Tutorial for Beginners

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WHAT IS TABLEAU?

Tableau is an easy to use business intelligence software. It makes data visualization, data analytics, and reporting as easy as dragging and dropping. Anyone can learn to use Tableau without having a prior programming experience. Tableau can combine data from various data sources such as spreadsheets, databases, cloud data, and even big data- all into one program to perform dynamic analysis.

WHY TABLEAU?

Whether it's small or large, profitable or non-profit, every organization needs to analyze their data for optimal decision making. Analyzing data has never been easier with traditional business intelligence tools.

Here are some of the advantages of using Tableau over the traditional BI tools:

Traditional Method	Tableau
Requires specific programming skills	No programming skills required
Focused on only one type of database	Combines different types of database spreadsheets, databases, cloud data, and even big data such as Hadoop
Time consuming	Time saving
Decision makers have to ask the IT people to retrieve any information from the database	Decision makers can directly use the dashboard to retrieve any information from the database
Largely depends on Query languages	Query is done behind the scene
Combining different types of database is difficult	Different types of databases can be combined easily
Not every business intelligence tool offers interactive dashboard	Interactive dashboard is easy to build and it makes data visualization quick and efficient
Comparatively expensive	Comparatively affordable
Mostly designed for large businesses	Perfect BI solution for small, medium, and large businesses, and even for non-profits

Tableau is the next generation's business intelligence software that brings traditional complex analytics to the end user in a desktop environment with dynamic and faster performance.

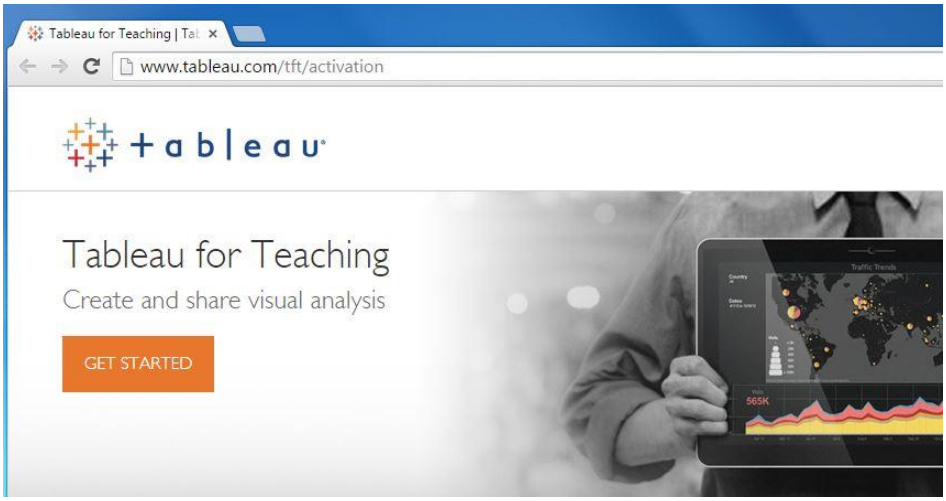
DOWNLOADING AND INSTALLING TABLEAU 9.0

There are several ways to get Tableau for Desktop. Anyone can try the software for 14 days for free before buying it. Students can download the software and use it for free for one year. However, individuals, who mostly work with excel spreadsheet and would like to add advanced analytics to their work, can download a limited version for free from https://public.tableau.com/s/.

Following are the general steps:

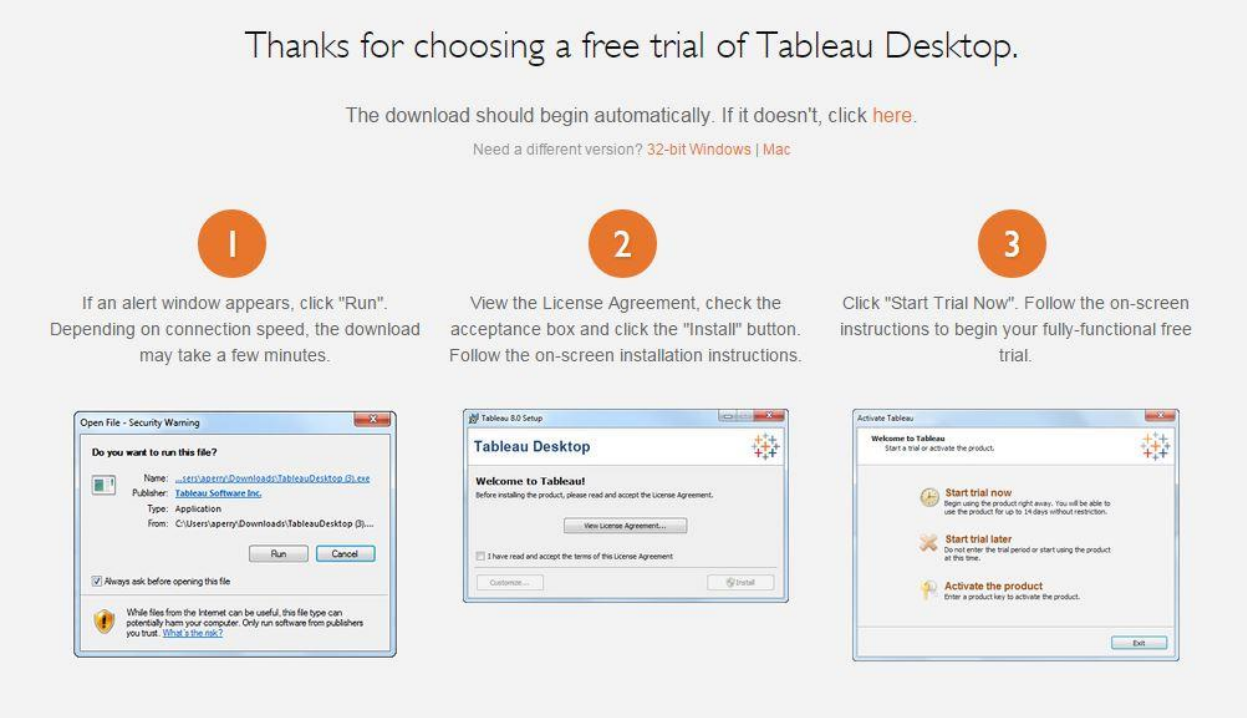
With an activation key: (your professor may give you an activation key for the semester)

Step 1: go to www.tableau.com/tft/activation and click "GET STARTED"

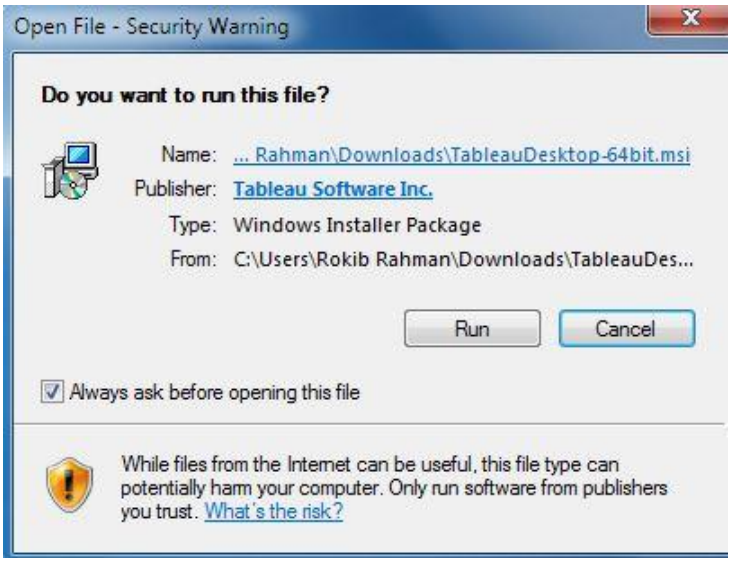


Step 2: Fill out additional information and click "DOWNLOAD NOW"

Your download should start and you should see the following screen.

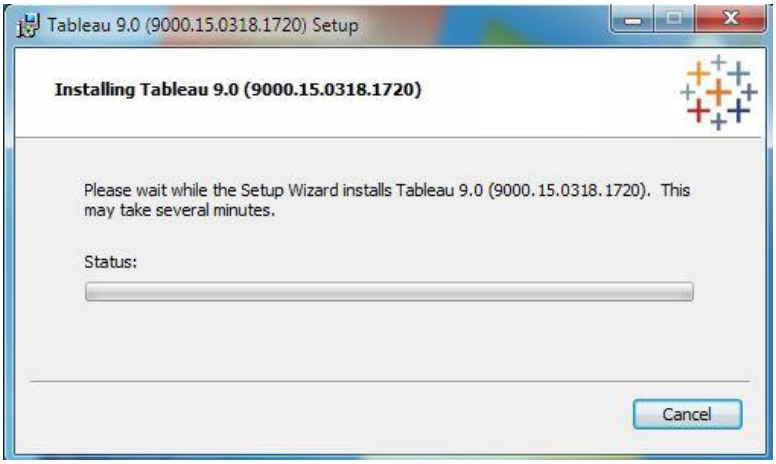


Step 3: Open the file you just downloaded and click "Run" to install.

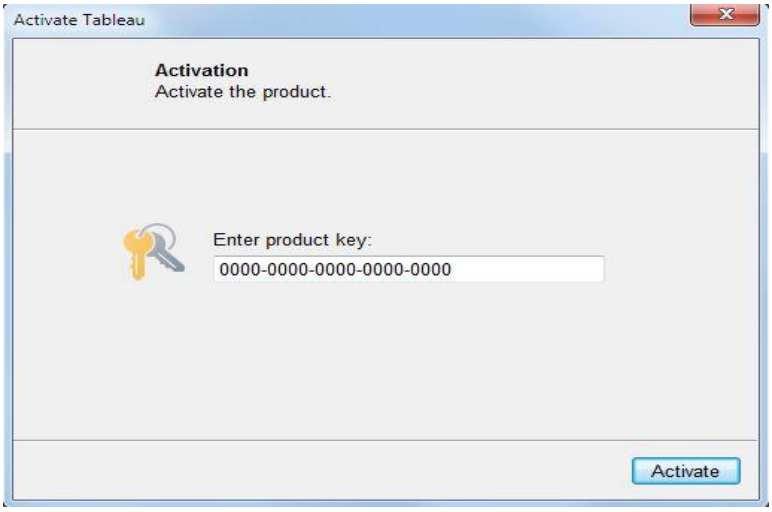


Step 4: Read the license agreement and click “Install”

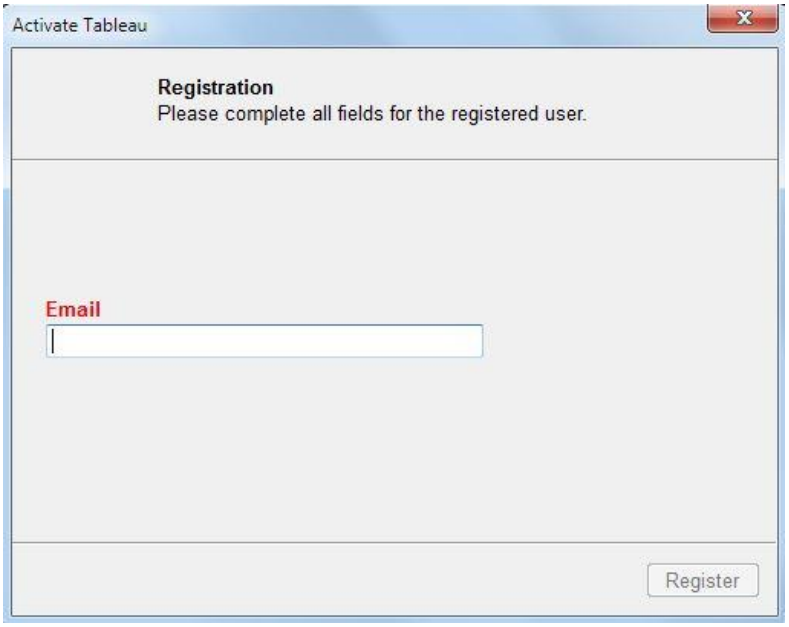
Your installation will start and you will see the following screen:



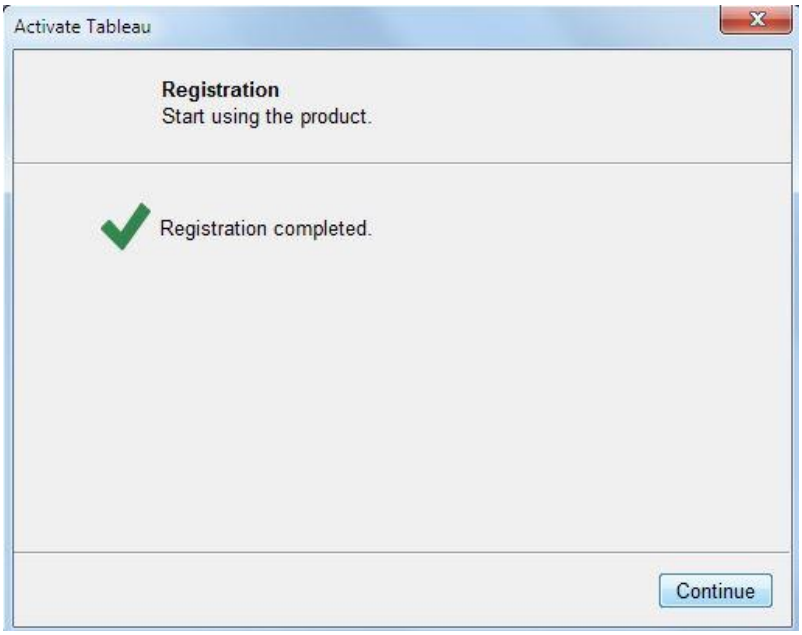
Step 5: Enter the activation key to activate Tableau Desktop



Step 6: Type your email address in the following window to register



Installation and registration are complete and you are ready to use Tableau Desktop!



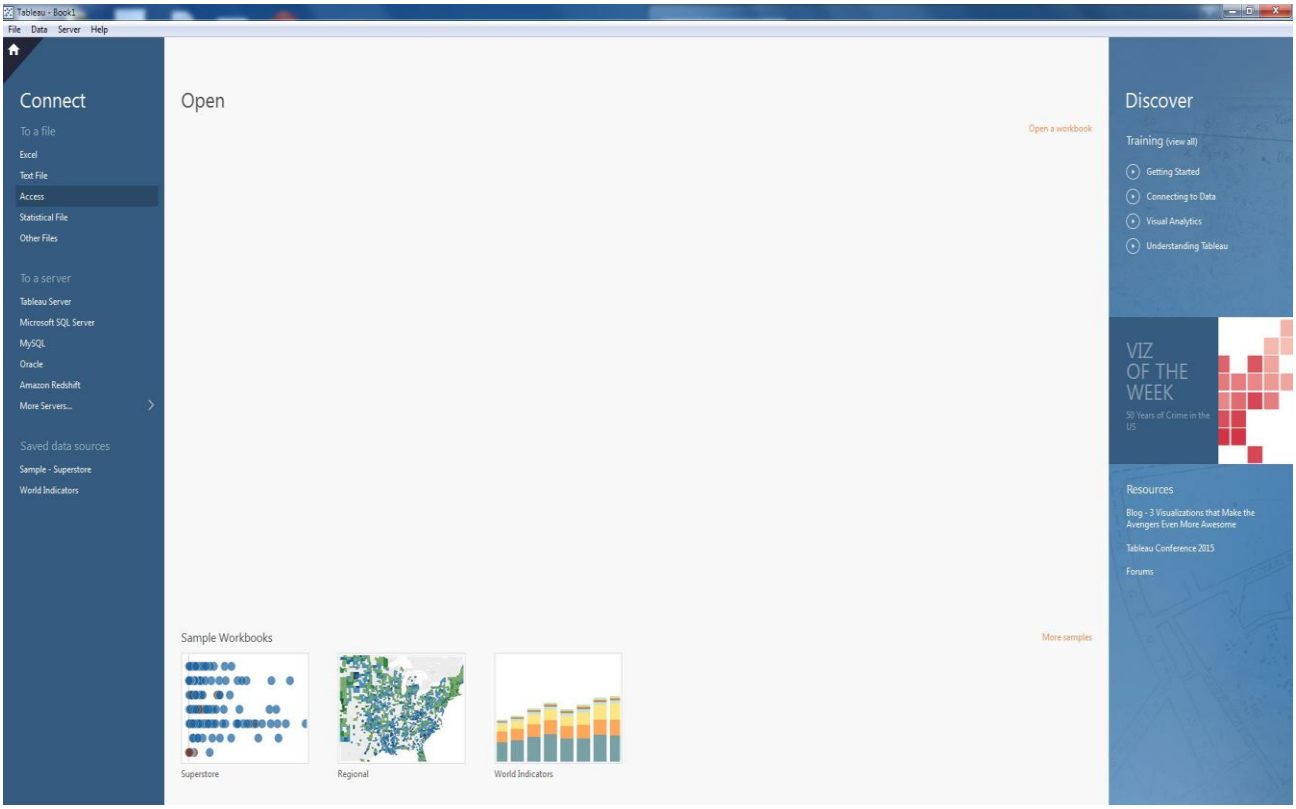
Installing without activation key:

If you don't have activation key, you can download and install Tableau from the following link:

http://www.tableau.com/academic/students.

This is a one year trial for students. Installation process is the same. Just follow the instructions on the screen.

After successful installation, Tableau Desktop 9.0 will look like this:



Congratulations! You have successfully installed Tableau!

GETTING STARTED WITH TABLEAU

The first thing to do in Tableau is to **connect to your data**. There are mainly two types of connections- Connecting to **local files** or **to a server**.

CONNECTING TO LOCAL FILE

Tableau can connect to any local file or database such as-

- Excel
- Text File
- Access
- Statistical File, or
- Other Database file

Local connection gives the maximum speed of data processing.

CONNECTING TO SERVER

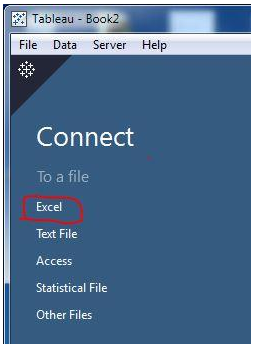
Tableau can connect to your data server too. It can connect to almost any type of data server. Below are some of the most popular databases that Tableau can connect:

- Tableau Server
- Google Analytics
- Google BigQuery
- Hortonworks Hadoop Hive
- MapR Hadoop Hive
- IBM DB2
- IBM BigInsights
- IBM Netezza
- Microsoft SQL Server
- Microsoft Analysis Services
- Oracle
- Oracle Essbase
- MySQL
- PostgreSQL
- SAP

While working on Tableau, data can have **Live Connection** where any change in the source data will be automatically updated in Tableau. On the other hand, data can be **Extracted** to Tableau repository so that any change made here will not affect the original source data.

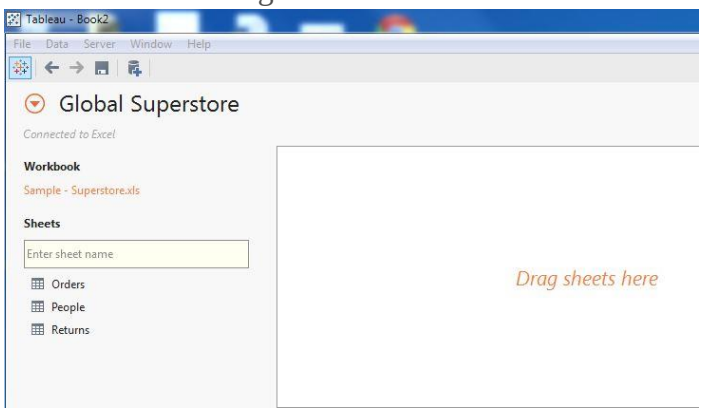
CONNECTING TO EXCEL FILE

To connect to an excel file, click “Excel” on the left hand side. Navigate to the file on your computer and double click to open it. For this tutorial, I will use a sample file that comes with the installation called “superstore”. You should open the appropriate file that you will be working with.



Now you are in the data connection window. It looks like the following-

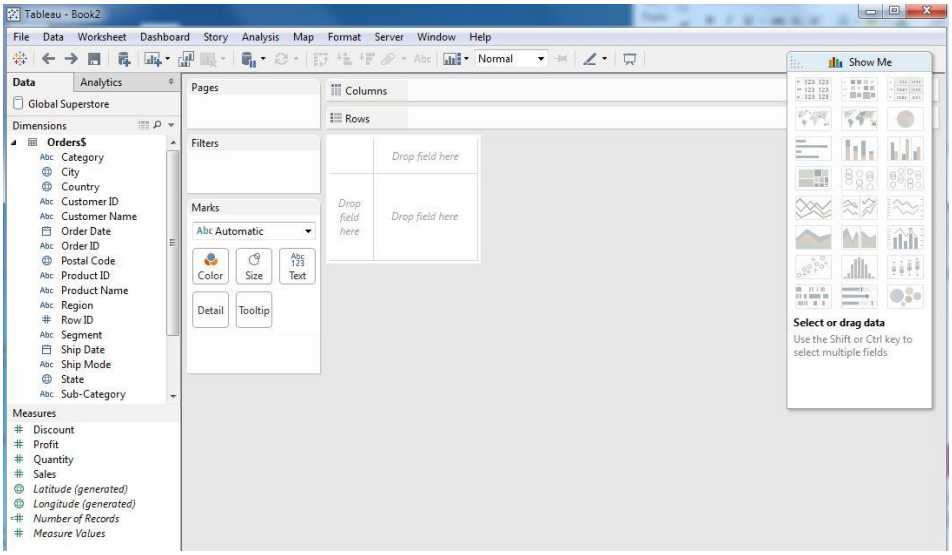
Notice that I have three sheets in this file- Orders, People, and Returns. I can simply drag the table I want. If I drag more than one table, Tableau automatically creates the join between the tables.



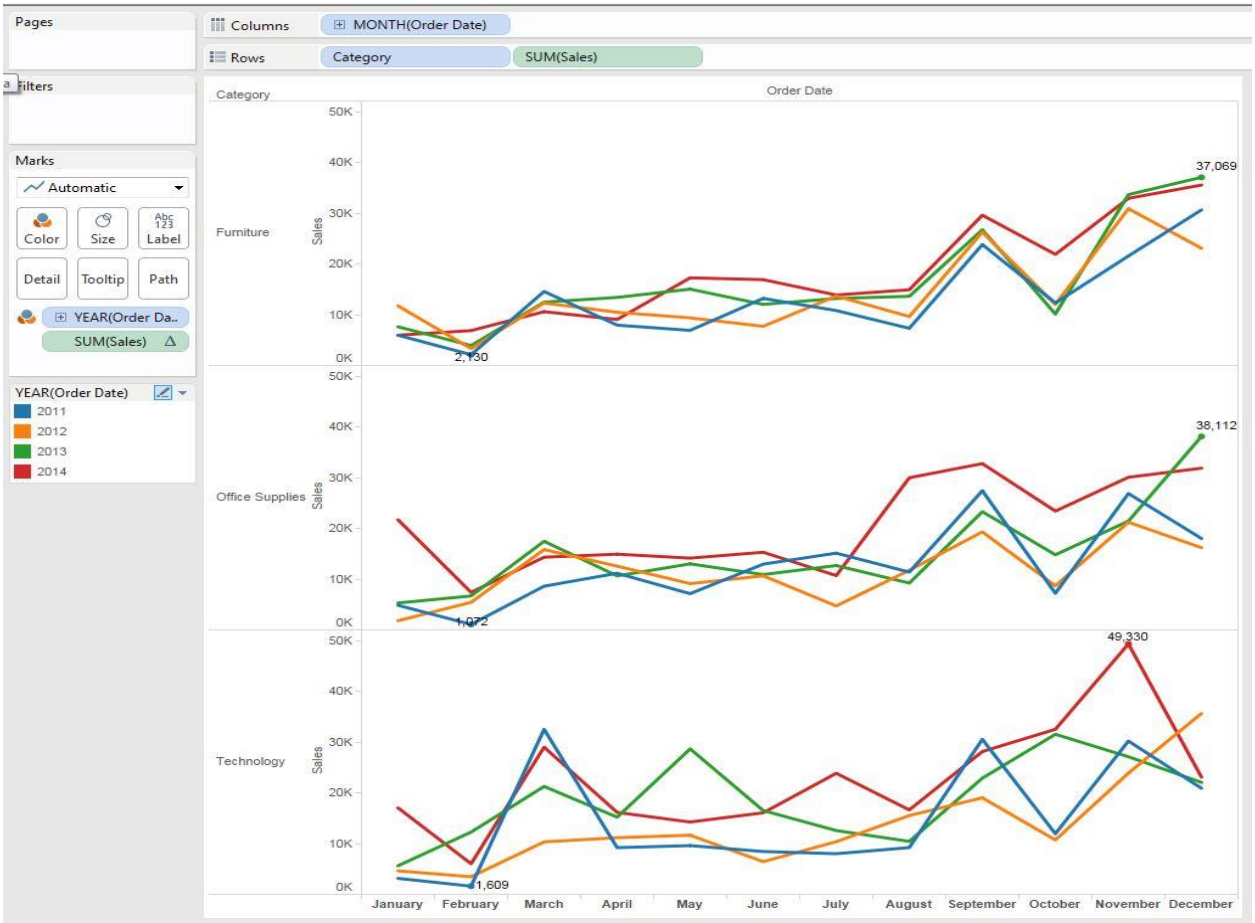
CREATING CHARTS

Creating charts based on the data we connected is easy. At the bottom of the page, Click on a sheet (sheet 1) and we will see the following screen:

Tableau automatically separates the data into **Dimensions** and **Measures**. Dimensions are the categorical fields. These fields will create labels in the chart. Measures are the quantitative fields. These are the numbers we want to analyze. They create axis in the chart.



After adding *Order Date*, *Category*, and *Sales*, the chart looks like this:



Here I have months in the x-axis, and category and sales are in y-axis. Different color represents different years.

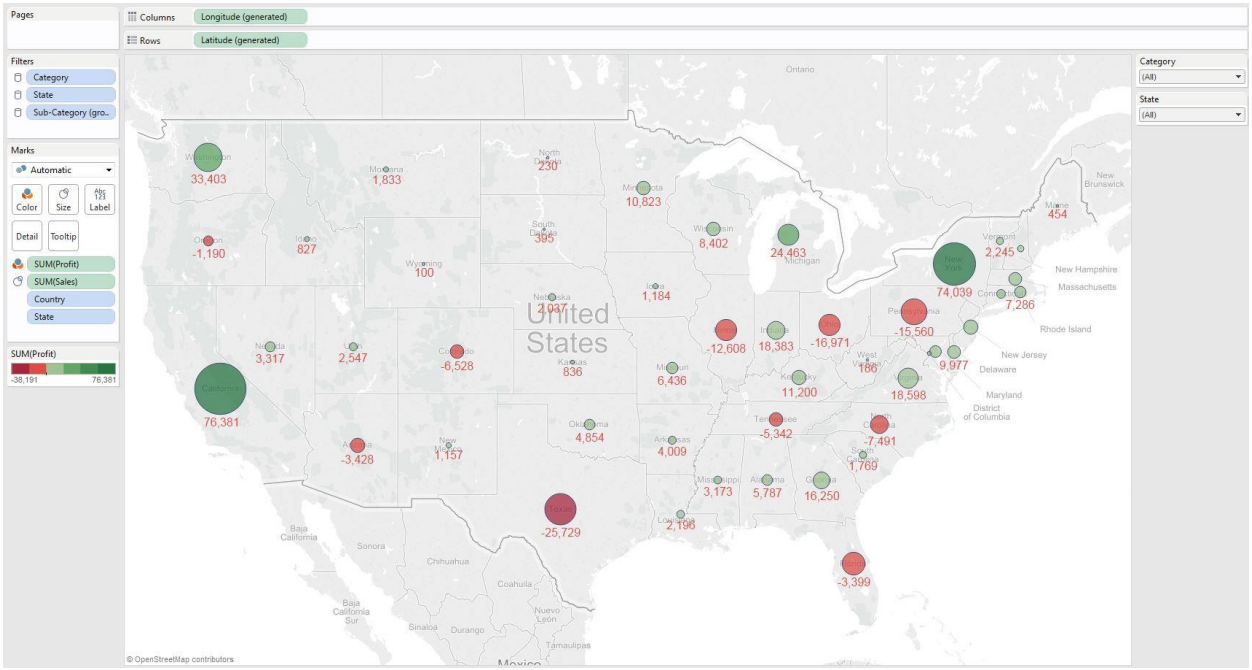
How do I know what type of chart to use?

Sometimes, it might be confusing what type of chart should be used for a specific data. Tableau has an interesting feature called "Show me". "Show me" is the list of the possible charts that can be created using different combination of data.

Note: *Holding down the Ctrl key and clicking any two or more combinations of dimension and measure will highlight the possible chart in Show Me box.*

Below are two more charts created from the same source of data:

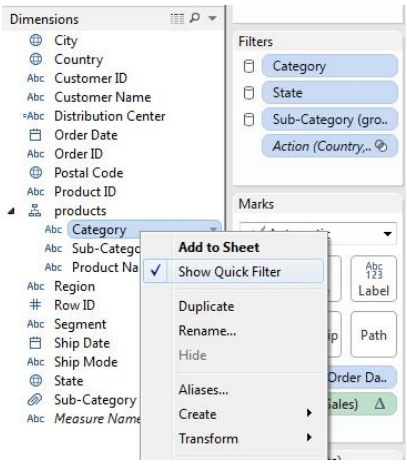
This chart shows global sales and profit filtered by categoties:



This chart shows sales by category:

Adding Filters to the charts:

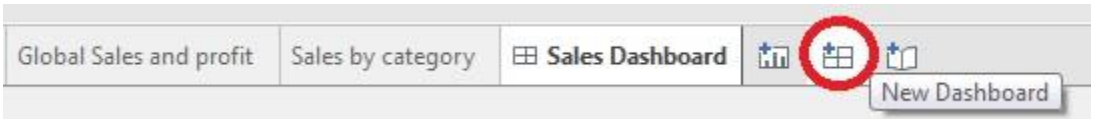
Adding filters to the charts enable the end user to easily drill down to obtain desired information. To add a filter, simply right click on the dimension that will be used for filter and choose “Show quick filter”.



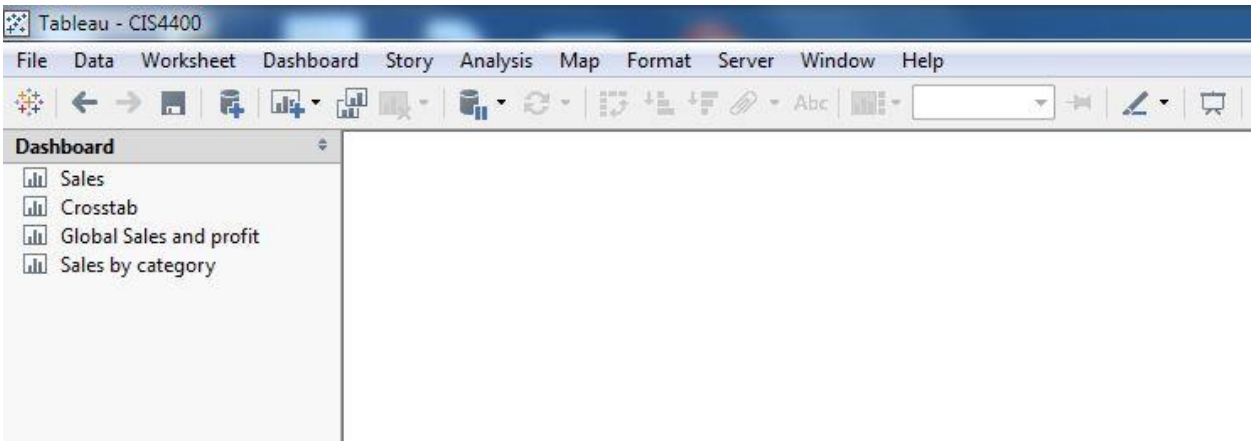
CREATING DASHBOARD

Tableau Dashboard contains all the related features intuitively interconnected to provide interactive and real-time dashboard experience for non-technical users.

To create a dashboard, click "New Dashboard" icon at the bottom the page.

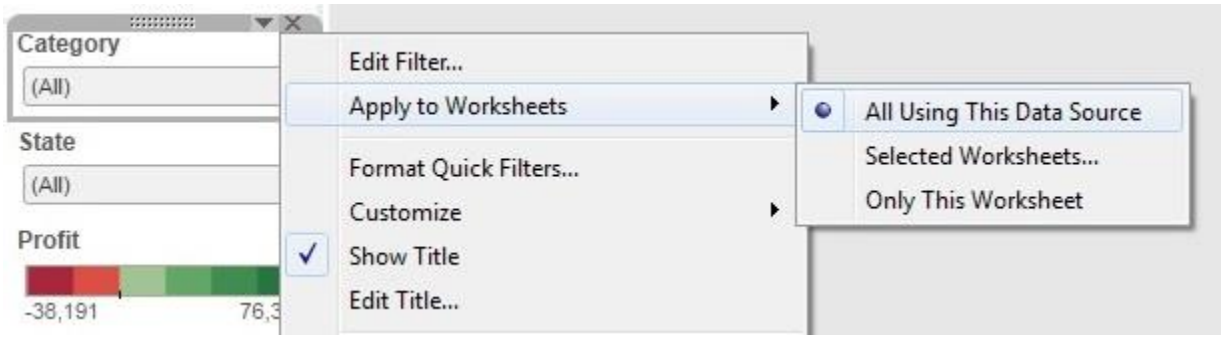


On the top left corner, dashboard pane will display the available sheets. In my case, I have *sales*, *crosstab*, *global sales and profit*, and *sales by category*. To add those sheets on the dashboard, simply drag and drop them on the empty space to the right.

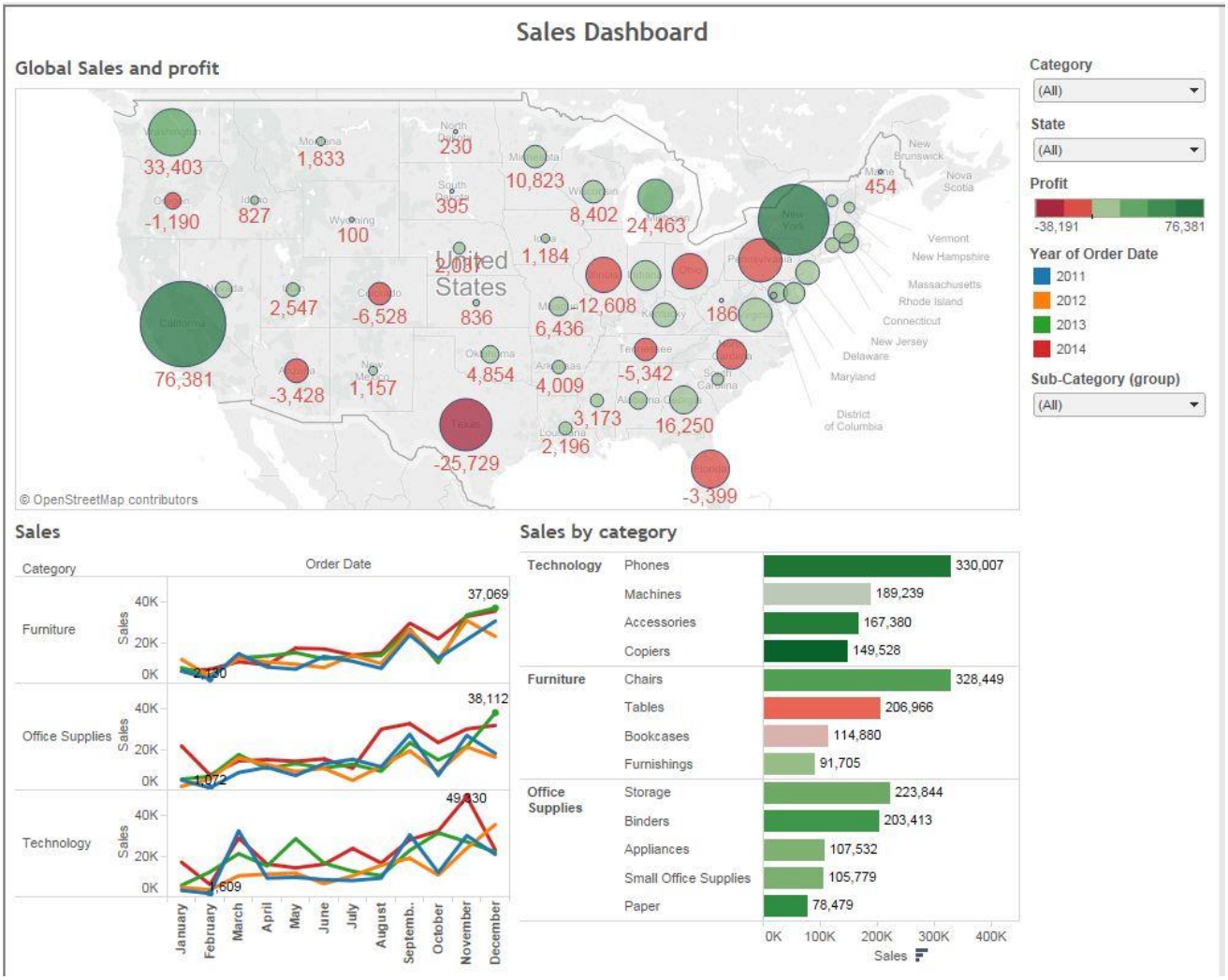


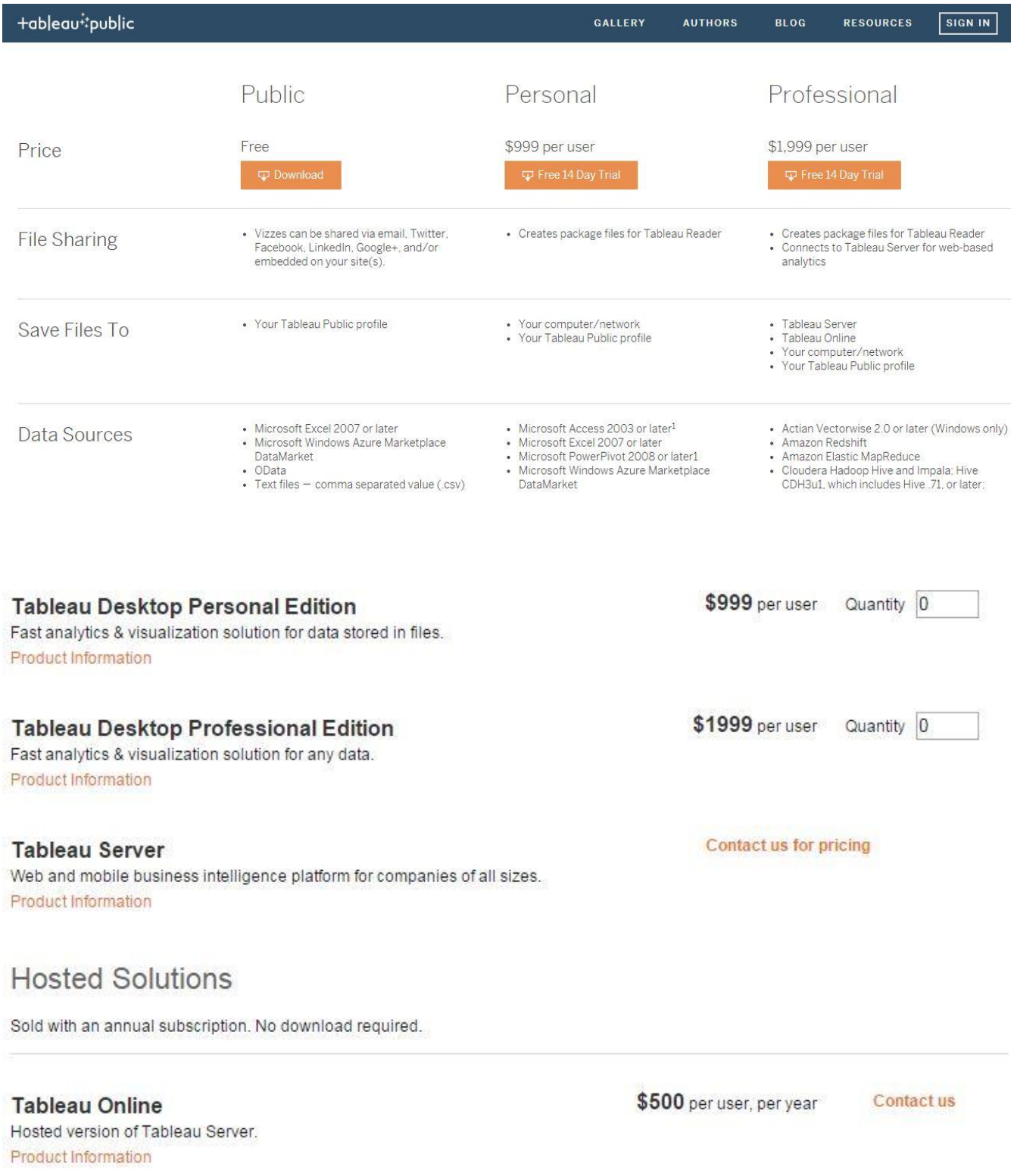
Applying filter on a worksheet:

Sometimes, on a dashboard, a user may want one filter to update multiple sheets. For example, "category" filter can be used to filter all the sheets on the dashboard. To do that, click the drop down menu of the filter you want to apply. Then choose "Apply to Worksheets" and "All using this data source" as shown in the figure bellow.



This is how the final dashboard looks like after adding three sheets and applying filters:

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SIGN IN
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Personal
Professional
Price
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• Creates package files for Tableau Reader
• Creates package files for Tableau Reader
• Connects to Tableau Server for web-based analytics
Save Files To
• Your Tableau Public profile
• Your computer/network
• Your Tableau Public profile
• Tableau Server
• Tableau Online
• Your computer/network
• Your Tableau Public profile
Data Sources
• Microsoft Excel 2007 or later
• Microsoft Windows Azure Marketplace DataMarket
• OData
• Text files – comma separated value (.csv)
• Microsoft Access 2003 or later1
• Microsoft Excel 2007 or later
• Microsoft PowerPivot 2008 or later1
• Microsoft Windows Azure Marketplace DataMarket
• Actian Vectorwise 2.0 or later (Windows only)
• Amazon Redshift
• Amazon Elastic MapReduce
• Cloudera Hadoop Hive and Impala: Hive CDH3u1, which includes Hive .71, or later;
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