

(Optional): Creating Visualizations in Reports using Looker Studio

Welcome to this instructional reading on creating visualizations in reports using Google's Looker Studio.

This instructional reading is intended to give you the basic knowledge required to help you complete the hands-on labs and final assignment for Looker Studio if you decide to use this product instead of IBM Cognos Analytics

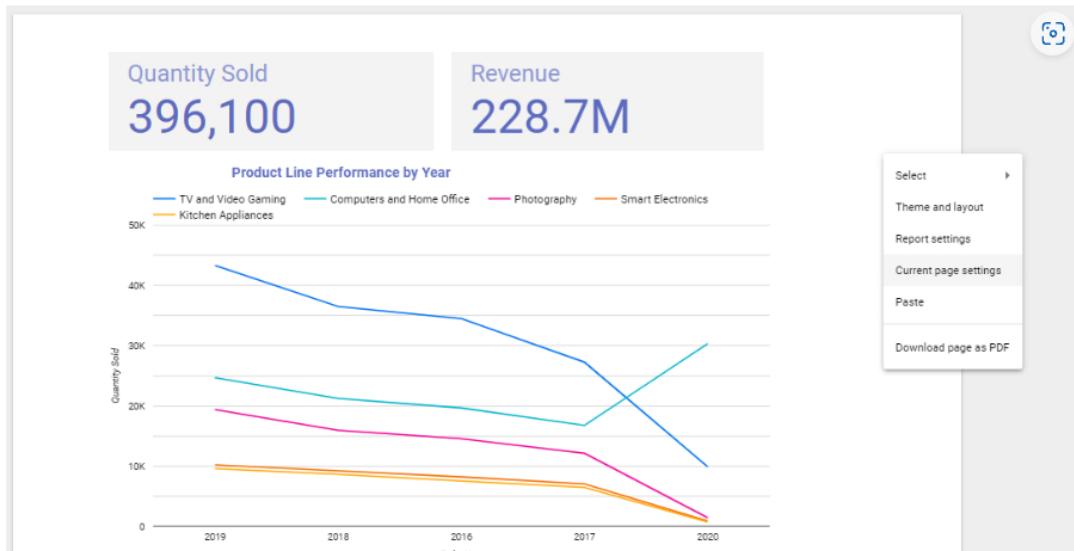
In this reading, we will discuss:

- Configuring page settings
- Adding new pages and navigating between pages
- Blending data from multiple tables
- Adding controls and filters to reports
- Adding different types of visualizations to reports



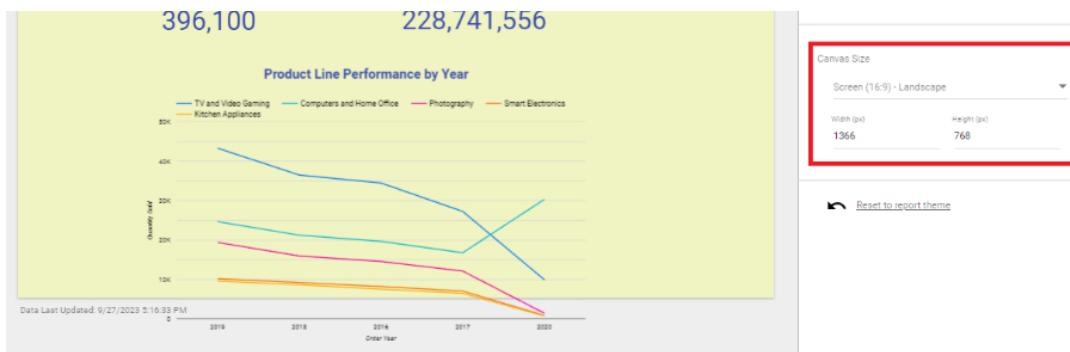
Configuring Page Settings

You can configure the settings of the current page by right-clicking on a blank part of the canvas and choosing **Current page settings**.

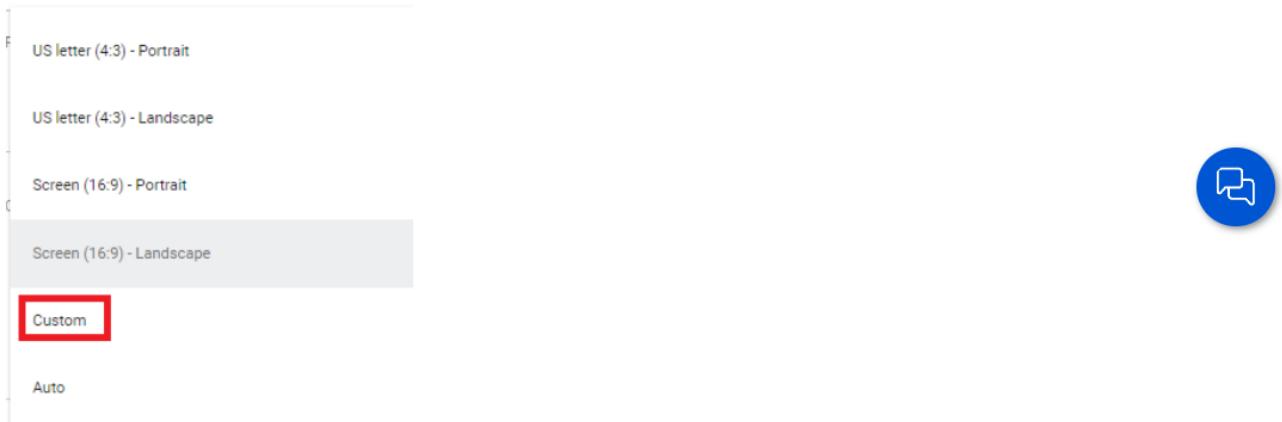


From here, on the **STYLE** tab, you can configure the canvas's background color and dimensions.





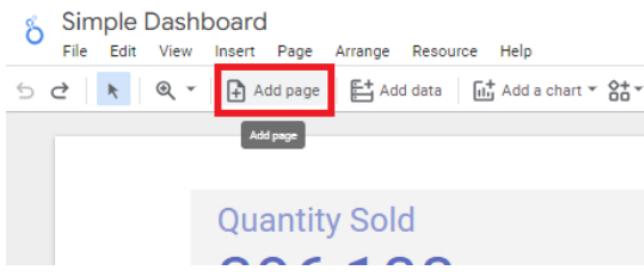
You can choose a ready-made canvas size or create a custom size of your own.



Adding New Pages and Navigating between Pages

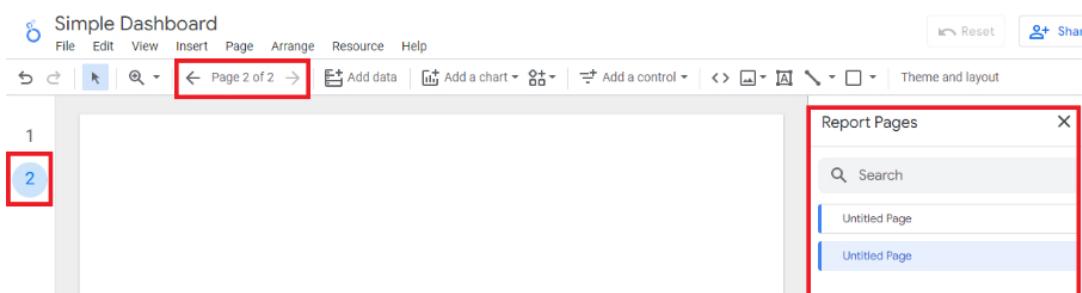
Typically, as you add more visualizations to your reports, you will need more pages in your report to contain them.

To add a new page to your report, either click **Add page** in the toolbar or from the main menu, select **Page**, and then **New page**.



After creating a second page, you will find that the **Add page** item is removed from the toolbar and replaced with a page navigation button.

You can use this to navigate between multiple report pages. You can also use the **Report Pages** pane on the right to switch between your pages or the numbered circles on the far left to do the same thing.





To add more pages after the second page, you can now use the menu as before or use the **Add a page** icon below the **Report Pages** pane.

The screenshot shows the 'Report Pages' pane with two items listed: 'Untitled Page' and another 'Untitled Page'. A floating toolbar is positioned above the second item, containing icons for 'Page', 'Section', 'Divider', and 'Header'. Below the toolbar is a button labeled 'Add a page' with a red border around it.



To rename a page, simply click the ellipsis (...) button to the right of an **Untitled Page** for the relevant page in the **Report Pages** pane, select **Rename**, and then enter a new name for the page.

The screenshot shows the 'Report Pages' pane with the same two items. A context menu is open over the second 'Untitled Page', listing options: 'Rename' (highlighted with a red box), 'Duplicate', 'Delete', 'Hide in view mode', 'Select icon', 'Move to bottom', and 'Move down'.

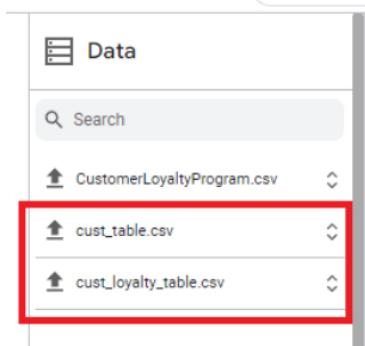


Blending Data from Multiple Tables

There will be occasions where you will have data spread across multiple different tables that you would like to use in a report. Looker Studio allows you to combine these pieces of data together using the **Blend Data** feature.

In Looker Studio, you do this by creating a relationship between the two datasets.

First, you need to add and upload multiple datasets.



Then, having added a chart, you click **BLEND DATA** in the chart's properties pane.

A screenshot of the Looker Studio dashboard editor. On the left, there is a chart titled 'Record Count' showing values for names like Paris, Norman, Sydney, Daryl, Jamey, Leon, Leon, Casey, Toby, Dion, and Dion. The chart is labeled '1'. To the right of the chart is a properties pane for a 'Chart' type. In the 'BLEND DATA' section, there is a red box around the 'BLEND DATA' button. Other sections in the properties pane include 'SETUP' (Data source: cust_table.csv), 'STYLE', and 'Dimension' (First Name).



When you select to blend your data, a **Blend Data** window opens at the bottom of the page, which enables you to join another table.

A screenshot of the 'Blend Data' window. It shows two tables side-by-side. Table 1 on the left is titled '(Table Name)' and contains a dropdown menu with 'cust_loyalty_table.csv' highlighted with a red box. Table 2 on the right is also titled '(Table Name)' and contains a dropdown menu with 'cust_table.csv' highlighted with a red box. Between the two tables is a central area with a large red box around the 'Configure join' button. Both tables have sections for 'Dimensions' and 'Metrics'.



You then configure the join relationship between the two tables by selecting **Configure join**.

Then click **Configure join** to...

Here, you determine how the data rows from the two tables should be joined and how they relate to each other; in other words, which field is common to both of them. When you select to blend your data, a **Blend Data** window opens at the bottom of the page, which enables you to join another table.

Join configuration

Join operator

Tell us how rows from all the tables on the left and the table to the right are combined.

Left outer Right outer Inner Full outer Cross

Returns matching rows from the right table, plus non-matching rows from the left table

Join conditions

Tell us how these tables are related. Add one or more fields from the tables to the left that match the fields in the table to the right.

123 Cust_ID (Table 1) 123 Cust_ID (Table 2)

+ Add field + Add field

Cancel Save

The **Blend Data** window will display the updated join configuration.

Blend Data

Table 1 (Table Name)
cust_loyalty_table.csv

Dimensions
123 Cust_ID
Metrics
sum Quantity Sold
Date range

Available Fields
Type to search
Loyalty#
LoyaltyStatus
MonthsAsMember
Order Year
Product Line
Quantity Sold
Quarter
Revenue
Unit Cost
Unit Sale Price

Table 2 (Table Name)
cust_table.csv

Dimensions
123 Cust_ID
Metrics
Add dimension
Date range

Available Fields
Type to search
Customer Name
Education
First Name
Gender
Last Name
Loyalty#
Record Count

The chart's properties pane will now show **Blended Data** as the data source for your chart, and the chart will now display data that comes from two different data sources.

Simple Dashboard

File Edit View Insert Page Arrange Resource Help

Reset Share View Pause

1 2

Quantity Sold

250K
150K
100K
50K
0

female male

Chart Data

SETUP STYLE

Data source
Blended Data (1)

Dimension
Gender

Metric
Quantity Sold



Adding Controls and Filters to Reports

You can add controls and filters to your reports to make them more interactive. Controls can either modify or filter the data displayed in a report or provide a way for you to incorporate user input in a report that allows users to either input data directly into a report or select values or items in the report from a predefined list.

You add controls from the **Add a control** button on the toolbar.



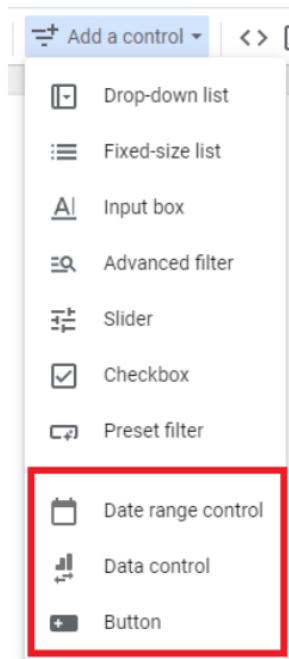
Controls are split into two types.

The top subdivision of the menu contains controls that you can use to filter data or configure parameter values, such as drop-down lists, input boxes, sliders, and checkboxes.

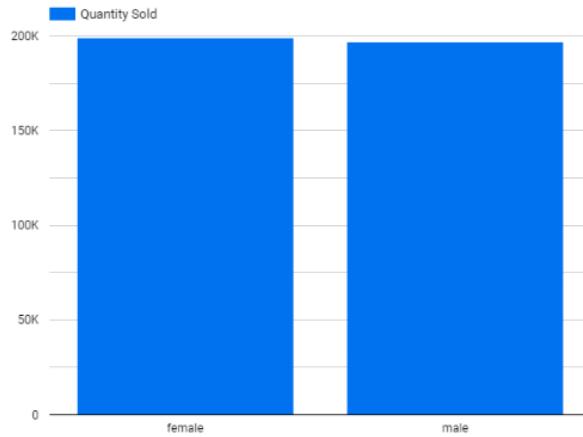


The second subdivision of the menu contains controls that you can use to perform specific functions but can't

configure parameter values, such as date ranges, data, and buttons.



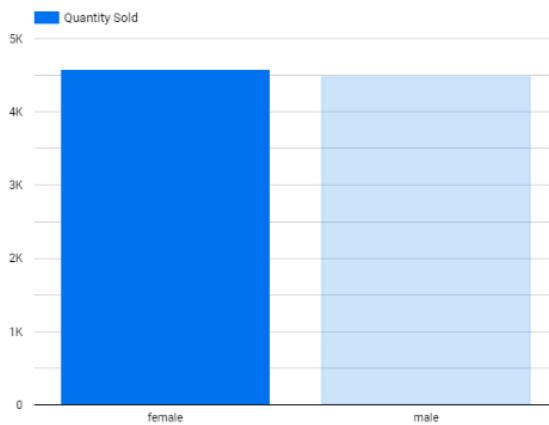
This is an example of a drop-down list control.



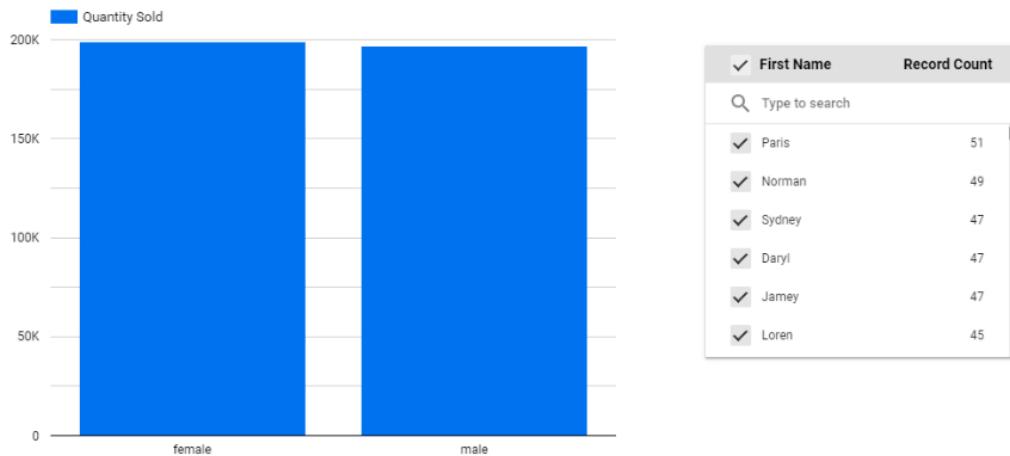
✓ Gender	Quantity Sold
Type to search	
✓ female	199.2K
✓ male	196.9K



This is an example of a slider control.

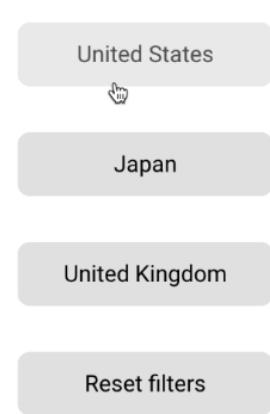


This is an example of a fixed-size list control.



This is an example of button controls.

Country	Population ▾
China	13,342,720,000
India	11,977,337,695
United States	3,076,528,567
Indonesia	2,388,914,104
Brazil	1,942,727,085
Pakistan	1,715,658,910
Nigeria	1,581,543,983
Bangladesh	1,505,724,822
Russia	1 431 239 304
1 - 100 / 215 < >	



[Download report](#)

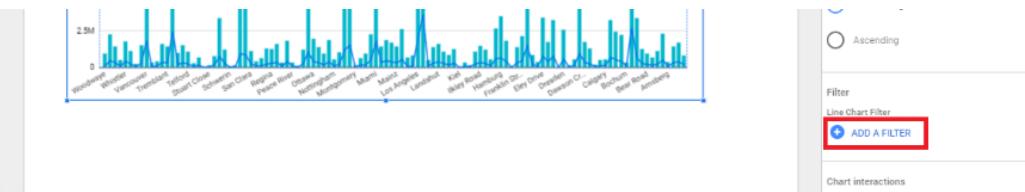
[Share report](#)

[View main report](#)

You can add filters to your report to allow you to control what data is or isn't displayed in a report. These can be helpful when you want to temporarily hide some data to focus on other, more important data or just to focus solely on one aspect of the data.

Filters are added directly in the chart's properties pane by scrolling down the pane to the **Filter** section and clicking **ADD A FILTER**.

The screenshot shows the Microsoft Power BI desktop application. At the top, there's a ribbon with File, Edit, View, Insert, Page, Arrange, Resource, and Help. Below the ribbon is a toolbar with various icons like Undo, Redo, Save, and Print. The main area displays a chart with two series: 'Unit Sale Price' (blue line) and 'Revenue' (red bars). The Y-axis ranges from 5M to 20M. The X-axis has several data points. On the right side, there's a properties pane titled 'Chart' with sections for 'SETUP' (SUM Unit Sale Price, SUM Revenue, Add metric), 'STYLE' (optional metrics, metric sliders), and 'Sort' (City, Descending). There are also 'Reset' and 'Share' buttons at the top right of the properties pane.



In the **Create Filter** window, you build your filter by specifying to **Include** or **Exclude**, and then you select the field, the condition, and finally, the value.

You can add further **OR** or **AND** clauses to your filters.

So, in this example, we would exclude any data from the city of Vancouver in our chart.

This filter has 1 clause

SAVE



The chart now suppresses the data from Vancouver.

SAVE



Adding Different Types of Visualizations to Reports

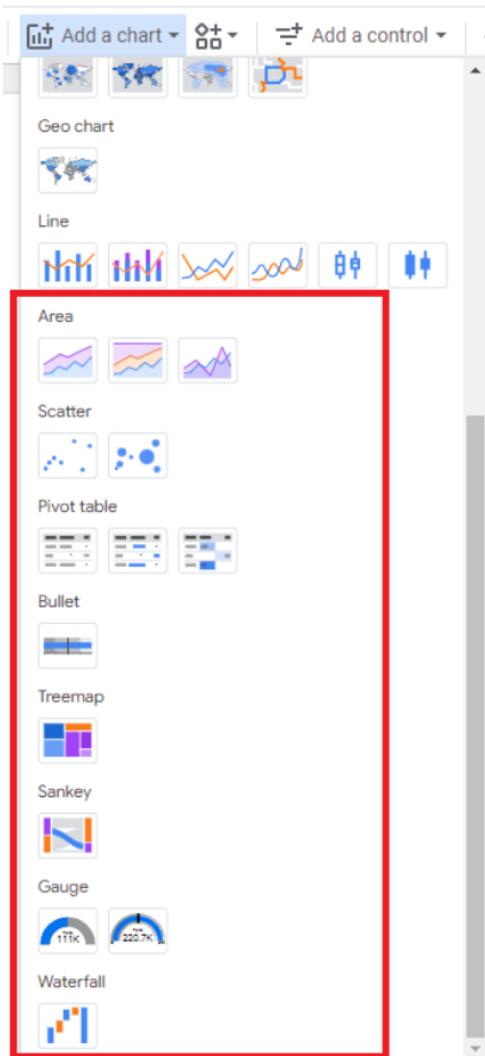
There are many different types of visualizations you can add to your reports.

When you click **Add a chart** in the toolbar, you see many different options available, including some of the more common ones, such as tables, scorecards, bar charts, pie charts, line charts, and maps.



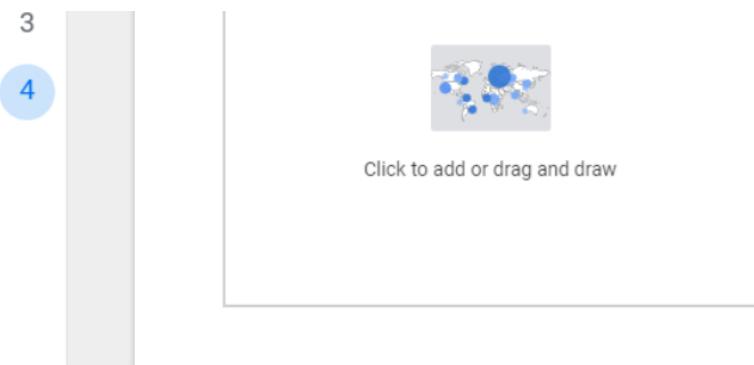


But there are also several other less common types of charts, such as area charts, pivot tables, treemaps, gauges, and waterfall charts.



When you select a chart type, the next thing you need to do is place it somewhere on the canvas.

A screenshot of a dashboard application titled "Simple Dashboard". The top navigation bar includes File, Edit, View, Insert, Page, Arrange, Resource, and Help. Below the toolbar is a navigation bar with back, forward, search, and page controls. The main area is a canvas with a grid. A large, empty rectangular placeholder is positioned at the bottom-left of the grid, with the number "2" below it. The top-left cell of the grid contains the number "1". At the bottom of the canvas, there are "Add data", "Add a chart" (which is highlighted in blue), and "Add a control" buttons.



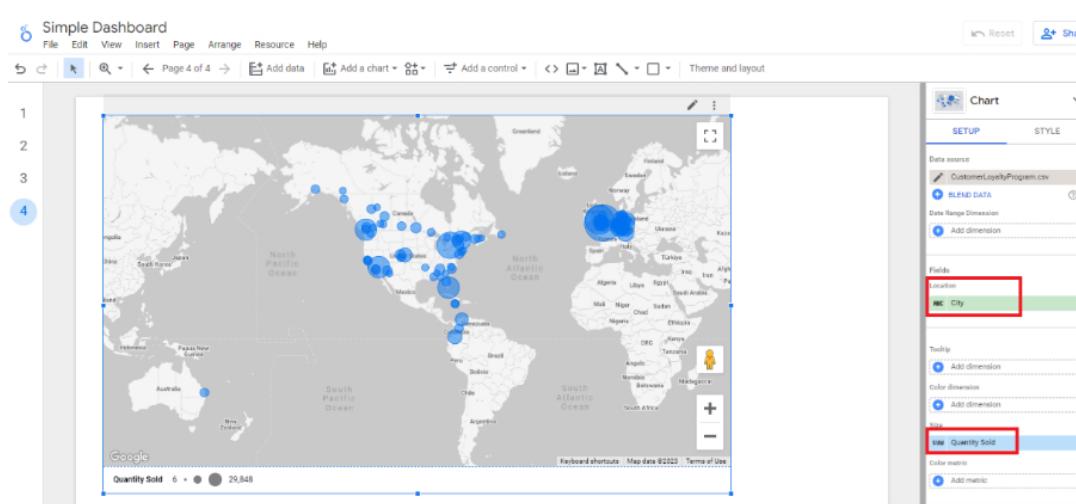
The chart will then display the data from its configured data source.

A screenshot of a dashboard titled "Simple Dashboard". The interface includes a top navigation bar with File, Edit, View, Insert, Page, Arrange, Resource, and Help. Below the navigation is a toolbar with various icons for navigation, search, and data manipulation. A status bar at the bottom shows "Page 4 of 4" and other system information. The main content area contains a world map with several blue dots representing data points. The map is labeled with continents: NORTH AMERICA, EUROPE, AFRICA, and SOUTH AMERICA. It also shows major oceans: Pacific Ocean, Atlantic Ocean, and Indian Ocean. A legend in the top right corner indicates that the blue dots represent a specific category. The map is surrounded by a blue frame with handles for resizing. The vertical scale on the left is now at 4. The overall layout is professional and user-friendly.

You can then resize the chart to suit your needs by dragging the handles in the corners.

A screenshot of a dashboard titled "Simple Dashboard". The interface is identical to the previous one, with a top navigation bar, toolbar, and status bar. The main content area now displays a much larger and more detailed world map. The map shows individual countries as distinct entities with their names labeled. The blue dots from the previous screen are still present, indicating data points across the globe. The map is enclosed in a large blue frame with red boxes highlighting the four corner handles used for resizing. The vertical scale on the left is now at 4. The dashboard maintains its professional appearance throughout.

You can then change the configuration of the chart by using the **SETUP** tab of the chart's properties pane to modify which data is referenced by the **Dimension**, **Location**, or **Metric** fields.



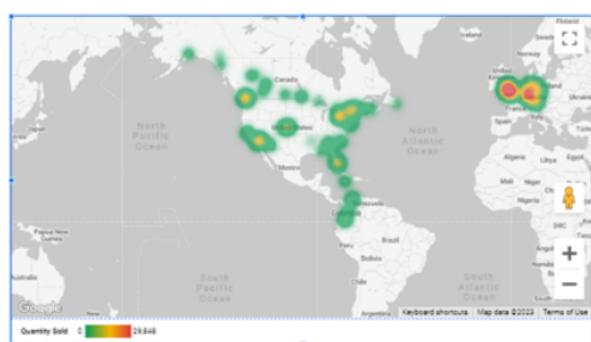
Click the **View** button in the top right of the page to switch to read-only view to get a preview of what the report would look like to an end user.

Click the **Edit** button to switch back to edit mode again.

You can use the mouse wheel (if you have one) or the + and - symbols on the map to zoom in and out of it in either *View* or *Edit* mode.



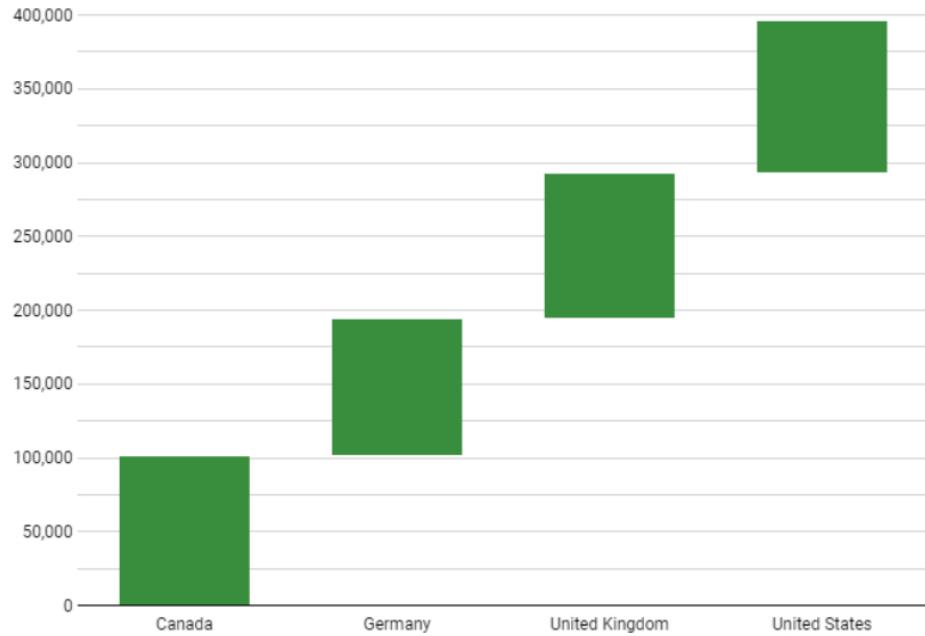
Here is an example of a heatmap chart.



Here is an example of a treemap chart.



Here is an example of a waterfall chart.



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