Cloudera Data Visualization 7.2.8

Data Discovery with Context Menus

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Contents

Using context menu options

You have several approaches to data discovery from the context menu of the dashboard in Cloudera Data Visualization.

You can view the context menu at both the dashboard and the visual level. Context menus can be specific to the dashboard or visuals, or common to both. Additionally, you can use context menus directly on the graphical elements of the visual (for example, a particular bubble in the packed bubbles visual), or on the legend for the visual.

In addition to using the context menu options to discover your data, you can drill up and down the hierarchical tree by Creating new dimension hierarchies. For more information, see Drill-down and drill-up data discovery.

Context menu options only in dashboards

In dashboard Edit mode, you can enable the following three options. The setting of these options control the behavior of context menu options in View mode.

No action on click

> This option shows the context menu in View mode, but does not filter the target visuals on clicking any mark of the source visual. You must click the Filter All option in the context menu to filter target visuals in the dashboard, based on the selected element of the source visual.

Show context menu on click

> When you enable context menus at the dashboard level through the Displaying context menus in visuals setting option in the General menu, the No Action on Click context menu appears as Show Context Menu on Click. If you disable the context menus, the option appears as No Action on Click.

Enable filter on click

> In View mode, if you click on a mark of a visual, this option filters the target visuals in the dashboard, based on the selected element of the source visual. Context menu is not visible in this option. In Edit mode, you can test the filter behavior by clicking on Test click behavior.

Navigate to Dashboard

> In View mode, if you click on a mark of a visual, it navigates you to a different dashboard. For more information, see Drill-through data discovery.

Context menu options only in visuals

The following context menu options are only available in visual Edit mode. These options are enabled by default.

Include

> This option enables you to click a mark of the visual and include selected values in the filter shelf of the visual designer.

> For more information, see Filter all data discovery.

Exclude

> When you click on a mark of a visual, this option enables you to add an expression in the filter shelf of the visual designer that excludes the selected values in the visual. For more information, see Filter data using the exclude option in the context menu.

Context menu options common to both dashboards and visuals

The following options appear at both the dashboard and the visual level.

Filter All

> This option is enabled by default.
>
> This option filters all the target visuals in the dashboard, based on the selected element of the source visual. For more information, see Filter all data discovery.

Drill Into

> In Visual Designer, you must first enable Show Drill Into context menu option in the General menu. This setting is available only on Bar, Line, Area, and Grouped Bar visual types. For more information, see Enabling Drill Into data discovery.
>
> This option enables you to view subsets of data across other dimensions. For more information, see Drill into data discovery.

Show Detailed Data

> In Visual Designer, you must first enable Show detailed data option in the Marks menu. For more information, see Showing detail data button in context menu.
>
> This option enables you to click on a mark of a visual, such as specific bar, slice of radial, and so on, to view the data directly associated with that portion of the plot. For more information, see Detailed data discovery.

Drill-down and drill-up data discovery

The following conditions apply to Drill-down/up functionality:

- This feature is only available on dimensions that are part of predefined hierarchies.
- These hierarchies may only be defined by users with administrative privileges, and at the level of the dataset.
- Hierarchies, as implied, combine related and 'nested' dimensions of the dataset, progressing from largest to smallest measurement.
- Dimensional hierarchies by their very nature do not help discover how potentially unrelated dimensions influence the results.

To help with the use of this feature, you can find here some examples for bar charts.

Drill-down data discovery

To discover your data in Cloudera Data Visualization, you can navigate up and down the hierarchical tree.

Procedure

1. To use drill-down, place the pointer over one of the data labels along the horizontal axis, and note that it changes color. This is because the data labels are link-enabled.
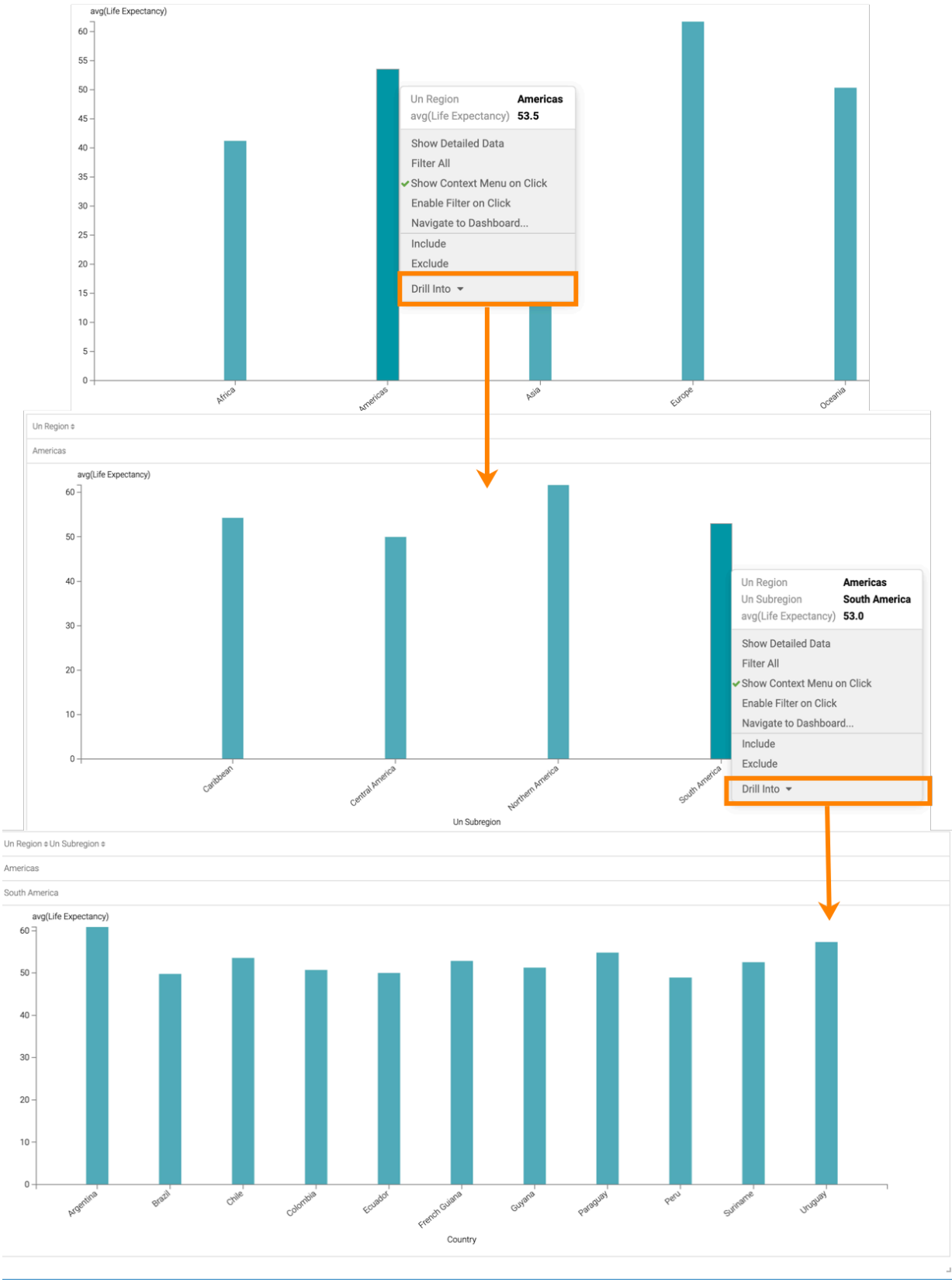
2. Click the label to drill down to a lower level of the hierarchy.

In the following graphic, we drilled through these levels:

- Level 1: un_region = 'Americas'
- Level 2: un_subregion = 'South America'
- Level 3: country

Note: Every time you move down a hierarchy level, the scale of the vertical axis adjusts automatically.

Drill-up data discovery

Procedure

1. Place the pointer over the label of the horizontal axis itself, and note that it changes color. It is also link-enabled.
2. Click the horizontal axis label to go up the hierarchy levels.

   To use drill-up,

   In the following graphic, we moved up along these levels:

   - Level 3: country where un_region =   'America' and un_subregion = 'South   America'
   - Level 2: un_subregion = 'South America' where un_region = 'America'
   - Level 1: un_region

   Note: Every time you move up a hierarchy level, the scale of the vertical axis adjusts automatically.

Drill-through data discovery

Cloudera Data Visualization lets you navigate from one dashboard to another, with parameter passing.

About this task

Dashboards support drill through data discovery, where clicking on an element of the visual in a dashboard opens a target dashboard. You can configure drill-through to pass parameters to the target visual.

Drill-through navigation has the following restrictions:

- The navigation link is at the level of the dashboard; you cannot specify a particular visual as a target.
- The parameters used in drill-through data discovery include these:

  - Parameters passed to the source visual from a URL
  - Parameters that correspond to the clicked element
  - When navigating within an application, application scope parameters
- The parameters not supported in drill-through data discovery are:

  - Parameters outside the application scope
  - Explicit parameters defined on the source visual

Follow this procedure to enable drill-through data discovery.

Procedure

1. With the dashboard in Edit mode, click an element of a visual, and select the Navigate to Dashboard option from the menu.
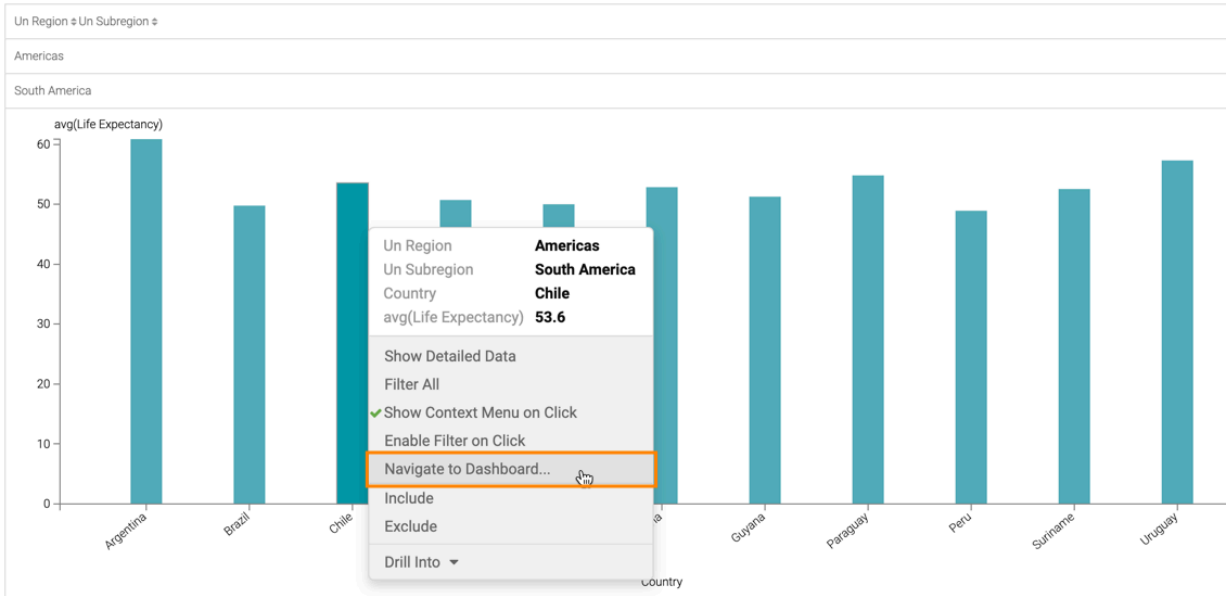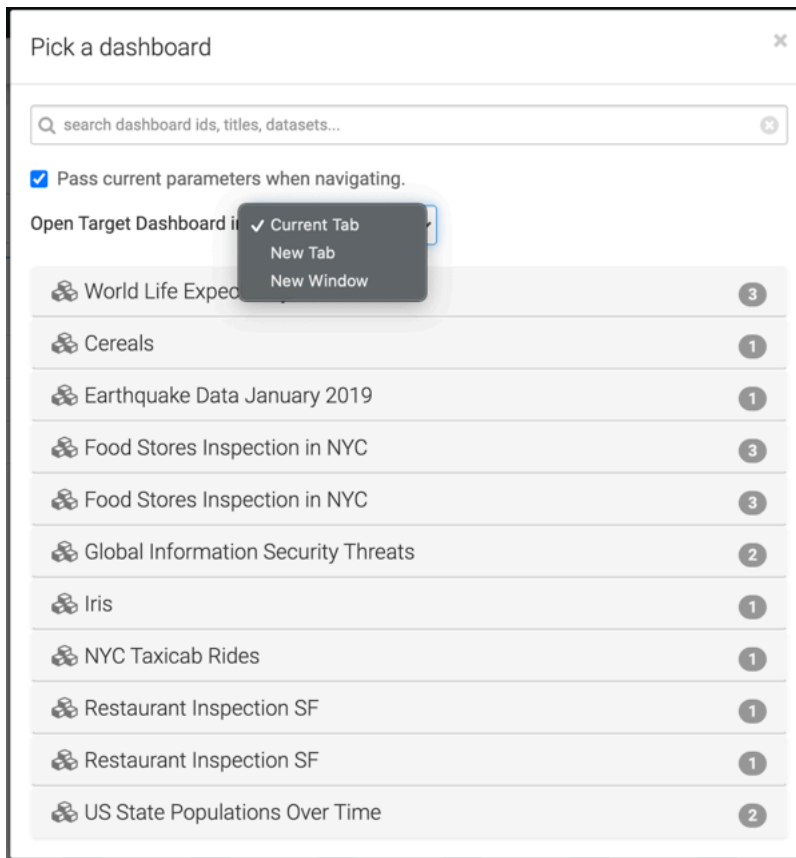
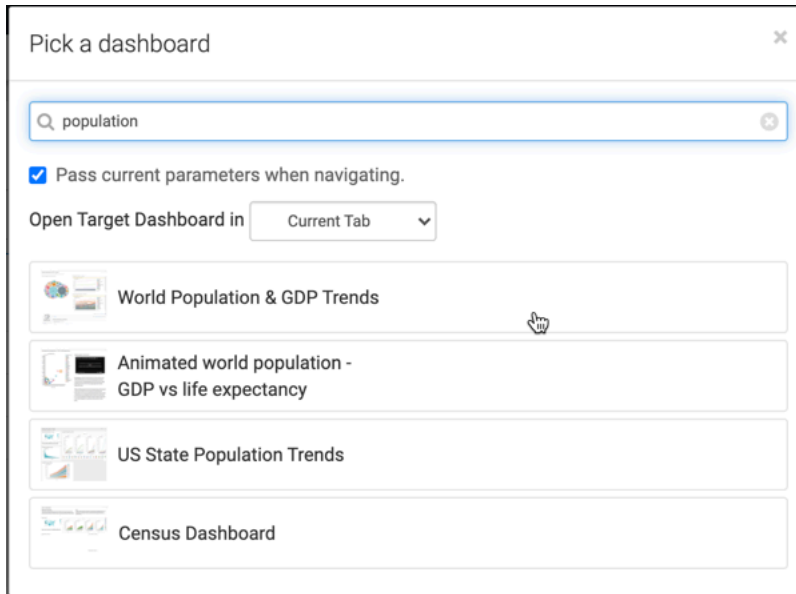

The Pick a dashboard window modal. is displayed.

2. Specify the option Pass current parameters when navigating.

3. Click the Open Target Dashboard in menu, and select one of the options:
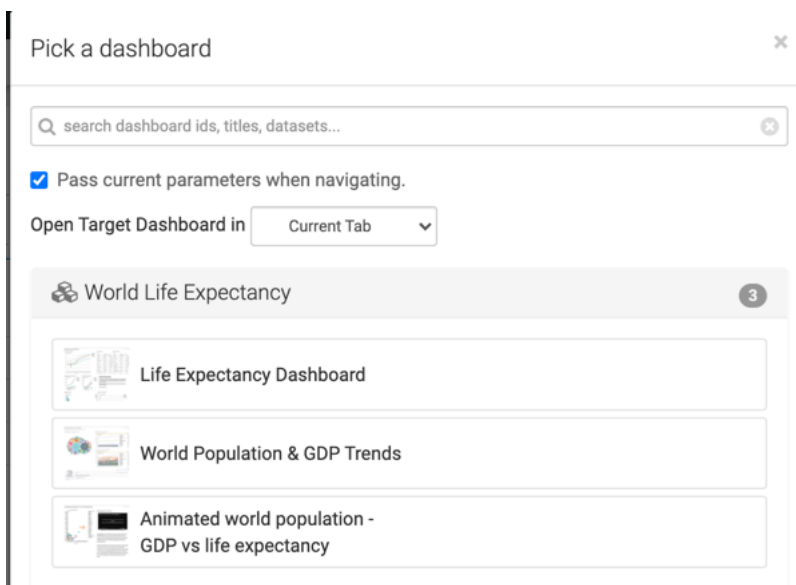
- Current Tab
- New Tab
- New Window

4. You can use the Search bar to find the desired target dashboard, and then select it by clicking one of the results.

Alternatively, you can expand one of the datasets, and select one of its dashboards.

5. To check that the configuration leads to the correct dashboard, with correct options, click on an element in the dashboard, and note the Navigate to ID:145 in the drop-down menu.
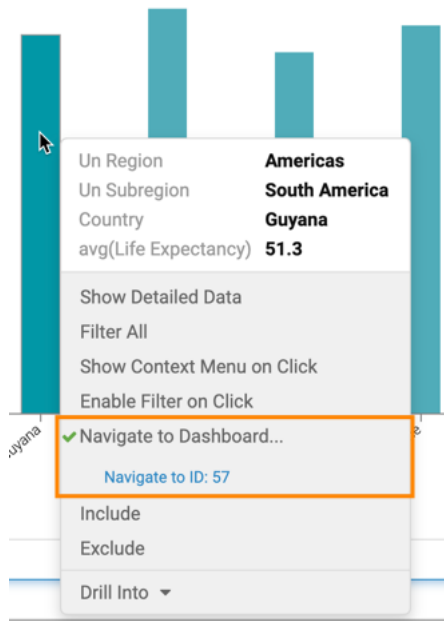
6. Click Save to preserve the changes to the dashboard.

7. Click View to change to View mode.

8. In View mode, click an element of a graph. In this example, we are clicking on a bubble that represents Argentina.

When the target dashboard is displayed, it preserves the parameters of the click, and builds the target visuals accordingly.
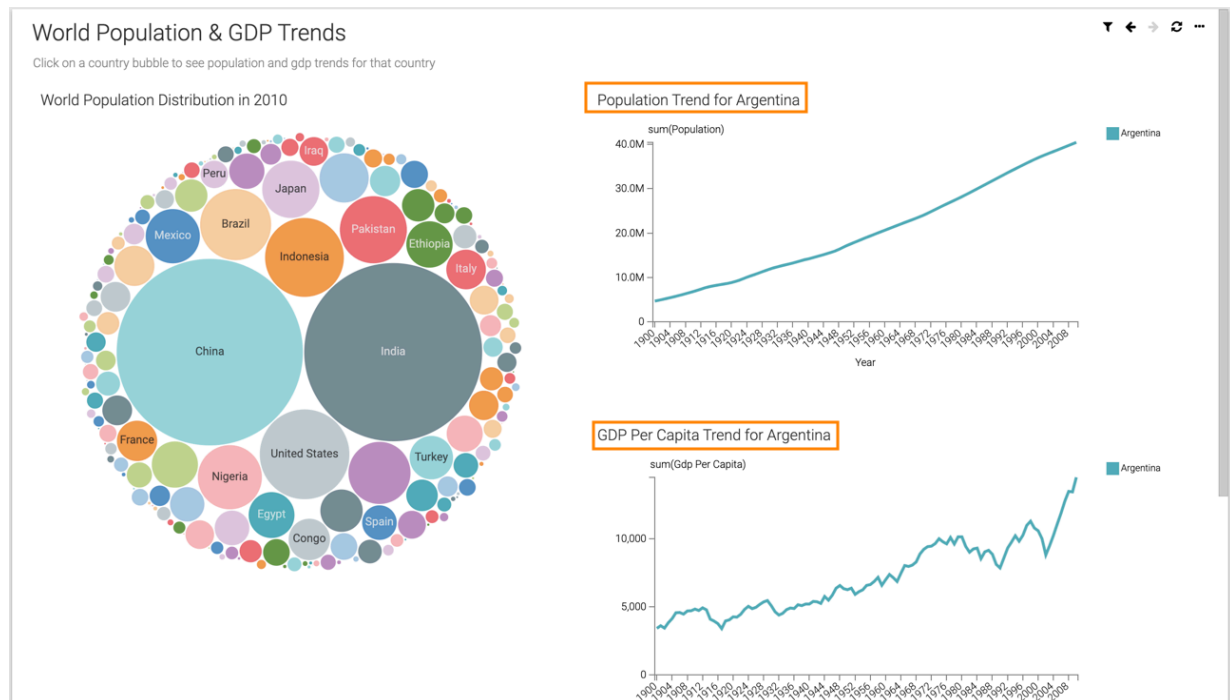
Drill-into data discovery

In Cloudera Data Visualization, You can drill into your data to view subsets of data across other dimensions.

About this task

Drill-into enables you to discover the more granular information for a particular data point by examining other dimensions of your data. It uses the exact portion of the graph you click to determine the filters, and the selected field as the new horizontal axis. You may further limit the fields available in drill-into.

Note: Drill-into data discovery is available on Bar, Line, Area, Grouped Bars, and Map (choropleth only) visuals, and also on trellised charts of these visual types.

Before you begin

To discover data, you must first enable the Show Drill Into context menu option in the General menu. For instructions, see Enabling Drill Into data discovery.

Procedure

1. Open a dashboard that contains the visual you are examining. This example shows it in Edit view.
2. Hover over the visual to determine what portion of the graph to examine further.

   In this example, the line for Europe, in year 1990 is selected. These values become filters in the visual generated by the drill-into choice.
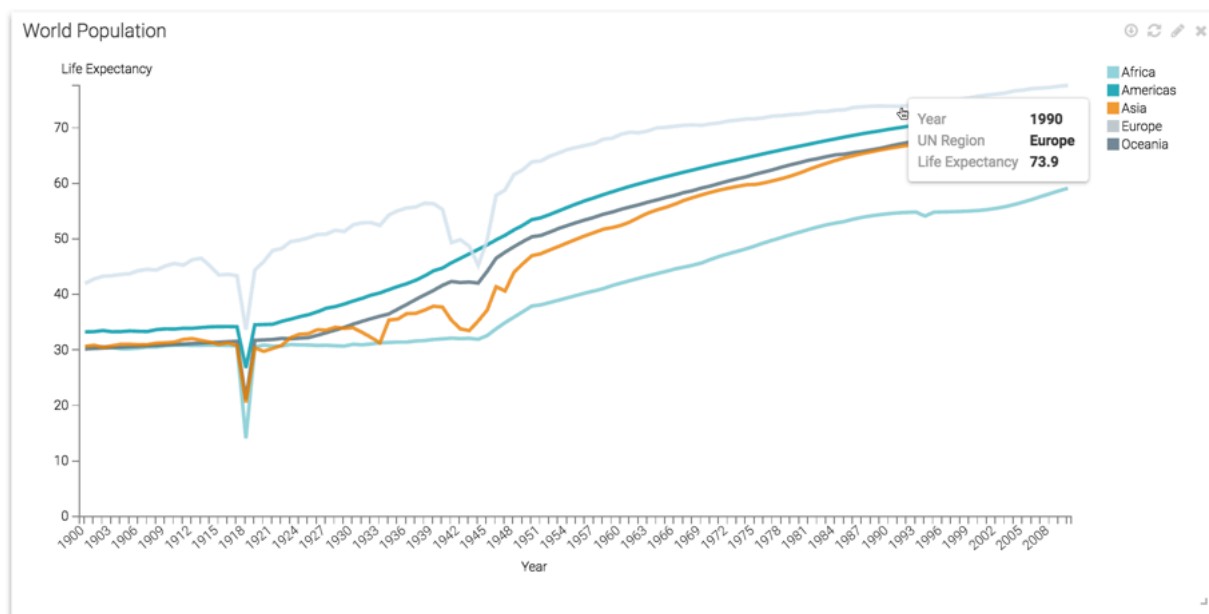
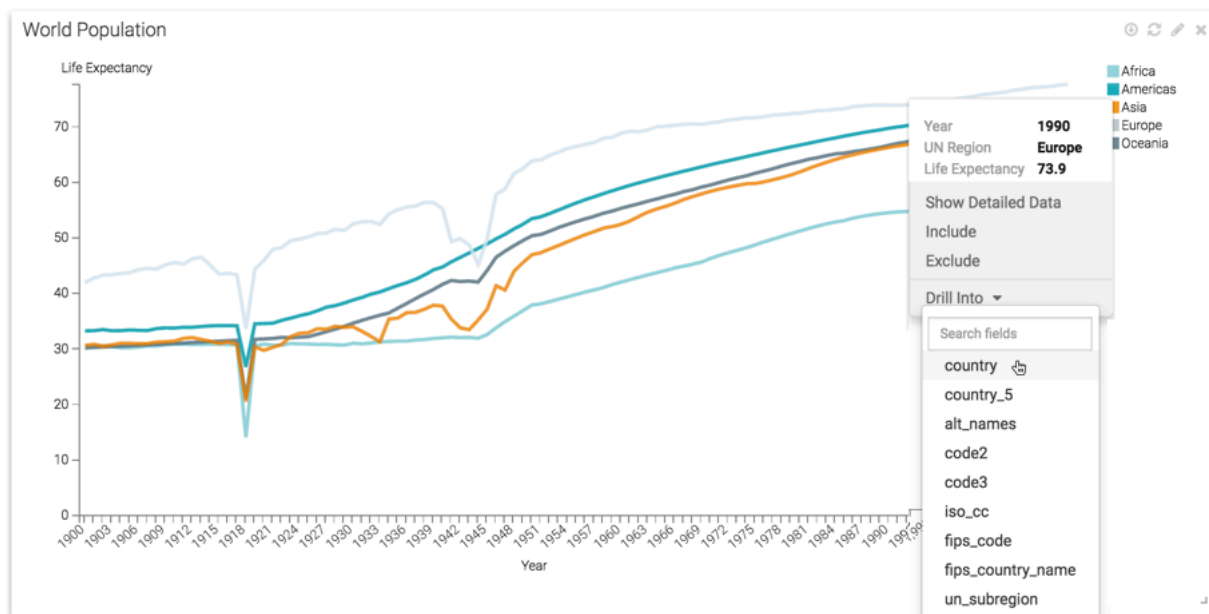3. Click the selected part of the graph.

   Cloudera Data Visualization expands to show the available data discovery options.

4. Select the Drill Into option, and then select the appropriate field from the drop-down menu.

> **Note:** You have an option to limit the available fields. See *Limiting drill-into options*.

In this example, the country field is selected.

Results

The original visual is replaced with a version that implements the filters specified earlier: Europe in year 1990. The field chosen earlier specifies the horizontal axis, where appropriate. In Choropleth Map visuals, it changes the granularity of regions represented, moving from County, to State, to County, and so on.
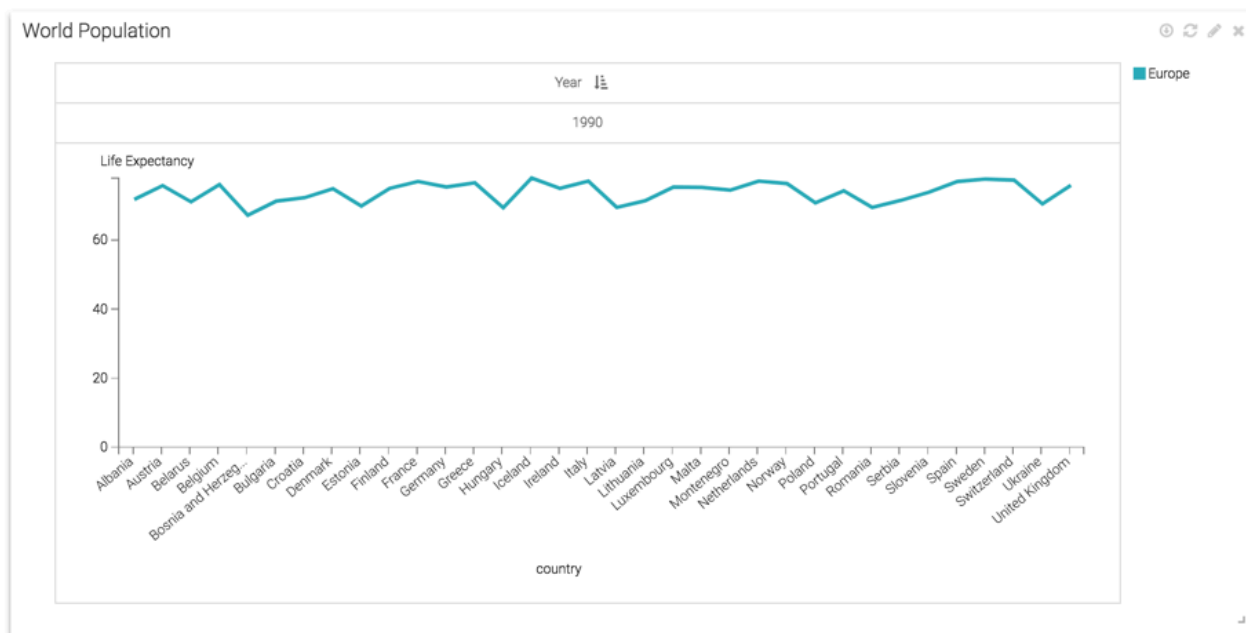
Limiting drill-into options

By default, all dimensions are visible when implementing drill-into data discovery, but you can limit the available fields to a smaller subset.

About this task

To limit the fields available for drill-into to a smaller subset, you must place these fields onto the Drill shelf. When specifying a limit for Choropleth Map fields, these fields must be Geo Type fields, or cast to Geo Type.

Procedure

1. Open the dashboard in Edit mode and click the (pencil/edit) icon of the visual to edit it.
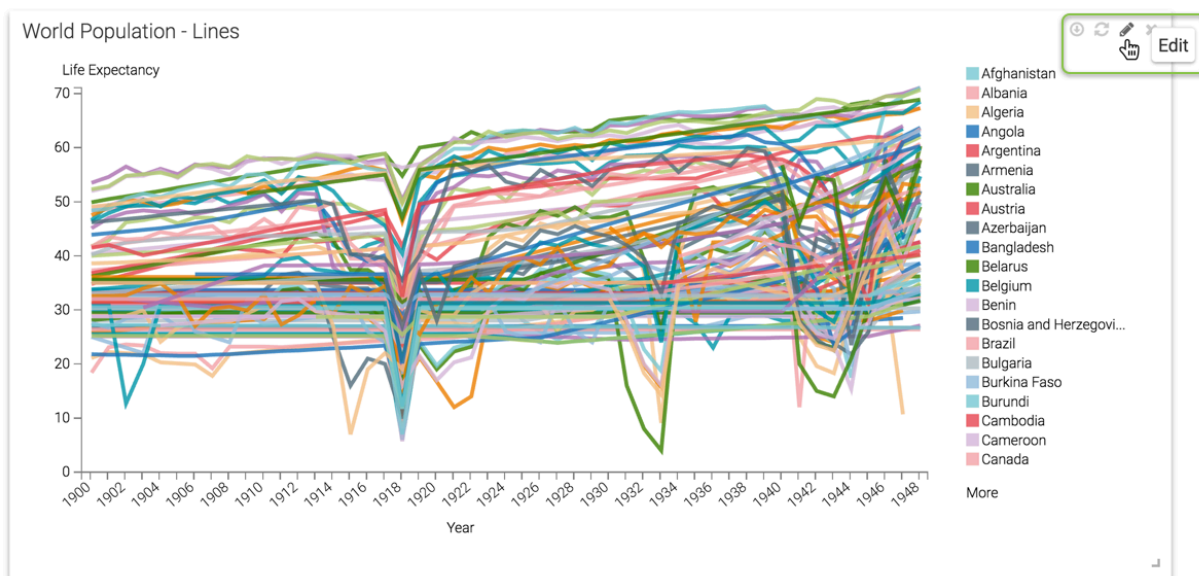
2. In the visual, add the desired fields to the Drill shelf.

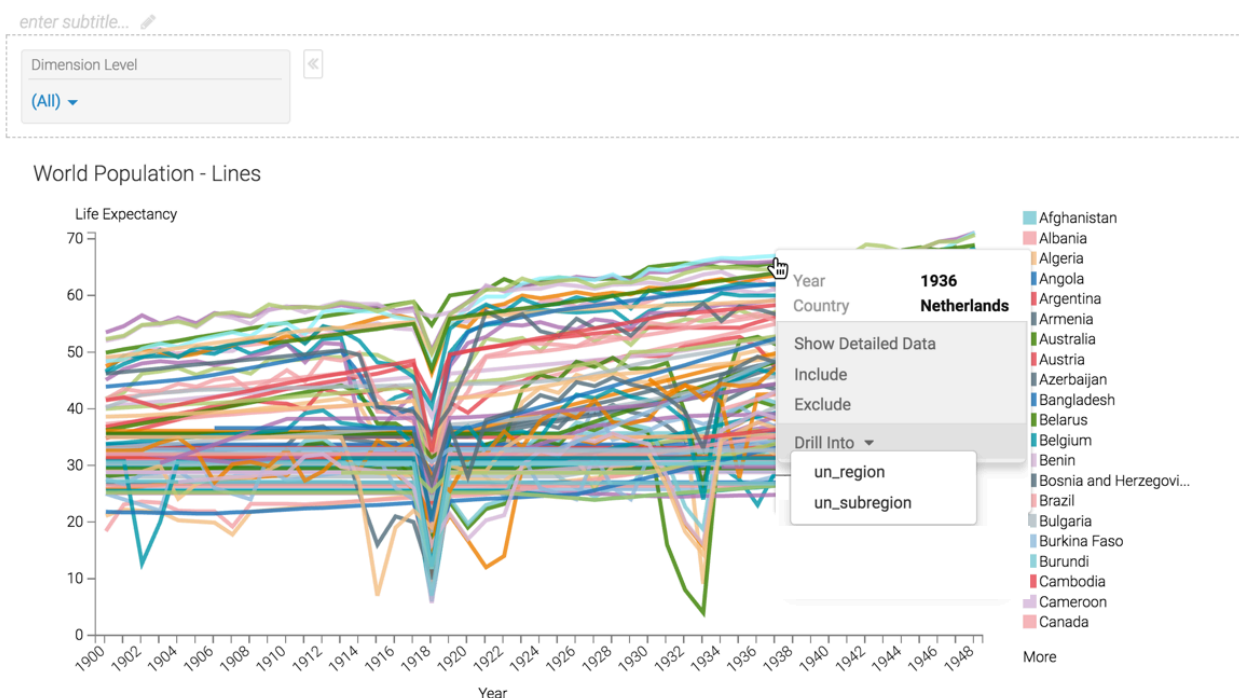In this example, the fields un_region and un_subregion have been added.

3. SAVE and CLOSE the visual.

Results

If you use the drill-into option, the menu shows only the fields you specify. In this example these are: un_region and un_subregion.

Filtering all visuals in a dashboard

You can discover your data, by filtering all visuals in the dashboard, based on the selected element of the source visual.

About this task

The Filter All data discovery mode lets you to define a visual in the dashboard as a 'source', so clicking on a specific element of the source controls the appearance of other visuals in the same dashboard. The source sends filter parameters to the target visuals, which they use to define the output. Keep in mind that any visual can be both a source and a target when passing filter parameters.

To discover data in View mode, you must first enable the context menu, as described in Displaying context menus in visuals.

The following conditions apply to the Filter All functionality:

- This method of data discovery works across visuals in a single dashboard.
- Scope matters:
    - By default, the source visual sends parameters with Explicit Scope. To change this, select the Dataset Scope. For more information, see Sending parameters with dataset scope.
    - By default, the target visuals receive parameters with Dataset Scope. To change this select the Explicit Scope. For more information, see Using parameters with explicit scope.

        When the target visual receives filter parameters with Explicit Scope, it must have the corresponding dataset fields on the Filters shelf.
- Depending on your use case, you may have to de-select the sending of aggregates as parameters. For more information, see Sending aggregates as parameters.

    The following steps show you how to set up a dashboard with Filter All data discovery options, using dataset scope.

Prepare target visuals

In this example, you can see the settings for two sample target visuals.

Procedure

- The Life Expectancy line visual has the following settings:

  - X Axis shelf: year, sorted in chronological order.
  - Y Axis shelf: life_expectancy, as avg(life_expectancy).
  - Colors shelf: country.
  - Under Settings, select the Parameters menu, and make sure that the, Receive parameters with explicit scope option is not enabled.
- The Life Expectancy and GDP line visual has the following settings:

  - X Axis shelf: year, sorted in chronological order.
  - Y Axis shelf: life_expectancy, as avg(life_expectancy).
  - Colors shelf: gdp_per_capita, as avg(gdp_per_capita); select the field on the shelf to view the Field Properties menu, expand Axis, and select Secondary Axis.
  - Under Settings, select the Parameters menu, and make sure that the, Receive parameters with explicit scope option is not enabled.

Prepare source visuals

In this example, a bar visual World Population is used as the source (controlling) visual.

Procedure

- The visual has the following settings:

  - X Axis shelf: un_region. You can also choose to use a dimensional hierarchy that represents the [un_region | un_subregion | country] tuple.
  - YAxis shelf: population, as sum(population); alias it as Population.
  - Filters shelf: year, set to 2010
  - Under Settings, select the Parameters menu, and enable the Send parameters with dataset scope option. Do not select other options in this menu.

Prepare and use the dashboard

In this example, a new dashboard is created that displays both the source and the target visuals and filters are also used.

Procedure

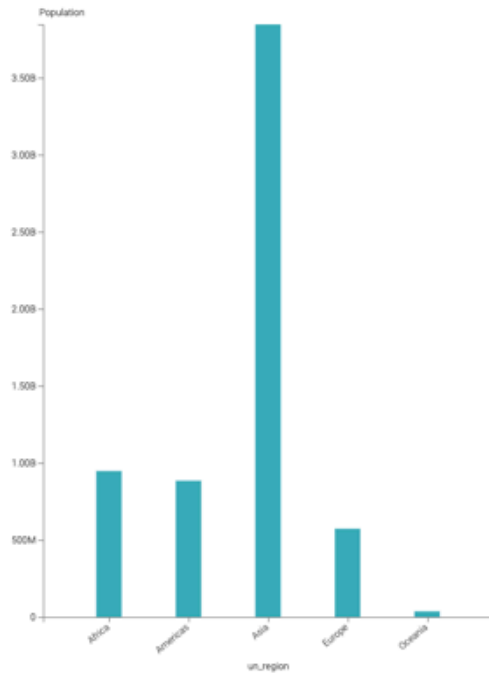1. Create a new dashboard, and add the three visuals to it.

   In this example, the source visual is resized so it occupies the left side of the dashboard, while the target visuals share the right side of the dashboard.
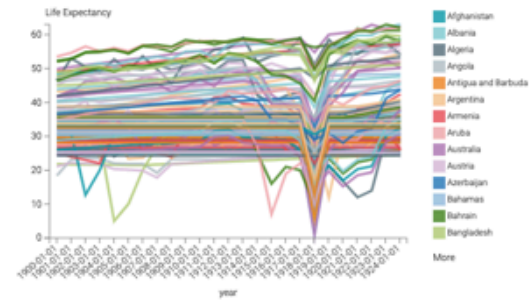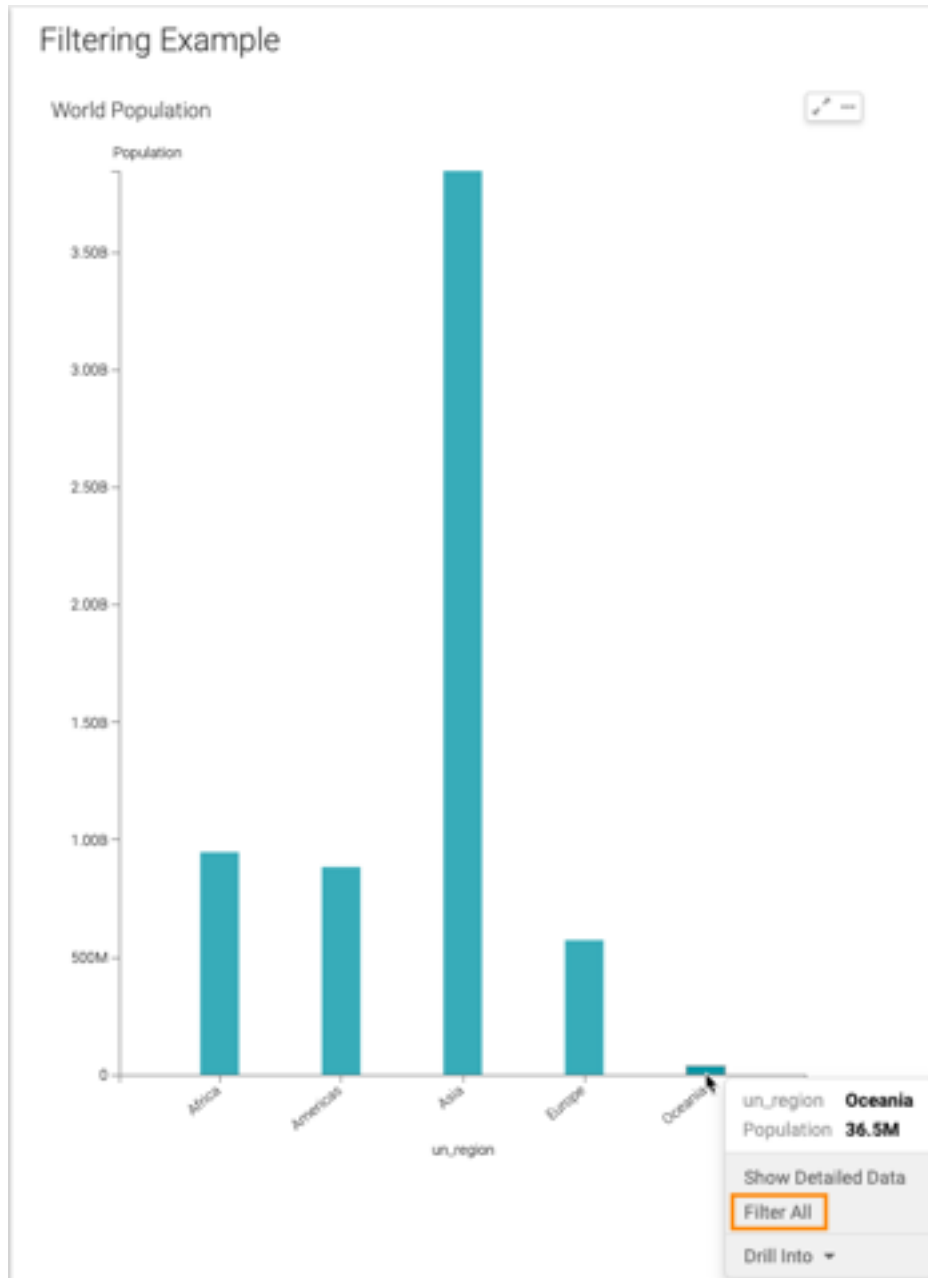

2. Switch to View mode.

3. Click one of the bars of the source visual (in this example, Oceania), and select the Filter All option.

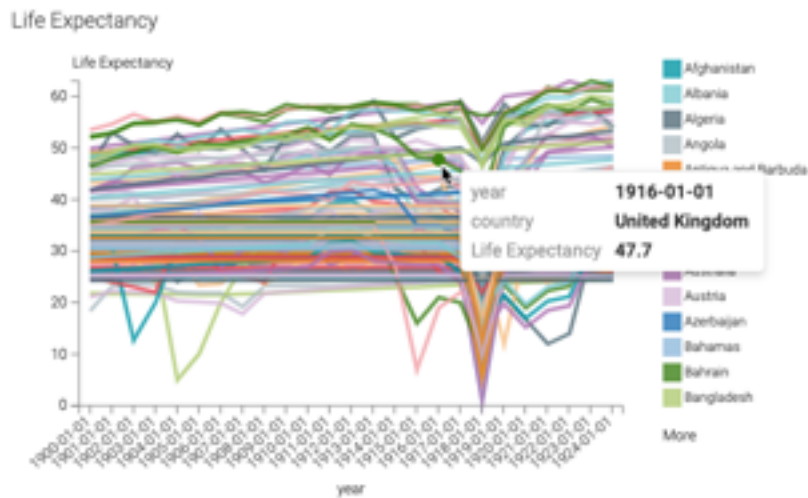Cloudera Data Visualization refreshes the dashboard to show the target visuals that contain information about the selected un_region only. You can see the value of the filters on each visual when you hover the pointer over them, or the value of the dashboard parameters when you hover over the (filter) icon.

Life Expectancy

Life Expectancy and GDP
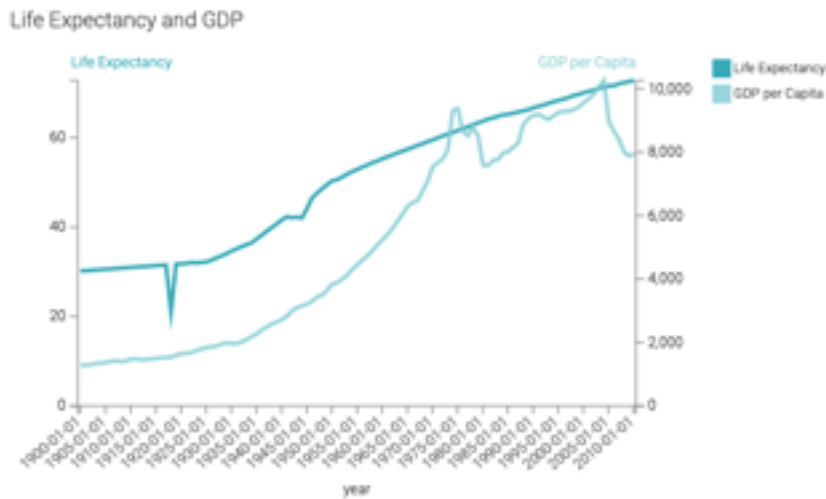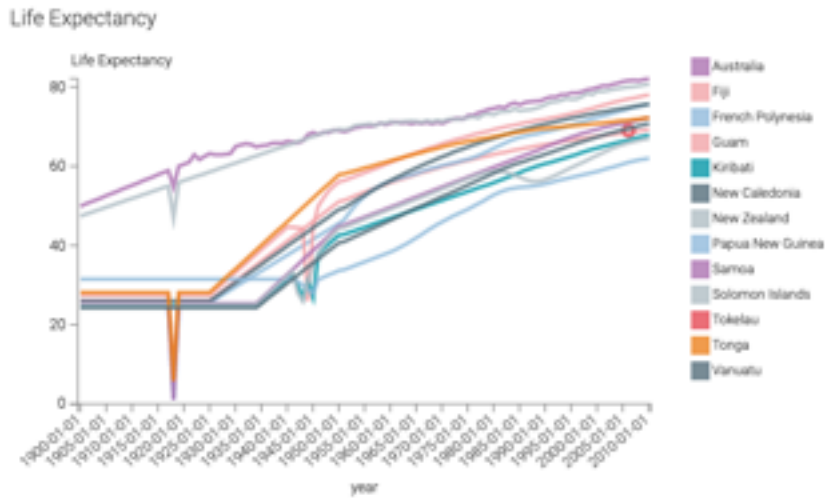
Note: Any visual can be both a source and a target when passing filter parameters.

4. To examine data outliers in one of the 'target' visuals, click on that element. In this example, we can check for more details in the Life Expectancy visual by investigating the drop reported for Turkey in 1915.

5. Click that part of the line chart, and select Filter All.

Cloudera Data Visualization refreshes the dashboard to show the effect on the other visuals. For example, the Life Expectancy and GDP shows that the GDP per Capita in Turkey for 1915 was 1.52k.
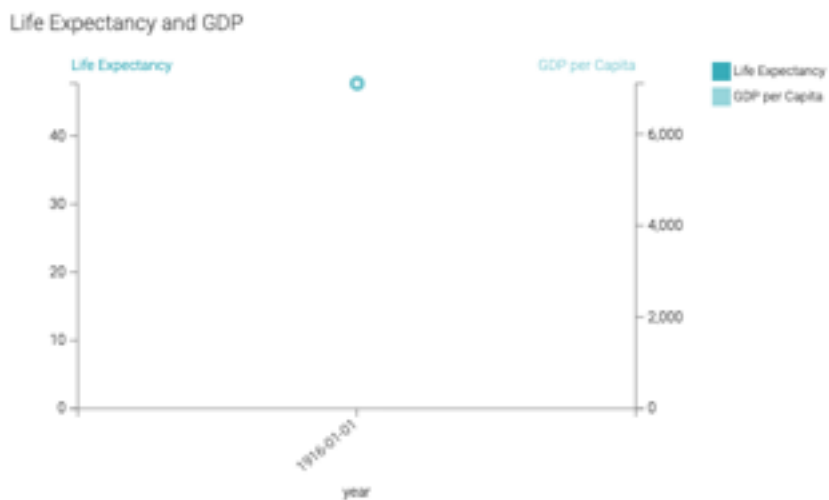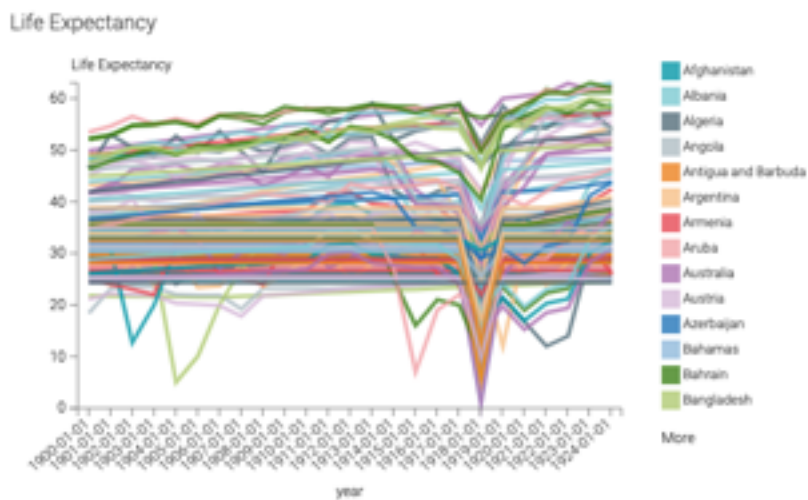
Discovering detailed data behind a visual

You can click on a part of a visual and see the matching rows of data, in detail.

About this task

The following steps describe how to access detailed data on a sample visual through. This visual shows the number of social media touch points, on a quarterly basis. While Twitter and Tumblr elements seem relatively constant, Facebook numbers for Q1 are low relative to other quarters. in the example, you can examine the underlying data.
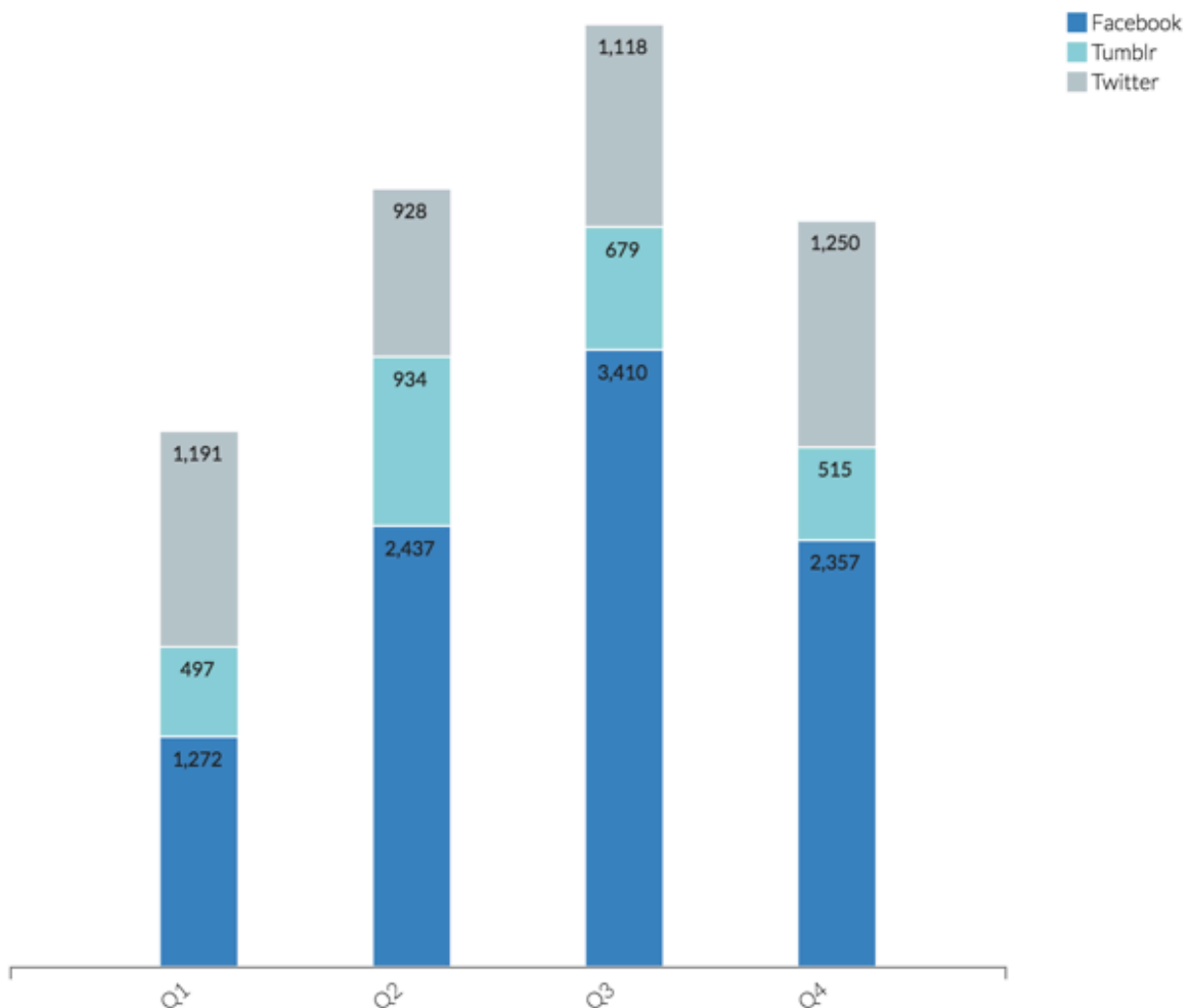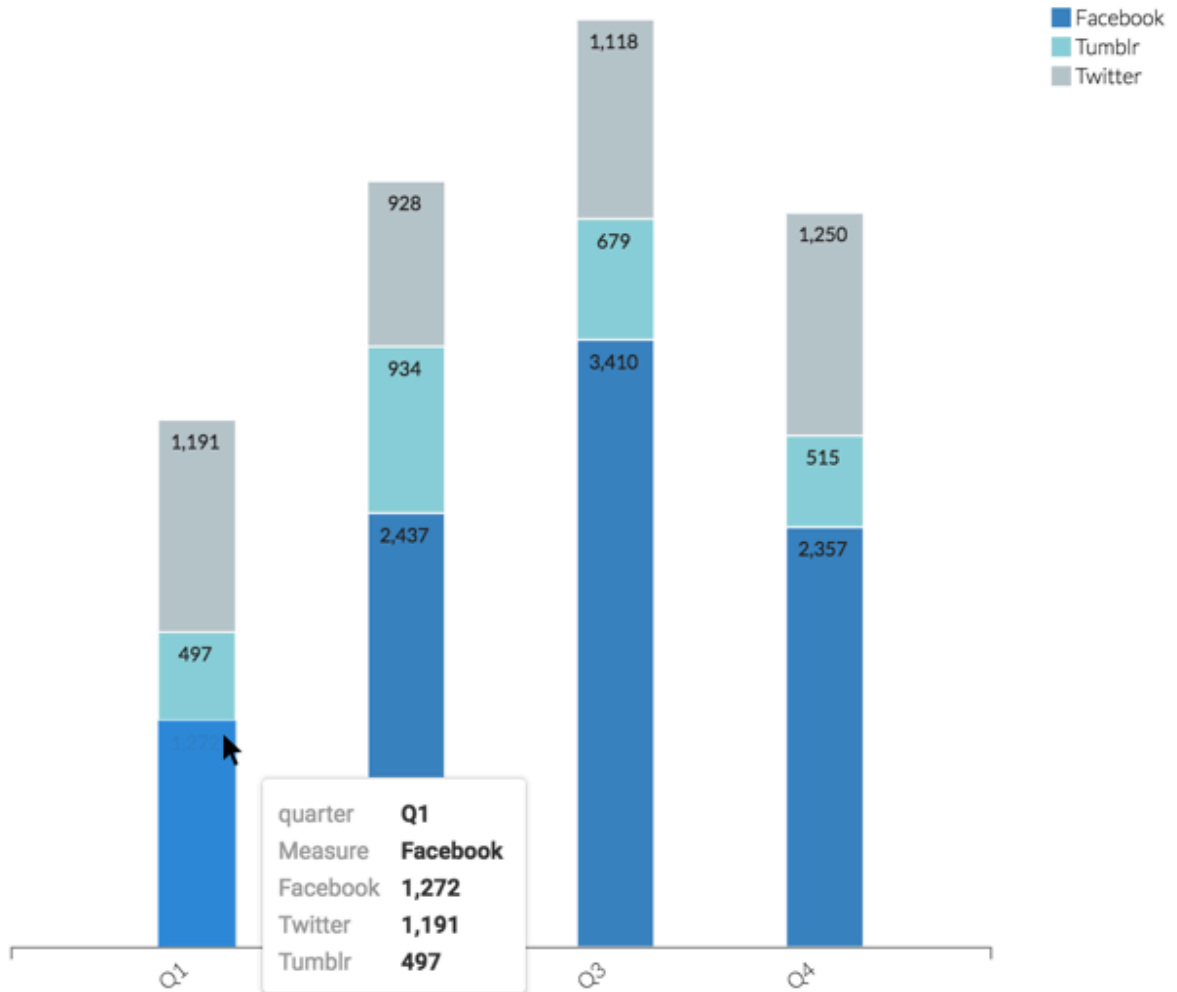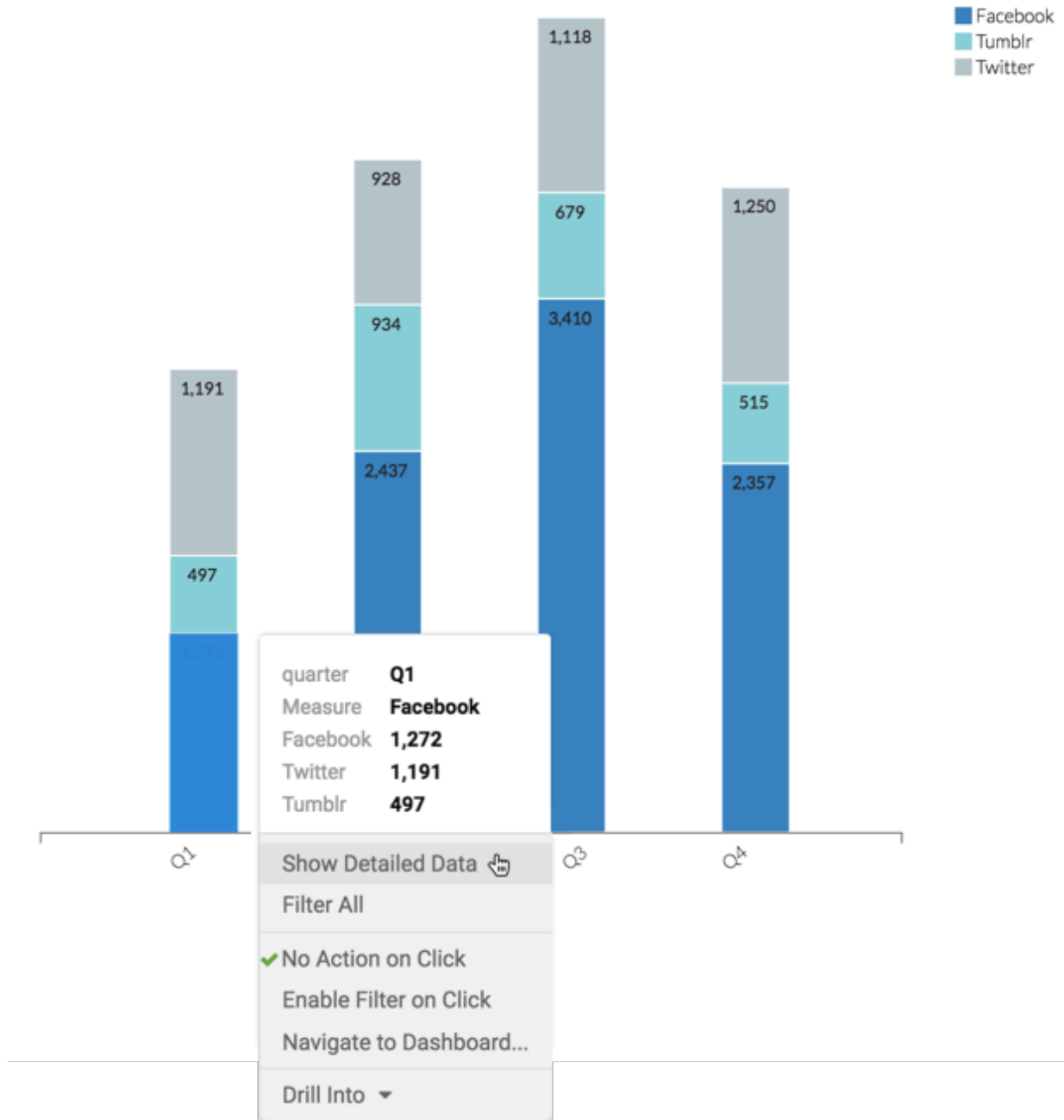

Before you begin

To use this option, you must first enable it, as described in Showing detail data button in context menu.

Procedure

1. Hover over the Facebook portion of the Q1 bar, and examine the totals that appear on the tooltip.

2. Click the element to see the context menu, and select Show Detailed Data option.

The Detail Data modal window appears. It has two tabs:

- The Data tab shows the raw data that makes up the clicked visual element, as well as all applicable filters.
- The Queries tab shows the SQL queries used to create the visual.

3. Click Download to save the data as a *.csv file locally.

4. After examining the data, click Done to close the modal window.

Filter data using the include option in the context menu

You can click on a mark of a visual and include selected values in the filter shelf of the visual designer.

About this task

The Include option is enabled by default in all visual types except Table and Queries visual types.

Follow these steps to include selected values in a visual.

Procedure

1. For Table and Queries visual types, in Edit mode, navigate to the Marks menu, and select the Show Context Menu.

2. Click any mark of the visual to open the tooltip and the context menu.

3. In the context menu that appears, click Include. Here, we are selecting the line for Africa, in year 1985.

These values are added in the filter shelf of the visual designer.

4. Click REFRESH VISUAL.

After applying the Include filter, the following image only shows the average life expectancy in Africa in year 1985.

Filter data using the exclude option in the context menu

You can click on a mark of a visual and add an expression in the filter shelf of the visual designer to exclude selected values in a visual.
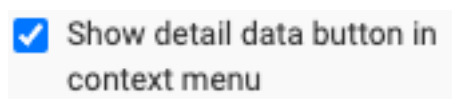
About this task

The Exclude option is enabled by default in all visual types except Table and Queries visual types.

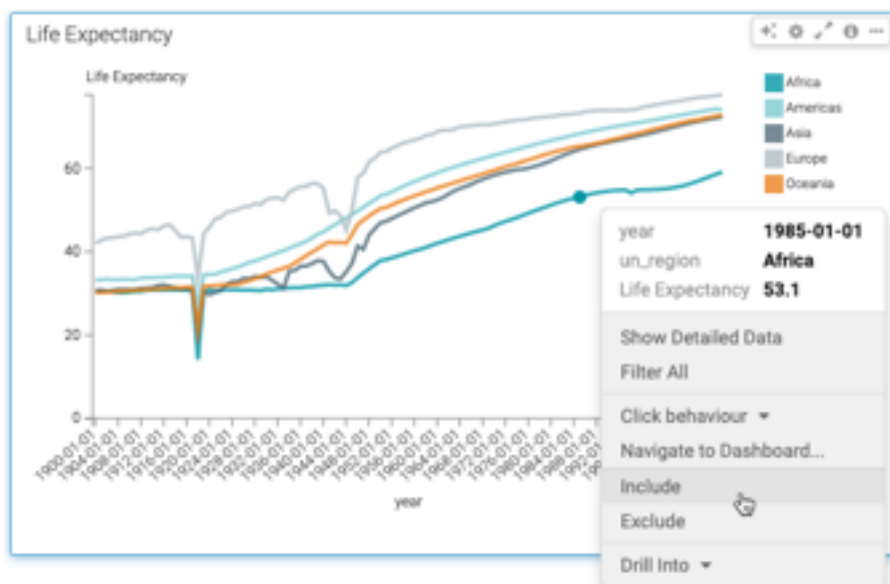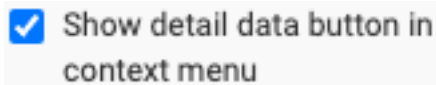Follow these steps to exclude selected values in a visual.

Procedure

1. For Table and Queries visual types, in Edit mode, navigate to the Marks menu and select the Show Context Menu.

   ✅ Show detail data button in
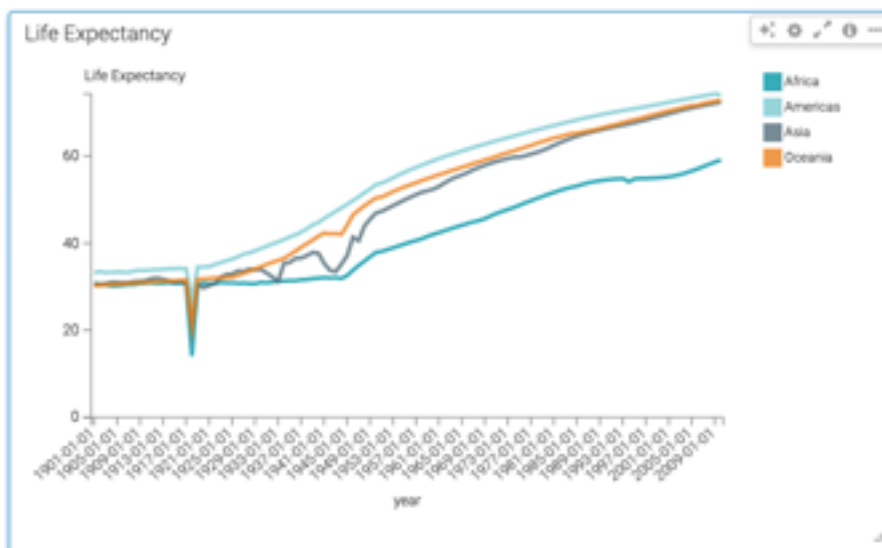   context menu

2. Click any mark of the visual to open the tooltip and the context menu.

3. In the context menu that appears, click Exclude.

   The selected values appear in the filter shelf of the visual, excluding year not in (1900) and un_region not in ('Europe').
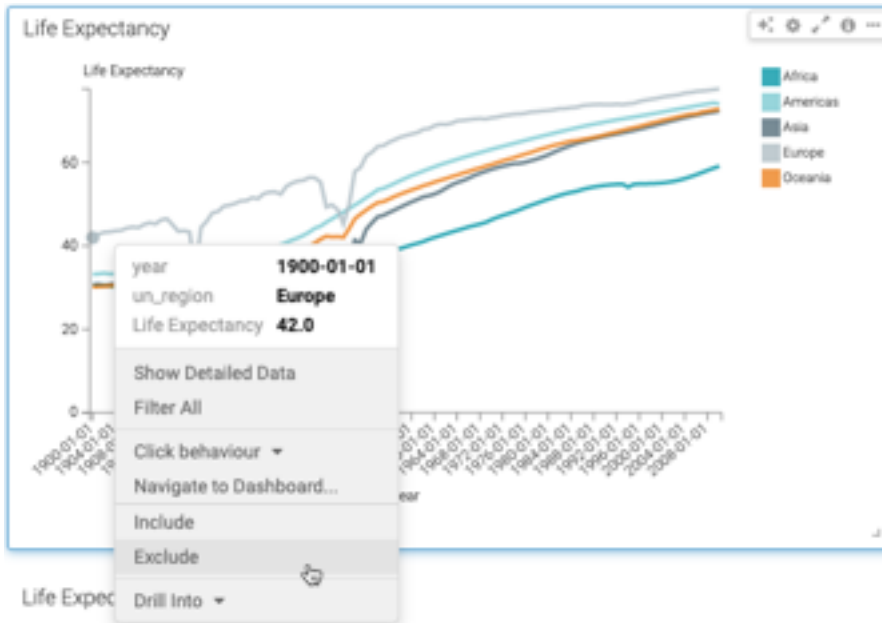
4. After applying the exclude filter, notice that the visual removes the information for year 1900 and region Europe.

Filtering data using legends

With large datasets, a visual may become very crowded, making it hard to understand what graphical elements represent. In Cloudera Data Visualization, you can easily filter on a particular element in the legend.

About this task

Cloudera Data Visualization legends are interactive. In View mode, you can easily find an element, by either hovering over an element, or by clicking to filter on a particular element.

In dashboard Edit mode, you can filter on a particular element in the legend. You can also test the behavior of the filter before viewing the filter results in View mode.

The following procedure shows you how to filter a visual from a legend.

Procedure

1. Open an existing dashboard in Edit mode.

   In this example, the Cereal Manufacture Code dashboard with the Enable Filter on Click visual is used.

2. Make sure that the visual displays the legend.

3. Switch to the Filters tab and create a custom filter in the filter area of the application.

   In the below example the manufacture code filter has been added. The manufacture code is currently filtering on the letter K.

4. Hover over option G in the legend and right click to open a dropdown menu.

   Enable Filter on Click is selected by default.

5. Click Test Click Behavior to verify if click behaviour is working on the filter.

The manufacture code filter changes to letter G.
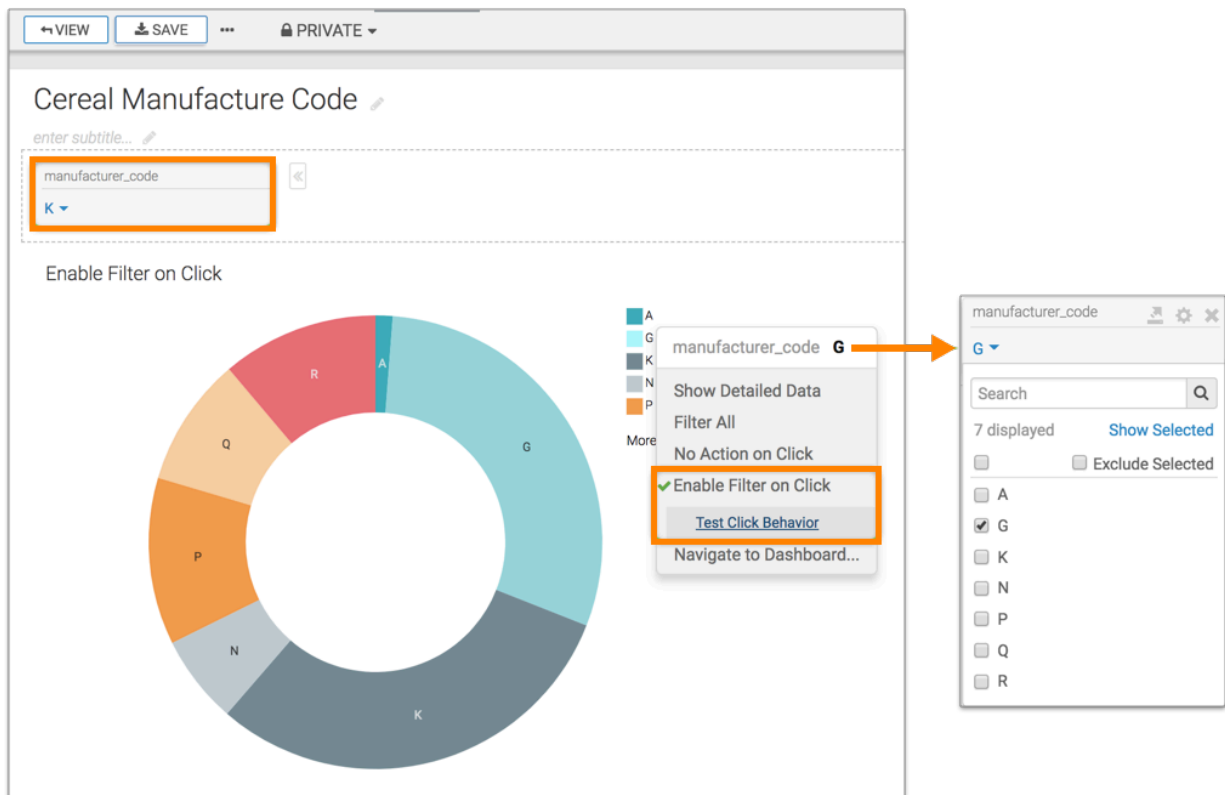
6. Click VIEW to see Enable Filter on Click behavior on one of the legend options.

The visual is now filtered on manufacture code G.