SHIVAM TECHNOLOGIES

DESKTOP OVERVIEW

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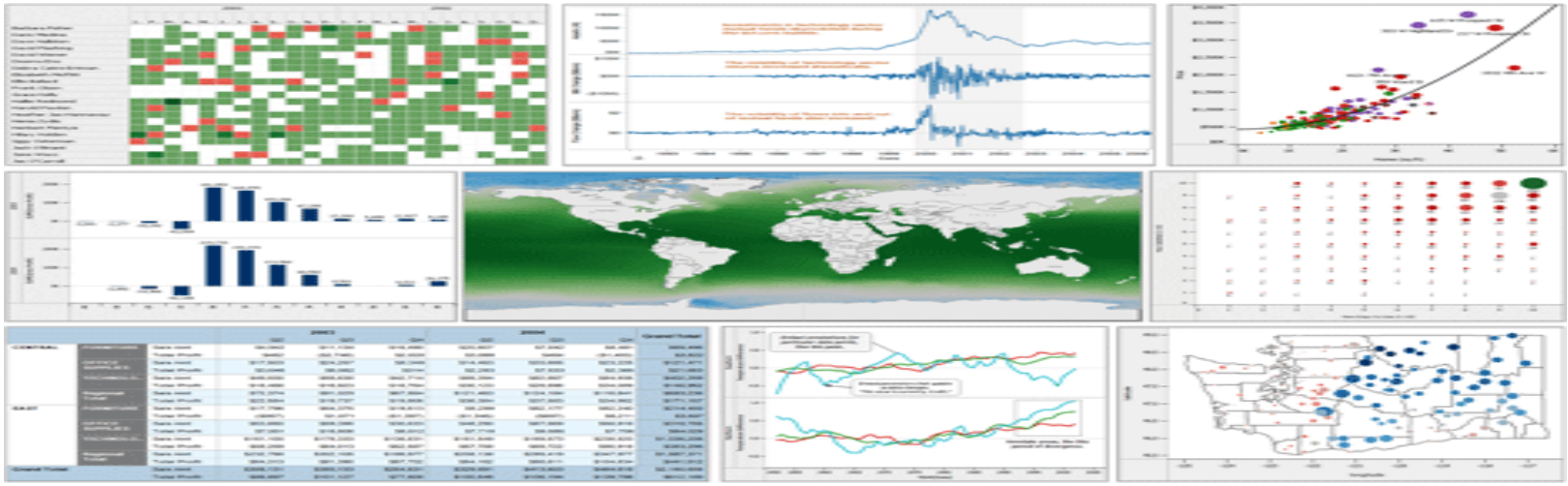
What is Tableau

Tableau is a Business Intelligence tool for visually analyzing the data. Users can create and distribute interactive and shareable dashboards which depict the trends, variations and density of the data in form of graphs and charts. Tableau can connect to files, relational and Big data sources to acquire and process data.



Prerequisites

Before proceeding with this tutorial, you should have a basic understanding of Computer Programming terminologies and Data analysis. You should also have some knowledge on various types of graphs and charts. **Familiarity with SQL will help you learn it very fast.**

Tableau Features

Tableau provides solutions for all kinds of industries, departments and data environments. Below are the unique features which enable tableau handle so many diverse scenarios.

Speed of Analysis - As it does not need high level of programming expertise, any computer user with access to data can start using it to derive value from the data.

Self-Reliant - Tableau does not need a complex software setup. The desktop version which is used by most users is easily installed and contains all the features needed to start and complete data analysis.

Visual Discovery - The user explores and analyses the data by using visual tools like colors, trend lines, charts and graphs. There is very little script to be written as nearly everything is done by drag and drop.

Blend Diverse Data Sets - Tableau allows you to blend different relational, semi-structured and raw data sources in real time, without expensive up-front integration costs. The users don’t need to know the details of how data is stored.

Architecture Agnostic - Tableau works in all kinds of devices where data flows. So the user need not worry about specific hardware or software requirements to use Tableau.

Real Time Collaboration - Tableau can filter, sort, and discuss data on the fly and embed a live dashboard in portals like SharePoint site or Salesforce.

Centralized Data - The tableau server provides a centralized location to manage all of the organization's published data sources. You can delete, change permissions, add tags, and manage schedules in one convenient location. It's easy to schedule extract refreshes and manage them in the data server. Administrators can centrally define a schedule for extracts on the server for both incremental and full refreshes.

Market Expectations

Fast

Cost Effective

Everyone

Easy

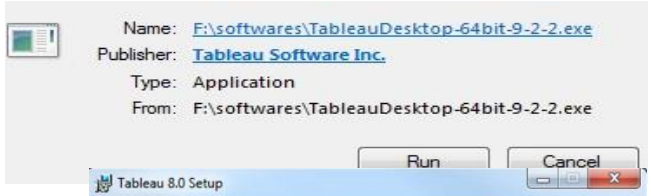
Secure

Everywhere

Download Tableau Desktop

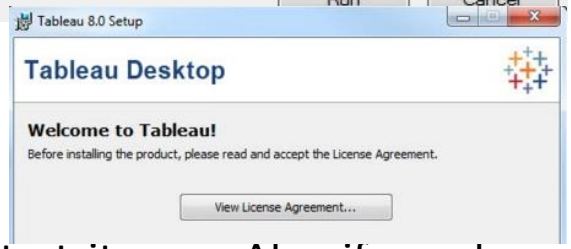
The Free Personal Edition of Tableau Desktop can be downloaded from Tableau Desktop. You need to register with your details to be able to download.

Start the installation wizard: Double clicking the **.exe** will present a screen to allow the installation program to run. Click **Run**.



Accept the License Agreement

Read the license agreement and if you agree choose the "I have read and accept the terms of this license agreement" option. Then Click "Install".



Start Trial:

On completion of installation, the screen prompts you with the option to Start the trial now or later. You may choose to start it now. Also if you have purchased Tableau then you may enter the License key.

Provide Your Details

Provide your name and organization details. Then Click "Next".

Registration complete

The registration completion screen appears. Click "Continue"

Verify the Installation

You can verify the installation by going to the windows start menu and clicking on the Tableau icon. The screen shown below appears.

Get Started

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

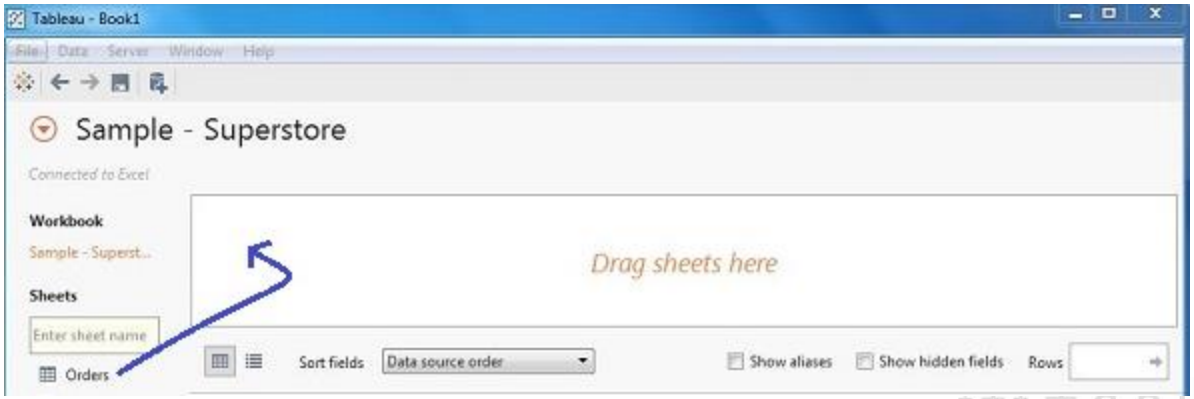
Connect to a data source: It involves locating the data and use an appropriate type of connection to read the data.

Choose Dimensions and Measures: This involves selecting the required columns from the source data for analysis.

Apply Visualization technique: This involves applying required visualization methods like a specific chart or graph type to the data being analyzed.

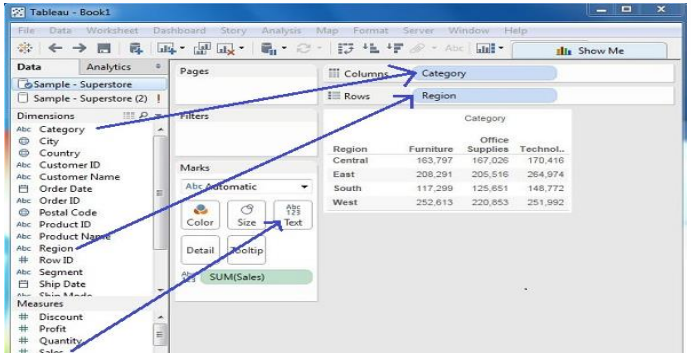
Connect to a Data Source

Once opening Tableau we get the start page Showing various data sources. Under the header Connect, we have options to choose a file or server or saved data source. Under Files we choose excel.



Choose the Dimensions and Measures

Next we choose the data to be analyzed by deciding on the dimensions and measures. Dimensions are the descriptive data while measures are numeric data.



Apply Visualization Technique

In the previous step we see that the data is available only as numbers. We have to read and calculate each of the values to judge the performance. But we can see them as graphs or charts with different colors to get a quicker judgment.

We drag and drop the sum(sales) column from the Marks tab to the Columns shelf. The table showing the numeric values of sales now turns into a bar chart automatically.

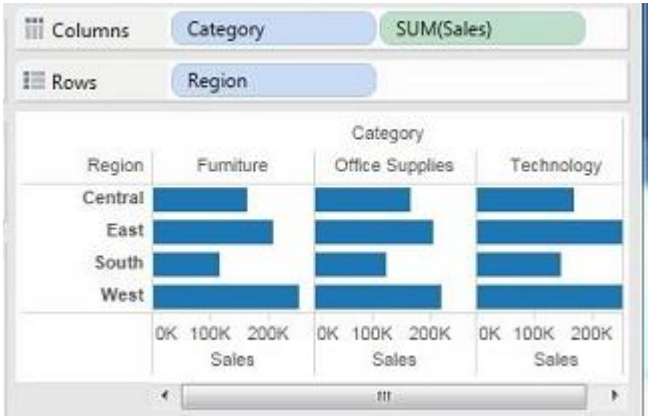
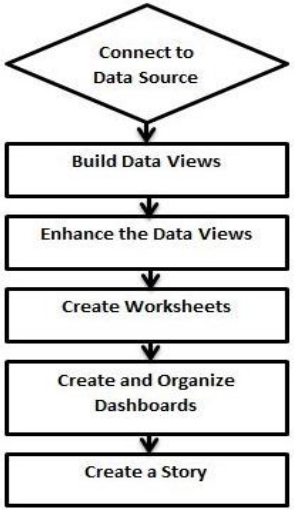


Tableau - Design Flow

As Tableau help us analyze a lots of data over many time periods, dimensions and measures, it needs a very meticulous planning to create a good dashboard or story.



Connect to Data Source:

Tableau connects to all popular data sources. It has inbuilt connectors which take care of establishing the connection.

Build Data Views:

Get all the column and data available in the Tableau environment. You classify them as dimensions, measures and create any hierarchy required. Using these you build views which are traditionally known as Reports. Tableau provides easy drag and drop feature to build views.

Enhance the Views:

The views created above needs to be enhanced further by use of filters, aggregations, Labeling of Axes, Formatting of colors and borders etc.

Create Worksheets:

We create different worksheets to create different views on the same data or different data.

Create and Organize Dashboards:

Dashboards contain multiple worksheets which are linked it. So the action in any of the worksheet can change the result in the dashboard accordingly.

Create a Story:

A story is a sheet that contains a sequence of worksheets or dashboards that work together to convey information.

Tableau - File Types

File Type	Extension	Purpose
Tableau Workbook	.twb	It contains information on each sheet and dashboard that is present in a workbook. It has the details of the fields which are used in each view and the formula applied to the aggregation of the measures. It also has the formatting and styles applied. It also contains the data source connection information and any metadata information created for that connection.
Tableau Packaged Workbook	.twbx	This file format contains the details of workbook as well as the local data that is used in the analysis. Its purpose is to be share with other Tableau desktop or Tableau reader users assuming it does not need data from the server.
Tableau Data source	.tds	The details of the connection used to create the tableau report are stored in this file. In the connection details it stores the source type(excel/relational/sap etc.) as well as the data types of the columns.
Tableau Packaged Data source	.tdsx	This file is similar to the .tds file with the addition of data along with the connection details.
Tableau Data Extract	.tde	This file contains the data used in a .twb file in a highly compressed columnar data format. This helps in storage optimization.
Tableau Bookmark	.tbm	These files contain a single worksheet that is shared easily to be pasted into other workbooks.
Tableau Preferences	.tps	This file stores the color preference used across all the workbooks. It is mainly used for consistent look and feel across the users.

Data Types and Show Me

Data Type	Description	Example
STRING	Any sequence of zero or more characters. They are enclosed within single quotes. The quote itself can be included in a string by writing it twice.	'Hello' 'Quoted' 'quote'
NUMBER	These are either integers or floating points. It is advised to round the floating point numbers while using them in calculations.	3 142.58
BOOLEAN	They are logical values.	TRUE FALSE
DATE & DATETIME	Tableau recognizes dates in almost all formats. But in case we need to force tableau to recognize a string as date then we put a # sign before the data.	"02/01/2015" "#3 March 1982"

As an advanced data visualization tool, Tableau makes the data analysis very easy by providing many analysis technique without writing any custom code. One such feature is Show Me. Using it we just apply a required view to the existing data in the worksheet. Those views can be a pie chart, scatter plot or a line chart.

Some of the view options will be greyed out depending on the nature of the selected in the data pane

Data Terminology

As a powerful data visualization tool, Tableau has many unique terms and definitions.

Term	Meaning
Alias	An alternative name that you can assign to a field data.
Bin	A user-defined grouping of measures in the data source.
Bookmark	A .tbm file in the Bookmarks folder in the Tableau repository that contains a single worksheet. .tbm files are a convenient way to quickly display different analyses.
Calculated field	A new field that you create by using a formula to modify the existing fields in your data source.
Crosstab	A text table view.
Dashboard	A combination of several views arranged on a single page. Use dashboards to compare and monitor a variety of data simultaneously.
Data pane	A pane on the left side of the workbook that displays the fields of the data sources to which Tableau is connected. The fields are divided into dimensions and measures.
Data Source page	A page where you can set up your data source. The Data Source page generally consists of four main areas: left pane, join area, preview area, and metadata area.

Data Terminalogy Cont…

Dimension	A field of categorical data. Dimensions typically hold discrete data such as hierarchies and members that cannot be aggregated. Examples of dimensions include dates, customer names, and customer segments.
Extract	A saved subset of a data source that you can use to improve performance and analyze offline. You can create an extract by defining filters and limits that include the data you want in the extract.
Filters shelf	A shelf on the left of the workbook that you can use to exclude data from a view by filtering it using measures and dimensions.
Format pane	A pane that contains formatting settings that control the entire worksheet, as well as individual fields in the view. When open, the Format pane appears on the left side of the workbook.
Level of detail (LOD) expression	A syntax that supports aggregation at dimensionalities other than the view level. With level of detail expressions, you can attach one or more dimensions to any aggregate expression.
Marks	A part of the view that visually represents one or more rows in a data source. A mark can be, for example, a bar, line, or square. You can control the type, color, and size of marks.
Marks card	A card to the left of the view where you can drag fields to control mark properties such as type, color, size, shape, label, tooltip, and detail.

Data Terminology (Cont..)

Pages shelf	A shelf to the left of the view that you can use to split a view into a sequence of pages based on the members and values in a discrete or continuous field. Adding a field to the Pages shelf is like adding a field to the Rows shelf, except that a new page is created for each new row.
rows shelf	A shelf at the top of the workbook that you can use to create the rows of a data table. The shelf accepts any number of dimensions and measures. When you place a dimension on the Rows shelf, Tableaus creates headers for the members of that dimension. When you place a measure on the Rows shelf, Tableau creates quantitative axes for that measure.
shelves	Named areas to the left and top of the view. You build views by placing fields onto the shelves. Some shelves are available only when you select certain mark types. For example, the Shape shelf is available only when you select the Shape mark type.
workbook	A file with a .twb extension that contains one or more worksheets (and possibly also dashboards and stories).
worksheet	A sheet where you build views of your data by dragging fields onto shelves.

Thank you so much for choosing

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