Summary

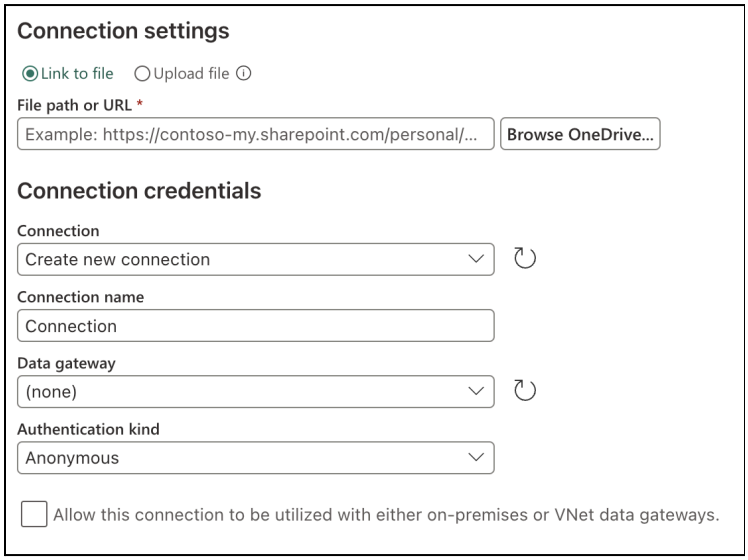
This walkthrough will walk us through making a similar barchart with the corgis dataset to the one we made in Google Data Studio in prior weeks. We'll move onto some more complex charts after that.

Notes for instructors:

Example file is the "Dashboard1, SP25" file in the "IS457 Prep Materials (SP25)" Workspace in outlook.

Things that can go wrong:

- Students are unable to connect to the URL listed below (error can be something like "name already exists") on this screen:



← try imputing a new connection name

← try seeing the authentication to Anonymous

You can also have them try downloading the CSV file and then uploading it themselves.

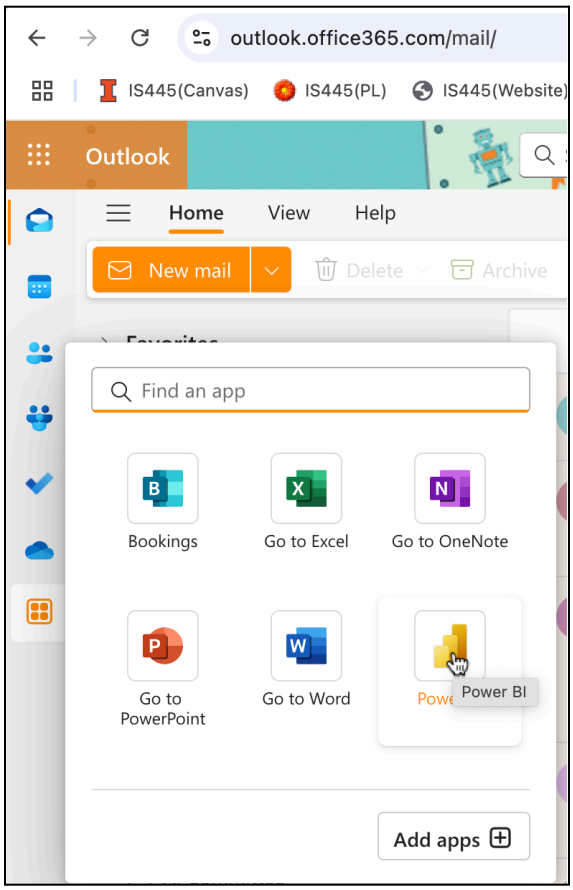
- Students may have issues on the "loading" screen once they make the connection with the data. For this, you can have them wait a while, or if it takes a very long time to load, you can have them refresh the loading screen and do the process again.

Opening up PowerBI (online, free version)

Be sure you are using the Chrome browser for this exercise! (Other browsers *may* work, but at present, Firefox is a bit buggy).

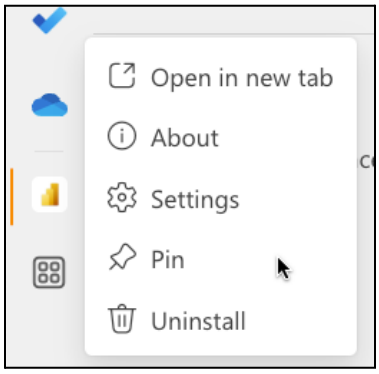
With our UIUC microsoft account, we all have access to the web version of PowerBI. If you're on Windows, you can also download a Desktop version with slightly more options, but *we will be using the online version only for this class*.

If you're in your outlook mail online, you can find the PowerBI app by clicking on the "Apps" logo on the left-panel:



Search for "power" in the "Find an app" search bar and it should pop up if you don't see the icon right away.

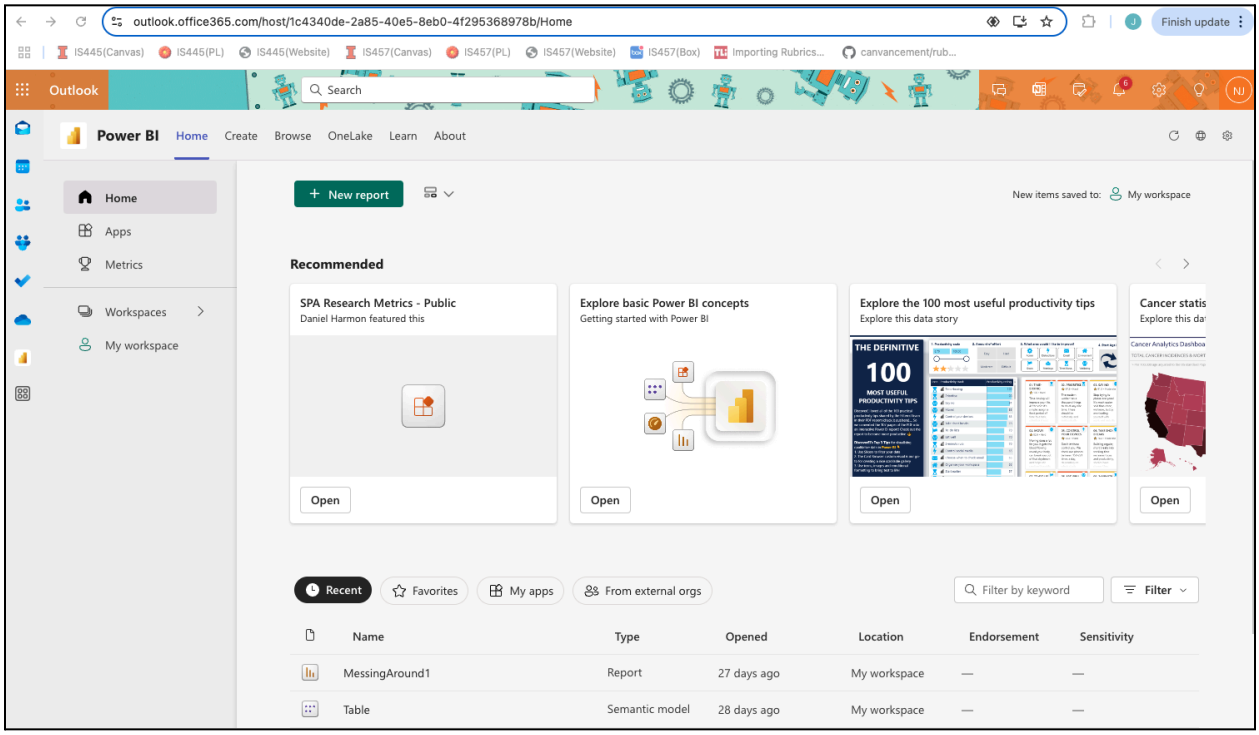
You can right-click and “Pin” the PowerBI app for easy access:



Alternatively, you can click on the link for PowerBI online and then just make sure you sign in with your UIUC credentials: https://app.fabric.microsoft.com/home?experience=power-bi

This link is also under “PowerBI resources” at the top of our Canvas page.

Once opened you should see something like the following (though you may/may not have any Reports/Workspaces listed if this is your first time opening PowerBI):



Workspaces, Reports, and Data Models

There are three main “concepts” that we’ll be messing around with when we use PowerBI.

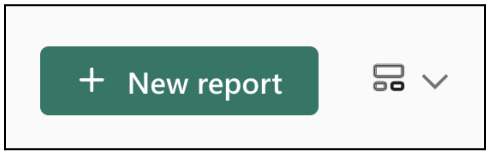
Reports: For the purposes of this course, we will be spending most of our time thinking about the reports as our main space to create visualizations with our data. This is what we’ll spend most of our time.

Workspaces: Are a way to collaborate with others on our visualizations. For the most part we’ll be working in class on “My Workspace” but we’ll also look at how to add workspaces to collaborate with our group, and you all will have access to our class workspace (view only) to get the example PowerBI files.

Semantic Models: For the purposes of this class, we can think of these as a way for us to modify the data we want to use for our visualizations through using Excel-like/Google-sheets-like commands (it can get a lot more technical though if you read the documentation!).

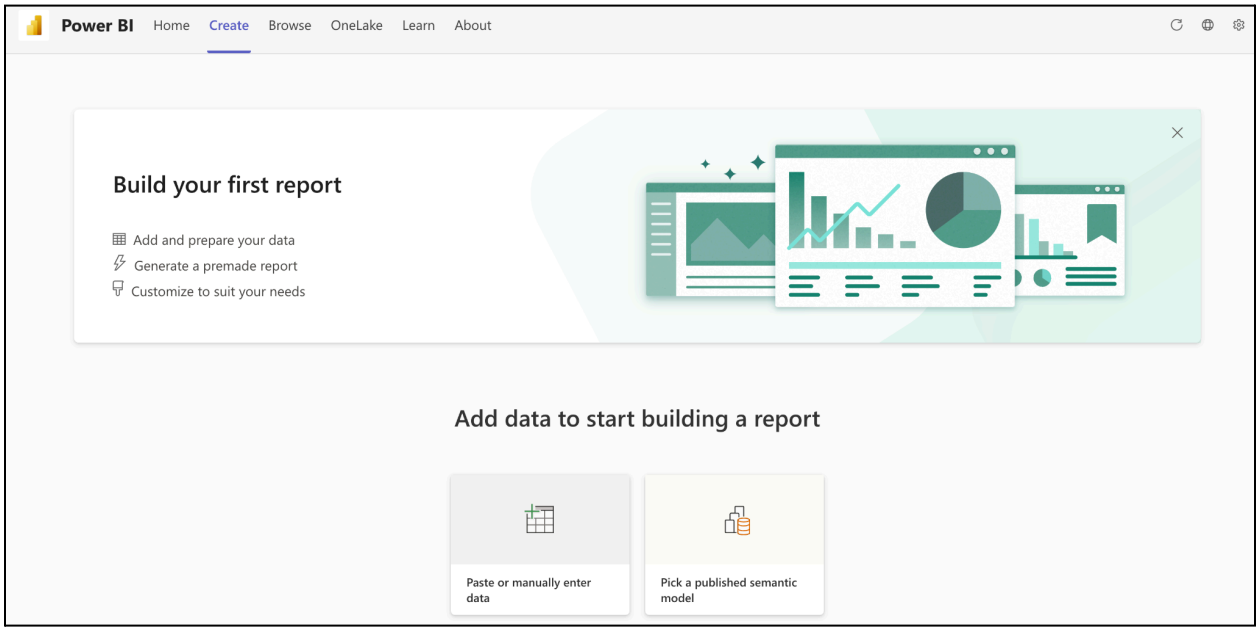
Making a New Report

Click on the green “New Report” button to make a new report.

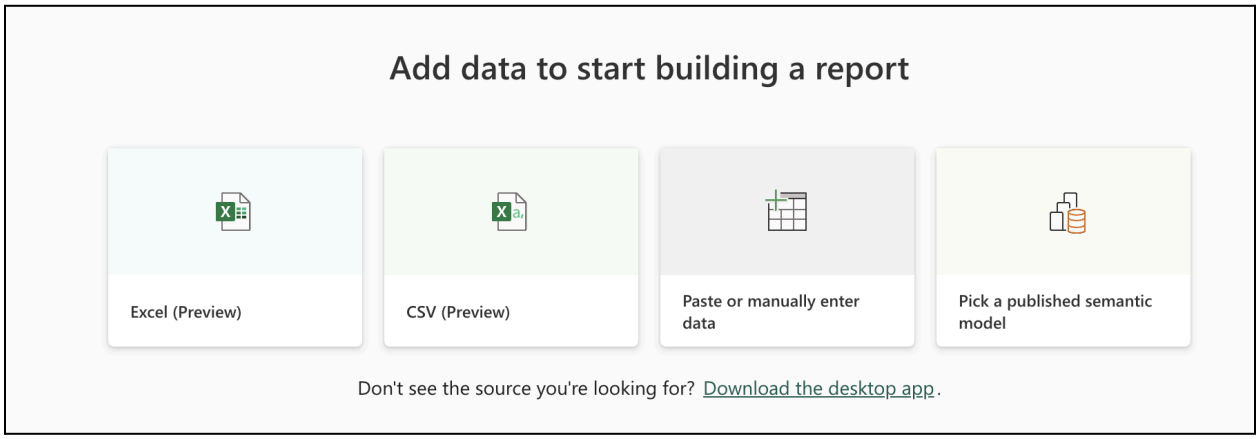


This button should be in the upper left corner of the “main” PowerBI view.

Next, click on the option “Paste or manually enter data” from the 2 options below (if more than 2 options are shown, look at the next step):



This may take you to another screen and/or this screen with 4 options may appear:

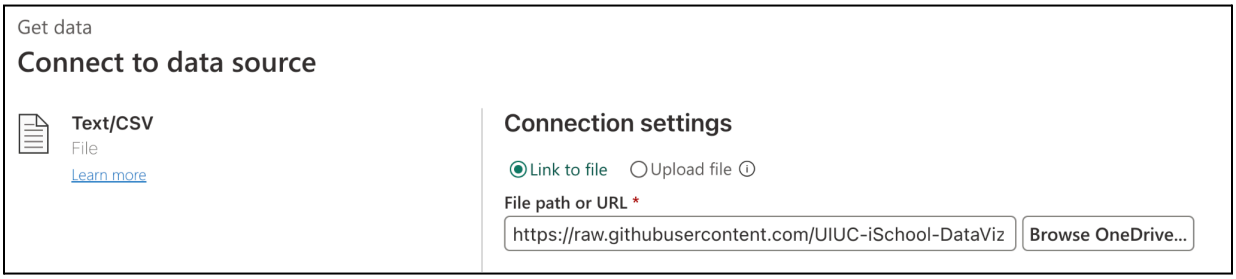


Ultimately, you want to click on the “CSV (Preview)” option.

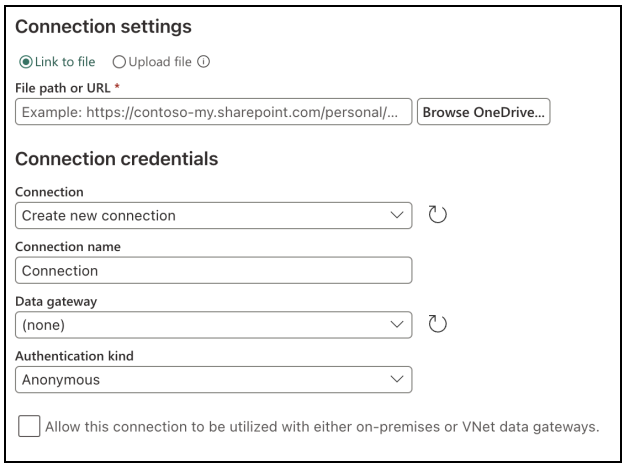
You can:

1. upload the CSV file that you downloaded from the prior Google Data Studio activity
2. Upload the CSV file linked on Canvas
3. Or pass the following URL: https://raw.githubusercontent.com/UIUC-iSchool-DataViz/is445_data/refs/heads/main/corgs_per_country_over_time_columns_2020.csv

If doing option 3, you can paste this URL in the URL location:



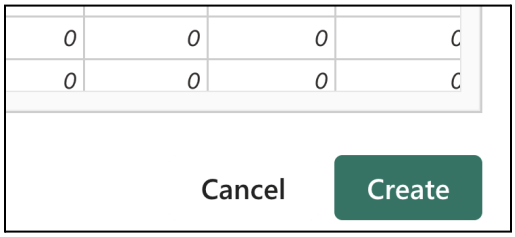
In either case, be sure to check the following things:



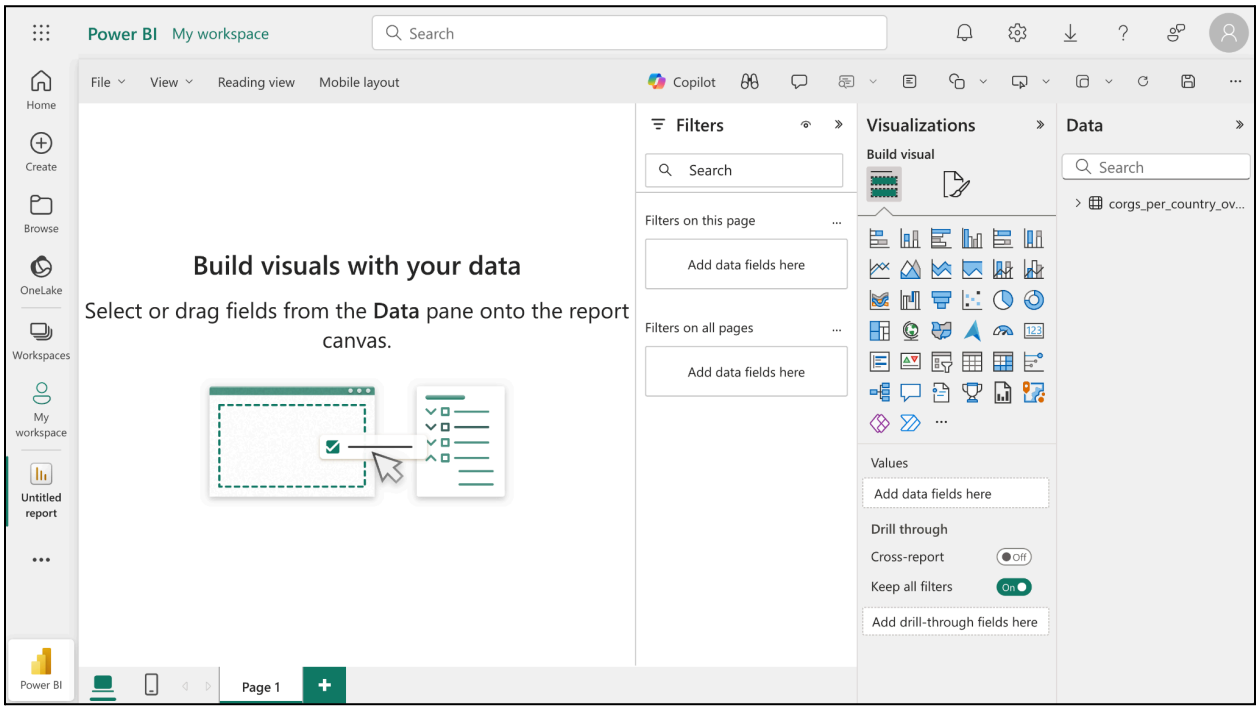
← connection name should be something unique

← authentication kind should be anonymous

Then, click on the green “Create” button at the bottom of the “Preview file data” page that shows up:

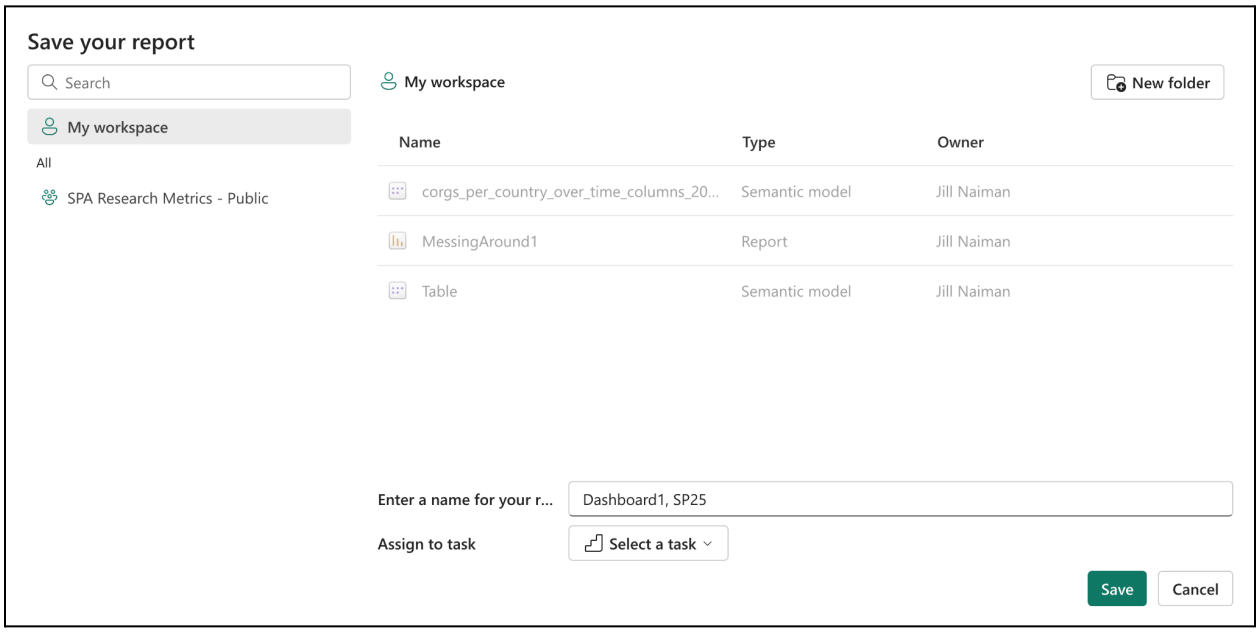


After this, you should see a “Loading Data” screen that takes a moment to get going. Once the data is loaded you should see an interface pop up like so:

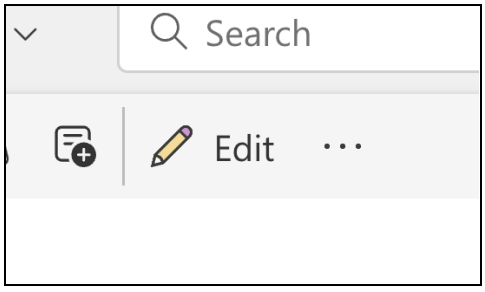


The first thing we want to do is change the name of our report. Click on the “File” option.

Then save it in “My workspace” and give it a useful name (Like “Dashboard1, SP25).

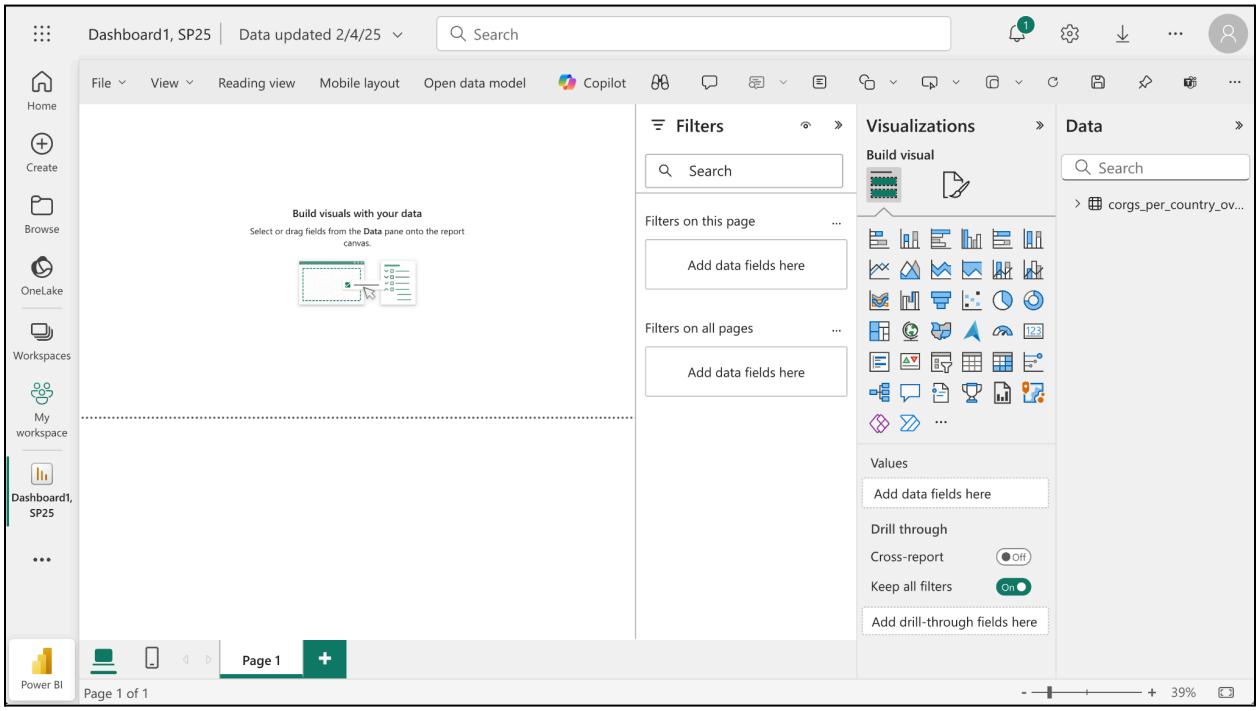


This should automatically give you the “View” of your report, but there is nothing there just yet!



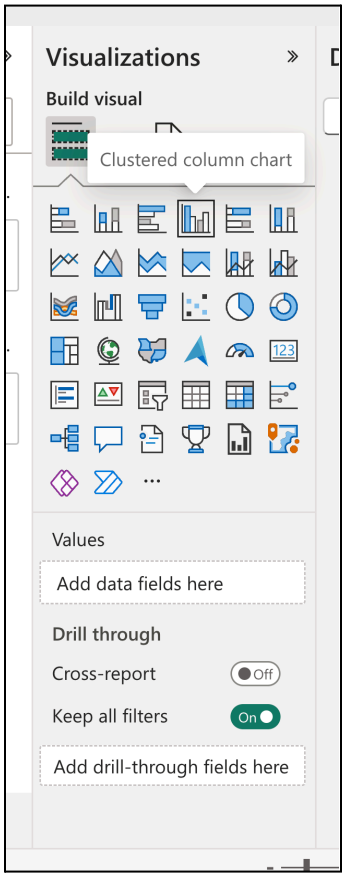
Click on the “Edit” button in the top bar to be able to edit your report.

This should take you back to your original view, but with the name of the report changed to “Dashboard1, SP25”:



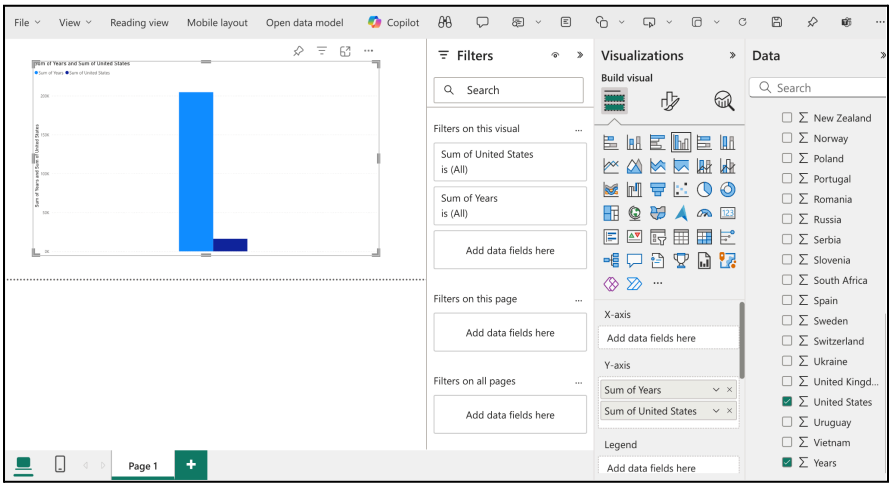
Make a Bar Chart

Now we will make a simple bar chart with our dataset.



← click here on “Clustered column chart”

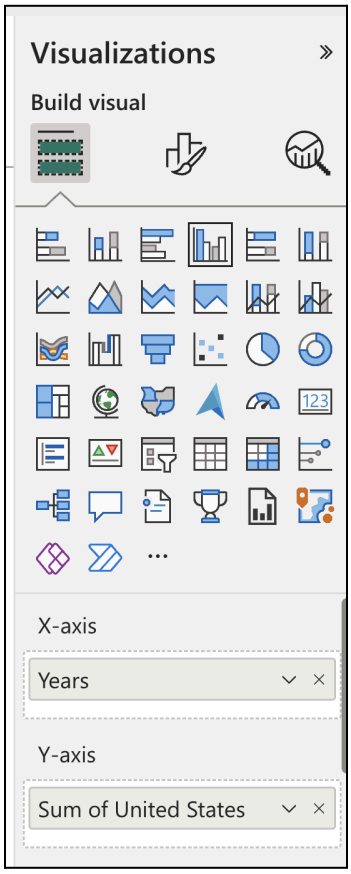
Now, on the data tab click on the “Years” and “United States” check boxes. You’ll get a not-great-looking chart (feel free to resize it):



← United States Column

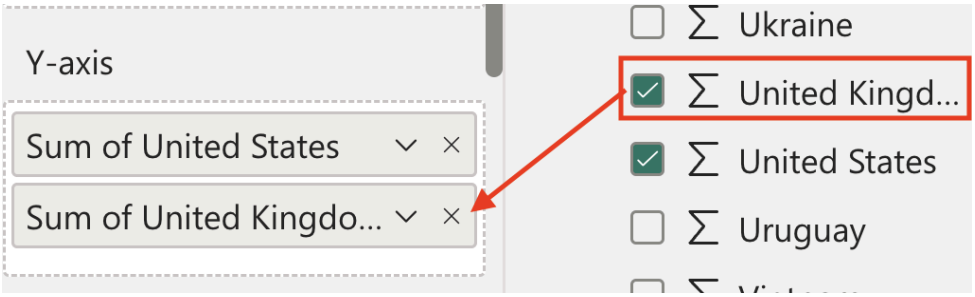
← Year Column

To get this to look a bit better, we need to specify that we want the Years to be on the x-axis:

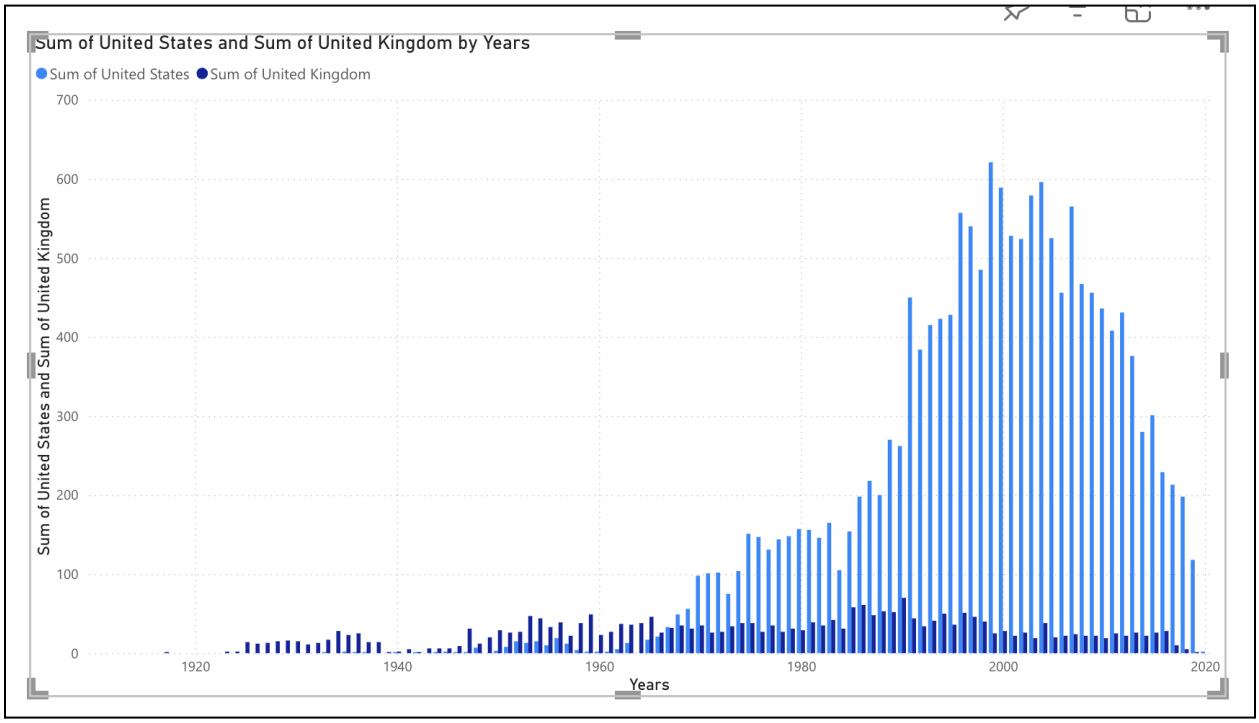


← drag the “Sum of Years” to the X-axis (it will change to just plain “Years”)

Let’s add in the “United Kingdom” column. You can do this by dragging the “United Kingdom” column from the “Data” panel to the “Visualizations” panel.



Now we have a plot that compares the number of corgi's born as a function of time. But there are several things wrong with this plot:

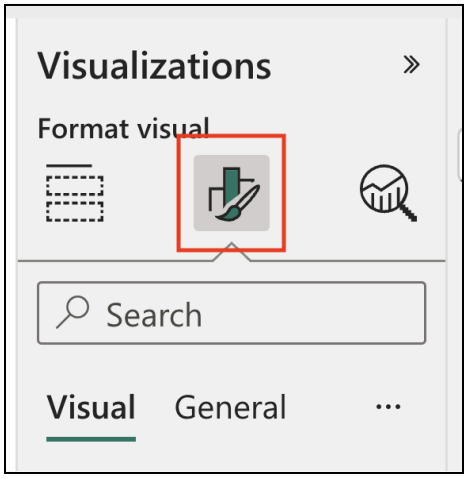


For example:

- The axis labels are too small, as well as the axis tick-marks, and the legend text
- The y-axis title is a mess, as is the overall title of the plot
- The difference in colors between the United States and the United Kingdom is not great

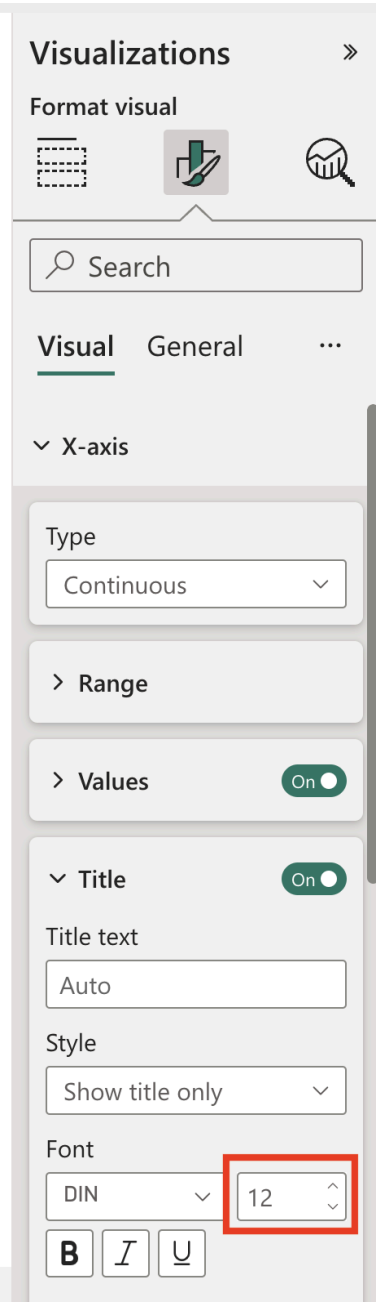
Let's fix all of these!

To fix visual attributes, click on the little "Format visual" icon at the top of the "Visualizations" tab:



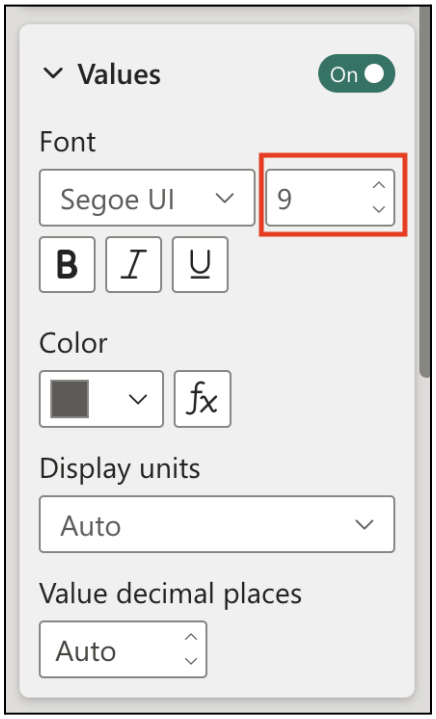
← the little "paint" icon here

For each item, we can click on the “Visual” tab and modify text, and text size:



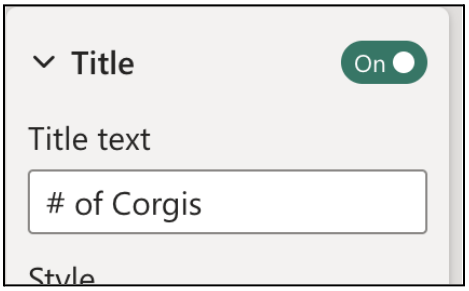
← set this to something like 20

Same thing for the “Values” of the x-axis:

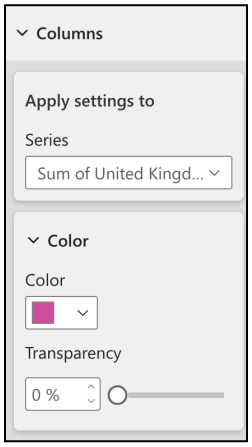


← set this to something like 12 or 18

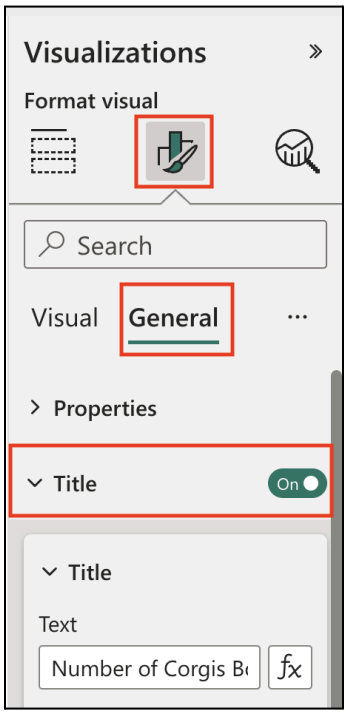
Do a similar type of thing for the y-axis but also set the “Title text” to something nicer:



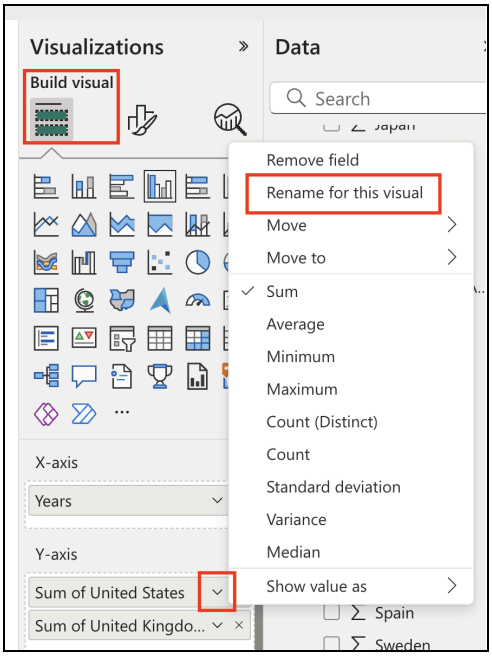
Click on the “Columns” dropdown to pick a new color for our 2nd column:



Click on “General” → “Title” to change the title text:



Finally, we want to re-name our variable names so they show up nicer in the legend. To do this, go back to “Build Visual” panel and click on the little lower-carrot symbol and then on “Rename for this visual”:



Remove both of the “Sum of” from each of the starts of the names.

Be sure to save, and then click on “Read View” at the top to see the final view of our visualization: