IBM Training

Student Exercises

Lab-5: Create a COVID-19 Dashboard using Cognos Dashboard Embedded Service

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Introduction

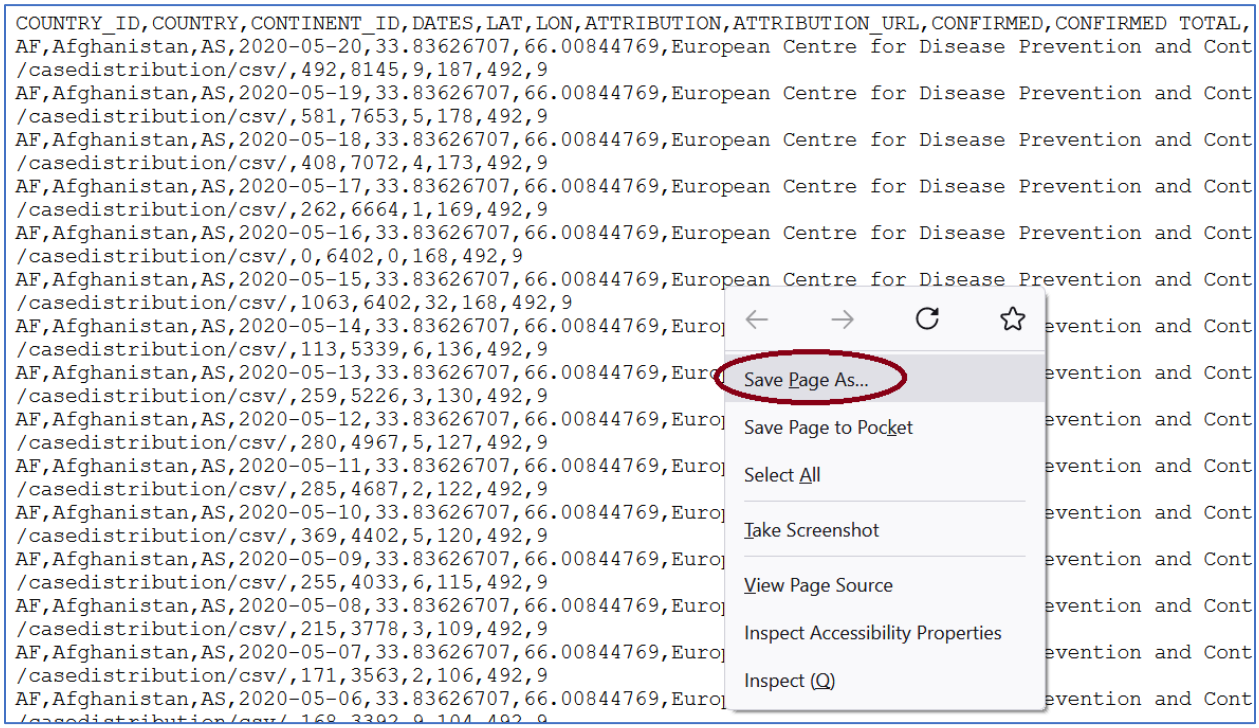
Objectives

The goal of the lab is to familiarize the user with the use of the Cognos Dashboard Embedded service within Watson Studio. We will be creating a dashboard similar to one on the IBM & Weather Channel COVID-19 Dashboard. IBM created a data fabric pulled from state and local governments as well as the World Health Organization. Where the public dashboard updates dynamically based on daily data pulls, we will use an extracted data table for the lab to build visualizations for a specific set of dates.

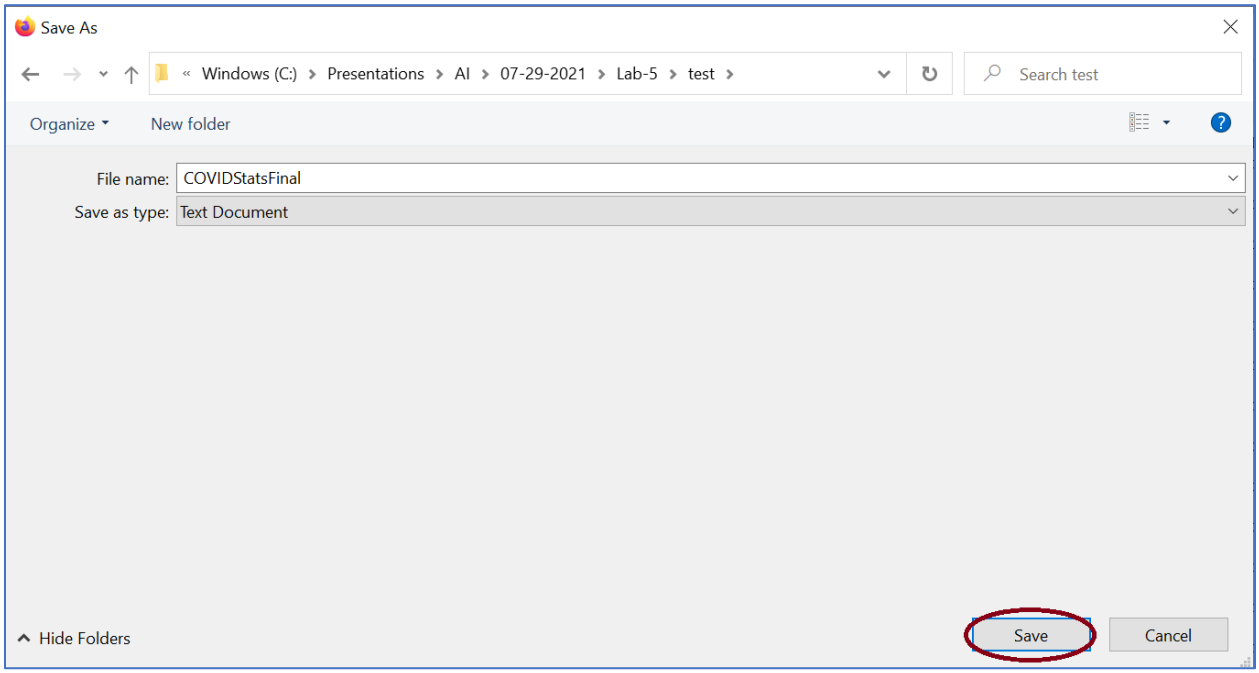
After completing this lab, you will be familiar with building dashboards using the Cognos Dashboard Embedded service in Watson Studio.

Exercise 1: Download the Data File

1. Download the data file for the lab by copying the following URL into your Firefox or Chrome browser: https://raw.githubusercontent.com/bleonardb3/AI_POT_07-29-2021/main/Lab-5/data/COVIDStatsFinal.csv and press the <Enter> key.
2. Right-click on the panel and click on **Save Page As…**



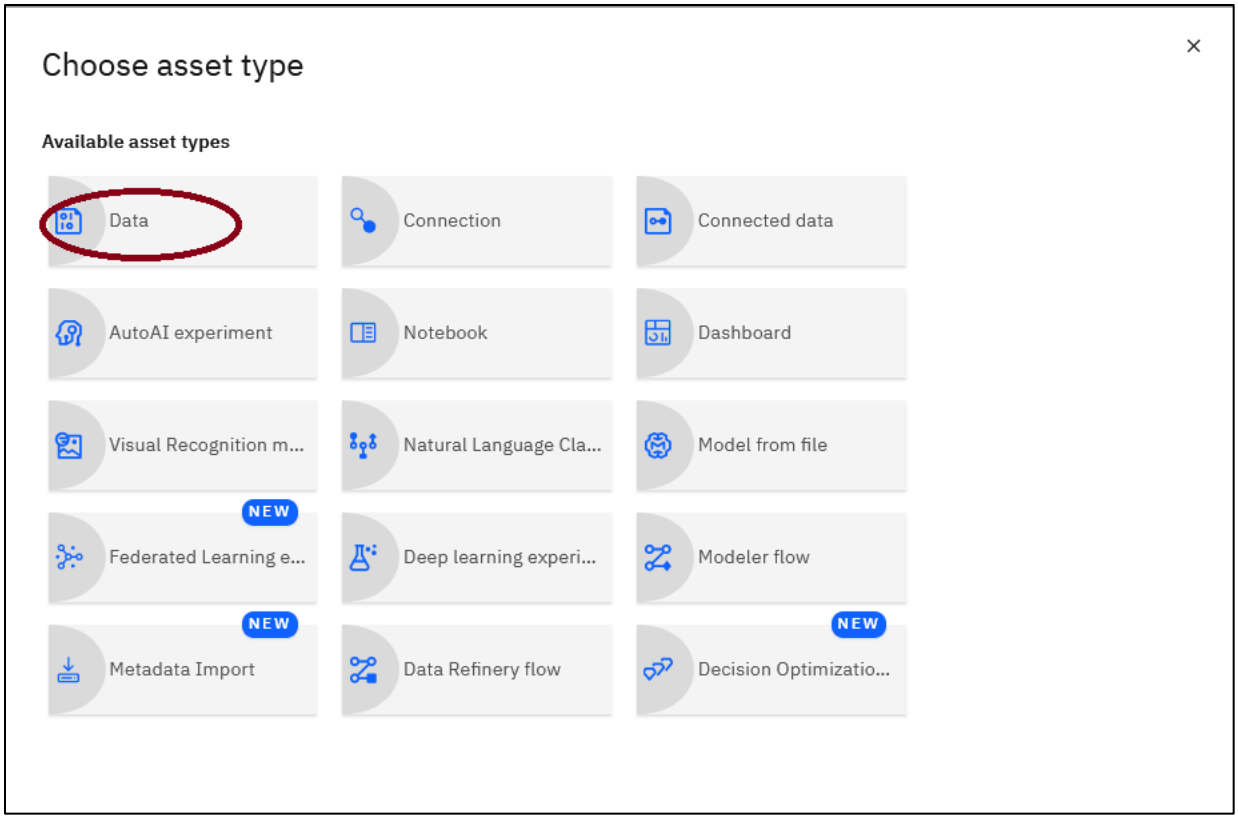
3. Navigate to a directory where you want to save the file and click **Save**.



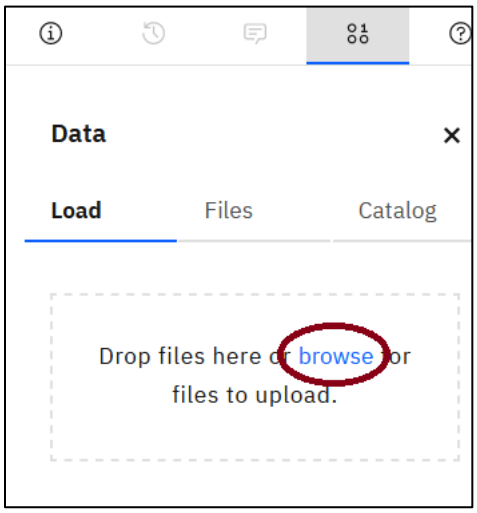
Exercise 2: Create a Data Asset.

1. Click on **Add to project**

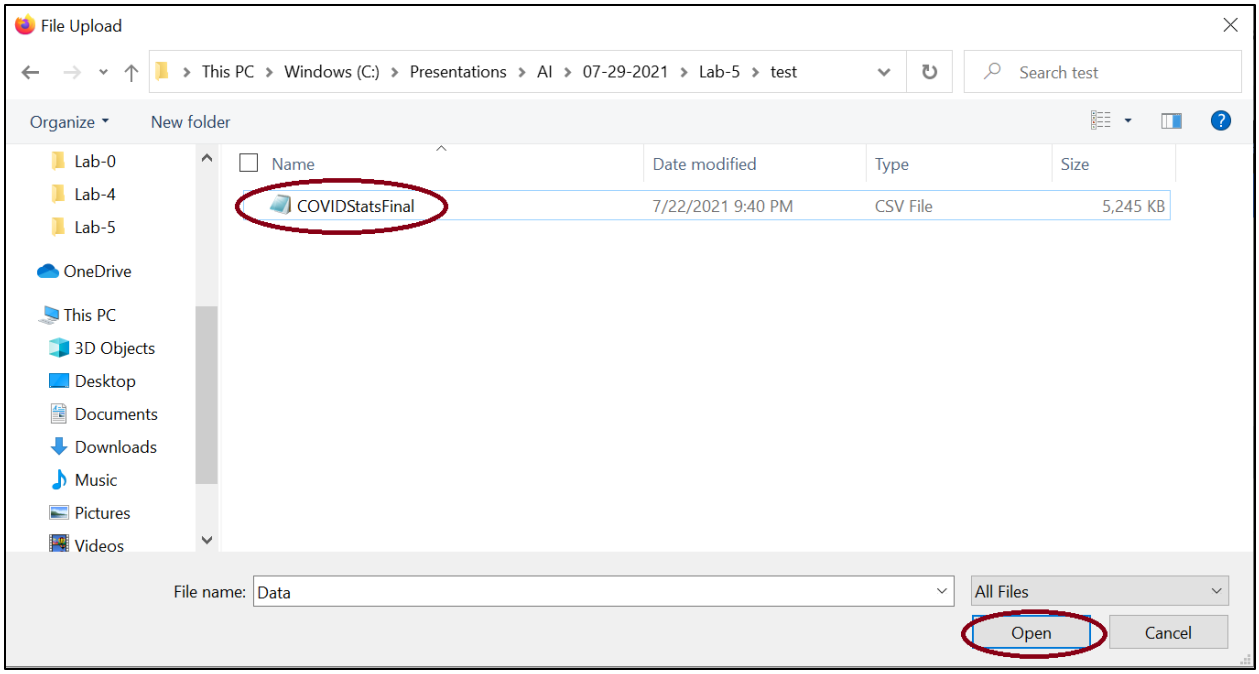
2. Click on **Data**



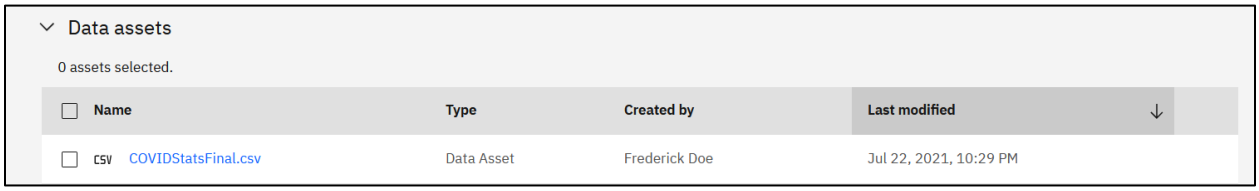
3. Click on **browse**.



4. Click on **Open**.

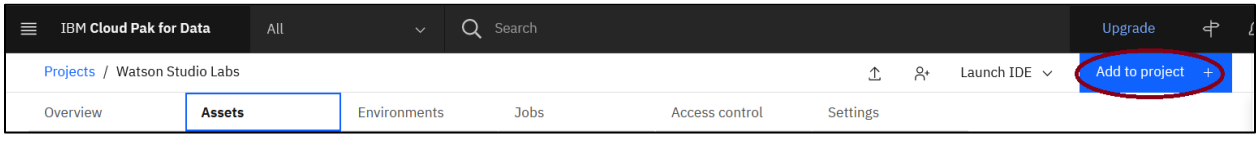


5. The Data Asset is created.

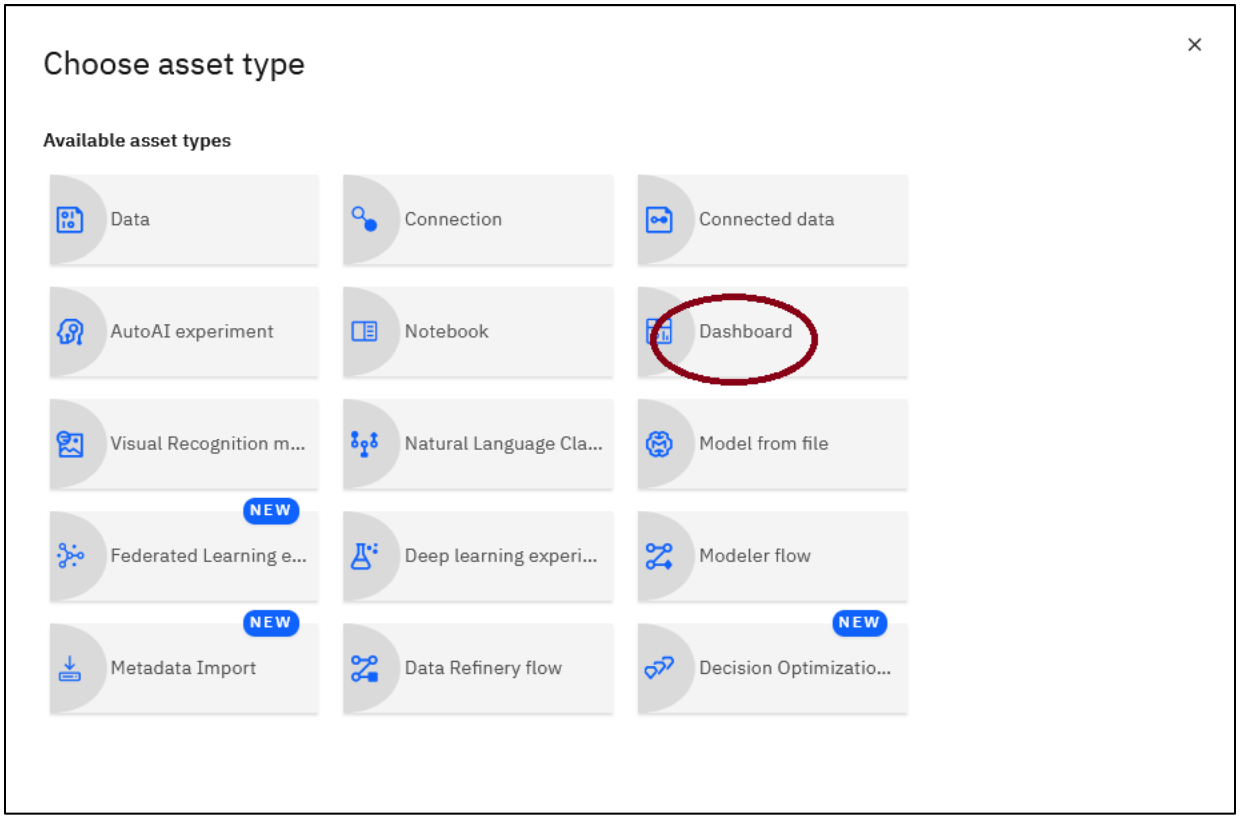


Exercise 3: Create a Dashboard

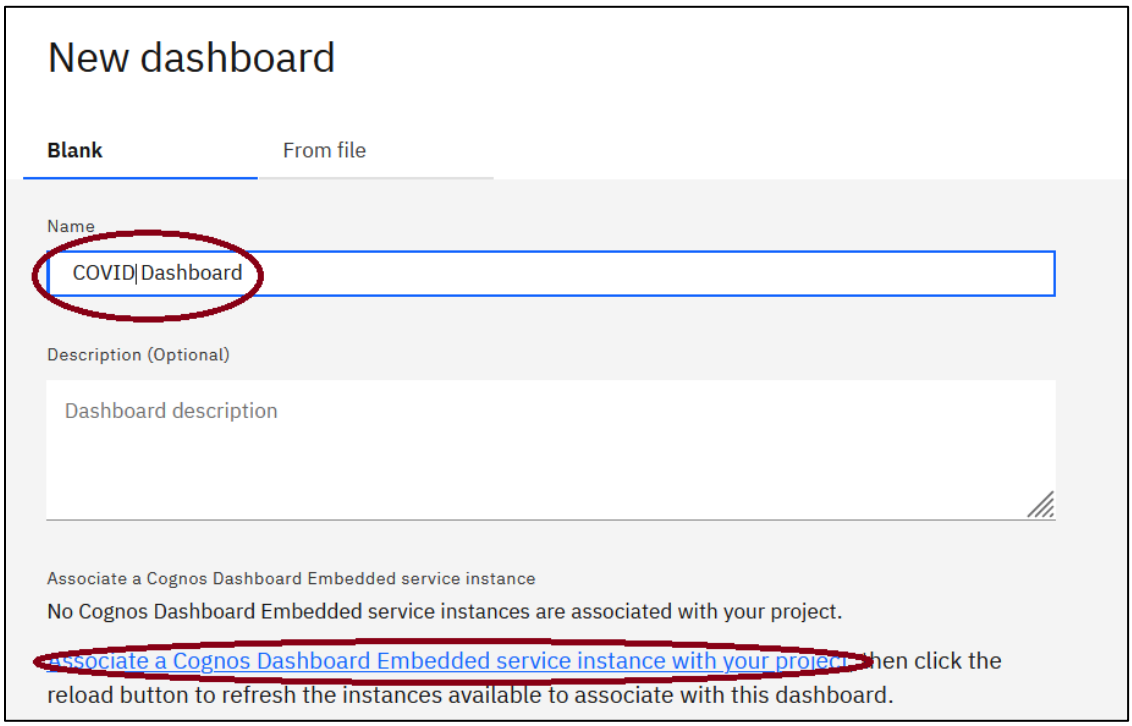
1. Click on **Add to project**



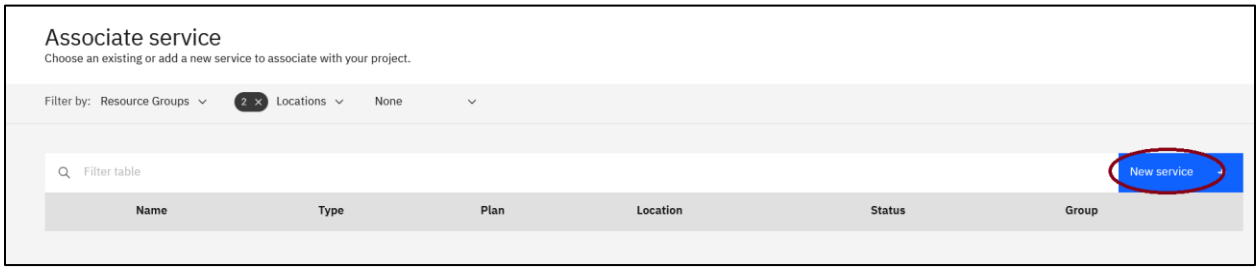
2. Click on Dashboard



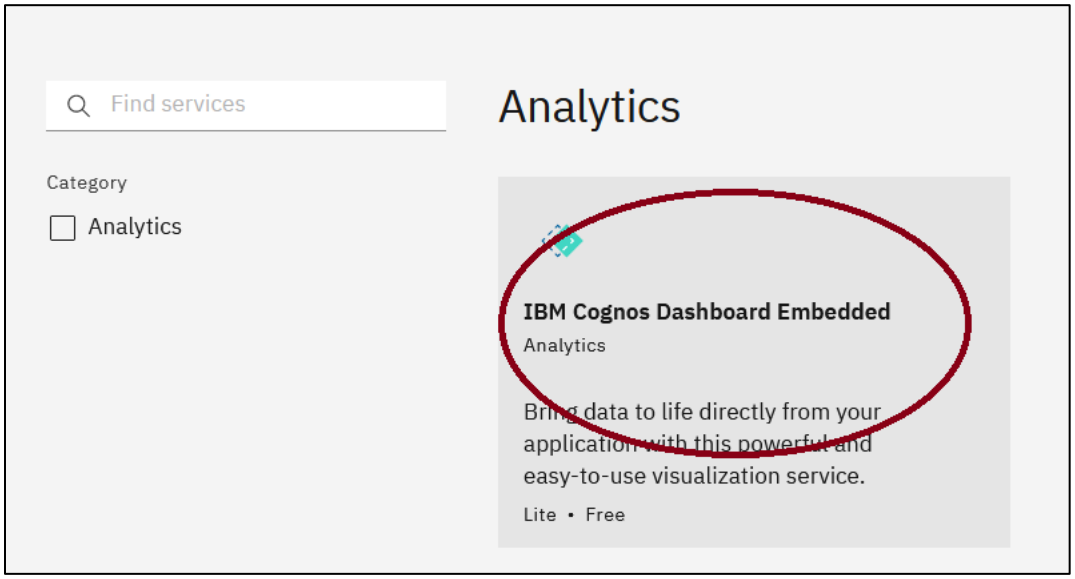
3. Enter **COVID Dashboard** for the **Name**, click on **Associate a Cognos Dashboard Embedded service instance with your project**



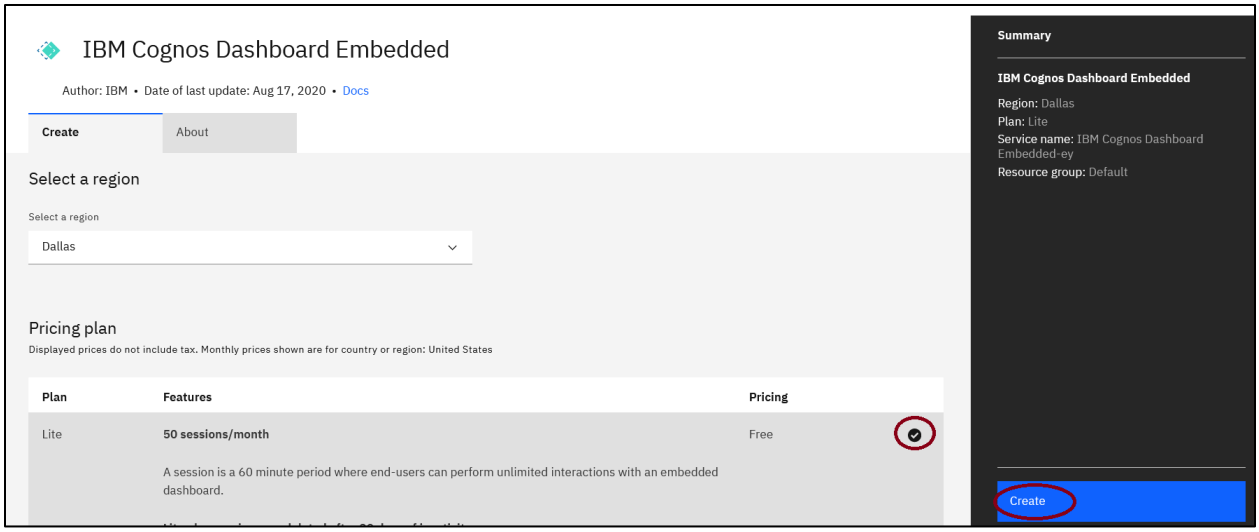
4. This will be a two-step process if you don't already have a Cognos Dashboard Embedded service created in your account. The first step will be to create the service and the second step will be to associate it to the project. Click on **New service**.



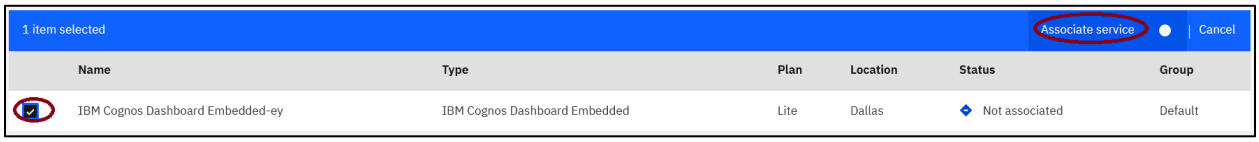
5. Click on **Cognos Dashboard Embedded**.



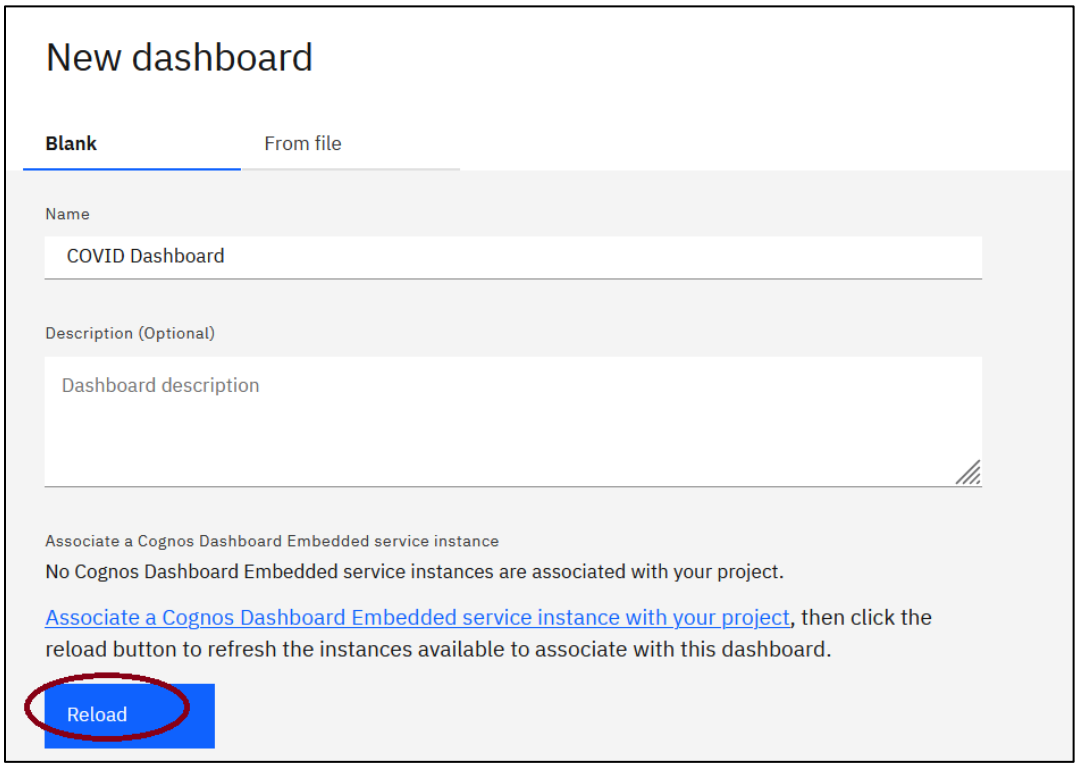
6. Make sure the Lite plan is selected and then click **Create**.



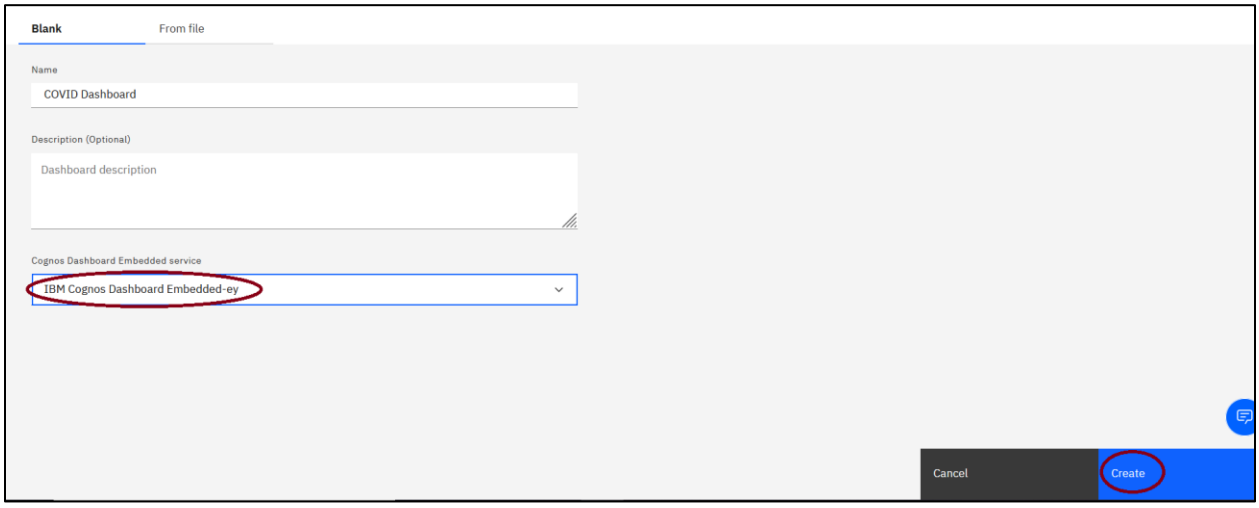
7. Click on the **checkbox** next to the **Dashboard** service, and then click on **Associate service**.



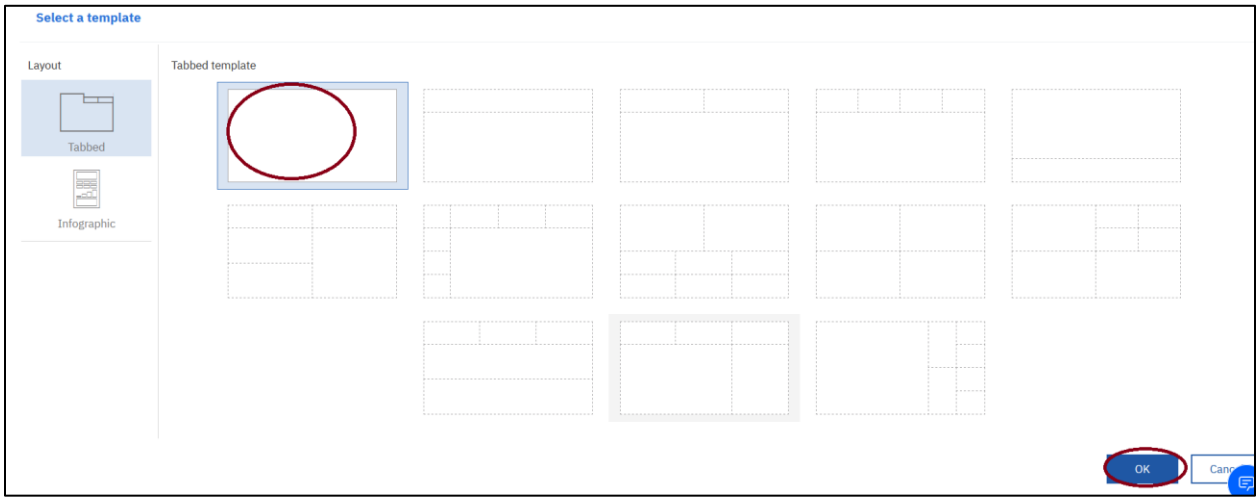
8. Click **Reload**.



9. Select the Dashboard service from the list, and then click **Create**.

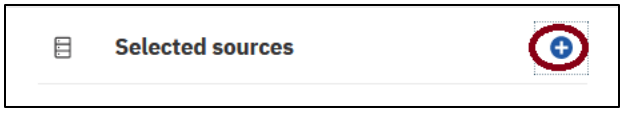


10. Select the Default template and click **Ok**.



Exercise 4: Create a Dashboard Tab

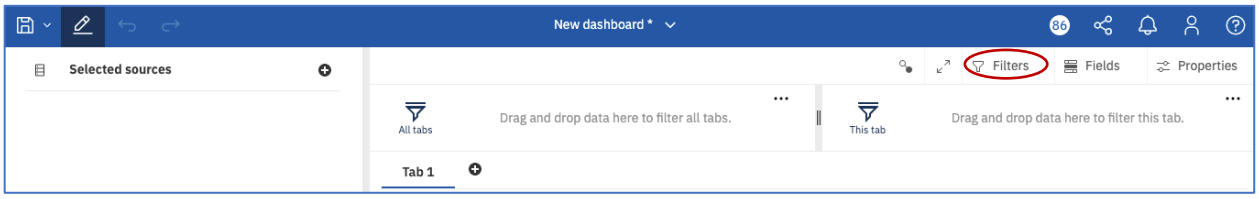
1. Click on the ⊕ icon to add a Source.



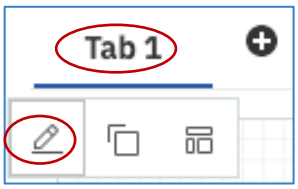
2. Click on **Data asset**, **COVIDStatsFinal.csv** and then click on **Select**.

3. Click on **COVIDStatsFinal**.csv

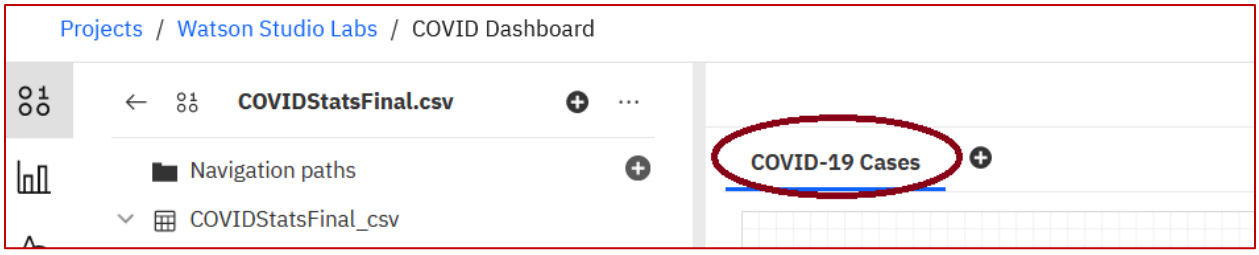
4. Click on the **Filters** button to close the Filters panel.



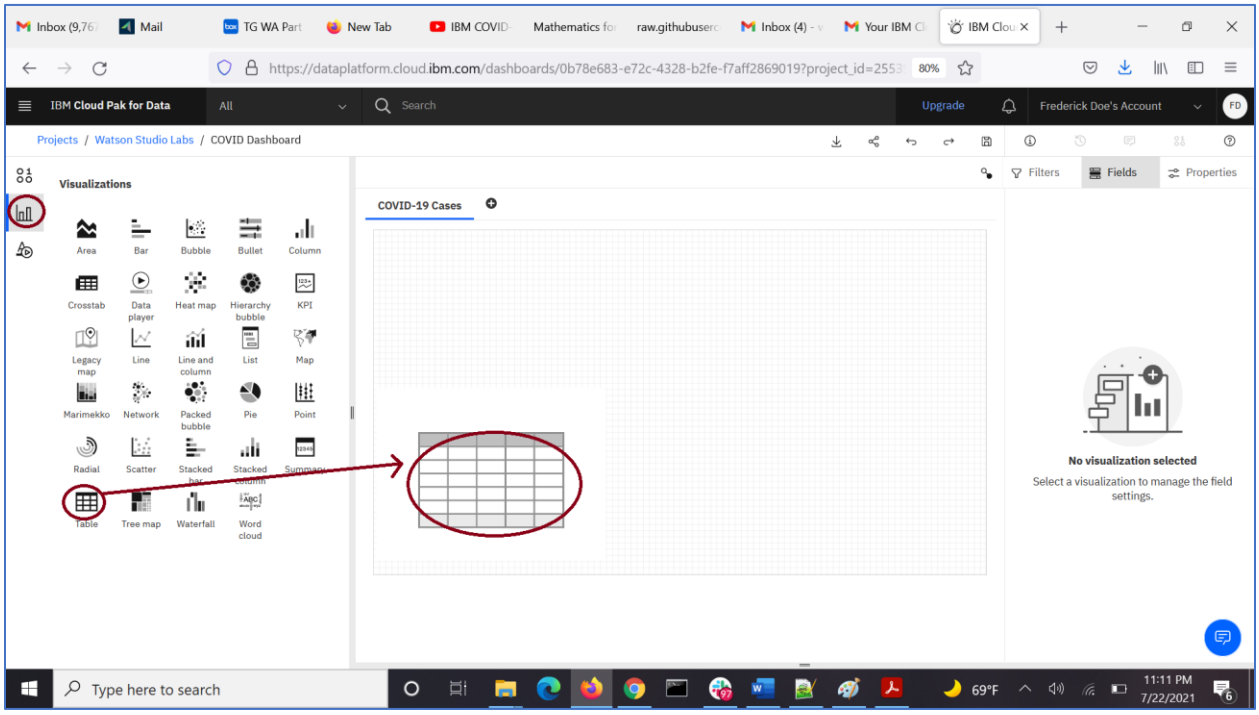
5. **Click on Tab 1**



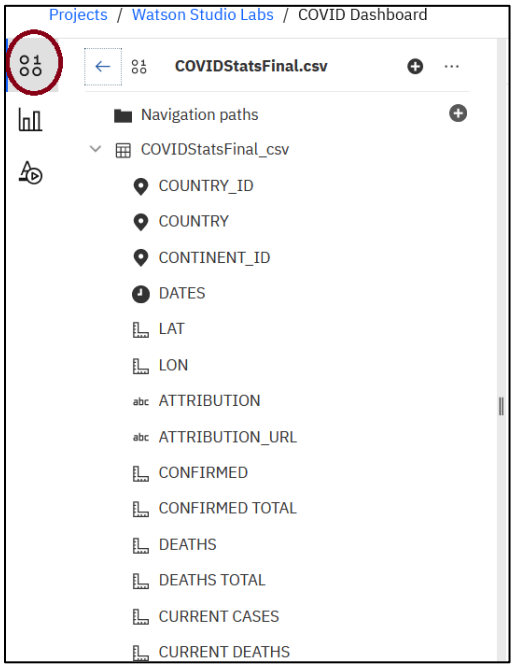
6. Enter "**COVID-19 CASES**" as the tab title and press the <Enter> key.



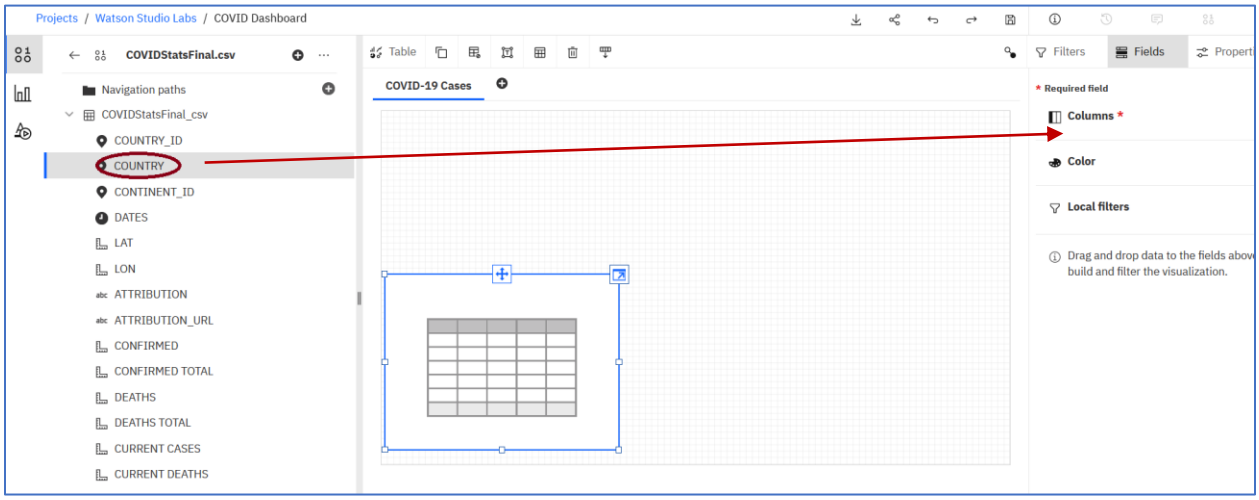
7. Click on the **visualizations**  **icon** to open the visualizations panel then **click and drag the Table icon to the bottom left of your dashboard**.

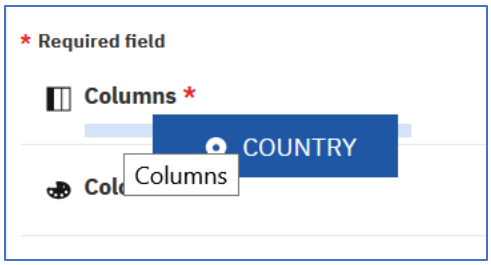


8. With the Table selected in your dashboard, open the sources panel by clicking on the **sources**  **icon**.



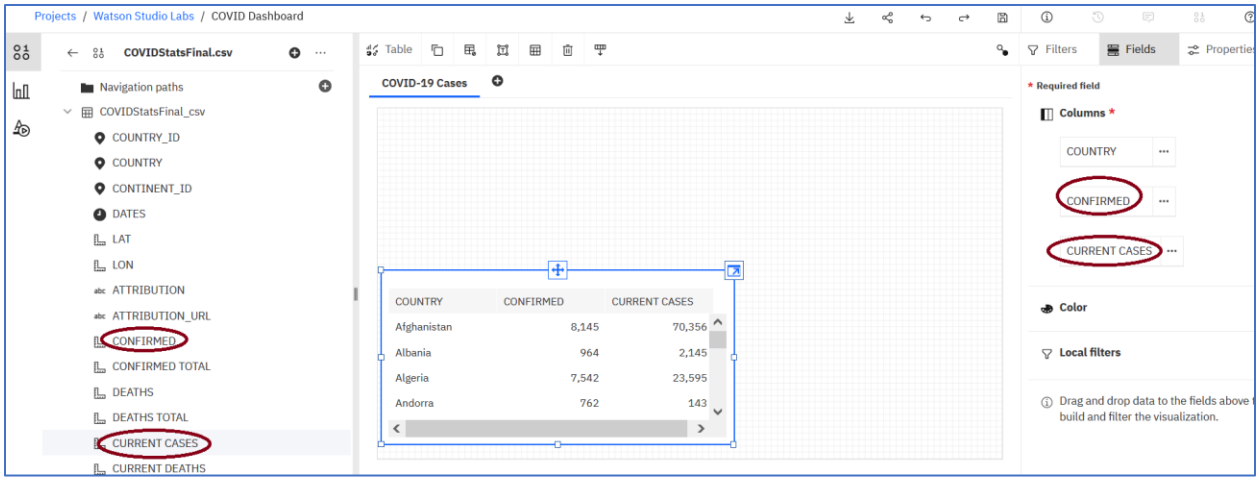
9. Select the Table, then click on **COUNTRY** in the sources panel (on the left) and **drag it to the Columns field** in the Fields panel (on the right). Look for the blue highlight (see below) and then release the mouse key.



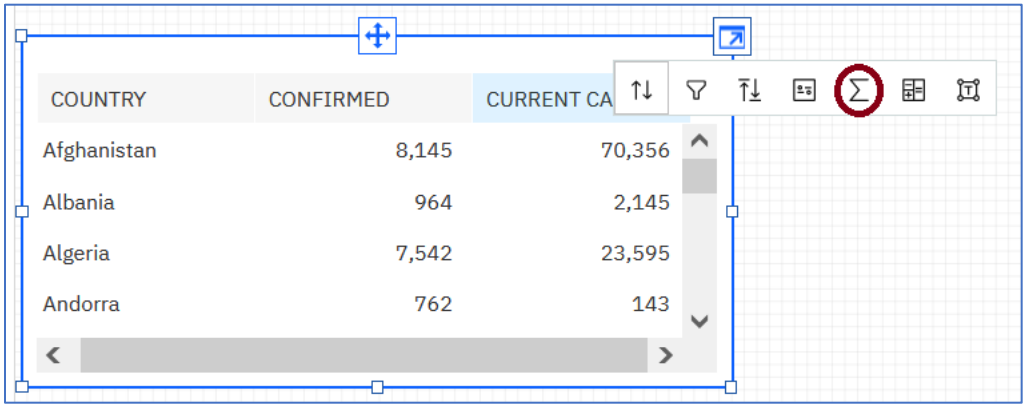


10. Repeat step 9 fo**r CONFIRMED** and **CURRENT CASES**.
    a. CONFIRMED is the total number of cases confirmed up to May 20th, 2020
    b. CURRENT CASES is the number of new cases on May 20th, 2020. Note, we will need to further process this column.

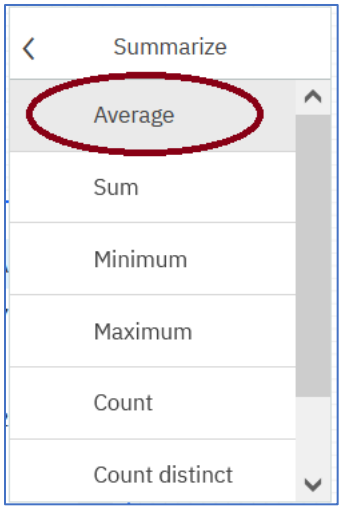
    If needed, click on the white squares on the border of the Table to resize. **Resize as needed** so you can view all three columns.



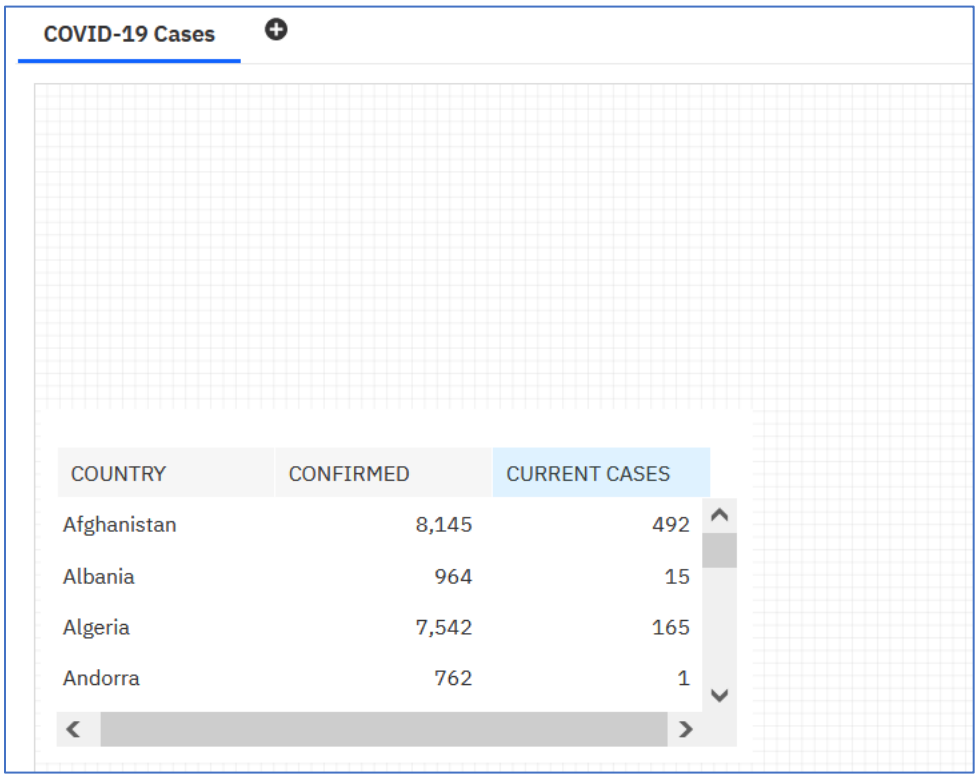
11. By default, the columns will be summed over all rows in the data file for each country. The CURRENT CASES column should not be summed. This value is a constant across all the rows for a specific country (it is the confirmed cases for 5/20/20). Therefore, we should use either Average, Minimum, or Maximum as the "summing" function. To achieve this, we right-click on the CURRENT CASES column and click the aggregation Σ icon.



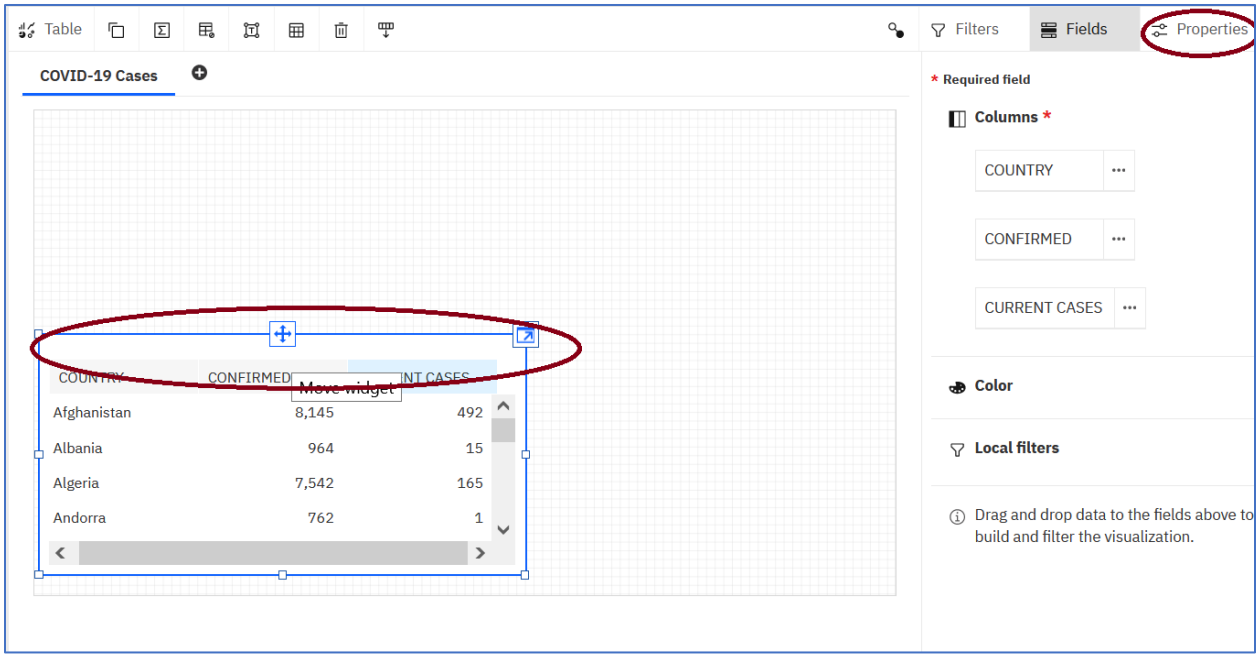
12. Click **Average**.



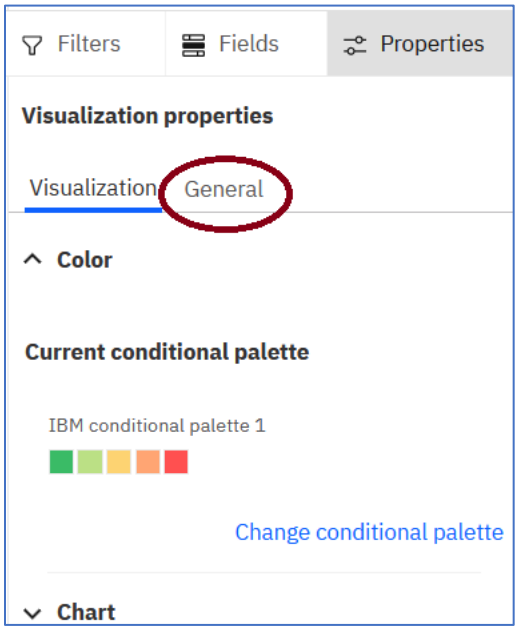
13. The results are shown below.



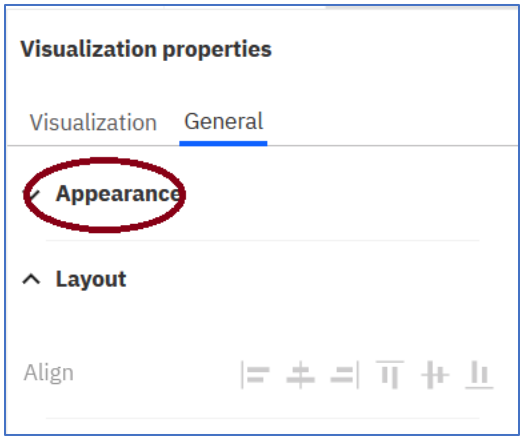
14. To enter a title for this table, click on the Table, and then click on **Properties**.



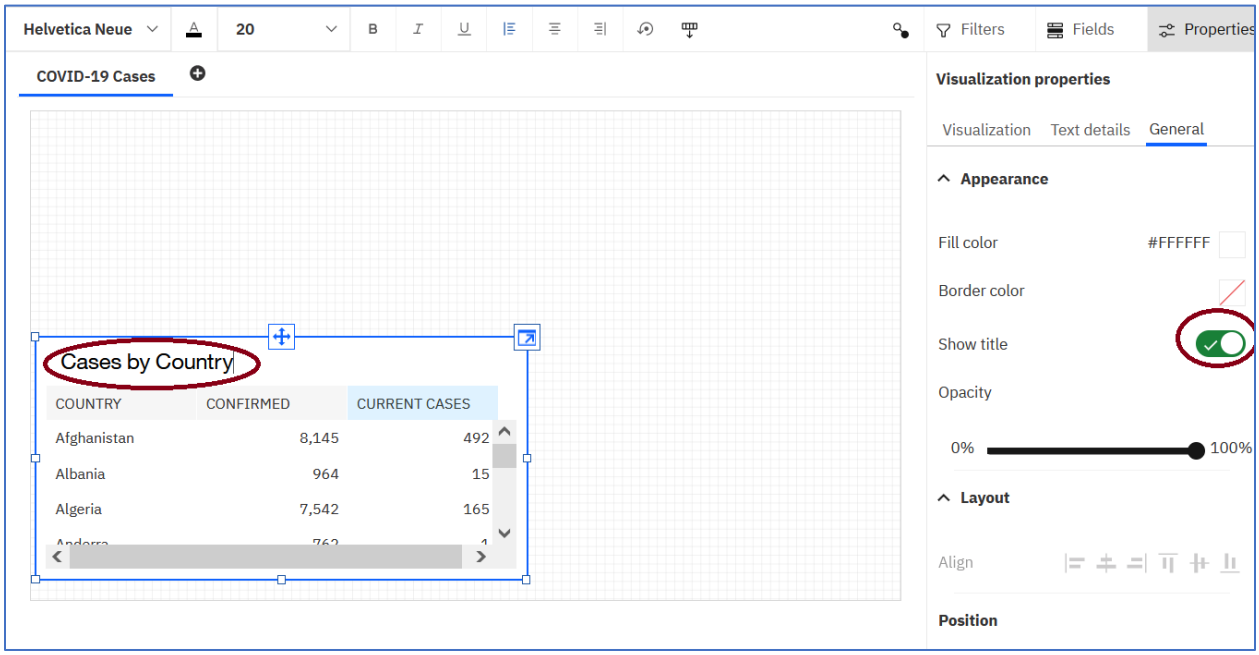
15. Click **General**.



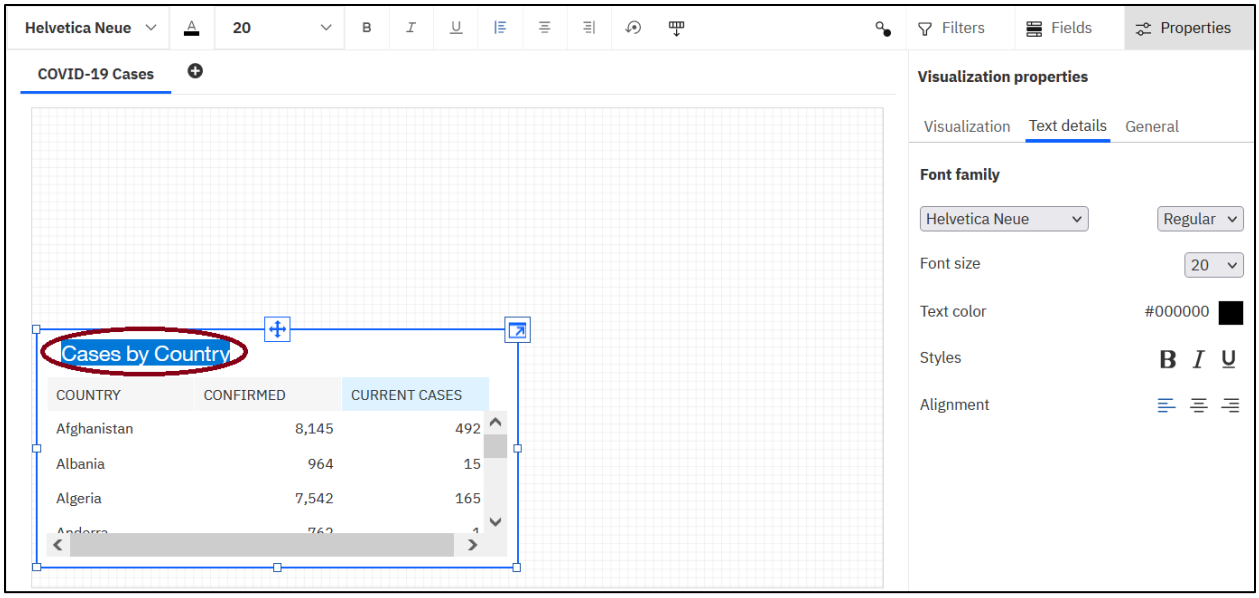
16. Click **Appearance**.



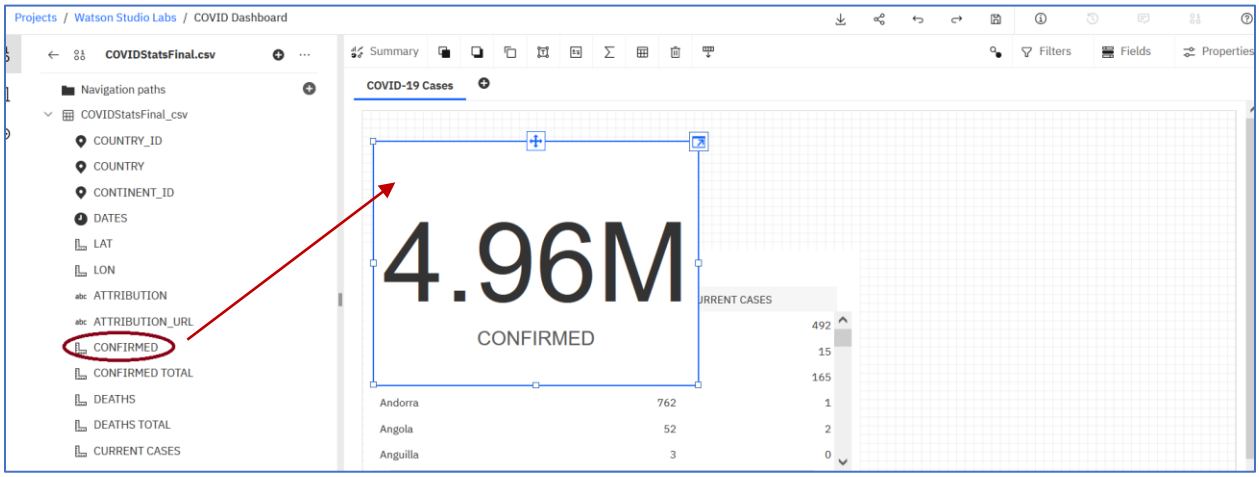
17. Click **Show title**, and then highlight the title text and delete it. Enter “Cases by Country”.



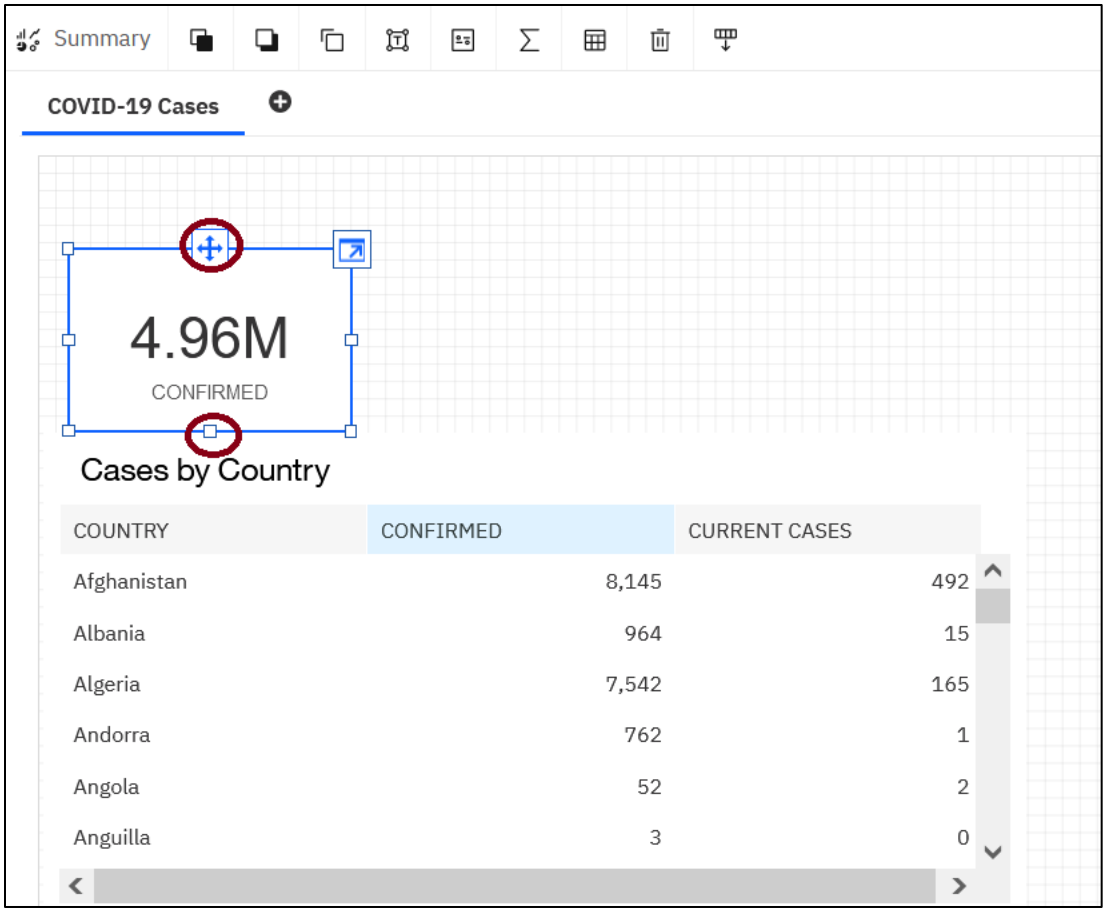
18. If you want to make other edits to the title, click the Properties in the top right corner while the title is highlighted.



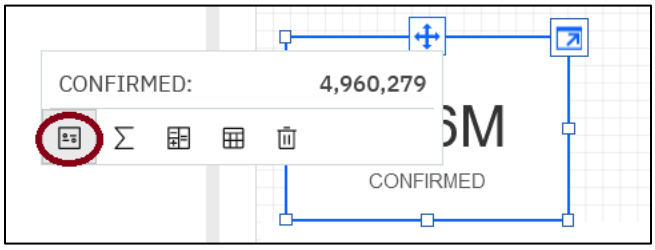
19. Drag CONFIRMED to the top of the **Cases by Country** table.



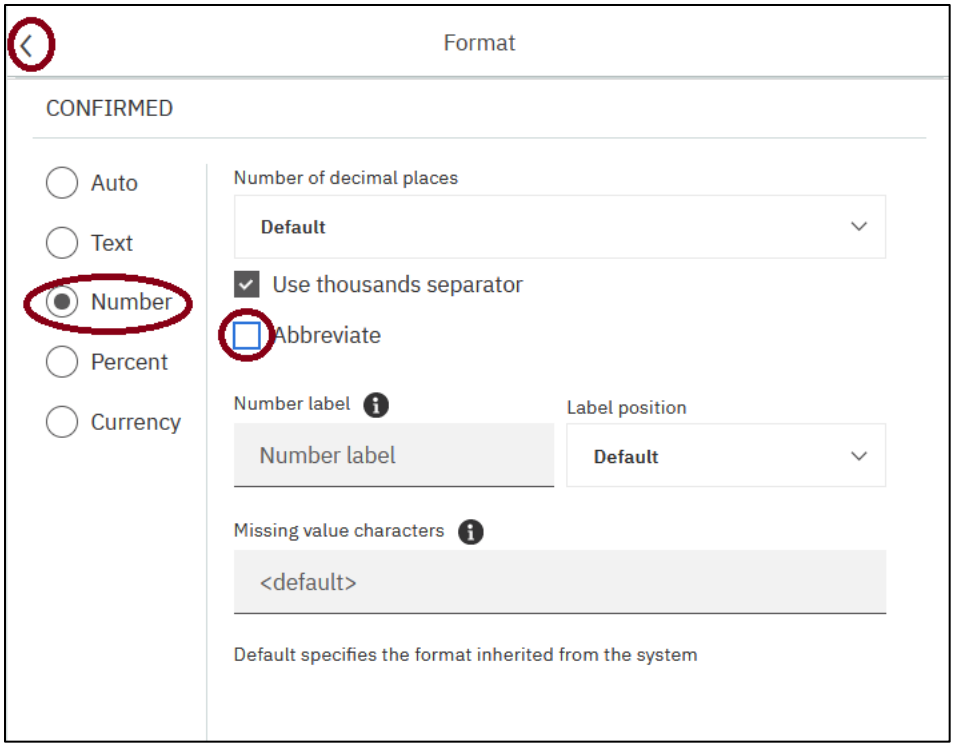
20. Shrink the size by clicking on the white box and re-position by clicking on the plus icon.



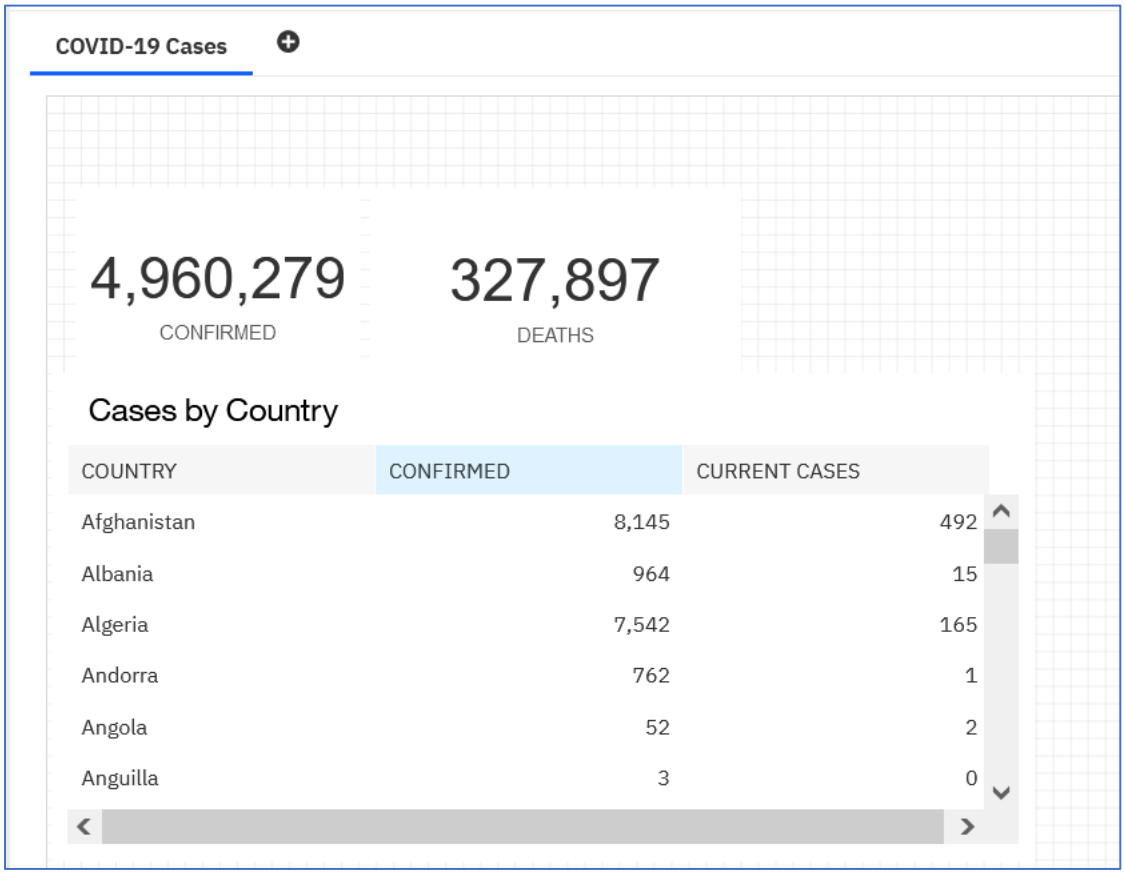
21. Reformat the 4.96M by right-clicking on the number and clicking on the format icon.



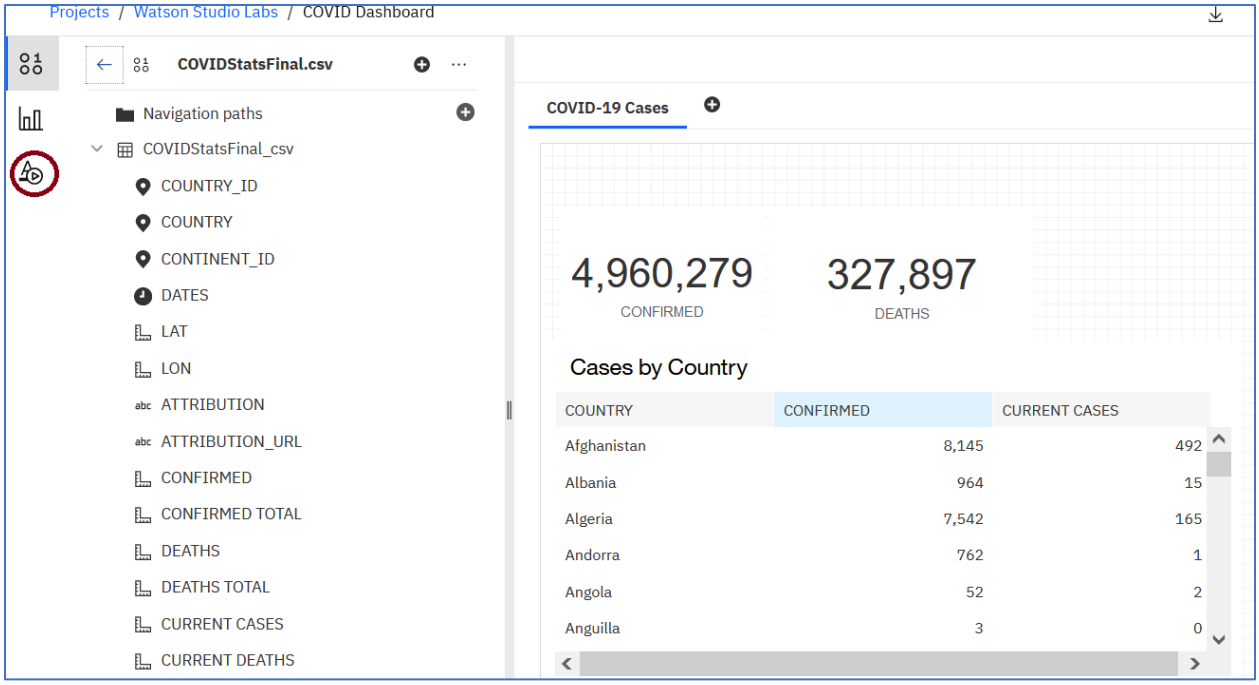
22. Click on **Number,** uncheck the **Abbreviation** check box and click the back arrow.



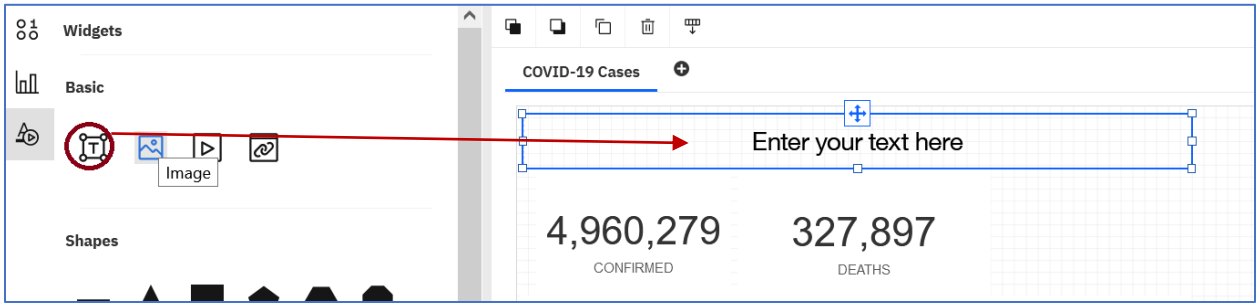
23. Repeat steps 19-22 to add DEATHS to the right of CONFIRMED.



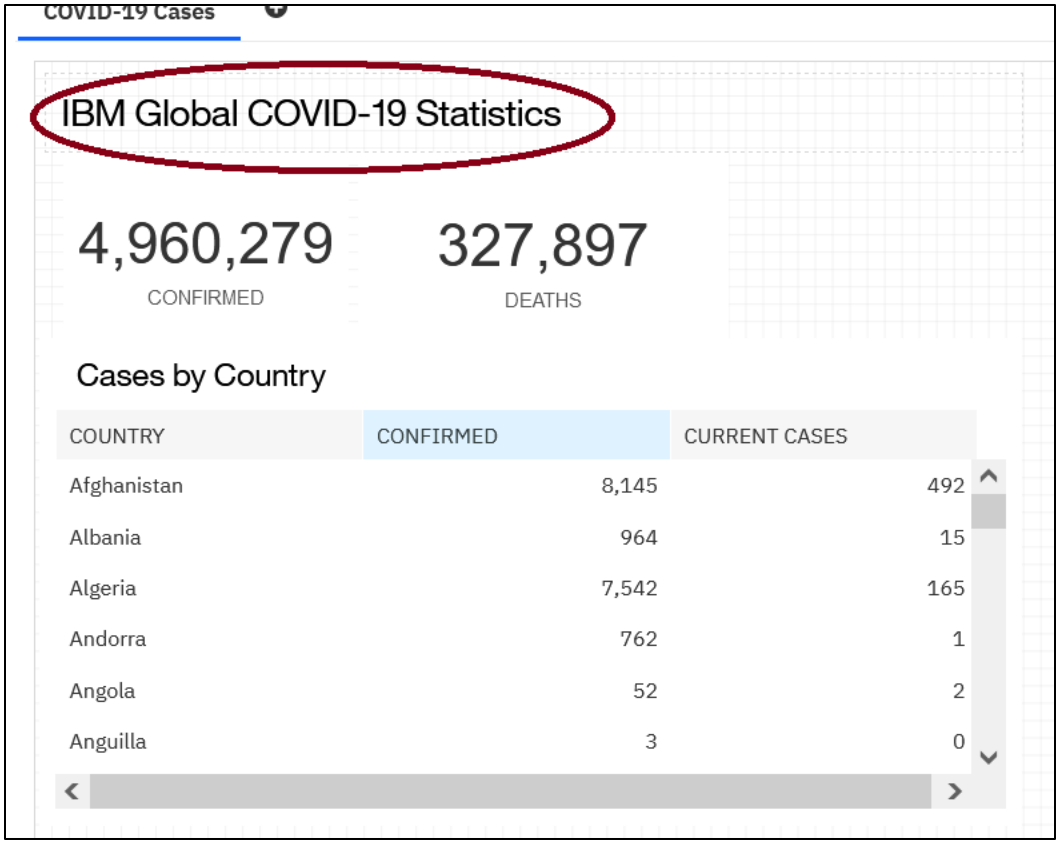
24. To add a title to the Dashboard, click on the widgets icon to open the **Widgets** panel.



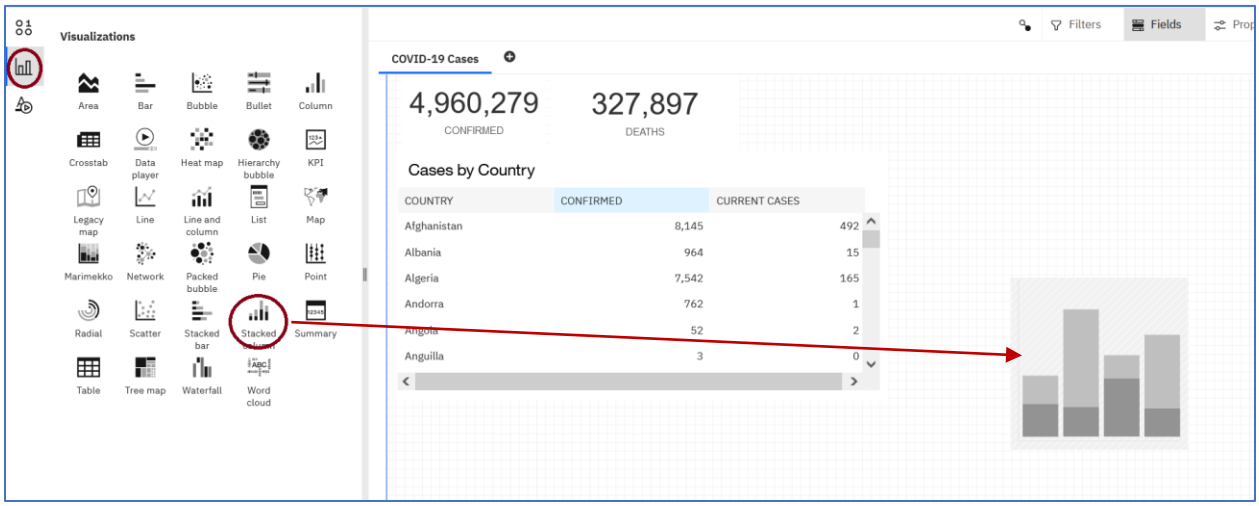
25. Then click and drag a **Text icon** to the top of your dashboard. Resize to fit the top of your dashboard.



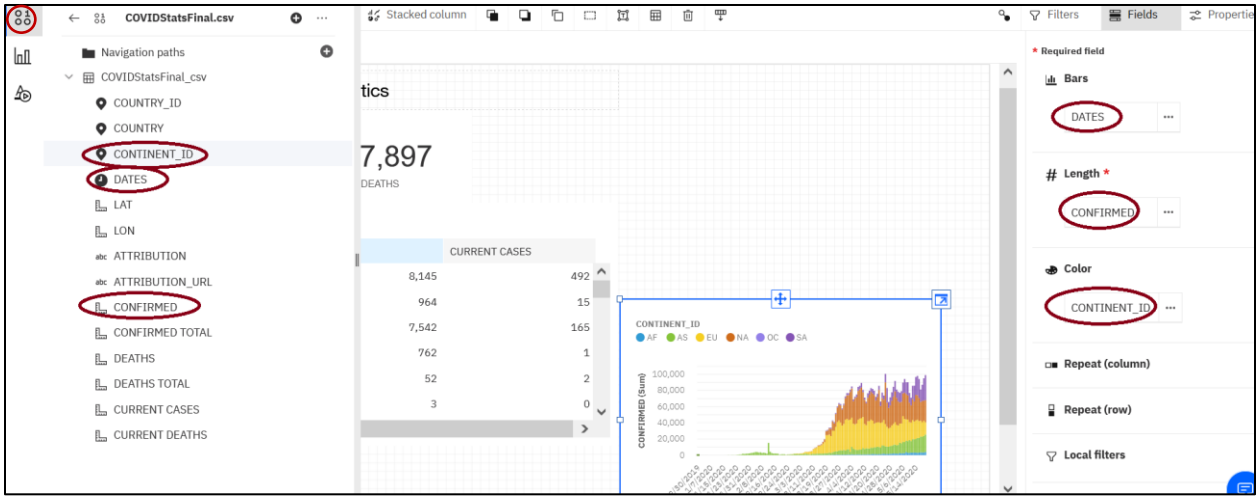
26. Click on the **Enter your text here** and **change the title** "**IBM Global COVID-19 Statistics**"



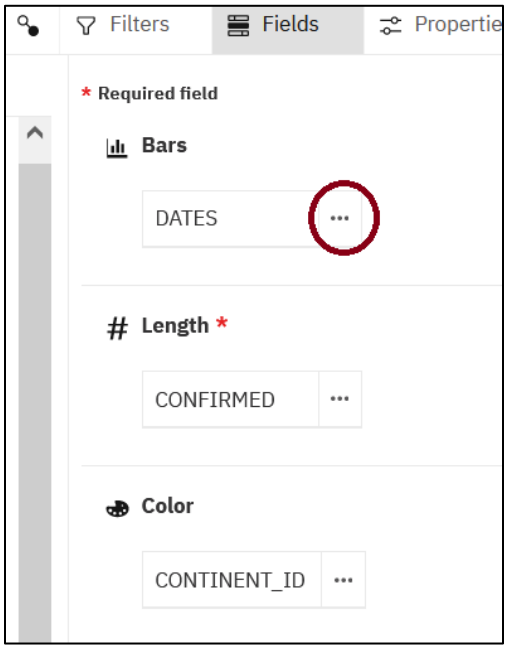
27. Click on the visualization icon to open the **Visualizations** panel, then click and drag the **Stacked Column** visualization to the bottom right quadrant of the dashboard.



28. Click on the Sources icon, and add the **DATES** column to the Bars field, the **CONFIRMED** column to the Length field, and the **CONTINENT_ID** column to the color field.



29. Add a Date filter to only show results from May 6th to May 20th by clicking on the **three dots** next to **DATES** then click **Filter.**



30. Enter the dates:

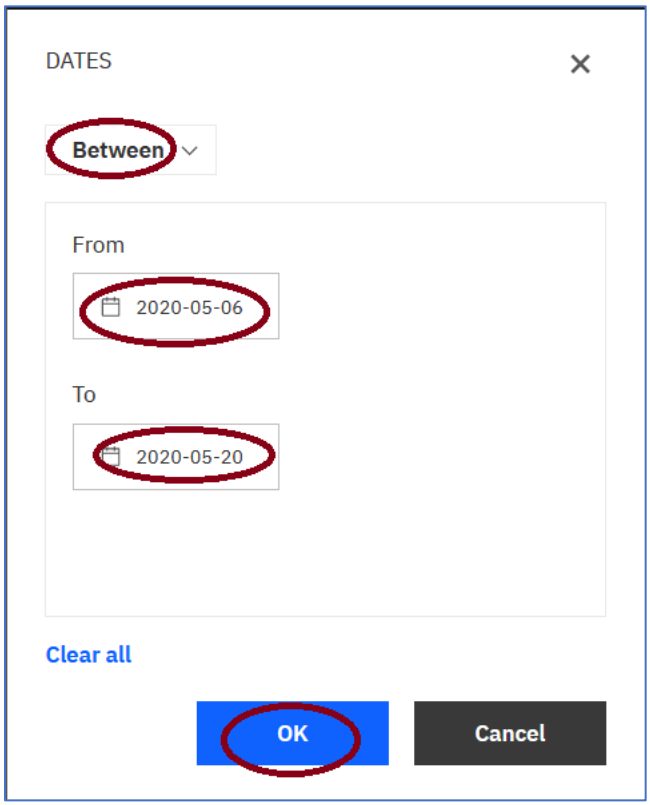
    From

    2020-05-06

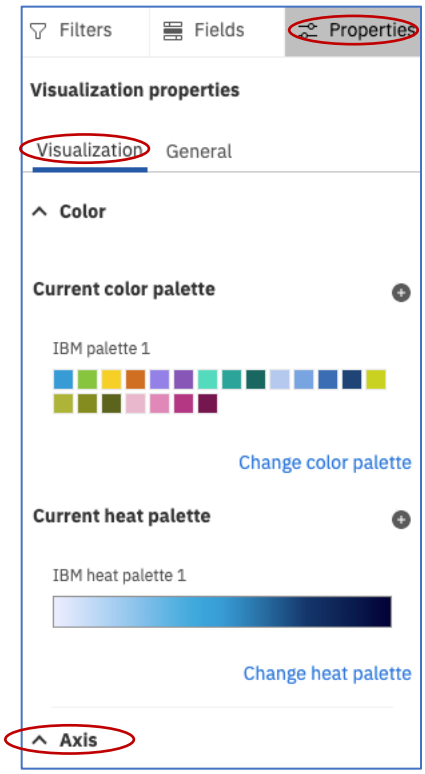
    To

    2020-05-20

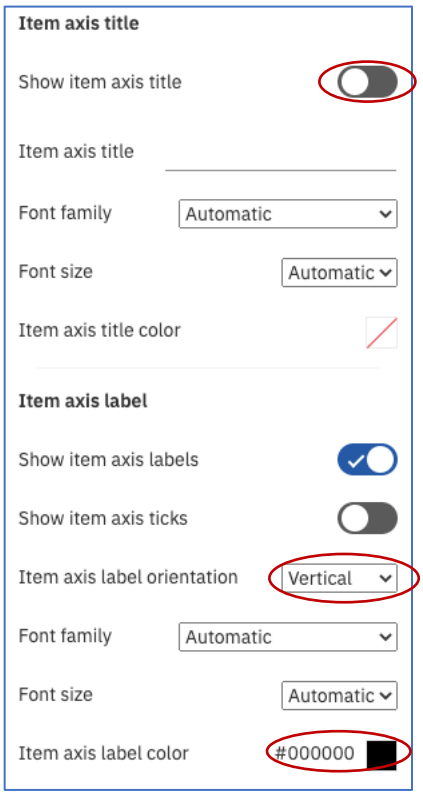
    And click **OK**.



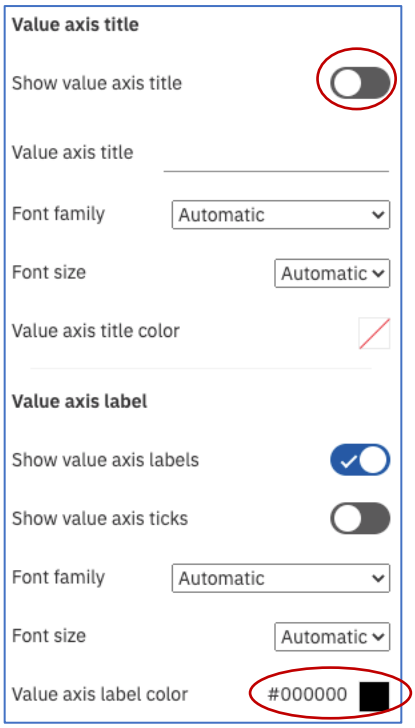
31. Now we'll add styling to the graph, first we'll fix the cluttered dates by making them vertical and making the font color black. Click on **Properties**, **Visualization**, and **Axis**.



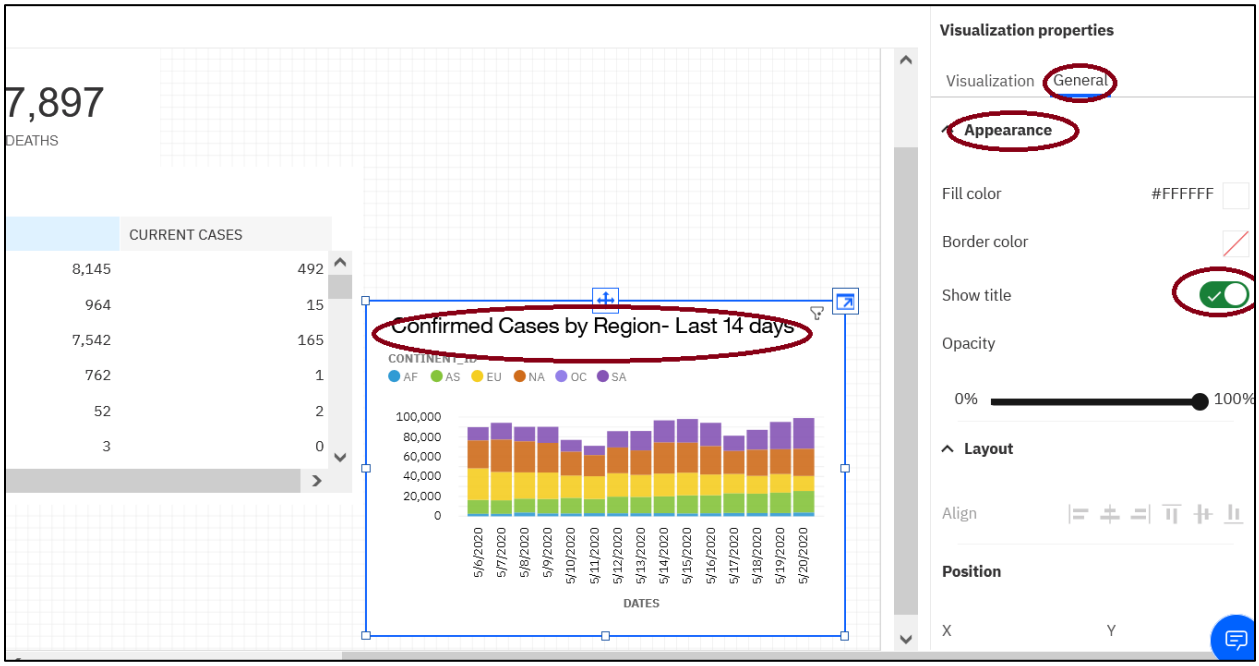
32. Change **Item axis label orientation** to **vertical** and **Item axis label color** to **black**.



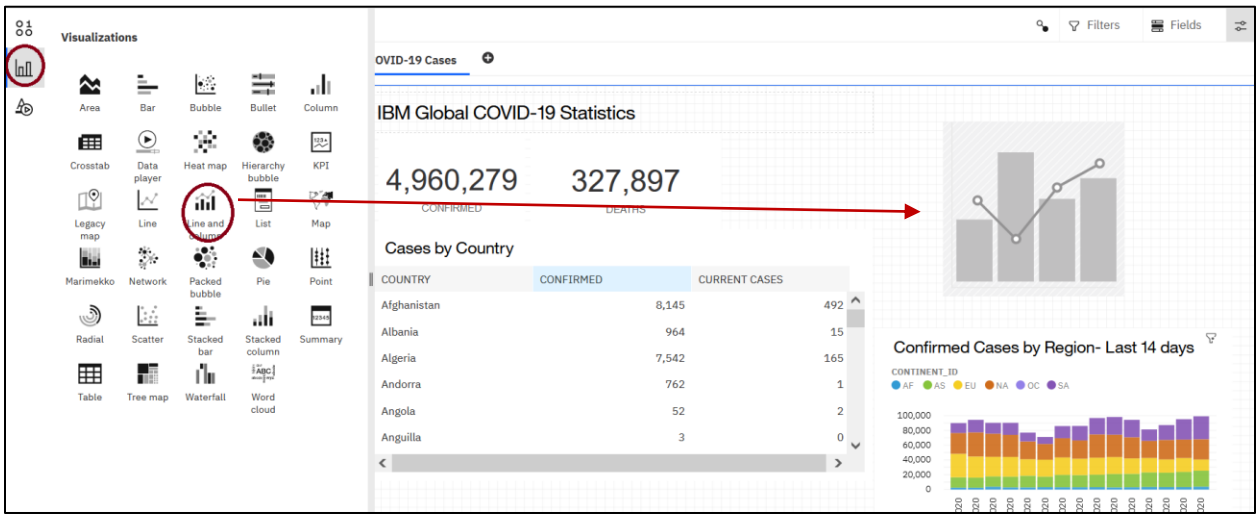
33. Scroll down and **uncheck Show value axis title** and change the **Value axis label color** to **black**.



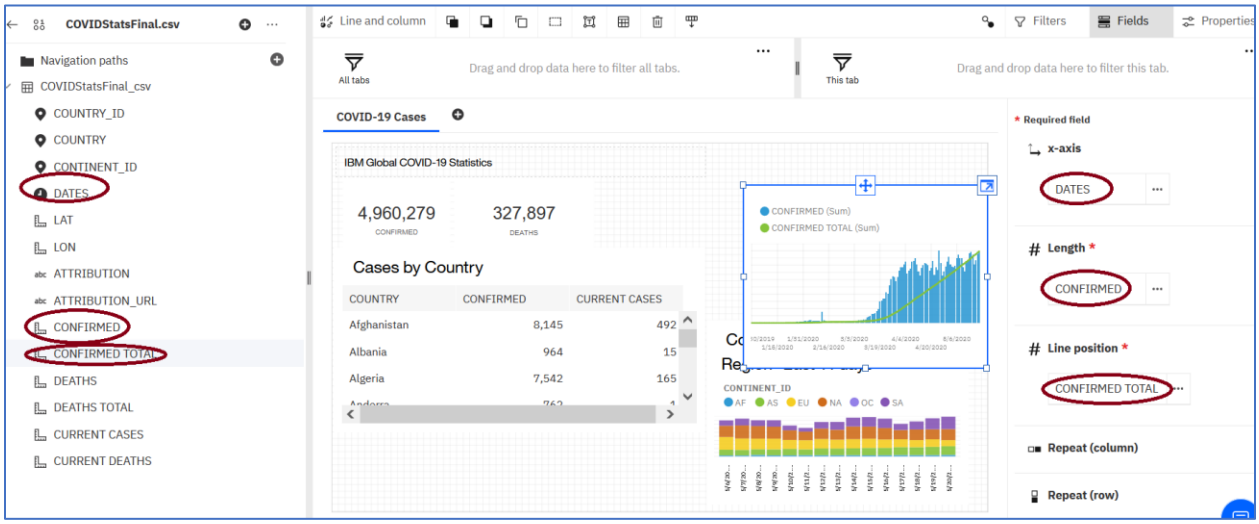
34. Scroll back up. Click on **General**, click on **Appearance**, click **on Show title**. Enter **"Confirmed Cases by Region – Last 14 Days**" as the title.



35. Finally, we'll be making a line and column graph to show how confirmed cases have changed over time. Click on the visualization icon, and then drag and drop the **line and column** icon to the canvas above the stacked bar graphic.

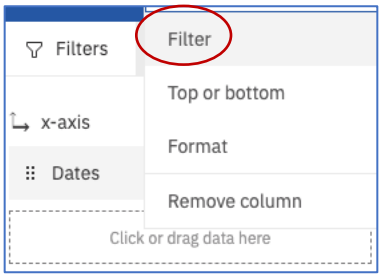


36. Then add the **DATES** column to the x-axis field, **CONFIRMED** to the Length field, and **CONFIRMED TOTAL** to the Line Position



37. Apply a filter to the Dates column so the graph shows information from March 1st to May 20th. Click on the **three dots next to DATE**

38. Click **Filter**.



39. Set the filter dates to:

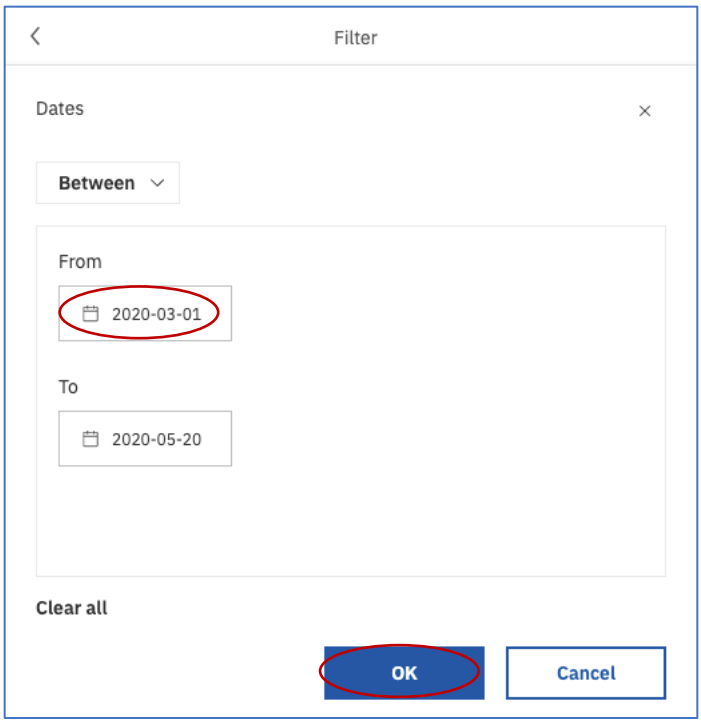
    From

    2020-03-01

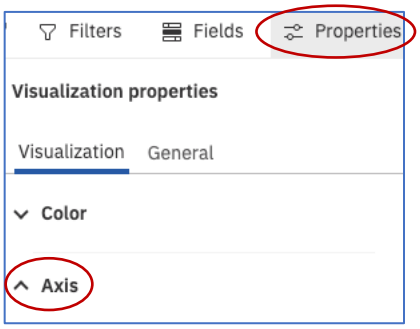
    To

    2020-05-20

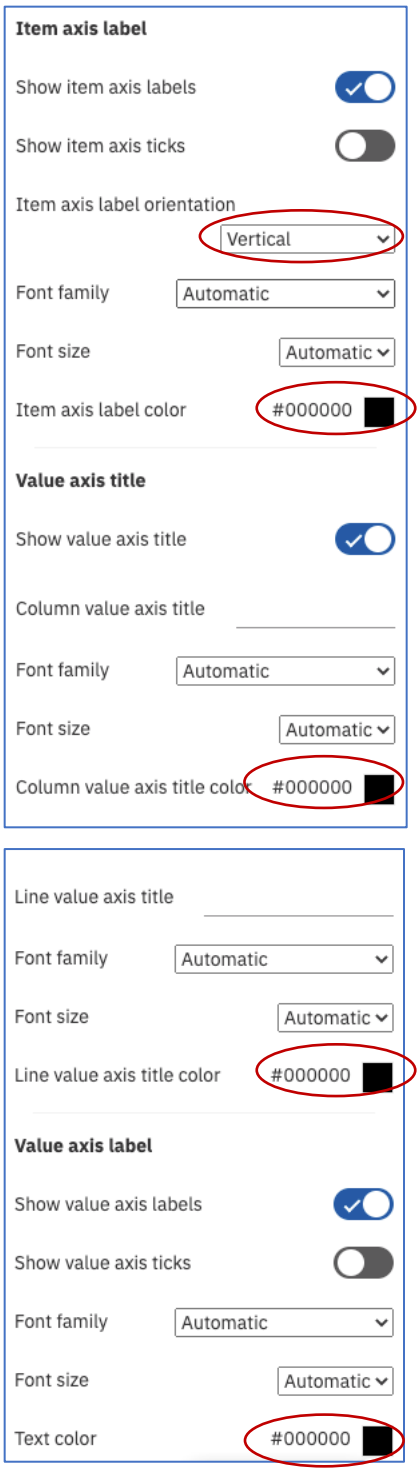
    Then Click **OK**.



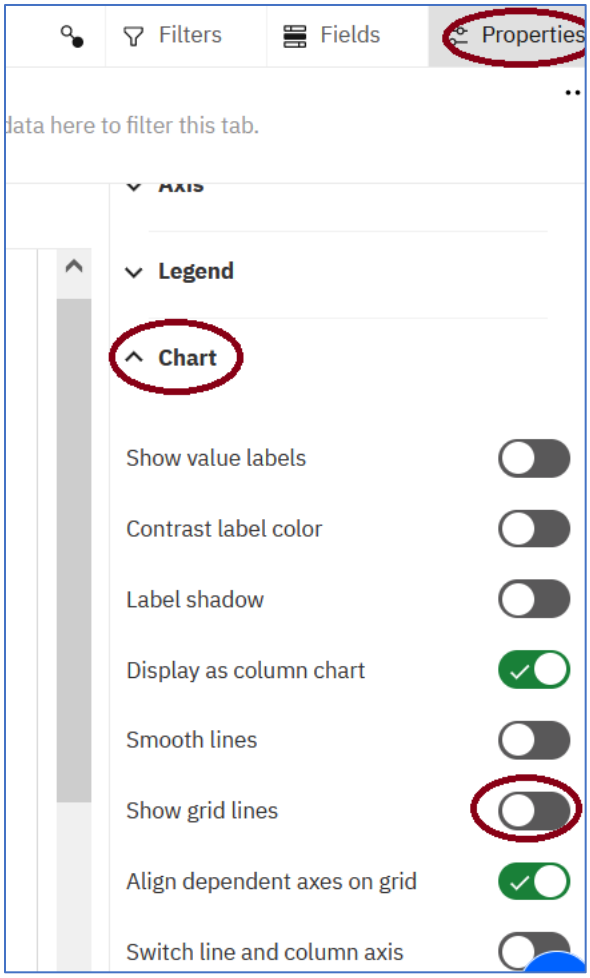
40. Click on **Properties** and **Axis**.



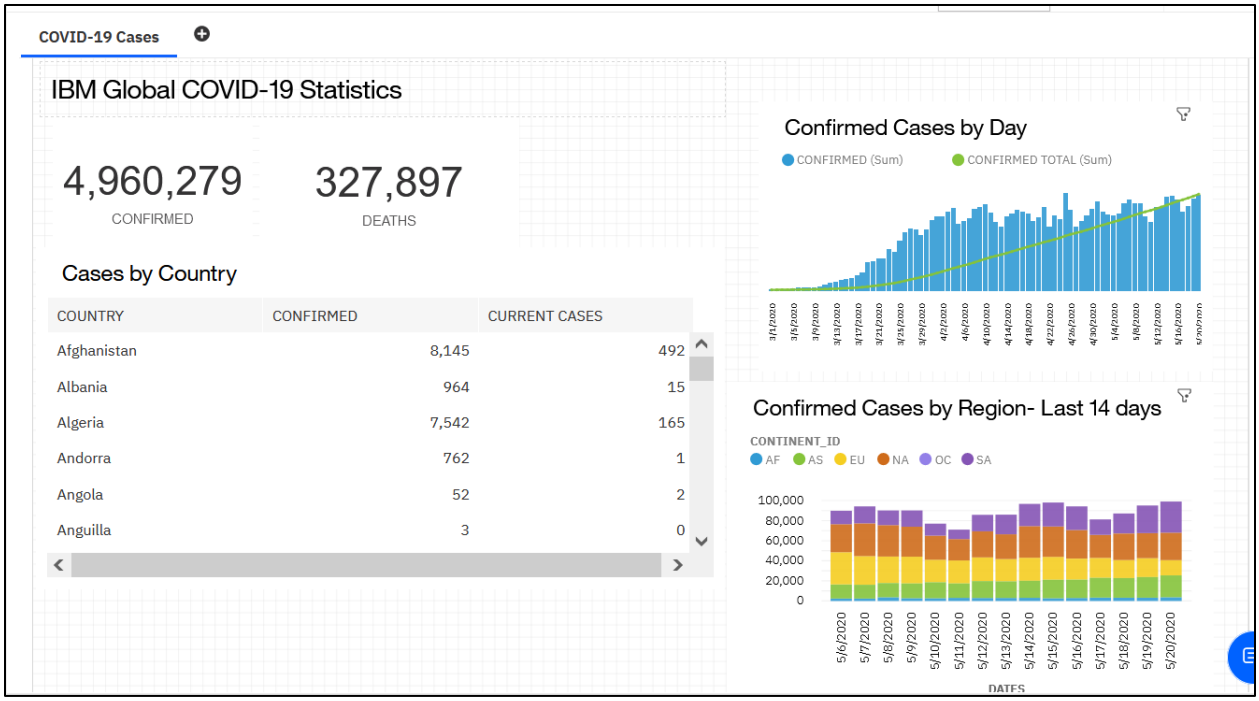
41. Similar to what we did for the stacked bar graph, change the **Item axis label color** to **black**, **Item axis label orientation** to **vertical**. Additionally, change the **Value axis title, Line value axis title color,** and **Value axis label** to **black**.



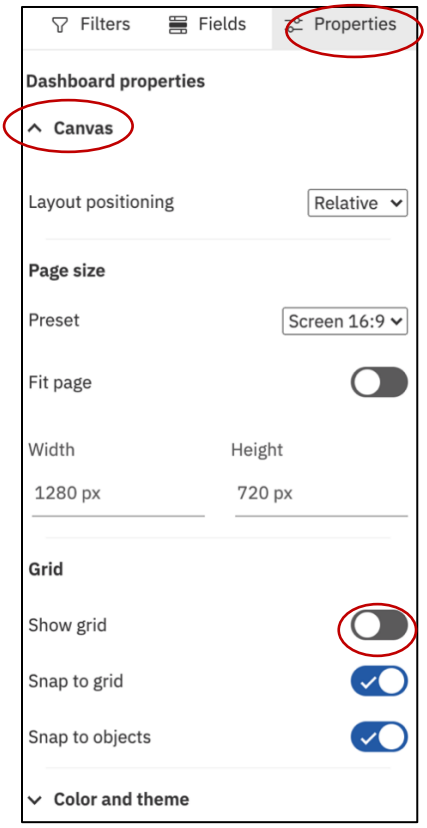
42. Remove the grid lines by clicking on **Properties, Chart,** and toggle **Show grid lines** to the off position.



43. Following the procedure that we have done before, change the title to **Confirmed Cases by Day**. The dashboard appears as below.



44. Finally, for the finishing touches, select the Dashboard (**click anywhere on the dashboard that is not a tile**) then click on **Properties, Canvas,** and toggle **Show grid** to the off position



45. Voila! You have successfully created your first tab. Play around with the alignment to make sure everything looks neat and clean. Play around with the data by clicking on different countries.