

# FILTERS

## FILTERS AND LEVEL OF DETAILS

Filtering is the process of removing certain values or range of values from a result set. Tableau filtering feature allows both simple scenarios using field values as well as advanced calculation or context based filters. There are three types of basic filters available in Tableau. They are as follows:

- **Filter Dimensions** are the filters applied on the dimension fields.
- **Filter Measures** are the filters applied on the measure fields.
- **Filter Dates** are the filters applied on the date fields.

### Filter Dimensions

These filters are applied on the dimension fields. Typical examples include filtering based on categories of text or numeric values with logical expressions with greater than or less than conditions.

Creating Filters for Dimensions - Dimensions are descriptive fields which have values which are strings. Tableau offers the following types of filters for dimensions.

- General Filter which allows to select specific values from a list.
- Wildcard filter which allows to mention wildcards like cha\* to filter all string values starting with cha.
- Condition filter which is used to apply conditions like sum of sales.
- Top filters to choose records representing a range of Top values.

### Filter Measures

These filters are applied on the measure fields. Filtering is based on the calculations applied to the measure fields. So, while in dimension filters we use only values to filter, in measures filter we use calculations based on fields.

Creating Filters for Measures

Measures are numeric fields. So the filter options for such fields involve choosing values. Tableau offers the following types of filters for measures.

- Range of Values Which Specify the minimum and maximum values of the range to include in the view.
- At Least - Include all values that are greater than or equal to a specified minimum value.
- At Most - Include all values that are less than or equal to a specified maximum value.
- Special - This special type of filter helps you filter on Null values. Include only Null values, Non-null values, or All Values.

### Filter Dates

Tableau treats the date field in three different ways while applying the date field. It can apply filter by taking a relative date as compared to today, an absolute date or range of dates. Each of this option is presented when a date field is dragged out of the filter pane.

### Quick Filter

Many filter types in Tableau are quickly available using right-click option on the dimension or measure. These filters known as Quick filters have enough functionality solve most of the common filtering needs.

A list of various quick filters and their use is given below.

Filter name	Purpose
Single Value(List)	Select one value at a time in a list.
Single Value(Dropdown)	Select a single value in a drop-down list.
Multiple Values(List)	Select one or more values in a list.
Multiple Values(Dropdown)	Select one or more values in a drop-down list.

<b>Multiple Values (Custom List)</b>	Search and select one or more values.
<b>Single Value (Slider)</b>	Drag a horizontal slider to select a single value.
<b>Wildcard Match</b>	Select values containing the specified characters.

The normal filters in Tableau are independent of each other. It means each of the filter reads all the rows from the source data and creates its own result. But there may be scenarios where we want the second filter to process only the records returned by the first filter. So in this case the second filter is known as dependent filters because they process only the data that passes through the context filter.

### **Context Filters**

Context Filters serve two main purposes.

- Improve performance – If you set a lot of filters or have a large data source, the queries can be slow. You can set one or more context filters to improve performance.
- Create a dependent numerical or top N filter – You can set a context filter to include only the data of interest, and then set a numerical or a top N filter.

### **Condition Filters**

One of the important filtering options in Tableau is to apply some conditions to already existing filters. These conditions can be very simple like finding only those sales which are higher than certain amount or it can be a complex one based on certain formula. The conditions can also be applied to create a range filter.

### **Top Filters**

The Top option in Tableau filter is used to limit the result set from a filter. For example, from a large set of records on sales we want only the top 10 values. We can apply this filter using the

inbuilt options for limiting the records in many ways or by creating a formula. In this chapter we will explore the inbuilt options.

## **Level of Details**

Level of Detail expressions are also called LOD expressions in Tableau. They are used to run complex queries involving many dimensions at the data source level instead of bringing all the data to Tableau interface. A simple example is adding dimension to an already calculated aggregate value.

### **Types of LOD**

There are three main types of LOD expressions.

- **FIXED LOD** - This expression compute values using the specified dimensions without reference to any other dimensions in the view.
- **INCLUDE LOD** - This level of detail expressions compute values using the specified dimensions in addition to whatever dimensions are in the view.
- **EXCLUDE LOD** - These levels of detail expressions subtract dimensions from the view level of detail.