data:** e.g. database server address, port, location of local files, tables
  - **Modifications made:** e.g. groups, sets, calculated fields, bins, default properties
- Use if the other person has access to the underlying file or database
- Only possible in Tableau Desktop (not on Tableau Public)

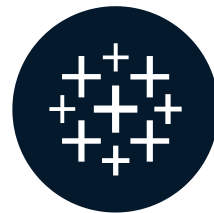


# Let's demo!

CONNECTING DATA IN TABLEAU

# Connecting to data

CONNECTING DATA IN TABLEAU



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Curriculum Manager, DataCamp

**Let's practice!**  
CONNECTING DATA IN TABLEAU

# Filters

CONNECTING DATA IN TABLEAU



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Curriculum Manager, DataCamp

# Tableau's order of operations

Order of operations:

1. **Extract filters**
2. **Data source filters**
3. **Context filters**
4. **Dimension filters**
5. **Measure filters**
6. **Table calc filters**

## Extract filters

Connections: Orders 2018 with Mfg (Microsoft Excel)

Sheets: Mfg, Orders\_2018, New Union

Extract Data Dialog:

Specify how to store data in the extract:

Data Storage

☒ Logical Tables ☐ Physical Tables

Store data using one table for each logical table. [Learn more](#)

Use this option if you need to use extract filters, aggregation, or other extract settings.

Specify how much data to extract:

Filters (optional)

Filter	Details
State	excludes Alabama

Buttons: Add... (highlighted), Edit..., Remove

Aggregation

☐ Aggregate data for visible dimensions

☐ Roll up dates to: Year

Number of Rows

☒ All rows ☐ Incremental refresh

☐ Top: Manufacturing by rows

☐ Sample: Manufacturing by rows

Buttons: History..., Hide All Unused Fields, Cancel, OK

Background Table:

ID	Customer Name	Segment	Country
1	Claire Gute	People	United States
2	Claire Gute	People	United States
3	Darrin Van Huff	Enterprise	United States
14	Irene Maddox	People	United States
22	Ken Black	Enterprise	United States
23	Ken Black	Enterprise	United States
26	Eric Hoffmann	People	United States
27	Eric Hoffmann	People	United States
36	Gene Hale	Enterprise	United States
37	Gene Hale	Enterprise	United States
43	Ruben Ausman	Enterprise	United States
45	Odella Nelson	Enterprise	United States

# Data source filters

← → ↺ ↻

Connections [Add](#)

Orders 2018 with Mfg  
Microsoft Excel

Sheets

Mfg

Orders\_2018

New Union

Superstore

Orders — Manufacturing

Connection

Live

Extract

Filters  
0 [Add](#)

Sort fields

Data s

#	Abc
Orders!2018	Orders!2018
Row ID	Order ID
1	CA-2018-15
2	CA-2018-15
3	CA-2018-13
14	CA-2018-16
22	CA-2018-137330
23	CA-2018-137330
26	CA-2018-121755
27	CA-2018-121755
36	CA-2018-117590
37	CA-2018-117590
43	CA-2018-101343
45	CA-2018-118255

1.000

→ rows

Abc	Abc	Orders!2018
Orders!2018	Orders!2018	Orders!2018
Customer Name	Segment	Country
Claire Gute	People	United States
Claire Gute	People	United States
Darrin Van Huff	Enterprise	United States
Irene Maddox	People	United States
Ken Black	Enterprise	United States
Ken Black	Enterprise	United States
Eric Hoffmann	People	United States
Eric Hoffmann	People	United States
Gene Hale	Enterprise	United States
Gene Hale	Enterprise	United States
Ruben Ausman	Enterprise	United States
Odella Nelson	Enterprise	United States

Edit Data Source Filters

Filter

Details

Segment

keeps Enterprise

Add...

Edit...

Remove

Cancel

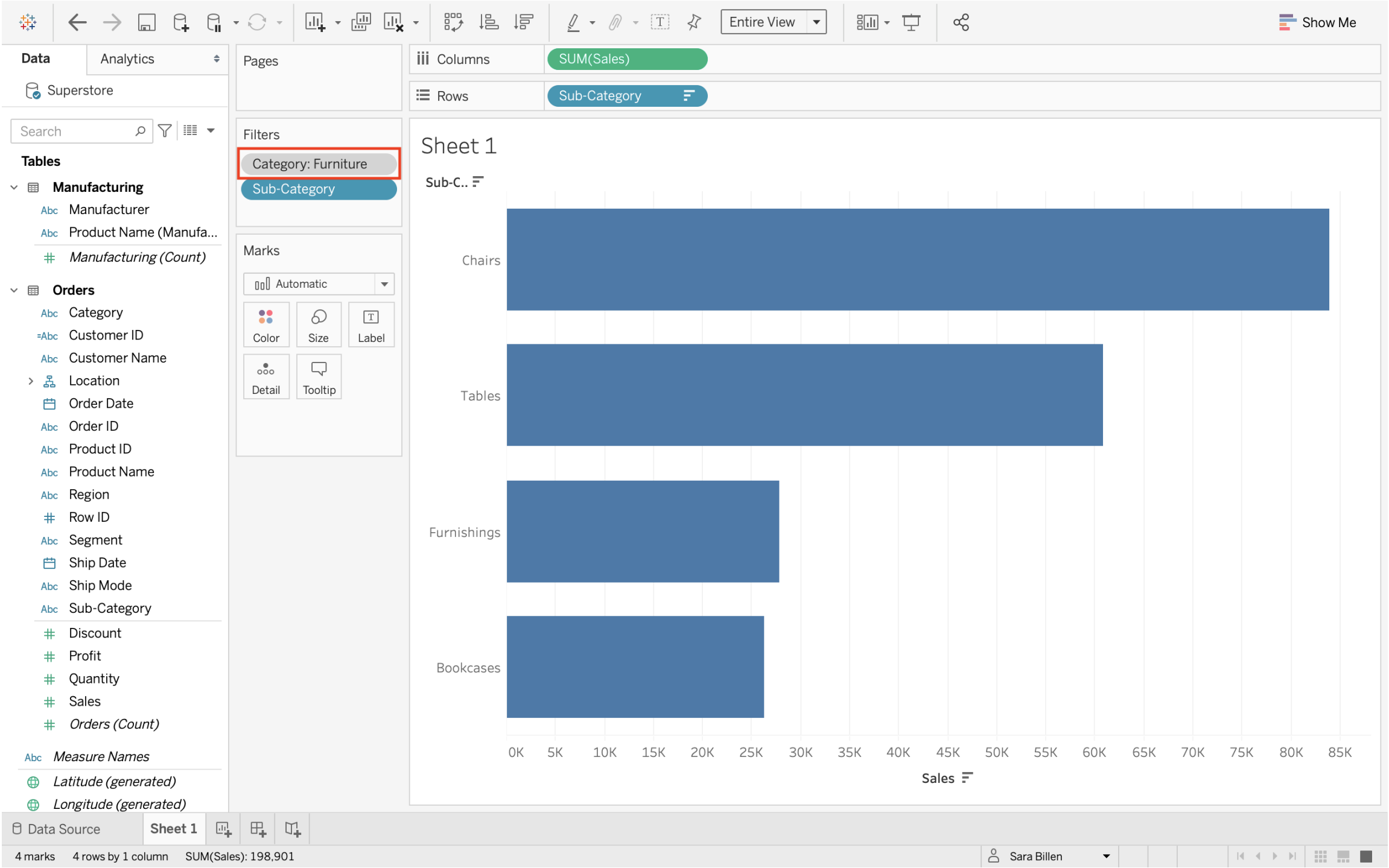
OK

Data Source

Sheet 1

Sara Billen

# Context filters





# Context filters example

## Approach 1

### 1. Apply Dimension filter on Furniture

Category	Customer	Country	Sales
Furniture	Claire Gute	Germany	\$408
Office Supplies	Sean O'Donnell	United Kingdom	\$9
Technology	Brosina Hoffman	Austria	\$665
Furniture	Brosina Hoffman	Austria	\$115
Technology	Pete Thompson	United States	\$60

### 2. Apply Dimension filter on Country

Category	Customer	Country	Sales
Furniture	Claire Gute	Germany	\$408
Office Supplies	Sean O'Donnell	United Kingdom	\$9
Technology	Brosina Hoffman	Austria	\$665
Furniture	Brosina Hoffman	Austria	\$115
Technology	Pete Thompson	United States	\$60

## Approach 2

### 1. Apply *Context* filter on Furniture

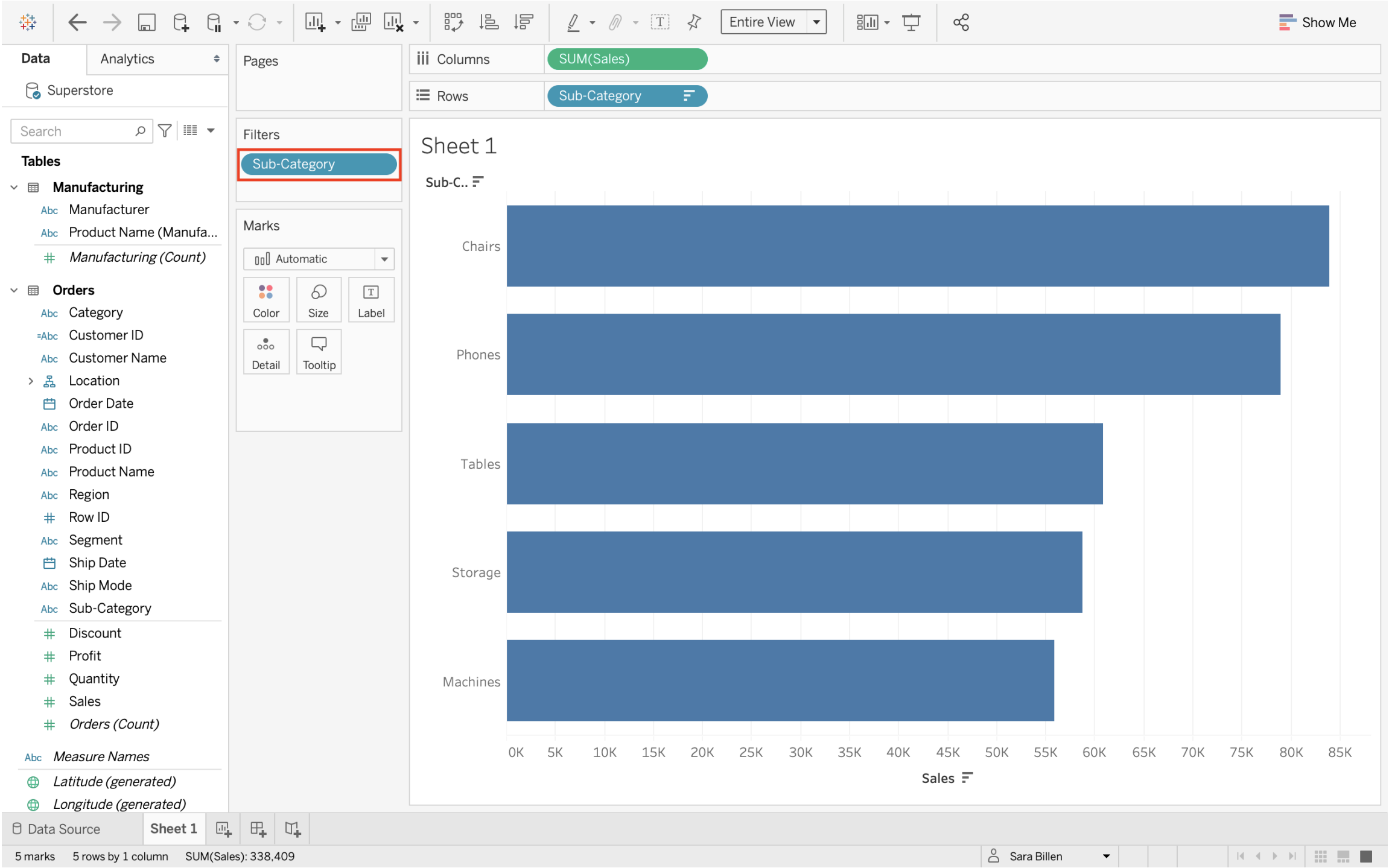
Category	Customer	Country	Sales
Furniture	Claire Gute	Germany	\$408
Office Supplies	Sean O'Donnell	United Kingdom	\$9
Technology	Brosina Hoffman	Austria	\$665
Furniture	Brosina Hoffman	Austria	\$115
Technology	Pete Thompson	United States	\$60

### 2. Apply Dimension filter on Country

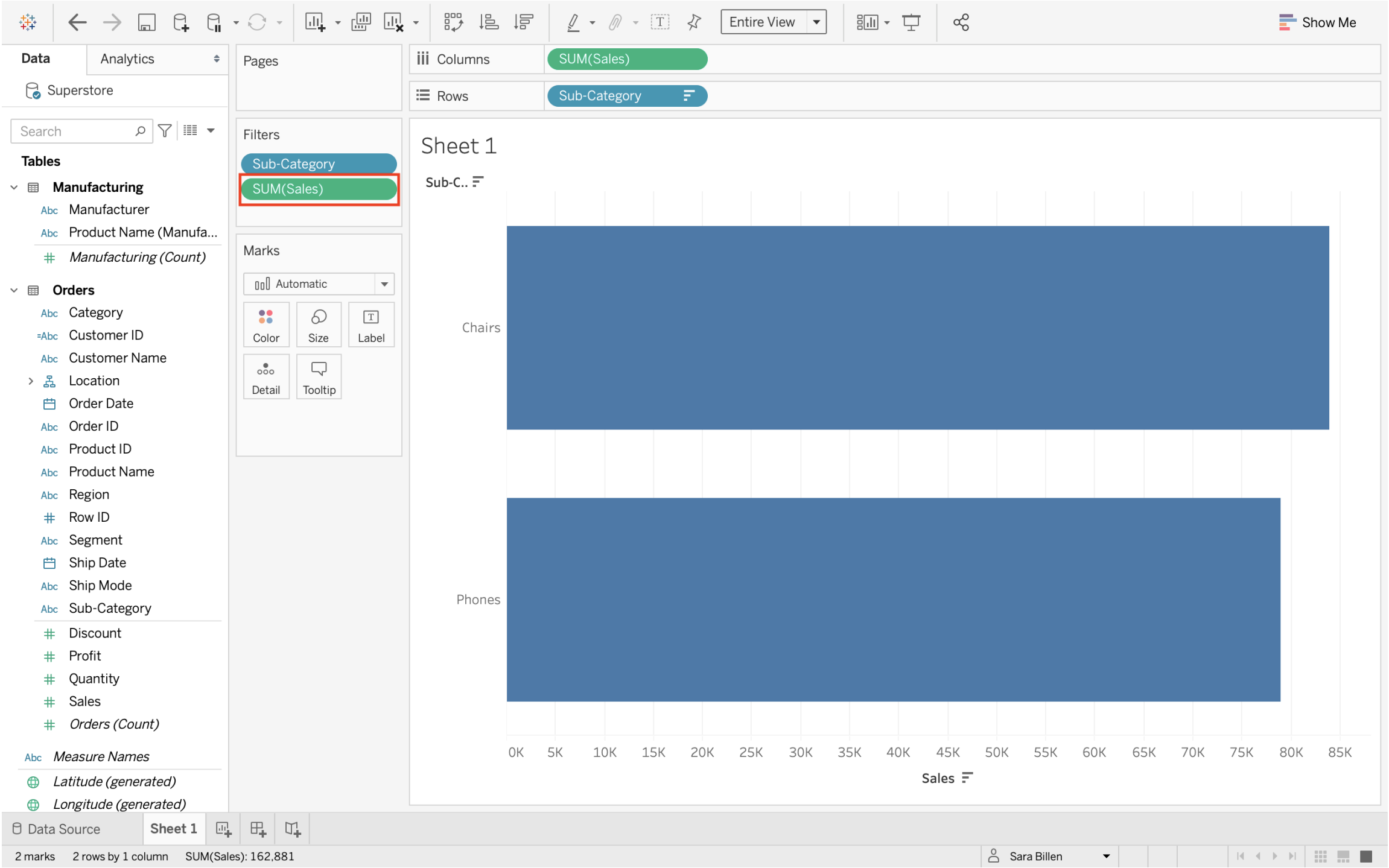
Category	Customer	Country	Sales
Furniture	Claire Gute	Germany	\$408
Furniture	Brosina Hoffman	Austria	\$115

-> Improved performance

# Dimension filters



# Measure filters

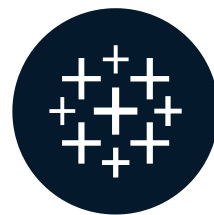


# Let's demo!

CONNECTING DATA IN TABLEAU

# Tableau filters

CONNECTING DATA IN TABLEAU



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Curriculum Manager, DataCamp

**Let's practice!**  
CONNECTING DATA IN TABLEAU