

IBM Training

Student Exercises

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

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Introduction

This lab will build a series of Cognos Dashboards to display COVID-19 data.

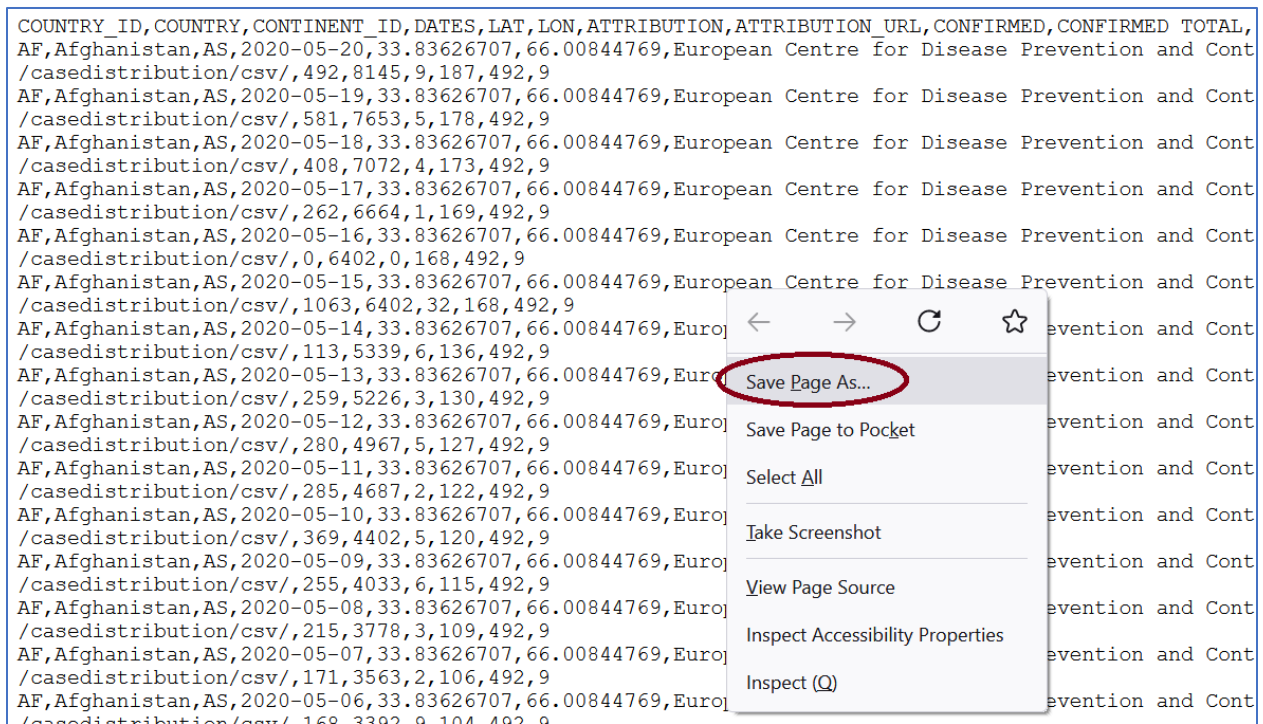
Objectives

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. Whereas 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.

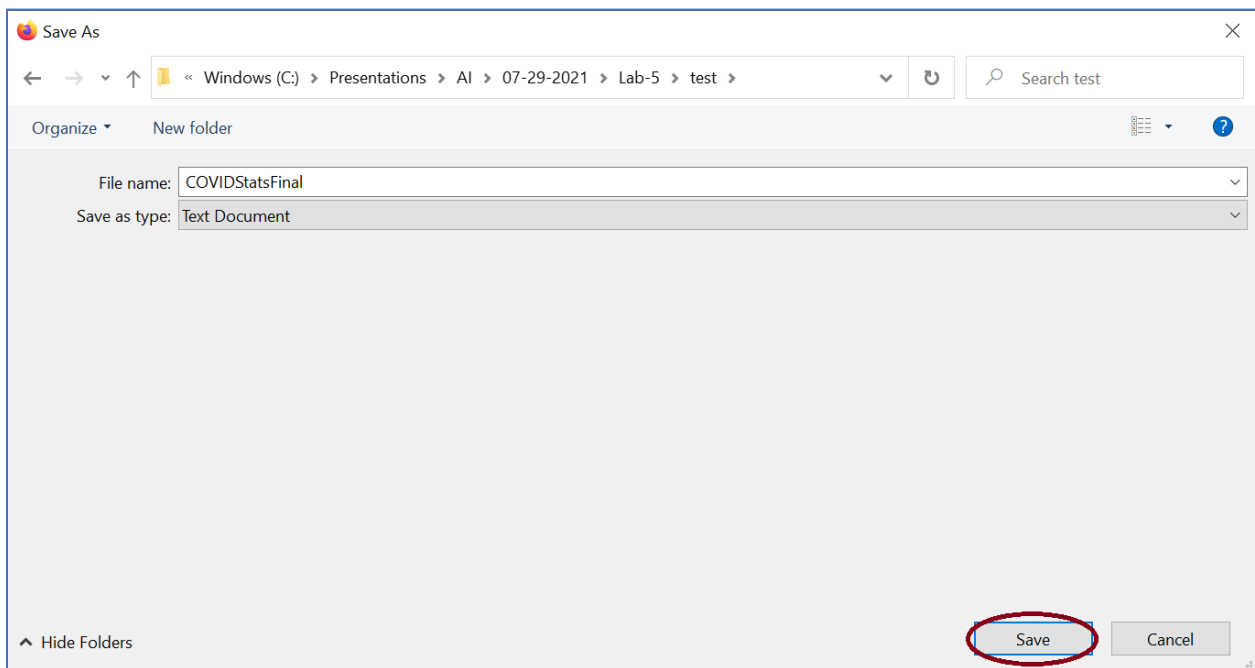
After completing this lab, you will be familiar with building dashboards using the Cognos Dashboard Embedded service in Watson Studio.

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_12-02-2021/main/Lab-5/data/COVIDStatsFinal.csv and press the <Enter> key.
2. Right-click on the panel and click on **Save Page As...**

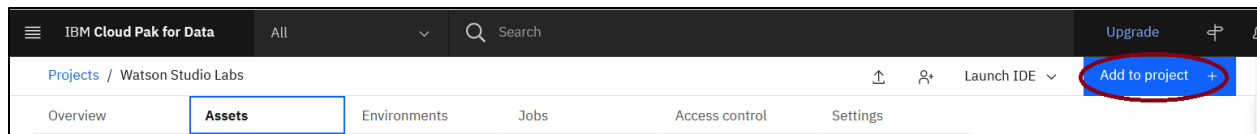


3. Navigate to a directory where you want to save the file and click **Save**.

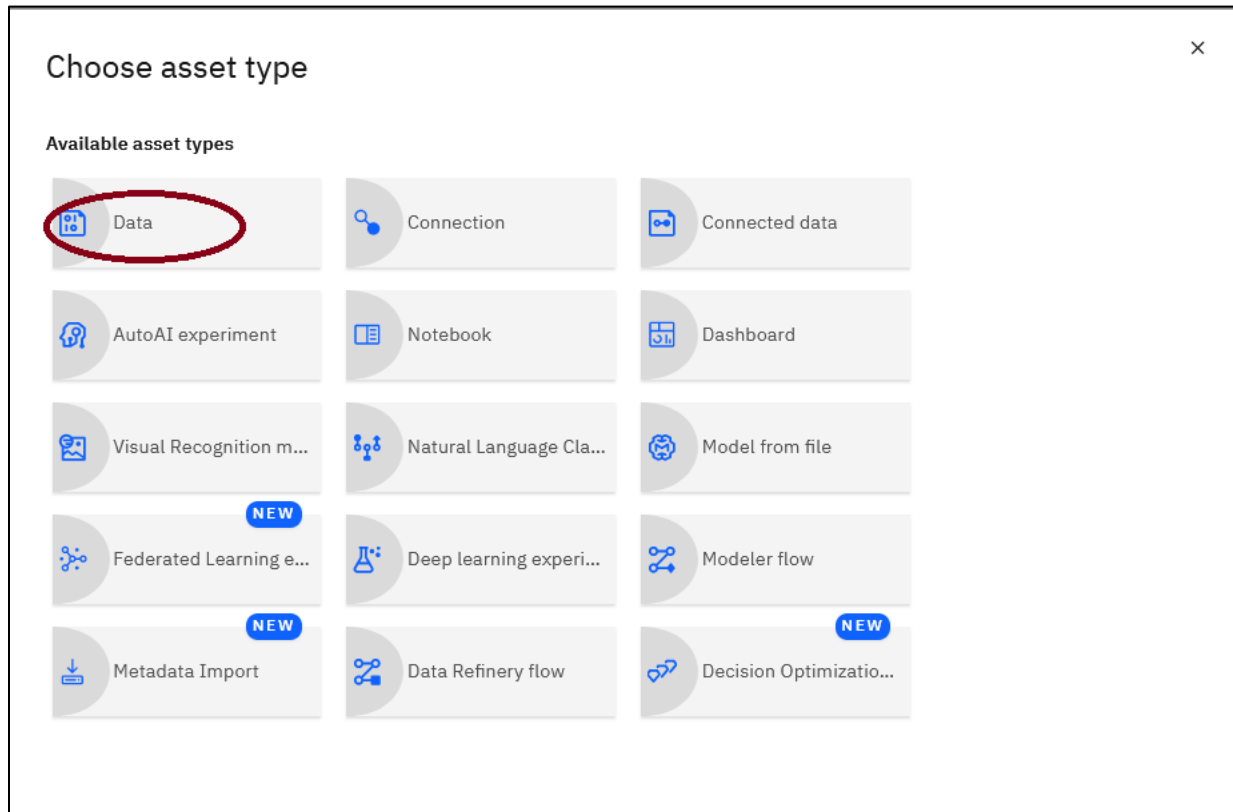


Exercise 2: Create a Data Asset.

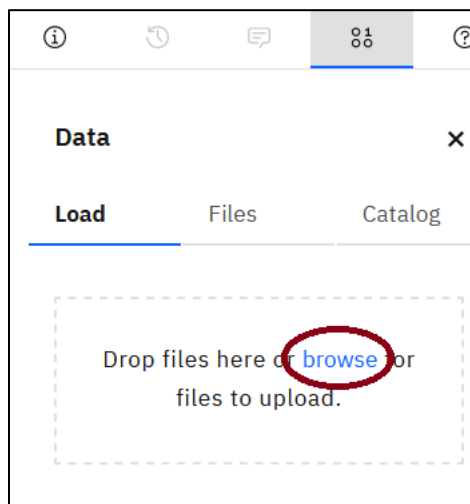
1. Click on **Add to project**



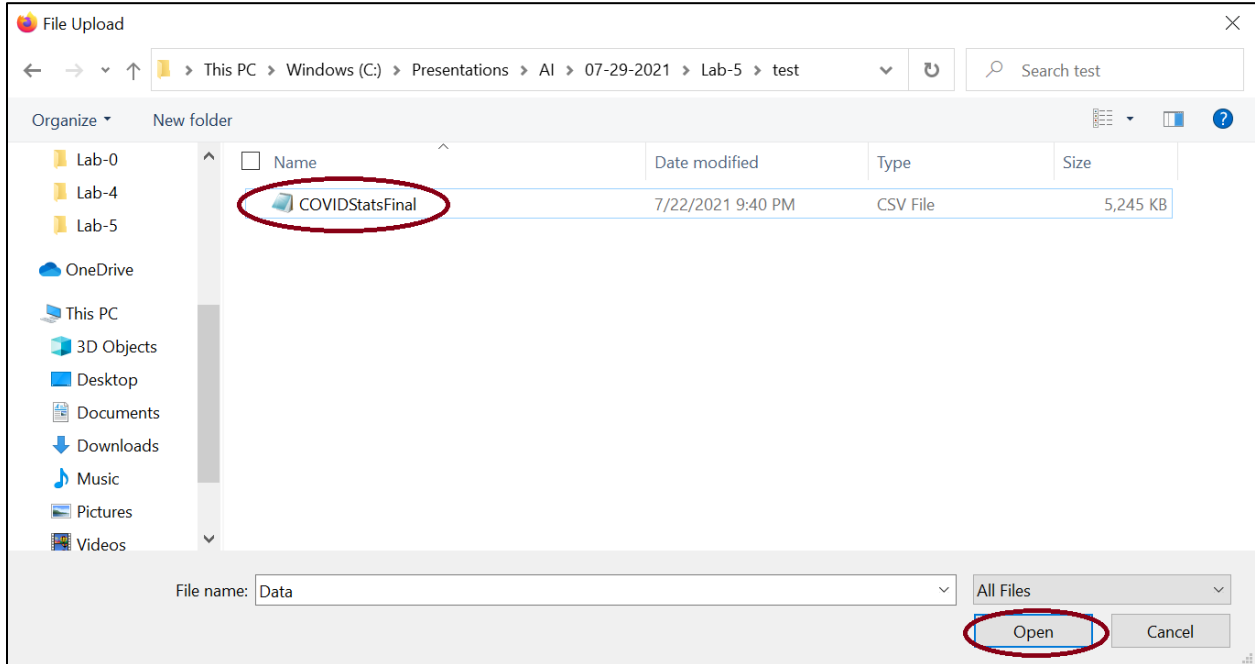
2. Click on **Data**



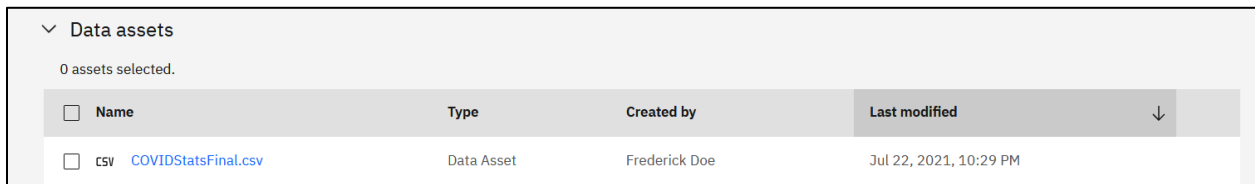
3. Click on **browse**.



4. Click on **Open**.

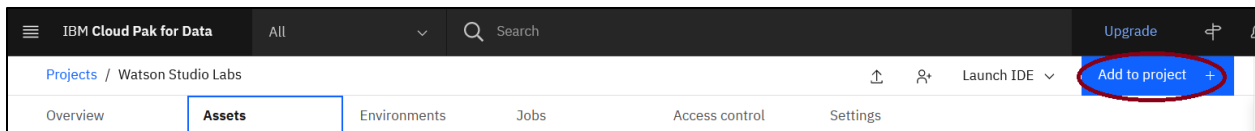


5. The Data Asset is created.

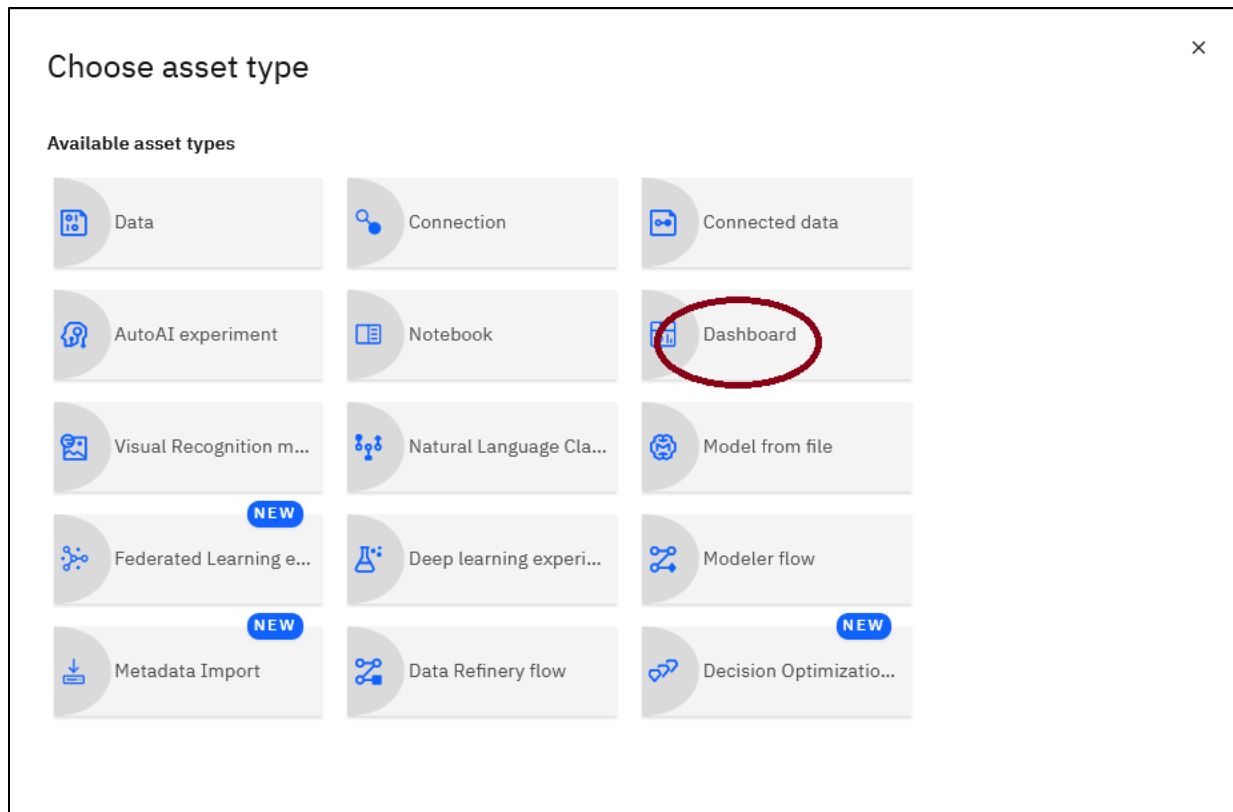


Exercise 3: Create a Dashboard

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**

The screenshot shows the 'New dashboard' form. The 'Name' field is circled in red and contains 'COVID|Dashboard'. The 'Associate a Cognos Dashboard Embedded service instance' section is also circled in red.

New dashboard

Blank From file

Name

COVID|Dashboard

Description (Optional)

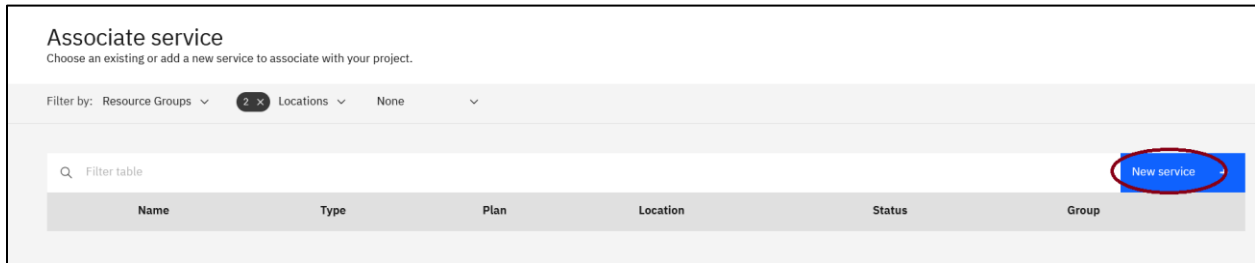
Dashboard description

Associate a Cognos Dashboard Embedded service instance

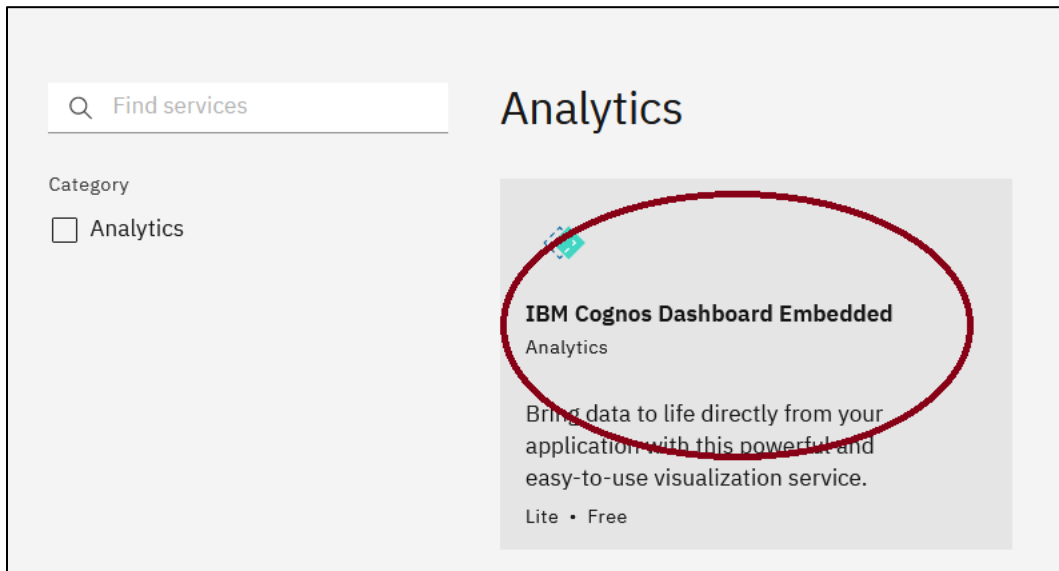
No Cognos Dashboard Embedded service instances are associated with your project.

[Associate a Cognos Dashboard Embedded service instance with your project](#) then click the reload button to refresh the instances available to associate with this dashboard.

- 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**.



- Click on **Cognos Dashboard Embedded**.



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

IBM Cognos Dashboard Embedded

Author: IBM • Date of last update: Aug 17, 2020 • [Docs](#)

Create About

Select a region

Select a region

Dallas

Pricing plan

Displayed prices do not include tax. Monthly prices shown are for country or region: United States

Plan	Features	Pricing
Lite	50 sessions/month	Free

A session is a 60 minute period where end-users can perform unlimited interactions with an embedded dashboard.

Summary

IBM Cognos Dashboard Embedded

Region: Dallas

Plan: Lite

Service name: IBM Cognos Dashboard Embedded-ey

Resource group: Default

Create

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

1 item selected							Associate service	Cancel
Name	Type	Plan	Location	Status	Group			
<input checked="" type="checkbox"/> IBM Cognos Dashboard Embedded-ey	IBM Cognos Dashboard Embedded	Lite	Dallas	Not associated	Default			

- Click **Reload**.

New dashboard

Blank From file

Name

COVID Dashboard

Description (Optional)

Dashboard description

Associate a Cognos Dashboard Embedded service instance

No Cognos Dashboard Embedded service instances are associated with your project.

[Associate a Cognos Dashboard Embedded service instance with your project](#), then click the reload button to refresh the instances available to associate with this dashboard.

Reload

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

Blank From file

Name
COVID Dashboard

Description (Optional)
Dashboard description

Cognos Dashboard Embedded service
IBM Cognos Dashboard Embedded-ey

Cancel Create

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

Select a template

Layout
Tabbed
Infographic

Tabbed template

OK Cancel

Exercise 4: Create a Dashboard Tab

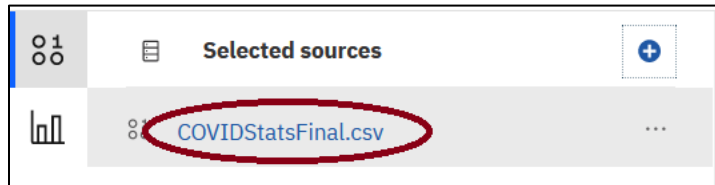
1. Click on the **+** icon to add a Source.

Selected sources

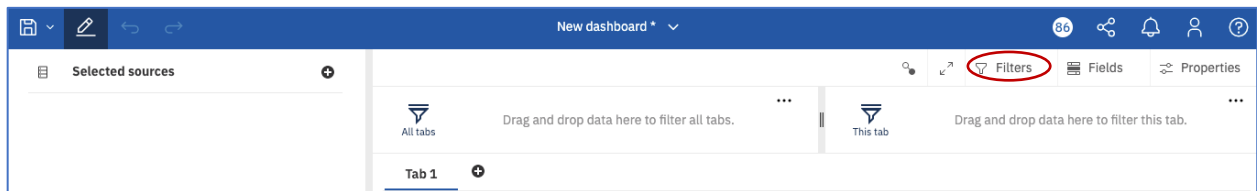
2. Click on **Data asset, COVIDStatsFinal.csv** and then click on **Select**.



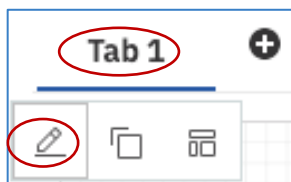
3. Click on **COVIDStatsFinal.csv**



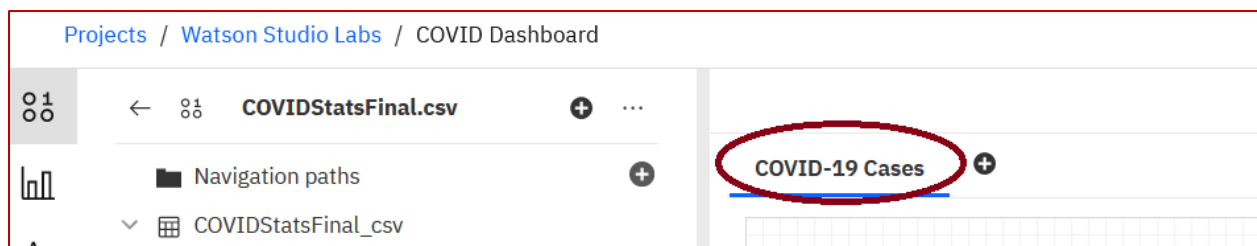
4. Click on the **Filters** button to close the Filters panel.




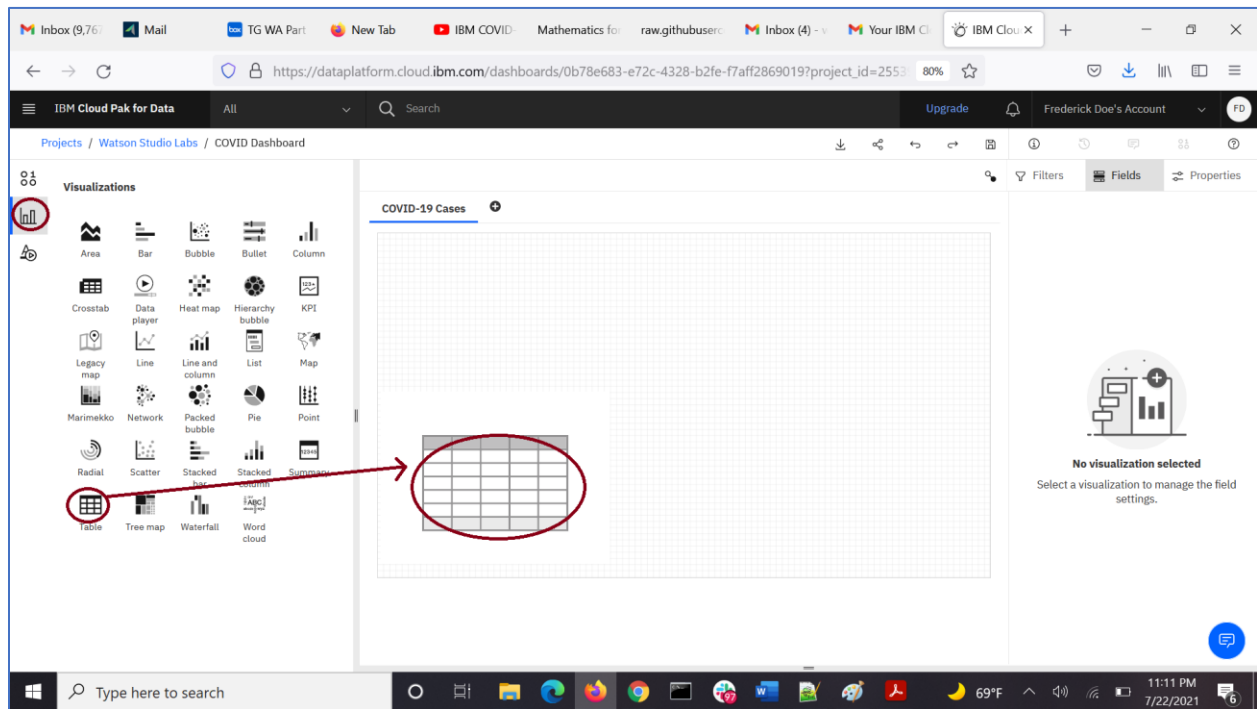
5. Click on **Tab 1**




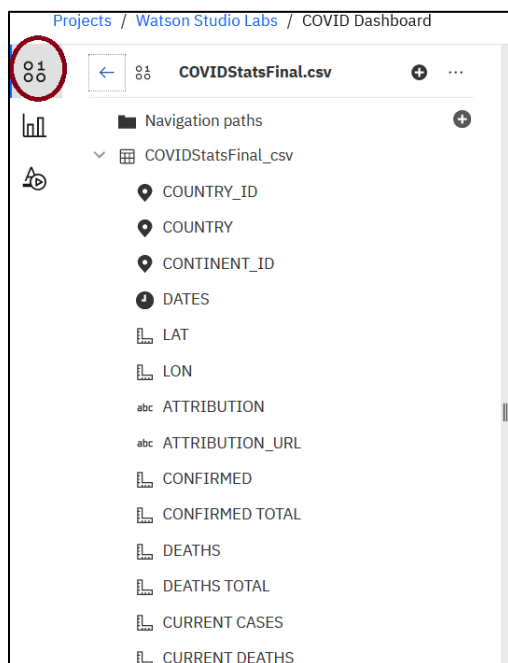
6. Enter “**COVID-19 CASES**” as the tab title and press the <Enter> key.



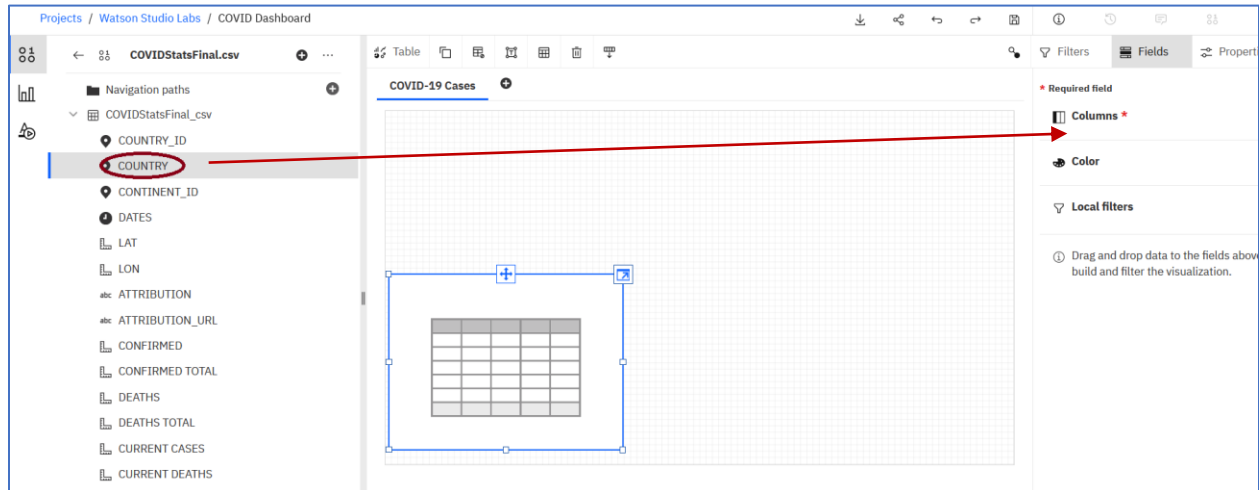
7. Click on the **visualizations**  icon to open the visualizations panel then **click and drag the Table icon to the bottom left of your dashboard.**



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

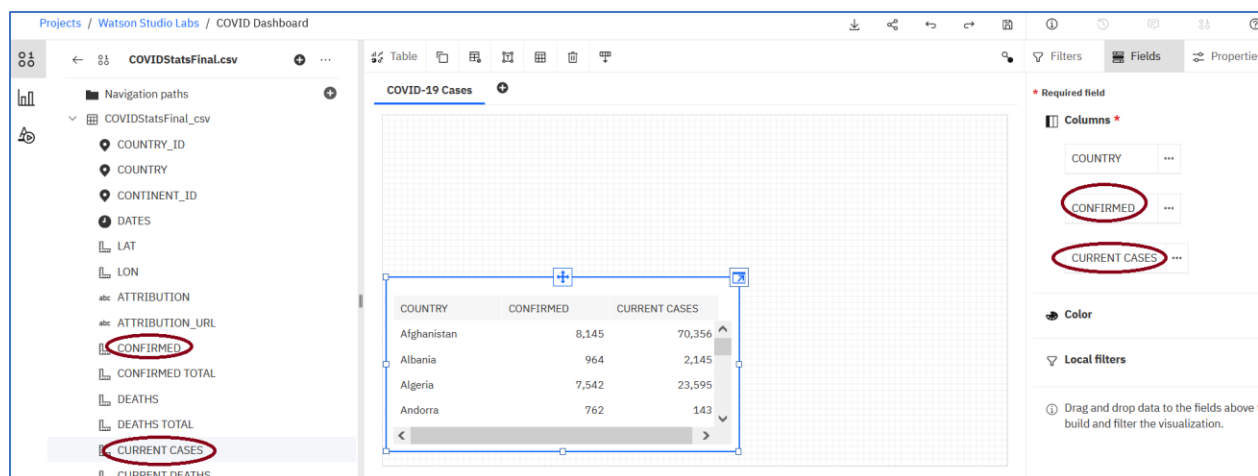


9. Select the Table, then click on **COUNTRY** in the sources panel (on the left) and **drag it to the Columns field** in the Fields panel (on the right). Look for the blue highlight (see below) and then release the mouse key.

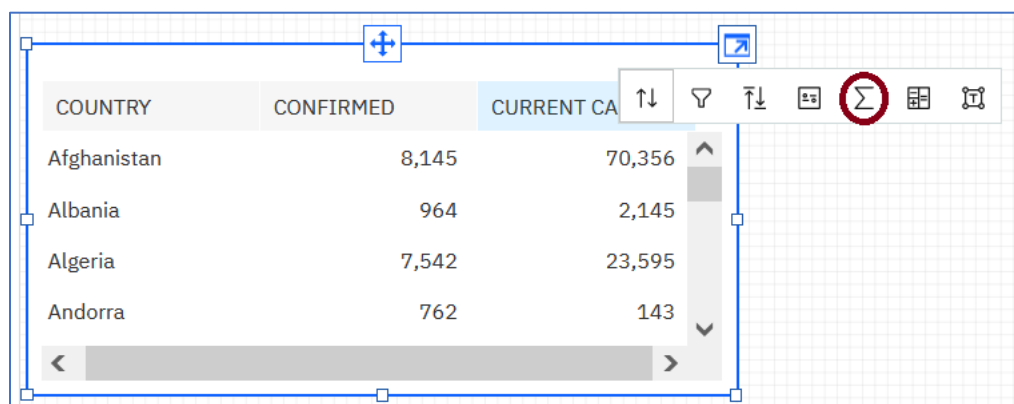


10. Repeat step 9 for **CONFIRMED** and **CURRENT CASES**.
- CONFIRMED** is the total number of cases confirmed up to May 20th, 2020
 - CURRENT CASES** is the number of new cases on May 20th, 2020. Note, we will need to further process this column.

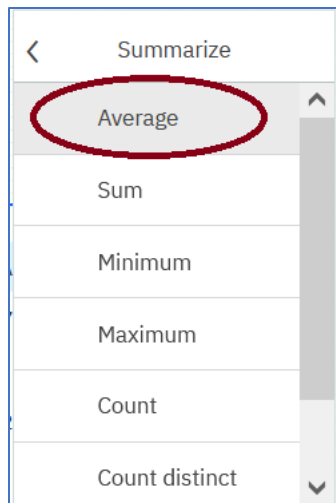
If needed, click on the white squares on the border of the Table to resize. **Resize as needed** so you can view all three columns.



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.

COVID-19 Cases +

COUNTRY	CONFIRMED	CURRENT CASES
Afghanistan	8,145	492
Albania	964	15
Algeria	7,542	165
Andorra	762	1

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

COVID-19 Cases

COUNTRY	CONFIRMED	INT CASES
Afghanistan	8,145	492
Albania	964	15
Algeria	7,542	165
Andorra	762	1

Required field

Columns *

- COUNTRY
- CONFIRMED
- CURRENT CASES

Color

Local filters

Drag and drop data to the fields above to build and filter the visualization.

15. Click **General**.

Visualization properties

Visualization **General**

Color

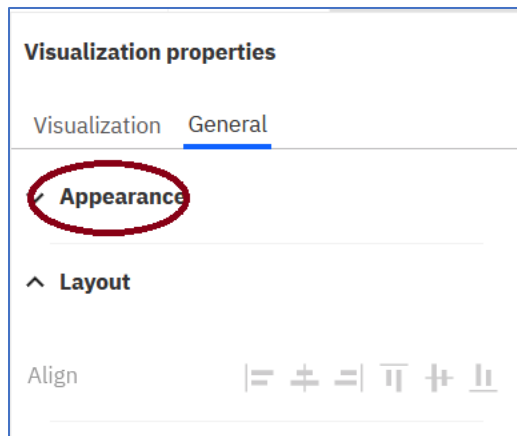
Current conditional palette

IBM conditional palette 1

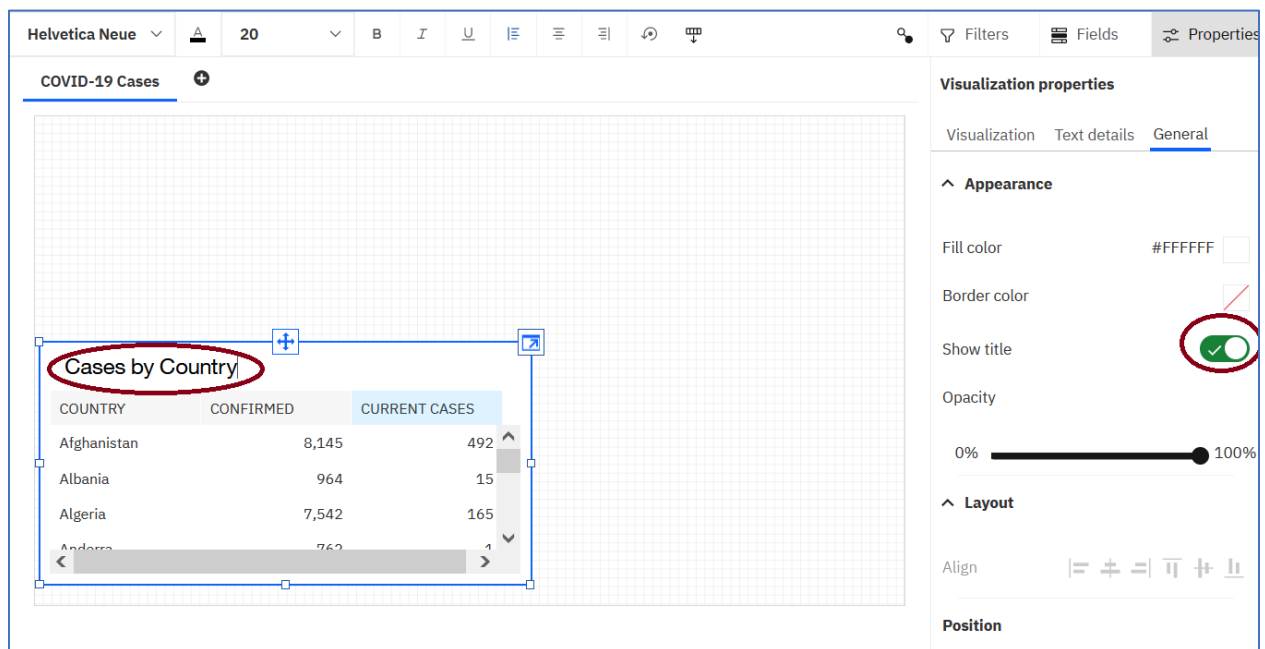
Change conditional palette

Chart

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.

The screenshot shows the IBM Watson Studio interface. On the left, a table titled "Cases by Country" is displayed. The table has three columns: "COUNTRY", "CONFIRMED", and "CURRENT CASES". The data rows are as follows:

COUNTRY	CONFIRMED	CURRENT CASES
Afghanistan	8,145	492
Albania	964	15
Algeria	7,542	165
Andorra	762	1

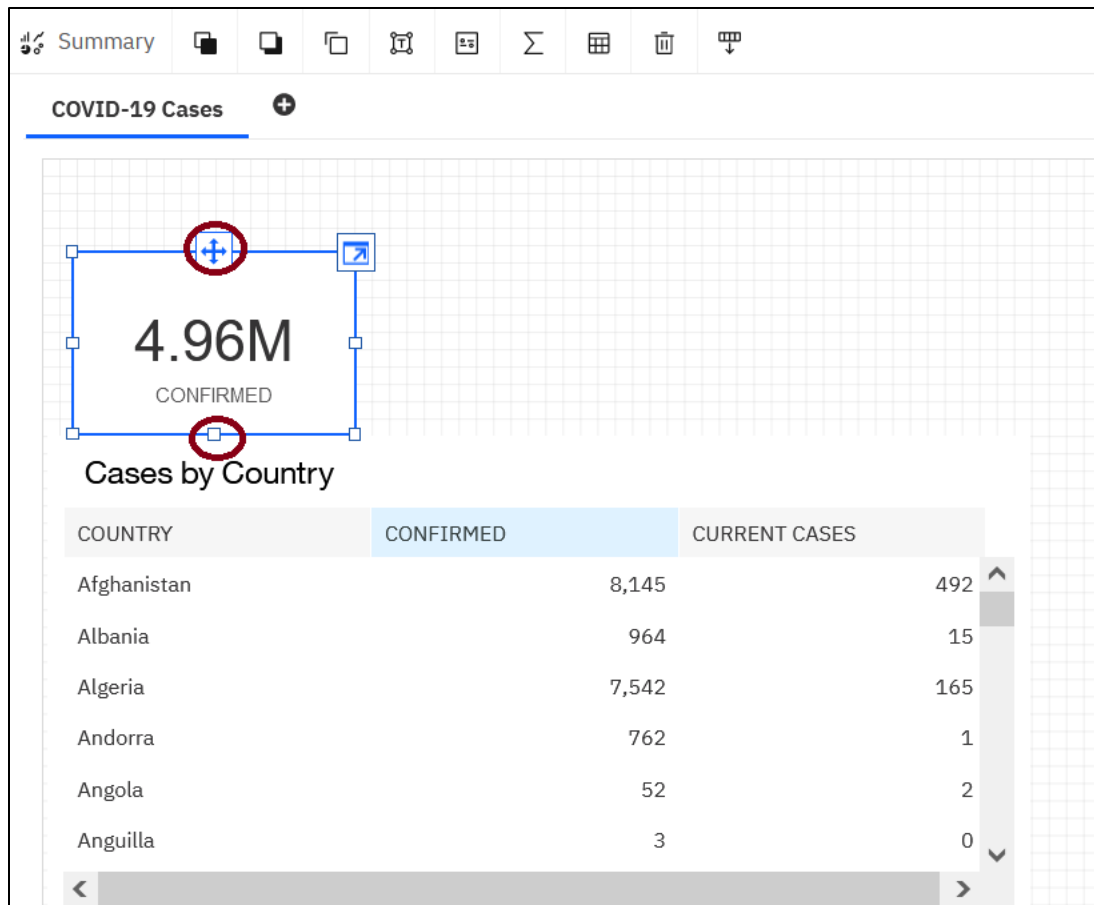
On the right, the "Visualization properties" panel is open, showing the "Text details" tab. The font family is set to "Helvetica Neue", the font size is "20", and the text color is "#000000".


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

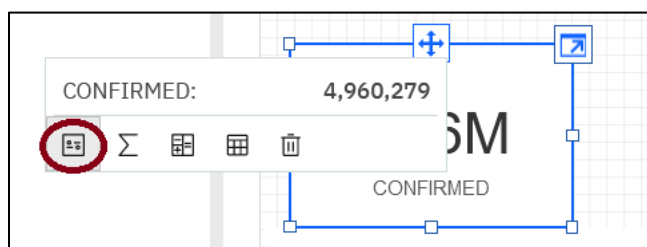
The screenshot shows the IBM Watson Studio interface. On the left, a navigation pane lists the fields in the "COVIDStatsFinal.csv" dataset. The "CONFIRMED" field is circled in red, and a red arrow points from it to the top of the visualization area. The visualization area displays a large text "4.96M" with "CONFIRMED" written below it. To the right of the text, a table is visible with the following data:

	CONFIRMED	CURRENT CASES
Andorra	762	1
Angola	52	2
Anguilla	3	0


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

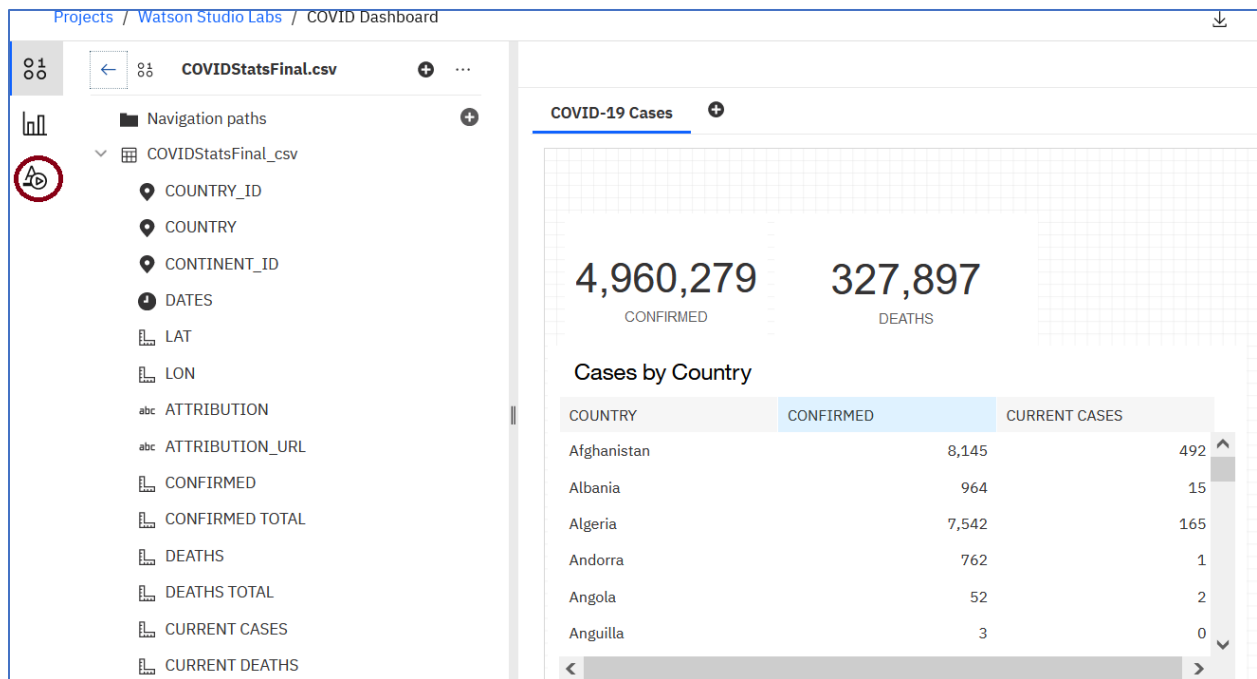


21. Reformat the 4.96M by right-clicking on the number and clicking on the format  icon.

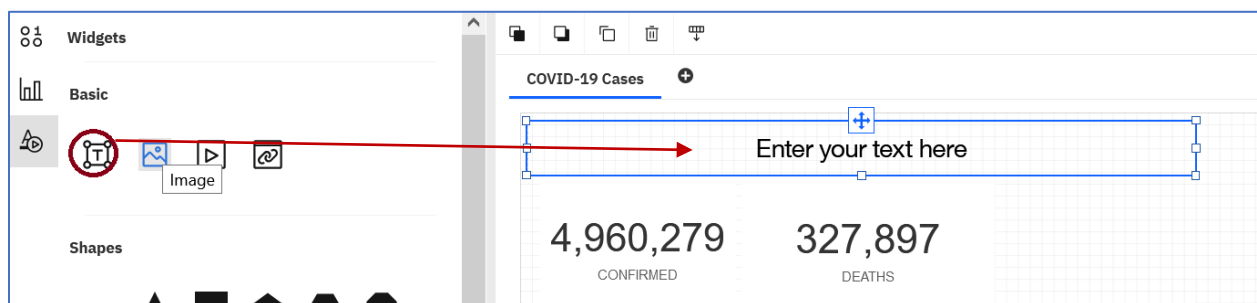


22. Click on **Number**, uncheck the **Abbreviation** check box and click the back arrow.

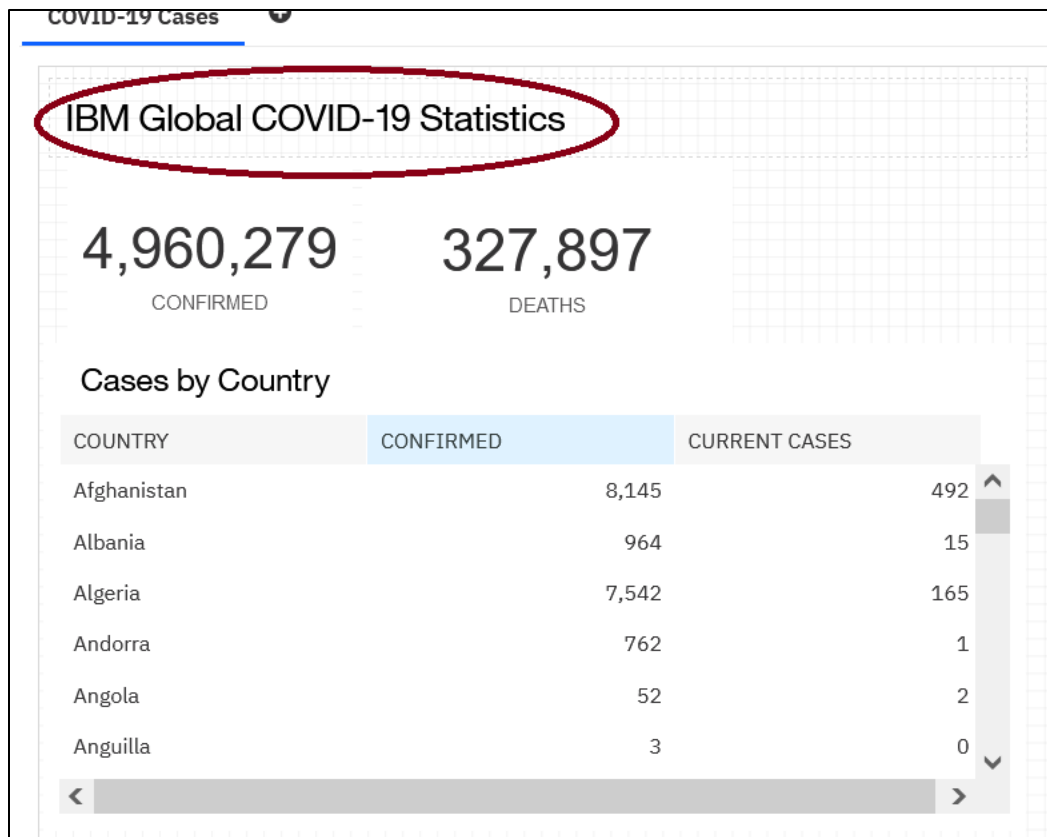
24. To add a title to the Dashboard, click on the widgets  icon to open the **Widgets** panel.




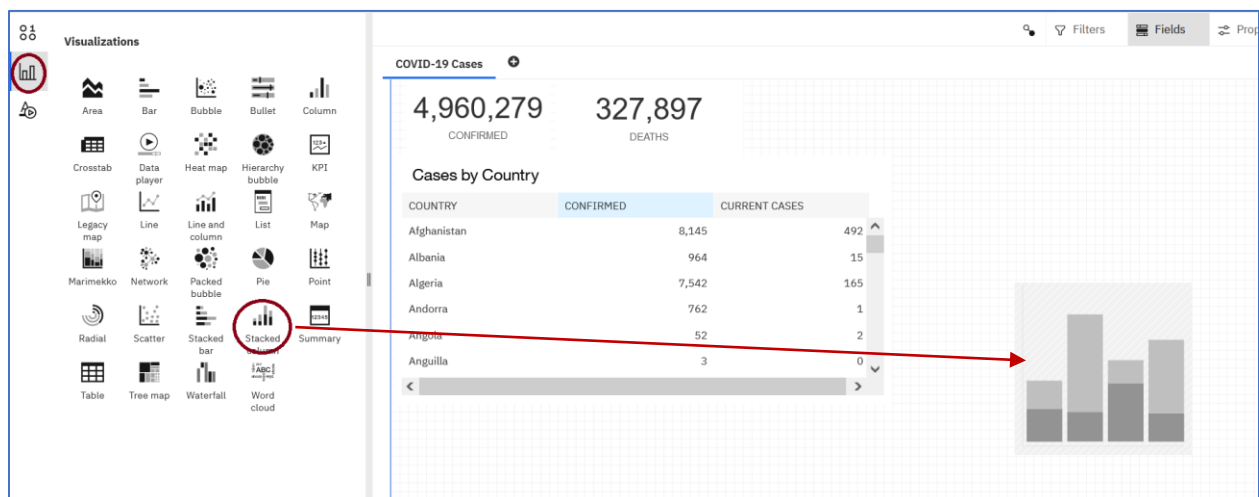
25. Then click and drag a **Text icon** to the top of your dashboard. Resize to fit the top of your dashboard.




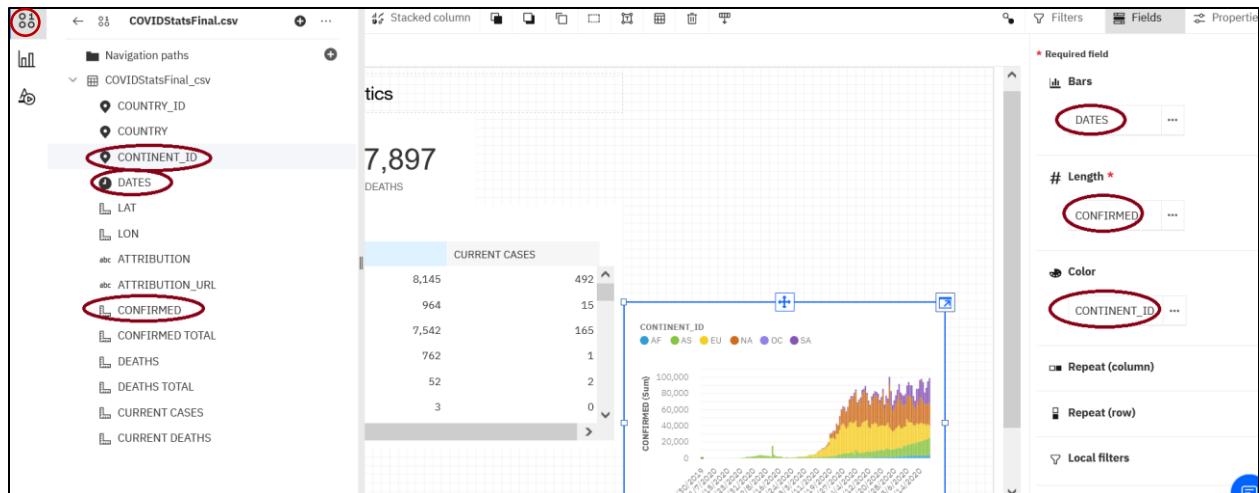
26. Click on the **Enter your text here** and change the title “IBM Global COVID-19 Statistics”



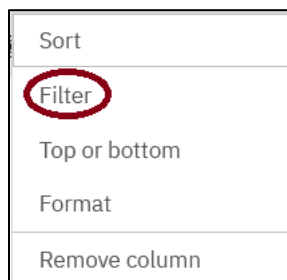
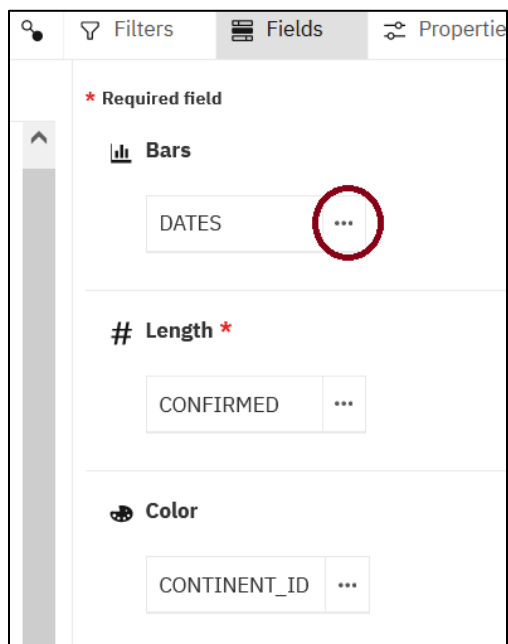
27. Click on the visualization icon  to open the **Visualizations** panel, then click and drag the **Stacked Column** visualization to the bottom right quadrant of the dashboard.



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:

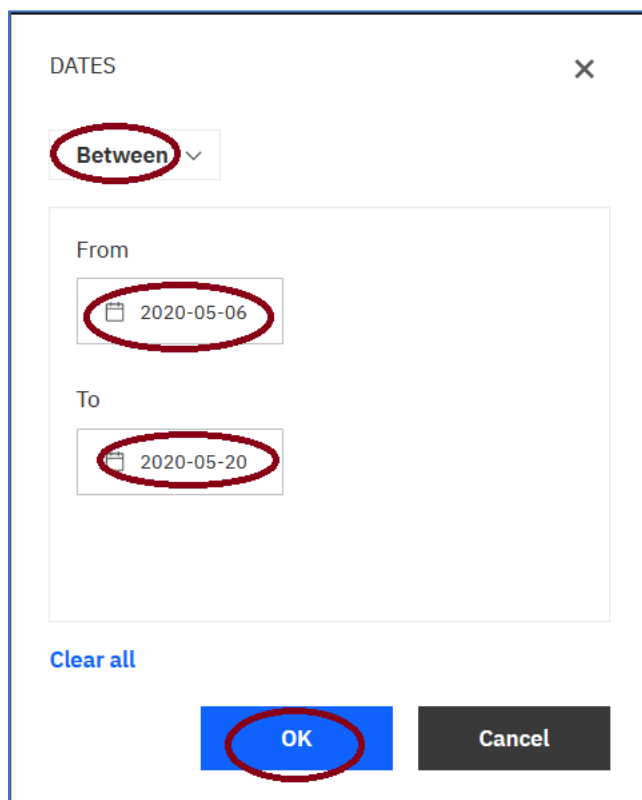
From

2020-05-06

To

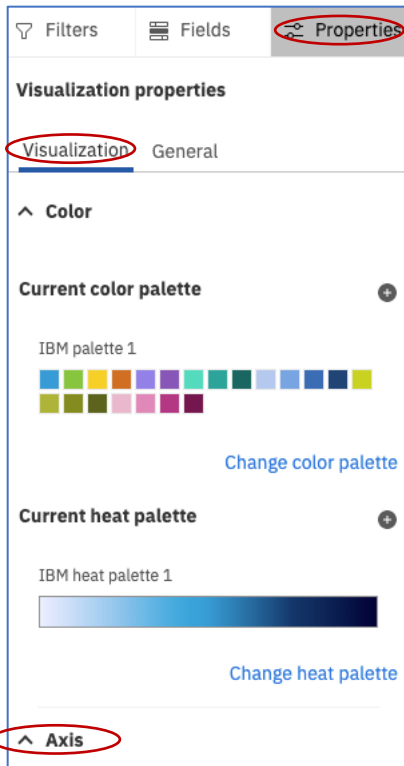
2020-05-20

And click **OK**.

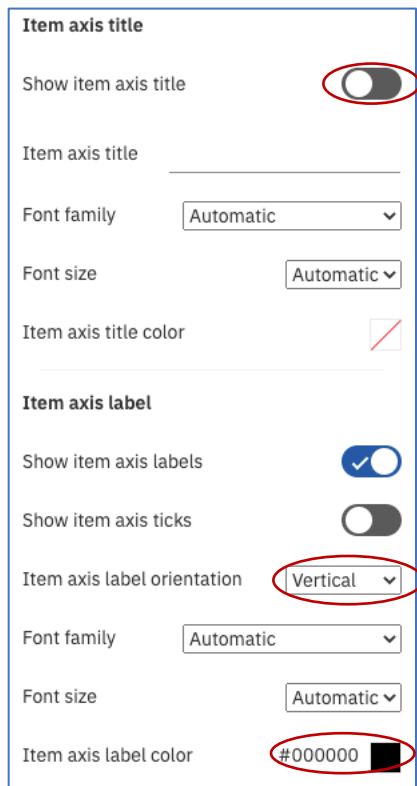


The screenshot shows a dialog box titled "DATES" with a close button (X) in the top right corner. Inside the dialog, there is a dropdown menu labeled "Between" with a downward arrow, which is circled in red. Below this, there are two date input fields. The first field is labeled "From" and contains the date "2020-05-06", which is circled in red. The second field is labeled "To" and contains the date "2020-05-20", which is also circled in red. At the bottom left of the dialog, there is a link labeled "Clear all" in blue text. At the bottom right, there are two buttons: a blue "OK" button, which is circled in red, and a dark gray "Cancel" button.

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**.

Value axis title

Show value axis title ☐

Value axis title _____

Font family Automatic ▾

Font size Automatic ▾

Value axis title color

Value axis label

Show value axis labels ☒

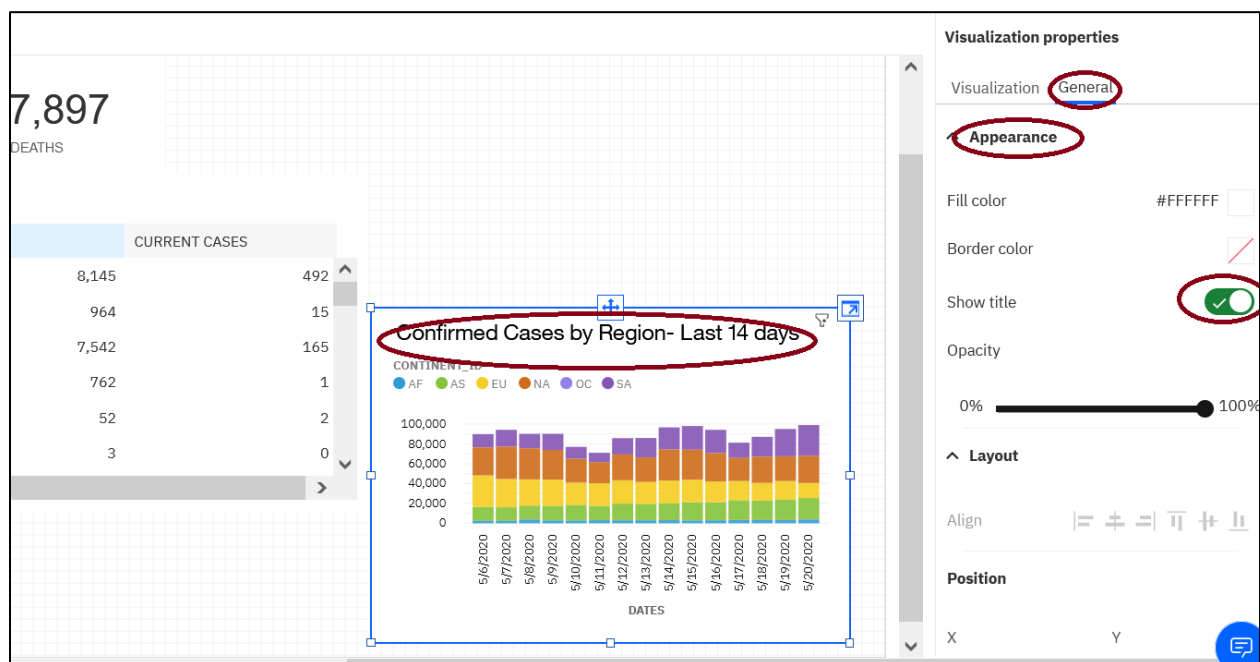
Show value axis ticks ☐


Font family Automatic ▾

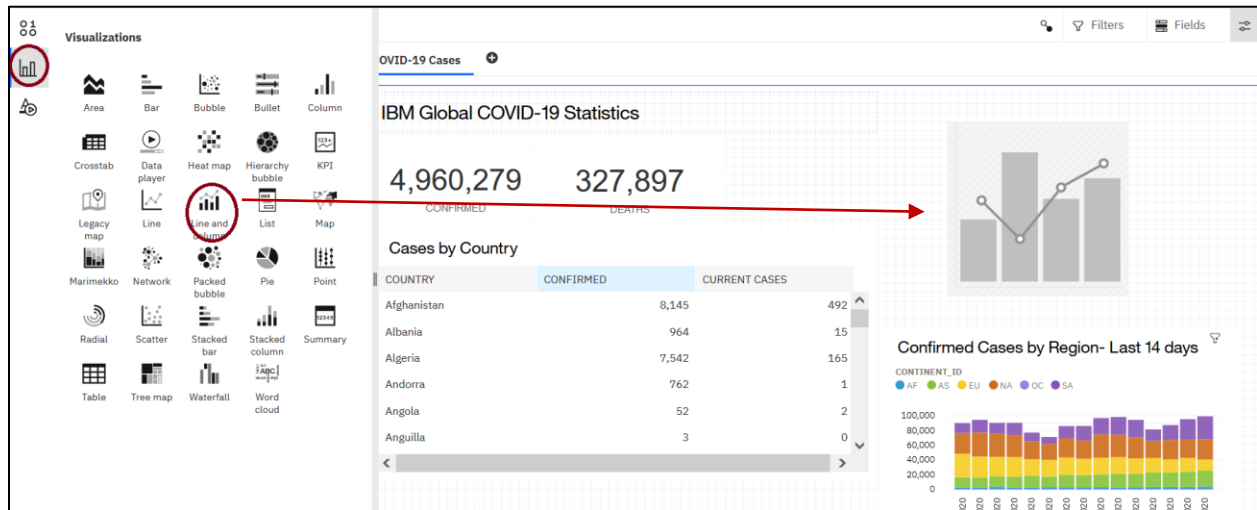
Font size Automatic ▾

Value axis label color #000000

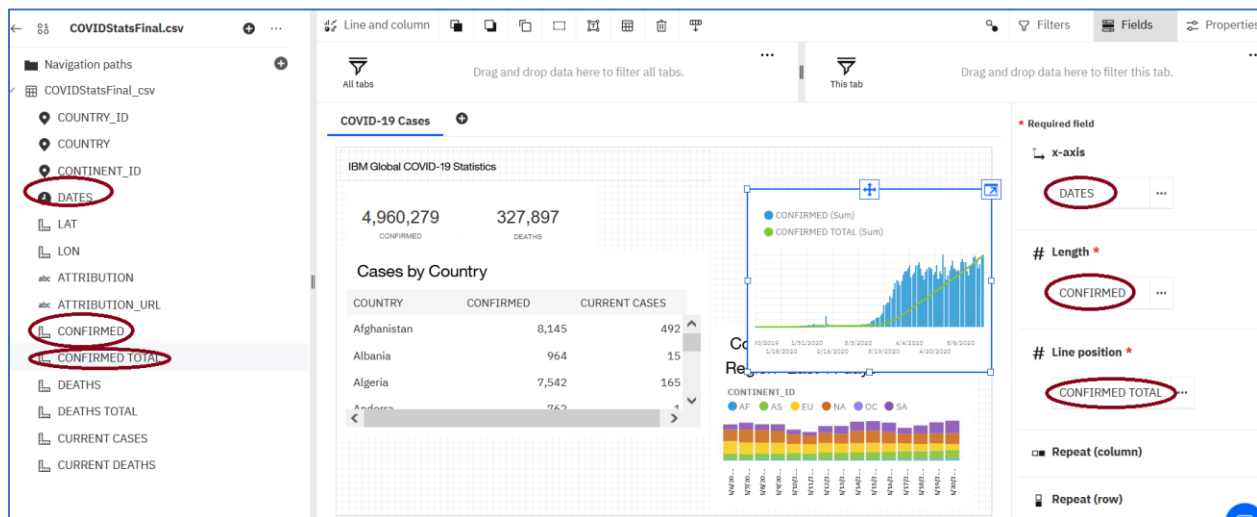
34. Scroll back up. Click on **General**, click on **Appearance**, click on **Show title**. Enter “Confirmed Cases by Region – Last 14 Days” as the title.



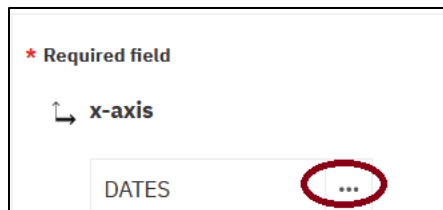
35. Finally, we'll be making a line and column graph to show how confirmed cases have changed over time. Click on the visualization  icon, and then drag and drop the **line** and **column** icon to the canvas above the stacked bar graphic.



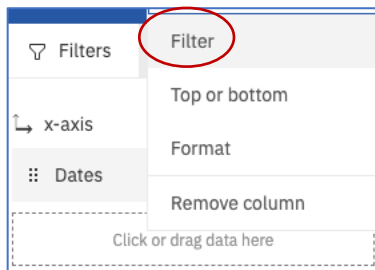
36. Then add the **DATES** column to the x-axis field, **CONFIRMED** to the Length field, and **CONFIRMED TOTAL** to the Line Position



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**.

Filter

Dates ×

Between ▾

From

2020-03-01

To

2020-05-20

Clear all

OK Cancel

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

Filters Fields Properties

Visualization properties

Visualization General

Color

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**.

Item axis label

Show item axis labels ☒

Show item axis ticks ☐

Item axis label orientation Vertical

Font family Automatic

Font size Automatic

Item axis label color #000000

Value axis title

Show value axis title ☒

Column value axis title

Font family Automatic

Font size Automatic

Column value axis title color #000000

Line value axis title

Font family Automatic

Font size Automatic

Line value axis title color #000000

Value axis label

Show value axis labels ☒

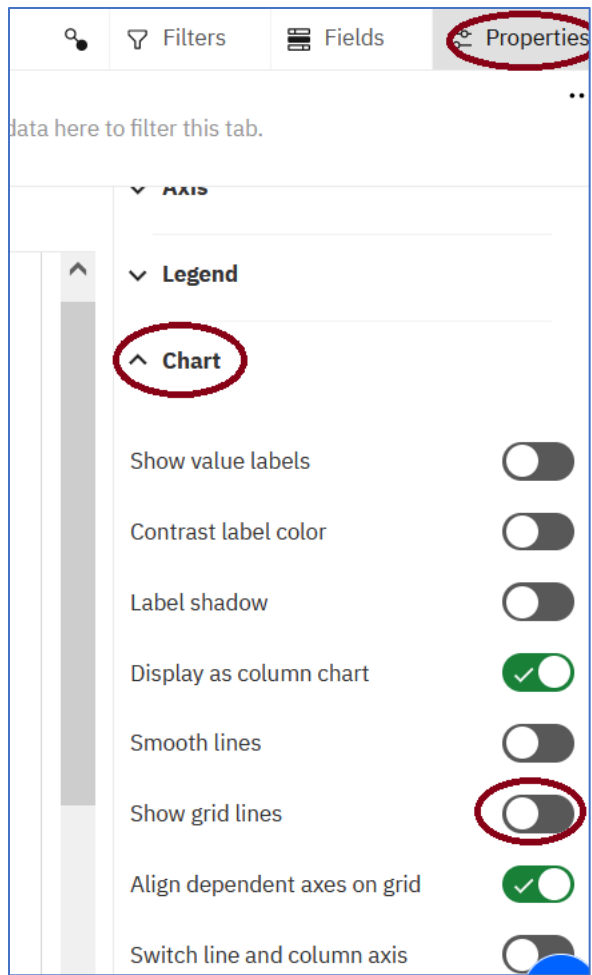
Show value axis ticks ☐

Font family Automatic

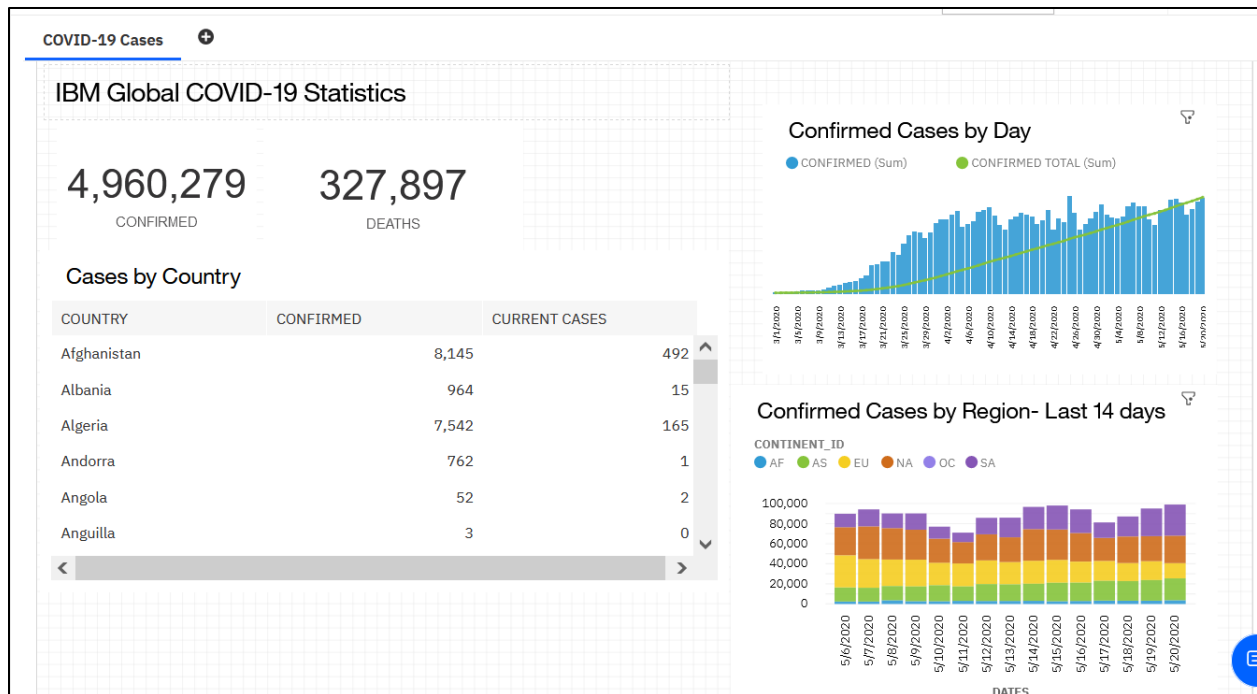
Font size Automatic

Text color #000000

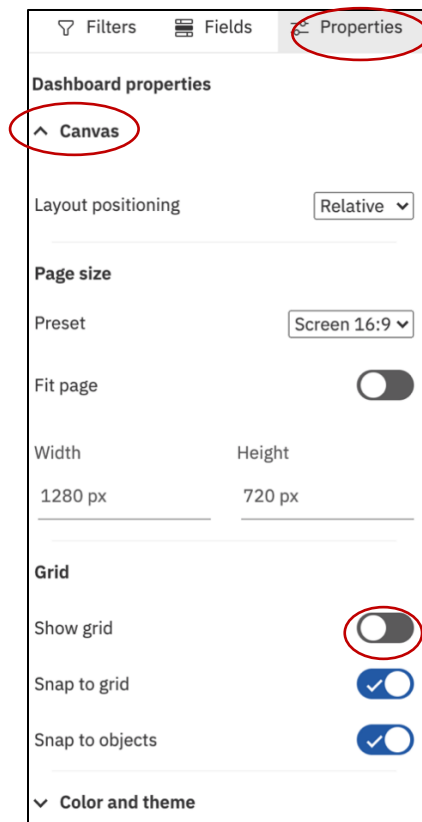
42. Remove the grid lines by clicking on **Properties, Chart**, and toggle **Show grid lines** to the off position.



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.