



Hands-on Lab: Advanced Dashboard Capabilities in Cognos Analytics

Estimated time needed: 45 minutes

Purpose of the Lab:

This lab focuses on enhancing skills in utilizing advanced features of IBM Cognos Analytics to create more dynamic and interactive dashboards. It delves into creating calculations, manipulating data points within visualizations, applying top/bottom settings on visualizations, and constructing navigation paths. Additionally, the lab provides hands-on experience in filtering data within a dashboard. The exercises are designed to provide a deeper understanding of how to leverage Cognos Analytics for more complex data analysis and visualization tasks, moving beyond basic dashboard creation.

Benefits of Learning the Lab:

Engaging in this lab offers several key benefits for those interested in data analytics and visualization. You will acquire practical skills in advanced dashboarding techniques, such as creating custom calculations, effectively filtering and manipulating data, and utilizing Cognos Analytics to its full potential for comprehensive data analysis. These skills are vital for professionals in data analysis, business intelligence, and decision-making roles, as they allow for more nuanced and insightful analysis of data. The ability to create interactive and detailed dashboards enhances one's capability to present data in a more engaging and informative manner. This knowledge is particularly beneficial for those seeking to improve their data presentation skills, making complex data more accessible and actionable for decision-makers. Overall, the lab provides a strong foundation in advanced data visualization techniques, making it a valuable learning experience for advancing one's career in the field of data analytics.

Software Used in this Lab

Like the videos in the course, for the hands-on labs, we will be using IBM Cognos Analytics trial version (currently limited to 30 days), as this is available at no charge.

Dataset Used in this Lab

The dataset used in this lab comes from the VM designed to showcase IBM Cognos Analytics. This dataset is published by IBM. You can download the dataset file directly from here: [CustomerLoyaltyProgram.csv](#)

Objectives

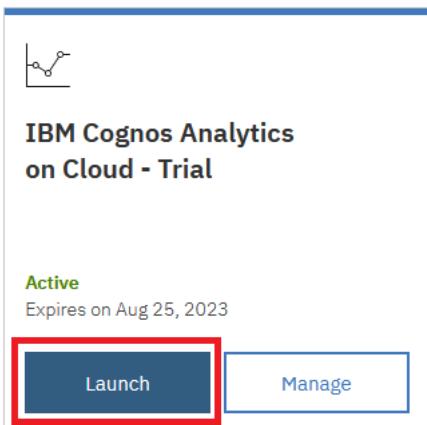
After completing this lab, you will be able to:

- Start a new dashboard
- Create calculations
- Keep/exclude data points from a visualization
- Set top/bottom on a visualization
- Create and leverage navigation paths
- Filter data in a dashboard

Exercise 1: Start a New Dashboard

In this exercise, you will start a new dashboard for working with advanced Cognos Analytics dashboard capabilities.

1. To sign in to the Cognos Analytics platform with your IBMID, go to [myibm.ibm.com/dashboard/](#).
2. Enter your IBMID and password.
3. Scroll down and click **Launch**.



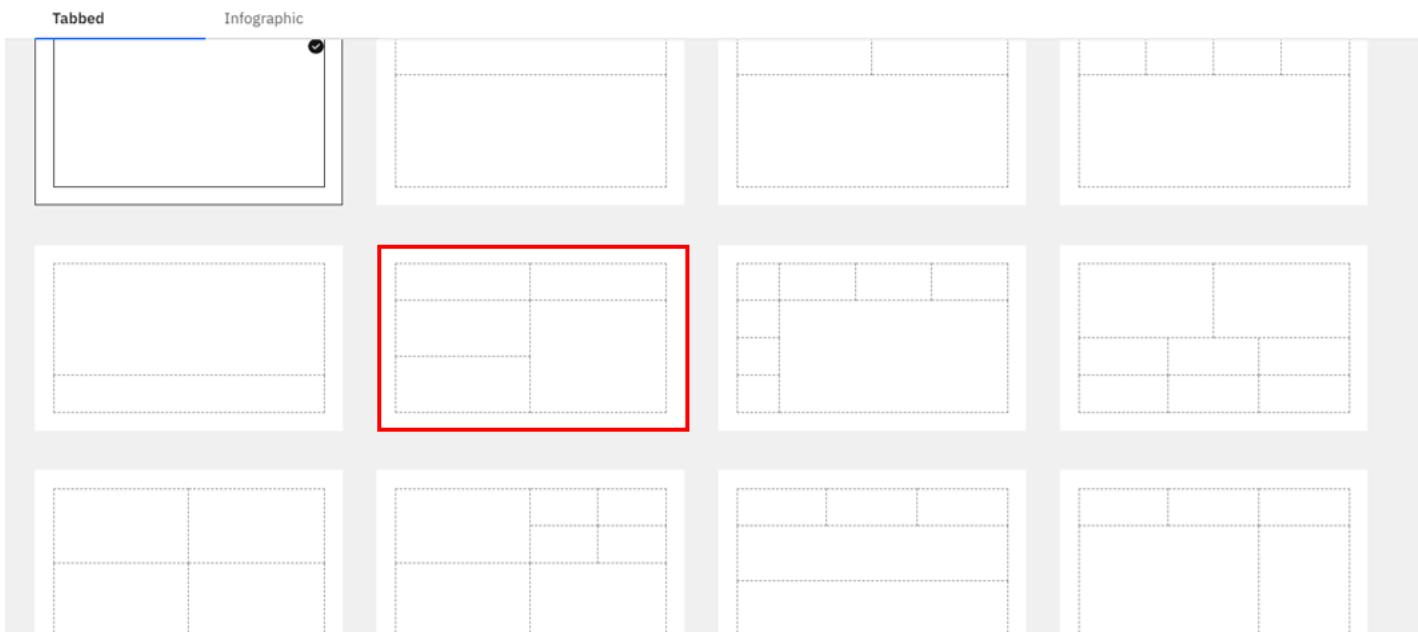
4. From the **Recent** section, click the uploaded data file **CustomerLoyaltyProgram.csv**.

A screenshot of the "Recent" section of the dashboard. It shows a list of recently uploaded files. One file, "CustomerLoyaltyProg...", is highlighted with a red box. Below it, the text "Last Modified 6/7/2021, 1:56 AM" and a "CSV" button with an upward arrow icon.

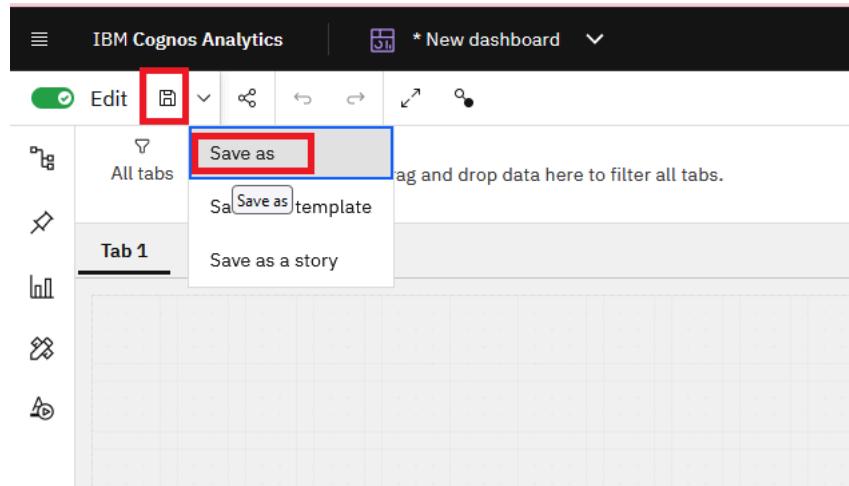
5. The template window will be displayed, allowing you to select the type of dashboard and the template style. Select the **Tabbed** dashboard style. Select the *five-panel template*, then click **Create**.

Create a dashboard

Select a template for your dashboard



6. To save the newly created dashboard, press **CTRL+S** or click the **Save** icon and then click **Save as**.



7. A new **Save as** window will pop up. Follow the steps as displayed below to save your dashboard as **Advanced Dashboard** in the **My content** section.

* New dashboard 29

Save as X

Name Advanced Dashboard Step 1 - Enter the name for the dashboard

Selected destination: My content My content Team content

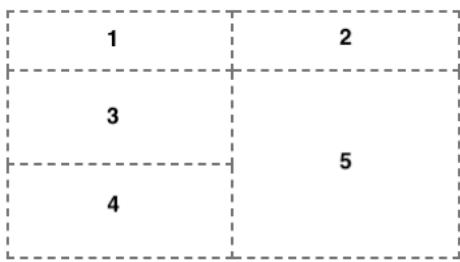
Step 2 - Select My content

Name	Type	Last Accessed
CLP_Dashboard	Dashboard	7/27/2023, 3:35 AM
CustomerLoyaltyProgram.csv CSV	Uploaded file	7/26/2023, 5:22 AM

Step 3 - Click on Save

Cancel Save

8. As you build the dashboard, the location placement for visualization widgets in the dashboard template will be referenced using the following Panel numbers.



9. From the **Navigation** panel, select **Sources** to ensure the data source panel is open in the left pane.

10. From the data source panel, select **Revenue** and drag it to the center of **Panel 1**, releasing it once you see the drop zone turn blue.

The screenshot shows the IBM Cognos Analytics interface. On the left, the navigation pane displays a tree view of data sources under "Selected sources / CustomerLoyaltyProgram.csv". A blue box highlights the "Revenue" node. The main workspace contains a summary chart titled "Tab 1" with a single data series labeled "Revenue". The chart has a blue border and a title bar with "Revenue".

11. Click the summary chart in Panel 1 to bring it into focus. From the on-demand toolbar that appears in the main toolbar, click **Summarize**, and then select **Average**.

The screenshot shows the same interface as above, but the main toolbar now includes an "on-demand toolbar" with various icons. The "Summarize" icon (represented by a red square with a white sigma symbol) is highlighted with a red box. A dropdown menu is open from this icon, showing options: "Average" (which is highlighted with a red box), "Sum", "Minimum", "Maximum", "Count", "Count distinct", and "Auto (Sum)" (which has a checkmark). The summary chart in Panel 1 remains visible in the background.

12. In the summary chart in Panel 1, select the title of the visualization and change it to *Average Revenue*.

13. From the **Navigation** panel, select **Widgets** to open the widgets panel. Drag and drop **Money coin** from **Shapes** to the center of Panel 1.

The screenshot shows the IBM Cognos Analytics interface. On the left, there's a navigation panel with various icons. In the center, a summary panel is displayed with the title "Average Revenue" and the value "2.71K". A large blue circle icon with a dollar sign (\$) is overlaid on the panel. A red arrow points to this icon, and it is also highlighted with a red border. The toolbar at the top includes standard options like Edit, Summary, and Analytics.

14. To save the current work in the dashboard, press **CTRL+S** or click **Save** in the toolbar.

15. Your Panel 1 visualization should look similar to the one below:

Average Revenue



Exercise 2: Working with Advanced Cognos Analytics dashboard capabilities

In this exercise, you will practice some advanced Cognos Analytics dashboard capabilities.

- Task A: Create calculations
- Task B: Keep/Exclude Data Points from a visualization
- Task C: Set Top/Bottom on a visualization
- Task D: Create and Leverage navigation paths
- Task E: Filter Data in the current tab

Task A: Create Calculations

1. From the **Navigation** panel, select **Sources** to open the data source panel if it is not already open. The data source panel displays the uploaded file **CustomerLoyaltyProgram.csv** as the selected source.
2. Right-click the **CustomerLoyaltyProgram.csv** data source and select **Calculation**.

The screenshot shows the IBM Cognos Analytics interface with the title bar "CustomerLoyaltyProgram.csv". On the left, there's a vertical toolbar with icons for Home, Search, Navigation paths, and other functions. The main area displays a tree view of "Navigation paths" with "CustomerLoyaltyProgram.csv" selected. A context menu is open at the bottom of this item, containing options like "New", "Calculation...", "Filter...", "Refresh members", and "Properties...". The "Calculation..." option is highlighted with a red box and has a cursor icon pointing to it.

3. Change the calculation name to **Margin**. From the **Components** panel, drag **Unit Sale Price** to the **Expression** field, type a space, then the minus sign, **-**, to the right of it, and then drag **Unit Cost** to the right of that. Click **OK**.

The screenshot shows the "Create calculation" dialog in IBM Cognos Analytics. The "Name" field is filled with "Margin". The "Components" panel on the left lists various analytical components. In the center, the "Expression" field contains the expression `L Unit Sale Price`. A red arrow points from the "Unit Sale Price" item in the Components list to its position in the Expression field.

Expression

1 Unit_Sale_Price - Unit_Cost

4. In the data source panel, expand CustomerLoyaltyProgram.csv if needed, and drag **Margin** to the center of **Panel 2**, releasing it once you see the drop zone turn blue.
5. Right-click the margin chart in Panel 2, point to **Summarize**, and then select **Average**.
6. From the data source panel, right-click on **Margin** and click **Format data**.

The screenshot shows the IBM Cognos Analytics interface. On the left, the 'Selected sources' pane lists 'CustomerLoyaltyProgram.csv' and its contents, including 'Margin'. A context menu is open over the 'Margin' item, with 'Format data...' highlighted. The main workspace shows a chart titled 'Average Revenue' with numerous circular data points. To the right, a large number '84.' is displayed with the text 'Margin' above it. A note '\$ = 100 Revenue' is shown near the chart. The top navigation bar includes tabs like 'Edit', 'Analytics', and 'Filter'.

7. In the **Format type** list, select **Currency**.

Column: Margin

Format type:

- Unformatted
- Currency
- Date
- Date/Time
- Time
- Time interval
- Custom

By default, this data is

You can select a different format type and specify its properties.

Reset properties

8. Select **\$ (USD) - United States of America, dollar** as the currency and click **OK** at the bottom.

Column: Margin

Format type:

- Currency
- Currency symbol
- Number of decimal places
- Use thousands separator
- Currency display
- Missing value characters

Currency

- Default
- lei (RON) - Romania, lei
- руб. (RUB) - Russia, ruble
- .﷼ (SAR) - Saudi Arabia, riyal
- kr (SEK) - Sweden, krona
- S\$ (SGD) - Singapore, dollar
- B (THB) - Thailand, baht
- TL (TRY) - Turkey, lira
- NT\$ (TWD) - Taiwan, dollar
- ₴ (UAH) - Ukraine, hryvnia
- \$ (USD) - United States of America, dollar
- Bs.F. (VEF) - Venezuela, bolívar fuerte
- đ (VND) - Việt Nam, đồng
- R (ZAR) - South Africa, rand

9. In the margin chart in Panel 2, select the title of the visualization and change it to *Average Margin*.

10. To save the current work in the dashboard, press **CTRL+S** or click **Save** in the main toolbar.

11. Your Panel 2 visualization should look similar to the one below:

Average Margin

\$84.36

Margin

Task B: Keep/Exclude Data Points from a Visualization

1. In the data source panel, expand CustomerLoyaltyProgram.csv if needed. Press the **CTRL** key and select **Revenue** and **Product Line** and drag them both to the center of **Panel 3**, releasing them once you see the drop zone turn blue.
2. From the data source panel, drag **Location Code** to the **Color** drop zone of **Panel 3**.

> Province or State

> City

Latitude

Longitude

> Postal code

> Gender

> Education

> Location Code

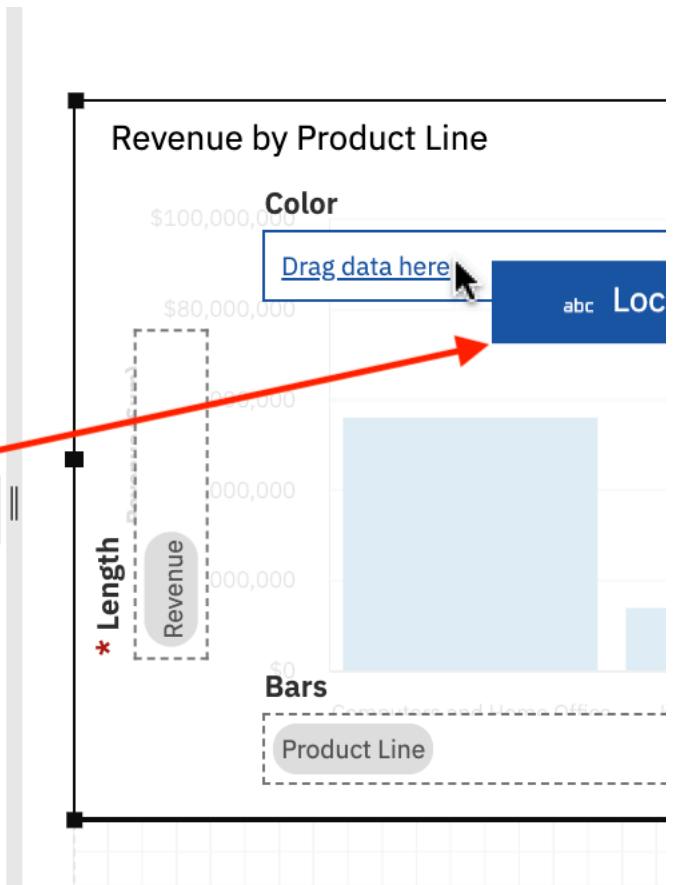
Income

> Marital Status

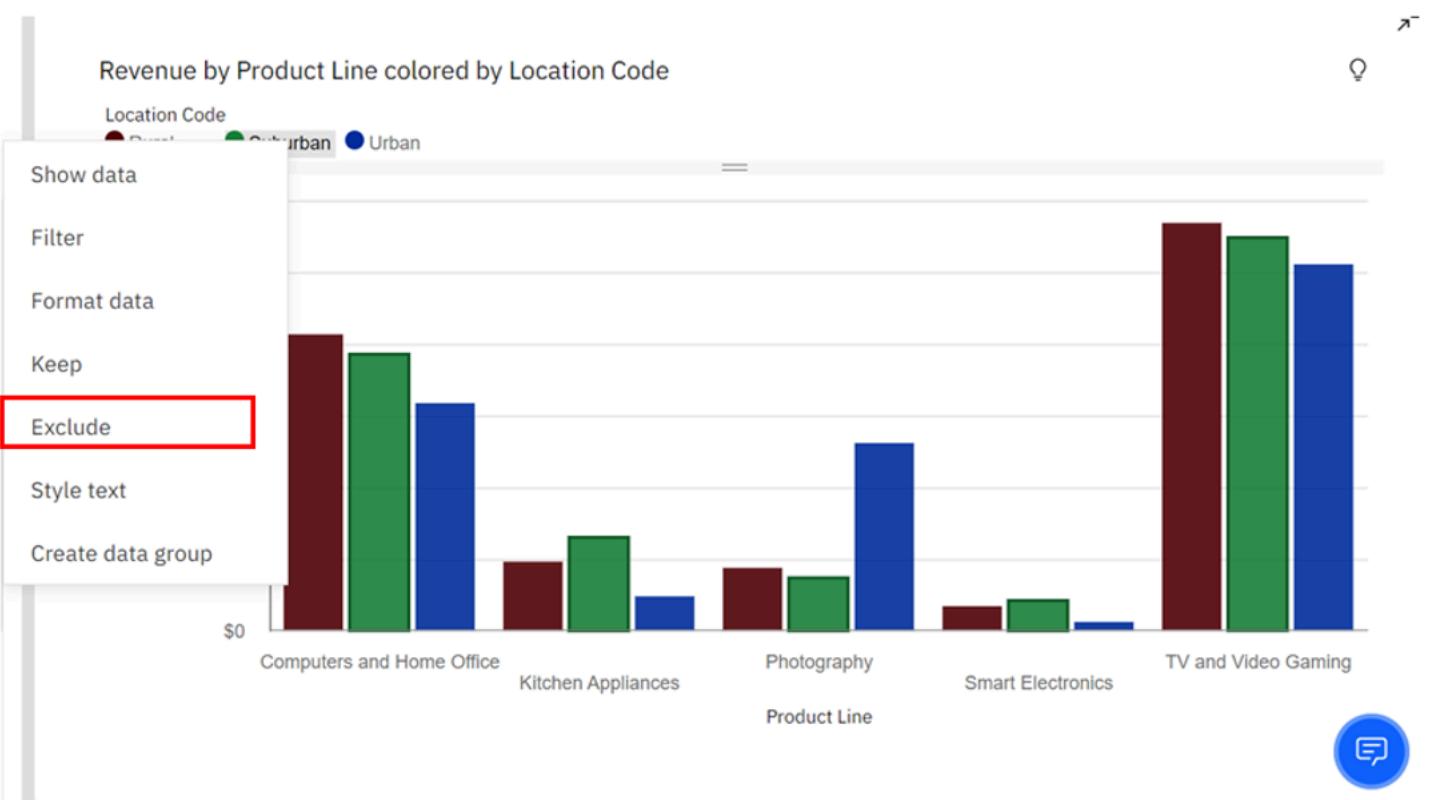
> Order Year

> Quarter

MonthsAsMember

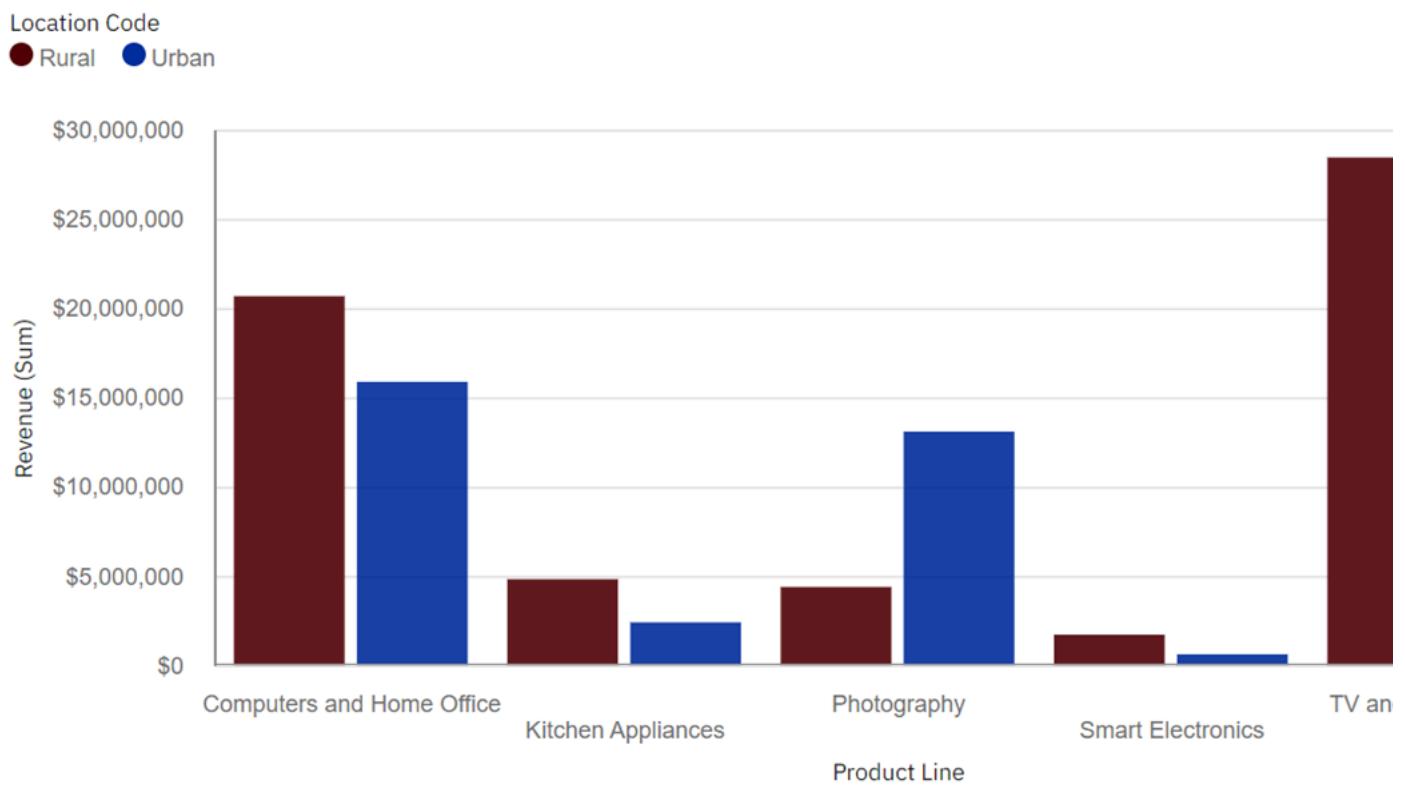


3. Right-click the **Suburban** data point in the Panel 3 visualization, and select **Exclude**.



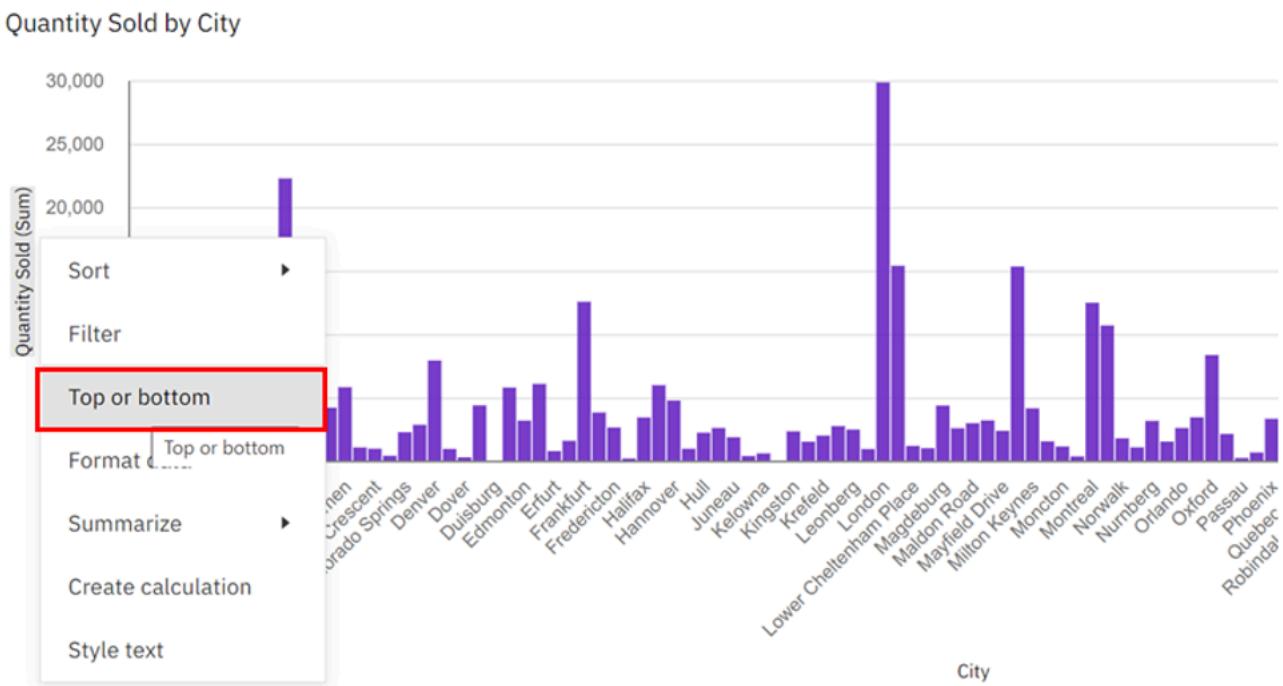
- To save the current work in the dashboard, press **CTRL+S** or click **Save** in the main toolbar.
- Your Panel 3 visualization should look similar to the one below:

Revenue by Product Line colored by Location Code



Task C: Set Top/Bottom on a Visualization

- From the data source panel, press the **CTRL** key and select **Quantity Sold** and **City**, and drag them both to the center of **Panel 4**, releasing them once you see the drop zone turn blue.
- Click the chart in Panel 4 to bring it into focus and render the on-demand toolbar.
- Click the **Change visualization** button in the on-demand toolbar (which will currently say **Map**), then expand **All visualizations**, if needed, and select **Column**.
- In Panel 4, right-click the axis label **Quantity Sold (Sum)** down the left side of the chart and select **Top or bottom**.



- Ensure the value of **Number of results** is set to **10**, then select **Top count**.

Top or bottom

Number of results 10

The value can be 1 - 100

Show

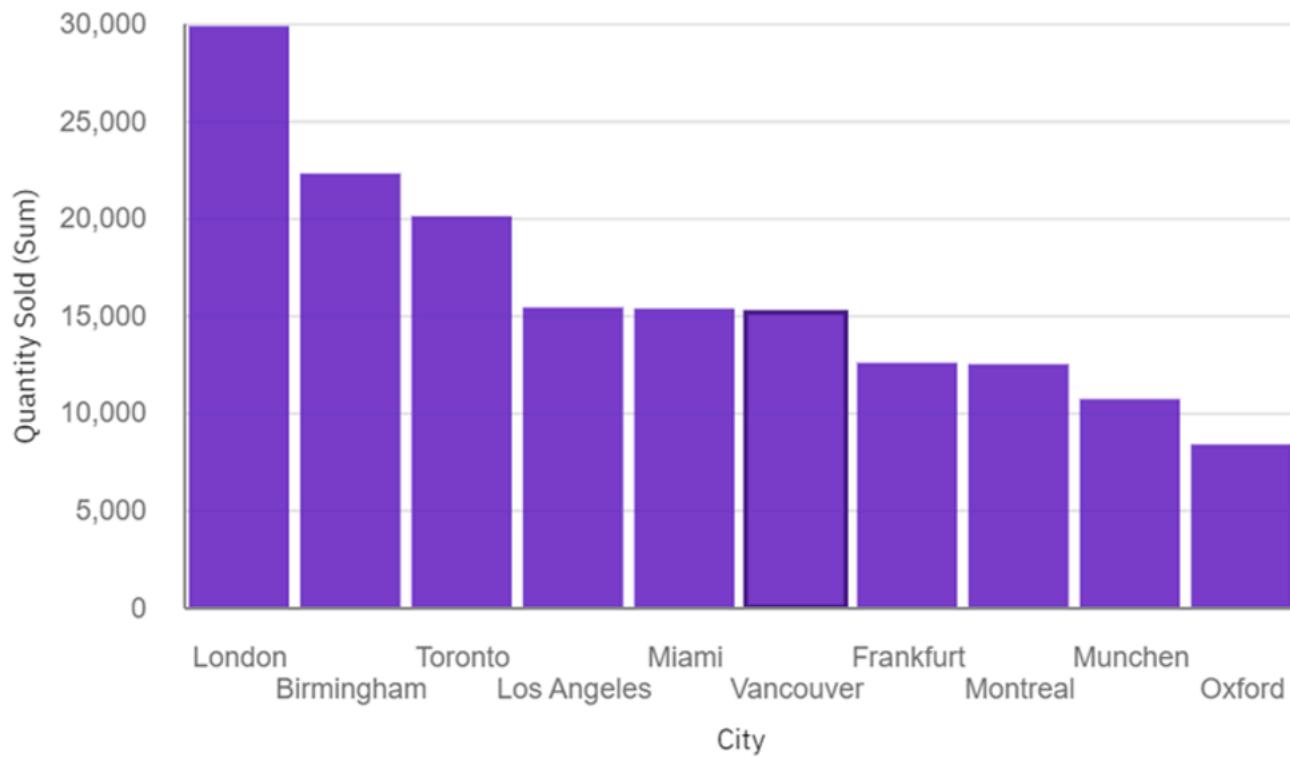
Top count

Bottom count

Clear

- In the column chart in Panel 4, select the title of the visualization and change it to *Top 10 Quantity Sold by City*.
- To save the current work in the dashboard, press **CTRL+S** or click **Save** in the main toolbar.
- Your Panel 4 visualization should look similar to the one below:

Quantity Sold by City



Task D: Create and leverage navigation paths

- In the data source panel on the left, scroll to the top of the list and click the plus sign labeled **Create navigation path** to the right of **Navigation paths**.

The screenshot shows the Power BI Data Source panel. On the left, there's a vertical sidebar with icons for Home, Back, Down, Search, Navigation paths, CustomerLoyaltyProgram.csv, Margin, Loyalty#, First Name, and Last Name. The 'CustomerLoyaltyProgram.csv' item is expanded, showing its fields: Margin, Loyalty#, First Name, and Last Name. To the right of the sidebar, the main area displays the 'Navigation paths' section, which is also expanded. A red box highlights the 'Create navigation path' button, which is a plus sign icon located to the right of the 'Navigation paths' title.

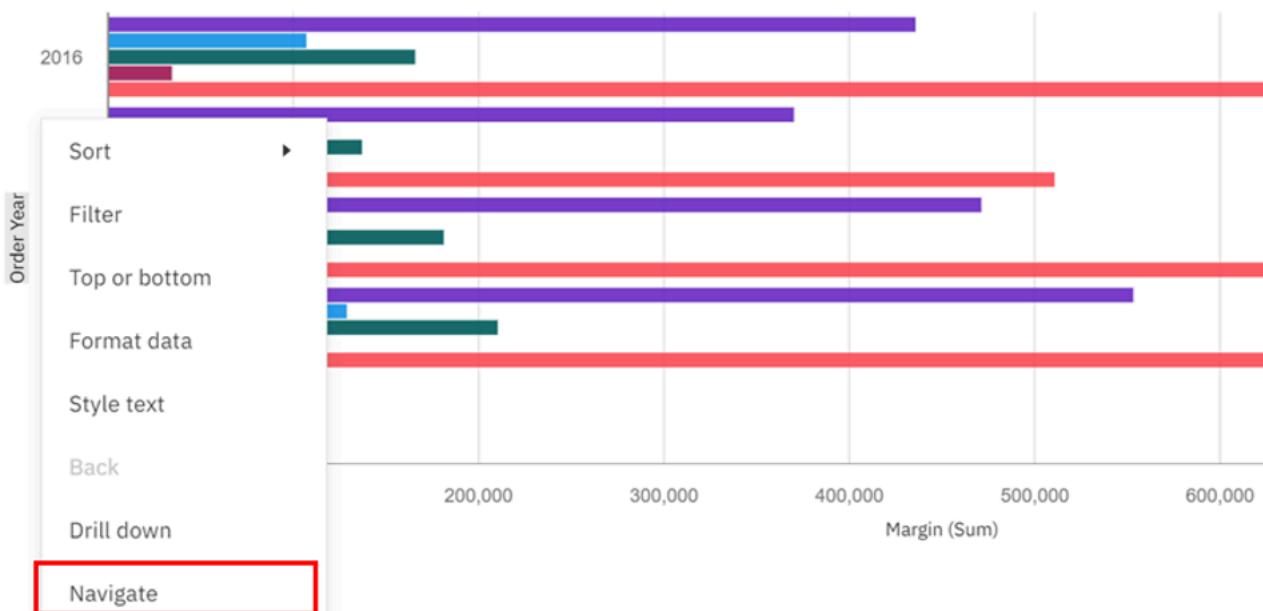
- In the **Create navigation path** dialog box, expand **CustomerLoyaltyProgram.csv**, if needed. Drag **Order Year**, **Quarter**, **Country**, and **City** sequentially to the right hand panel of the dialog box, maintaining the order (shown in the image below). Once done, click **OK**.

Create navigation path

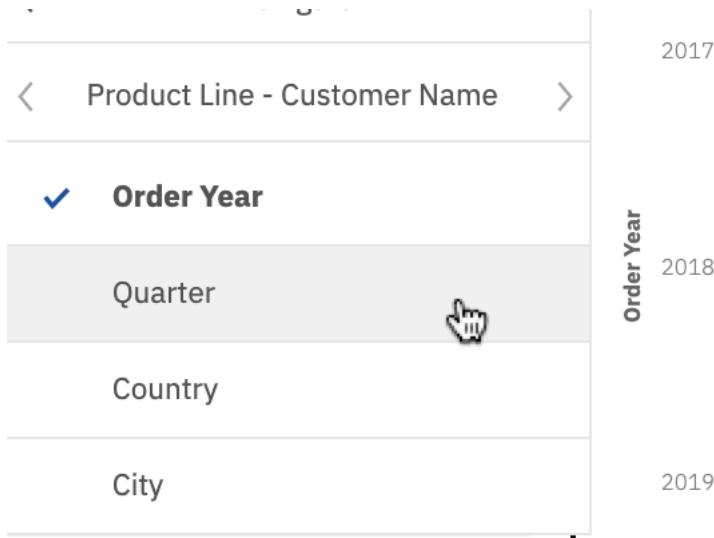
The screenshot shows the Tableau interface with the 'Create navigation path' dialog open. On the left, the Data Source panel displays a list of fields from the 'CustomerLoyaltyProgram.csv' file. On the right, the 'Select and order the columns to use in the navigation' panel allows users to choose which columns to include in the navigation path. The 'OK' button is visible at the bottom right.

Name	Order Year - City
Order Year	CustomerLoyaltyProgram.csv
Quarter	CustomerLoyaltyProgram.csv
Country	CustomerLoyaltyProgram.csv
City	CustomerLoyaltyProgram.csv

3. From the data source panel, press the **CTRL** key and select **Margin**, **Product Line**, and **Order Year** and drag them to the center of **Panel 5**, releasing them once you see the drop zone turn blue.
4. Click the line chart in Panel 5 to bring it into focus and render the on-demand toolbar.
5. Click the **Change visualization** button in the on-demand toolbar (which will currently say **Line**), then expand **All visualizations**, if needed, and select **Bar**.
6. In Panel 5, right-click the axis label **Order Year** down the left side of the chart, and select **Navigate**.

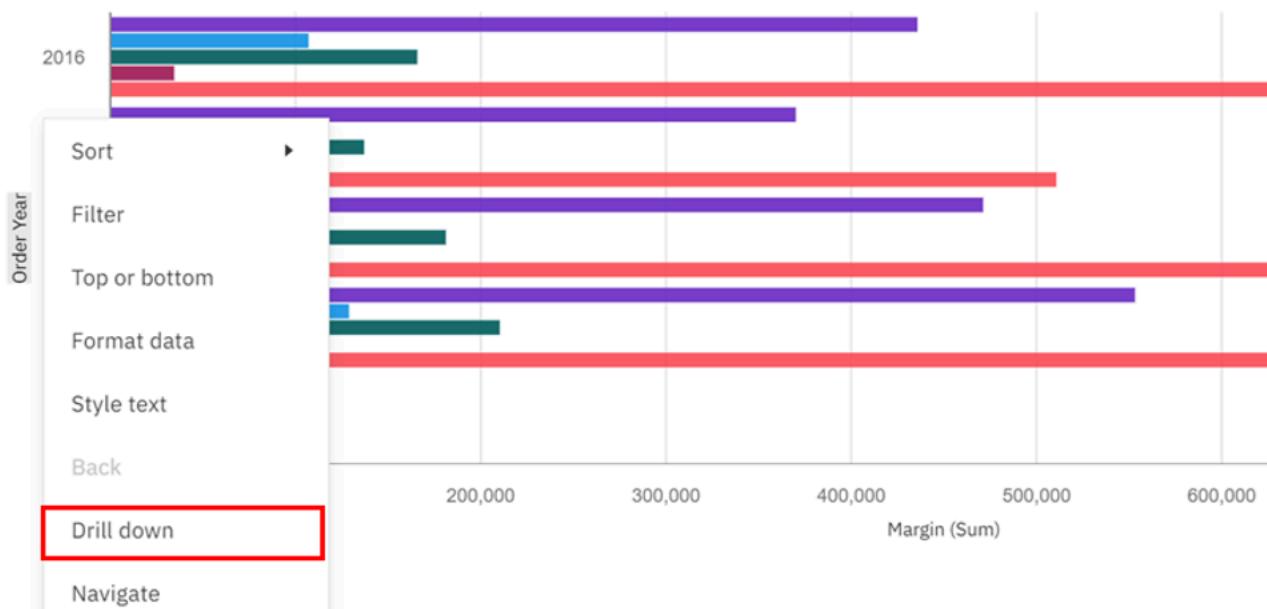


7. One by one, select the **Order Year**, **Quarter**, **Country**, and **City** options in the **Navigate** dialog box to view the different navigation paths and observe the resulting visualization in Panel 5 as you select each one. Lastly, keep the **Order Year** option selected.



8. Alternative interactive way with Drill down/back:

- o In the bar chart in Panel 5, right-click the **2016 - Smart Electronics** bar of the bar chart, and select **Drill down**.



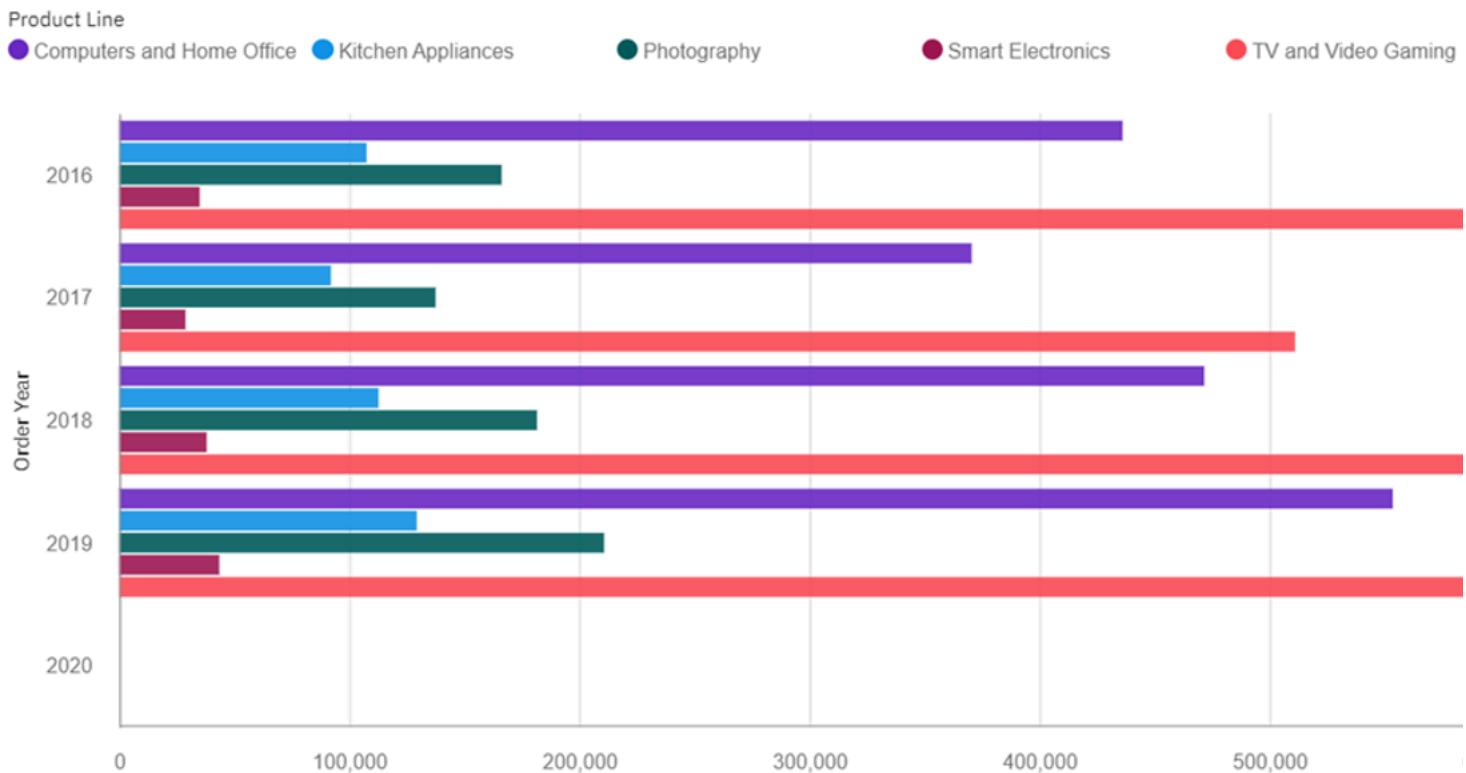
- Now right-click the **Q1 - Smart Electronics** bar of the bar chart, and select **Back**.



9. To save the current work in the dashboard, press **CTRL+S** or click **Save** in the main toolbar.

10. Your Panel 5 visualization should look similar to the one below:

Margin by Order Year colored by Product Line



Task E: Filter Data in the Current Tab

1. If required, click **Filters** in the **Dashboard Toolbar** to display the filters pane.
-



Drag and drop data here to filter all tabs.

2. From the data source panel, select **Product Line** and drag it to the **This tab** filter panel on the right hand side.
-



Drag and drop data here to filter this tab.

3. Click the **Product Line** filter tab of the **This tab** filter panel. Select **Computers and Home Office**, **Photography**, and **TV and Video Gaming**, then click **Done**.



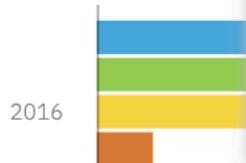
This tab

Average Margin

Margin by Order Year

Product Line

- Computers and Home Office
- Kitchen Appliances
- Photography
- Smart Electronics
- TV and Video Gaming



Product Line :

Product Line



Find

- Computers and Home Office
- Kitchen Appliances
- Photography
- Smart Electronics
- TV and Video Gaming

Clear all

Invert

OK

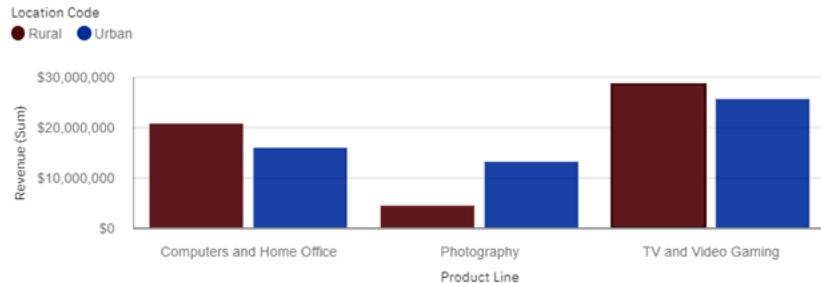
Cancel

Your final dashboard should look similar to the one below. To save the current work in the dashboard, press **CTRL+S** or click **Save** in the main toolbar.

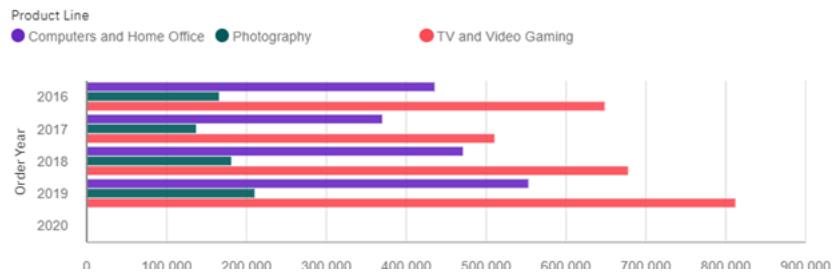
Revenue



Revenue by Product Line colored by Location Code



Margin by Order Year colored by Product Line



Feel free to change the appearance and layout of the dashboard you have just created.

Congratulations! You have completed this Lab

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