

## Filters and Parameters

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## Filter shelves

Cloudera Data Visualization uses filters and parameters to change the analysis criteria at run-time by specifying the data selected for the visuals. Filters define the subsets of data that is examined in a visual. By placing either measures or dimensions on the filter shelf of a visual, you can exclude or include specific values or a range of values from the data used.

You can specify filters by using one of the following methods:

- Select a value or values from a list, or through an interface specific to the data type
- Specify an expression that represents the filtering function

For more information on filter expressions, see *Syntax for using parameters*.

### Related Information

[Syntax for using parameters](#)

## Filter scope

Cloudera Data Visualization uses filters and parameters to change the analysis criteria at run-time by specifying the data selected for the visuals. Filter scope determines the level at which filters are active.

Filter scope has the following three options:

### Explicit scope

Explicit scope is defined when a dashboard or visual sends out parameters to other visuals, and the visuals accepts these parameters in their Filters shelf. This can be enabled at the level of each visual.

Explicit scope is expected to be used sparingly, for a small number of visuals in each dashboard that represent a high-level look at a metric and that should not be filtered by visible filters.



**Note:** Explicit scope overrides dataset scope.

The scope of click behavior is explicit.



**Tip:** If you want visuals to be updated based on selected elements, make sure to explicitly place these columns in the filter shelf of the target visuals.

For more information, see:

- *Setting explicit scope for filters*
- *Using parameters with explicit scope*

### Dataset scope

Dataset scope filter applies to all visuals in a dashboard that do not have explicit scope turned on. Filters with dataset scope apply to all visuals in the dashboard that are using the same dataset. This is the default for new filters.



**Tip:** Dataset scope filters continue to use the parameter passing mechanism, and these parameters may be used within visuals in many ways, for example in the title, within expressions.

For more information, see:

- *Setting dataset scope for filters*
- *Sending parameters with dataset scope*

### App scope

App scope automatically filters all dashboards in the app. For more information, see *Setting app scope for filters*.

### Related Information

[Setting explicit scope for filters](#)

[Using parameters with explicit scope](#)

[Setting dataset scope for filters](#)

[Sending parameters with dataset scope](#)

[Setting app scope for filters](#)

## Filter widgets on dashboards

In Cloudera Data Visualization, filters and parameters allow you to adjust analysis criteria in real-time by specifying the data displayed in visuals. A filter is a control element linked to the values of a specific table column.

When building a dashboard, you can add filter widgets to the Filters area. You also have the option to create and add custom filters. After you define a custom filter, you can apply it to visual shelves to dynamically update the displayed data.

For detailed instructions on creating, configuring and using filter widgets, see *Filter widgets on dashboards*.

### Related Information

[Filter widgets on dashboards](#)

## Syntax for using parameters

You can define a filter by specifying an expression that represents the filtering function.

You have the following syntax format options:

- Adding the value of the output parameter variable to the visual:

```
<<variable:default-value>>
```

You can define it by URL parameters, clicked values within dashboards, or single value/textbox pick lists.

Some examples:

- By fields: (<<field-name:dimension-column>>)
- By discrete single values: (<<state:'AL'>>)
- By discrete multiple values: (<<state.data:'NC', 'KY'>>)
- User-defined pick lists also emit an alias parameter:

```
<<variable.alias:default-value>>
```

- When dashboard filters function in multi-select mode, you must also specify the include-exclude operators:

```
<<variable.data:'default-value'>>  
<<variable.exclude:default-value>>
```

- For date-range functions, the filter expression that uses the timestamp variable ts has the following pattern:

```
[ts] between <<ts.start:"2013-08-03">> and <<ts.end:"2014-04-28">>
```

- When the dashboard filter is multi-select, you must use different parameters:
  - The selected values are available through the `<<variable.data:default-value>>` expression.
  - When implementing the include or exclude operator in a multi-select filter, use the `<<variable.exclude:DEFAULT-VALUE>>` expression.
- To customize the title of any visual, you can change its name to include a parameter. For a practical example, see *Creating visuals with variable dimensions*.

### Related Information

[Creating visuals with variable dimensions](#)