



Tableau

CONCEPTS

CHEAT SHEET

Tableau Introduction




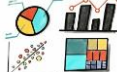
TERMS	BUSINESS INTELLIGENCE (BI)	Refers to technical infrastructure that collects, stores, and analyzes the data produced by a company's activities to help making better data-driven decisions				
	DATA VISUALIZATIONS	The process of converting raw data into visuals and graphs, such as charts, plots, or maps, to tell a meaningful story using the data				
	TABLEAU	Powerful data visualization and business intelligence tool that allows users to connect, visualize, and share data in a way that provides insights and facilitates decision-making				
WHY TABLEAU	AUTOMATION		SECURITY		BIG DATA	
	VISUALS					

Tableau Interface






	HOME PAGE Landing Page in Tableau Desktop		DATA SOURCE Connect Data, Build data model and combine tables using physical and logical layers		
	WORKSHEET Single view in workbook dedicated to create data visualizations, filters, legends, and more		DASHBOARD A collection of multiple worksheets and objects to provide a comprehensive view of the data		STORY A collection of multiple worksheets and dashboards that describe a data sotry

Tableau Products Suite

DEVELOPMENT	TABLEAU DESKTOP	Tool used to create and publish data visualizations	TABLEAU DESKTOP PUBLIC	(Free) Tool used to create and publish data visualizations	TABLEAU PREP	Data Engineering tool used to transfer and prepare data to be ready for data visualization
	TABLEAU SERVER	In-House platform to share and host data visualization	TABLEAU CLOUD	Tableau-cloud based platform to share and host data visualization	TABLEAU PUBLIC	(Free) Tableau-cloud based platform to share and host data visualization
SHARING	TABLEAU MOBILE	Mobile App allows users to view visualization	TABLEAU READER	Software allows users to view visualization		



You can learn Tableau completely for Free
Tableau Public Desktop & Tableau Public

Tableau Data Model

Every data source that you create in Tableau has a data model. You can think of a data model as a diagram that tells Tableau how it should query data in the connected database tables

PHYSICAL LAYER

Layer under the logical layer. Tables can be combined here using JOINS and UNIONS

LOGICAL LAYER

Default view in data source. Tables can be combined here only using relationships

COMBINE MTHODS



JOINS

Combines the **columns** of two tables into a single table in the physical layer level. Tables must exist within the same data source



UNION

Combines the **rows** of two tables into a single table in the physical layer level. Tables must exist within the same data source



RELATIONSHIPS

Describes how two tables relate to each other based on common fields but does not merge them at the logical layer level. Tables must exist within the same data source



DATA BLENDING

Combine tables from two multiple data sources on the worksheet level

JOIN TYPES



INNER JOIN

Show all matching records in both tables



LEFT JOIN

Show all records from left table, and only matching records from right table



RIGHT JOIN

Show all records from right table, and only matching records from left table



FULL JOIN

Show all records from both tables



Tableau Filters

EXTRACT FILTER

Filters the data between source system and data source. Reducing the data can improve the performance of your views. Extract filter can be used only in data sources with extract connection.

DATA SOURCE FILTER

Filters the data between data source and worksheets. Reducing the data can improve the performance of your views. Data source filter can be used in data sources with extract or live connection.

CONTEXT FILTER

When you create a context filter, Tableau generates a temporary table that includes only the data relevant to the filter. Context filter can be created individually for each worksheets

DATA SOURCE FILTER

A dimension filter is used to filter data based on categorical variables or dimensions

MEASURE FILTER

A measure filter is used to filter data based on quantitative measures

TABLE CALC FILTER

You can use table calculations to filter data dynamically based on the result of a computation



10 TIPS TO OPTIMIZE FILTERS

- #1 Tip** Use extract, data source and context filters to optimize performance
- #2 Tip** Avoid using "Only relevant values" in quick filters
- #3 Tip** Avoid using dimensions with 'High' cardinality as quick filters
- #4 Tip** Use 'Wildcard Match' option in quick filters for dimensions with 'High' cardinality
- #5 Tip** Use 'Apply Button' for quick filters
- #6 Tip** Avoid using 'Exclude' in filters
- #7 Tip** Minimize the number of quick filters
- #8 Tip** Sort and Position the quick filters in logical order
- #9 Tip** Don't use 'All' value for filters with 'low' cardinality
- #10 Tip** Choose the right filter modes for quick filters: *Range* for dates, *List* for low cardinality, *Dropdown* for medium cardinality, and *Wildcard Match* for high cardinality

Organizing Data



HIERARCHY

Group related dimensions into a logical tree structure. Hierarchies make it easy to understand data at a high level and drill down easily to specific details to gain a deeper understanding of your data



GROUPS

Group similar and related members of dimensions into higher-level categories, creating a new dimension for your data analysis



CLUSTER GROUPS

Cluster groups are another way of grouping data, and they are used in data clustering, which is a statistical technique to group similar data points together



SETS

Divides data based on specific criteria into two groups:

'In' group includes data points that are part of the subset. They are members of the set
'Out' group, consists of data points not included in the subset. They are not members of the set



BINS

Divides data into groups of equally sized containers, leading to a systematic distribution of data, that is usaly used to create histogram chart. histogram is a chart that shows the frequency of data within a certain range

Tableau Metadata



DATA TYPES

Every field has data type which is determined by the type of informaiton it contains. The available data types in tableau Whole Number, Decimal Number, String, Date, Date&Time, Boolean, Geographic Role, Image Role, Groups, Cluster Groups, Bins, Sets



DIMENSIONS

Fields above the line in the data pane contain descriptive values (e.g., locations, categories) that can't be aggregated and are usually non-numeric fields. Dimensions are used to define the level of detail (LOD) in the view



MEASURES

Number fields below the line in the data pane contain quantitative values (e.g., sales, profits). When dragged into a view, this data is aggregated, a process determined by the dimensions in the view



DISCRETE

Blue-colored fields are used to display disconnected and discrete values, creating headers in the view. Continuous fields form a distinct list of values



CONTINUOUS

Green-colored fields are used to display unbroken and connected values, creating an axis in the view. Continuous fields form a range of values

Tableau Interactivity

PARAMETERS



Variables that allow users to replace a fixed constant values
Parameters can be used in calculations, filters, text, bins, reference lines

ACTIONS



Add context and interactivity to your data using actions. Users interact with your visualizations by selecting marks, or hovering, or clicking a menu, and the actions you set up can respond with navigation and changes in the view



Go to URL

Create hyperlinks to external resources, e.g. web page, file, or another worksheet



Go to SHEET

Simplify navigation to other worksheets, dashboards, or stories



FILTER

Use the data from one view to filter data in another to help guide analysis



HIGHLIGHT

Call attention to marks of interest by coloring specific marks and dimming all others



PARAMETER

Let users change parameter values by directly interacting with marks on a viz



SETS

Let users change the values in a set by directly interacting with marks on a viz

Tableau Project Steps

ANALYSE REQUIREMENTS



- Collect Requirements
- Choose the Right Charts
- Draw Mockups
- Choose Colors

BUILD DATA SOURCE



- Connect Data
- Create Data Model
- Rename Fields/Tables
- Check Data Types
- Understand Data

BUILD CHARTS



- Create Calculated Fields & Test
- Build Chart
- Format
 - Remove Lines & Grids
 - Clean up Axis & Headers
 - Coloring
 - Tooltip

BUILD DASHBOARD



- Draw Mockups for Containers
- Build Container Structure
- Put all Charts together
- Format
 - Distributed Content "Evenly"
 - Format Colors, Sizes..etc
 - Fit "Entire View"
 - Add Legends
 - Add Spaces (Inner/Outer Padding)
 - Add filters & Dynamic
 - Add Icons