

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

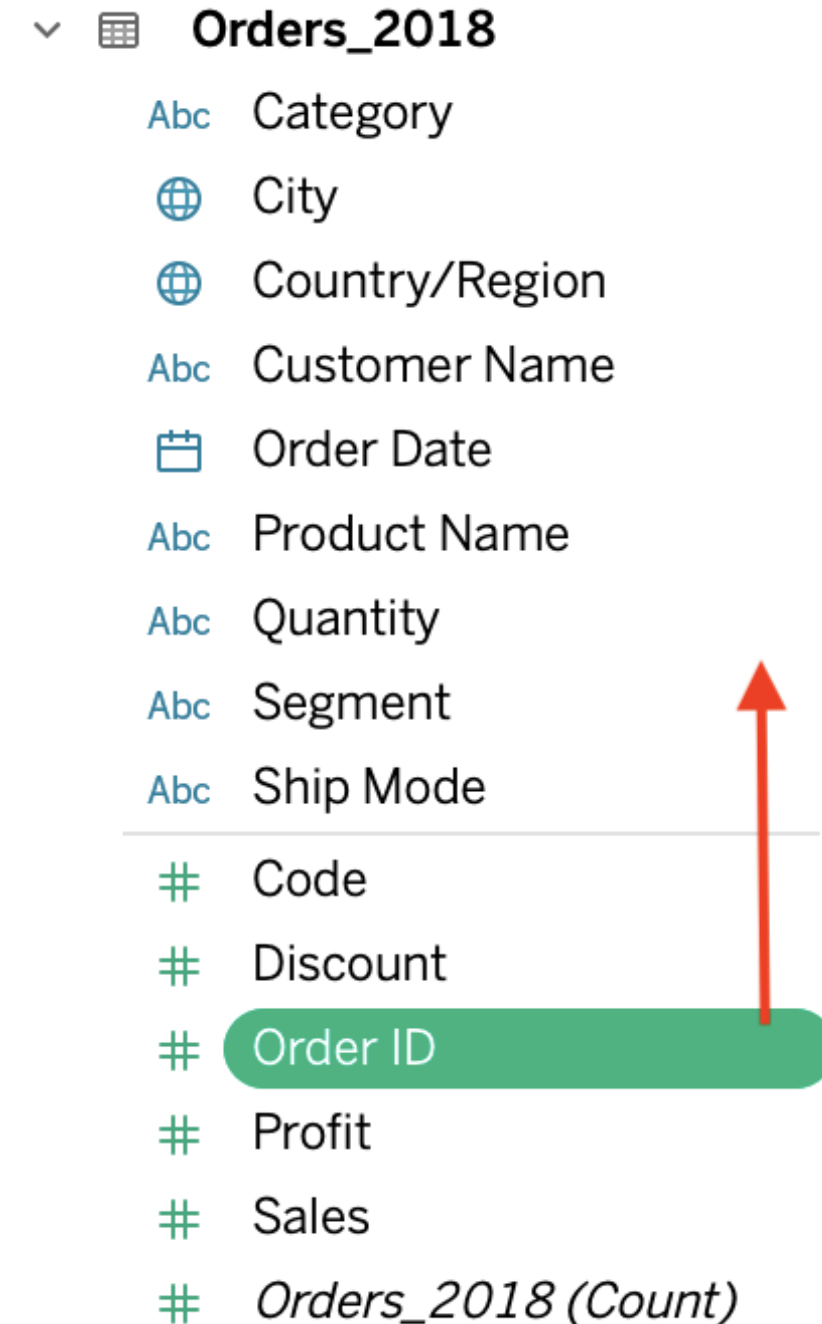
Dimension vs. measures

Dimensions

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

Measures

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



▼	📅	Orders_2018
Abc	Category	
🌐	City	
🌐	Country/Region	
Abc	Customer Name	
📅	Order Date	
Abc	Product Name	
Abc	Quantity	
Abc	Segment	
Abc	Ship Mode	
<hr/>		
#	Code	
#	Discount	
#	Order ID	
#	Profit	
#	Sales	
#	Orders_2018 (Count)	

Column names and aliases

Change column names

Abc

Orders!2018

Segment	Type
Consumer	
Consumer	
Corporate	
Consumer	
Corporate	
Corporate	
Consumer	

Change aliases

Abc

Orders!2018

Segment	
Consumer	b2c
Consumer	b2c
Corporate	b2b
Consumer	b2c
Corporate	b2b
Corporate	b2b
Consumer	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>

¹ 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_2018

Mfg

Sort fields

Data source order

Show aliases

Show hidden fields

1.000

rows

<div>Abc</div> <div>Orders!2018</div> <div>Order ID</div>	<div></div> <div>Orders!2018</div> <div>Order Date</div>	<div>Abc</div> <div>Orders!2018</div> <div>Ship Mode</div>	<div>Abc</div> <div>Orders!2018</div> <div>Customer Name</div>	<div>Abc</div> <div>Orders!2018</div> <div>Segment</div>	<div></div> <div>Orders!2018</div> <div>Country/Region</div>	<div></div> <div>Orders!2018</div> <div>City</div>
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

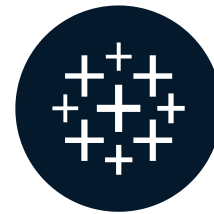
Allows the analyst to assign characteristics to be consistently shown

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

Let's practice!
CONNECTING DATA IN TABLEAU

Managing the presentation of data

CONNECTING DATA IN TABLEAU



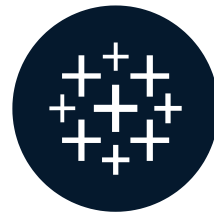
Sara Billen

Curriculum Manager, DataCamp

Let's practice!
CONNECTING DATA IN TABLEAU

More data management

CONNECTING DATA IN TABLEAU

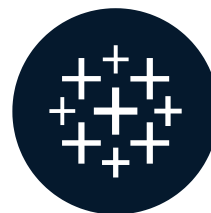


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Instructor

Let's practice!
CONNECTING DATA IN TABLEAU

Tableau connectors

CONNECTING DATA IN TABLEAU

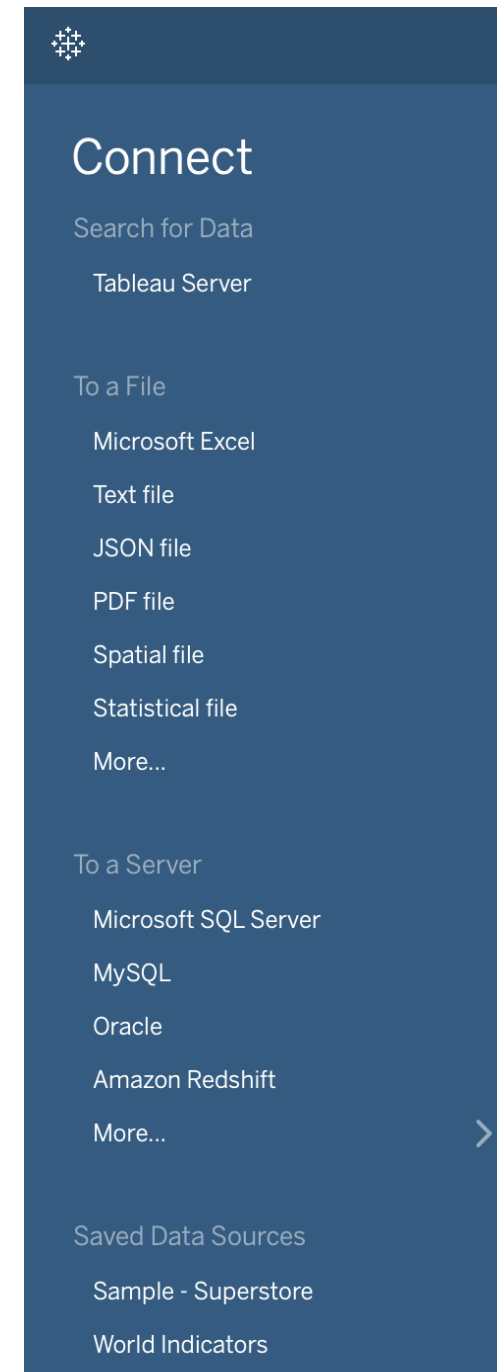


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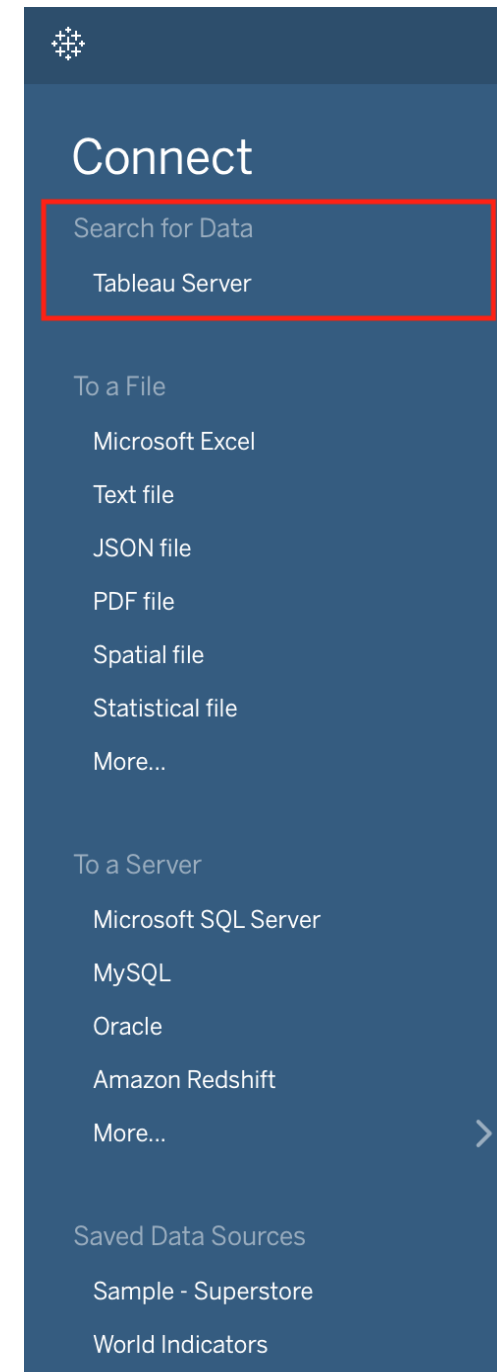
Data connectors

- Four options:



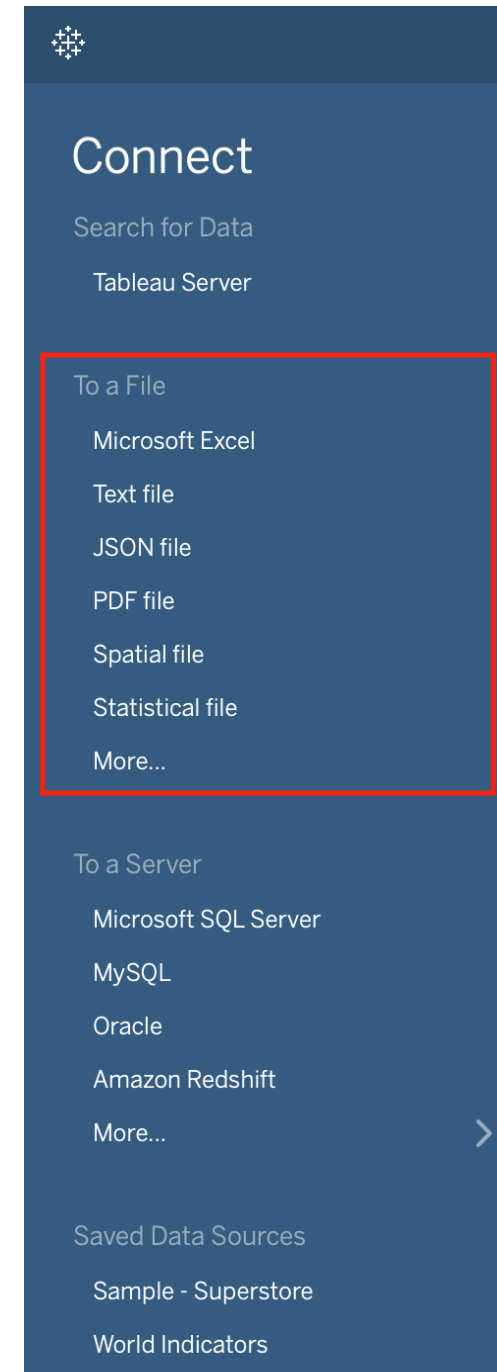
Data connectors

- Four options:
 - Tableau server



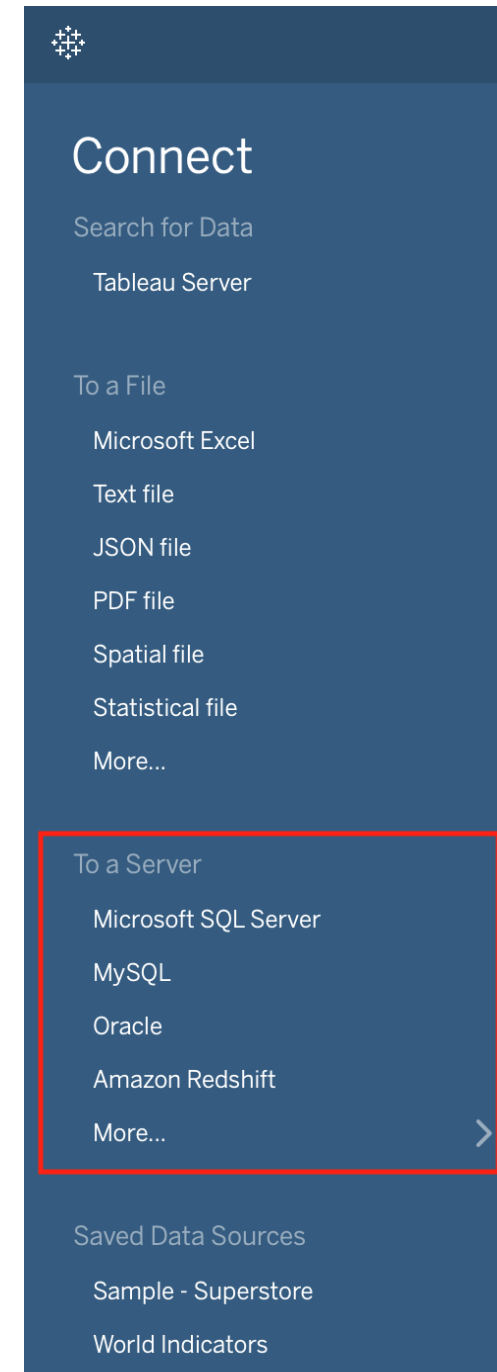
Data connectors

- Four options:
 - Tableau server
 - File



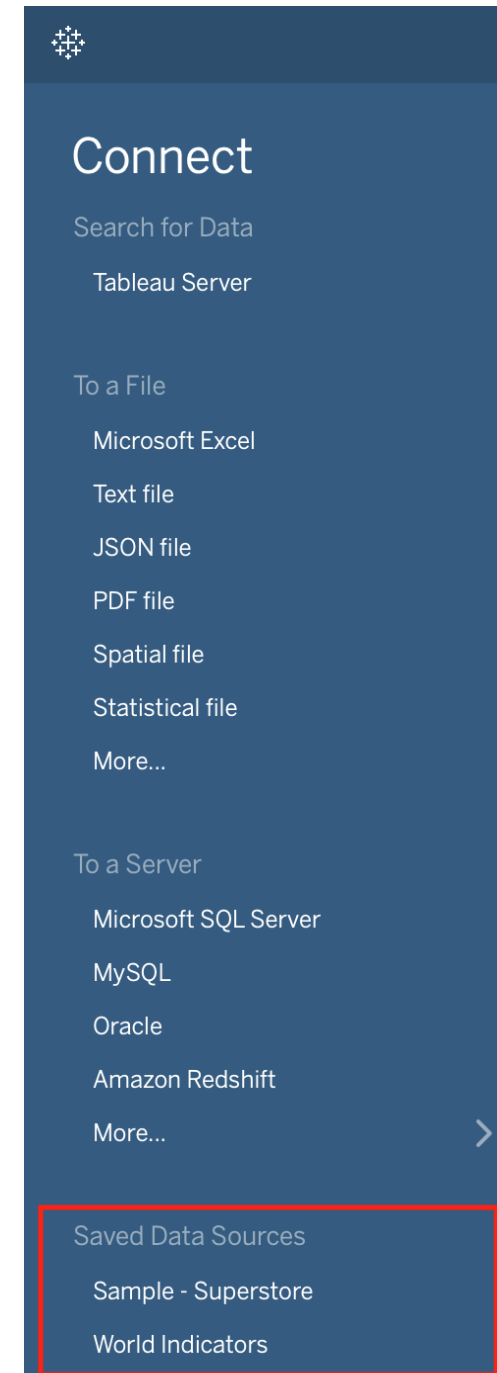
Data connectors

- Four options:
 - Tableau server
 - File
 - Server



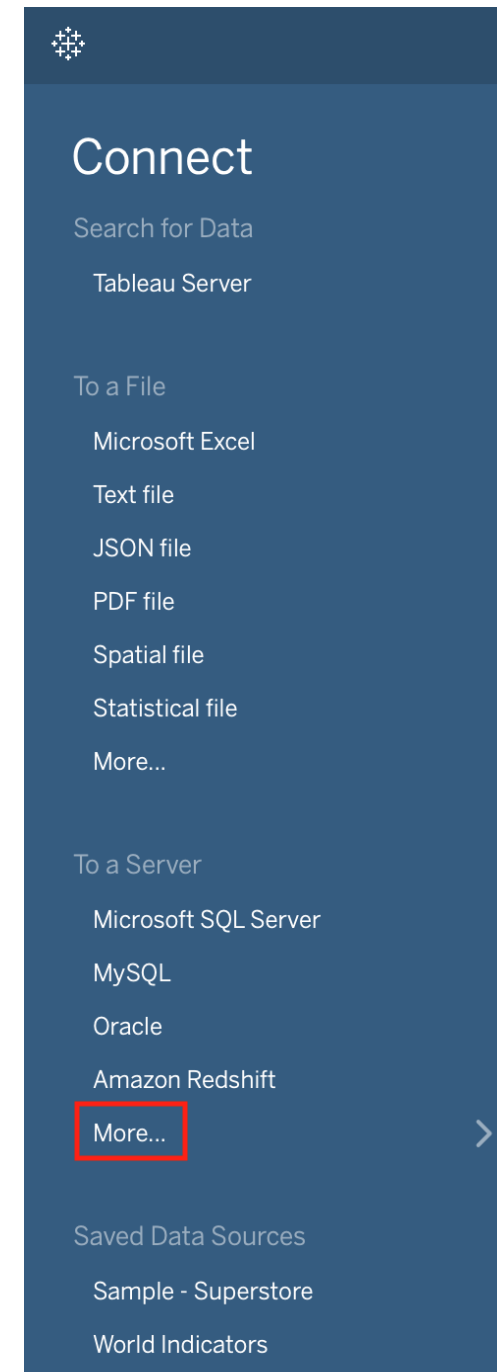
Data connectors


- 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

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Statistical file

More...

To a Server

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More... >

Saved Data Sources

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World Indicators

Search

Alibaba AnalyticDB for MySQL

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Amazon Athena

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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

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Vertica

Web Data Connector

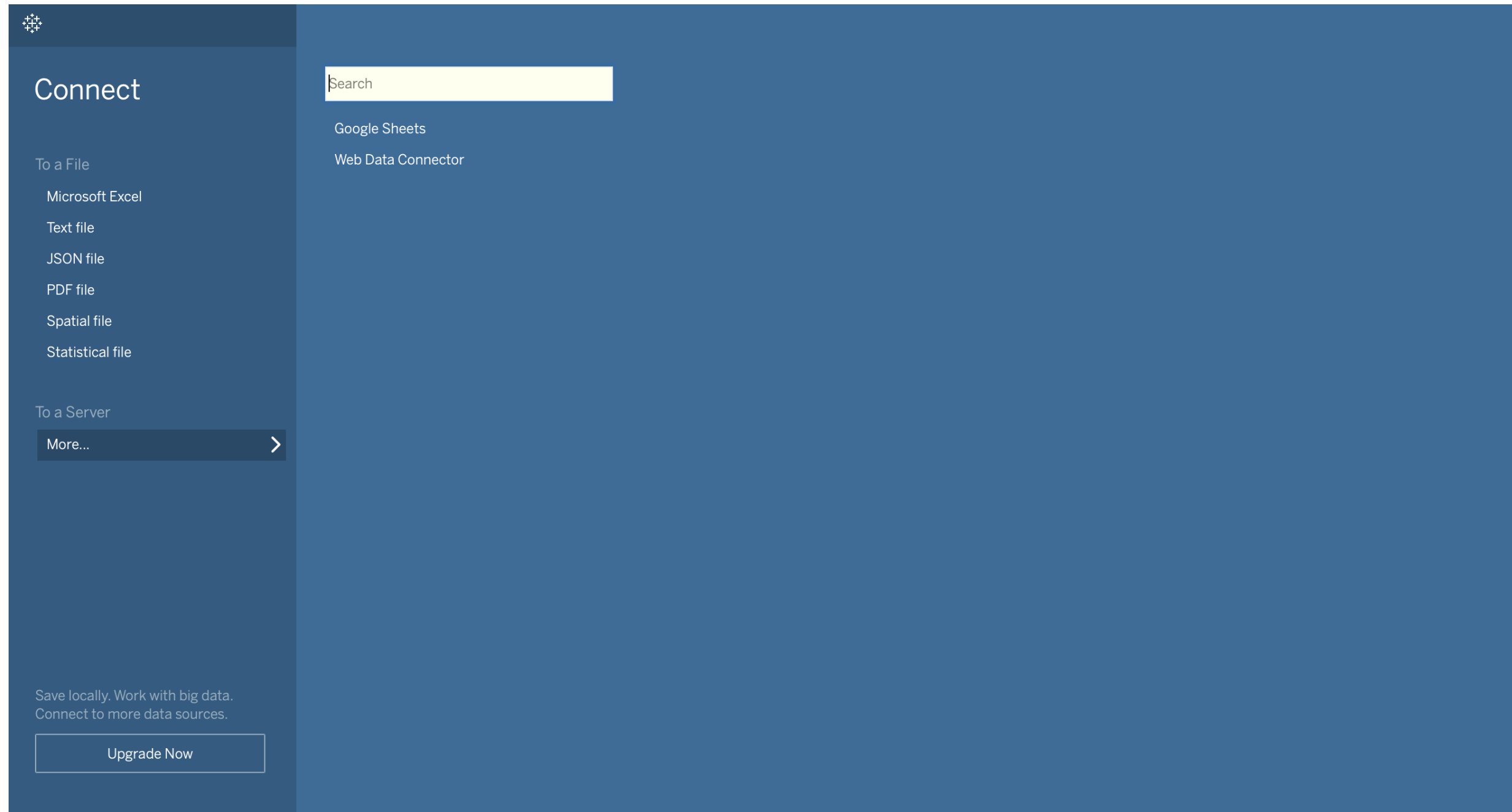
Other Databases (JDBC)

Other Databases (ODBC)

 datacamp

CONNECTING DATA IN TABLEAU

Tableau Desktop vs Tableau Public



Sharing your data

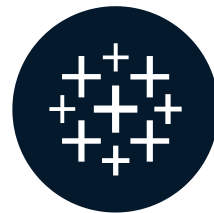
- Save as data source
- .tds file
- Does not contain actual data
- Includes:
 - **Information necessary to connect to the actual data:** e.g. database server address, port, location of local files, tables
 - **Modifications made:** e.g. groups, sets, calculated fields, bins, default properties
- Use 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



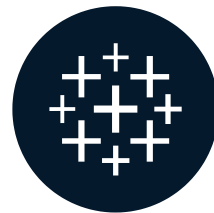
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Let's practice!
CONNECTING DATA IN TABLEAU

Filters

CONNECTING DATA IN TABLEAU



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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

Extract Data

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

Add... 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

History... Hide All Unused Fields Cancel OK

Connection: ☐ Live ☒ Extract **Edit** Refresh

Filters: 0 Add

Extract will include all data.

☒ Show aliases ☐ Show hidden fields 1.000 rows

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

#	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	09/12/2018	13/12/2018	Standard Class	16585
	23	CA-2018-137330	09/12/2018	13/12/2018	Standard Class	16585
	26	CA-2018-121755	16/01/2018	20/01/2018	Second Class	13945
	27	CA-2018-121755	16/01/2018	20/01/2018	Second Class	13945
	36	CA-2018-117590	08/12/2018	10/12/2018	First Class	14485
	37	CA-2018-117590	08/12/2018	10/12/2018	First Class	14485
	43	CA-2018-101343	17/07/2018	22/07/2018	Standard Class	19885
	45	CA-2018-118255	11/03/2018	13/03/2018	First Class	18715

1.000 → rows

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

Filter

Details

Segment

keeps Enterprise

Add...

Edit...

Remove

Cancel

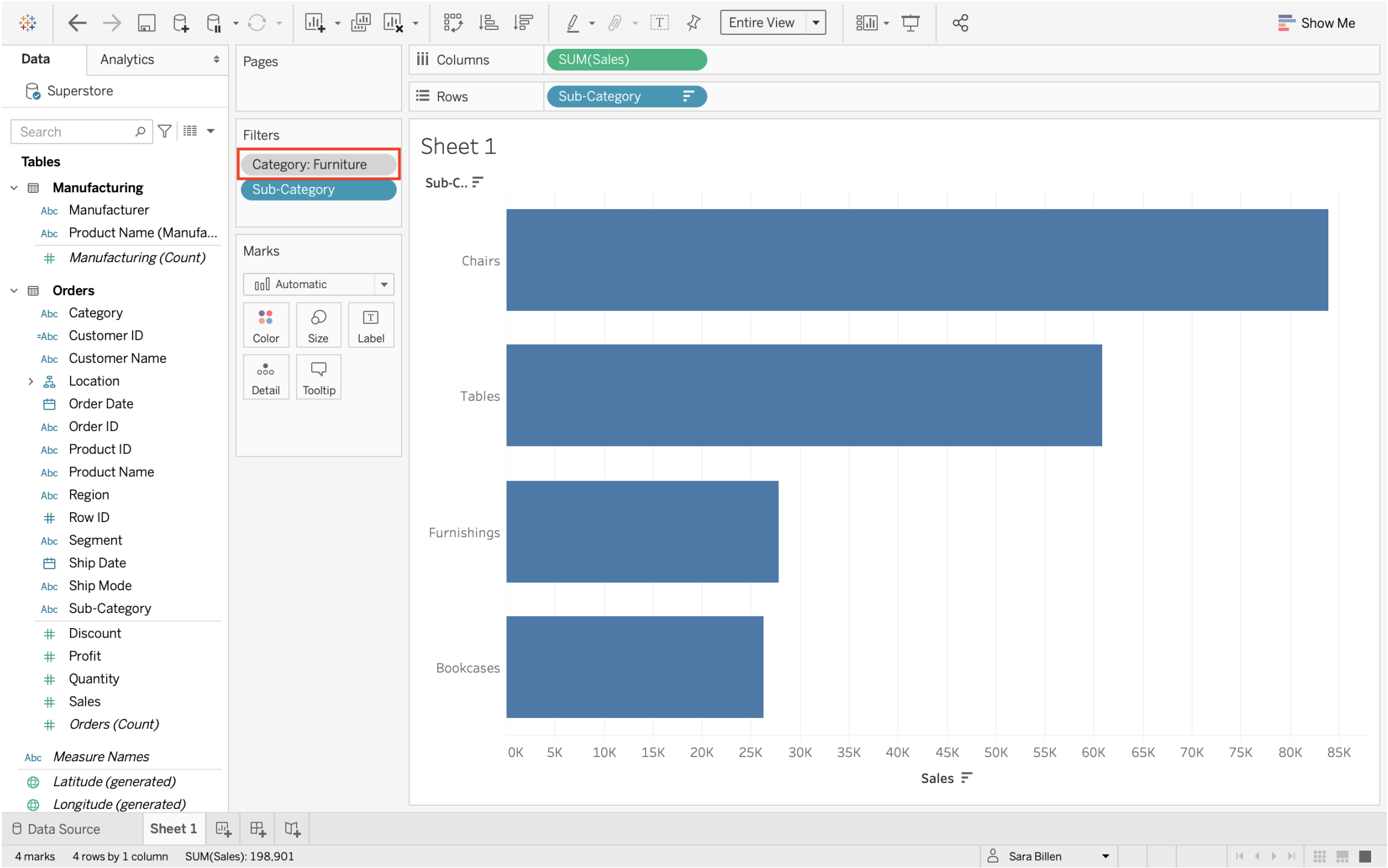
OK

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

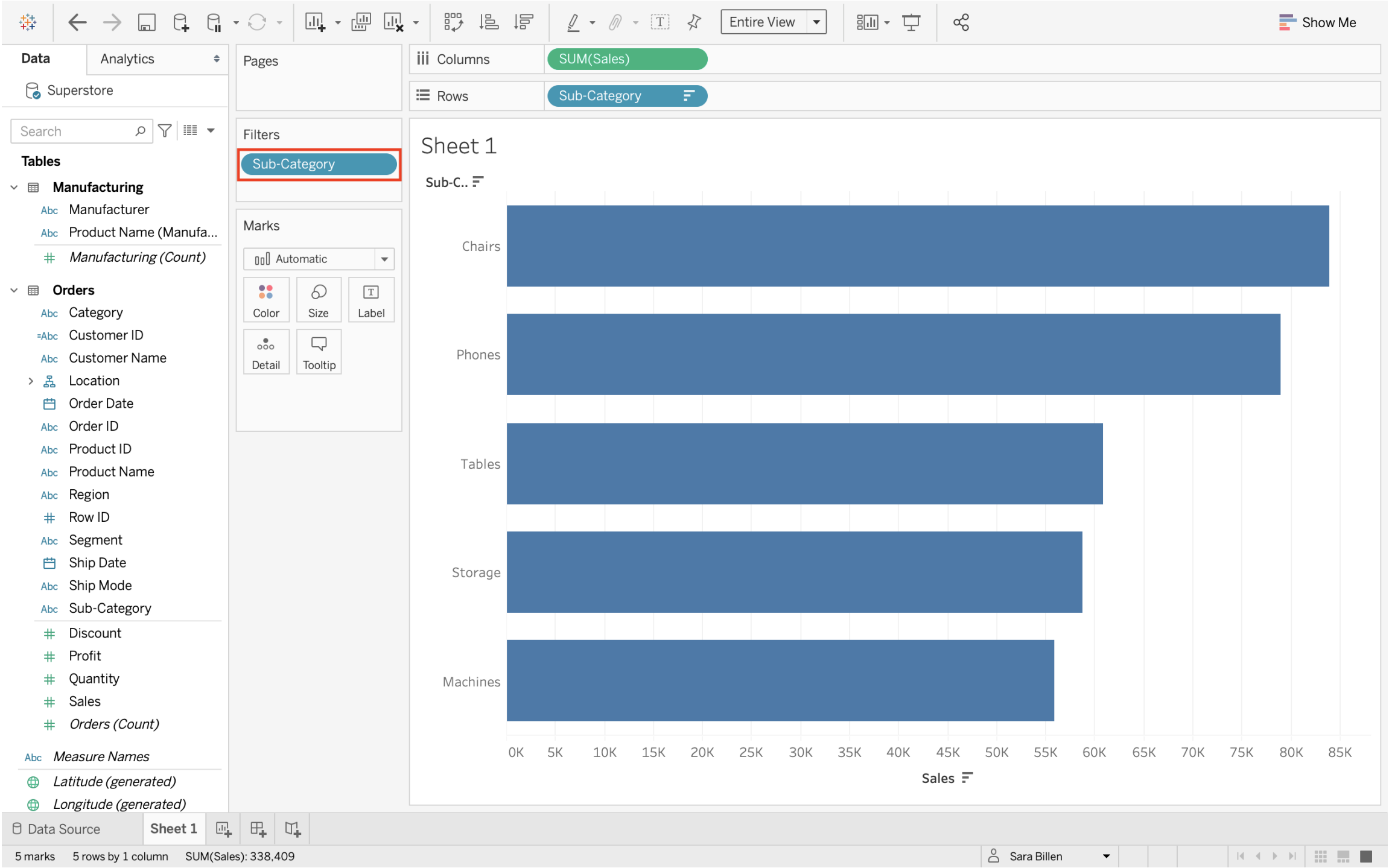
Category	Customer	Country	Sales
Furniture	Claire Gute	Germany	\$408
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2. Apply Dimension filter on Country

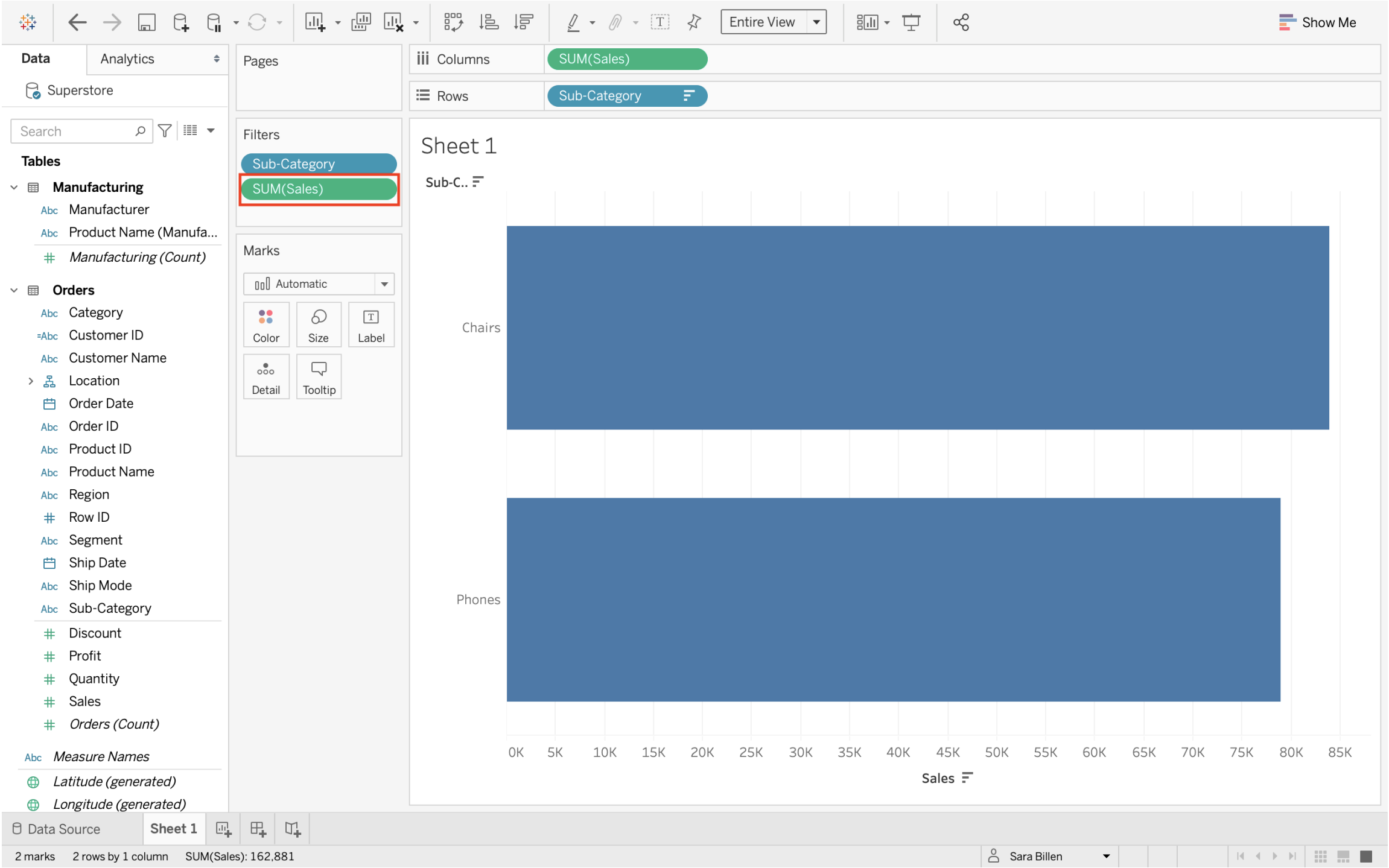
Category	Customer	Country	Sales
Furniture	Claire Gute	Germany	\$408
Furniture	Brosina Hoffman	Austria	\$115

-> Improved performance

Dimension filters



Measure filters

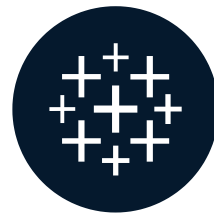


Let's demo!

CONNECTING DATA IN TABLEAU

Tableau filters

CONNECTING DATA IN TABLEAU



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