1. What is the difference between Discrete and Continuous Data?

Tableau represents data differently in the view depending on whether the field is discrete (blue), or continuous (green). *Continuous* and *discrete* are mathematical terms. Continuous means "forming an unbroken whole, without interruption"; discrete means "individually separate and distinct."

- Green measures 

and dimensions 

are continuous. Continuous field values are treated as an infinite range. Generally, continuous fields add axes to the view.

- Blue measures 

and dimensions 

are discrete. Discrete values are treated as finite. Generally, discrete fields add headers to the view.

2. What is the criteria for data to land into dimensions and measures?

- Dimensions contain qualitative values (such as names, dates, or geographical data). You can use dimensions to categorize, segment, and reveal the details in your data. Dimensions affect the level of detail in the view.
- Measures contain numeric, quantitative values that you can measure. Measures can be aggregated. When you drag a measure into the view, Tableau applies an aggregation to that measure (by default).

3. What is Metadata, where is it present in the workbook?

Tableau captures the metadata details of the source like the columns and their data types. This is used to create the dimensions, measures, and calculated fields used in views. You can browse the metadata and change some of its properties for some specific requirements.

The Tableau Metadata API discovers and indexes all of the content on your Tableau Online site or Tableau Server, including workbooks, data sources, flows, and metrics. Indexing is used to gather information about Tableau content, or metadata, about the schema and lineage of the content. Then from the metadata, Metadata API identifies all of the databases, files, and tables used by the content on your Tableau Online site or Tableau Server.

You can do the following tasks using the Metadata API:

- Discover data that's associated with the content published to your Tableau Online site or your Tableau Server. Search for external assets like tables, databases, and data sources.
- Track lineage or the relationships between content and external assets, like data sources and workbooks. For example, identify which workbooks use a specific published data source.

- Perform impact analysis. Using upstream and downstream lineage information, you can evaluate impact of changes to content. For example, find all worksheets that depend on a database table column or identify the authors you should notify when a data source change occurs.

4. What happens when you aggregate or disaggregate the Data?

The process of viewing numeric values or measures at higher and more summarized levels of the data is called **aggregation**.

When you place a measure on a shelf, Tableau automatically aggregates the data, usually by summing it.

You can easily determine the aggregation applied to a field because the function always appears in front of the field‘s name when it is placed on a shelf.

For example, Sales becomes SUM(Sales).

You can aggregate measures using Tableau only for relational data sources. Multidimensional data sources contain aggregated data only. In Tableau, multidimensional data sources are supported only in Windows. (Source)

According to Tableau, **Disaggregating** your data allows you to view every row of the data source which can be useful when you are analyzing measures that you may want to use both independently and dependently in the view.

For example, you may be analyzing the results from a product satisfaction survey with the Age of participants along one axis.

You can aggregate the Age field to determine the average age of participants or disaggregate the data to determine at what age participants were most satisfied with the product.

5. You are working on a dataset, the client adds in more data to the dataset. What happens to the Visualization that you had created? Give the explanation for both Live and Extracted data.

Live and extracts are two ways you can make the data connection to the tableau. Live allows you real-time data while extracts are kind of batch which needs to be refreshed from time to time to get the updated data.
So, in the case of live connection whatever changes will be done at the Datasource end that will be directly available to the tableau desktop.
While in case of extracting any changes made in the data source won't reflect in the report immediately. It will be reflected when the extract will be refreshed.

6. What are the file extensions in Tableau and how each one is different?

File Type	File 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 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 a workbook as well as the local data that is used in the analysis. Its purpose is to 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. It also saves the aggregated calculations that are applied in the analysis. This file should be refreshed to get the updated data from the source.

1. What are the different types of filters and give their working order?

Different Types of Filters in Tableau

Filters are a smart way to collate and segregate data based on its dimensions and sets to reduce the overall data frequency for faster processing. There are six different types of filters in tableau desktop based on their various objectives and are mentioned below as per their execution steps.

1. Extract Filters

As understood by its name, the extract filters are used to extract data from the various sources, by saving a screengrab of the way it gets added on your file. Such methods can help in lowering the tableau queries to the data source. As soon as you are done extracting data into your dashboard, you can create the extract and execute Hide All Unused Files to clear the columns unused in the datasheet of your panel.

2. Data Source Filter

Used mainly to restrict sensitive data from the data viewers, the data source filters are similar to the extract filters in minimizing the data feeds for faster processing. The data source filter in tableau helps in the direct application of the filter environment to the source data and quickly uploads data that qualifies the scenario into the tableau workbook. To execute such processes, you need to go to the Data Source tab and select the Add option in the upper right corner.

Clicking on the Add option in the menu would open into a dialog box, where you can select the field and choose through the values you want to record. Once you press confirmation, you shall be presented with a summary of the presets selected from the data source filters.

3. Context Filter

A context filter is a discrete filter on its own, creating datasets based on the original datasheet and the presets chosen for compiling the data. Since all the types of filters in tableau get applied to all rows in the datasheet, irrespective of any other filters, the context filter would ensure that it is first to get processed.

Despite being constrained to view all data rows, it can be implemented to choose sheets as and when required to optimize its performance by minimizing the data efficiently.

The context filter helps in applying a relevant, actionable context to the entire data analysis in tableau. If there are multiple filter preset categories used in the worksheet, dividing it into many parts can overall turn into a context filter in itself that guides all the other filters present in the datasheet.

4. Dimension filter

Now that you've chosen the data, you can access the values highlighted or remove them from the selected dimension, represented as strikethrough values. You can click All or None to select or deselect based on your operation in case of multiple dimensions.

5. Measure Filters

In this filter, you can apply the various operations like Sum, Avg, Median, Standard Deviation, and other aggregate functions. In the next stage, you would be presented with four choices: Range, At least, At most, and Special for your values. Every time you drag the data you want to filter, you can do that in a specific setting.

6. Table Filters

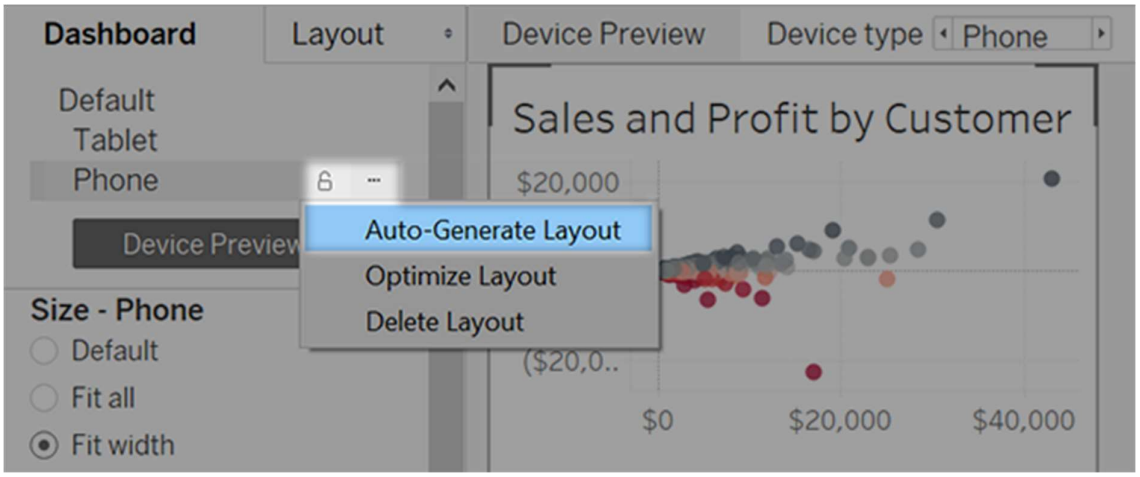
The last filter to process is the table calculation that gets executed once the data view has been rendered. With this filter, you can quickly look into the data without any filtering of the hidden data.

1. What are the different device type preview that Dashboards can use?

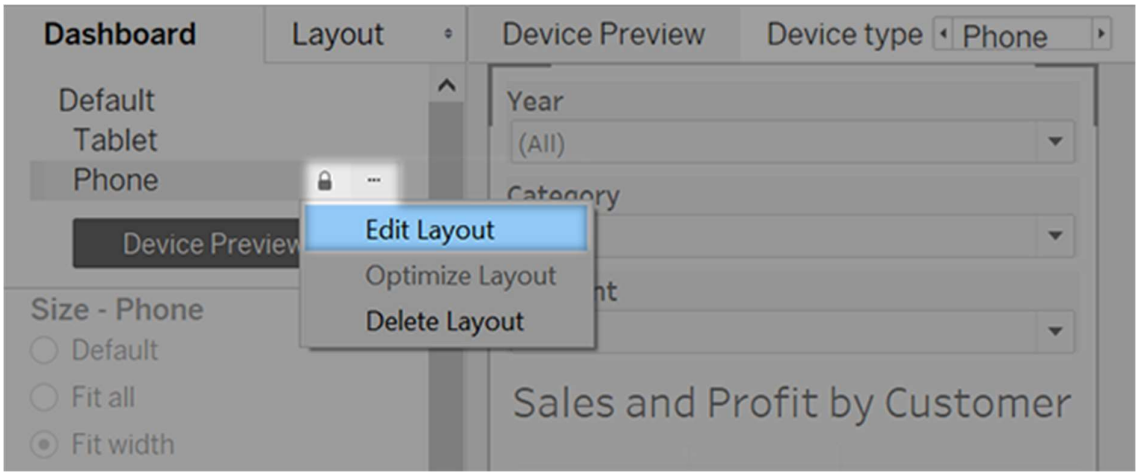
Dashboards can include layouts for different types of devices that span a wide range of screen sizes. When you publish these layouts to Tableau Server or Tableau Online, people viewing your dashboard experience a design optimized for their phone, tablet, or desktop.

Phone layouts and the Default dashboard

To save time with a unique Phone layout option that automatically reflects changes to the Default dashboard, either click the open lock icon, or choose Auto-Generate Layout from the pop-up menu.

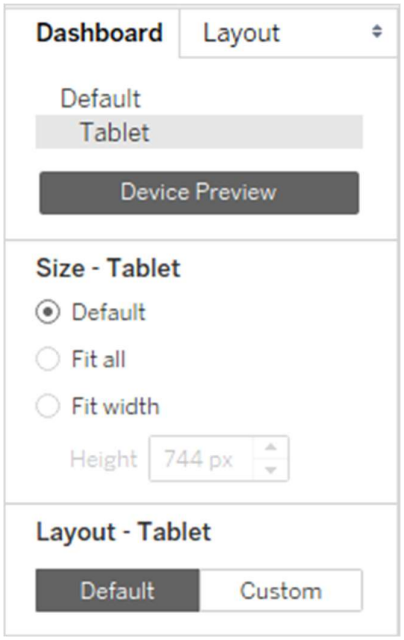


If you instead click the closed lock icon or choose Edit Layout from the menu, the Phone layout becomes fully independent, so you'll need to manually add and arrange items to reflect changes to the Default dashboard.



Desktop and Tablet layouts and the Default dashboard

Unlike Phone layouts, you need to manually add Desktop and Tablet layouts to a dashboard. Desktop and Tablet layouts are always fully independent from the Default dashboard, so each device layout can contain a unique arrangement of objects.



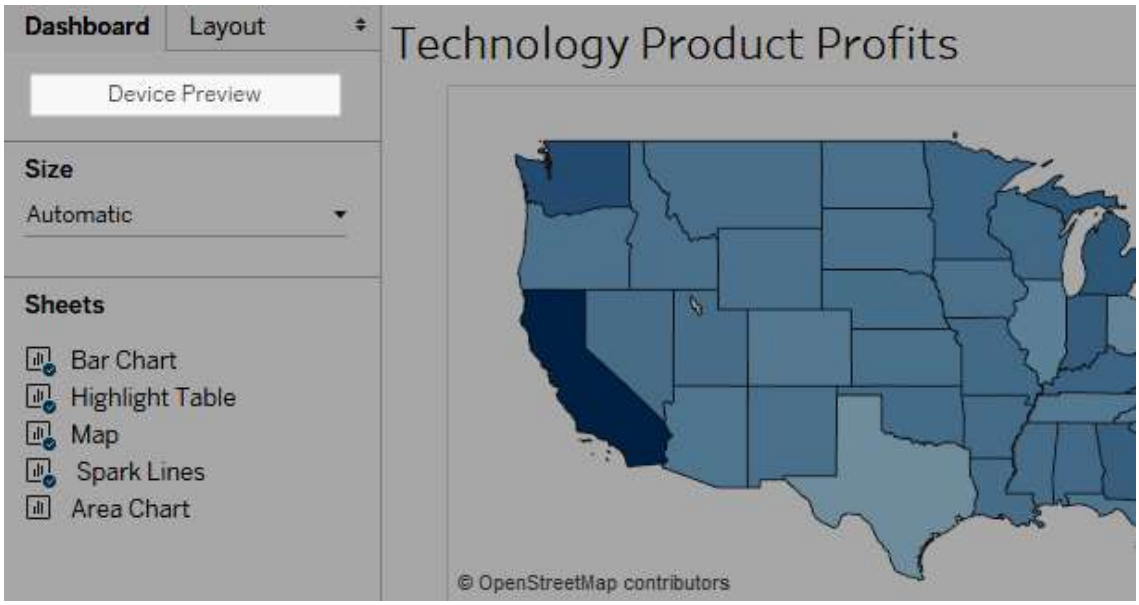
Automatically add phone layouts

Two options let you automatically add phone layouts:

- To create phone layouts whenever you open old dashboards that lack them, choose Dashboard > Add Phone Layouts to Existing Dashboards
- To create phone layouts whenever you create a new dashboard, choose Dashboard > Add Phone Layouts to New Dashboards. (This option is on by default.)

Preview and manually add device layouts

1. Open a dashboard.
2. On the Dashboard tab on the left, click Device Preview.



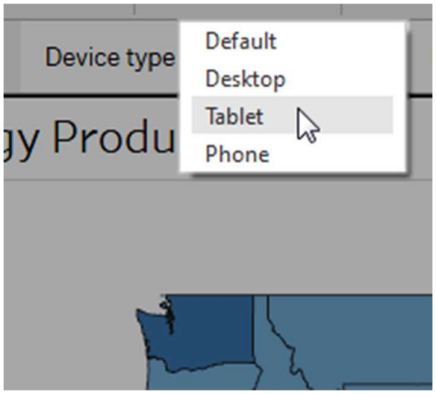
In device preview mode, these options appear above the dashboard:

3. Take a moment to click through the Device types and Models and explore the different screen sizes. Then set these options:

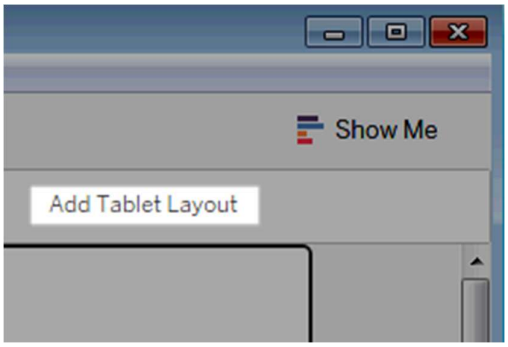
    - To see how the dashboard will look in landscape vs. portrait mode, click . Usually, landscape is optimal for tablets and portrait is best for phones.

    - Select Tableau Mobile app to see how the dashboard will look with the app instead of the browser. This option is available for iOS or Android devices and shrinks the dashboard slightly, leaving space for the app controls.

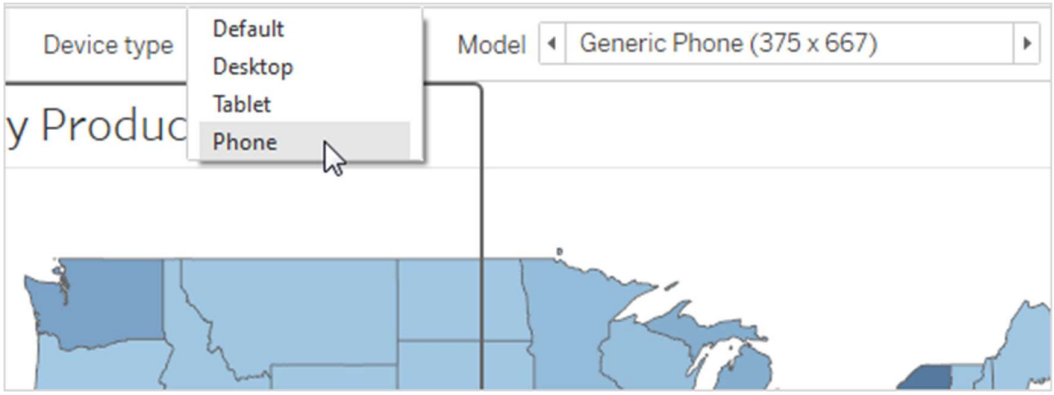
4. Choose a Device type, such as Tablet.



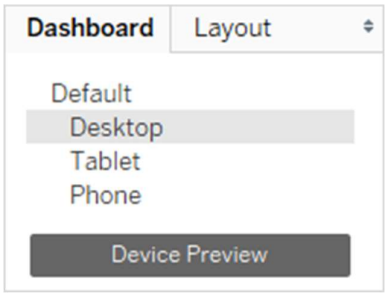
5. In the upper-right corner, click the Add Layout button for the device type you selected (for example, Add Tablet Layout).



6. Add an additional layout by selecting a new Device type and clicking Add Layout.



Creating a layout for each device type gives you the most control over your users' experience as they view your dashboard from different devices. After you publish a dashboard with all three layouts, users won't see the default dashboard layout; instead, they'll always see the appropriate device-specific layout.

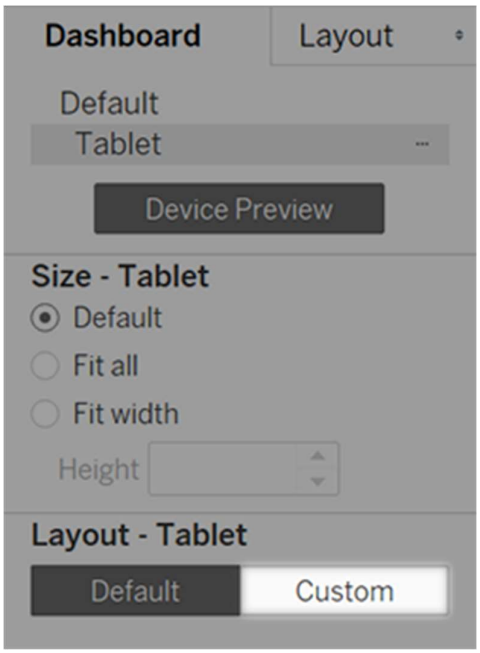


Note: If you make changes to a view, double-check related devices layouts to ensure that they look as you expect.

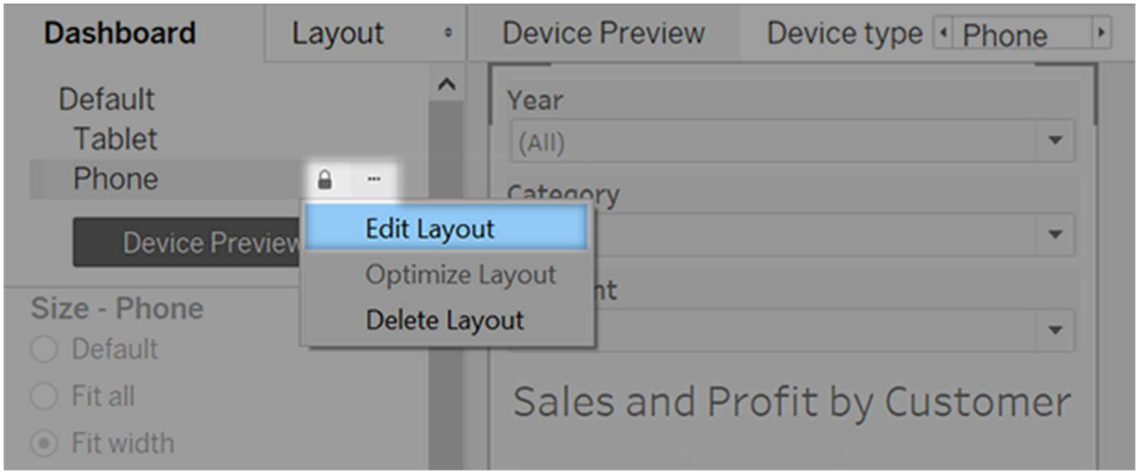
Customize a device layout

After you've added a device layout to your dashboard, you can start rearranging objects to create the look you want.

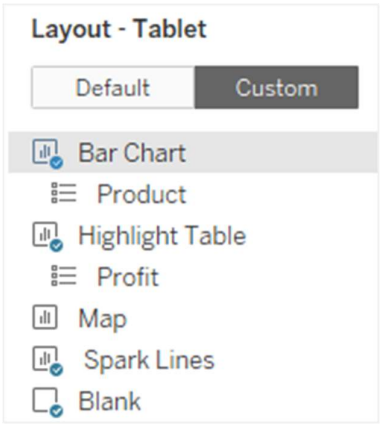
1. For Desktop and Tablet layouts, click Custom:



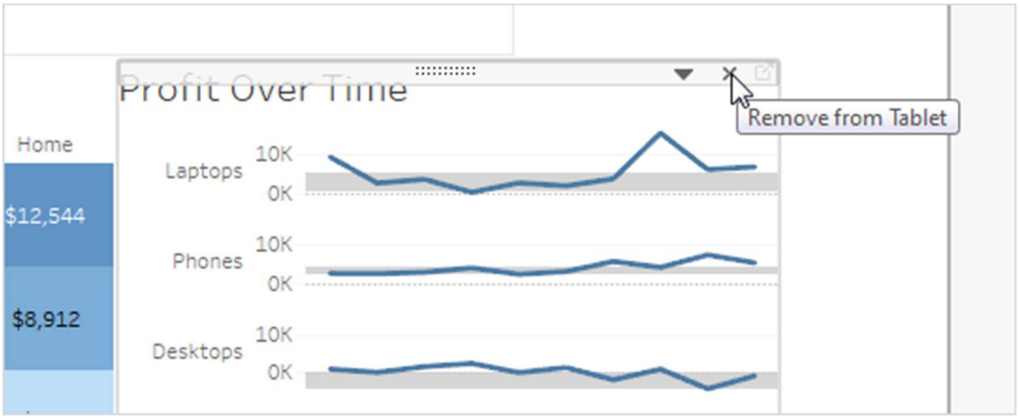
   For Phone layouts, either click the lock icon, or choose Edit Layout from the pop-up menu:



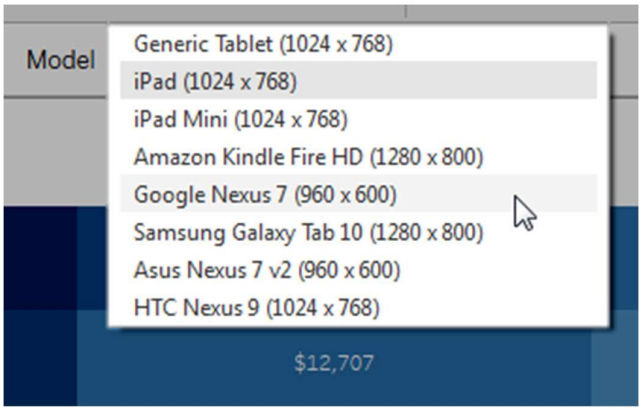
2. Anything you can add to your layout is listed on the left, under Layout. If an item has a blue check mark, it means that it's part of the device layout that you're currently working on.



3. If you remove an item, it's only removed from the current device layout. It still exists on the default dashboard and can be added to the device layout again.



4. Click through the Device model options to see how the layout will appear on different models.



Ultimately, it's the size of the web browser that loads the dashboard that determines which layout appears on the device. For details, see Confirm which layout a device will display.

5. At left, explore the options under Size.

Default: The height and width of the device layout mimics whatever the default dashboard is using. For example, if you're creating a tablet layout and the default dashboard is set to a fixed size of Desktop Browser (1000 x 800), setting Size to Default for the tablet layout will make it use 1000 x 800 as well.

Fit all: All items are automatically resized to fit the device frame size. The device frame size is determined by the Device type, Model, and orientation (portrait or landscape) settings.

Fit width (recommended for phones): Items are automatically resized to fit the width of the device frame, but the height is fixed. This is a great option for phone layouts and vertical scrolling

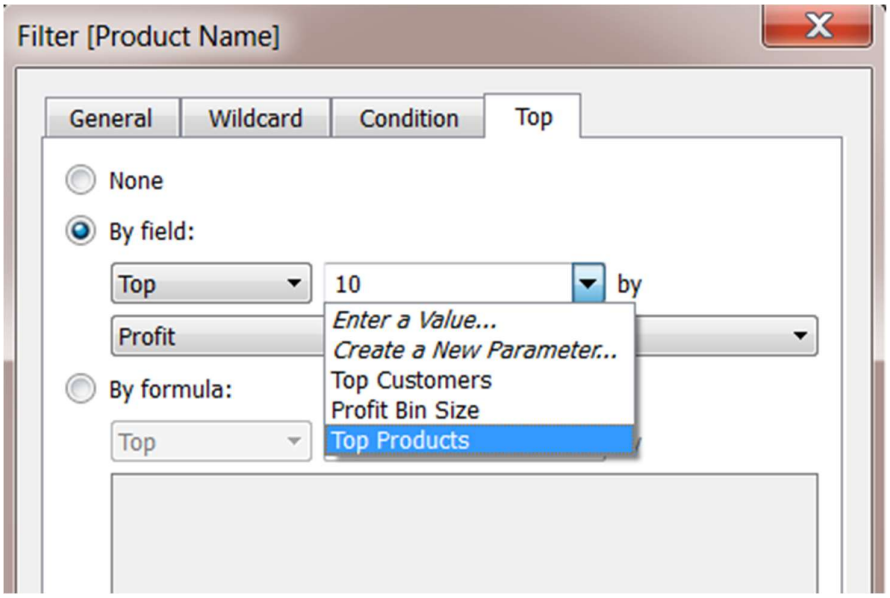
1. Parameters can be used in?

Within Tableau, wherever you are entering a constant value, there's a great chance you can use a parameter instead. There are four standard use cases for parameters. They are filters, bins, reference lines and calculated fields

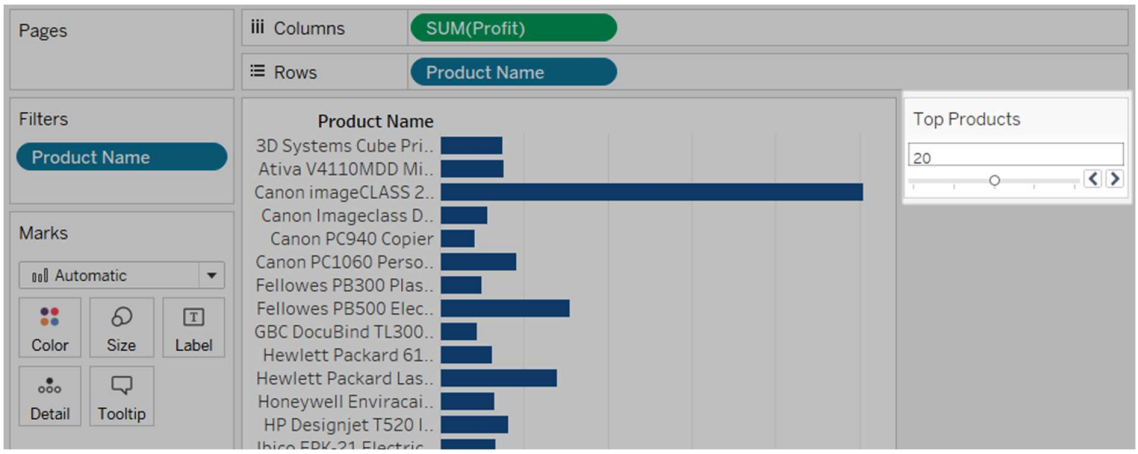
Use a parameter in a filter

Parameters give you a way to dynamically modify values in a Top N filter. Rather than manually setting the number of values you want to show in the filter, you can use a parameter. Then when you want to change the value, you open the parameter control and the filter updates. For example, when creating a filter to show the Top 10 products based on total profit, you may want to use a parameter instead of the fixed “10” value. That way, you can quickly update the filter to show the top 10, 20, or 30 products.

A list of parameters is available in the drop-down lists on the Top tab of the Filter dialog box. Select the parameter you want to use in the filter.



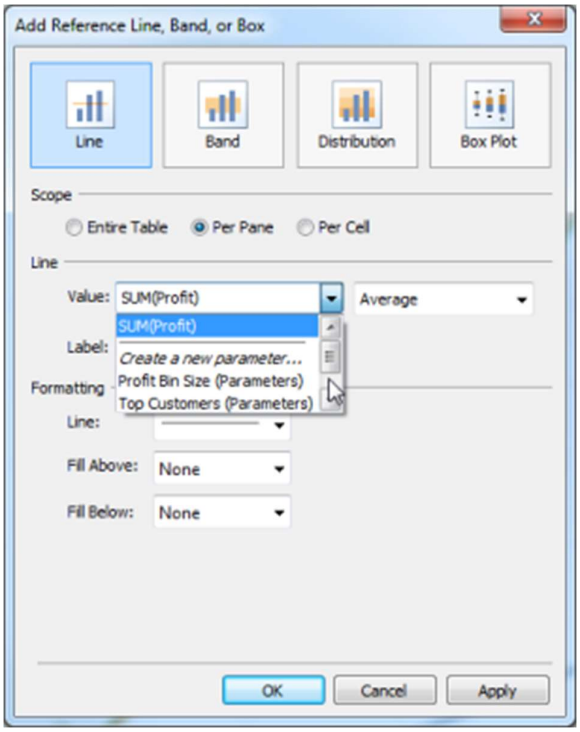
To show the parameter control, right-click the parameter in the **Data** pane and select **Show Parameter**. Use the parameter control to modify the filter to show the top 10 products, 15 products, and so on.



Use a parameter in a reference line

Parameters give you a way to dynamically modify a reference line, band, or box. For example, instead of showing a reference line at a fixed location on the axis, you can reference a parameter. Then you can use the parameter control to move the reference line.

A list of parameters is available in the Value drop-down list in the Add Reference Line, Band, or Box dialog box. Select the parameter you want to use.

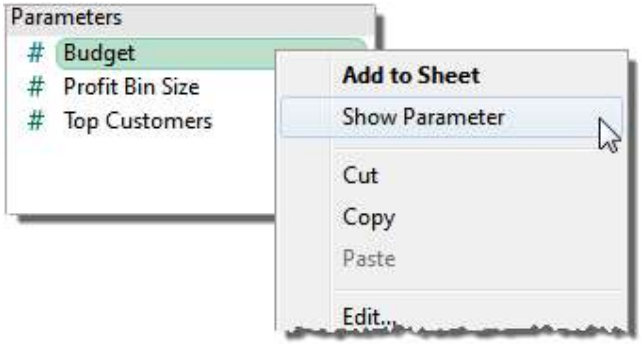


The reference line is drawn at the Current Value specified by the parameter. To open the parameter control, right-click (Control-click on a Mac) the parameter in the **Data** pane and then select **Show Parameter**. Use the parameter control to change where the reference line is drawn.

Show a parameter control in the viz

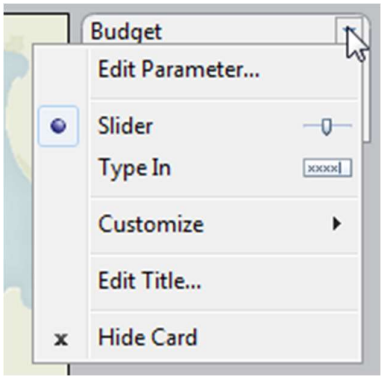
The parameter control is a worksheet card that lets you modify the parameter value. Parameter controls are very similar to filter cards in that they contain controls that modify the view. You can open parameter controls on worksheets and dashboards and they are included when you save to the web or publish to Tableau Server.

To open the parameter control, right-click (Control-click) the parameter in the **Data** pane and select **Show Parameter**.



Like other cards, parameter controls have a menu that you can open using the drop-down arrow in the upper right corner of the card. Use this menu to customize the

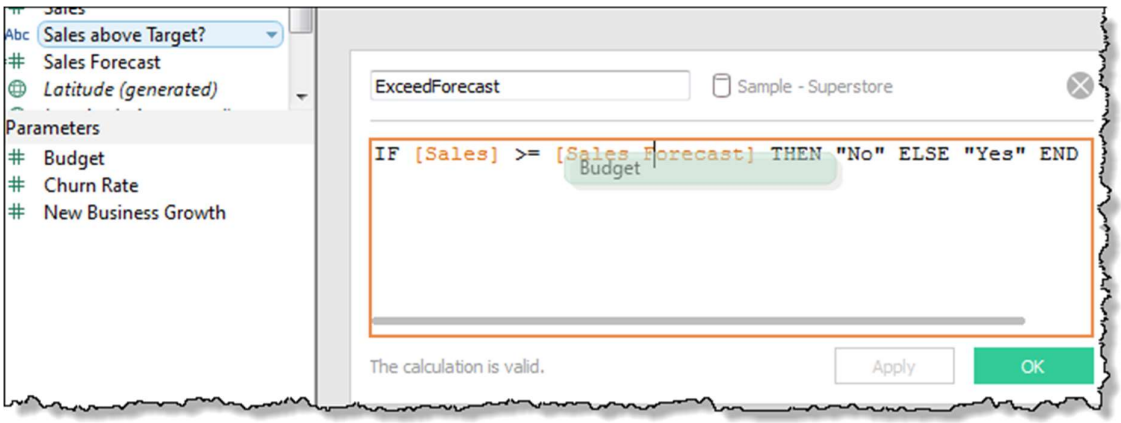
display of the control. For example, you can show a list of values as radio buttons, a compact list, a slider, or a type in field. The options available on this menu depend on the data type of the parameter as well as whether it accepts all, a list, or a range of values.



Use a parameter in a calculation

Parameters give you a way to dynamically modify values in a calculation. Rather than manually editing the calculation (and all dependent calculations), you can use a parameter. Then when you want to change the value, you open the parameter control, change the value, and all of the calculations that use that parameter are updated.

To use a parameter in a calculation, drag the parameter from the Data pane and drop it in the calculation editor, either at a new location in the formula or to replace a part of the current formula:



2. What are the different ways to create a Parameter?

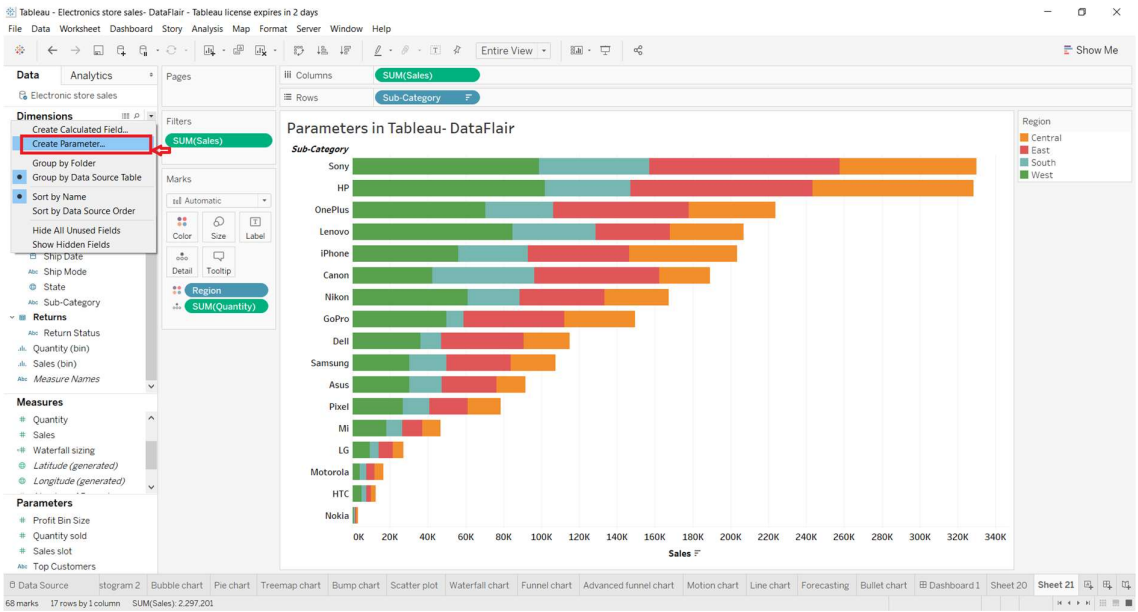
Parameters in Tableau

Parameters are like containers of values in Tableau. We can use parameters dynamically to enter values that are not fixed or present in our data set originally. For instance, we can enter a more than/less than condition into a parameter, set a range for values that we wish to focus on in our analysis, select top values, etc.

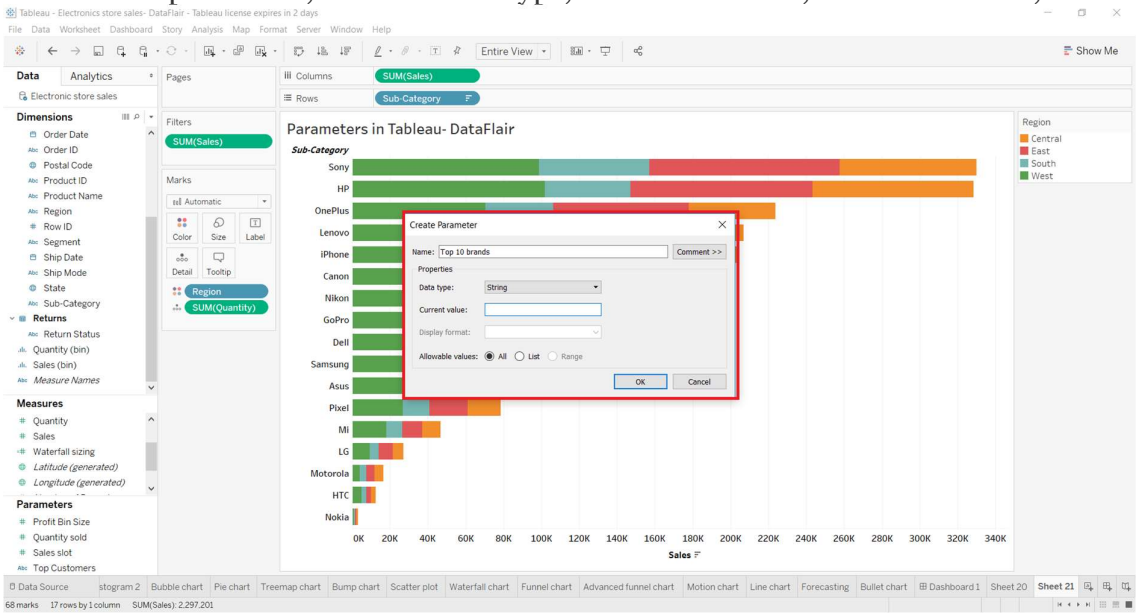
Steps to Create a Parameter in Tableau

Follow the steps given in this section to create a parameter in Tableau.

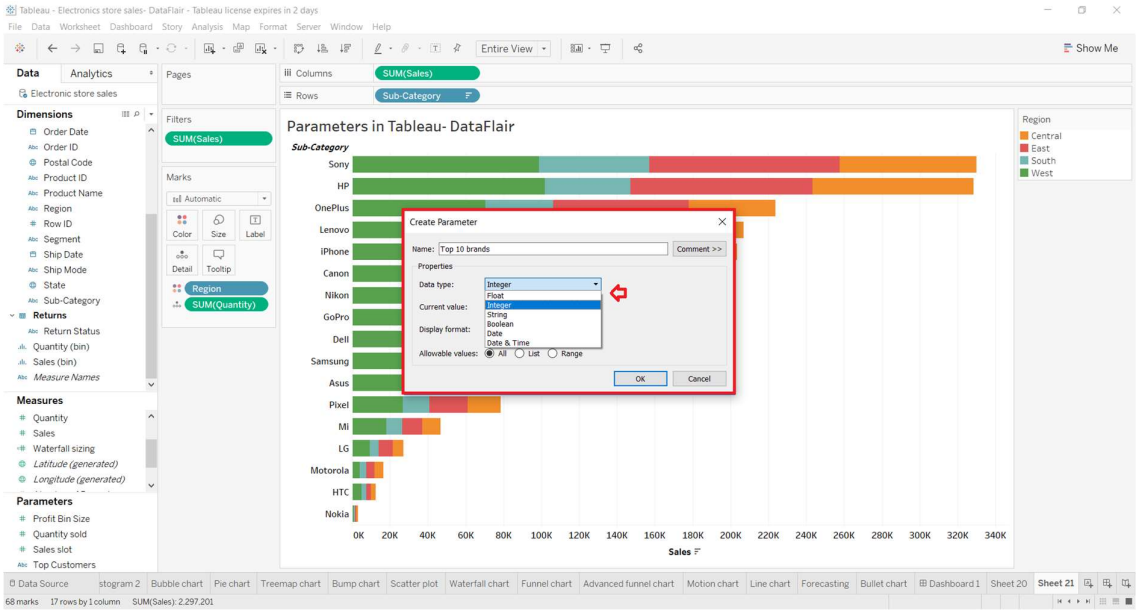
Step 1: To create a parameter, click on the drop-down arrow present on the top right corner of the **Data** pane. Select **Create Parameter** option from the drop-down menu.



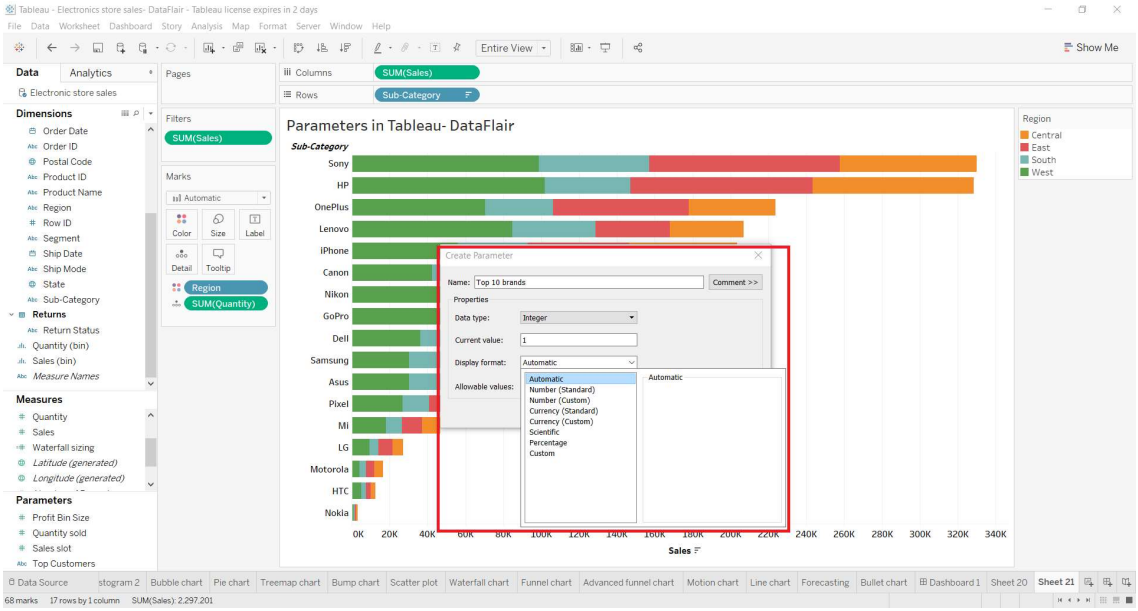
Step 2: A *Create Parameter* window will open. From this window, you can give a name to the parameter, select its data type, set current value, allowable values, etc.



We can add a data type we prefer from the list of available data types as shown in the screenshot below.

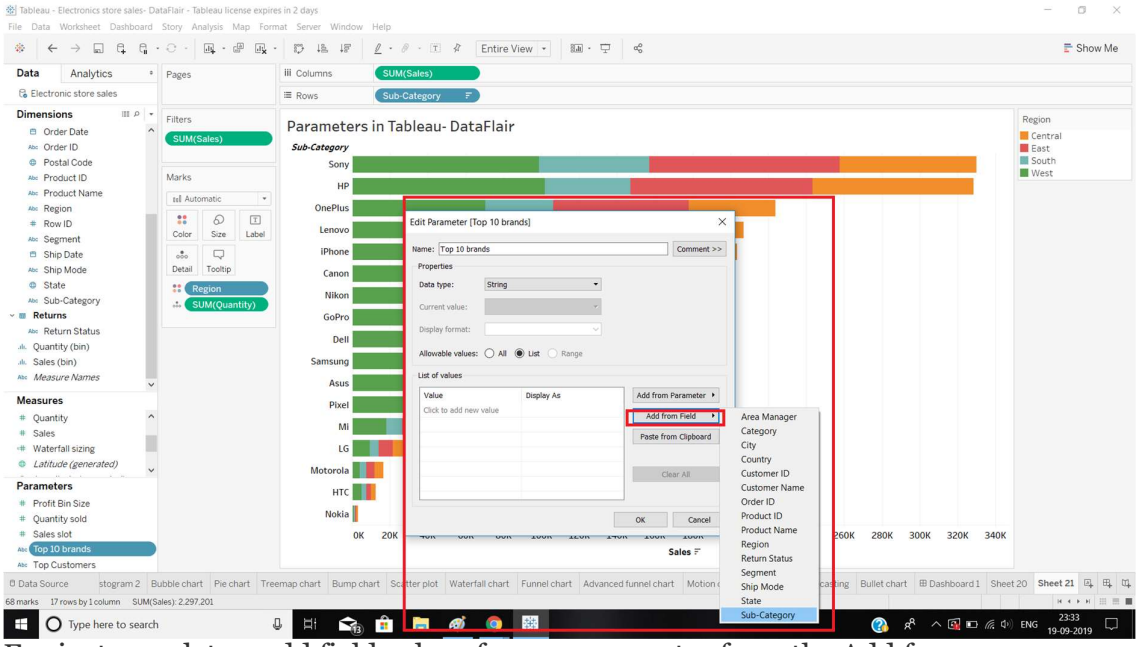


Step 3: You can also select a display format for the parameter that you are creating. The formats available are *Number, Currency, Scientific, Percentage, Automatic, Custom,* etc.

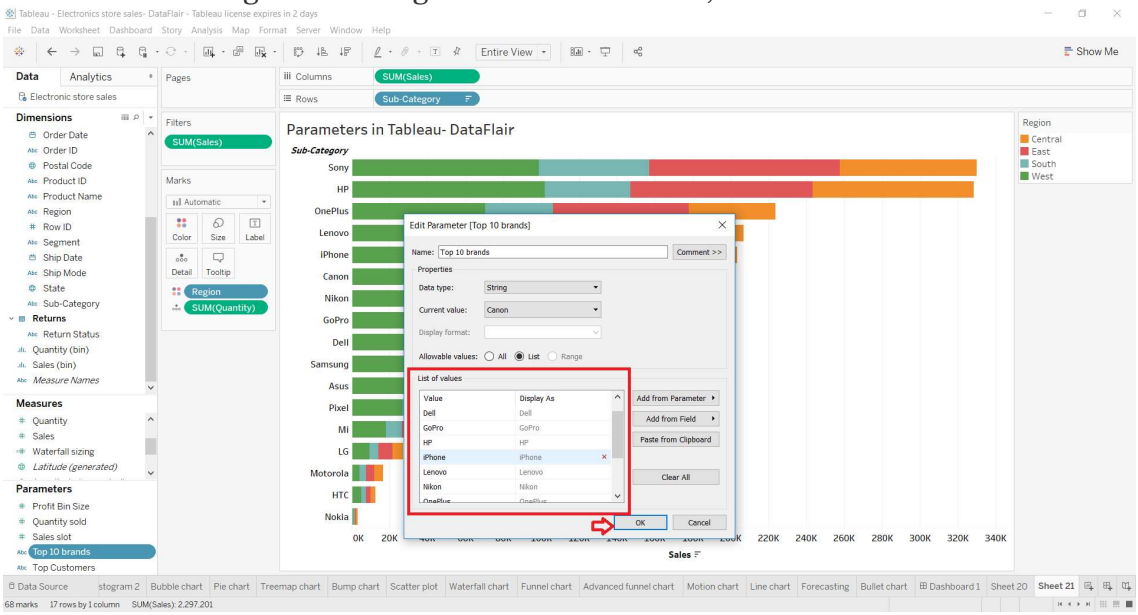


Step 4: From the next option of Allowable values, you will find three options; **All**, **List** and **Range**. This means that we can either select all the values within a field and create a parameter. Or we can have a list of values of our choice from the field or we can set a range within which we would like to have values in the parameter.

Or we can have a list of values of our choice from the field or we can set a range within which we would like to have values in the parameter.



For instance, let us add field values for our parameter from the Add from field option. We select the field Sub-category from our list of fields.
A list of all the values within a field appears in the List of values section. You can remove selected field values from the cross (×) icon given next to them. Once you are done with selecting or removing values from the field, click on OK.



Step 5: In this way, the newly created parameter “Top 10 brands” starts showing in the Parameters section given at the bottom left.

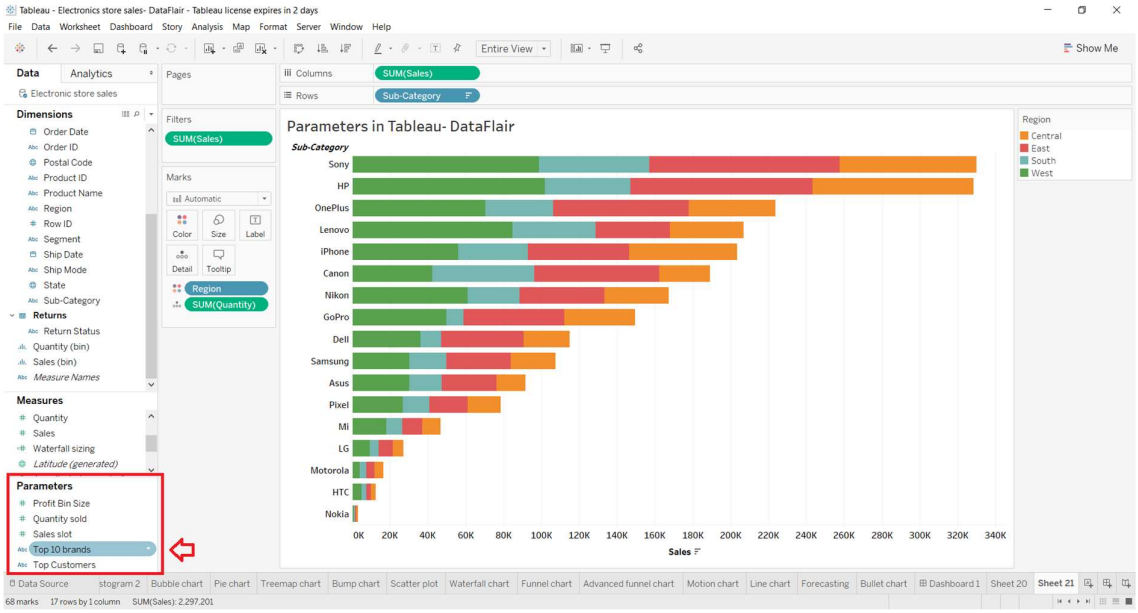


Tableau - Electronics store sales- DataFlair - Tableau license expires in 2 days
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Entire View
Show Me
Data
Analytics
Electronic store sales
Dimensions
Order Date
Order ID
Postal Code
Product ID
Product Name
Region
Row ID
Segment
Ship Date
Ship Mode
State
Sub-Category
Returns
Return Status
Quantity (bin)
Sales (bin)
Measure Names
Measures
Quantity
Sales
Waterfall sizing
Latitude (generated)
Parameters
Profit Bin Size
Quantity sold
Sales slot
Top 10 brands
Top Customers
Pages
Filters
SUM(Sales)
Marks
Automatic
Color
Size
Label
Detail
Tooltip
Region
SUM(Quantity)
Columns
SUM(Sales)
Rows
Sub-Category
Parameters in Tableau- DataFlair
Sub-Category
Sony
HP
OnePlus
Lenovo
iPhone
Canon
Nikon
GoPro
Dell
Samsung
Asus
Pixel
Mi
LG
Motorola
HTC
Nokia
0K 20K 40K 60K 80K 100K 120K 140K 160K 180K 200K 220K 240K 260K 280K 300K 320K 340K
Sales
Region
Central
East
South
West
Data Source
stogram 2
Bubble chart
Pie chart
Treemap chart
Bump chart
Scatter plot
Waterfall chart
Funnel chart
Advanced funnel chart
Motion chart
Line chart
Forecasting
Bullet chart
Dashboard 1
Sheet 20
Sheet 21
68 marks
17 rows by 1 column
SUM(Sales): 2,297,201