

Deep-dive into Tableau Part 1

Contents

1. Steps involved for creation of Tableau Report
2. Tableau Connections (Live, Extract)
3. Dimension and Measure

Steps involved for creation of Tableau Report

There are three basic steps involved in creating any Tableau data analysis report.



Connect to a data source



Choose dimensions and measures



Apply visualization technique

Step 1 : Connect to a data source

Tableau can connect to all the popular data sources which are widely used. Some examples include:

- File Systems such as CSV, Excel, etc.
- Relational Systems such as Oracle, Sql Server, DB2, etc.
- Cloud Systems such as Windows Azure, Google BigQuery, etc.
- Other Sources using ODBC

Connect

Search for Data

Tableau Server

To a File

Microsoft Excel

Text file

JSON file

Microsoft Access

PDF file

Spatial file

Statistical file

More...

To a Server

MySQL

Oracle

Amazon Redshift

Microsoft SQL Server

More...



Saved Data Sources

Sample - Superstore

World Indicators

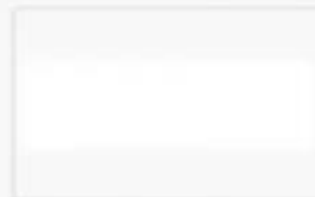
Open



Superstore



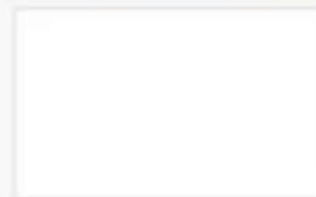
Sample Dashboard - F...



Sample Dashboard - S...



Test



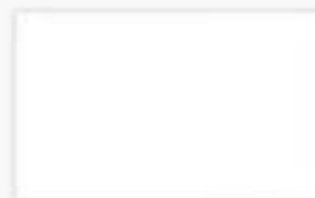
Advanced Spatial Files...



Hexbin Map Starter



Hexbin Map Starter



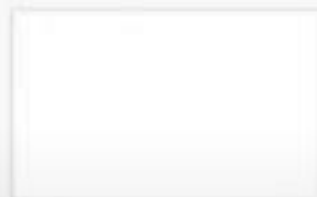
Oregon_Starter



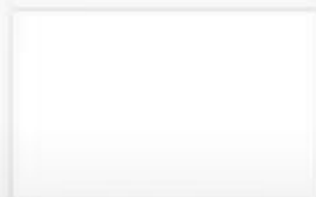
Context Filters and Da...



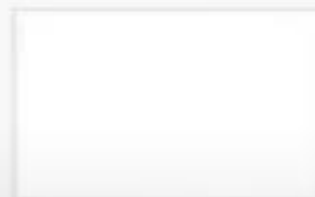
Sheet Swapping and C...



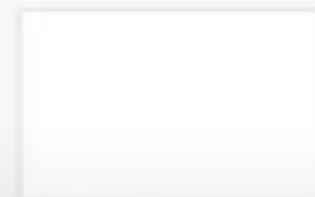
Student Survey Starter



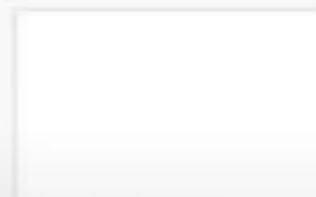
Annual Cohort Purcha...



Slope Chart Starter



Bump_Chart_Starter



Control Chart Starter

Sample Workbooks



Superstore



Regional



World Indicators

Open a Workbook

More Samples

Installed Connectors (76)

Actian Matrix
 Actian Vector
 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 Data Lake Storage Gen2
 Azure SQL Database
 Azure Synapse Analytics
 Box
 Cloudera Hadoop
 Databricks
 Datorama
 Denodo
 Dremio
 Dropbox
 Esri ArcGIS Server
 Exasol
 Firebird 3
 Google Ads
 Google Analytics

Google BigQuery
 Google Cloud SQL
 Google Drive
 Google Sheets
 Hortonworks Hadoop Hive
 IBM BigInsights
 IBM DB2
 IBM PDA (Netezza)
 Impala
 Intuit QuickBooks Online
 Kognitio
 Kyvos
 LinkedIn Sales Navigator
 MapR Hadoop Hive
 MariaDB
 Marketo
 MarkLogic
 Microsoft Analysis Services
 Microsoft PowerPivot
 Microsoft SQL Server
 MonetDB
 MongoDB BI Connector
 MySQL
 OData
 OneDrive
 Oracle
 Oracle Eloqua
 Oracle Essbase

Pivotal Greenplum Database
 PostgreSQL
 Presto
 Progress OpenEdge
 Qubole Presto
 Salesforce
 SAP HANA
 SAP NetWeaver Business Warehouse
 SAP Sybase ASE
 SAP Sybase IQ
 ServiceNow ITSM
 SharePoint Lists
 SingleStore
 Snowflake
 Spark SQL
 Splunk
 Teradata
 Teradata OLAP Connector
 TIBCO Data Virtualization
 Vertica
 Web Data Connector

 Other Databases (JDBC)
 Other Databases (ODBC)

 Additional Connectors (14) ⓘ
 Actian ODBC by Actian

Elasticsearch by Elastic
 Incorta Connector by Incorta
 Kyligence Connector by Kyligence
 MarkLogic by MarkLogic
 Ocident JDBC by Ocident
 Oracle NetSuite by Tableau
 Qubole Hive by Qubole
 Salesforce CDP by Salesforce
 SAP SuccessFactors by Tableau
 SQream DB by SQream Technologies
 Starburst Enterprise by Starburst
 Stratio Crossdata by Stratio BD
 Yellowbrick by Yellowbrick Data

Connection to Excel file

The screenshot shows the Tableau Desktop interface with a connection to an Excel file. The 'Connections' pane on the left lists 'Sample - Superstore' as a Microsoft Excel connection. The 'Sheets' pane on the left shows a list of tables: Orders, People, Returns, Orders, People, Returns, and New Union. The main workspace displays the 'Orders' table, which has 21 fields and 9994 rows. The 'Fields' pane at the bottom left shows the table structure. The 'Table' pane at the bottom right displays the first five rows of data. The 'Connection' dropdown in the top right corner is set to 'Live'.

Tableau - Book1

File Data Server Window Help

Connections Add

Sample - Superstore
Microsoft Excel

Sheets

☐ Use Data Interpreter
Data Interpreter might be able to clean your Microsoft Excel workbook.

Orders
People
Returns
Orders
People
Returns
New Union

Superstore

Orders

Need more data?
Drag tables here to relate them. [Learn more](#)

Orders 21 fields 9994 rows 100 rows

Name	Orders
Orders	

Type	Field Name	Physical Table	Remote Field
#	Row ID	Orders	Row ID

#	Orders	Orders	Orders	Orders	Orders
Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer ID
1	CA-2020-152156	11/8/2020	11/11/2020	Second Class	CG-12520
2	CA-2020-152156	11/8/2020	11/11/2020	Second Class	CG-12520
3	CA-2020-138688	6/12/2020	6/16/2020	Second Class	DV-13045
4	US-2019-108966	10/11/2019	10/18/2019	Standard Class	SO-20335
5	US-2019-108966	10/11/2019	10/18/2019	Standard Class	SO-20335

Live vs. Extract connection

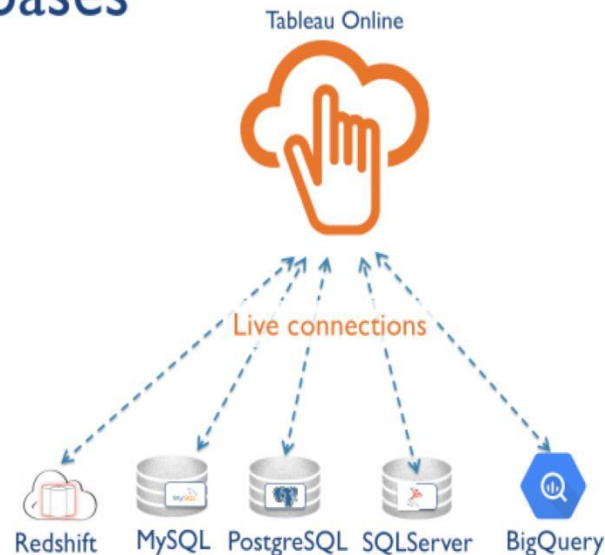
Live

- Allows real time data
- Not preferable for bulky data
- Slower than Extract due to live updating of data
- Rely on database queries
- E.g. Newly coming patient data at hospital

Extract

- Batched data need to be updated time to time
- Preferred for bulky data
- Much faster than Live
- Not always depend on database queries
- E.g. daily or weekly trends of patient data at hospital

Cloud Databases



Cloud Applications



Connection to CSV file

Connections

Call Center

Text file

Files

☐ Use Data Interpreter

Data Interpreter might be able to clean your Text file workbook.

Call Center.csv

Financial Con...omplaints.csv

Help Desk.csv

Human Resources.csv

Insurance Policies.csv

SocialMedia.csv

New Union

Call Center

Call Center.csv

RWFD

File Home Share View

Navigation pane

Panes

Extra large icons Large icons Medium icons Small icons List Details

Layout

Sort by

Current view

☒ Item check boxes

☒ File name extensions

☒ Hidden items

Hide selected items

Options

Show/hide

Local Disk (C:) > Temp > RWFD

Search RWFD

Name	Date modified	Type
<input checked="" type="checkbox"/> Call Center.csv	2/15/2021 6:43 AM	Microsoft Excel Com...
<input type="checkbox"/> Financial Consumer Complaints.csv	2/15/2021 6:44 AM	Microsoft Excel Com...
<input type="checkbox"/> Help Desk.csv	2/15/2021 6:44 AM	Microsoft Excel Com...
<input type="checkbox"/> Human Resources.csv	2/15/2021 6:44 AM	Microsoft Excel Com...
<input type="checkbox"/> Insurance Policies.csv	2/15/2021 6:44 AM	Microsoft Excel Com...
<input type="checkbox"/> SocialMedia.csv	2/15/2021 6:44 AM	Microsoft Excel Com...

6 items 1 item selected 4.15 MB

Filters

0 Add

Call Center.csv

12 fields 32941 rows

100 rows

Name

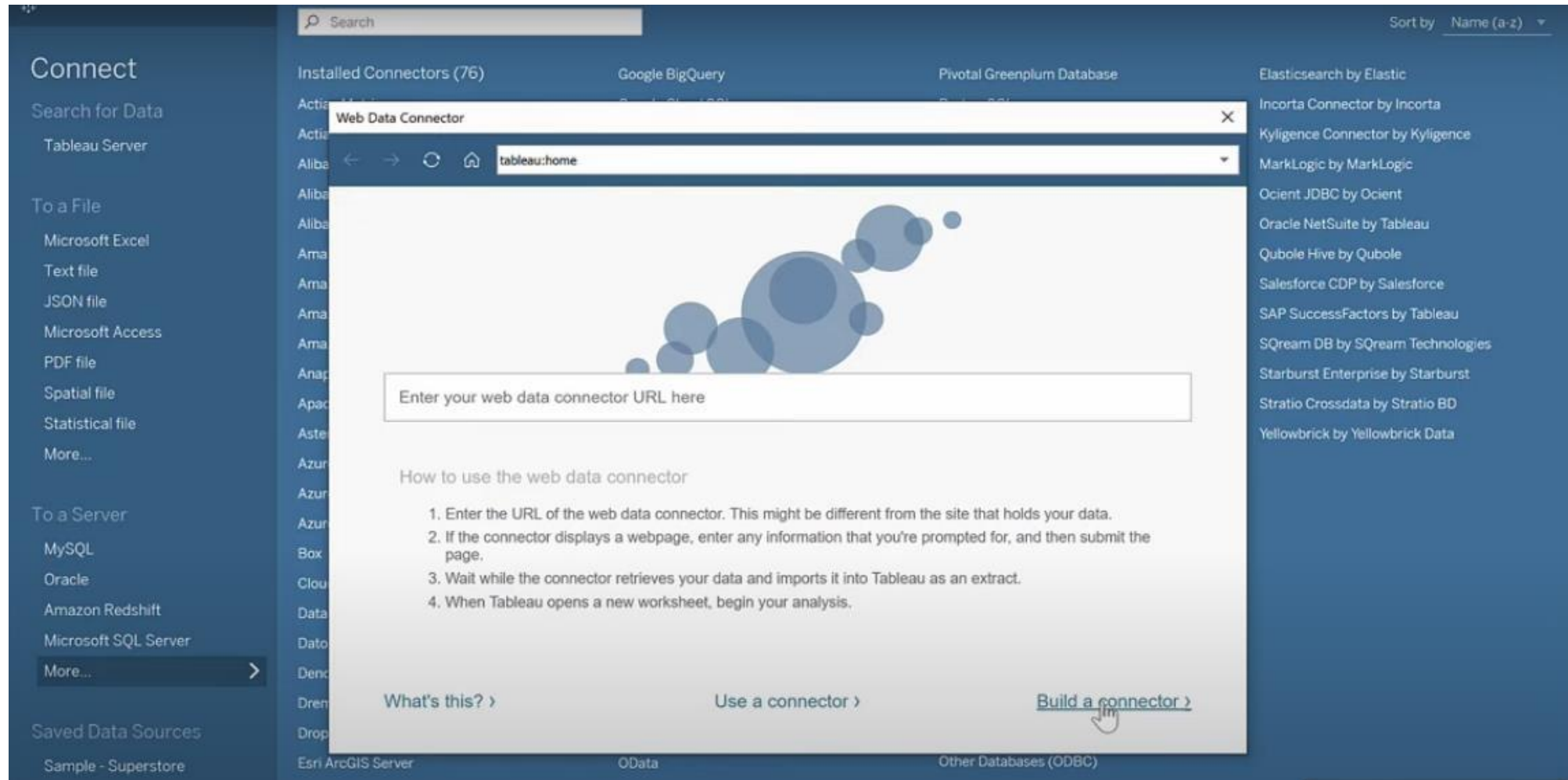
Call Center.csv

Fields

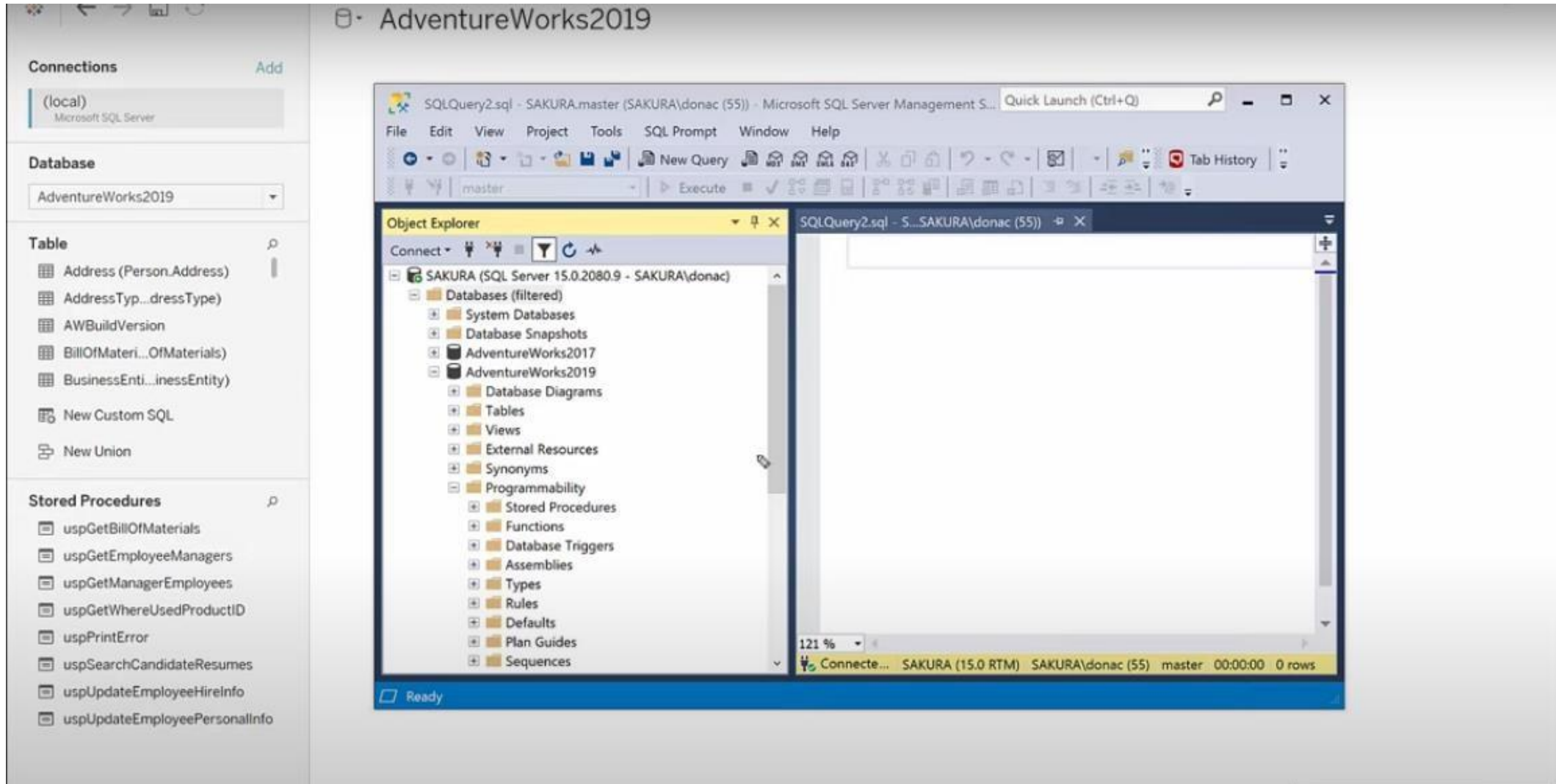
Type	Field Name	Physical Table	Remote Fiel...
Abc	Id	Call Center.csv	id

Abc Call Center.csv	Abc Call Center.csv	Abc Call Center.csv	# Call Center.csv	Call Center.csv
Id	Customer Name	Sentiment	Csat Score	Call Timestam
DKK-57076809-w-055481-fU	Analise Gairdner	Neutral	7	10/29/2020
Q GK-72219678-w-102139-KY	Crichton Kidsley	Very Positive	null	10/5/2020
GYJ-30025932-A-023015-LD	Averill Brundrett	Negative	null	10/4/2020
ZJI-96807559-i-620008-m7	Noreen Lafflina	Very Negative	1	10/17/2020
DPV-169451719-Q-176493-Fm	Toma Van der Beken	Very Positive	null	10/17/2020

Connection to Web Data Connector



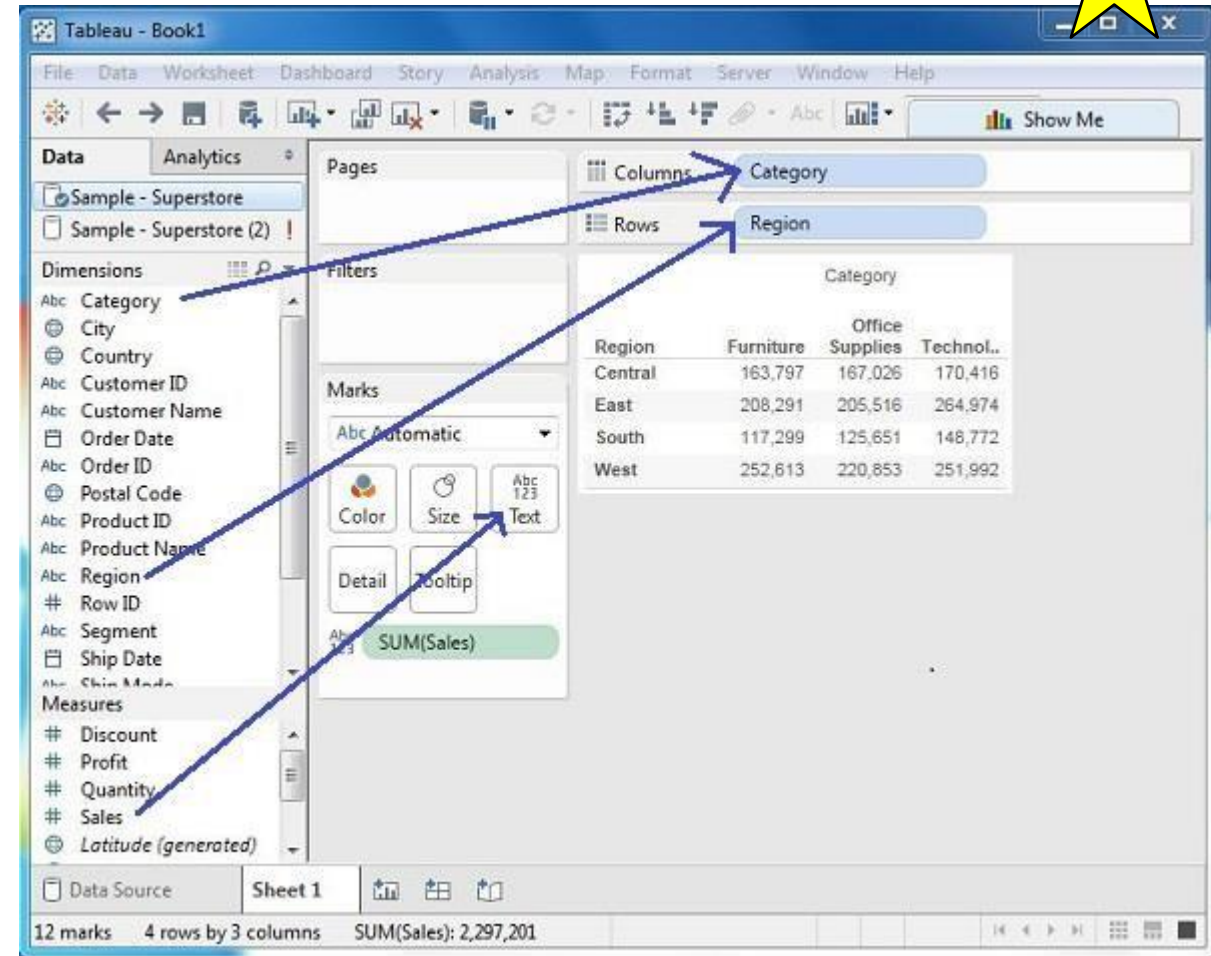
Connection to SQL



Step 2 : Choose Dimensions and Measures



- When data gets imported for the first time, Tableau automatically classifies fields into dimension and measure.
- We can change the default classification done by Tableau with simple drag and drop operations
- What are dimensions and measures ?

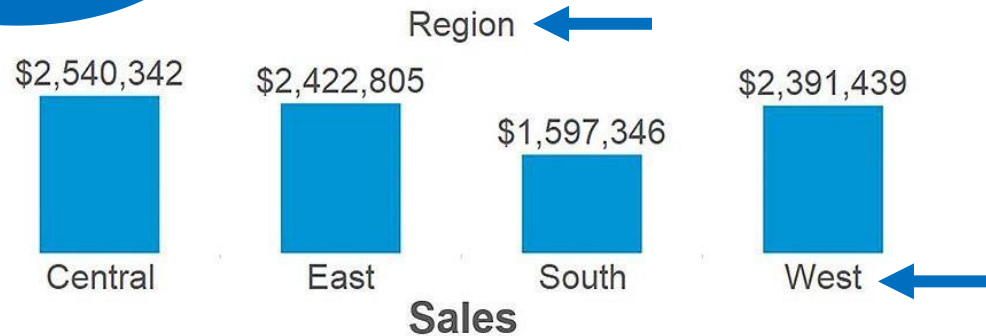


Dimensions & Measures

- **Dimensions** are fields that can be considered as independent variable
- Usually fields that cannot be aggregated and are used for row or column headings

Qualitative

Example: Regions



In Tableau, Dimensions (marked in **BLUE**) are the categories of things in your data that you want to compare

- **Measures** are dependent variable i.e., their values are functions of one or more dimensions
- Usually fields that can be measured, aggregated, or used for mathematical operations
- Examples: Sales

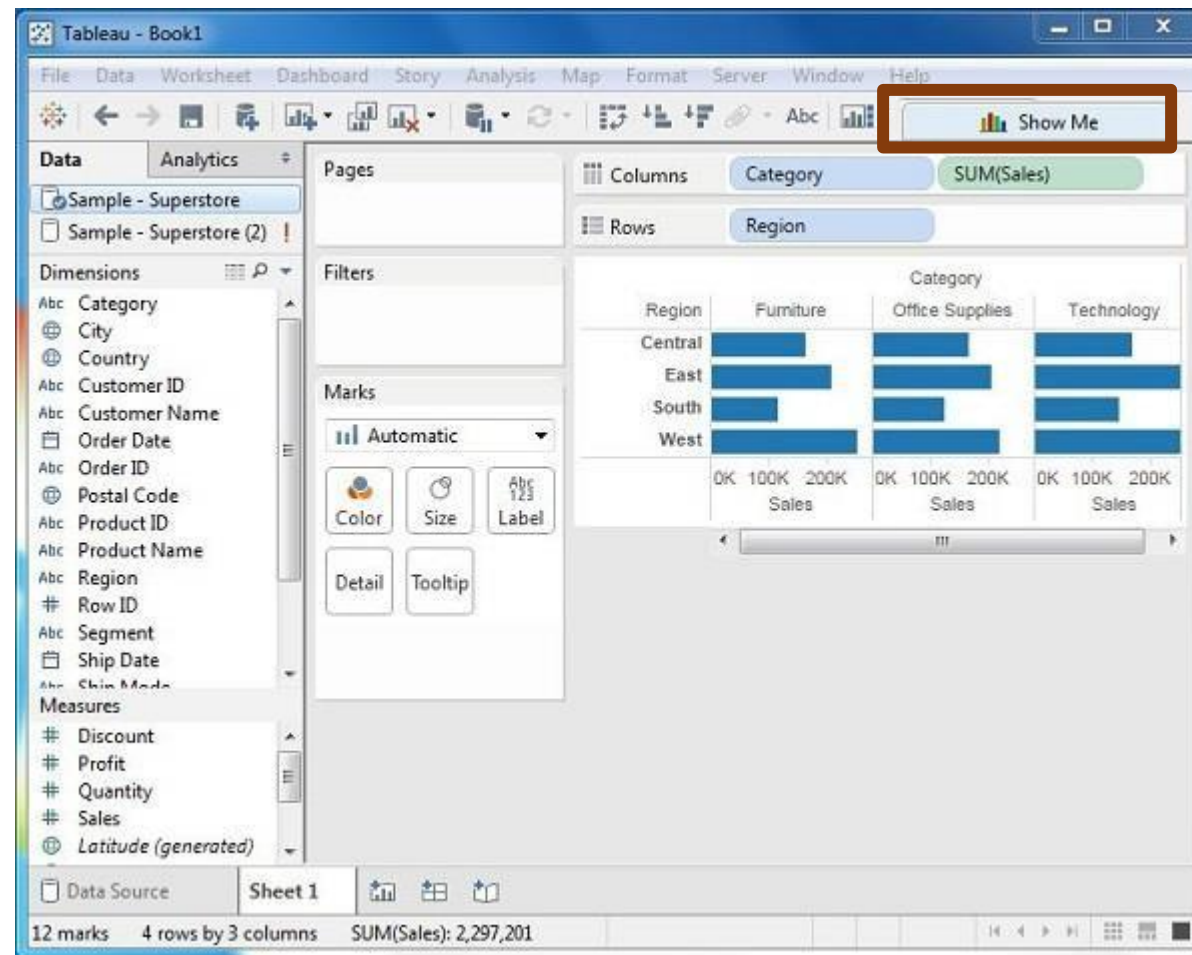
Quantitative



In Tableau, Measures (marked in **GREEN**) are the different metrics you want to use to compare those things

Step 3 : Apply Visualization Technique

There are different forms of graphs, charts ,maps and other visualization techniques available as per selected dimension and measure



Thank you