Cloudera Data Visualization 7.2.4

Receiving Parameters in Dashboards

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CLOUDERA

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1. Open a new dashboard.
2. Click New Visual.
3. Select the World Life Expectancy dataset in the Data menu.
4. Select the Table visual type in the Visuals menu.
5. Populate the shelves of the visual:

   - From Dimension, select and move un_region and un_subregion fields onto the Dimension shelf.
   - From Measures, select and move population field onto the Measures shelf.
   - From Dimensions, select and move year field onto the Filters shelf.
   - On the Filters shelf, select year field, choose Pick values from a list, select 2000, and click SAVE.

6. From Dimensions, select and move the country field to the Dimension shelf.
7. On the Dimensions shelf, click country field.

8. In the FIELD PROPERTIES menu, select [ ] Enter/Edit Expression.

9. In the Enter/Edit Expression modal window, change the text to the following expression: [<<dim:>>]

10. Click VALIDATE & SAVE.

11. Click REFRESH VISUAL.

12. Change the name of the visual to Regional Populations.

13. Click SAVE.

Creating filters to control optional dimensions

Before you begin

Before starting this work flow, complete the steps in Creating visuals with optional dimensions on page 4.

Procedure

1. In the dashboard, click the Filters tab.
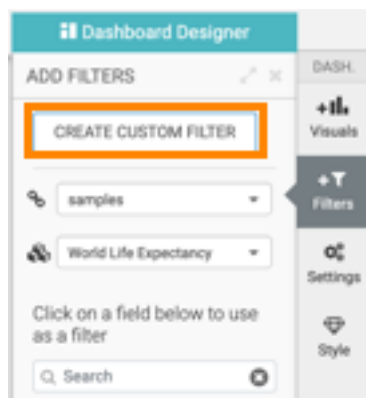
2. Click CREATE CUSTOM FILTER.

This creates a new filter in the filter area of the application, and opens the Settings modal window for that filter.

3. Click the Values tab and enter the following:

- Under Title, enter Display Country Details.
- Under Output Parameter, enter dim. Note that this is the parameter from Creating visuals with optional dimensions on page 4.
- Under Specified values, enter Value: country, and Label: Country.

4. Switch to the Display Settings tab, select Allow only one item to be selected at a time and then select Include an option for 'All'.

5. Click APPLY.

6. Name and save the dashboard.

7. Switch to dashboard View mode and select World Regional Populations.

8. In the Display Country Details filter, select Country.

Results

The table now has a new column, country.

Creating visuals with optional measures

About this task

You may choose to duplicate the dashboard that you created earlier according to the instructions in Creating visuals with optional dimensions on page 4. In this case, open the visual, and jump to Step 6 in the following workflow.

Procedure

1. Open a new dashboard.
2. Click New Visual.
3. Select the World Life Expectancy dataset in the Data menu.
4. Select the Table visual type in the Visuals menu.
5. Populate the shelves of the visual:

   - From Dimension, select and move un_region and un_subregion fields to the Dimension shelf.
   - From Measures, select and move population field to the Measures shelf.
   - From Dimensions, select and move year field to the Filters shelf.
   - On the Filters shelf, select year field, choose Pick values from a list, select 2000, and click SAVE.

<table>
<tr><td>

enter title... ✎

enter subtitle... ✎

un_region	un_subregion	sum(population)
Africa	Eastern Africa	223,801,227
Africa	Middle Africa	89,349,833
Africa	Northern Africa	169,171,230
Africa	Southern Africa	51,441,854
Africa	Western Africa	219,135,570
Americas	Caribbean	29,386,764
Americas	Central America	135,554,671
Americas	Northern America	313,282,714
Americas	South America	314,774,534

</td><td>

VISUALS

▦ Table

Dimensions

A un_region ▸
A un_subregion ▸

Measures

sum(population) ▸

⬇ Filters

A year in (2000) ▸

Limit: 100

⟳ REFRESH VISUAL

</td></tr>
</table>

6. From Measures, select and move the life_expectancy field to the Measures shelf.
7. On the Measures shelf, click the life_expectancy field.

8. In the FIELD PROPERTIES menu, select [ ] Enter/Edit Expression.
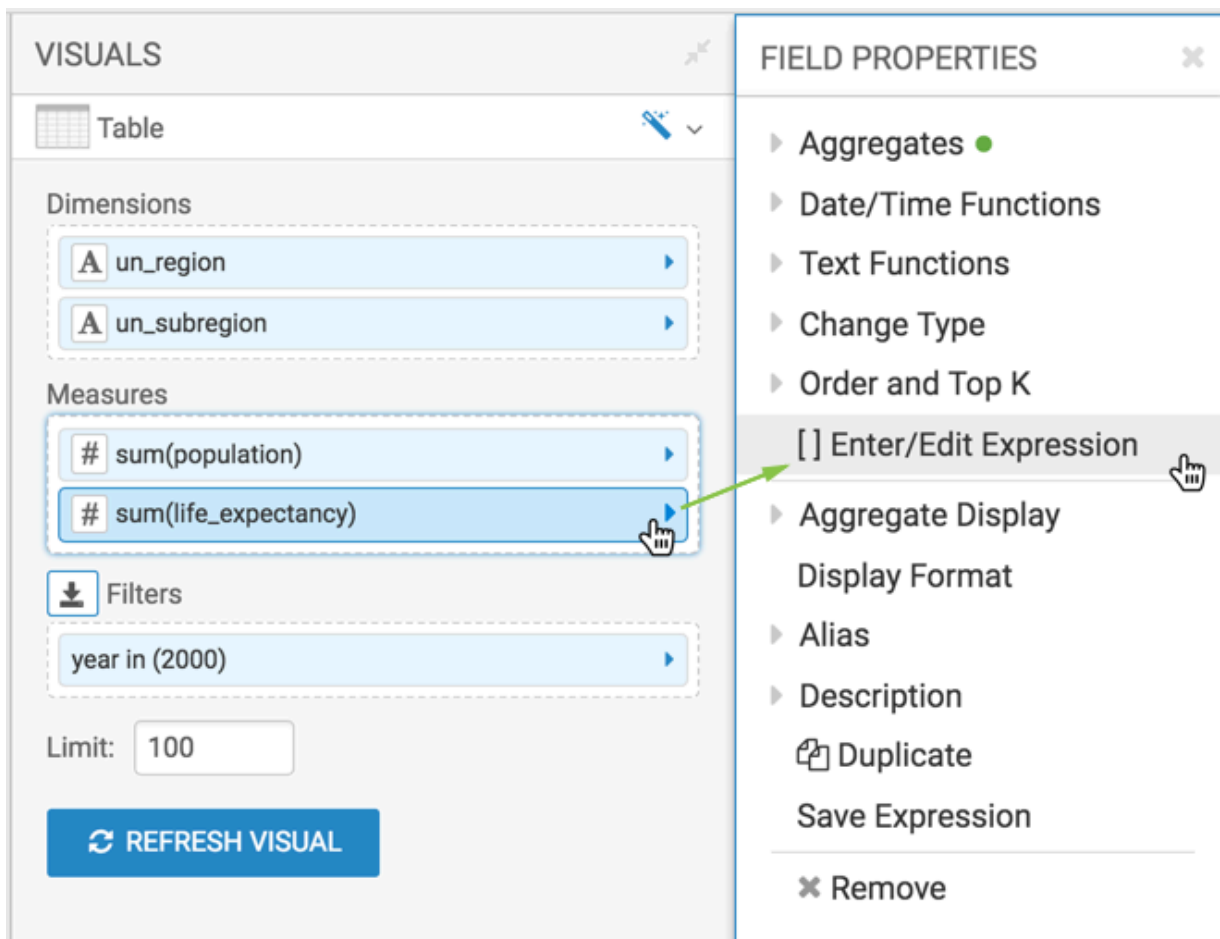
9. In the Enter/Edit Expression modal window, change the text to the following expression: [<<mes:>>].
10. Click VALIDATE & SAVE.
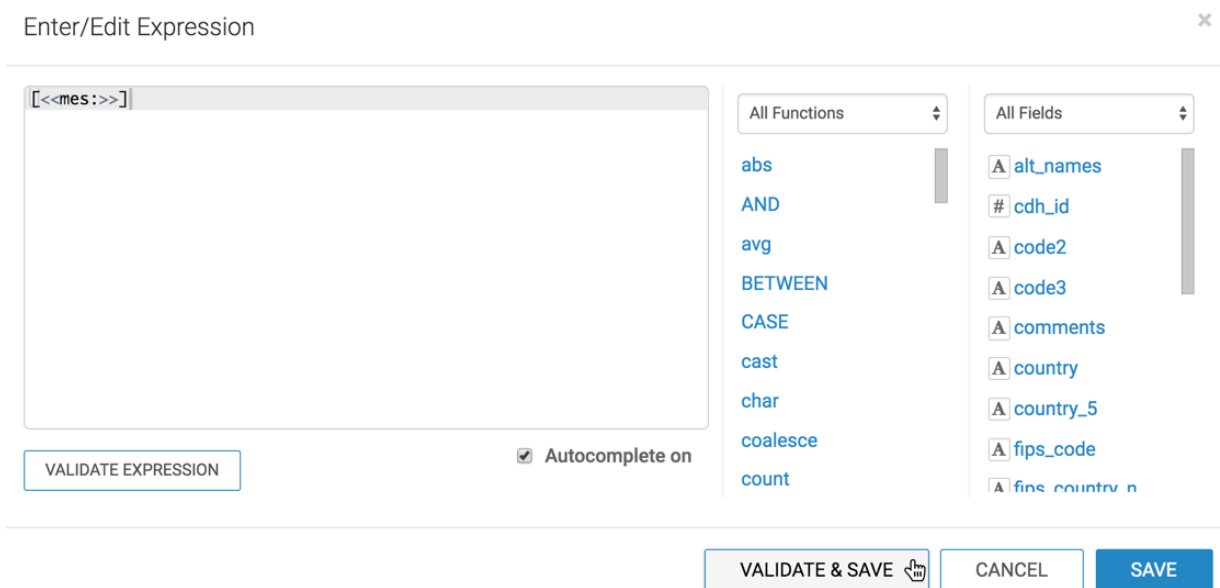
11. Click REFRESH VISUAL.
**12.** Change the name of the visual to Regional Populations.

13. Click SAVE.

Creating filters to control optional measures

Procedure

1. In the dashboard, click the Filters tab.

2. Click CREATE CUSTOM FILTER to create a second dashboard filter.
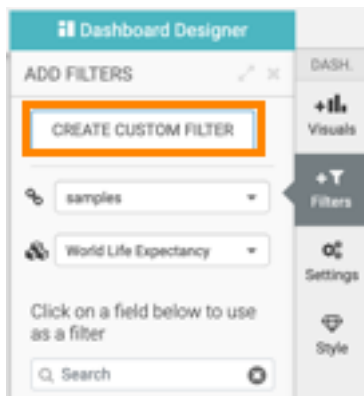
This creates a new filter in the filter area of the application, and opens the Settings modal window for that filter.

3. Click the Values tab and enter the following:

- Under Title, enter Display Measures.
- Under Output Parameter, enter mes. Note that this is the parameter from Creating visuals with optional measures on page 8.
- Under Specified values, enter the following two rows:
  - Value: life_expectancy, Label: Life Expectancy
  - Value: gdp_per_capita, Label: GDP per Capita

Settings   ✕

| Values | Data | Display Settings | Scope | Custom Style |

Title

| Display Measures |

Output Parameter

| mes |

Specified values

Value	Label	
life_expectancy	Life Expectancy	🗑
gdp_per_capita	GDP per Capita	🗑
Click to add a new row		

CANCEL   APPLY

4. In the Settings modal window, switch to the Display Settings tab.

5. Select Allow only one item to be selected at a time

6. Select Include an option for 'All'.

7. Click APPLY.

8. Name and save the dashboard.

9. Switch to application View mode and select World Regional Populations.

10. In the Display Country Details filter, select Country.

11. In the Display Measures filter, select Life Expectancy.
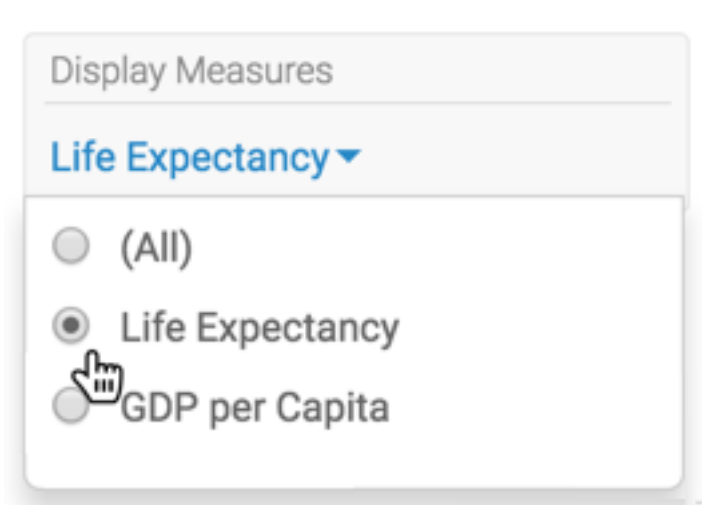
Note that the table now has a new column, life_expectancy.

12. To change the measure that appears in the visual, select GDP per Capita in the Display Measures filter.
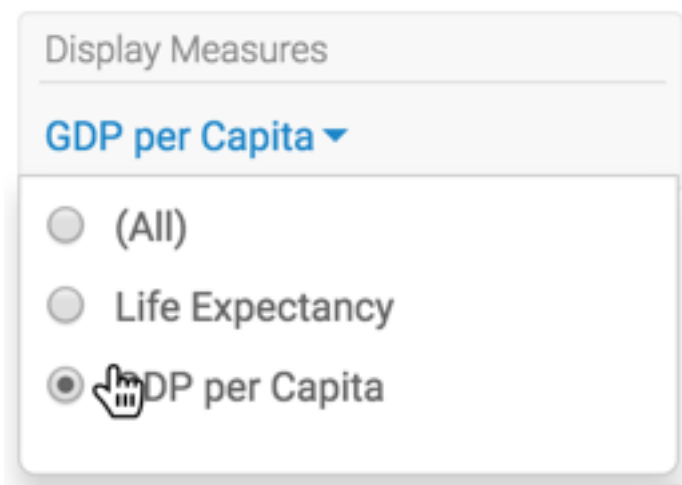
Note that the additional column is now titled gdp_per_capita, not life_expectancy.

To check the parameters of the dashboard, hover the pointer over the Filter icon at the top right corner. They are:

- dim: country
- dim.alias: Country
- mes: gdp_per_capita

You can scroll down to see the mes.alias: GDP per Capita parameter.

13. You can easily navigate between the permutations of filter outputs you create by using filter navigation controls at the top right corner.

Creating visuals with variable dimensions

Procedure

1. Open a new dashboard.

2. Click New Visual.

3. Select the US County Population dataset in the Data menu.

4. Select the Bar Chart visual type in the Visuals menu.

5. Populate the shelves of the visual:

- From Dimension, select and move Stname field to the X Axis shelf.
- From Measures, select and move Tot Pop field to the Y Axis shelf.
- On the Y Axis shelf, change the aggregation of the Tot Pop field from sum(Tot Pop) to avg(Tot Pop): select Tot Pop field, chose the Aggregates menu, and change the aggregate from Sum to Average.
- On the Y Axis shelf, click Tot Pop, and under the FIELD PROPERTIES menu select Order, and choose Ascending.

6. Click REFRESH VISUAL to see the basic set up of the bar chart.

7. On the X Axis shelf, click Stname field.

8. In the FIELD PROPERTIES menu, select [ ] Enter/Edit Expression.
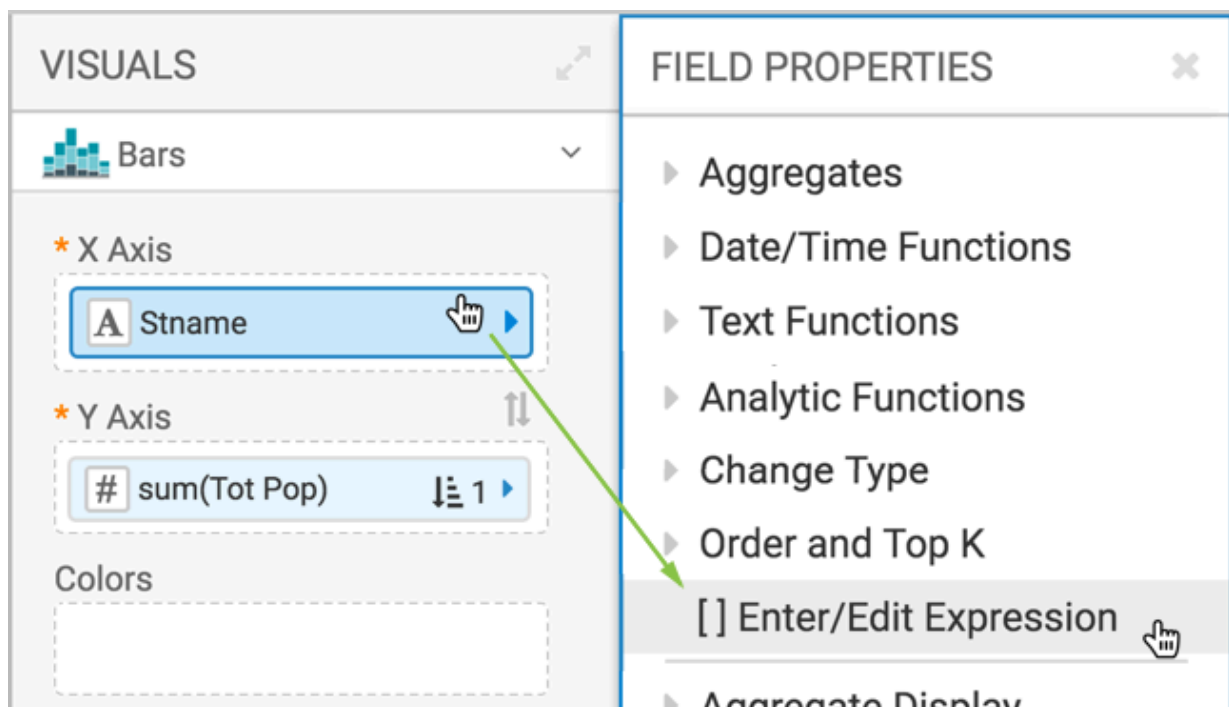
9. In the Enter/Edit Expression modal window, change the text to the following expression: <<dim:[Stname]>>.

10. Click VALIDATE & SAVE.

11. Change the name of the visual to Population by <<dim>>.

To have an informative title for the visual, you may add the parameter placeholders to it. The filter configured in Creating filters to control variable dimensions on page 15 supplies the required value.

12. Click SAVE.

Creating filters to control variable dimensions

Before you begin

Before starting this work flow, complete the steps in Creating visuals with variable dimensions on page 12.

Procedure

1. In the dashboard, click the Filters tab.
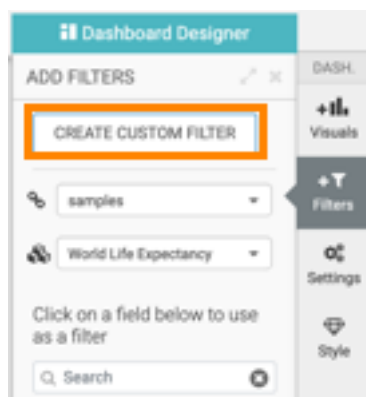
2. Click CREATE CUSTOM FILTER.

This creates a new filter in the filter area of the application, and opens the Settings modal window for that filter.

3. Switch to the Values tab and enter the following:

- Under Title, enter Dimension Level.
- Under Output Parameter, enter dim. Note that this is the parameter from Creating visuals with variable dimensions on page 12.
- Under Specified values, enter the following two rows:
    - Value: stname, Label: State
    - Value: ctyname, Label: County

Settings   ✕

| Values | Data | Display Settings | Scope | Custom Style |

Title

| Dimension Level |

Output Parameter

| dim |

Specified values

Value	Label	
Stname	State	🗑
Ctyname	County	🗑
Click to add a new row		

CANCEL   APPLY

4. Switch to the Display Settings tab and select the Allow only one item to be selected option.

Settings   ✕

    Values   Data   **Display Settings**   Scope   Custom Style

☐ Display a textbox parameter ⓘ

Width of this filter (in px)

☐ Allow the user to add values to the filter ⓘ

☑ Allow only one item to be selected at a time

    ☐ Select values from a dropdown menu ⓘ

    ☐ Include an option for 'All'

☐ Emit distinct parameters for each selected item

☐ Hide filter if no input data ⓘ

☑ Remember previous selections when searching ⓘ

☐ Apply all changes to a multi-select list at the same time ⓘ

                                   CANCEL   **APPLY**

5. Click APPLY.

6. Name and save the dashboard.
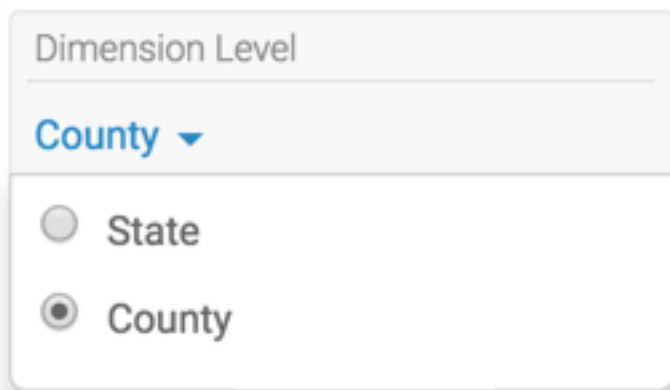
7. Switch to application View mode.

Note that the default choice, Stname, displays both on the horizontal axis, and in the title of the visual.

To check the parameters of the dashboard, hover the pointer over the Filter icon at the top right corner. They are dim: Stname and dim.alias: State.

8. In the Dimension Level filter, select County.

Dimension Level

County ▾

  ◯ State

  ◉ County

Note that now the title of the graph and the axis changed to use Ctyname.

You may also notice that your graph does not appear to have any bars. In this particular dataset, there are large differences among populations of various counties; a great majority has populations under one million, and a select few represent urban areas with extremely dense population.

In the application, scroll to the extreme right of the visual to see the graph.

If you want to check the status of parameters on this dashboard, hover the pointer over the Filter icon at the top right corner, and notice that they changed to dim: Ctyname and dim.alias: County.
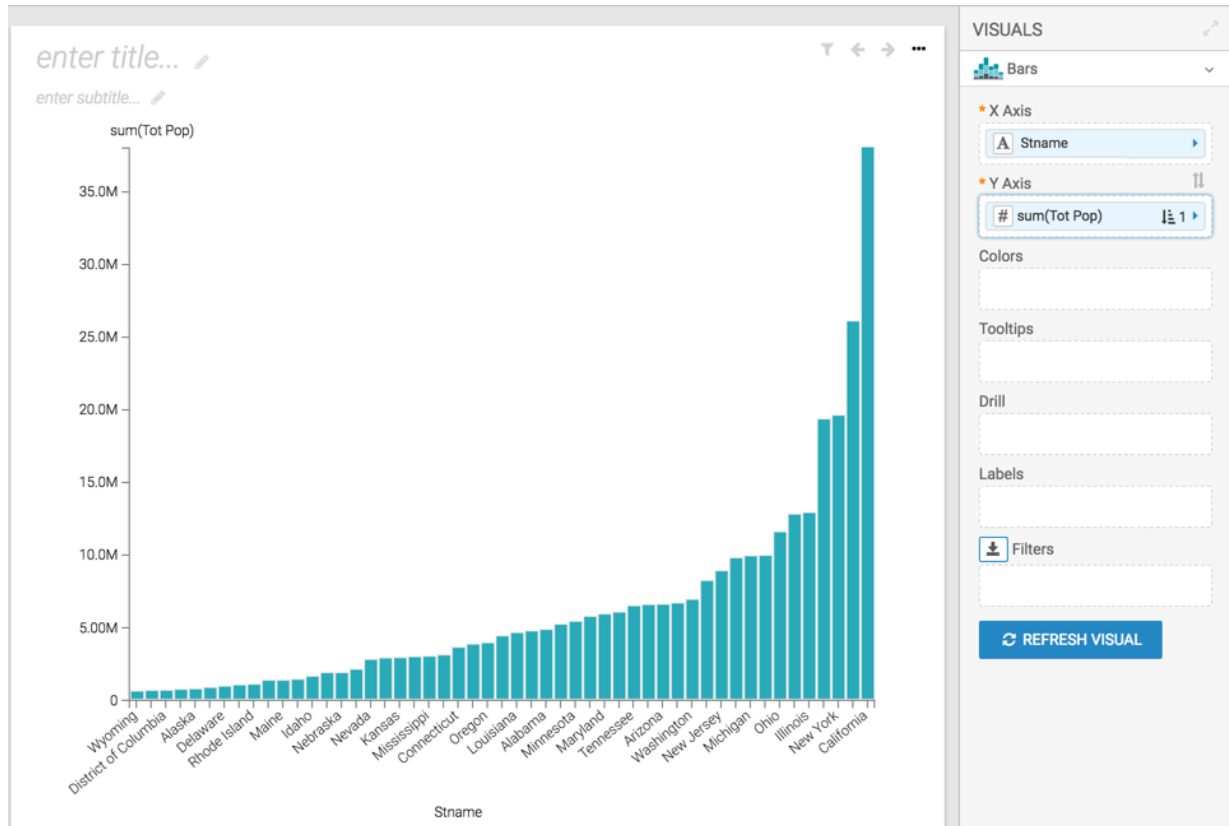
Creating visuals with variable measures

About this task

You may choose to duplicate the dashboard that you created earlier according to the instructions in Creating visuals with variable dimensions on page 12. In this case, open the visual, and jump to Step 7 in this workflow.

Procedure

1. In the dashboard, click New Visual.

2. Select the US County Population dataset in the Data menu.

3. Select the Bar Chart visual type.n the Visuals menu

4. Populate the shelves of the visual:

   - From Dimension, select and move Stname field to the X Axis shelf.
   - From Measures, select and move Tot Pop field to the Y Axis shelf.
   - On the Y Axis shelf, change the aggregation of the Tot Pop field from sum(Tot Pop) to avg(Tot Pop): select Tot Pop field, chose the Aggregates menu, and change the aggregate from Sum to Average.
   - On the Y Axis shelf, click Tot Pop, and under the FIELD PROPERTIES menu select Order, and choose Ascending.

5. Click REFRESH VISUAL to see the basic set up of the bar chart.

6. On the Y Axis shelf, click the sum(Tot Pop) field.

7. In the FIELD PROPERTIES menu, select [ ] Enter/Edit Expression.
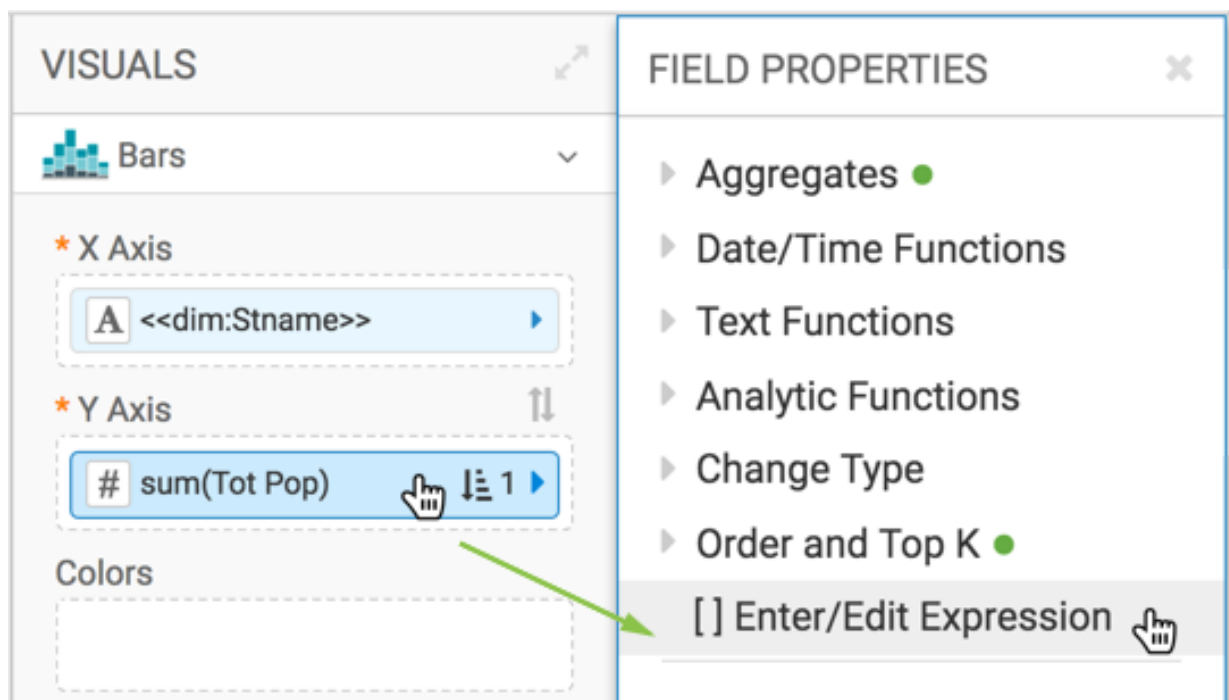
8. In the Enter/Edit Expression modal window, change the text to the following expression: <<agg:sum([Tot Pop])>>.

9. Click VALIDATE & SAVE.

10. Change the name of the visual to Population by <<dim>> and <<agg>>.

To have an informative title for the visual, you may add the parameter placeholders to it. The filters configured in Creating filters to control variable dimensions on page 15 and Creating filters to control variable measures on page 20 supply the required values for <<dim>> and <<agg>>.

11. Click SAVE.

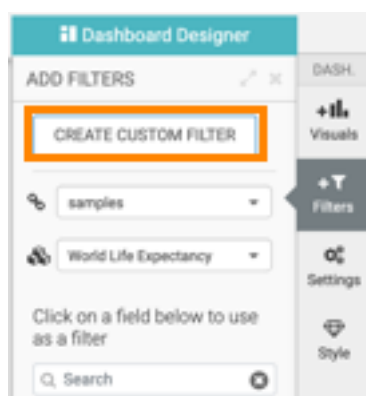# Creating filters to control variable measures

Before you begin
Before starting this work flow, complete the steps in Creating visuals with variable measures on page 18.

Procedure

1. In the dashboard, click the Filters tab.

2. Click CREATE CUSTOM FILTER.

3. This creates a new filter in the filter area of the application, and opens the Settings modal window for that filter.

4. Switch to Values tab and enter the following:

- Under Title, enter Population Type.
- Under Output Parameter, enter agg. Note that this is the parameter from Creating visuals with variable measures on page 18.
- Under Specified values, enter the following two rows:
  - Value: sum(tot_pop), Label: Total Population
  - Value: sum(tot_male), Label: Total Male Population
  - Value: sum(tot_female), Label: Total Female Population

Note that these are the original field names in the source table.

Settings ✕

| Values | Data | Display Settings | Scope | Custom Style |

Title

Population Type

Output Parameter

agg

Specified values

Value	Label	
sum(tot_pop)	Total Population	🗑
sum(tot_male)	Total Male Population	🗑
sum(tot_female)	Total Female Population	🗑
Click to add a new row		

CANCEL　　APPLY

5. Switch to the Display Settings tab and select the options Allow only one item to be selected at a time.

6. Click APPLY.

7. Save the dashboard.

8. Switch to dashboard View mode.

9. In the Population Type filter, select Total Female Population.
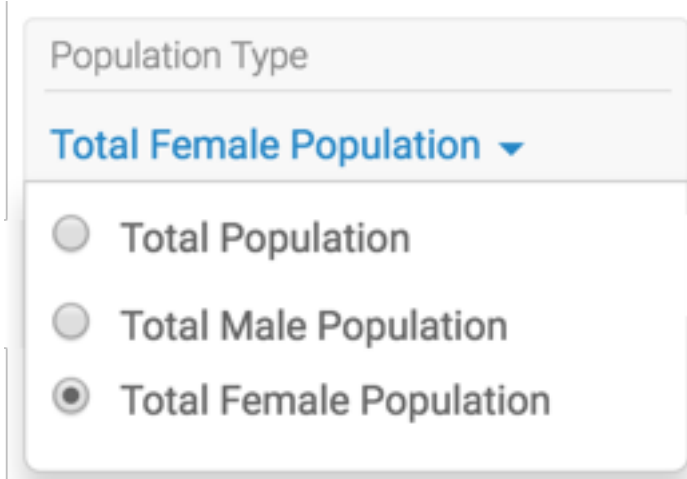
Note that the title of the graph and the vertical axis changed to include sum(tot_female).

10. To check the parameters of the dashboard, hover the pointer over the Filter icon at the top right corner.

They are agg: sum(tot_female), agg.alias: Total Female Population and dim: Stname. You can scroll down to see the dim.alias: State parameter.
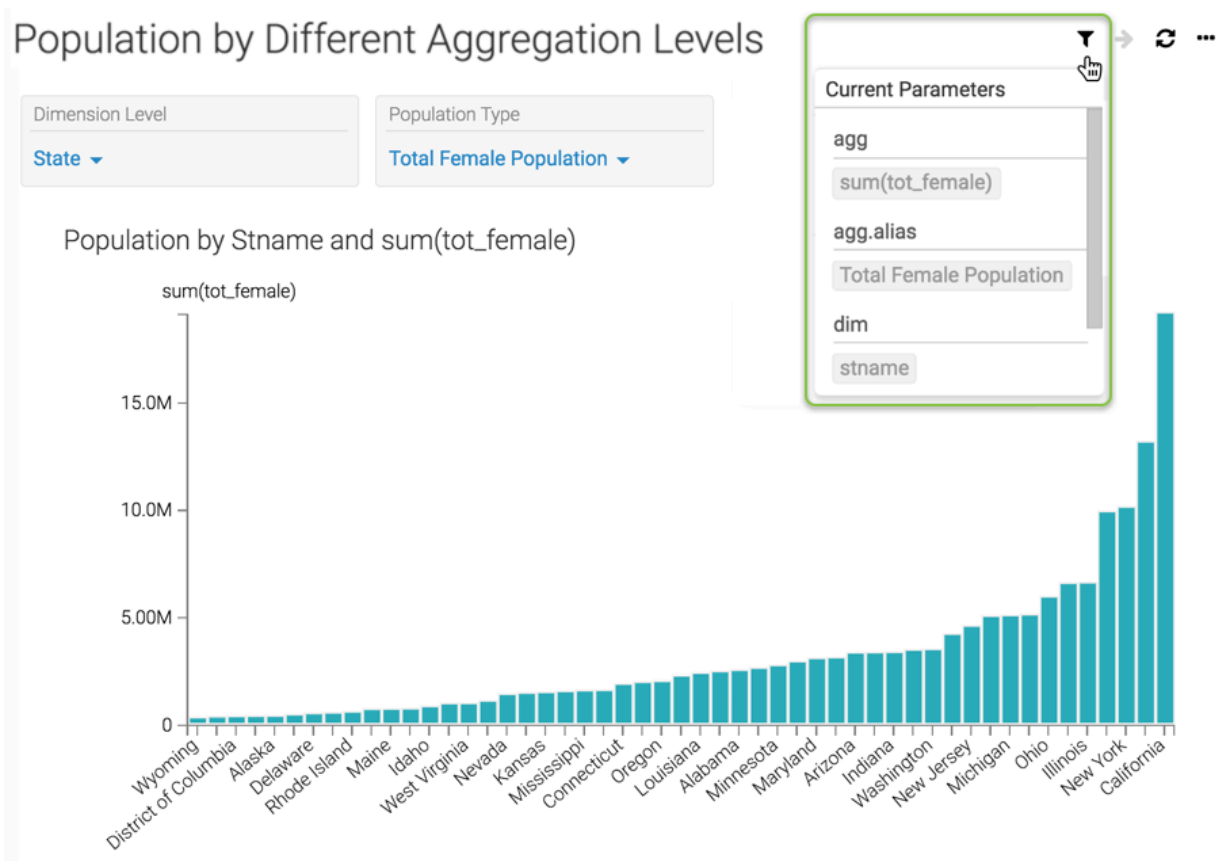
Results

You can now operate the two filters, Dimension Level and Population Type, independently.

You can also navigate between the permutations of filter outputs you create by using filter navigation controls at the top right corner.