

Tableau Tutorial

User Documentation

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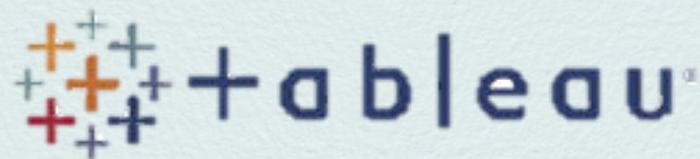




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Introduction

In 2020 the world will generate 50 times the amount of data as in 2011. And 75 times the number of information sources (IDC, 2011). Within these data are huge, unparalleled opportunities for human advancement. But to turn opportunities into reality, people need the power of data at their fingertips. Tableau is building software to deliver exactly that.

Tableau Software is an American computer software company headquartered in Seattle, WA, USA. It produces a family of interactive data visualization products focused on business intelligence.

The company was founded at Stanford University's Department of Computer Science between 1997 and 2002. Professor Pat Hanrahan and Ph.D. student Chris Stolte who specialized in visualization techniques for exploring and analyzing relational databases and data cubes led research in the use of table-based displays to browse multidimensional relational databases. Together, they combined a structured query language for databases with a descriptive language for rendering graphics and invented a database visualization language called VizQL (Visual Query Language). VizQL formed the core of the Polaris system, an interface for exploring large multi-dimensional databases. In 2003, after Stolte recruited his former business partner and friend, Christian Chabot, to serve as CEO Tableau was spun out of Stanford with an eponymous software application. The product queries relational databases, cubes, cloud database, and spreadsheets and then generates a number of graph types that can be combined into dashboards and shared over a computer network or the internet.

In 2010, Tableau reported revenue of \$34.2 million dollars. That figure grew to \$62.4 million in 2011 and \$127.7 million in 2012. Profit during the same periods came to \$2.7 million, \$3.4 million, and \$1.6 million, respectively. Shares of Tableau Software started trading on the New York Stock Exchange after an initial public offering on May 17, 2013

The different products which tableau has built are:

Tableau desktop (Business analytics anyone can use)

Tableau Desktop is based on breakthrough technology from Stanford University that lets you drag & drop to analyze data. You can connect to data in a few clicks, then visualize and create interactive dashboards with a few more.

We've done years of research to build a system that supports people's natural ability to think visually. Shift fluidly between views, following your natural train of thought. You're not stuck in wizards or bogged down writing scripts. You just create beautiful, rich data visualizations.



It's so easy to use that any Excel user can learn it. Get more results for less effort. And it's 10 – 100x faster than existing solutions

Tableau server

Tableau Server is a business intelligence application that provides browser-based analytics anyone can use. It's a rapid-fire alternative to the slow pace of traditional business intelligence software.

What makes Tableau different? It's designed for everyone. There's no scripting required, so anyone can become an analytics expert. You can grow your deployment, as you need it. Train online for free. Find answers in minutes, not months.

Tableau online

Tableau Online is a hosted version of Tableau Server. It makes rapid-fire business analytics easier than ever. Share dashboards with your whole company and with customers and partners— in minutes. Provide live, interactive views of data that let people answer their own questions, right in a web browser or on a tablet. And do it in a secure, hosted environment.

Tableau Online can scale up as much as you need and you can use it wherever you need it. You don't need to purchase, set up or manage any infrastructure.

Tableau public

Tableau Public is for anyone who wants to tell stories with interactive data on the web. It's delivered as a service that allows you to be up and running overnight. With Tableau Public you can create amazing interactive visuals and publish them quickly, without the help of programmers or IT.

The Premium version of Tableau Public is for organizations that want to enhance their websites with interactive data visualizations. There are higher limits on the size of data you can work with. And among other premium features, you can keep your underlying data hidden.

Why tell stories with data? Because interactive content drives more page views and longer dwell time. Industry experts have cited figures showing that the average reading time of a web page with an interactive visual is 4, 5 or 6 times that of a static web page.



Why should you use tableau?

There are many reasons why one should use tableau they are

It is very easy to use:

You don't need to know programming of any sort, all you need is some data and tableau to create reports that are visually enchanting and which tells a story which you need to tell ur managers or impress your professor in class.

With its revolutionary drag and drop feature u can easily create stories or reports using just your mouse and a little imagination. All this is possible due to the revolutionary VizQL a visual query language

VizQL

VizQL is a visual query language that translates drag-and-drop actions into data queries and then expresses that data visually. VizQL delivers dramatic gains in people's ability to see and understand data by abstracting the underlying complexities of query and analysis. The result is an intuitive user experience that lets people answer questions as fast as they can think of them. We believe that VizQL represents a foundational advancement in the area of data analysis and visualization.

Jim Gray, a Turing Award winner and a legendary figure in the field of databases, wrote about VizQL in a [research highlight](#): "If you have ever been frustrated when trying to plot a useful graph from a simple spreadsheet, you would appreciate the value of a system that allows users to create stunning graphs interactively and easily from large multidimensional datasets.

The fundamental innovation is a patented query language that translates your actions into a database query and then expresses the response graphically. Because of VizQL, fast analytics and visualization are reality. People with little or no training can see and understand data faster than ever and in ways like never before. And that's the biggest difference of all.

Advanced In-Memory Technology- The Data Engine

Most of the data analytic software have a lot of fancy features but almost all of them fail when it comes to operating with large amounts of data, this is where the advanced in memory technology of tableau is a savior to all of those who need to get reports from ever increasing data.

The tableau data engine is a breakthrough in-memory analytics database designed to overcome the limitations of existing databases and data silos. Capable of being run on ordinary computers, it leverages the complete memory hierarchy from disk to L1 cache. It shifts the



curve between big data and fast analysis. And it puts that power into the hands of everyone. Ad-hoc analysis of massive data takes place in seconds. No fixed data model is required.

To know more about these unique and advanced features of tableau which separates it from its rivals please go thru this link: <http://www.tableausoftware.com/products/technology>

Evaluation of Tableau

Strengths

Speed

The greatest strength of Tableau is its speed with which it analyzes hundreds of millions of rows and gives the required answers in seconds. This quality comes in very handy when fast business decisions need to be taken.

Ease of use

Another strength of Tableau is that it is very easy to use. It's just basic drag and drop. One can start using Tableau even with no prior programming experience. With just basic MS Excel skills one can easily learn Tableau.

Beautiful and interactive dashboard

The Dashboard of Tableau is very interactive and gives dynamic results. Rich visualizations can be created very easily. The graphics and charts are smart and beautiful. Images, web pages and documents can be added into the dashboard for easy story telling. All this leads to a much insight into the data.

Direct connection

Tableau allows the users to directly connect to databases, cubes, and data warehouses etc. The data access is so easy without any advanced setup and the data is live that keeps getting updated on its own. One can pick tables from spreadsheets to data from Hadoop to create a perfect mash-up and get desired results in no time. This is simple ad hoc business analytics.

Easy publishing and sharing

After analyzing the data, the results can be shared live with just a few clicks. The dashboard can be published to share it live on web and mobile devices.

Growing market

Tableau is relatively new in the Business Intelligence market but its market share is growing on a daily basis. It is being nearly all industries, from transportation to healthcare. It has big client



base, which consists of big companies like Microsoft, Nokia, PwC and Deloitte. They use Tableau on a daily basis to meet their business Intelligence requirements.

Weakness

Not comprehensive solution, specialize in BI

Tableau Software is an easy to use BI application, but still not a platform for developing analytic applications that can be broadly shared. It is not designed for enterprise wide deployments that have broad business and technical user populations.

No predictive analytical capabilities

Tableau Software allows users to only analyze what has happened. And, Tableau Software does not have any statistical or predictive capabilities (they do not support SAS, S+, R, ect. like Spotfire does). Therefore users cannot model or project the best cross-selling or upselling opportunities. In fact Tableau Software is statistically “challenged” and is extremely limited; providing users with less statistic functions than Microsoft Excel.

Customization and Integration with other apps

Due to its not open-source based nature and market commodity, Tableau Software cannot be customized or integrated with other applications (such as Salesforce.com®). Basically what comes in the box is what you get. No way to extend it. However, their official website has Forum section, users could vote for their ideas, whenever reaching the threshold, the company would response and probably add such features in the following version and update for purchased packages.

Expandability for analytics

Tableau Software does not support expanded analytics such as Box plots, network graphs, tree-maps, heat-maps, 3D-scatter plots, Profile Charts or data relationships tool which allow users to mine data for relationships like another data visualization software does.

Social media integration

Tableau Software does not integrate collaborative capabilities into social platforms (like Twitter, Microsoft SharePoint, etc.). A very hot trend. It is for Business users to share their findings and progress. Think of it like – email meets Twitter meets Facebook. Due the current trend and users’ need, Tableau has integrated Google Analytics into its platform.



Robust enterprise-class security

Tableau Software is not organizationally equipped to serve enterprise customers. Tableau Software lacks robust enterprise-class security (only supports Microsoft Active Directory). Therefore post-sale customer support and training are quite limited.

Tips

#1

Use student one-year free version instead of the official website 14 days free trial version. (See the URL for student version download at resource section)

#2

Tableau Software currently only for Windows System not for Mac OS X, Tableau content that is published to Tableau Public on the web can be viewed in your web browser regardless of your operating system. However, to author and publish views and workbooks, you use Tableau Desktop Public and Professional Editions, which currently are Windows applications.

If you use a Macintosh computer that has an Intel processor, you can use virtualization software such as VMware Fusion or Parallels Desktop to install Windows and run Tableau Desktop. Alternatively, you can use a built-in utility called BootCamp to install Windows and run the Tableau software.

#3

Play with data on Tableau Workbook Library, a space to browse and share some amazing and interesting workbooks. Active and experienced Tableau users publish and share their data sources and discuss in more details about presentation.

FAQs

Q: You have 5 nearly identical worksheets and the only thing you want to change between them is that data source?

A: You could:

- Create worksheet 1 using data extract 1
- Duplicate worksheet 1, replace the fields with fields from extract 2, by dragging them on top of the fields from extract 1 (replacing them all one by one.)

What may work (but will be a little tricky):

- Open your workbook and make sure you have connections open to all of the 5 extracts and then save the workbook
- Open the workbook in a text editor (it's in an XML format)
- Replace the references from data extract 1 to data extract 2



- Make sure you have a backup, and maybe try it with a simpler example with two extracts first.

Another approach:

- Can you combine the data into one extract and use a filter on each worksheet?

Q: Will I lose data if I move desktop to another device?

A: If you want to transfer saved data sources, custom shapes etc. Then transfer the contents of "My Tableau Repository" (usually under my documents folder) folders from current computer to the new one. Assuming you have always saved the data sources to the Tableau default directory My Tableau Repository\Datasources.

- Logs
- Extras
- Datasources
- Services
- Shapes
- Workbooks
- Mapsources
- Bookmarks

Q: Can Desktop and Reader be installed on the same PC?

A: Yes, and you can design the workbooks in Desktop then export to packaged workbook. Open packaged workbook in reader and then run all your tests.

Q: Comparison of Tableau vs. Qlikview vs. Spotfire

A: <http://apandre.wordpress.com/tools/comparison/>

Q: Is there any way of two people working on the same workbook?

A: It can't be done, because two files are generated XML which is notoriously difficult to merge - effectively impossible - so I wouldn't even consider this. Instead coordinate and pass it around, or use centralized, shared data sources and work on multiple workbooks.



Sample Data Sets

Medals won by Olympic Athletes:

http://www.tableausoftware.com/public/sites/default/files/OlympicAthletes_0.xlsx

World Bank Data Indicators:

<http://www.tableausoftware.com/public/sites/default/files/World%20Bank%20Indicators.xlsx>

Airplane Bird Strikes:

<http://www.tableausoftware.com/public/sites/default/files/Bird%20Strikes.xlsx>

For our video tutorials we have used the below spreadsheet data:



ElectoralPopArea.xls

Resources

Official website:

<http://www.tableausoftware.com/products/desktop>

Student One-year Free Version:

<http://www.tableausoftware.com/academic/students>

Tutorial:

<http://www.tableausoftware.com/learn/training>

Quick Start:

<http://www.tableausoftware.com/support/manuals/quickstart>

Workbook Library:

<http://community.tableausoftware.com/community/viz-talk/tableau-community-library/twl>

Whitepaper for Tableau:

<http://www.tableausoftware.com/learn/whitepapers>

Comparison between Tableau Software and Spotfire:

<http://bitools.org/tableau-software/>

Helpful User Comment:

<http://felinlovewithdata.com/interviews/tftp-joe-mako-tableau>

[More about Tableau](#)

<http://www.tableausoftware.com/products/technology>

<http://mission.tableausoftware.com/#/breakthrough-technologies/>