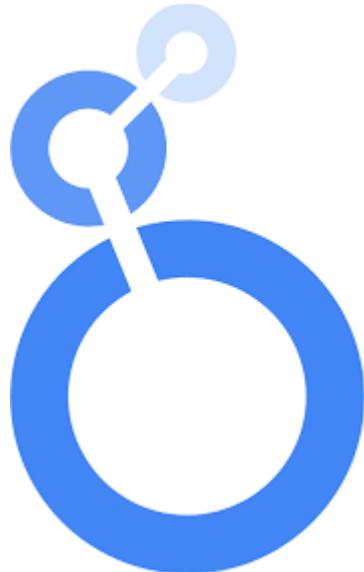


How to Create a Report in

Google Cloud

Looker Studio



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Introduction

In this document, I explain "[How to Create a Report in Google Cloud Looker Studio](#)".

In my reports, I use the base tables in "[Kaye is Learning SQL](#)".

"[Kaye is Learning SQL](#)" is in the github website below.

<https://deuhub.github.io/KayeILSQL-00-Introduction/>

Where are the Base Tables

The [Base Table Data in CSV format](#), and documentation on "[How to Create Tables in Google Cloud BigQuery from CSV files](#)" are in the GitHub Repository below.

<https://github.com/deuhub/kayeilsq bigquery csv>

In the same repository, there is a documentation on "[How to Open a free 3-months Google Cloud Platform \(GCP\) Account](#)".

Thank You Google

I would like to thank [Google](#), for letting me and [countless number of Developers](#) all around the world, use the [Google Cloud Platform \(GCP\)](#) and the [Looker Studio](#) for free.

Thanks very much Google, for letting us enhance our SQL, Development, and Reporting skills.



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Document Date 09 October 2024

Now, let's get going.

Report One – Countries by Join Year

This report will display the European Union countries by their Join Date To the EU.

The SQL Query

Initially, I prepare the SQL query I am going to use in my report.
I will use the following query.

```
select count(country_id) no_of_countries,  
extract(year from join_date) join_year  
from `kayeilsq1.countries`  
where status='M'  
group by join_year  
order by join_year;
```

This query answers the following questions.

- Q1.** On which years the countries joined the EU?
- Q2.** How many countries joined the EU on those years?

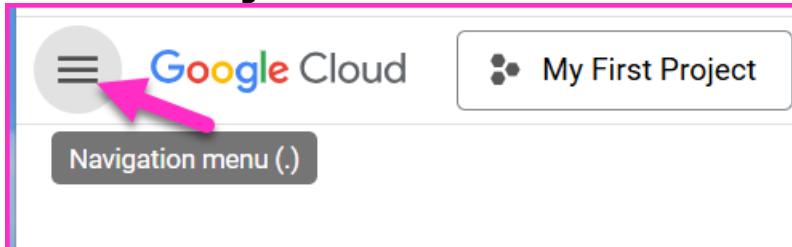
Run the query in Google Cloud BigQuery

I will run the query in **Google Cloud BigQuery**.

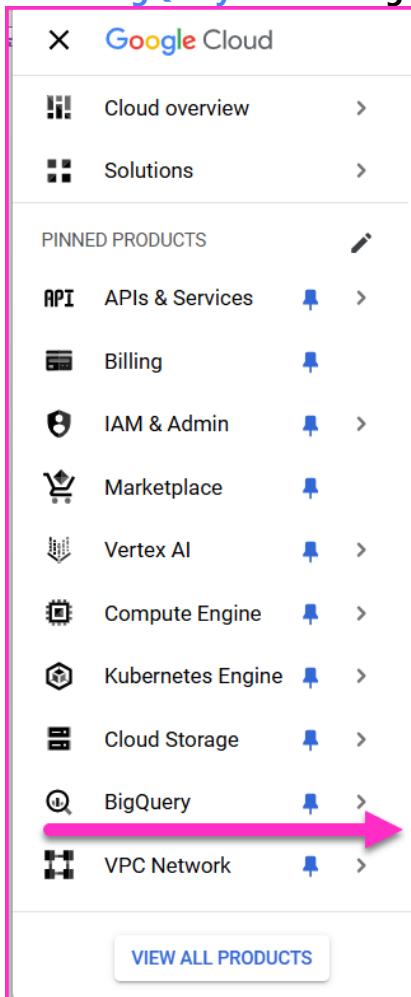
I go to the console.

<https://console.cloud.google.com/>

I click on the **Navigation Menu**, which is the **Three Horizontal Bars**.



I select **BigQuery** in the **Navigation Menu**.





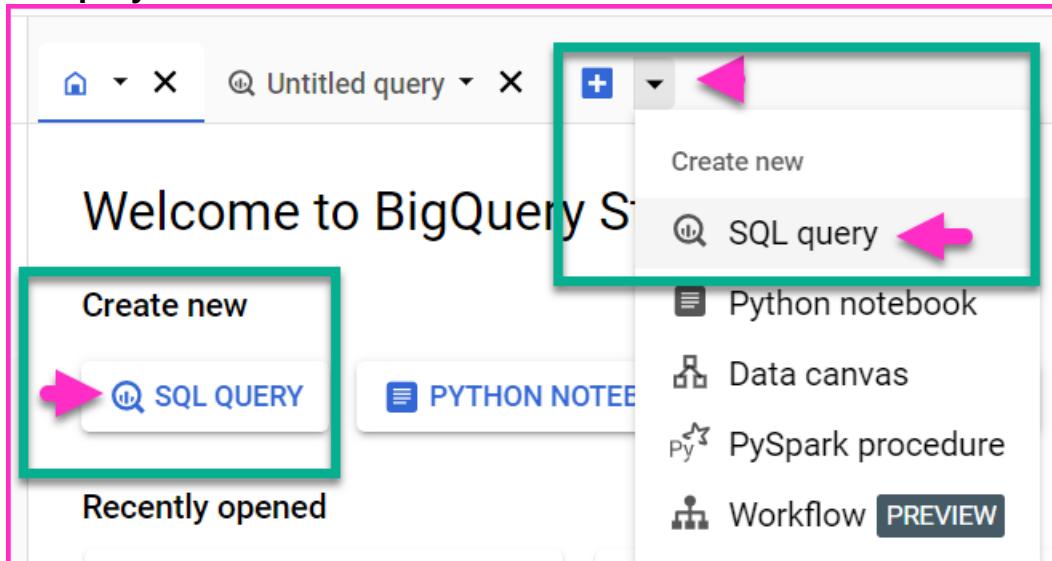
Here I am in [Google Cloud BigQuery](#).

I can see my project in the Explorer.

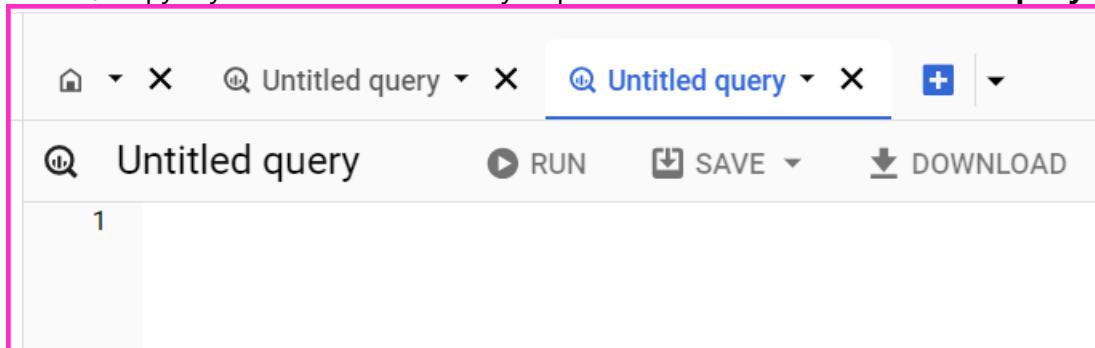
The screenshot shows the Google Cloud BigQuery Studio interface. At the top, there's a navigation bar with 'Google Cloud' and 'My First Project'. A search bar says 'Search (/) for resources, docs, products and more'. Below the navigation is the 'Explorer' section, which has a teal border. It contains a search bar 'Search BigQuery resources' and a button '+ ADD'. The main area says 'Viewing resources.' and 'SHOW STARRED ONLY'. A list item 'meta-alter-436208-u2' is shown with a teal arrow pointing to its left side. To the right of the Explorer is a large white area with the text 'Welcome to BigQuery Studio.', a 'Create new' section, and three buttons: 'SQL QUERY', 'PYTHON NOTEBOOK', and 'DATA CANVAS'.

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I either click on the **SQL QUERY button** on the left, or click on the **+ down arrow** and select **SQL query**.



I write / copy my SQL Statement for my Report in the window titled **Untitled query**.



The screenshot shows the BigQuery Studio interface with the '*Untitled query' window active. The window title is '*Untitled query'. It contains an SQL query:

```
1 select count(country_id) no_of_countries,
2 extract(year from join_date) join_year
3 from `kayeilsq1.countries`
4 where status='M'
5 group by join_year
6 order by join_year;
```

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I run the query.

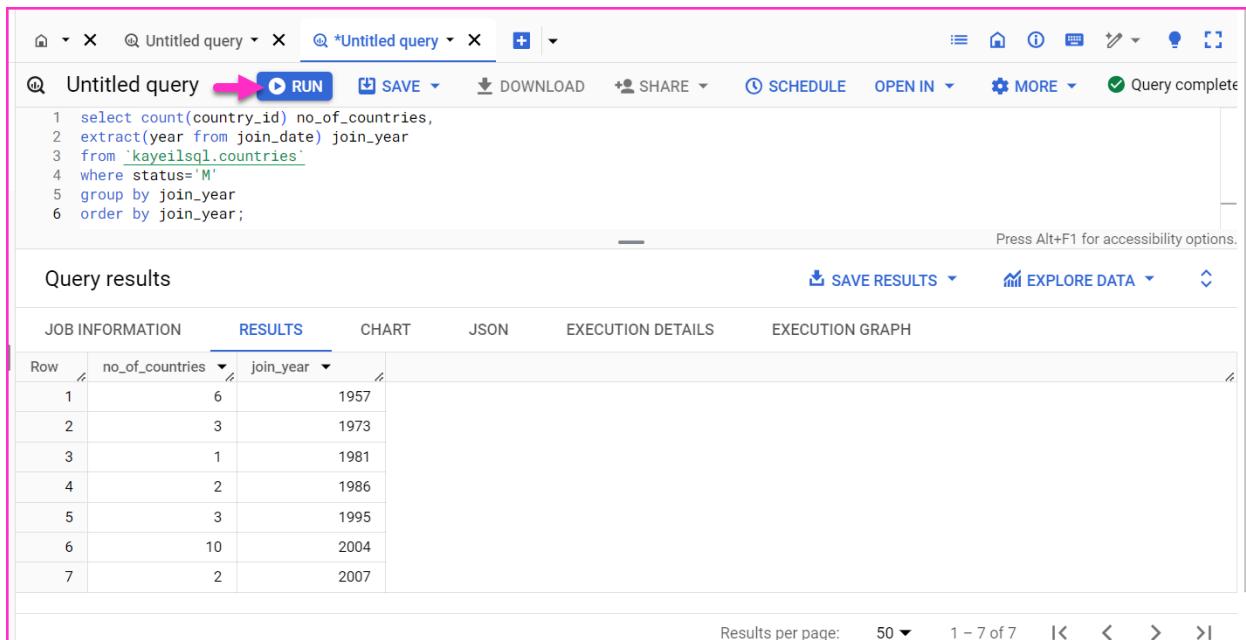
I can see that my query ran successfully.

The results are ordered by Join Year to the EU.

For each year, I can see the number of countries joined the EU that year.

My results have a total of 7 rows, 7 distinct years of joining the EU.

If I sum up the number of countries, it gives me 27, which is the total number of the Member countries.



The screenshot shows the Google Looker Studio interface. At the top, there are tabs for 'Untitled query' and '*Untitled query'. Below the tabs is a toolbar with icons for RUN (highlighted with a pink arrow), SAVE, DOWNLOAD, SHARE, SCHEDULE, OPEN IN, MORE, and a status message 'Query complete'. The main area is titled 'Untitled query' and contains the following SQL code:

```
1 select count(country_id) no_of_countries,
2 extract(year from join_date) join_year
3 from `kayeilsql.countries`
4 where status='M'
5 group by join_year
6 order by join_year;
```

Below the code, a message says 'Press Alt+F1 for accessibility options.' The interface then transitions to the 'Query results' section. At the top of this section are buttons for 'SAVE RESULTS' and 'EXPLORE DATA'. Below these are tabs for 'JOB INFORMATION', 'RESULTS' (which is selected), 'CHART', 'JSON', 'EXECUTION DETAILS', and 'EXECUTION GRAPH'. A table follows, with columns 'Row', 'no_of_countries', and 'join_year'. The data is as follows:

Row	no_of_countries	join_year
1	6	1957
2	3	1973
3	1	1981
4	2	1986
5	3	1995
6	10	2004
7	2	2007

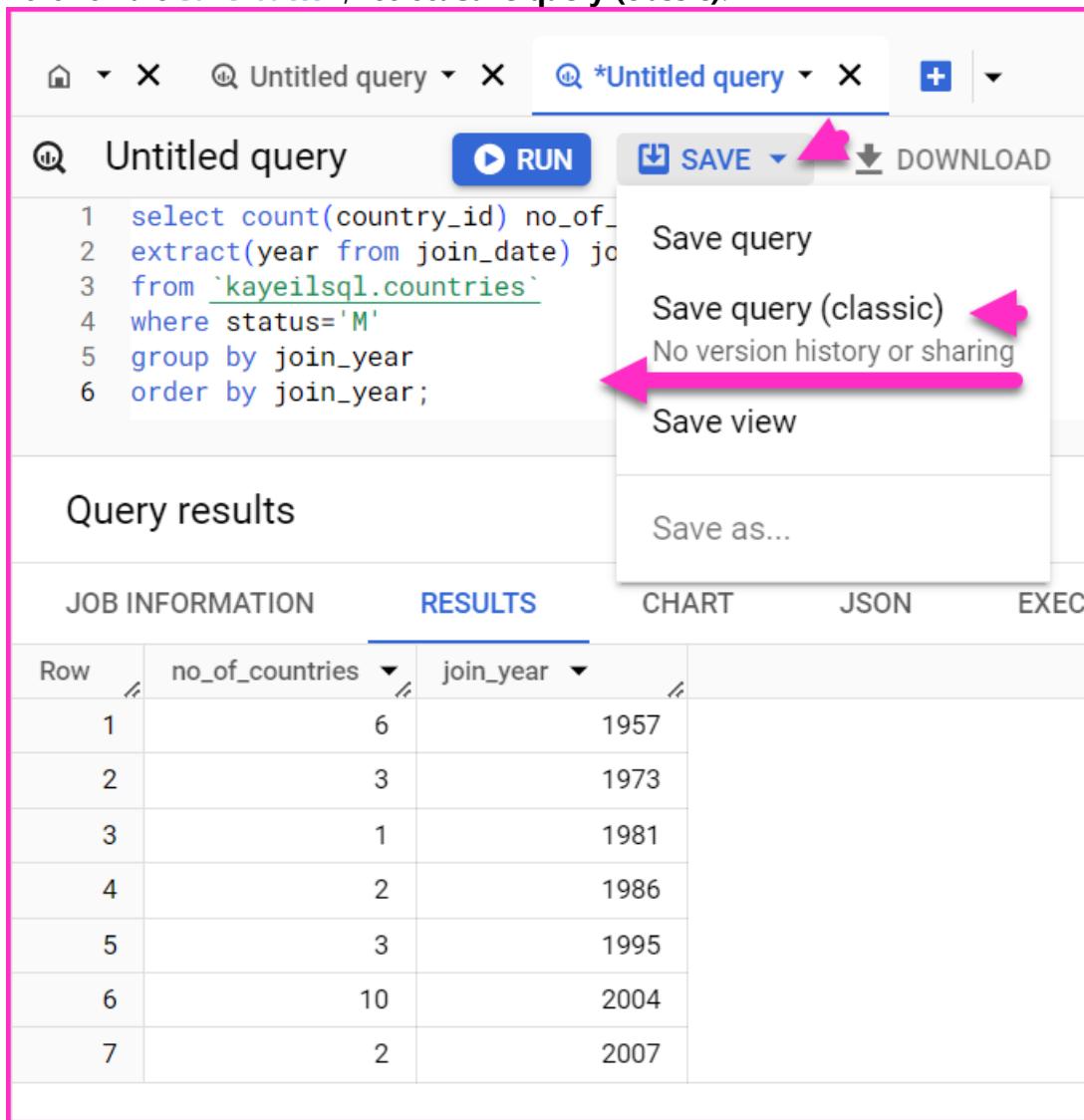
At the bottom of the results section, there are pagination controls: 'Results per page: 50 ▾ 1 – 7 of 7 |< < > >|'.



Save the Query

I will now save this query, under my project in BigQuery.

I click on the **Save button**, I select **Save query (classic)**.



The screenshot shows the Google Looker Studio interface. At the top, there are two tabs: 'Untitled query' and '*Untitled query'. Below them is a search bar and a blue 'RUN' button. To the right of the search bar is a 'SAVE' button with a pink arrow pointing to it, and a 'DOWNLOAD' button. A dropdown menu is open from the 'SAVE' button, listing four options: 'Save query', 'Save query (classic)', 'Save view', and 'Save as...'. The 'Save query (classic)' option is highlighted with a pink arrow. The main area displays a query code snippet and its results. The query code is:

```
1 select count(country_id) no_of_
2 extract(year from join_date) jo
3 from `kayeilsq1.countries`
4 where status='M'
5 group by join_year
6 order by join_year;
```

The results table has columns 'Row', 'no_of_countries', and 'join_year'. The data is:

Row	no_of_countries	join_year
1	6	1957
2	3	1973
3	1	1981
4	2	1986
5	3	1995
6	10	2004
7	2	2007

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A window opens up.

I enter a name, and click on Save.

Save query

Info Saved queries store query text and dialect settings only. Once a query has been saved, all other settings are reset to defaults.

Name *

Visibility

Save query

Info Saved queries store query text and dialect settings only. Once a query has been saved, all other settings are reset to defaults.

Name *

Visibility

Here is my query, saved under my project, under Classic Queries.

The screenshot shows the Google Cloud Explorer interface. At the top, there's a navigation bar with the Google Cloud logo and a dropdown for 'My First Project'. Below the navigation bar is a search bar labeled 'Search BigQuery resources' with a question mark icon. The main area is titled 'Explorer' and has a sidebar with various icons. The main content area shows a tree view of resources under 'meta-altar-436208-u2'. The tree structure includes 'Queries', '(Classic) Queries (5)', 'Project queries', and several specific SQL files: 'information_schema.sql', 'kayeysql_week_02.sql', 'kayeysql_week_03.sql', 'kayeysql_week_04.sql', and 'lookerStudio_Report_One.sql'. The file 'lookerStudio_Report_One.sql' is highlighted with a pink arrow and is also selected, as indicated by the blue background. Other items like 'Notebooks', 'Data canvases', and 'Data preparations' are also listed.

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My Query now has a name.

The screenshot shows the Google Cloud Explorer interface. On the left, there's a sidebar with various icons and a search bar for BigQuery resources. The main area shows a list of resources under 'meta-altair-436208-u2'. A specific query named 'lookerStudio_Report_One.sql' is selected and highlighted with a blue background. The query code is displayed in the center:

```
1 select count(country_id) no_of_countries,
2 extract(year from join_date) join_year
3 from `kayeilsql.countries`
4 where status='M'
5 group by join_year
6 order by join_year;
```

To the right of the code, there's a 'Query results' section with a table showing the data. The table has two columns: 'no_of_countries' and 'join_year'. The data is as follows:

Row	no_of_countries	join_year
1	6	1957
2	3	1973
3	1	1981
4	2	1986
5	3	1995
6	10	2004
7	2	2007

BigQuery to Looker Studio

I use the query results in Looker Studio as follows.

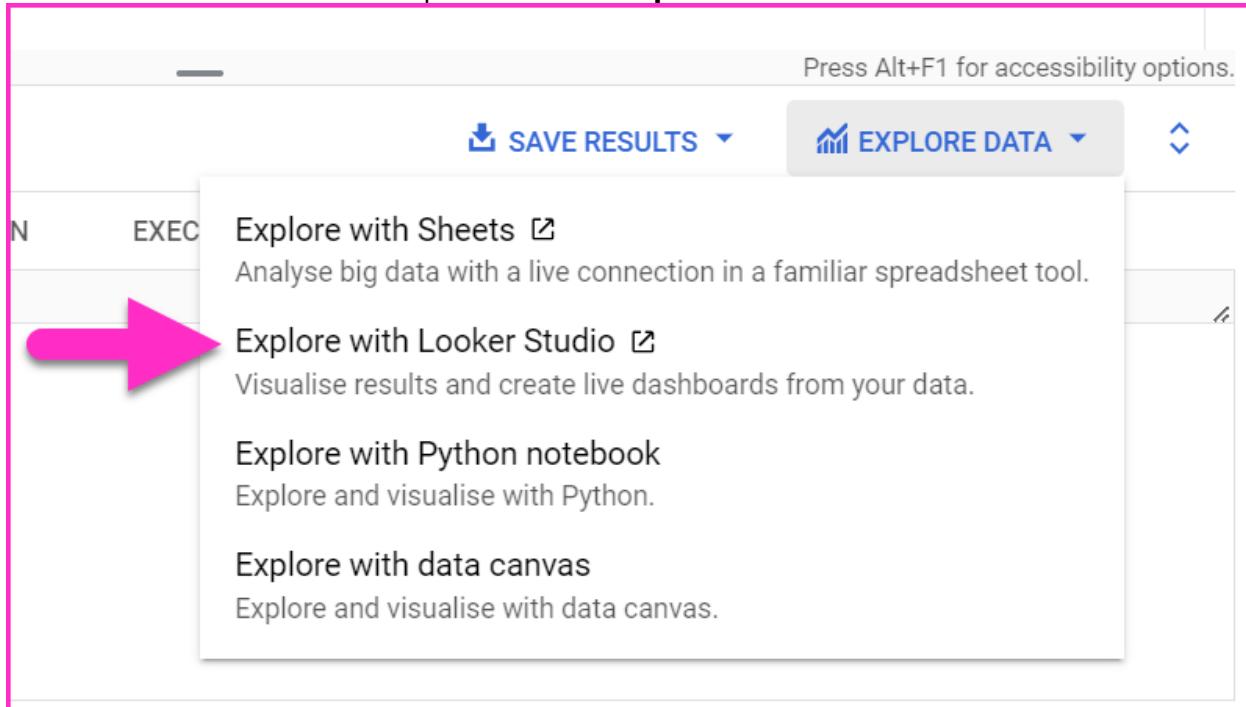
One. In the **Query Results** section of the query, I click on **EXPLORE DATA**.

The screenshot shows the Looker Studio interface. At the top, there's a navigation bar with various buttons like RUN, MORE, SAVE QUERY (CLASSIC), SHARE, SCHEDULE, OPEN IN, and a DEU icon. Below the navigation bar, the query code is shown again:

```
1 select count(country_id) no_of_countries,
2 extract(year from join_date) join_year
3 from `kayeilsql.countries`
4 where status='M'
5 group by join_year
6 order by join_year;
```

The main area is titled 'Query results'. It contains a table with the same data as the previous screenshot. To the right of the table, there's a 'Press Alt+F1 for accessibility options.' message. Above the table, there's a button labeled 'EXPLORE DATA' with a pink arrow pointing to it. The entire 'Query results' section is highlighted with a green box.

Two. In the small window that opens, I click on **Explore with Looker Studio**.



Google Cloud BigQuery takes me to a new screen: The Looker Studio Reporting Screen.

The Looker Studio Reporting Screen

This is the Looker Studio Reporting screen.

Looker has already created a report using my query results.

The screenshot shows the Looker Studio interface with a report titled "BigQuery Custom SQL". The report contains a table and a bar chart. The table shows the number of countries joined per year:

join_year	no_of_countries
2004	10
1957	6
1995	3
1973	3
1986	2
2007	2
1981	1

The bar chart visualizes the same data, with the x-axis labeled "join_year" and the y-axis labeled "no_of_countries". The chart shows a general decline in the number of countries joined over time, starting at 10 in 2004 and dropping to 1 by 1981.

And I have the same user as in BigQuery.

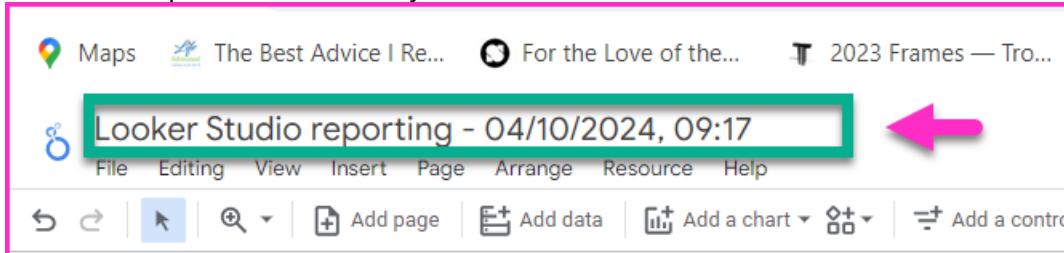
This is exactly what I want.

The screenshot shows the Looker Studio interface with the "Data" panel open. A pink arrow points to the "Data" button in the top right corner of the panel. The "Data" panel lists three fields: "join_year", "no_of_countries", and "Record Count".

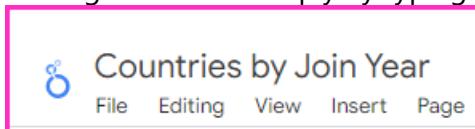
Rename the Report

I will initially rename my report.

This is the report name currently.



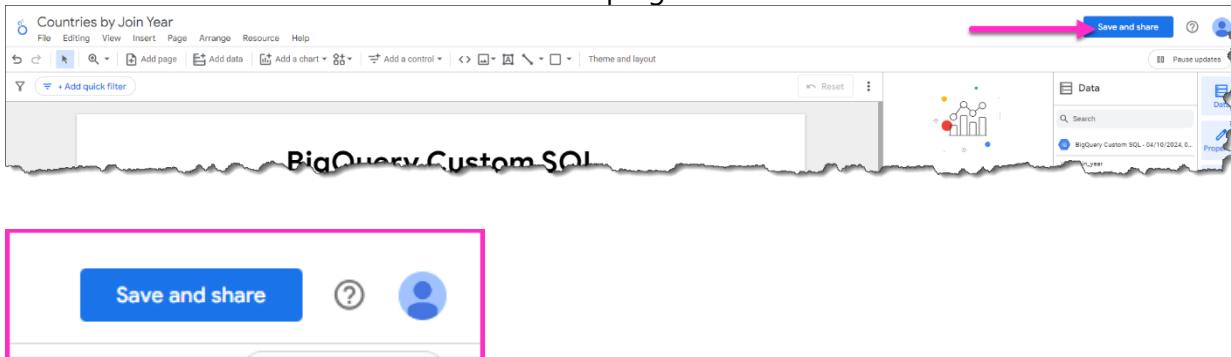
I change the name simply by typing over it.



Save the Report

I will now SAVE my Looker Studio Report.

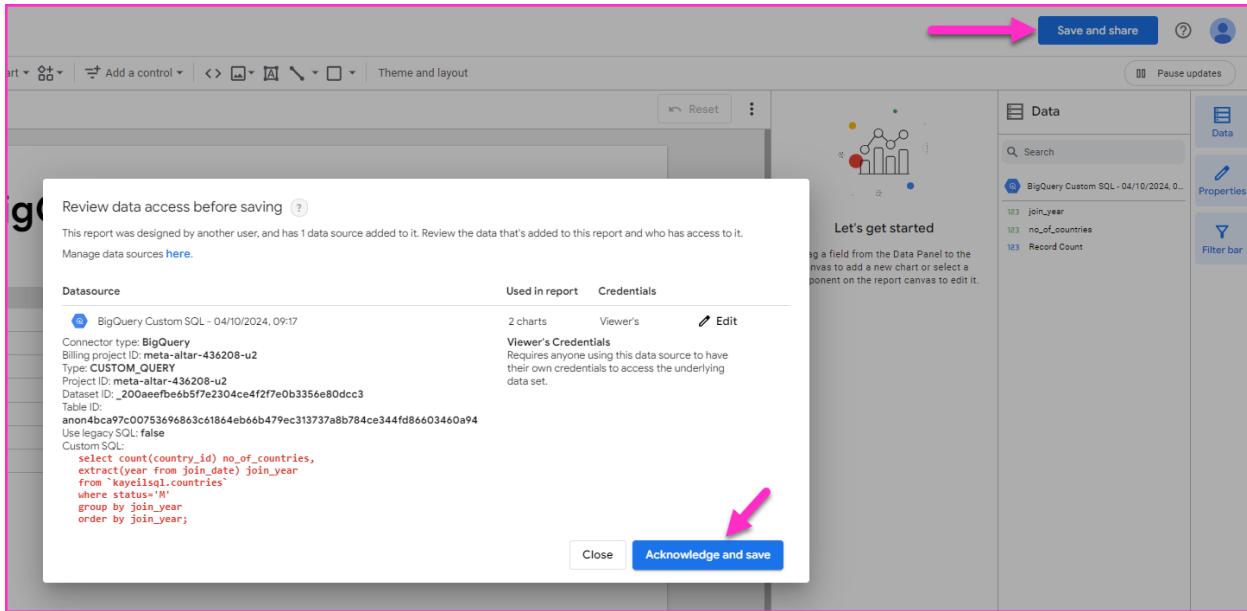
I click on the **Save and share** button on the top right-hand-side.



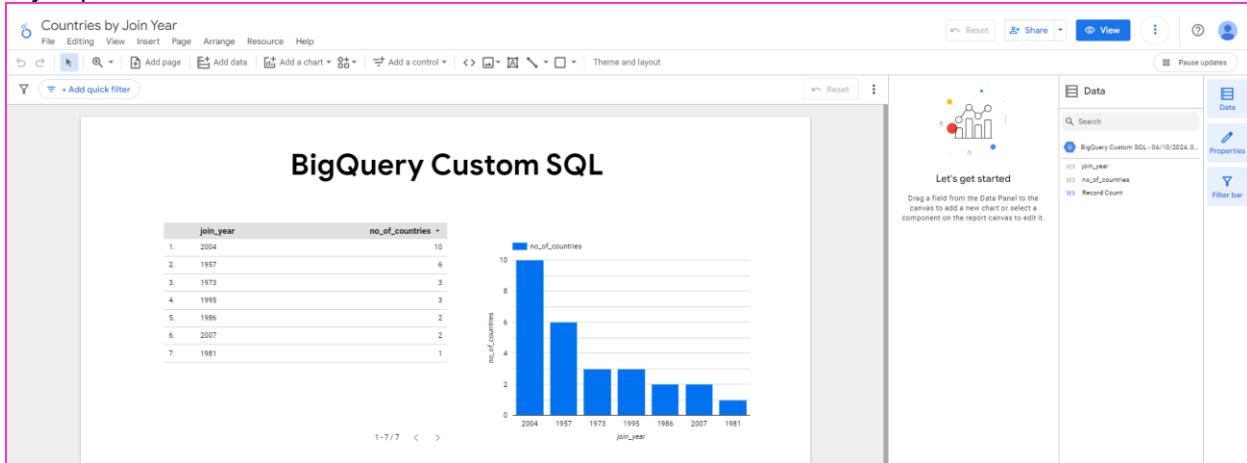
When I click on **Save and share** button, a window opens.

I click on **Acknowledge and share**.

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My report is now saved.



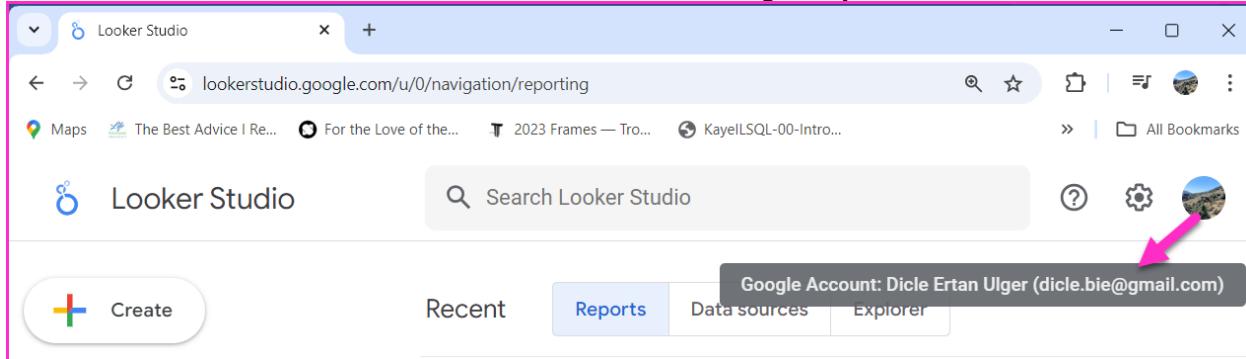
Where is my Report?

My report is in the following address.

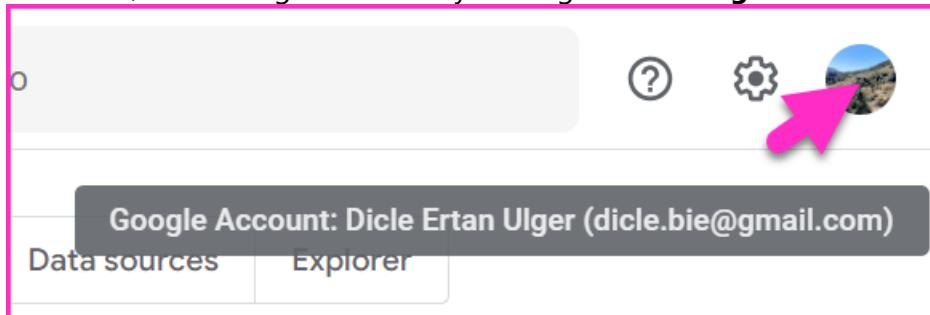
<https://lookerstudio.google.com/>

When I type in this address, the screen opens up in my other / main google account.

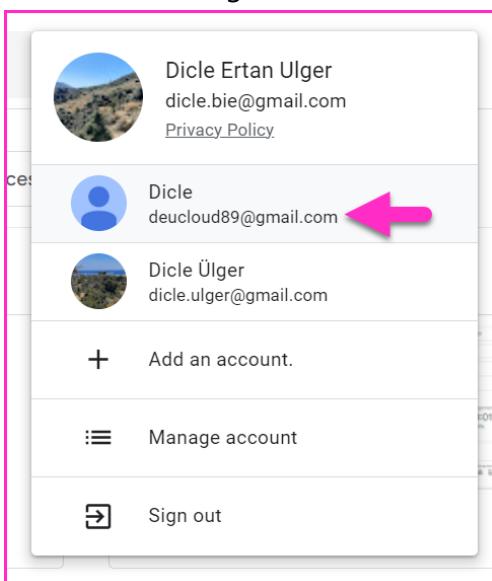
However, what I want is the account where I created the BigQuery SQL.



Therefore, I will change accounts by clicking on the **Google Account** icon / on my Profile image.



I click on the image.



All of my Google Accounts are listed.
I select the one with the free GCP account, where I started creating the Looker Report.

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When the screen is refreshed after a short while, I can see the Looker Report that I started to work on.

The screenshot shows the Looker Studio interface with a pink border. At the top, there's a navigation bar with 'Looker Studio', a search bar, and user settings. Below it, tabs for 'Recent', 'Reports' (which is selected), 'Data sources', and 'Explorer' are visible. On the left, a sidebar shows 'Shared with me', 'Owned by me', and a 'Bin'. Under 'Templates', there's a section for 'Start with a Template' with options like 'Blank Report Looker Studio', 'GA4 Report Google Analytics', 'ACME Acme Marketing Google Analytics', and 'Search Console Report Search Console'. The main area shows a table of recent reports with columns for 'Name', 'Owned by anyone', 'Last opened by me', and 'Location'. A pink arrow points to the 'Name' column of the first row, which contains 'Countries by Join Year'.

Name	Owned by anyone	Last opened by me	Location
Countries by Join Year	Dicle	09:38	Owned by me

This screenshot shows a detailed view of the 'Recent' table from the previous interface. It has the same columns: 'Name', 'Owned by anyone', 'Last opened by me', and 'Location'. The single row for 'Countries by Join Year' is identical to the one in the previous screenshot.

Name	Owned by anyone	Last opened by me	Location
Countries by Join Year	Dicle	09:38	Owned by me

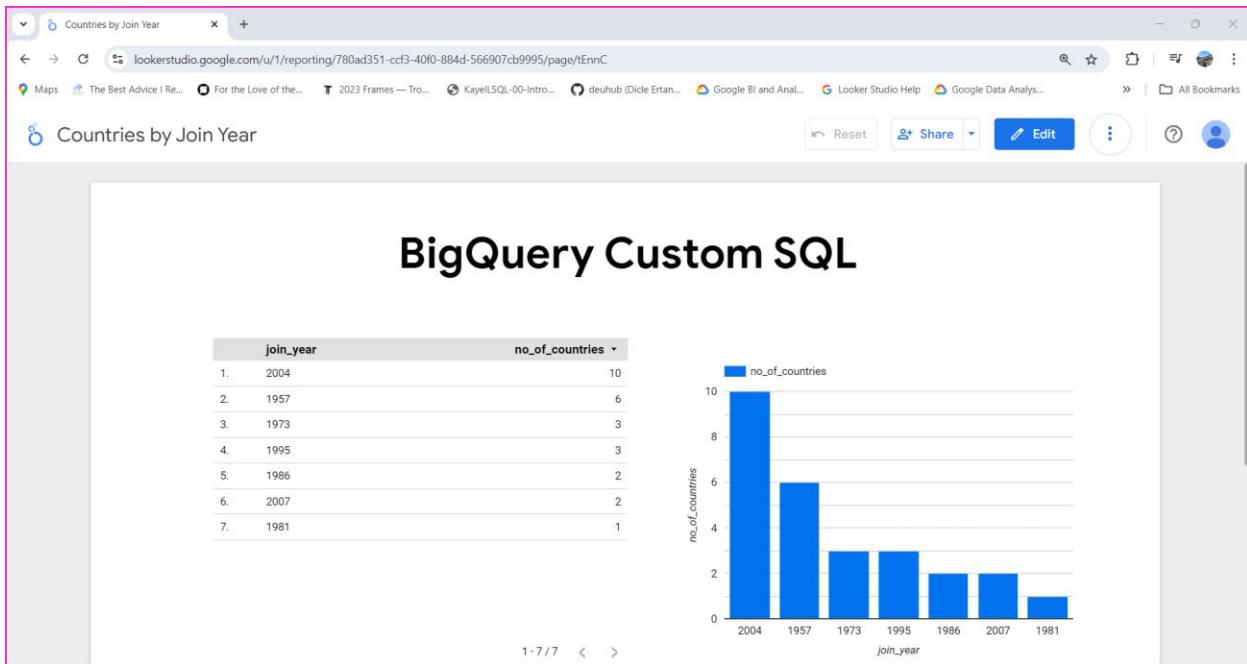
This is where my report is.

To access my report, I simply click on the report name.

This screenshot shows a close-up of the 'Name' column in the 'Recent' table. A pink arrow points directly at the report name 'Countries by Join Year'.

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And... here I am.



I will now customize my report.

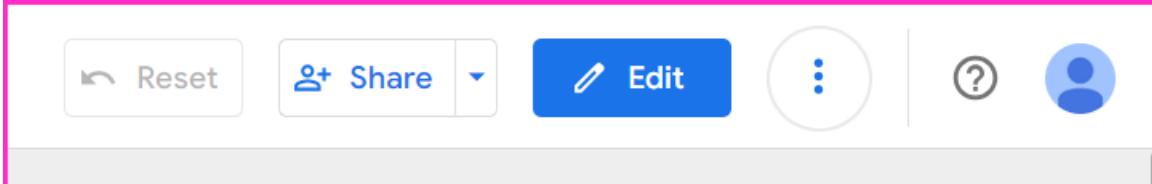
View and Edit Modes

This report is now in **View Mode**.

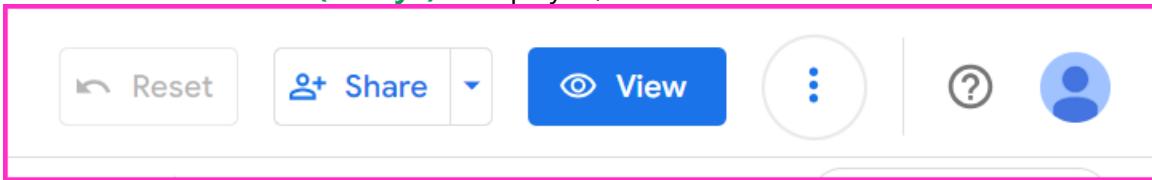
To be able to customize it, I have to be in **Edit Mode**.

How do I know which Mode I am in?

When the **Edit button (the pen)** is displayed, I am in **View Mode**.



When the **View button (the eye)** is displayed, I am in **Edit Mode**.



To **change Modes**, I simply click on the button.

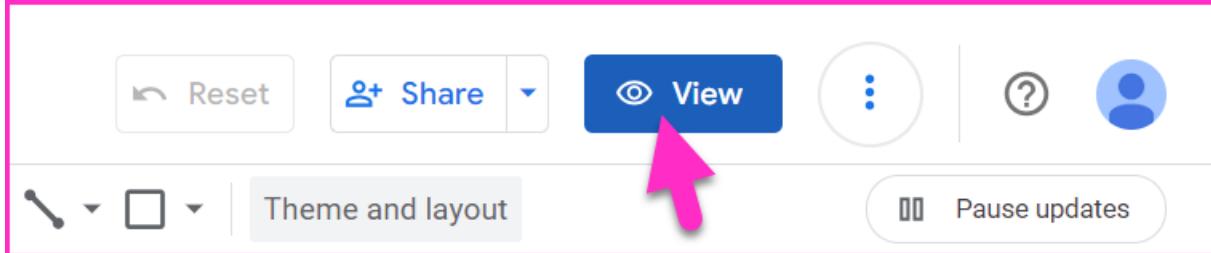
In **Edit Mode**, I will customize / change my Report.

In **View Mode**, I will view my customizations / changes.

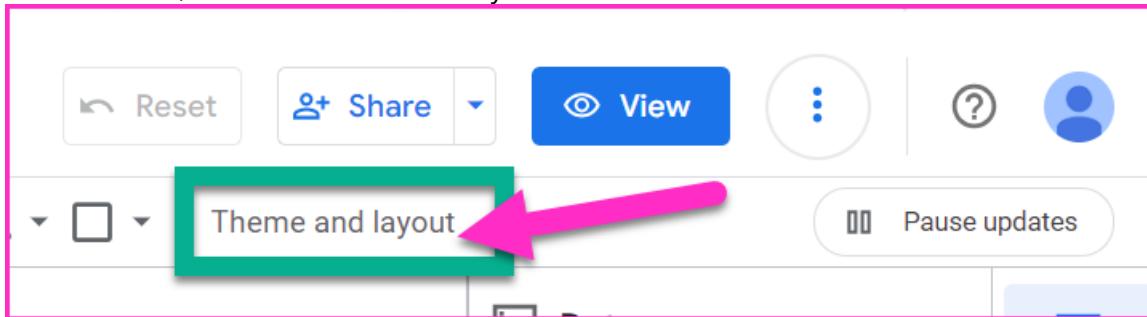
Change the Report Theme

I will now change the report Theme.

I have to be in **Edit Mode**.



In **Edit Mode**, I click on Theme and layout.



Theme and Layout panel is displayed.

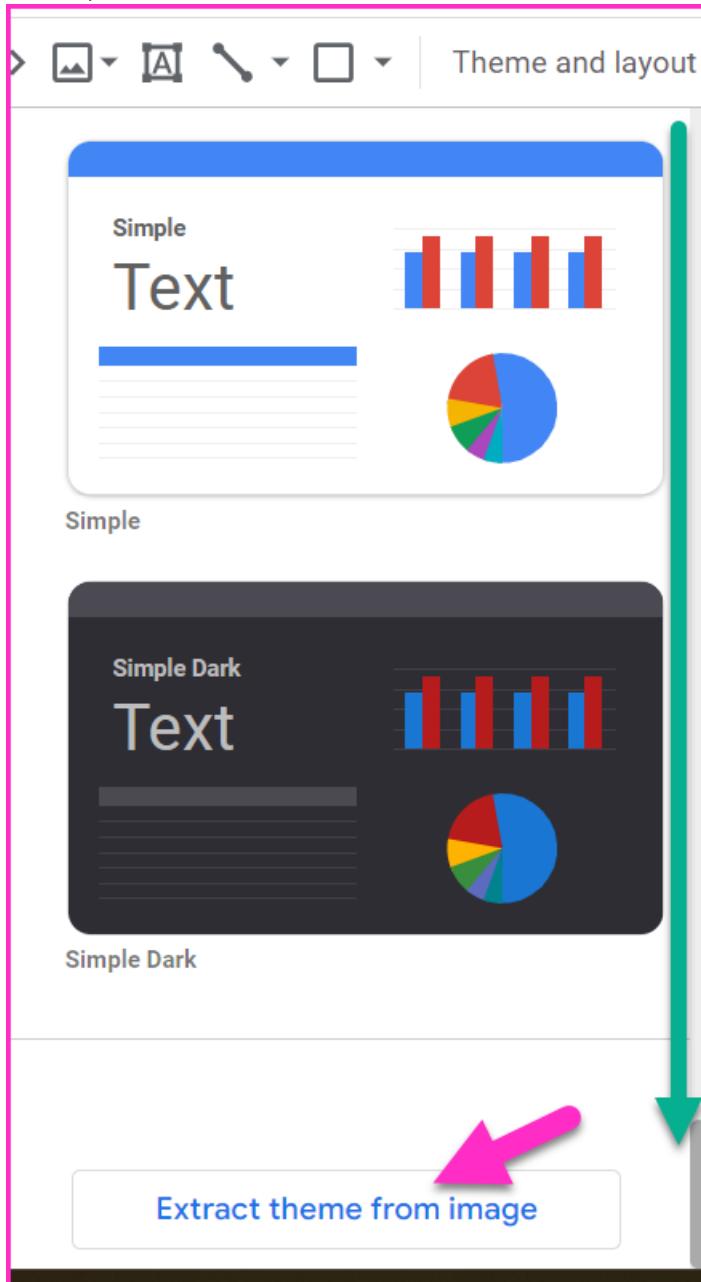
The screenshot shows the Looker Studio interface with the 'Theme and Layout' panel open. The panel is titled 'Theme and Layout' and contains two tabs: 'THEME' and 'LAYOUT'. Under 'THEME', there is a section for 'Current theme' set to 'Default', and a 'Customise' button. Below this are two preview cards: one for 'Default' showing a bar chart and pie chart, and another for 'Edge' showing a bar chart. At the bottom of the panel is a button labeled 'Extract theme from image'. The main workspace displays a chart titled 'BigQuery Custom SQL' showing the number of countries joined over time, and a table titled 'Countries by Join Year' with data from 2004 to 1981. The toolbar at the top includes buttons for 'Reset', 'Share', 'View', and 'Pause updates'. The status bar at the bottom shows the date and time.

I scroll down the **Theme and Layout** panel.

I can see several themes.

However, I am going to **extract a theme from an image**.

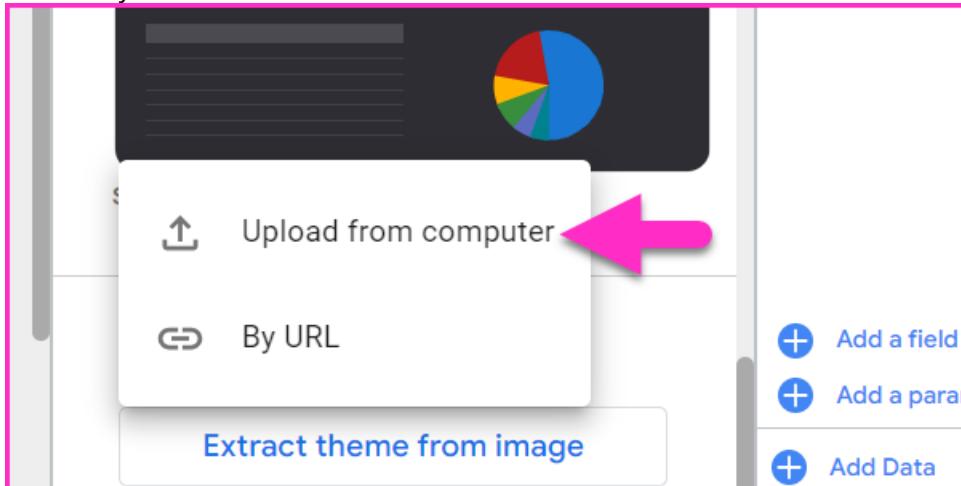
Hence, I click on that button -- [Extract theme from image](#).



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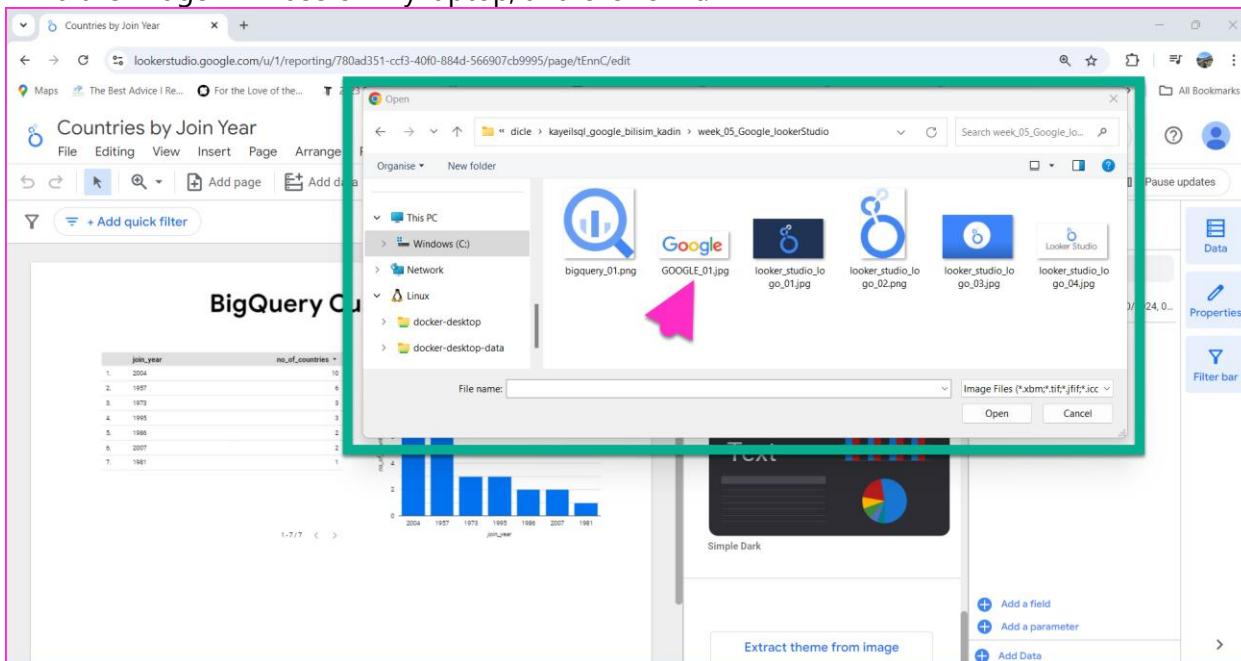
Looker gives me two choices.

- Upload from computer
- By URL

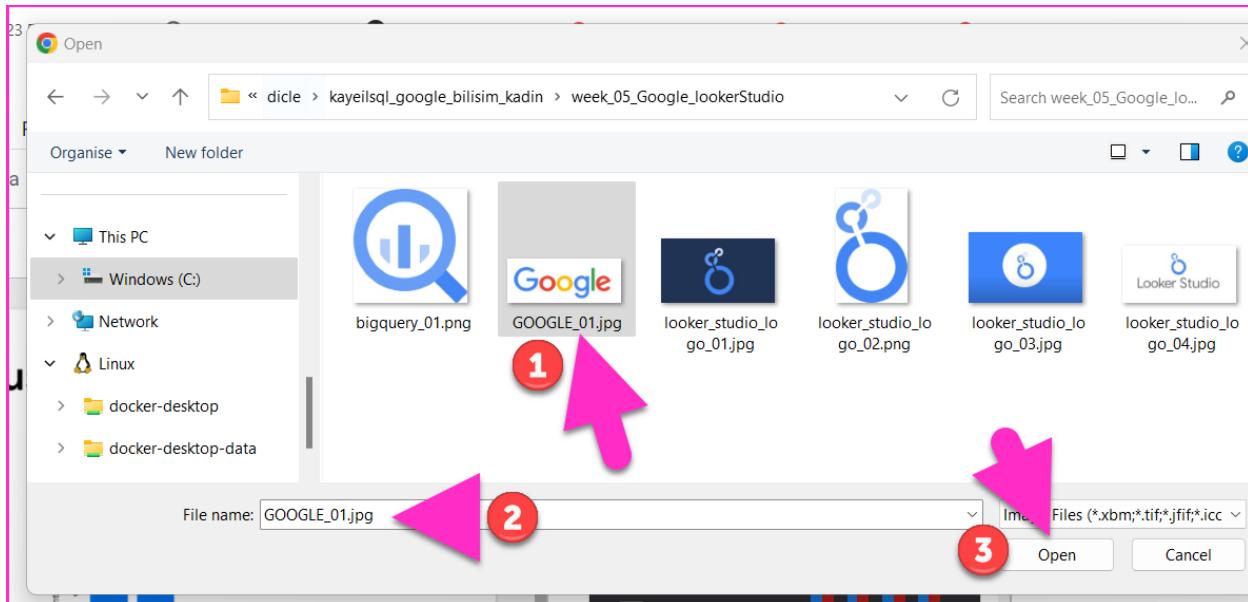


This time, I will change the theme, using an image on my laptop.
Hence, I click on **Upload from computer**.

I find the image I will use on my laptop, and click on it.

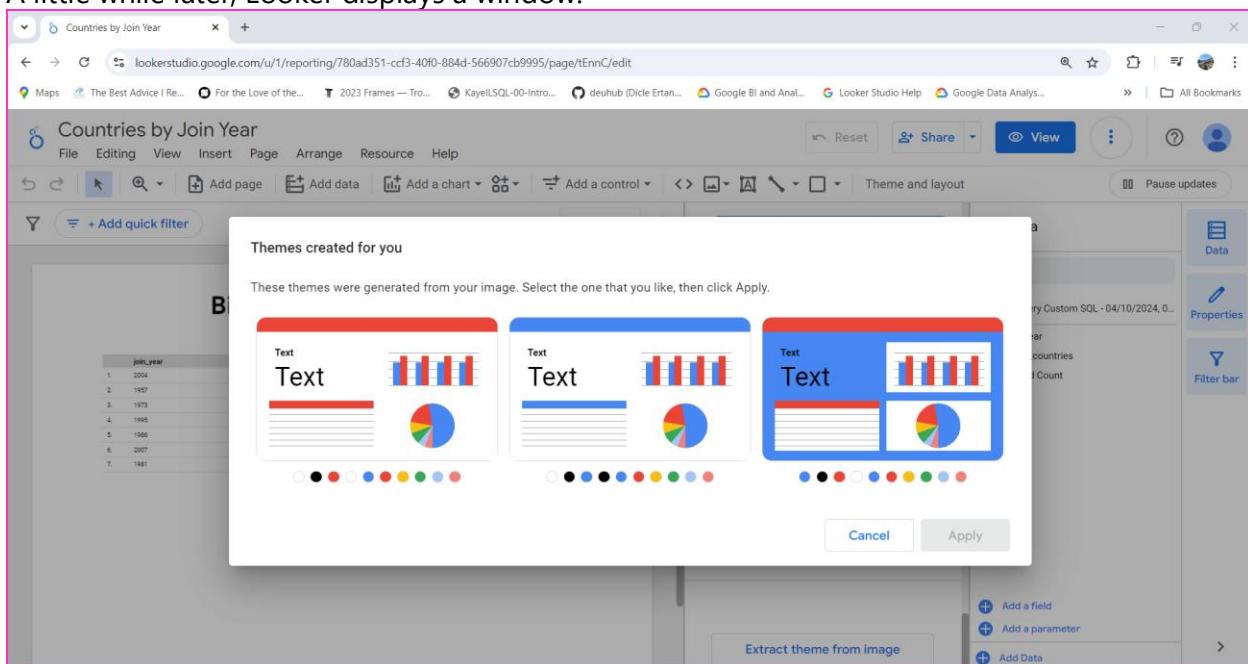


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1. Click on the image
2. Image name appears on the File name.
3. Click on Open.

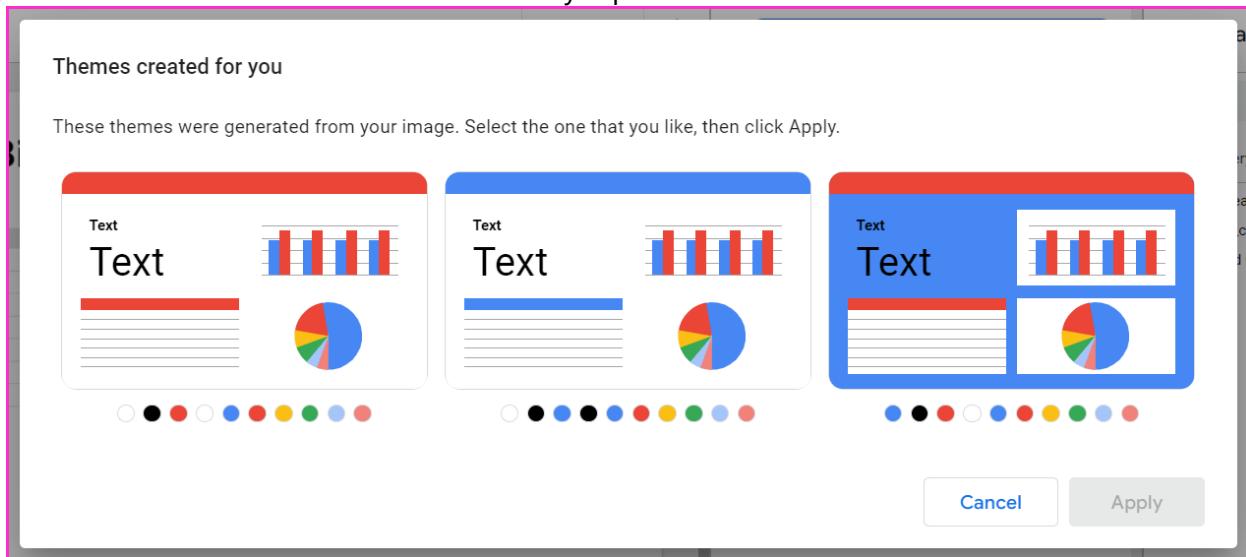
A little while later, Looker displays a window.



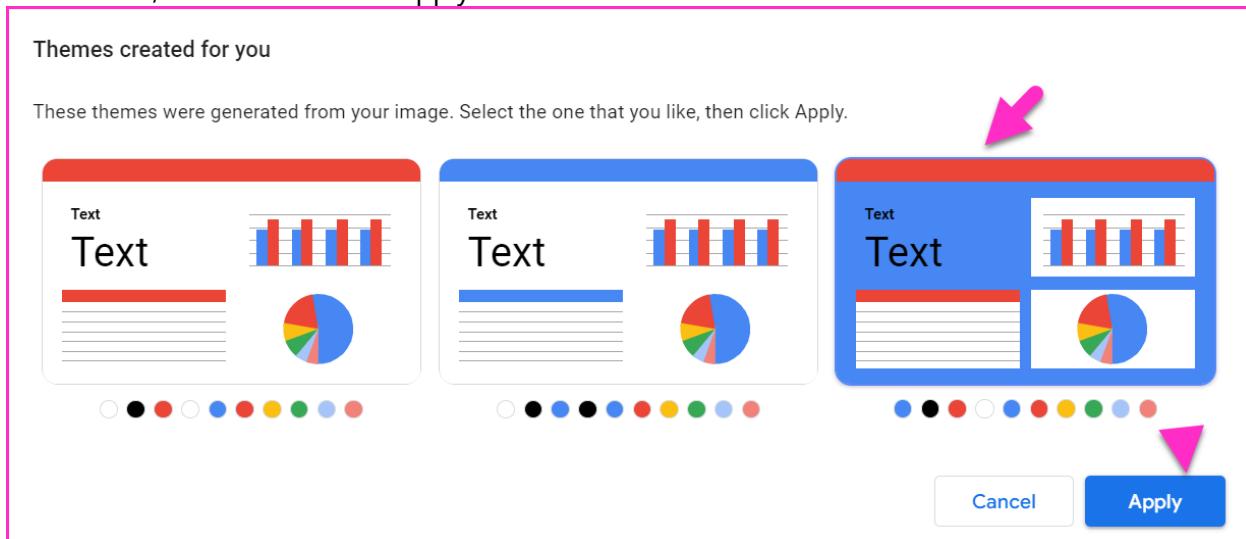
KayellSQL Google Looker Studio

Looker generated some themes from the image I uploaded.

I can select the one I would like to use in my report.



I select one, and then click on Apply.



My report has changed slightly.



Change the Page Title

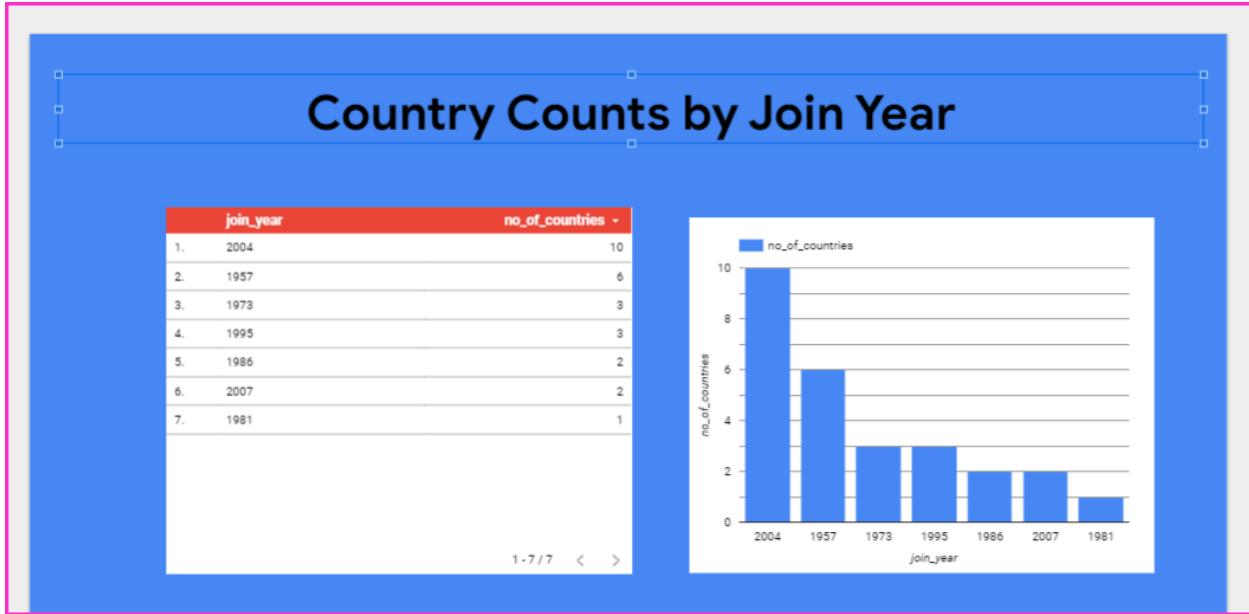
I will now change the page title.

When I click on the title, Text Properties panel is displayed.

The screenshot shows the Google Looker Studio editor interface. A pink box highlights the entire editor area. On the right, the 'Text Properties' panel is open, showing font and paragraph settings. A pink arrow points to the 'Text Properties' tab. Another pink arrow points to the title 'BigQuery Custom SQL' in the main content area, which is currently selected for editing.

I simply type over the title to change the name.

Here is my new page title.



I will also change the text color.

I select the page title text.

I click on the text color on the right, and select a color from the palette.

Y + Add quick filter

Reset

Text Properties

Font and Paragraph

Search

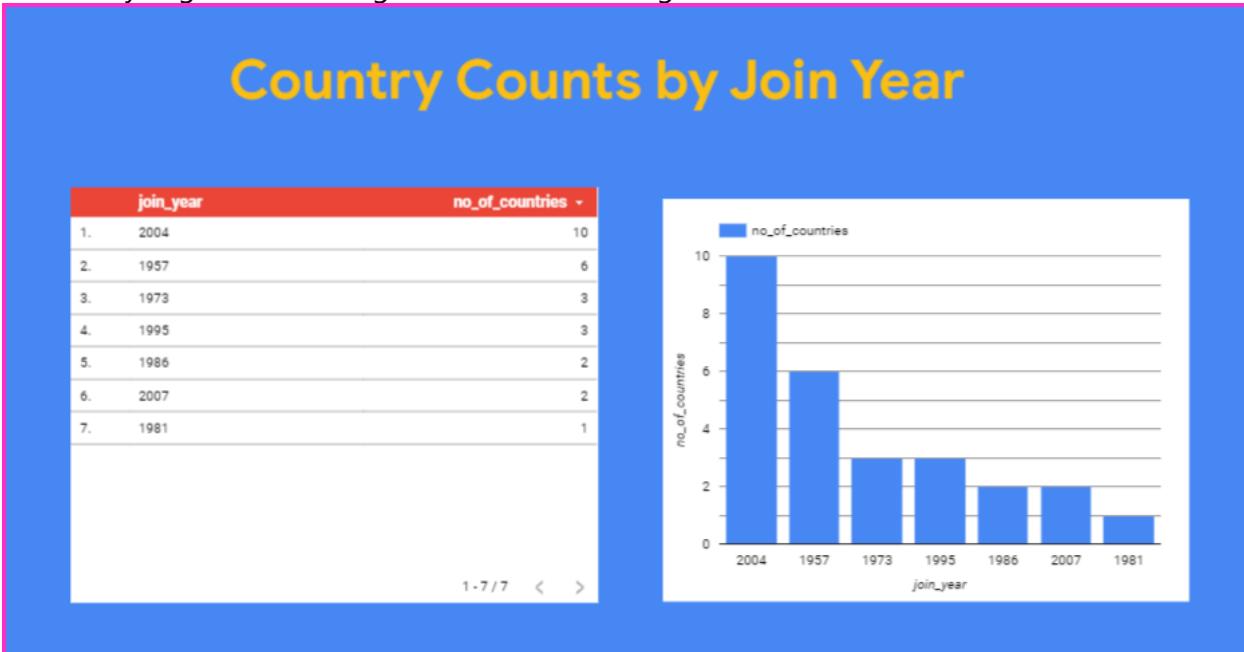
Chart palette 3

Custom

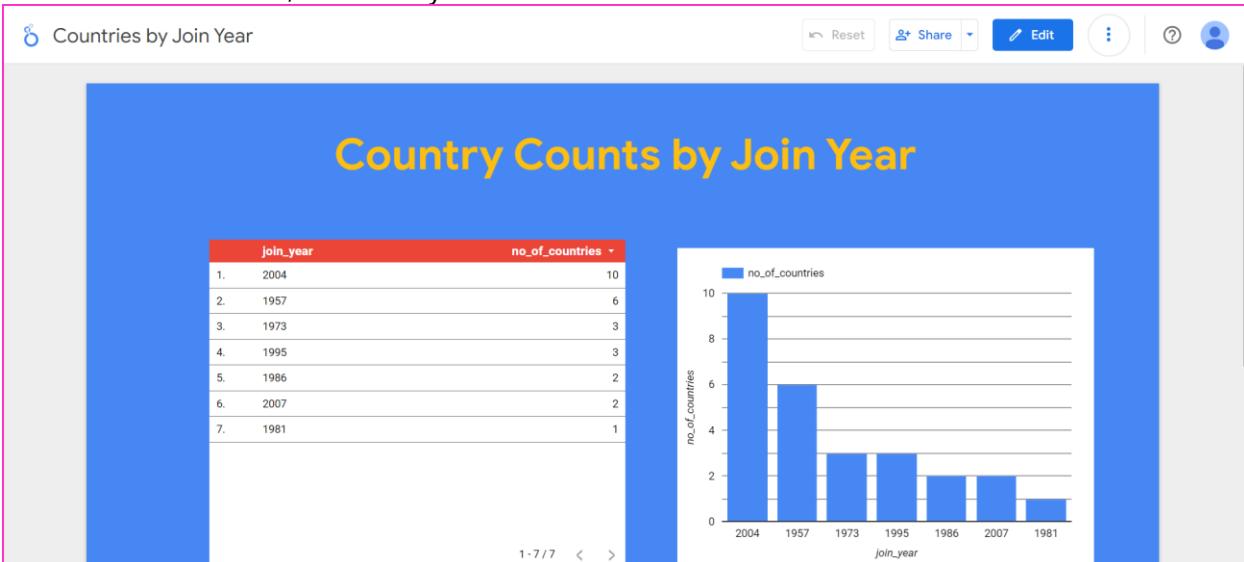
visible

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Here is my Page Title wording and color have changed.

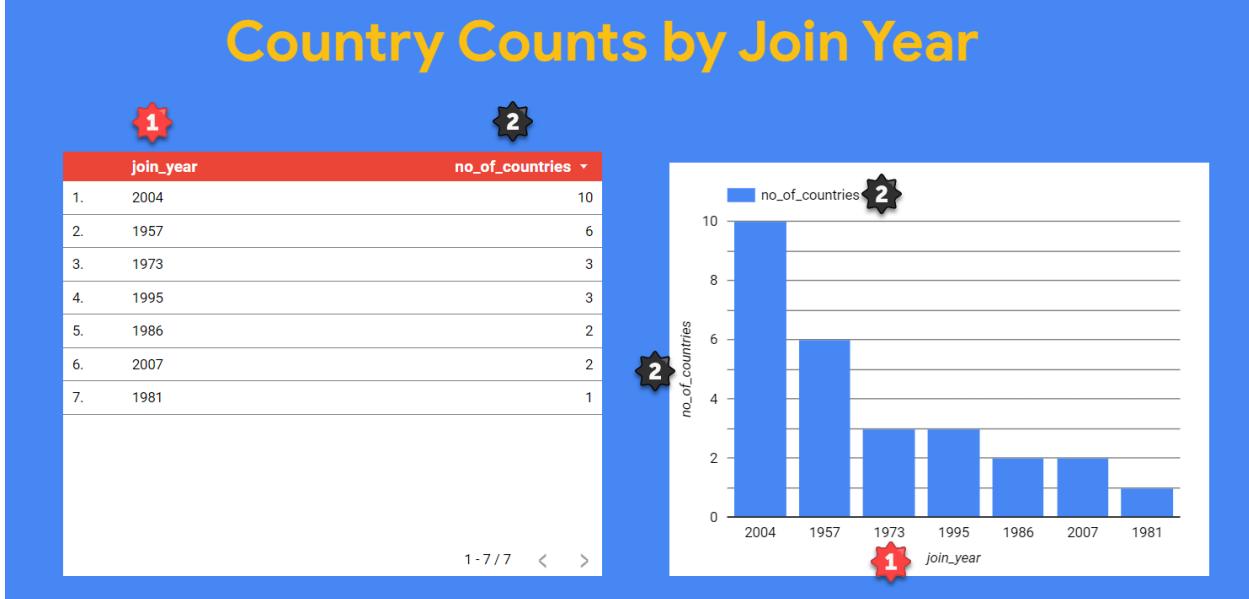


I switch to View Mode, to view my customizations so far.



Change the Field Labels

I am happy with my report so far, however I want to change the Field Labels.



One. I will change **join_year** to **Year of Joining the EU**

Two. I will change **no_of_countries** to **Number of Countries**.

I can do this in the **Data Sources** screen.

Data Sources

I can go to the **Data Sources** screen via **Resource / Manage added data sources**.

I click on **Resource**.

Countries by Join Year

join_year no_of_countries

1. 2004	10
2. 1957	6
3. 1973	3
4. 1995	3
5. 1986	2
6. 2007	2
7. 1981	1

no_of_countries

join_year

Let's get started

Drag a field from the Data Panel to the canvas to add a new chart or select a component on the report canvas to edit it.

Data Panel:

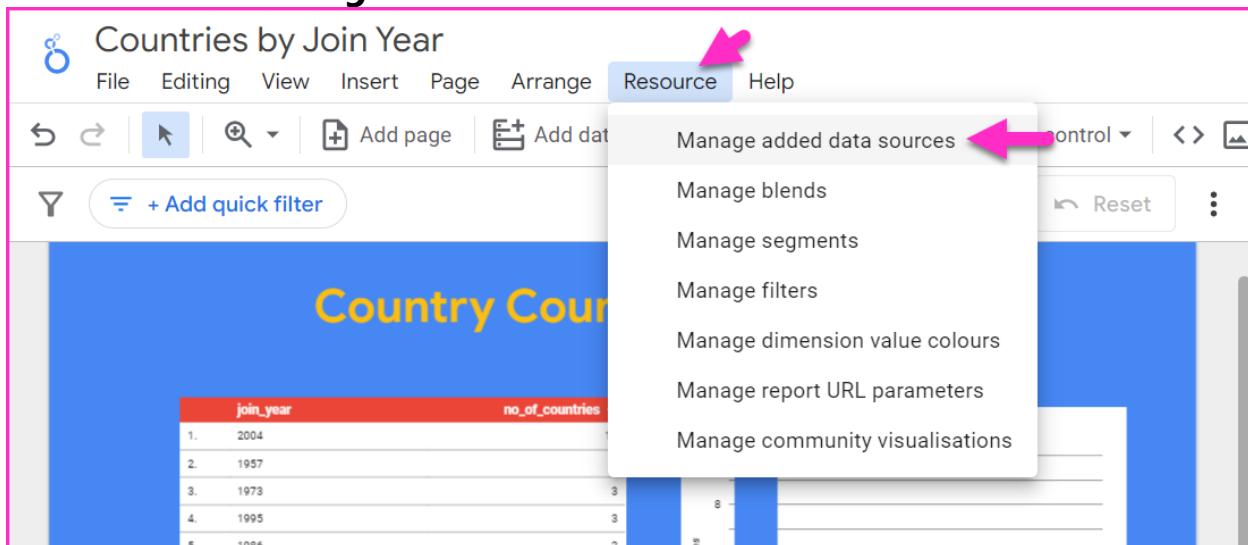
- join_year
- no_of_countries
- Record Count

Properties Tab:

- Add a field
- Add a parameter
- Add Data

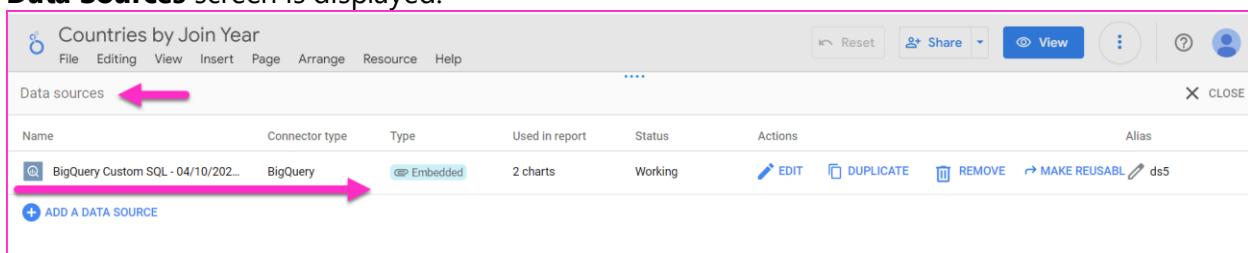
KayellSQL Google Looker Studio

I then click on **Manage added data sources**.



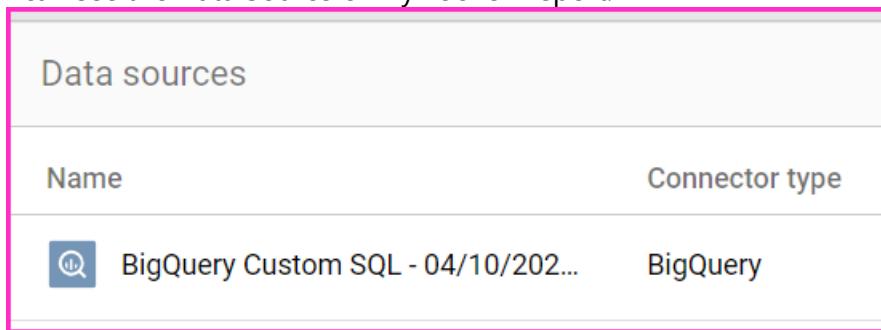
The screenshot shows the Looker Studio interface with a report titled "Countries by Join Year". The "Resource" menu is open, and the "Manage added data sources" option is highlighted with a pink arrow. The menu also includes options like "Manage blends", "Manage segments", "Manage filters", "Manage dimension value colours", "Manage report URL parameters", and "Manage community visualisations".

Data Sources screen is displayed.



The screenshot shows the "Data sources" screen in Looker Studio. It lists a single data source: "BigQuery Custom SQL - 04/10/202...". The "Actions" column for this entry includes "EDIT", "DUPLICATE", "REMOVE", and "MAKE REUSABLE". A pink arrow points to the "EDIT" button. The "Data sources" tab is also highlighted with a pink arrow.

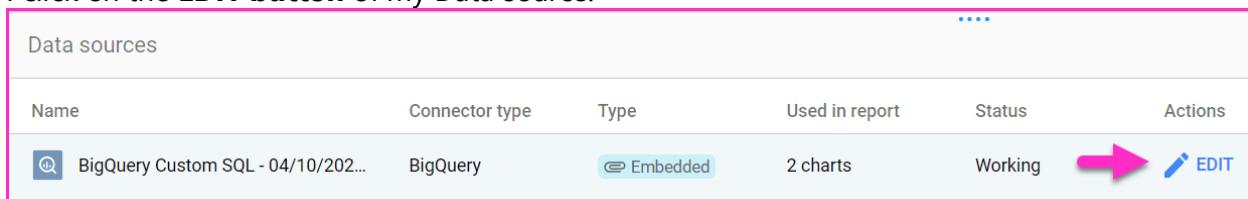
I can see the Data Source of my Looker Report.



The screenshot shows the "Data sources" screen in Looker Studio, displaying a single data source entry: "BigQuery Custom SQL - 04/10/202...". The "Connector type" is listed as "BigQuery". A pink arrow highlights the "BigQuery" connector type.

Edit the Data Source

I click on the **EDIT button** of my Data source.



The screenshot shows the "Data sources" screen in Looker Studio, listing a single data source. The "Actions" column for this entry includes an "EDIT" button, which is highlighted with a pink arrow. The "Data sources" tab is also highlighted with a pink arrow.

KayellSQL Google Looker Studio

I wait a little while for the Data Source to be loaded.
And here it is.

The screenshot shows the Google Looker Studio interface. At the top, there's a navigation bar with 'File', 'Editing', 'View', 'Insert', 'Page', 'Arrange', 'Resource', and 'Help'. Below the navigation bar, the title 'BigQuery Custom SQL - 04/10/2024, ...' is displayed along with 'Scope: Embedded', 'Data credentials: Viewer', and 'Data freshness: 12 hours'. There are also 'EDIT CONNECTION' and 'FILTER BY EMAIL' buttons. The main area is titled 'Countries by Join Year'. It lists 'DIMENSIONS (2)' and 'METRICS (1)'. Under 'DIMENSIONS (2)', there are two entries: 'join_year' and 'no_of_countries', both of which are 'Number' type and have 'Sum' as the default aggregation. Under 'METRICS (1)', there is one entry: 'Record Count' which is also a 'Number' type and has 'Auto' as the default aggregation. The entire interface is framed by a pink border.

Change the Field Names

I will simply type over the two DIMENSIONS and change their names.

This screenshot is similar to the previous one, showing the 'Countries by Join Year' query in Google Looker Studio. However, it features two large pink arrows pointing to the 'join_year' and 'no_of_countries' fields in the 'DIMENSIONS (2)' section. These fields are highlighted with a green background. The rest of the interface remains the same, with the navigation bar, title, and metric section visible. The entire interface is framed by a pink border.

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One. I change **join_year** to **Year of Joining the EU**

DIMENSIONS (2)

- join_year
- no_of_countries

DIMENSIONS (2)

- Year of Joining the EU
- no_of_countries

Two. I change **no_of_countries** to **Number of Countries**.

DIMENSIONS (2)

- Year of Joining the EU
- no_of_countries

METRICS (1) no_of_countries

DIMENSIONS (2)

- Year of Joining the EU
- Number of Countries

I changed the names of both of my Dimension Fields.
I will not change anything else.

Click on FINISHED

I now click on **FINISHED**.

Countries by Join Year

File Editing View Insert Page Arrange Resource Help

← BigQuery Custom SQL - 04/10/2024, ... Scope: @Embedded Data credentials: Viewer Data freshness: 12 hours Community visualisations access: Off Native functions: Off FINISHED

← EDIT CONNECTION | FILTER BY EMAIL

ADD A FIELD ADD A PARAMETER

Field Type Default Aggregation Description

DIMENSIONS (2)

Field	Type	Default Aggregation	Description
Year of Joining the EU	123 Number	Sum	
Number of Countries	123 Number	Sum	

KayellSQL Google Looker Studio

Click on Close

On the next screen, after I clicked FINISHED, I click on **Close**.

Countries by Join Year

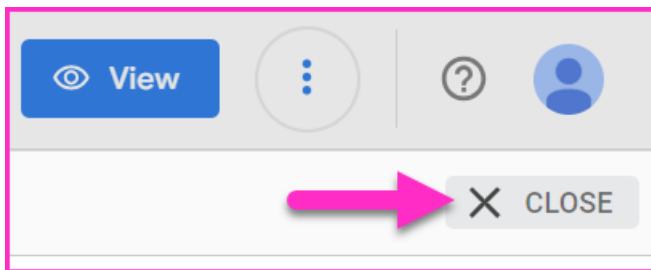
File Editing View Insert Page Arrange Resource Help

Data sources

Name	Connector type	Type	Used in report	Status	Actions	Alias
BigQuery Custom SQL - 04/10/202...	BigQuery	Embedded	2 charts	Working	EDIT DUPLICATE REMOVE MAKE REUSABLE	ds5

[ADD A DATA SOURCE](#)

X CLOSE



Back to the Report Screen

Here I am back to my report screen.

My Data field names have changed.

Data Panel is on the right.

The screenshot shows a report titled "Country Counts by Join Year". On the left, there is a table with the following data:

join_year	no_of_countries
1. 2004	10
2. 1957	6
3. 1973	3
4. 1995	3
5. 1986	2
6. 2007	2
7. 1981	1

On the right, there is a bar chart with the same data. The chart has "no_of_countries" on the y-axis (0 to 10) and "join_year" on the x-axis (2004, 1957, 1973, 1995, 1986, 2007, 1981). A green box highlights the "Data" panel on the far right, which contains the following fields:

- BigQuery Custom SQL - 04/10/2024, 0...
- 123 Number of Countries
- 123 Year of Joining the EU
- 123 Record Count

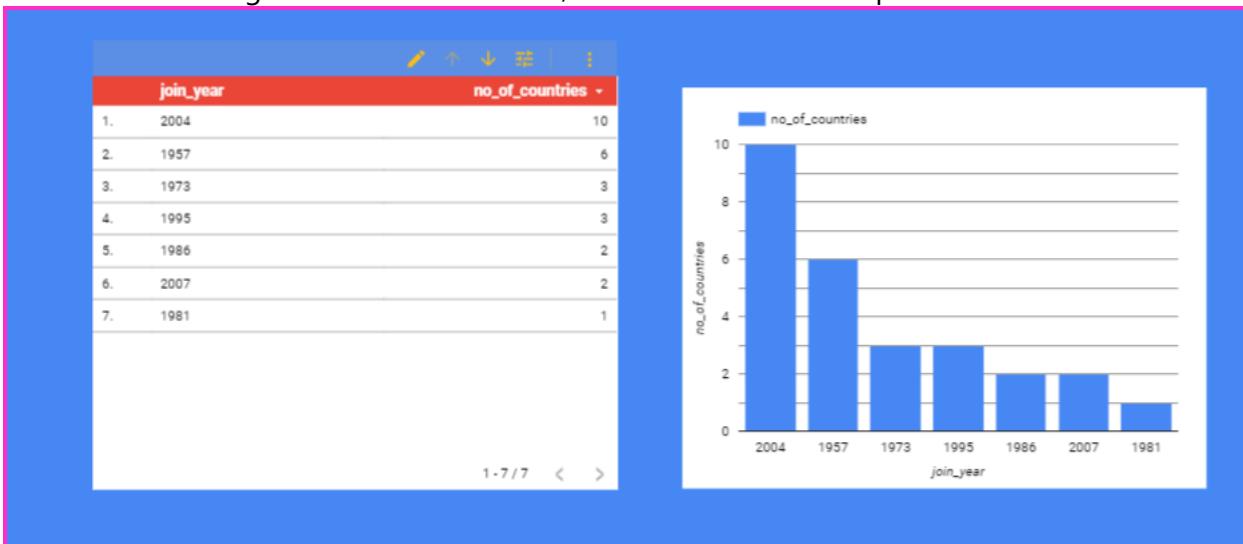
The screenshot shows the Data panel. It includes a search bar at the top and a list of three fields:

- BigQuery Custom SQL - 04/10/2024, 0...
- 123 Number of Countries
- 123 Year of Joining the EU
- 123 Record Count

KayellSQL Google Looker Studio

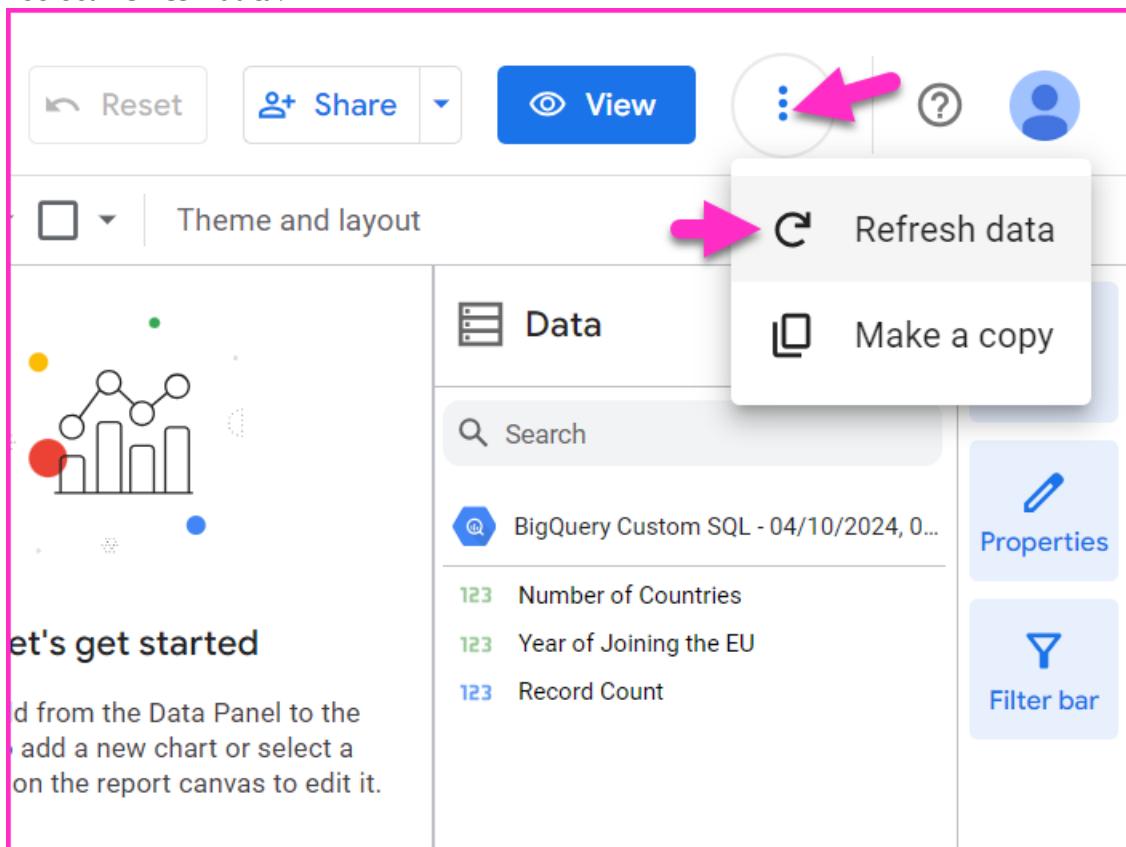
However my Chart field names did not change.

To be able to change the Chart field names, I have to Refresh the report data.

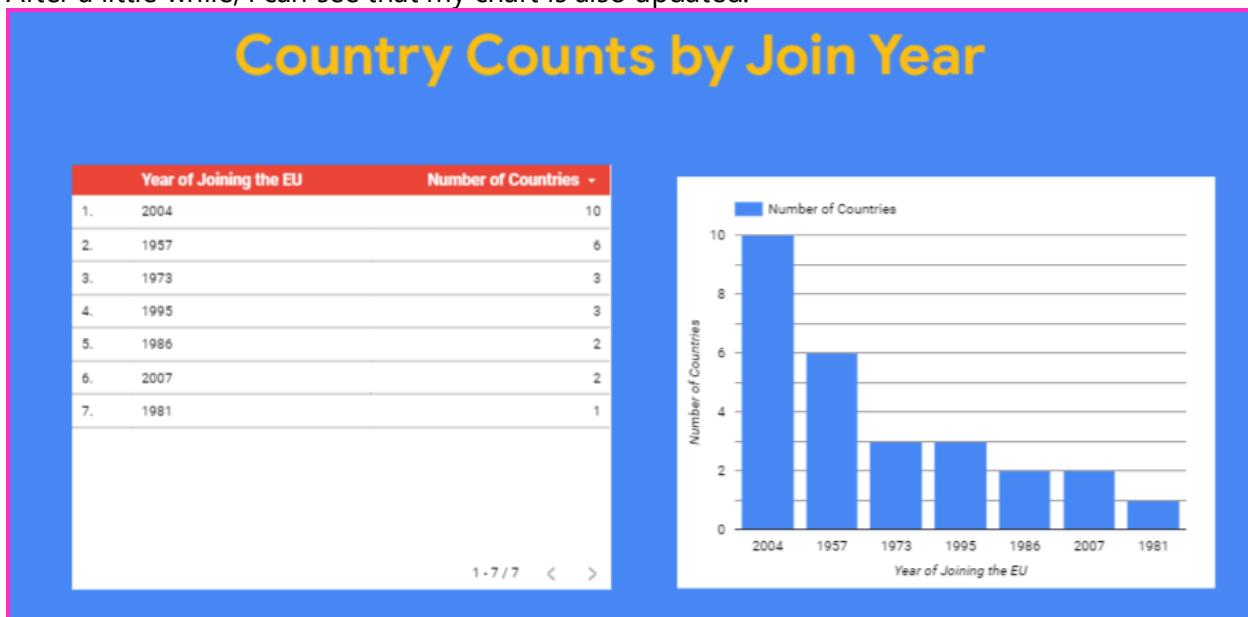


Refresh Data

Next to the **View Button**, I click on the **three vertical dots**.
I select **Refresh data**.



After a little while, I can see that my chart is also updated.



Charts are now Updated

Table Chart is updated

The screenshot shows the Google Looker Studio interface. On the left, there is a table titled "Country Counts by Join Year" with two columns: "Year of Joining the EU" and "Number of Countries". The data is as follows:

Year of Joining the EU	Number of Countries
1. 2004	10
2. 1957	6
3. 1973	3
4. 1995	3
5. 1986	2
6. 2007	2
7. 1981	1

To the right of the table is a bar chart titled "Number of Countries" with the same data points. The chart has "Year of Joining the EU" on the x-axis and "Number of Countries" on the y-axis. A yellow arrow points from the table to the chart, indicating they are connected.

I can see that the **Table Chart Headers** are updated with the new Dimension Field Names.

A zoomed-in view of the table header row. The first column is labeled "Year of Joining the EU" and the second column is labeled "Number of Countries".

Year of Joining the EU	Number of Countries
1. 2004	10
2. 1957	6
3. 1973	3
4. 1995	3
5. 1986	2
6. 2007	2
7. 1981	1

Column Bar Chart is updated

Country Counts by Join Year

Year of Joining the EU	Number of Countries
2004	10
1957	6
1973	3
1995	3
1986	2
2007	2
1981	1

I can see that the **axis labels** have changed.

X-AXIS Dimension Year of Joining the EU

Y-AXIS Metric Number of Countries

Chart

SET-UP

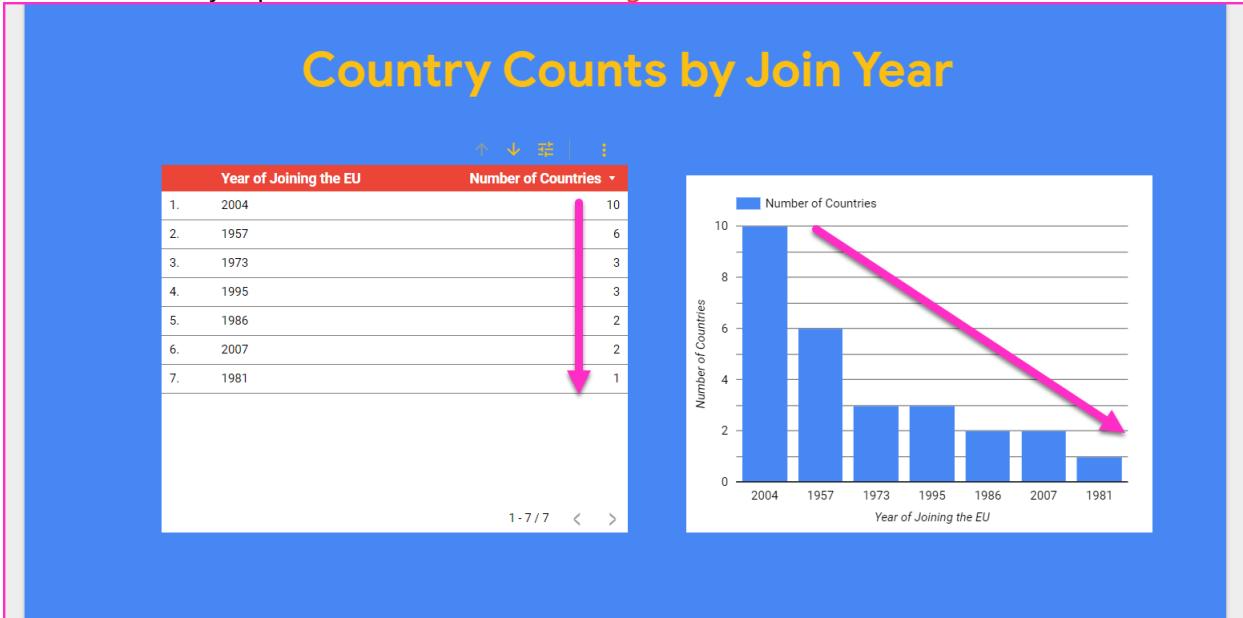
Dimension: 123 Year of Joining the EU

Metric: SUM Number of Countries

*** I was able to do these changes by **renaming the Fields** in my **Data Source**. ***

Sort (Order) the Report Data

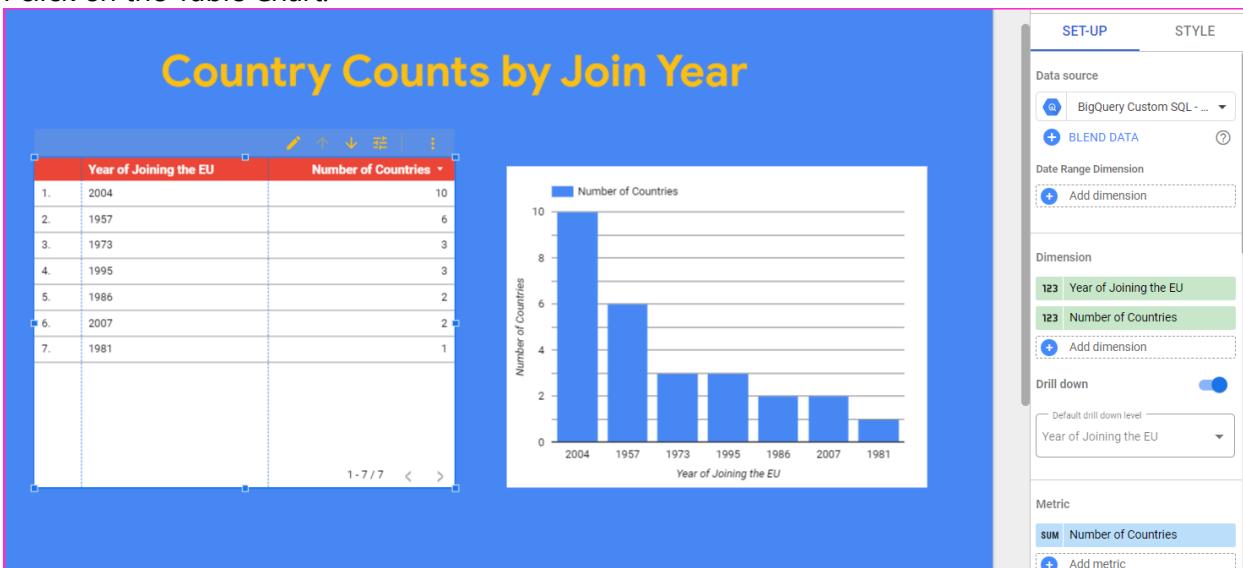
I noticed that my report is ordered in Descending Order of the Number of Countries.



However, I want to order my report in "Year of Joining the EU".

Order Data in Table Chart

I click on the Table Chart.

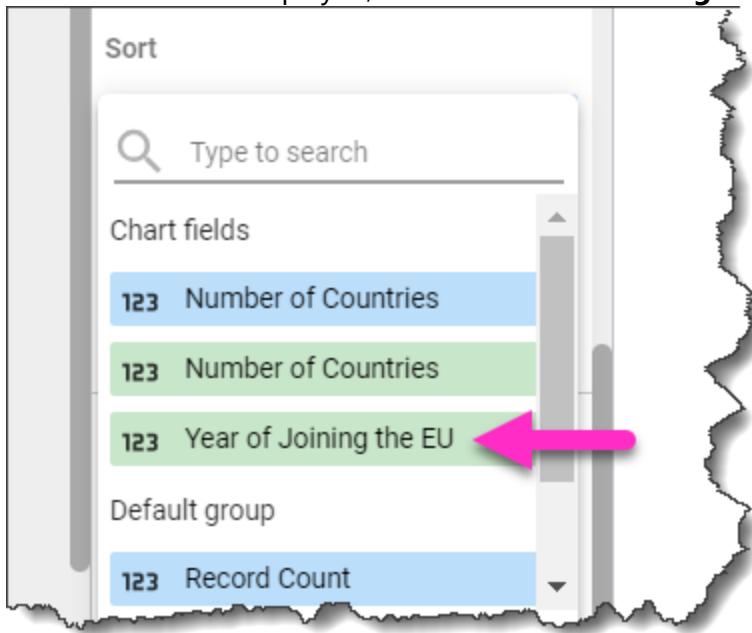


In **SET-UP**, I scroll down, and find **Sort**.

The screenshot shows the 'SET-UP' tab selected in the Looker Studio interface. In the 'Sort' section, there is a blue button labeled 'SUM' and a field labeled 'Number of Countries'. A pink arrow points from the text 'In SET-UP, I scroll down, and find Sort.' to the 'Sort' section. Another pink arrow points from the text 'I scroll down, and find Sort.' to the 'Number of Countries' field. To the right of the 'Sort' section, there is a sidebar with a search bar and a list of fields: 'BigQuery Custom', 'Number of Countries', 'Year of Joining', and 'Record Count'. At the bottom of the 'Sort' section, there are buttons for 'Add sort', 'Descending', and 'Ascending'. Below the 'Sort' section, there is a 'Secondary sort' section with similar options. At the very bottom, there are buttons for 'Filter', 'Add a field', and 'Add a parameter'.

I click on **Number of Countries**.

In the list of fields displayed, I click on **Year of Joining the EU**.



In a short while, my Table Chart is updated.

I can see that the chart is **now ordered in the Year of Joining the EU**.

Number of Countries is **no more** the **Sort Field**.

	Year of Joining the EU	Number of Countries
1.	2007	2
2.	2004	10
3.	1995	3
4.	1986	2
5.	1981	1
6.	1973	3
7.	1957	6

However, the **Year is in Descending Order.**

This is the Report Default.

Year of Joining the EU	Number of Countries
1. 2007	2
2. 2004	10
3. 1995	3
4. 1986	2
5. 1981	1
6. 1973	3
7. 1957	6

I would like my Chart to be ordered in **Ascending Year Order.**

Hence, I click on Ascending.

KayellSQL Google Looker Studio

As soon as I click on **Ascending**, my Table Chart is Updated.

It is now in **Ascending Order of the Year**.

The screenshot shows a table chart with a blue header bar containing icons for sorting, filtering, and more. The table has two columns: "Year of Joining the EU" and "Number of Countries". The data is as follows:

Year of Joining the EU	Number of Countries
1. 1957	6
2. 1973	3
3. 1981	1
4. 1986	2
5. 1995	3
6. 2004	10
7. 2007	2

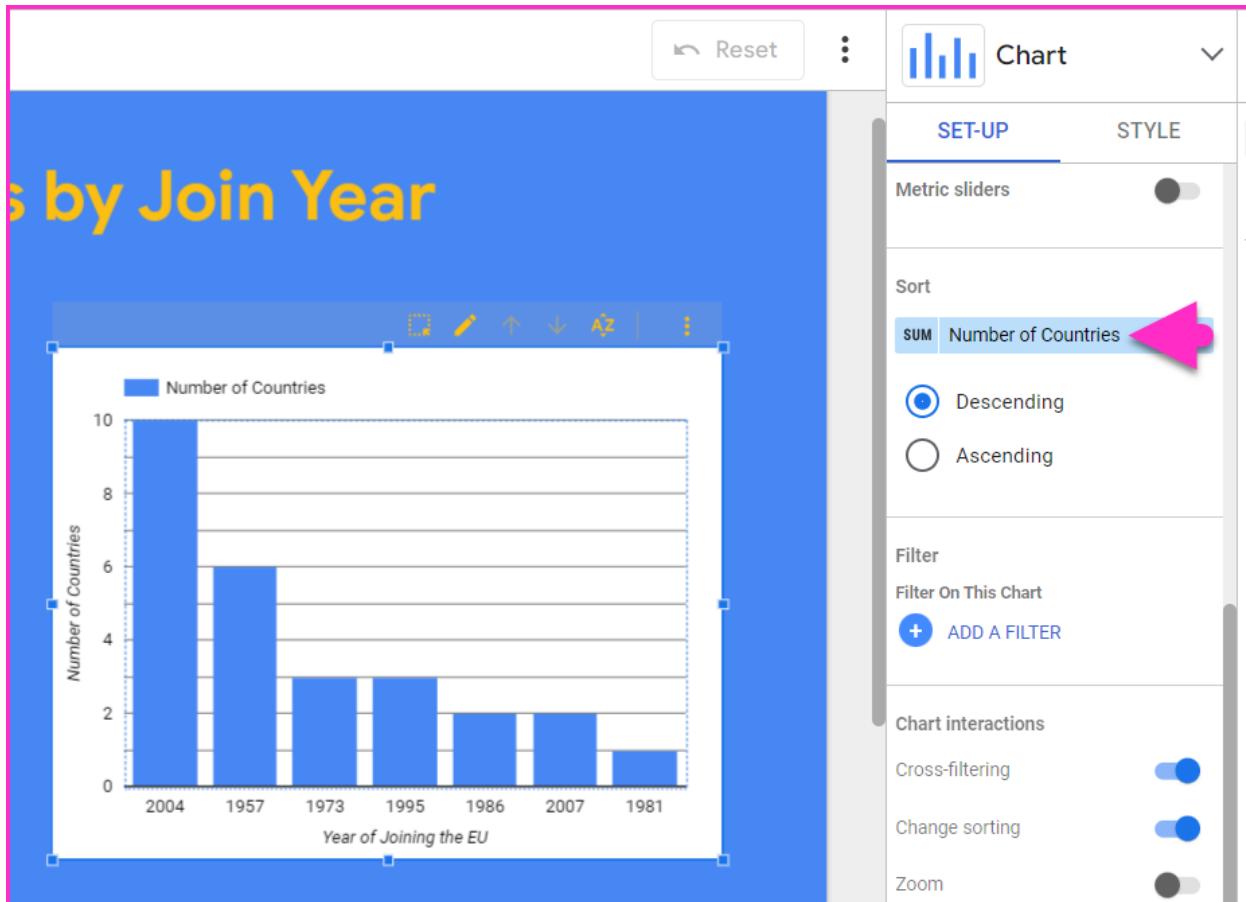
At the bottom, there is a page navigation bar showing "1 - 7 / 7" and arrows for navigating between pages.

Order Data in Column Bar Chart

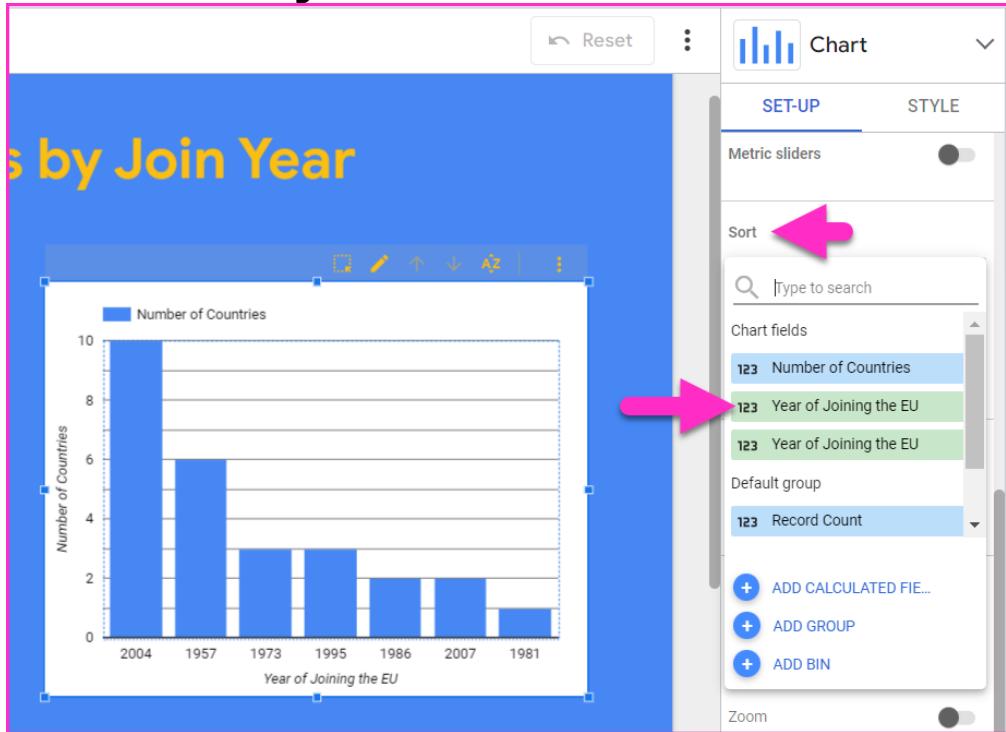
I will now order the Column Bar Chart.

I will go through similar steps as I have done in my Table Chart.

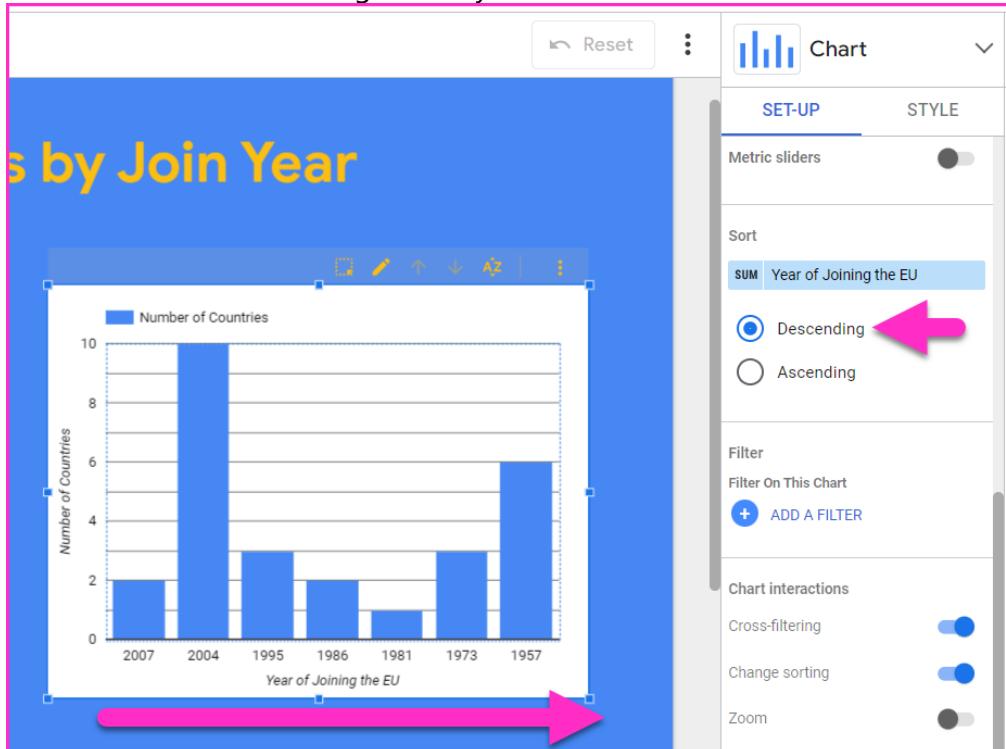
I click on the **Sort** column of **Number of Countries**.



I select **Year of Joining the EU**.

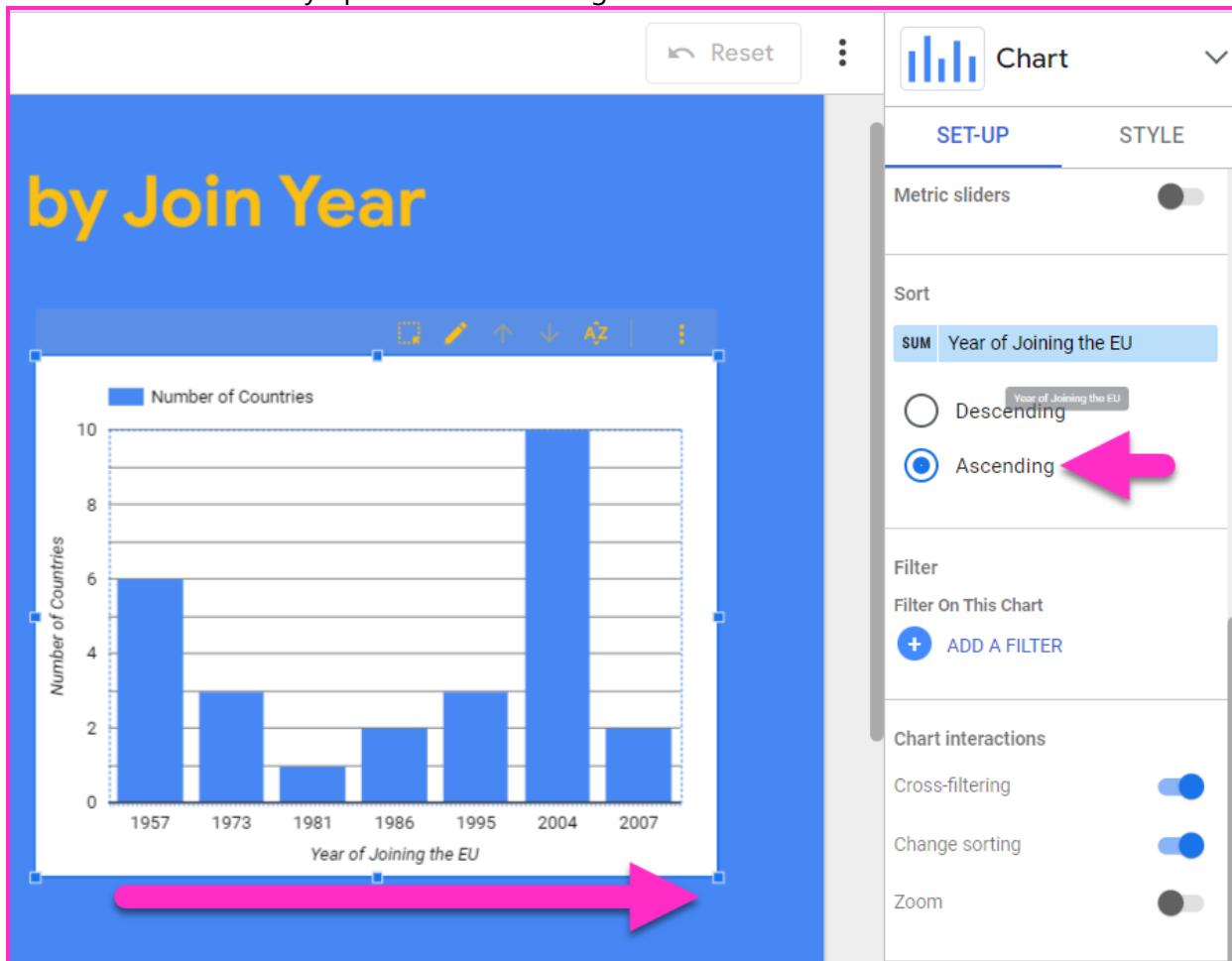


My Chart is immediately ordered in Years.
However, it is in Descending order by default.



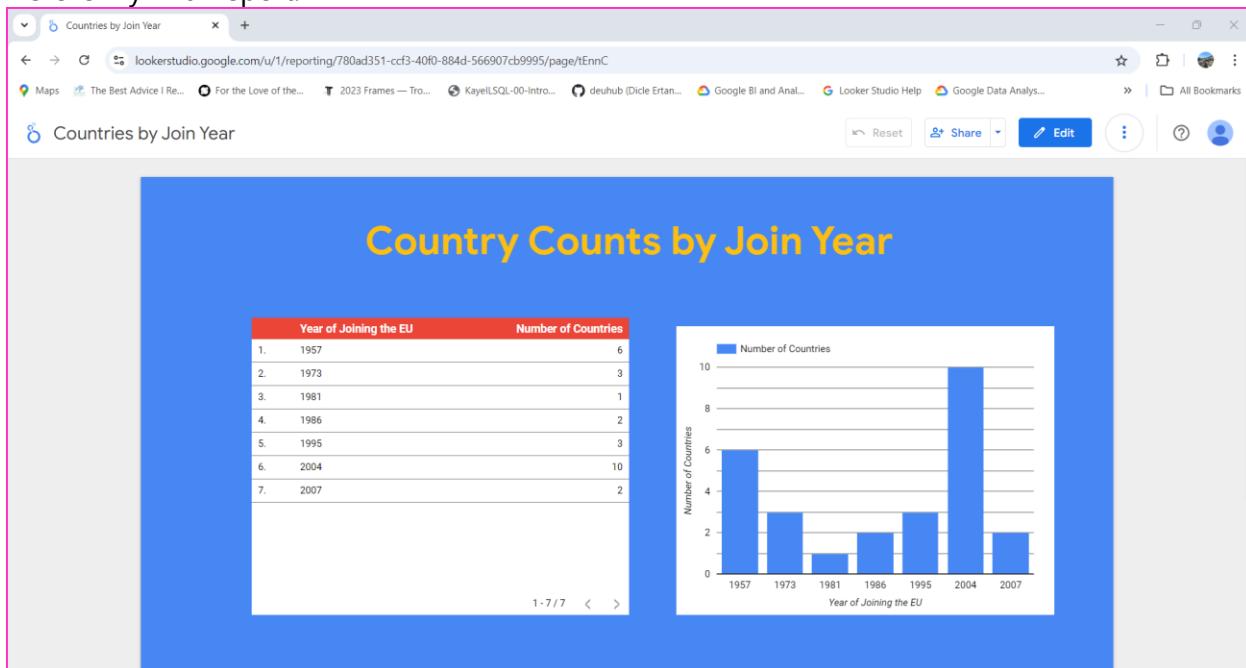
I select Ascending.

The chart is immediately updated in Ascending Order of Years.



View Customizations

I switch to the View Mode to view my customizations.
Here is my final report.



I am happy with my Looker Studio Report.
This resumes Report One.



About Ascending and Descending

Here are some screenshots from **Kaye is Learning SQL** which explains the meaning of **Ascending** and **Descending**.

Ascending

https://deuhub.github.io/KayeSQL-05-Oracle-Queries/public/KayeSQL-05-OracleQueries.htm#order_by_mean_asc

Meaning of ASCENDING

Merriam-Webster Dictionary

<https://www.merriam-webster.com/dictionary/ascending>

Here is the **Definition of Ascending** in **Merriam-Webster Dictionary**:

- rising or increasing to higher levels, values, or degrees
- mounting or sloping upward

ASCENDING a Mountain — Going **UP** a Mountain:



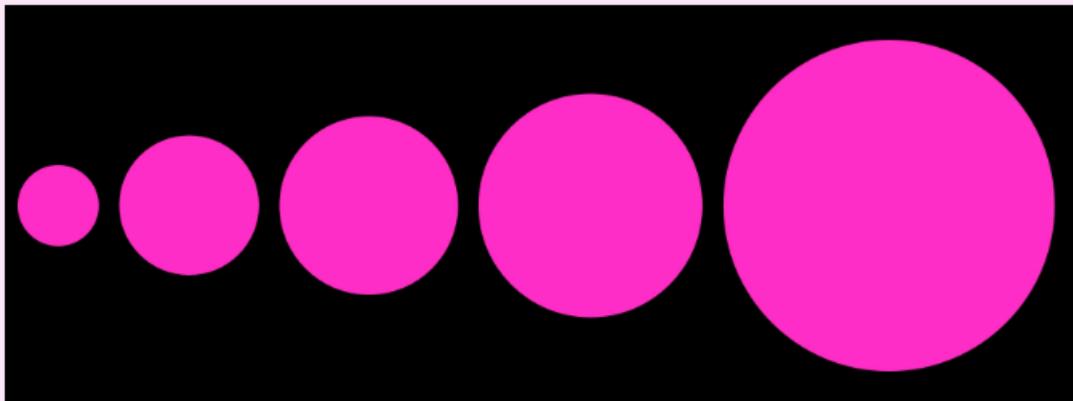
Cambridge Dictionary

<https://dictionary.cambridge.org/dictionary/english/ascending>

Definition of Ascending in Cambridge Dictionary:

increasing in size or value

These Circles are in **ASCENDING ORDER** of Size —
they are **INCREASING** in Size:



We can say that;

- **ASCENDING** is Going **UP** ↑
- **ASCENDING** is **INCREASING** in Value or in Size

Descending

https://deuhub.github.io/KayelSQL-05-Oracle-Queries/public/KayelSQL-05-OracleQueries.htm#order_by_mean_desc

Meaning of DESCENDING

DESCENDING is the **OPPOSITE** of **ASCENDING**.

Hence, **DESCENDING** is;

- going downwards
- decreasing to lower levels or to lower values
- decreasing in size or in value

Here is a **DESCENDING** elevator in a skyscraper.
It is going **DOWN** from the 21st Floor.



These beads are in **DESCENDING ORDER** of Size — they are **DECREASING** in Size:



We can say that;

- **DESCENDING** is Going **DOWN** 
- **DESCENDING** is **DECREASING** in Value or in Size

Report Two – Distribution of European Parliament Seats

Note 1

Please note that most of the processes in **Report Two** are the same as in **Report One**. As I have explained them in detail in Report One, I will not be writing them again in detail.

Note 2

Please note that, the **training data** for **Kaye is Learning SQL** is as of 2009 European Parliament elections. Although they are true to reality for 2009, they are no more current.

The SQL Query

Here is the SQL query I am going to use in my report.

```
SELECT count(m.mep_id) no_of_meps,
ifnull(pgr.pg_code, 'NI') political_group_code,
ifnull(pgr.pg_name, 'Non-Inscrits') political_group_name,
ctr.country_id,
ctr.country_name
FROM `kayeilsql.meps` m
join `kayeilsql.countries` ctr
on (m.country_id = ctr.country_id)
left outer join `kayeilsql.political_groups` pgr
on (m.pg_id = pgr.pg_id)
group by pgr.pg_code,
pgr.pg_name,
ctr.country_id,
ctr.country_name
order by ctr.country_id, political_group_code;
```

This SQL query answers the following question.

Q. How many MEPS (Members of the European Parliament) are there, in a Political Group, in a Country?

Run the query in Google Cloud BigQuery

I go to the console.

<https://console.cloud.google.com/>

Similar to what I have done in Report One, I have to be in my free account.

Here is my project.

The screenshot shows the Google Cloud Explorer interface. At the top, there's a navigation bar with the Google Cloud logo and a dropdown menu labeled "My First Project". Below the navigation bar is the main "Explorer" view. A search bar at the top of the view contains the placeholder "Search BigQuery resources". Underneath the search bar, it says "Viewing resources." and "SHOW STARRED ONLY". A list of projects is shown, with "meta-altar-436208-u2" being the selected project, indicated by a blue selection bar on the left and a pink arrow pointing to the project name. To the right of the project name are a star icon and a more options icon (three dots). The entire screenshot is framed by a thick pink border.

I open an **SQL Query window** and copy my query.

The screenshot shows the Google Cloud SQL Query window. At the top, there's a navigation bar with the Google Cloud logo and a dropdown menu labeled "My First Project". A search bar is also present. The main area is titled "Untitled query" and contains the following SQL code:

```

1 SELECT count(m.mep_id) no_of_meps,
2 ifnull(pgr.pg_code, 'NI') political_group_code,
3 ifnull(pgr.pg_name, 'Non-Inscrits') political_group_name,
4 ctr.country_id,
5 ctr.country_name
6 FROM `kayeysql.meps` m
7 join `kayeysql.countries` ctr
8 on (m.country_id = ctr.country_id)
9 left outer join `kayeysql.political_groups` pgr
10 on (m.pg_id = pgr.pg_id)
11 group by pgr.pg_code,
12 pgr.pg_name,
13 ctr.country_id,
14 ctr.country_name
15 order by ctr.country_id, political_group_code;

```

To the left of the query editor is the "Explorer" sidebar, which lists various resources like Queries, Notebooks, Data canvases, Data preparations, and Workflows. The "meta-altar-436208-u2" project is selected, indicated by a blue selection bar on the left and a pink arrow pointing to the project name. The entire screenshot is framed by a thick pink border.

KayellSQL Google Looker Studio

I run my query.

My query runs successfully.

The screenshot shows a Google Looker Studio interface with a pink border. At the top, there's a toolbar with icons for file, search, and navigation, followed by a tab labeled 'Untitled query' with a 'RUN' button highlighted by a pink arrow. Below the toolbar is a code editor window containing the following SQL query:

```
12 pgr.pg_name,
13 ctr.country_id,
14 ctr.country_name
15 order by ctr.country_id, political_group_code;
```

Below the code editor is a 'Query results' section with a green border. It contains a table with the following data:

Row	no_of_meps	political_group_code	political_group_name	country_id	country_name
1	1	ALDE	Group of the Alliance of Liberal...	AT	Austria
2	6	EPP-ED	Group of the European People's Party(Christian Democrats) and European Democrats	AT	Austria
3	2	Greens/EFA	Group of the Greens/European ...	AT	Austria
4	2	NI	Non-Inscrits	AT	Austria
5	7	PES	Socialist Group in the European...	AT	Austria
6	6	ALDE	Group of the Alliance of Liberal...	BE	Belgium
7	6	EPP-ED	Group of the European People	BE	Belgium

At the bottom of the results section, there are pagination controls: 'Results per page: 50 ▾ 1 – 50 of 126' and navigation arrows.

On the first page, I can see the results for Austria, country_id = AT, because rows are ordered by country_id initially.

I can see that within Austria, the rows are ordered in political_group_code.

This is how I wrote my query.

```
order by ctr.country_id, political_group_code;
```

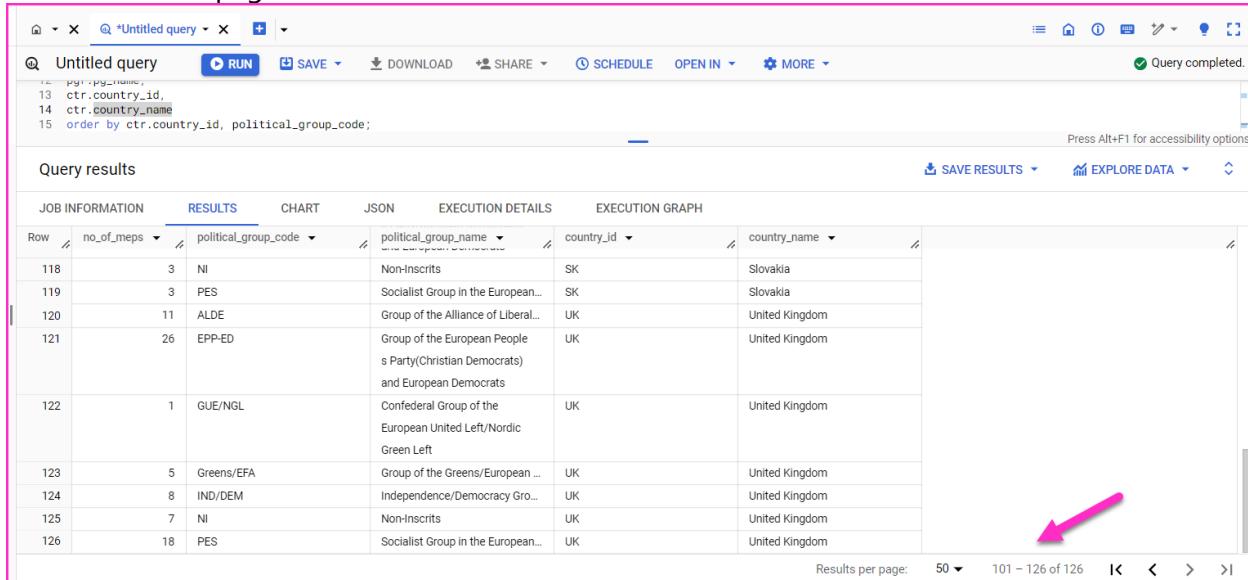
There is a total of 18 Members of the European Parliament in Austria (no_of_meps).

I click on the button to check the last 50 rows.

The screenshot shows a table with two columns: 'BE' and 'Belgium'. In the top right corner of the table area, there is a button labeled 'Last 50 rows' with a pink arrow pointing to it. Below the table are the same pagination controls as the previous screenshot: 'Results per page: 50 ▾ 1 – 50 of 126' and navigation arrows.

KayellSQL Google Looker Studio

I am on the last page now.



The screenshot shows a Google Looker Studio interface with a pink border. At the top, there's a toolbar with various icons like RUN, SAVE, DOWNLOAD, SHARE, SCHEDULE, OPEN IN, and MORE. A green checkmark indicates 'Query completed'. Below the toolbar is a section titled 'Query results' with tabs for RESULTS, CHART, JSON, EXECUTION DETAILS, and EXECUTION GRAPH. The RESULTS tab is selected. The results table has columns: Row, no_of_meps, political_group_code, political_group_name, country_id, and country_name. The data shows 126 rows of political group information across different countries. The last row, number 126, corresponds to the UK. The bottom right of the table area has a pink arrow pointing towards the page navigation controls. The page navigation controls show 'Results per page: 50 ▾ 101 – 126 of 126' with arrows for navigating between pages.

Row	no_of_meps	political_group_code	political_group_name	country_id	country_name
118	3	NI	Non-Inscrits	SK	Slovakia
119	3	PES	Socialist Group in the European...	SK	Slovakia
120	11	ALDE	Group of the Alliance of Liberal...	UK	United Kingdom
121	26	EPP-ED	Group of the European People's Party(Christian Democrats) and European Democrats	UK	United Kingdom
122	1	GUE/NGL	Confederal Group of the European United Left/Nordic Green Left	UK	United Kingdom
123	5	Greens/EFA	Group of the Greens/European ...	UK	United Kingdom
124	8	IND/DEM	Independence/Democracy Gro...	UK	United Kingdom
125	7	NI	Non-Inscrits	UK	United Kingdom
126	18	PES	Socialist Group in the European...	UK	United Kingdom

I can see that in alphabetical order country_id=UK is the last country listed in my query.



This screenshot is identical to the one above, showing the same query results and highlighting the last row for the UK. The pink arrow is again pointing towards the page navigation controls at the bottom right of the table area.

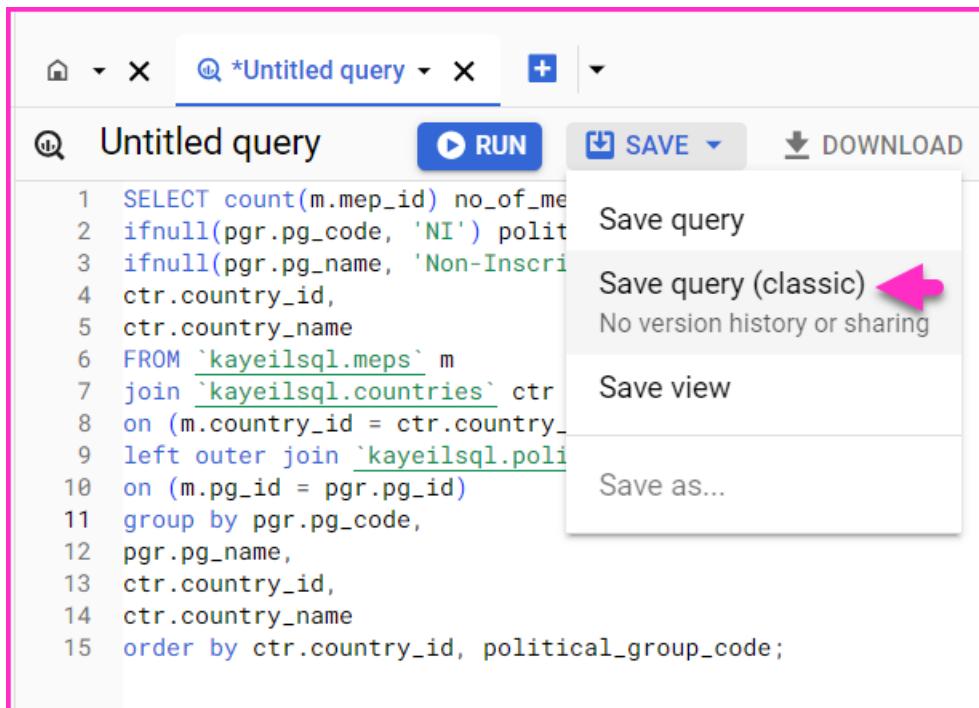
Row	no_of_meps	political_group_code	political_group_name	country_id	country_name
120	11	ALDE	Group of the Alliance of Liberal...	UK	United Kingdom
121	26	EPP-ED	Group of the European People's Party(Christian Democrats) and European Democrats	UK	United Kingdom
122	1	GUE/NGL	Confederal Group of the European United Left/Nordic Green Left	UK	United Kingdom
123	5	Greens/EFA	Group of the Greens/European ...	UK	United Kingdom
124	8	IND/DEM	Independence/Democracy Gro...	UK	United Kingdom
125	7	NI	Non-Inscrits	UK	United Kingdom
126	18	PES	Socialist Group in the European...	UK	United Kingdom

There is a total of 76 Members of the European Parliament from UK.

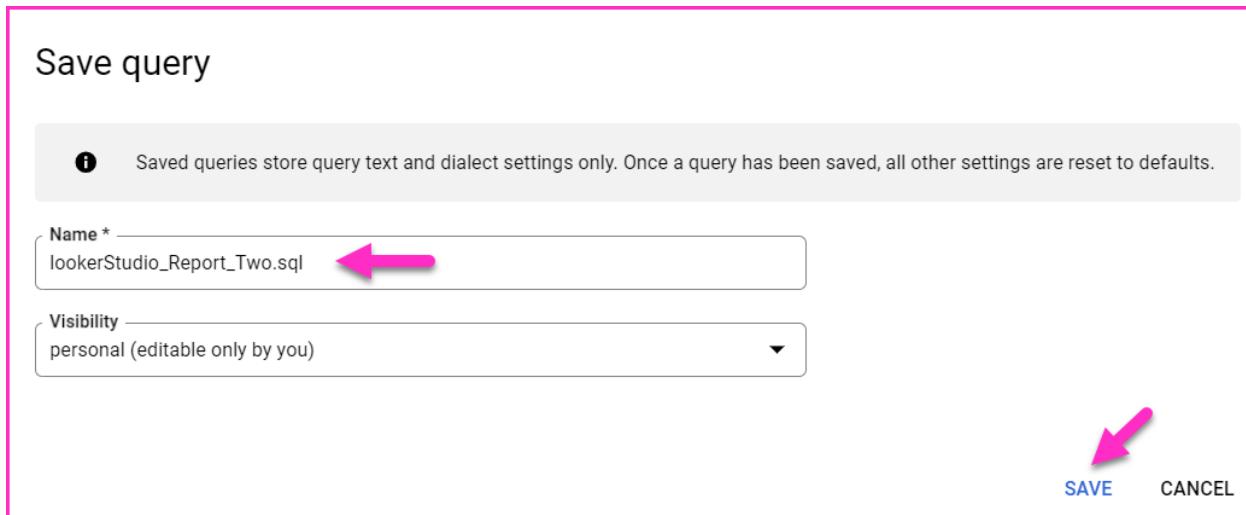
Please note that the database data is as of 2009 elections.

Save the Query

I save my query under my project, under Classic Queries.



```
1 SELECT count(m.mep_id) no_of_me
2 ifnull(pgr.pg_code, 'NI') polit
3 ifnull(pgr.pg_name, 'Non-Inscri
4 ctr.country_id,
5 ctr.country_name
6 FROM `kayeilsql.meps` m
7 join `kayeilsql.countries` ctr
8 on (m.country_id = ctr.country_
9 left outer join `kayeilsql.poli
10 on (m.pg_id = pgr.pg_id)
11 group by pgr.pg_code,
12 pgr.pg_name,
13 ctr.country_id,
14 ctr.country_name
15 order by ctr.country_id, political_group_code;
```



Save query

Saved queries store query text and dialect settings only. Once a query has been saved, all other settings are reset to defaults.

Name * *

Visibility

SAVE CANCEL

KayeilSQL Google Looker Studio

Here is my query for my second report, saved under my project.

The screenshot shows the Google Cloud Explorer interface. At the top, it displays "Google Cloud" and "My First Project". The main area is titled "Explorer" with a search bar "Search BigQuery resources". Below the search bar, it says "Viewing resources." and "SHOW STARRED ONLY". A list of resources is shown, including:

- meta-altar-436208-u2 (highlighted with a pink arrow)
- Queries
 - (Classic) Queries (6)
 - Project queries
 - information_schema.sql
 - kayeysql_week_02.sql
 - kayeysql_week_03.sql
 - kayeysql_week_04.sql
 - lookerStudio_Report_One.sql
 - lookerStudio_Report_Two.sql (highlighted with a pink arrow)
- Notebooks

BigQuery to Looker Studio

It is now time to create my report in Looker Studio.
I use the query results in Looker Studio as follows.

One. In the **Query Results** section of the query, I click on **EXPLORE DATA**.

The screenshot shows the Google BigQuery interface. At the top, there's a navigation bar with tabs like 'lookerStudio...', 'RUN', 'SAVE QUERY (CLASSIC)', 'SHARE', 'SCHEDULE', 'OPEN IN', 'MORE', and a note 'This query will proc.' Below the navigation bar is the SQL query:

```

    / join `kayellsq1.countries` ctr
    8 on (m.country_id = ctr.country_id)
    9 left outer join `kayellsq1.political_groups` pgr
    10 on (m.pg_id = pgr.pg_id)
    11 group by pgr.pg_code,
    12 pgr.pg_name,
    13 ctr.country_id,
    14 ctr.country_name
    15 order by ctr.country_id, political_group_code;
  
```

Below the query is a table titled 'Query results' showing data from the query. The table has columns: Row, no_of_meps, political_group_code, political_group_name, country_id, and country_name. The data is as follows:

Row	no_of_meps	political_group_code	political_group_name	country_id	country_name
120	11	ALDE	Group of the Alliance of Liberal...	UK	United Kingdom
121	26	EPP-ED	Group of the European People's Party(Christian Democrats) and European Democrats	UK	United Kingdom
122	1	GUE/NGL	Confederal Group of the European United Left/Nordic Green Left	UK	United Kingdom

At the bottom of the table, it says 'Results per page: 50 ▾ 101 – 126 of 126' and has navigation arrows.

Two. In the panel that opens, I click on **Explore with Looker Studio**.

The screenshot shows a 'Explore with Sheets' panel. It includes a 'Press Alt+F1 for accessibility options.' message, a 'SAVE RESULTS' button, and an 'EXPLORE DATA' button. The main area lists several options:

- Explore with Sheets** (with a link icon): Analyse big data with a live connection in a familiar spreadsheet tool.
- Explore with Looker Studio** (with a link icon): Visualise results and create live dashboards from your data. This option is highlighted with a blue box.
- Explore with Python notebook**: Explore and visualise with Python.
- Explore with data canvas**: Explore and visualise with data canvas.

At the bottom, it says 'Results per page: 50 ▾ 101 – 126 of 126' and has navigation arrows.

Google Cloud BigQuery takes me to a new screen: **The Looker Studio Reporting Screen**.

The Looker Studio Reporting Screen

This is the **Looker Studio Reporting** screen.

Looker has already created a report using my query results.

The screenshot shows the Looker Studio reporting interface. At the top, there's a navigation bar with tabs like 'File', 'Editing', 'View', 'Insert', 'Page', 'Arrange', 'Resource', and 'Help'. On the right side, there are buttons for 'Save and share' and 'Pause updates'. The main area features a title 'BigQuery Custom SQL' and a bar chart titled 'no_of_meps' showing data for various countries. Below the chart is a table with the same data. The right sidebar contains a 'Data' panel with fields like 'country_id', 'country_name', 'no_of_meps', 'political_group_code', 'political_group_name', and 'Record Count'. There are also buttons for 'Add a field', 'Add a parameter', and 'Add Data'.

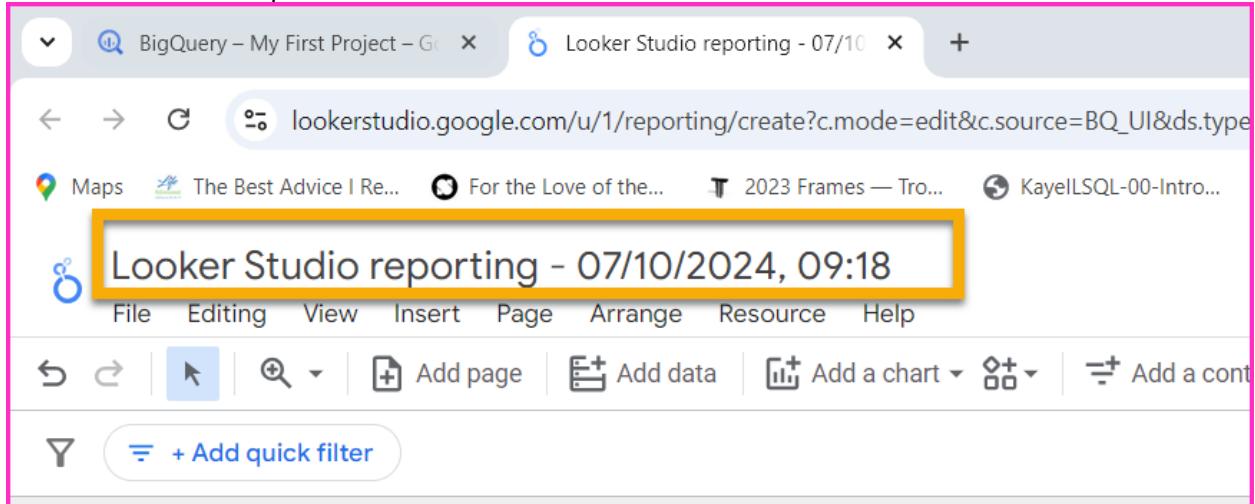
On the top right of the screen, I can see that, I have the same user as in Google Cloud BigQuery, And this is exactly what I want.

The screenshot shows a browser window with a toolbar at the top. The toolbar includes icons for 'Google Data Analytics...', 'All Bookmarks', and a user profile icon. A yellow box highlights the user profile icon, which is labeled 'Google Account: Dicle (deucloud89@gmail.com)'. A pink arrow points to this label. The background of the browser window shows a search bar with a partially visible URL and some other browser tabs.

Rename the Report

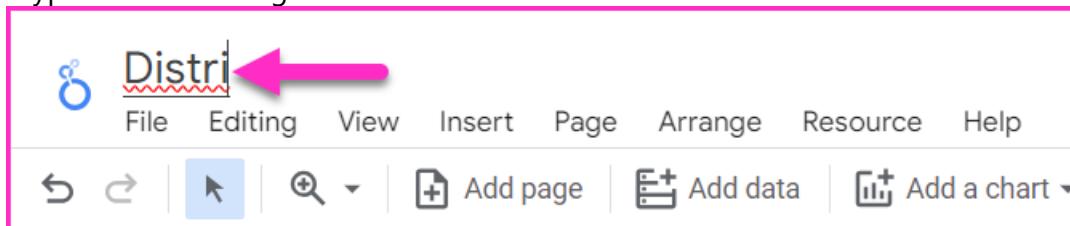
I will initially rename my report.

This is the current report name.

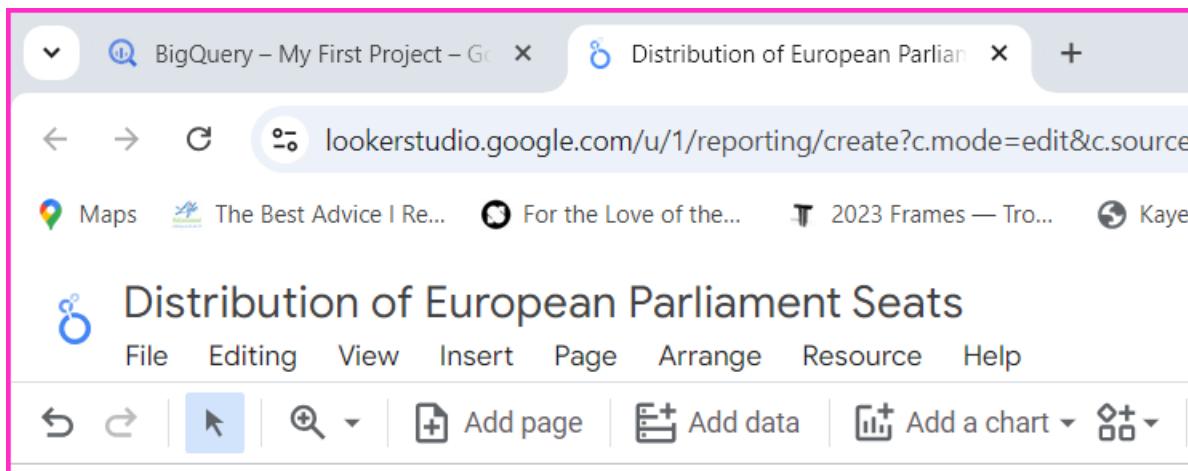


The screenshot shows the Looker Studio reporting interface. The title bar displays "Looker Studio reporting - 07/10/2024, 09:18". A yellow box highlights this title bar. Below the title bar is a navigation bar with links for File, Editing, View, Insert, Page, Arrange, Resource, and Help. Underneath the navigation bar are several icons for navigating between pages, adding data, charts, and filters. A search bar and a "Add quick filter" button are also visible.

I type over and change the name.



The screenshot shows the Looker Studio reporting interface with the title bar containing the partially typed name "Distri". A pink arrow points to the "Distri" text, indicating it is currently being edited. The rest of the interface remains the same as the previous screenshot.



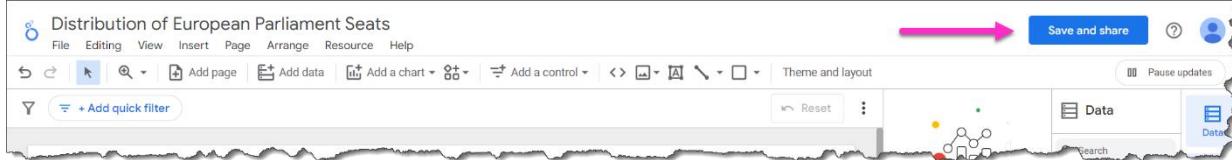
The screenshot shows the Looker Studio reporting interface with the title bar now displaying the renamed report: "Distribution of European Parliament Seats". The rest of the interface remains consistent with the previous screenshots.

KayellSQL Google Looker Studio

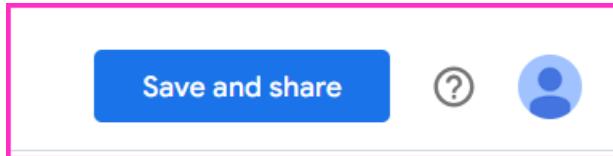
Save the Report

I will now SAVE my Looker Studio Report.

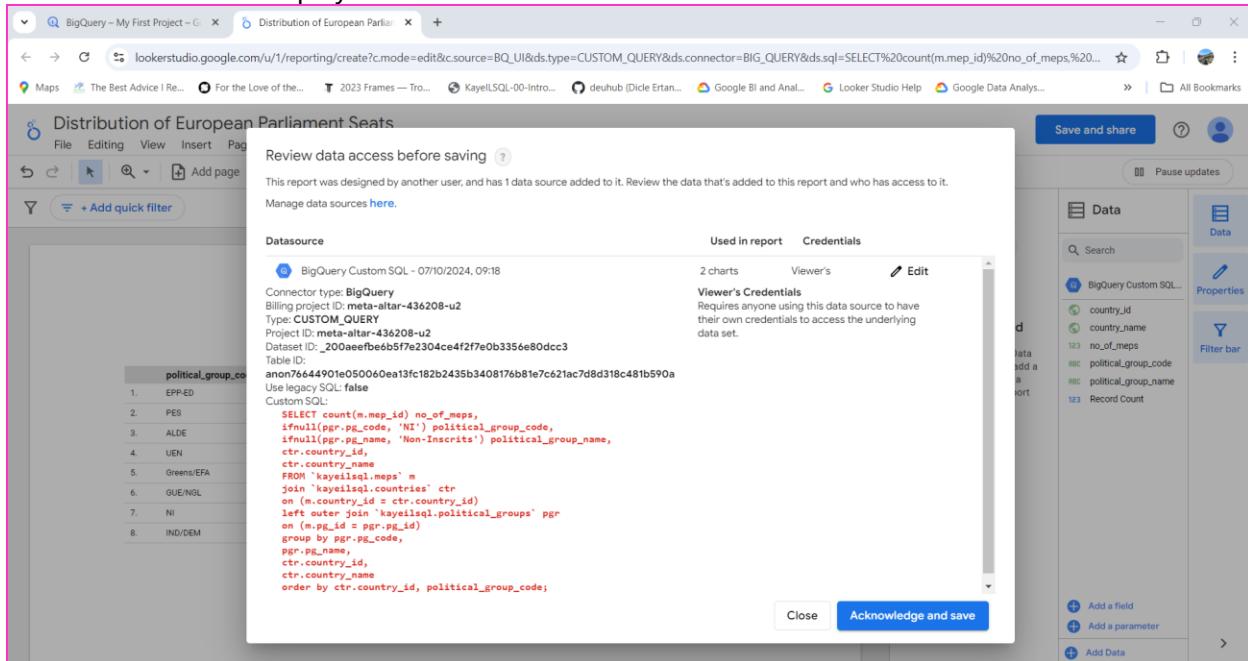
Save and share button is on the top right-hand-side.



I click on the **Save and share** button.



A modal window is displayed.



KayeilSQL Google Looker Studio

Review data access before saving [?](#)

This report was designed by another user, and has 1 data source added to it. Review the data that's added to this report and who has access to it.

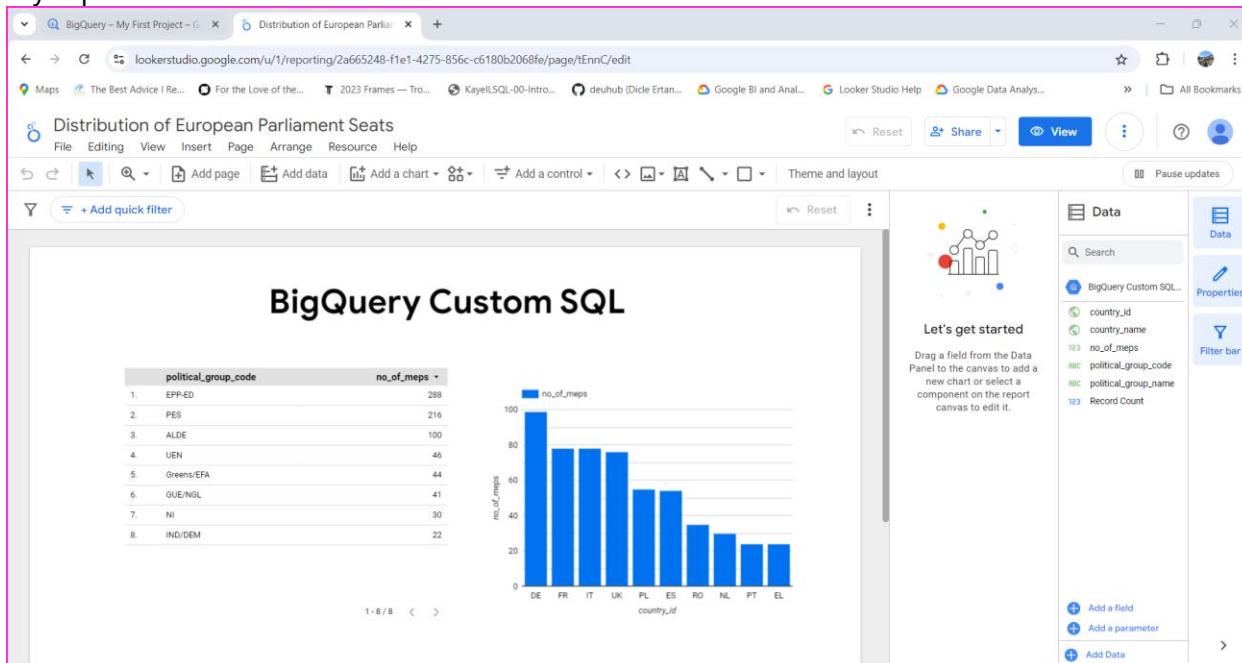
Manage data sources [here](#).

Datasource	Used in report	Credentials
<p>BigQuery Custom SQL - 07/10/2024, 09:18</p> <p>Connector type: BigQuery</p> <p>Billing project ID: meta-altar-436208-u2</p> <p>Type: CUSTOM_QUERY</p> <p>Project ID: meta-altar-436208-u2</p> <p>Dataset ID: _200aeeefbe6b5f7e2304ce4f2f7e0b3356e80dcc3</p> <p>Table ID: anon76644901e050060ea13fc182b2435b3408176b81e7c621ac7d8d318c481b590a</p> <p>Use legacy SQL: false</p> <p>Custom SQL:</p> <pre>SELECT count(m.mep_id) no_of_meps, ifnull(pgr.pg_code, 'NI') political_group_code, ifnull(pgr.pg_name, 'Non-Inscrits') political_group_name, ctr.country_id, ctr.country_name FROM `kayeilsql.meps` m join `kayeilsql.countries` ctr on (m.country_id = ctr.country_id) left outer join `kayeilsql.political_groups` pgr on (m.pg_id = pgr.pg_id) group by pgr.pg_code, pgr.pg_name, ctr.country_id, ctr.country_name order by ctr.country_id, political_group_code;</pre>	2 charts	Viewer's Edit
		Viewer's Credentials Requires anyone using this data source to have their own credentials to access the underlying data set.

[Close](#) [Acknowledge and save](#)



My report is now saved.



The screenshot shows the Google Looker Studio interface with a bar chart titled "BigQuery Custom SQL". The chart displays the number of MEPs (no_of_meps) for various countries (country_id). The data is as follows:

country_id	no_of_meps
DE	288
FR	216
IT	100
UK	46
PL	44
ES	41
RO	30
NL	22
PT	22
EL	22

The interface includes a sidebar with "Data" and "Properties" sections, and a "Filter bar" section at the bottom right.

Where is my Report?

My report is in the following address.

<https://lookerstudio.google.com/>

The screenshot shows the Looker Studio web interface. At the top, there are tabs for 'Recent', 'Reports' (which is selected), 'Data sources', and 'Explorer'. On the right, there's a user profile icon with a pink arrow pointing to it. Below the tabs, there's a 'Recent' section with filters for 'Shared with me', 'Owned by me', and 'Bin'. To the right of this is a 'Template Gallery' with four preview cards: 'Blank Report Looker Studio', 'GA4 Report Google Analytics', 'Acme Marketing Google Analytics', and 'Search Console Report Search Console'. Below these is a table of recent reports:

Name	Owned by anyone	Last opened by me	Location
Distribution of European Parliament Seats	Dicle	11:14	Owned by me
Countries by Join Year	Dicle	4 Oct 2024	Owned by me

A pink arrow points to the first report in the list.

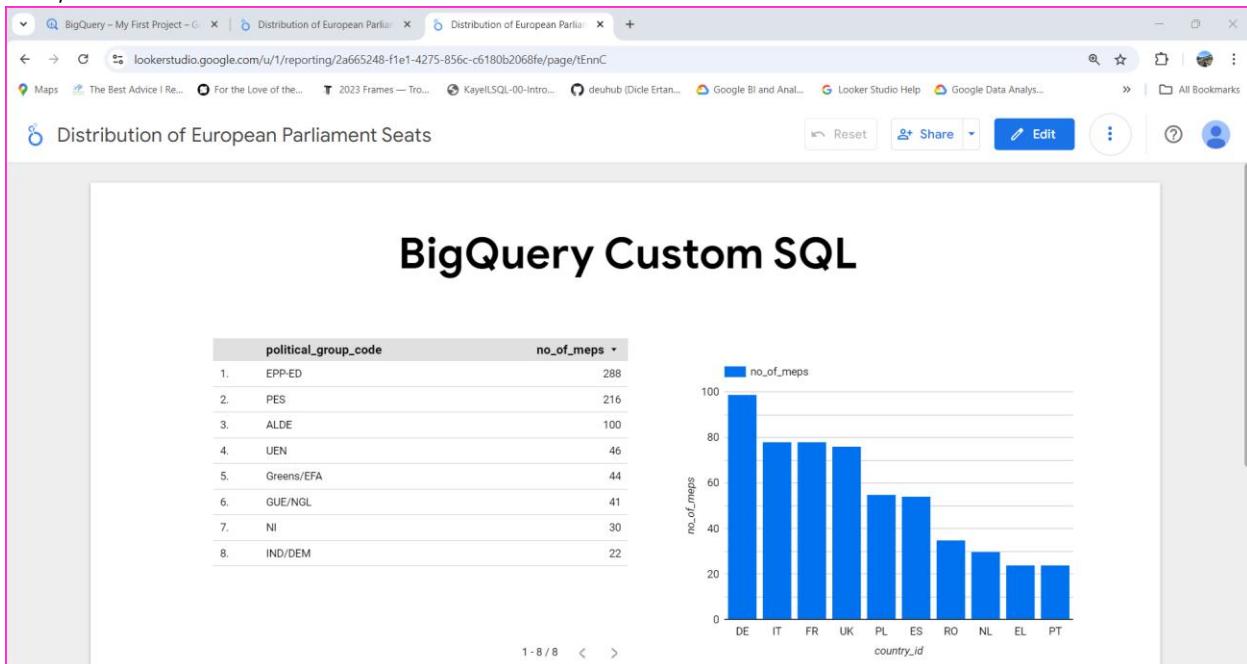
To access my report, I simply click on the name.

A zoomed-in view of the same table from the previous screenshot, highlighting the first row with a pink arrow pointing to the report name.

Name	Owned by anyone	Last opened by me	Location
Distribution of European Parliament Seats	Dicle	11:14	Owned by me
Countries by Join Year	Dicle	4 Oct 2024	Owned by me

KayellSQL Google Looker Studio

And, here I am.

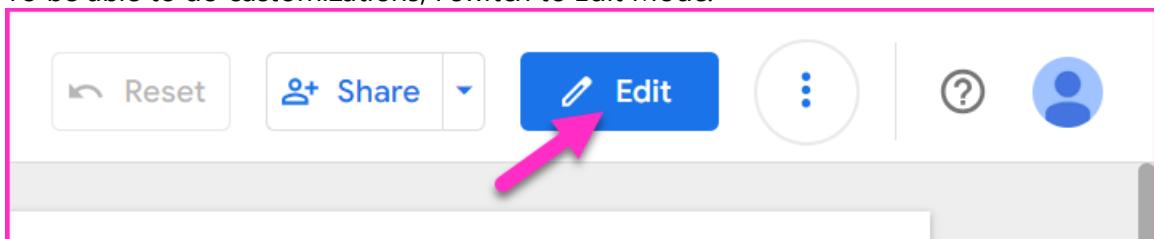


Customize the Report

I will now customize my report.

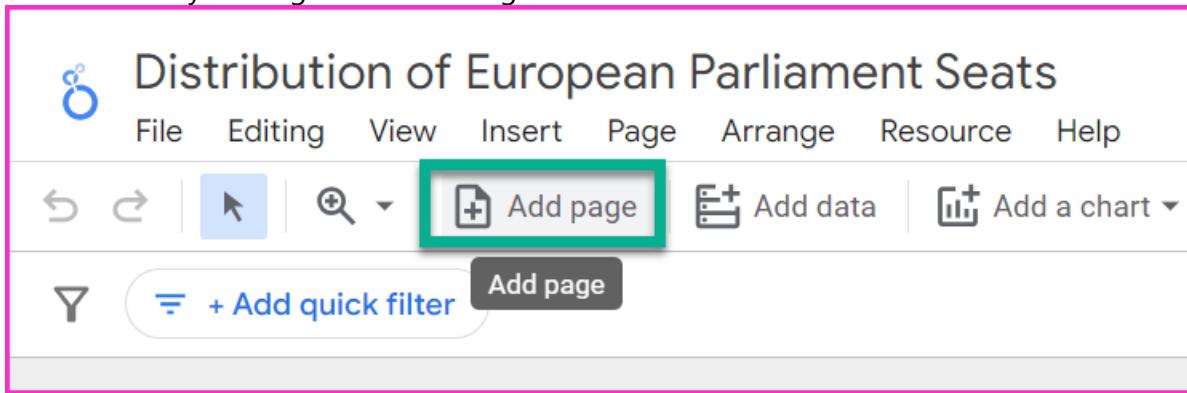
- ➊ I will add a New Page
- ➋ I will Rename the Report Pages
- ➌ I will add two charts to the second page of my report:
 - ➍ Chart One. Pivot Table with Heatmap
 - ➎ Chart Two. Google Bubble Map

To be able to do customizations, I switch to Edit Mode.

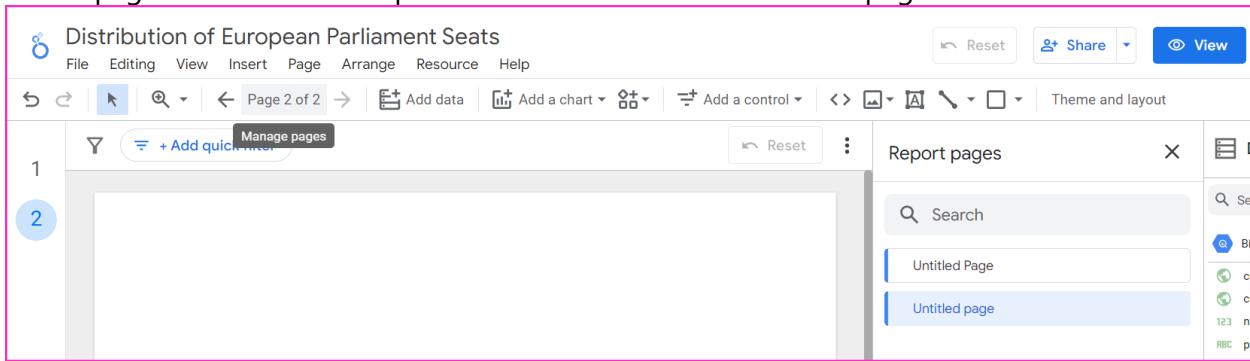


Add a New Page

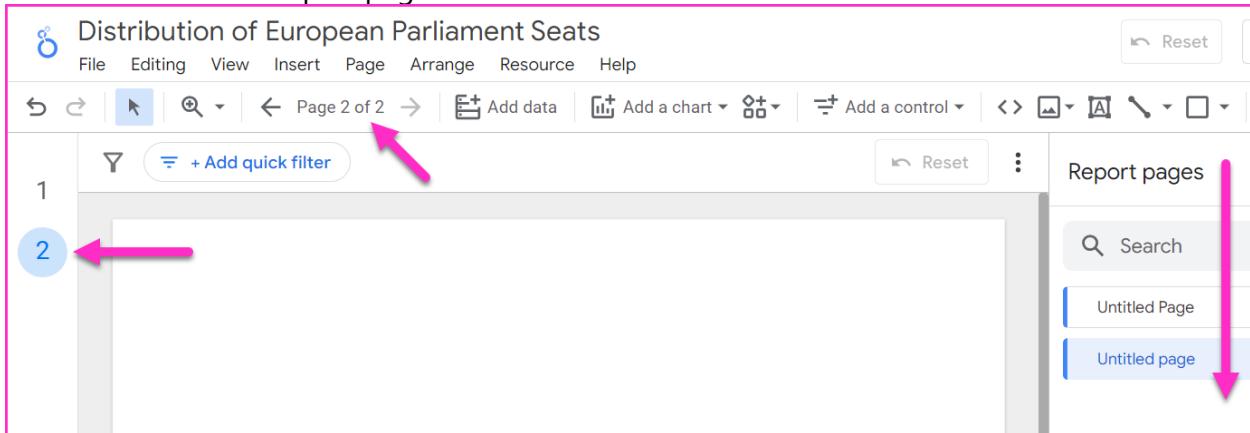
I will add a New Page to my report.
I can do this by clicking on the Add Page button.



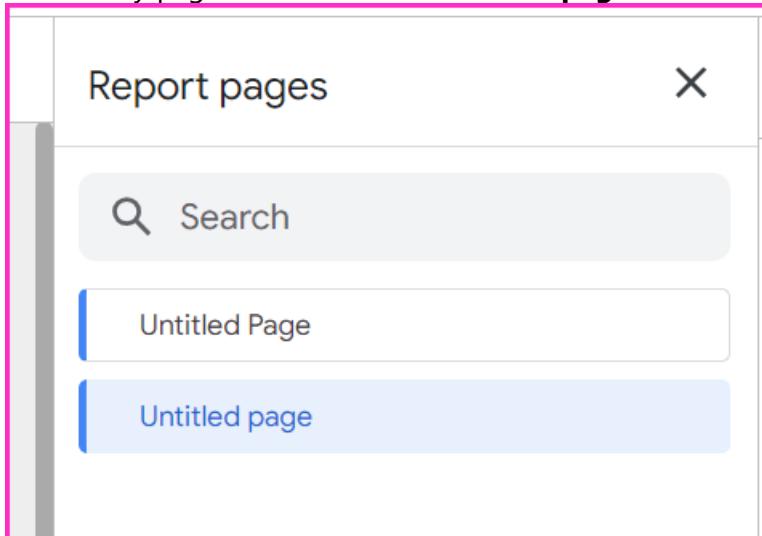
A new page is added to the report as soon as I clicked on the Add page button.



I now have a second report page.

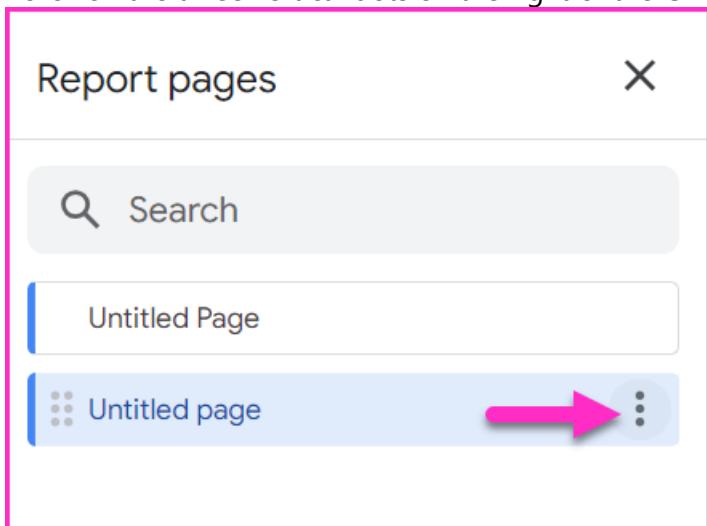


Both of my pages have the name **Untitled page**.



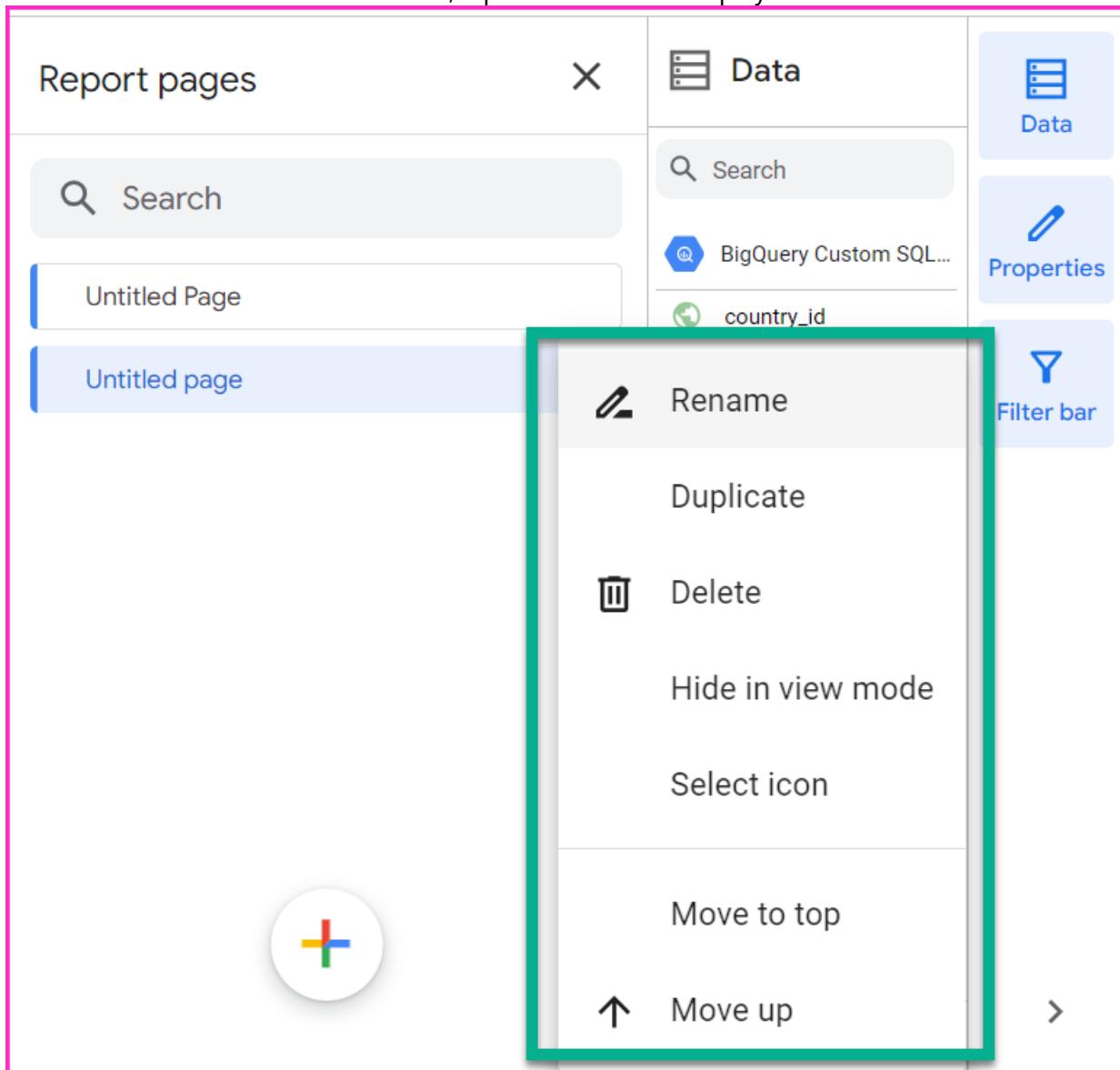
Rename the Report Pages

Now that I have two report pages, I want to give each one a name. I click on the three vertical dots on the right of the **Untitled page**.

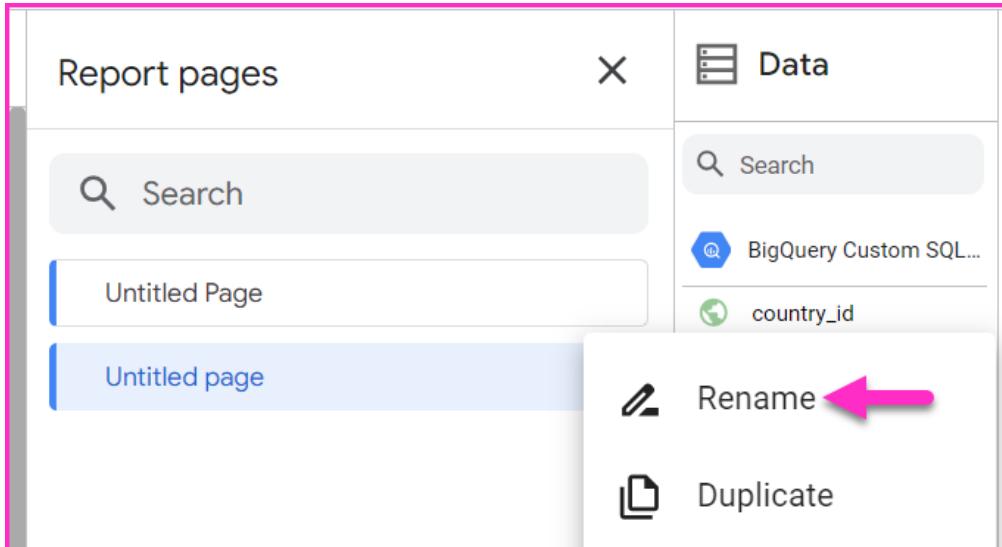


KayellSQL Google Looker Studio

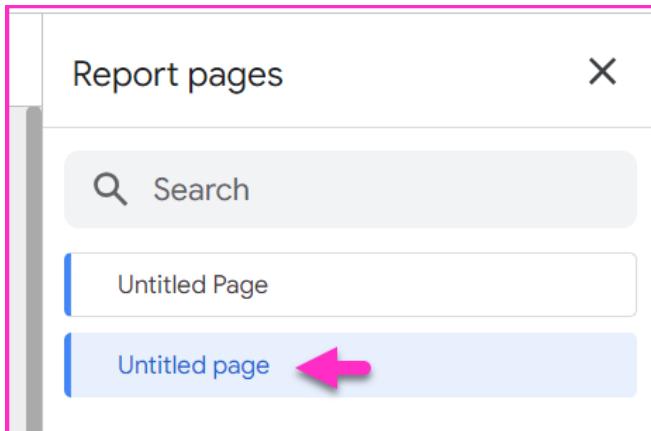
When I click on the three vertical dots, a pan-out menu is displayed.



I select **Rename**.

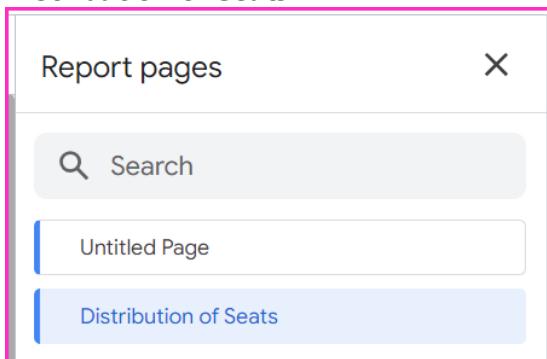


The cursor moves into the field.



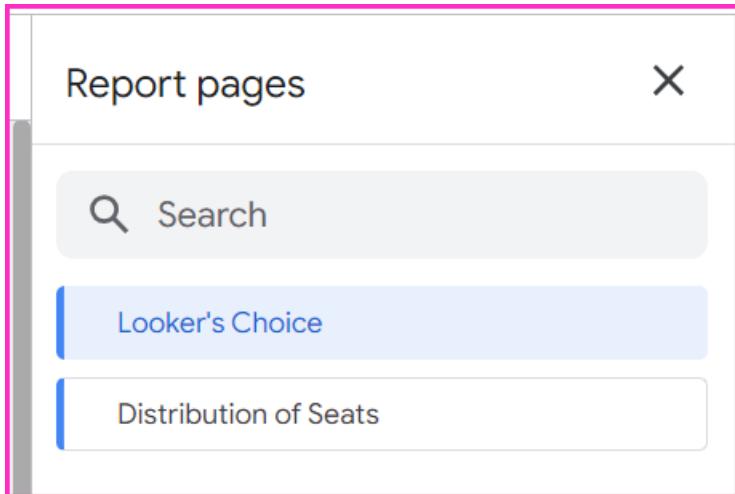
I type in the new name.

Distribution of Seats

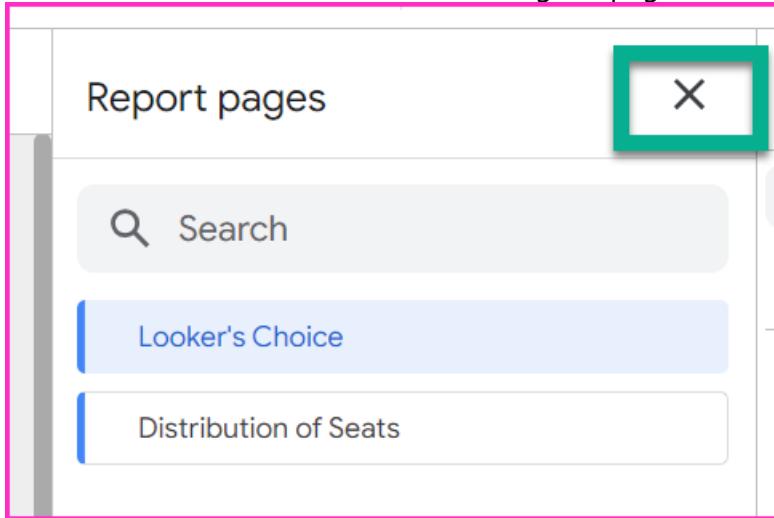


Likewise, I rename the first page.

Looker's Choice



I then click on X, and finish with Renaming the pages.



Page Names in Edit Mode

In **Edit Mode**, I hover over the page numbers on the left hand side, and I can see the new page names are displayed.

Distribution of European Parliament Seats

File Editing View Insert Page Arrange Resource Help

← → Page 1 of 2 Add data Add a chart Add a control

1 Manage pages + Add quick filter

2 BigQuery Custom SQL

This screenshot shows the Google Looker Studio interface in Edit Mode. The top navigation bar includes File, Editing, View, Insert, Page, Arrange, Resource, and Help. Below the navigation is a toolbar with icons for back, forward, search, and page navigation. A sidebar on the left displays two pages: page 1, which is currently selected and labeled 'BigQuery Custom SQL', and page 2. A button labeled '+ Add quick filter' is visible above the pages. The main area contains a chart with various colored bars and nodes connected by lines.

Distribution of Europe

File Editing View Insert F

← → Page 1

1 + Add quick filter

Looker's Choice

Big

This screenshot shows the Google Looker Studio interface in Edit Mode. The top navigation bar includes File, Editing, View, Insert, and F. Below the navigation is a toolbar with icons for back, forward, search, and page navigation. A sidebar on the left displays page 1, which is labeled 'Looker's Choice'. A button labeled '+ Add quick filter' is visible above the page. The main area contains a chart with various colored bars and nodes connected by lines.

Distribution of Euro

File Editing View Insert

← → Page 1

1 + Add quick filt

2

Distribution of Seats

political_group_code

1. EPP-ED

This screenshot shows the Google Looker Studio interface in Edit Mode. The top navigation bar includes File, Editing, View, Insert, and a partially visible F. Below the navigation is a toolbar with icons for back, forward, search, and page navigation. A sidebar on the left displays page 1, which is labeled 'Distribution of Seats'. A button labeled '+ Add quick filter' is visible above the page. Page 2 is also visible. The main area contains a dropdown menu for 'political_group_code' with the option '1. EPP-ED' selected.

Page Names in View Mode

I switch to the View Mode.

In View Mode, I can see that the full page names are displayed.

The screenshot shows a Looker Studio report interface. At the top, there's a title bar with the report name 'Distribution of European Parliament Seats' and standard controls like 'Reset', 'Share', 'Edit', and a three-dot menu. Below the title bar, there's a sidebar with a blue header labeled 'Looker's Choice' containing the text 'Distribution of Seats'. The main content area features a large, bold title 'BigQuery Custom SQL' centered on the page. The overall layout is clean and professional, typical of a data visualization tool.

I am done with renaming the report pages.



Add a Chart to the Second Page: Pivot Table with Heatmap

In Edit Mode, I click on 2, and go to the second page.

Distribution of European Parliament Seats

File Editing View Insert Page Arrange Resource Help

← → | + Add quick filter | ← Page 1 of 2 → | Add data | Add a chart ▾

1

2

BigQuery Custom SQL

Distribution of Seats

political_group_code no_of_meps

1. EPP-ED 288 no_of_meps

This page is yet empty.

Distribution of European Parliament Seats

File Editing View Insert Page Arrange Resource Help

← → | + Add data | + Add a chart | + Add a control | Theme and layout | Pause updates

1

2

+ Add quick filter

Reset Share View

Let's get started

Drag a field from the Data Panel to the canvas to add a new chart or select a component on the report canvas to edit it.

Data Panel:

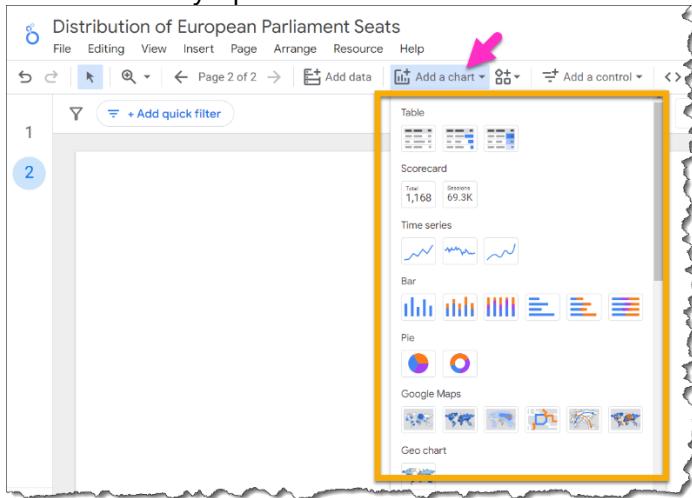
- BigQuery Custom SQL
- country_id
- country_name
- no_of_meps
- political_group_code
- political_group_name
- Record Count

KayellSQL Google Looker Studio

I click on **Add a chart**.

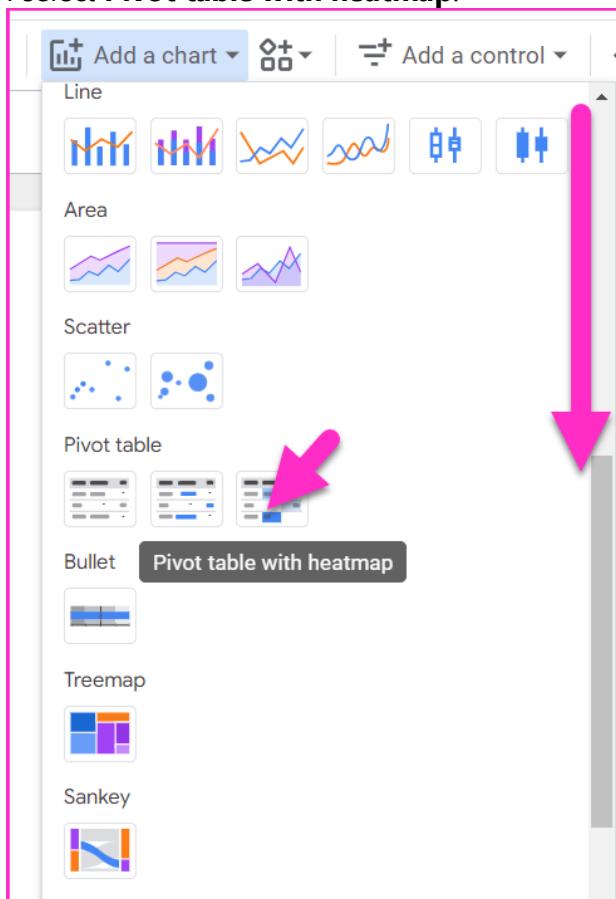
A drop-down menu is displayed.

There are many options of charts for me to select from.



I scroll-down.

I select **Pivot table with heatmap**.



Default “Pivot Table with Heatmap” by Looker

Looker draws a **Pivot Table with Heatmap** for me as seen below.

Distribution of European Parliament Seats

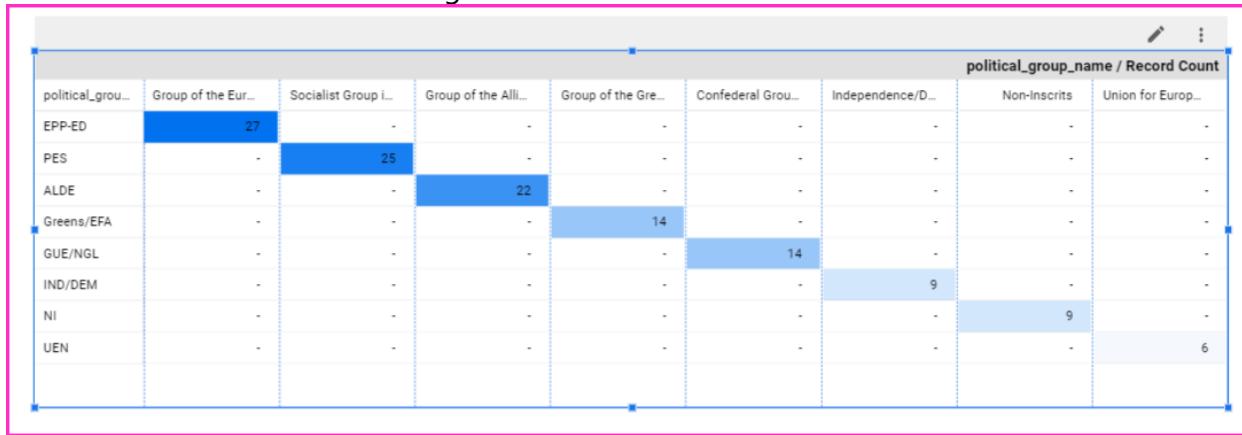
File Editing View Insert Page Arrange Resource Help

Reset Share View Theme and layout Pause updates

Chart Data Properties Filter bar

political_group_name	Group of the Eur...	Socialist Group i...	Group of the Alli...	Group of the Gre...	Confederal Grou...	Independence/D...	Non-Inscrits	Union for Europ...
EPP-ED	27	-	-	-	-	-	-	-
PES	-	25	-	-	-	-	-	-
ALDE	-	-	22	-	-	-	-	-
Greens/EFA	-	-	-	14	-	-	-	-
GUE/NGL	-	-	-	-	14	-	-	-
IND/DEM	-	-	-	-	-	9	-	-
NI	-	-	-	-	-	-	9	-
UEN	-	-	-	-	-	-	-	6

Here is the **Default Chart** Looker gave me.



Data / Query Columns

Looker Data Columns

In **Looker**, the Query columns are seen on the right-hand-side under **Data**.

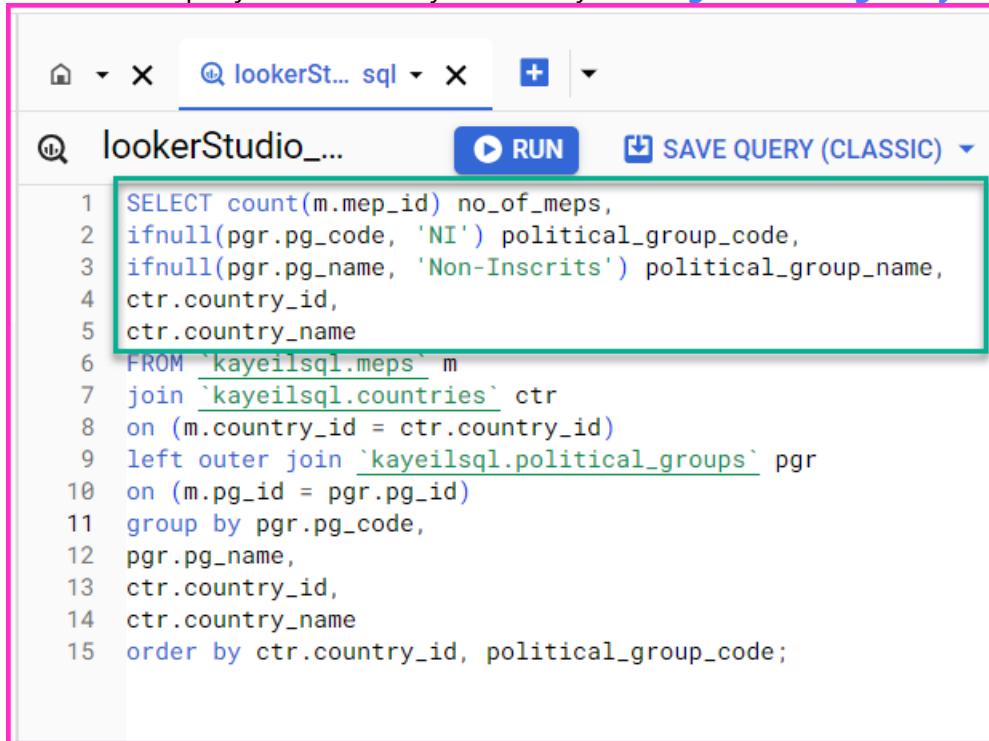
The screenshot shows a Looker dashboard titled "Distribution of European Parliament Seats". On the left, there is a bar chart visual showing the distribution of seats across various political groups. On the right, the "Data" panel is open, displaying the query configuration. The "Data source" section shows a BigQuery Custom SQL query from 07/10/2024. The "Row dimension" is set to "political_group_code" and the "Column dimension" is set to "political_group_name". The "Data" panel also lists several fields: "country_id", "country_name", "no_of_meps" (which is highlighted with a yellow box), "political_group_code", "political_group_name", and "Record Count".

Looker Data Columns

This screenshot shows the "Data" panel in Looker. It includes a search bar, a data source section for "BigQuery Custom SQL - 07/10/2024, 09:18", and a list of query columns. The columns listed are: "country_id", "country_name", "no_of_meps" (highlighted with a green box), "political_group_code", "political_group_name", and "Record Count".

BigQuery SQL Query Columns

Here are the query columns in my SQL Query in [Google Cloud BigQuery](#).



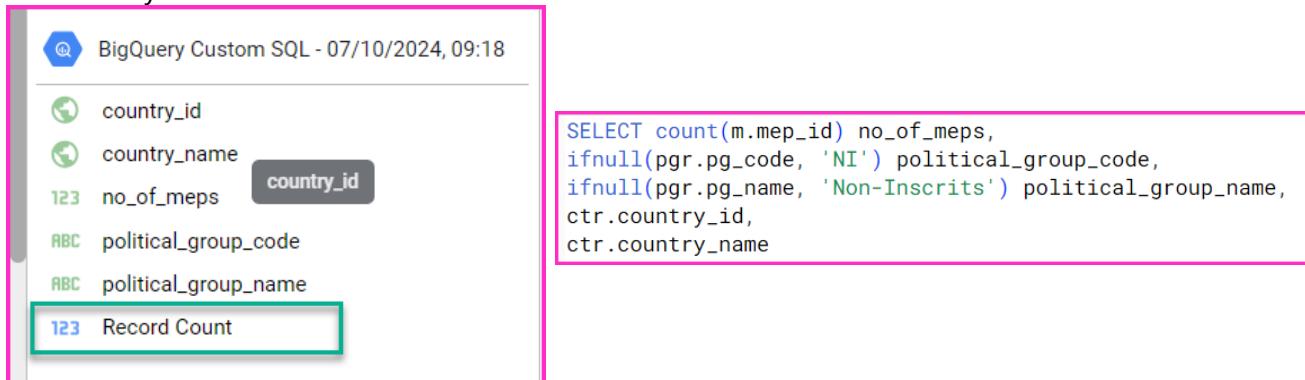
The screenshot shows a Looker Studio query editor window. The title bar says "lookerStudio_...". Below it, there's a toolbar with a magnifying glass icon, a "RUN" button, and a "SAVE QUERY (CLASSIC)" dropdown. The main area contains a SQL query:

```
1 SELECT count(m.mep_id) no_of_meps,
2 ifnull(pgr.pg_code, 'NI') political_group_code,
3 ifnull(pgr.pg_name, 'Non-Inscrits') political_group_name,
4 ctr.country_id,
5 ctr.country_name
6 FROM `kayeilsq.meps` m
7 join `kayeilsq.countries` ctr
8 on (m.country_id = ctr.country_id)
9 left outer join `kayeilsq.political_groups` pgr
10 on (m.pg_id = pgr.pg_id)
11 group by pgr.pg_code,
12 pgr.pg_name,
13 ctr.country_id,
14 ctr.country_name
15 order by ctr.country_id, political_group_code;
```

BigQuery SQL Query Columns = Looker Data Columns

My [BigQuery SQL Query columns](#), are the same as [Looker Data Columns](#).

Looker only added the **metric Record Count**.



The screenshot shows a Looker Data Column configuration. On the left, there's a sidebar with a "BigQuery Custom SQL - 07/10/2024, 09:18" entry. Below it is a list of columns:

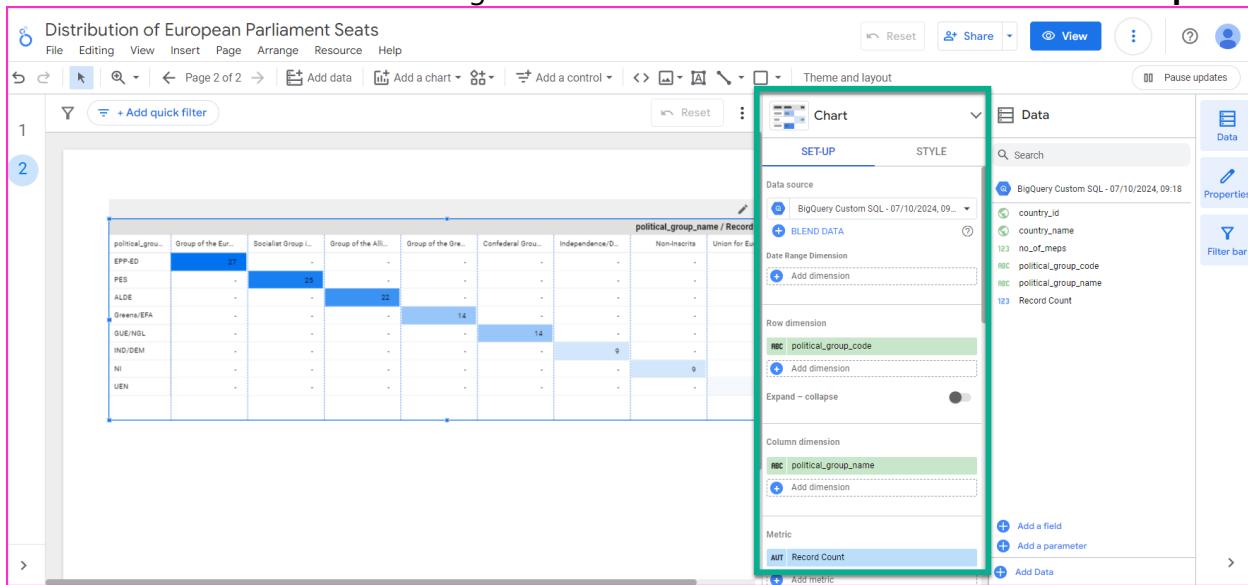
- country_id
- country_name
- no_of_meps
- political_group_code
- political_group_name
- Record Count

On the right, there's a large text box containing the SQL query:

```
SELECT count(m.mep_id) no_of_meps,
ifnull(pgr.pg_code, 'NI') political_group_code,
ifnull(pgr.pg_name, 'Non-Inscrits') political_group_name,
ctr.country_id,
ctr.country_name
```

Default SET-UP By Looker

Here is the Default SET-UP Looker gave me for this chart – the Pivot Table with Heatmap.



Let's have a closer look at the Looker Defaults.

The screenshot shows the 'SET-UP' tab of a Looker chart configuration. It includes sections for Data source, Date Range Dimension, Row dimension, Column dimension, and Metric. The 'Row dimension' section has 'political_group_code' selected. The 'Column dimension' section has 'political_group_name' selected. The 'Metric' section has 'Record Count' selected. A pink border highlights the entire configuration area.

Chart

SET-UP STYLE

Data source

BigQuery Custom SQL - 07/10/2024, 09...

BLEND DATA

Date Range Dimension

Add dimension

Row dimension

political_group_code

Add dimension

Expand – collapse

Column dimension

political_group_name

Add dimension

Metric

Record Count

Add metric

Row Dimension

Looker chose **political_group_code** as the **Row Dimension**.

Column Dimension

Looker chose **political_group_name** as the **Column Dimension**.

Metric

Looker chose **Record Count** as the **Metric**.

However, I will now change some of them.

Row Dimension

I will keep the Row Dimension as is.

political_group_code will be my **Row Dimension**.

Column Dimension

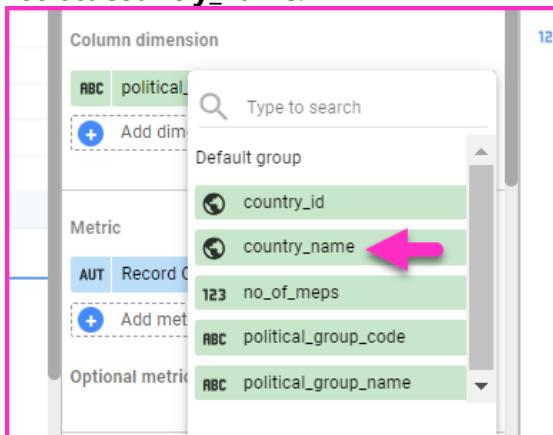
I will change the Column Dimension to be **country_name**.

To change the Column Dimension, I click on the existing field.



Several Data Fields are displayed.

I select **country_name**.



As I changed my Column Dimension, my chart is updated as follows.

Columns are now Country Names.

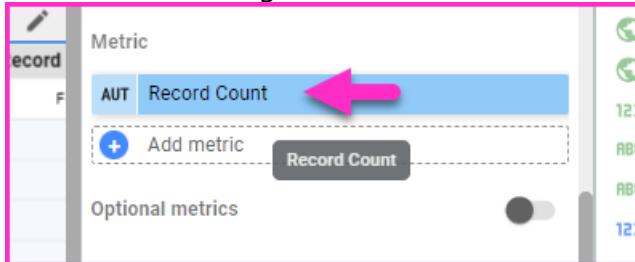
political_group_code	Italy	France	Denmark	United King...	Ireland	Netherlands	Poland	Sweden	Austria
EPP-ED	1	1	1	1	1	1	1	1	1
PES	1	1	1	1	1	1	1	1	1
ALDE	1	1	1	1	1	1	1	1	1
Greens/EFA	1	1	1	1	-	1	-	1	1
GUE/NGL	1	1	1	1	1	1	-	1	-
IND/DEM	-	1	1	1	1	1	1	1	1
NI	1	1	-	1	-	-	1	-	1
UEN	1	-	1	-	1	-	1	-	-

KayellSQL Google Looker Studio

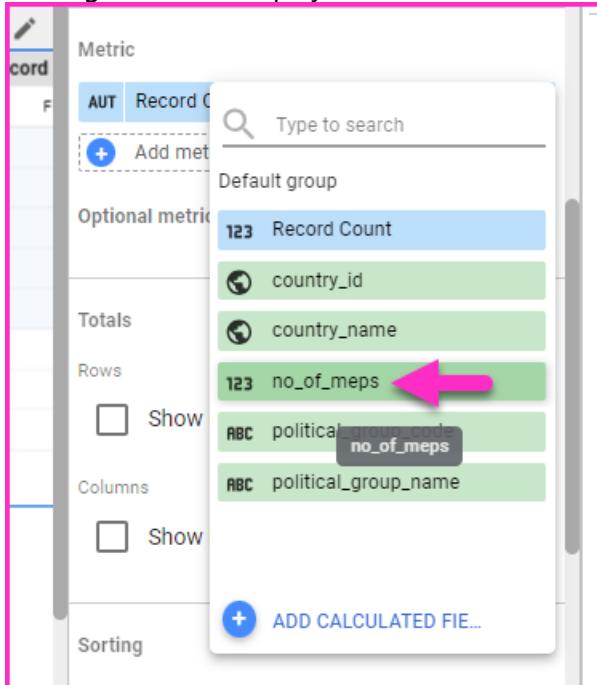
Metric

I will now change the Metric to be the **no_of_meps**.

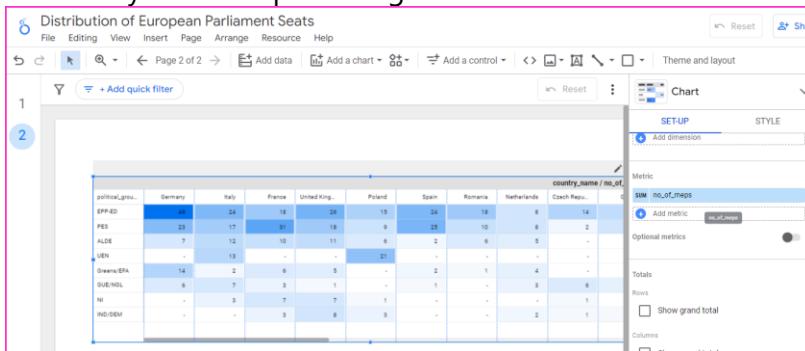
I click on the existing Metric field.



Among the fields displayed, I select **no_of_meps**.



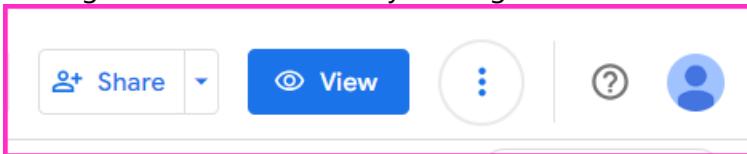
Here is my Chart is updated again.



The New Chart with the New Dimension and the New Metric

I will now **View my Customizations**.

I change to the **View Mode** by clicking on the **View** button.



Here is my new chart with my new dimensions and new metric.

Distribution of European Parliament Seats

political_grou...	Germany	Italy	France	United King...	Poland	Spain	Romania	Netherlands	Czech Repu...	Greece
EPP-ED	49	24	18	26	15	24	18	8	14	11
PES	23	17	31	18	9	25	10	8	2	8
ALDE	7	12	10	11	6	2	6	5	-	-
UEN	-	13	-	-	21	-	-	-	-	-
Greens/EFA	14	2	6	5	-	2	1	4	-	-
GUE/NGL	6	7	3	1	-	1	-	3	6	4
NI	-	3	7	7	1	-	-	-	1	-
IND/DEM	-	-	3	8	3	-	-	2	1	1

I scroll to the right to view the rest of the countries.

political_grou...	King...	Poland	Spain	Romania	Netherlands	Czech Repu...	Greece	Portugal	Hungary	Belgium	E
EPP-ED	26	15	24	18	8	14	11	9	13	6	
PES	18	9	25	10	8	2	8	12	8	6	
ALDE	11	6	2	6	5	-	-	-	2	6	
UEN	-	21	-	-	-	-	-	-	-	-	
Greens/EFA	5	-	2	1	4	-	-	-	-	2	
GUE/NGL	1	-	1	-	3	6	4	3	-	-	
NI	7	1	-	-	-	1	-	-	-	3	
IND/DEM	8	3	-	-	2	1	1	-	-	-	

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political_group	Finland	Lithuania	Slovakia	Ireland	Latvia	Slovenia	Cyprus	Luxembourg	Estonia	Malta	country_name / no_of_meps
EPP-ED	4	2	8	5	3	4	3	3	1	2	
PES	3	2	3	1	-	1	-	1	3	3	
ALDE	5	7	-	1	1	2	1	1	2	-	
UEN	-	3	-	4	4	-	-	-	-	-	
Greens/EFA	1	-	-	-	2	-	-	1	-	-	
GUE/NGL	1	-	-	1	-	-	2	-	-	-	
NI	-	-	3	-	-	-	-	-	-	-	
IND/DEM	-	-	-	1	-	-	-	-	-	-	

This is my Pivot Table with Heatmap so far.

Next, I will change the report theme, as I have done in Report One.

Change the Report Theme

I explained how to change the report theme in detail in Report One.

Hence, I will not explain it here once more.

I will be uploading the same image from my laptop.

I go through the same steps as in Report One, to change the report theme.

Here is the last step.

I select the dark theme.

I click on Apply.

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The look of my report changed immediately as seen below.

Distribution of European Parliament Seats

File Editing View Insert Page Arrange Resource Help

← Page 2 of 2 → Add data Add a chart Add a control Reset ⋮

1

2

country_name / no_of_meps

political_group	Finland	Lithuania	Slovakia	Ireland	Latvia	Slovenia	Cyprus	Luxembourg	Estonia	Malta
EPP-ED	4	2	8	5	3	4	3	3	1	2
PES	3	2	3	1	-	1	-	1	3	3
ALDE	5	7	-	1	1	2	1	1	2	-
UEN	-	3	-	4	4	-	-	-	-	-
Greens/EFA	1	-	-	-	2	-	-	1	-	-
GUE/NGL	1	-	-	1	-	-	2	-	-	-
NI	-	-	3	-	-	-	-	-	-	-
IND/DEM	-	-	-	-	1	-	-	-	-	-

Change the Style of the Heatmap

I will now change/customize the Style of my Heatmap Chart.

First, I click on my chart.

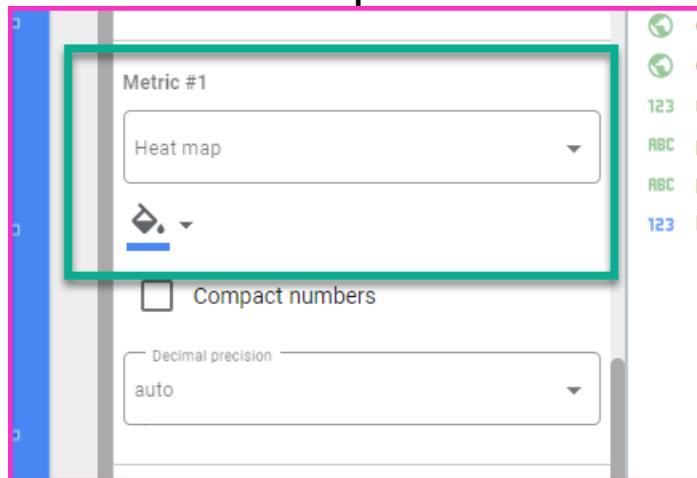
Then, I click on STYLE.

The screenshot shows a heatmap chart titled "country_name / no_of_meps". The chart displays data for various political groups across different countries. The style tab is highlighted with a pink box and labeled '2'. A pink arrow labeled '1' points to the chart area.

In **STYLE**, I scroll down to find **Metric #1 Heat map**.

The screenshot shows the 'STYLE' tab in the Looker Studio interface. A pink arrow points down the scroll bar, indicating where to find the 'Metric #1 Heat map' settings.

Here is **Metric #1 Heat map**.



Change the Color of Heatmap Cells

The **Paintbox** of the Heat map which is Metric #1 is chosen **Blue**.

We can see it in our chart.

The Heat Map Cells are all Blue.

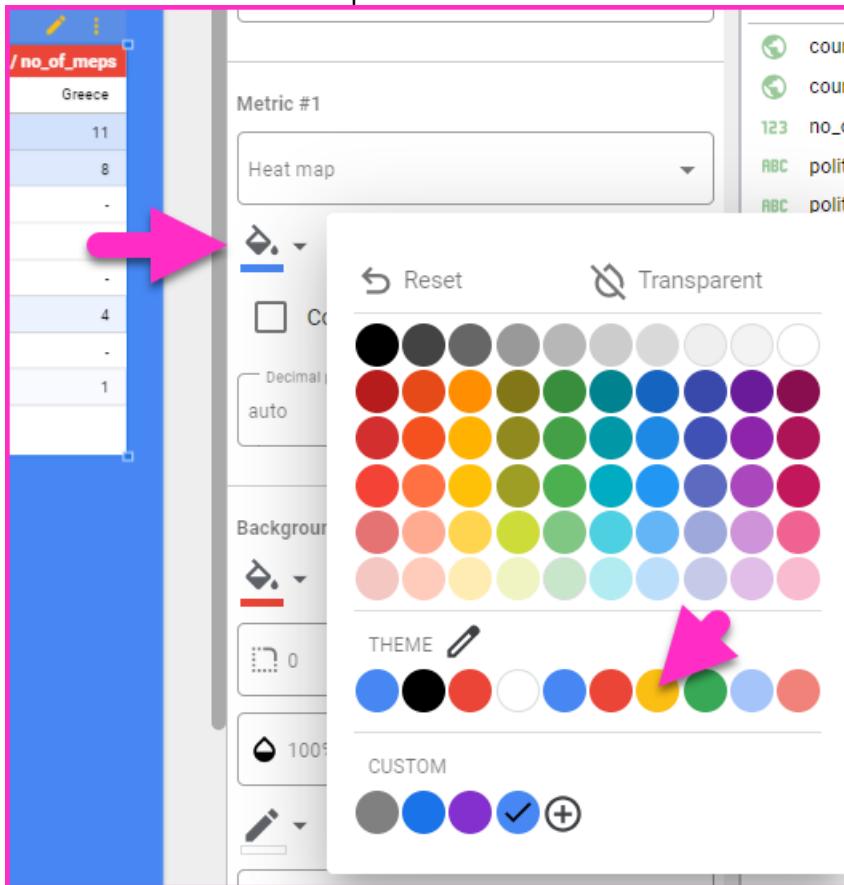
The density of the blue color changes according to the Number of Members of Parliament in a Political Group, In a Country.

political_group	Germany	Italy	France	United Kingdom	Poland	Spain
EPP-ED	49	24	18	26	15	24
PES	23	17	31	18	9	25
ALDE	7	12	10	11	6	2
UEN	-	13	-	-	21	-
Greens/EFA	14	2	6	5	-	2
GUE/NGL	6	7	3	1	-	1
NI	-	3	7	7	1	-
IND/DEM	-	-	3	8	3	-

I will now change the cells to another color.

I click on the Paintbox.

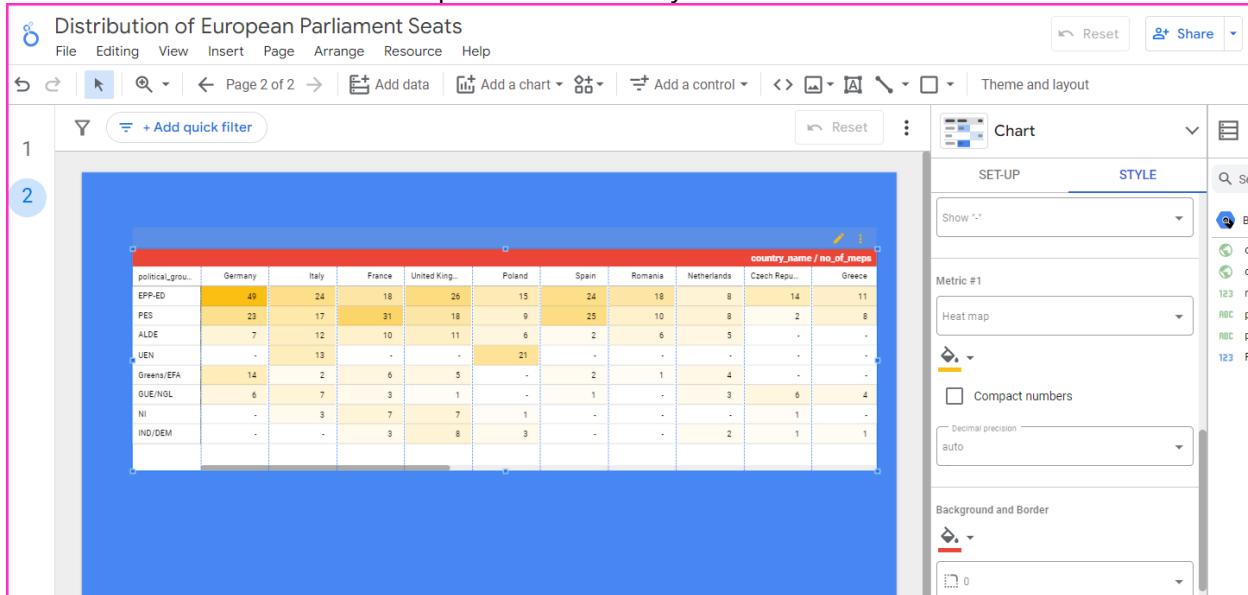
I select Yellow in the color palette.



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My Chart changed immediately.

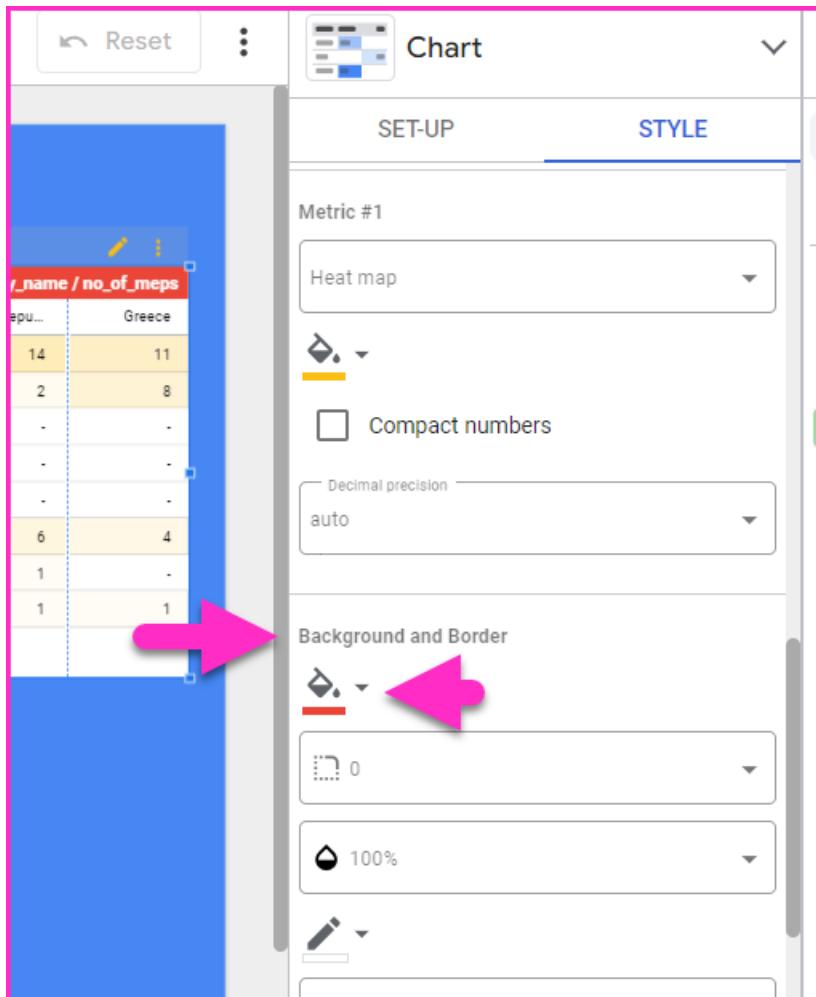
Heat Map colors are now shades of Yellow, depending on the Number of the Members of the Parliament for each Political Group, for each Country.



Change the Color of Heatmap Background

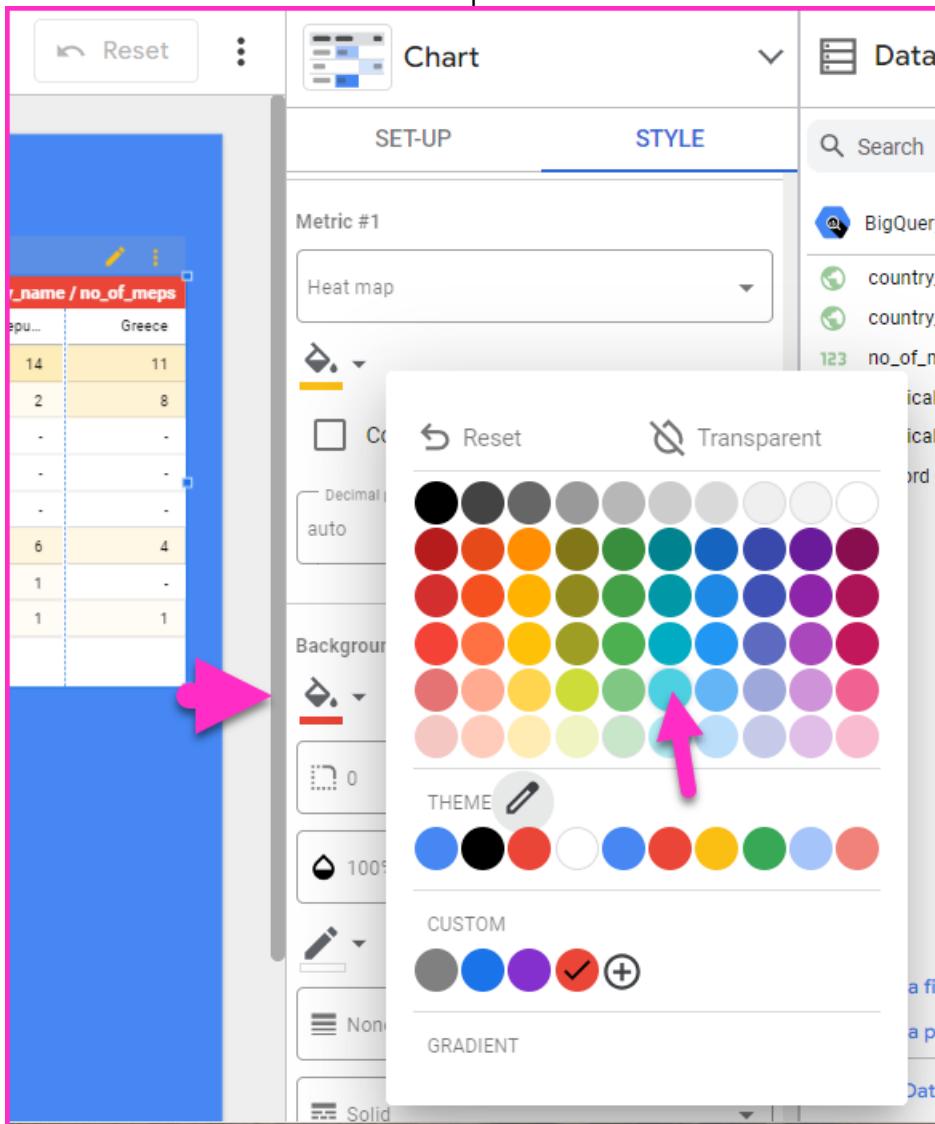
I will now change the **Background and Border**.

I click on the Paintbox.



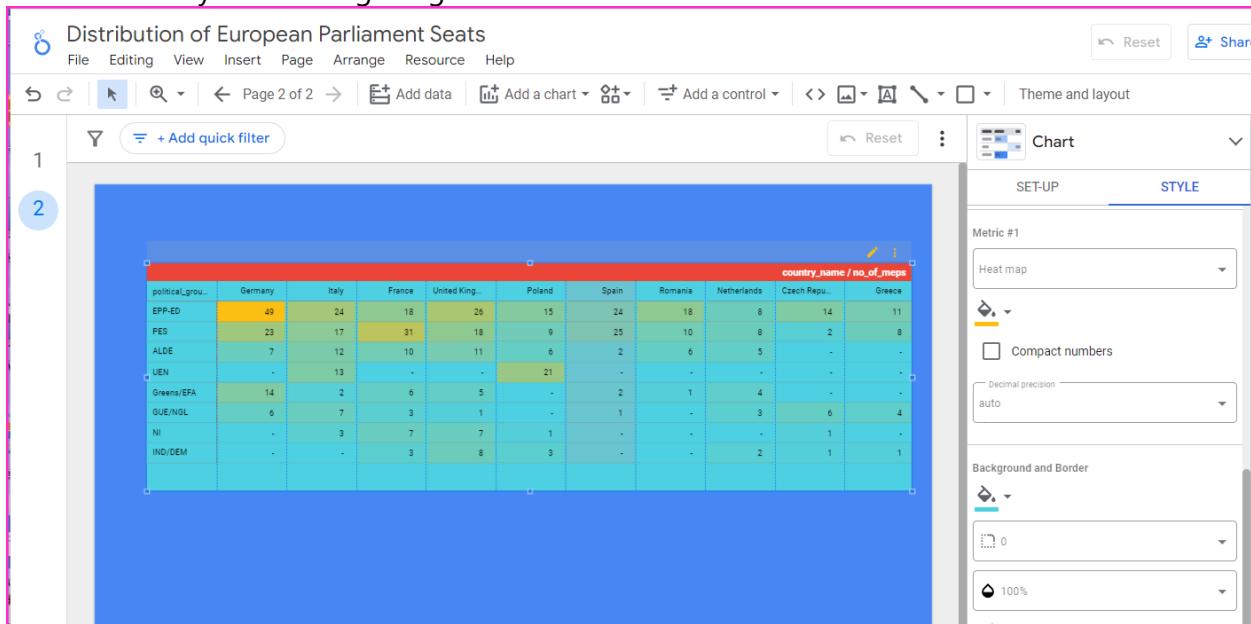
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This is what I select from the colour palette.

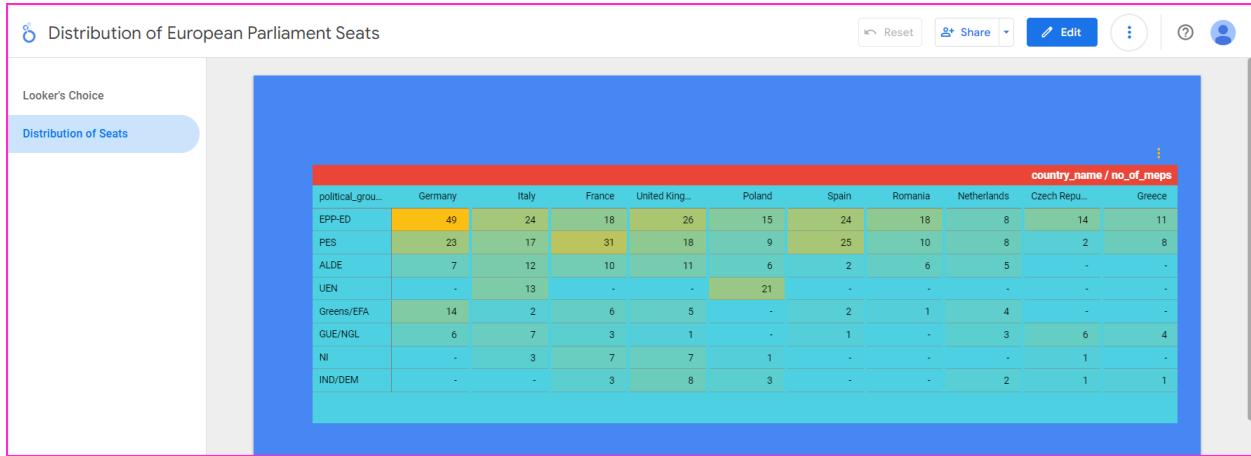


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The looks of my chart changed again.



Let me view in View Mode.



So far, I am satisfied with my Heatmap.

Add Another Chart: Google Maps / Bubble

I will now add another chart to the second page.

The Initial Bubble Map

I click on Add a Chart.

I select **Bubble map** under **Google Maps**.

Distribution of European Parliament Seats

File Editing View Insert Page Arrange Resource Help

← → Page 2 of 2 Add data Add a chart Add a control <>

1

2

+ Add quick filter

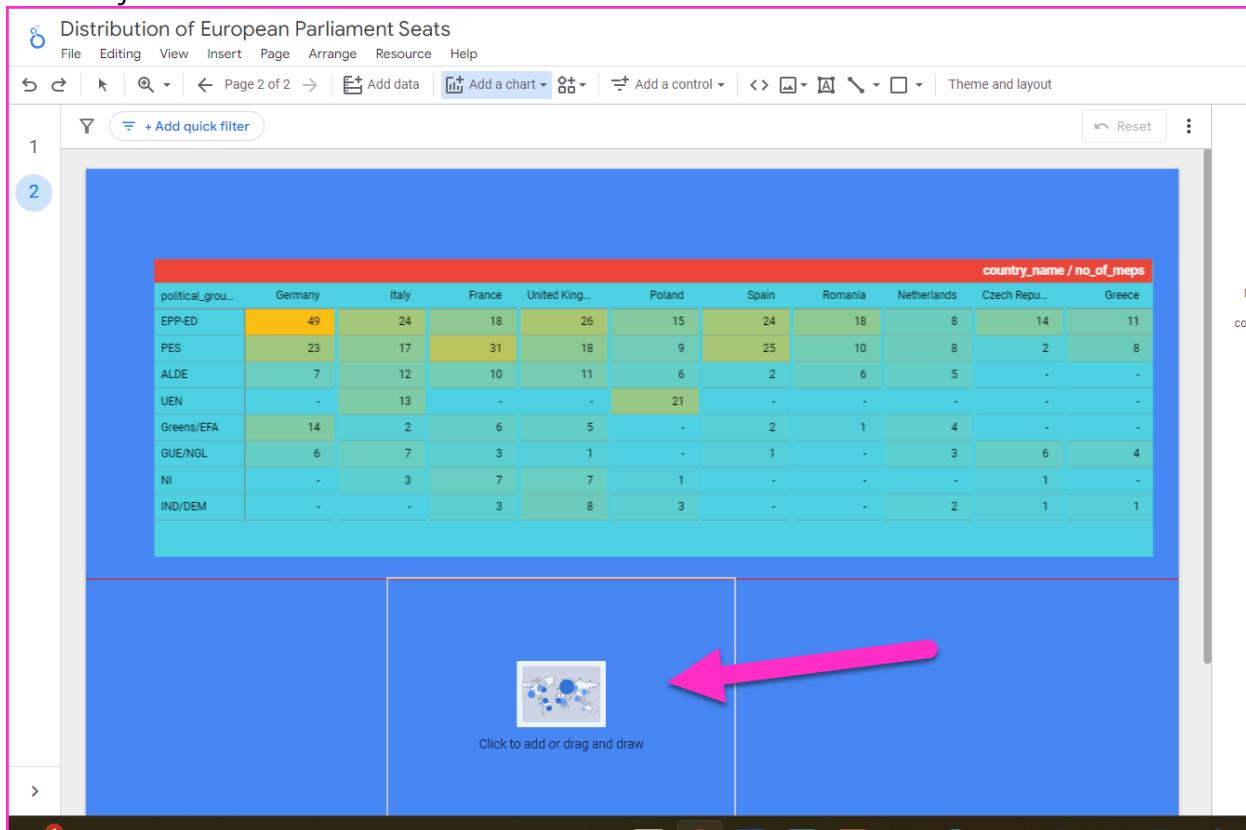
political_grou...	Germany	Italy
EPP-ED	49	24
PES	23	17
ALDE	7	12
UEN	-	13
Greens/EFA	14	2
GUE/NGL	6	7
NI	-	3
IND/DEM	-	-

Table Scorecard Time series Bar Pie Google Maps Line

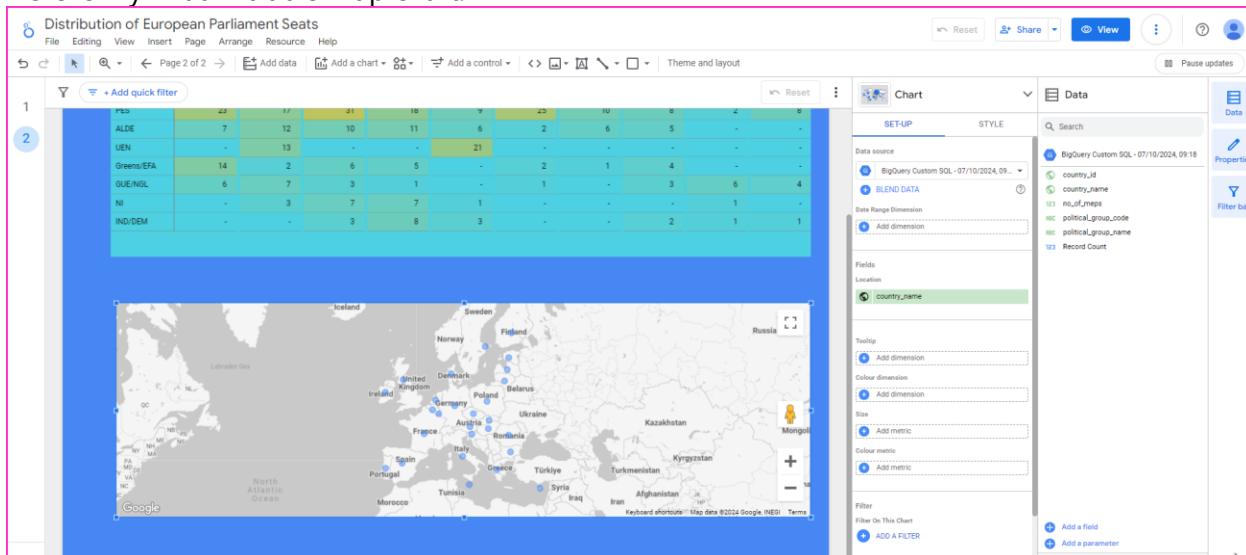
Bubble map

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I move the chart given to me by **Looker** to the place I want.
I then adjust it.



Here is my initial Bubble Map chart.



Default SET-UP

Here is the **Default SET-UP** by Looker.

Only the Location is filled in.

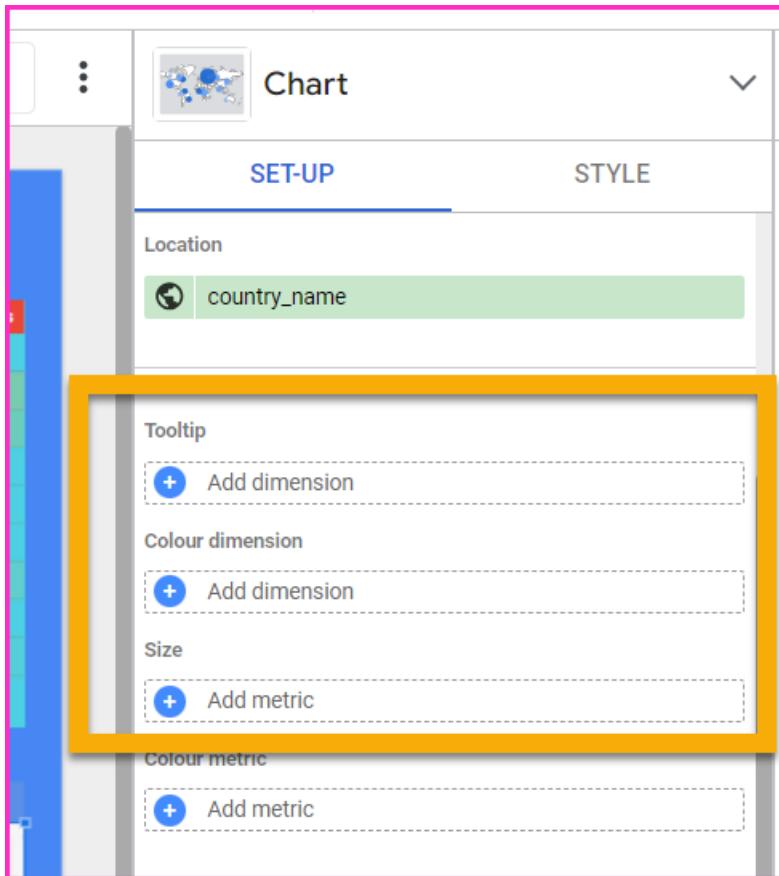
It is set to **country_name**.

The screenshot shows the 'SET-UP' tab of the Looker Studio configuration interface. A pink arrow points to the 'Location' field under the 'Fields' section. Another pink arrow points to the value 'country_name' in the dropdown menu. The 'Data source' is set to 'BigQuery Custom SQL - 07/10/2024, 09:18'. The sidebar on the right shows various dimensions and metrics like 'country_name', '123', 'ABC', etc.

I will leave the Default Value for the **Location** as the **country_name**.

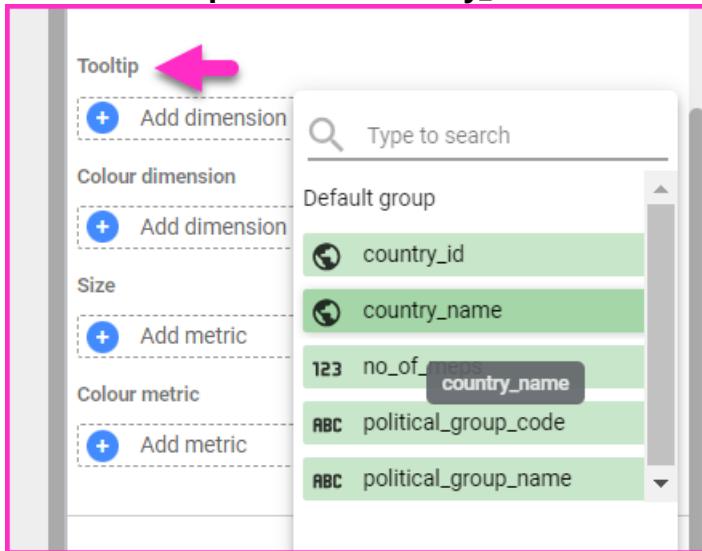
However, I will fill in the following.

- Tooltip
- Color dimension
- Size



Tooltip = country_name

I click on **Tooltip** and select **country_name**.

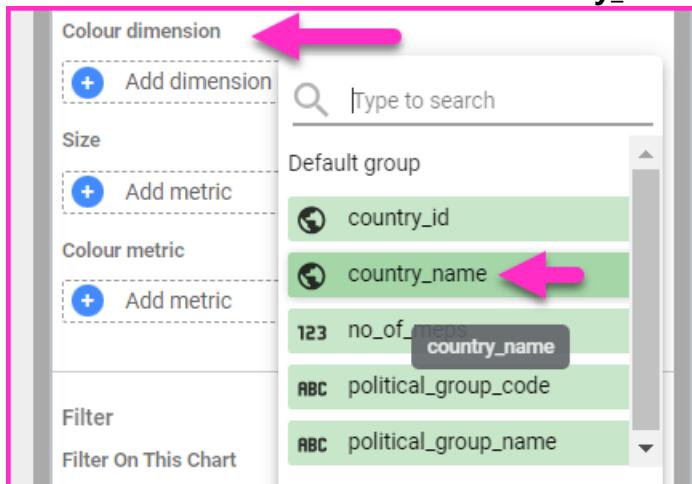


Tooltip is now set up as **country_name**.

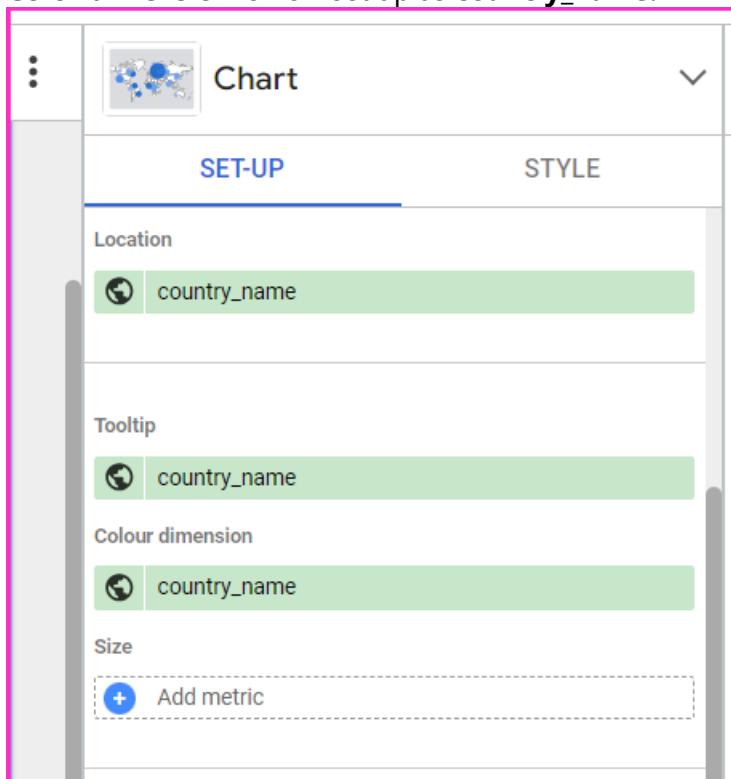


Color dimension = country_name

I click on **Color Dimension** and select **country_name**.



Color dimension is now set up as **country_name**.



Size = no_of_meps

I click on **Size** and select **no_of_meps**.

The screenshot shows the 'SET-UP' tab of a Google Looker Studio chart configuration. A pink arrow points to the 'Size' section, which is currently set to 'Auto'. Another pink arrow points to the 'no_of_meps' option in the dropdown menu, which is highlighted with a gray background. The dropdown menu also lists other options like 'Record Count', 'country_id', and 'political_group_code'.

SET-UP

Location: country_name

Tooltip: country_name

Colour dimension: country_name

Size: Auto (pink arrow)

Default group: Record Count, country_id, country_name, no_of_meps (pink arrow), political_group_code, political_group_name

Filter: ADD A FILTER

Chart interactions: Cross-filtering

Add:

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Size is now set up as **no_of_meps**.

Chart

SET-UP STYLE

Location

country_name

Tooltip

country_name

Colour dimension

country_name

Size

SUM no_of_meps

This is what my Bubble Map looks like now.



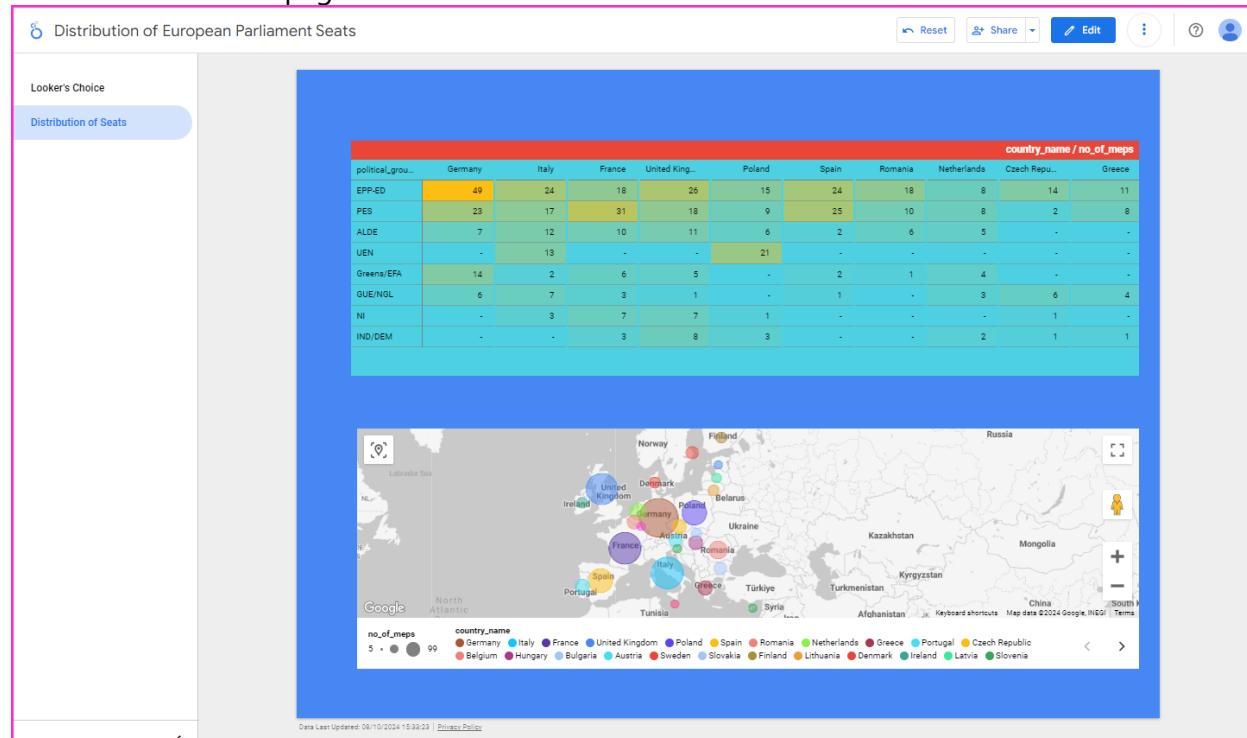
I magnify it around Europe, as I am only interested in countries in the **European Union**.
Size of the Bubbles are proportional to the **Number of the Members of the Parliament** in that **Country**.

Tooltip works. On the screen, I can see Netherlands, where my mouse is.



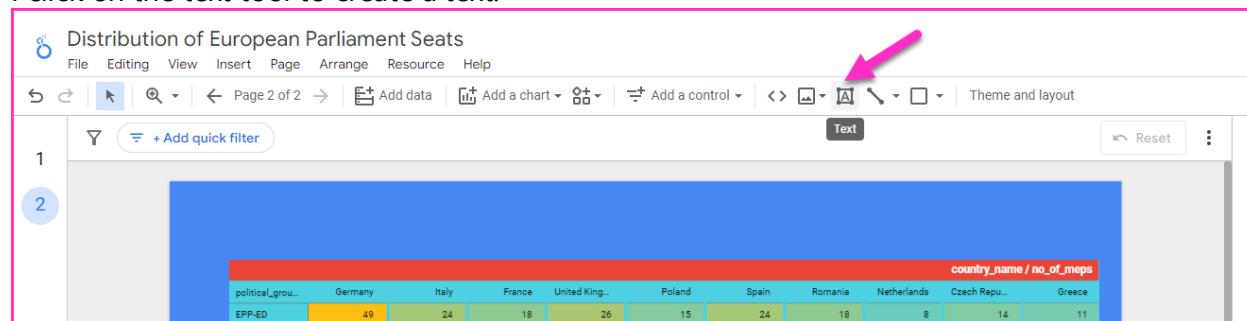
Add Titles to the Second Page Charts

Charts in the second page do not have titles.

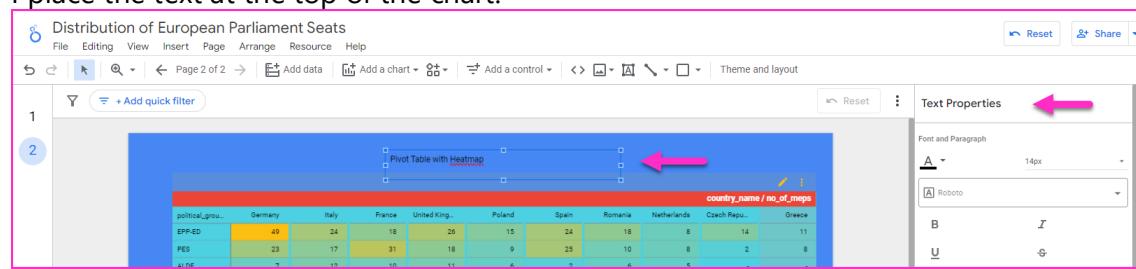


Add title to the Heatmap

I click on the text tool to create a text.



I place the text at the top of the chart.

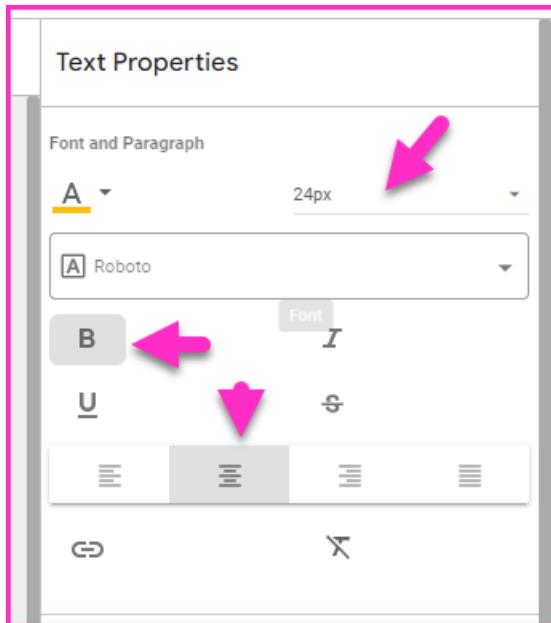


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I change the **Text Color** and the **Font Size**.

I make it **Bold**.

I **center** the text.



Here is the end result.

political_group	Germany	Italy	France	United Kingdom	Poland	Spain	Romania	Netherlands	Czech Republic	Greece
EPP-ED	49	24	18	26	15	24	18	8	14	11
PES	23	17	31	18	9	25	10	8	2	8
ALDE	7	12	10	11	6	2	6	5	-	-
UEN	-	13	-	-	21	-	-	-	-	-
Greens/EFA	14	2	6	5	-	2	1	4	-	-
GUE/NGL	6	7	3	1	-	1	-	3	6	4
NI	-	3	7	7	1	-	-	-	1	-
IND/DEM	-	-	3	8	3	-	-	2	1	1

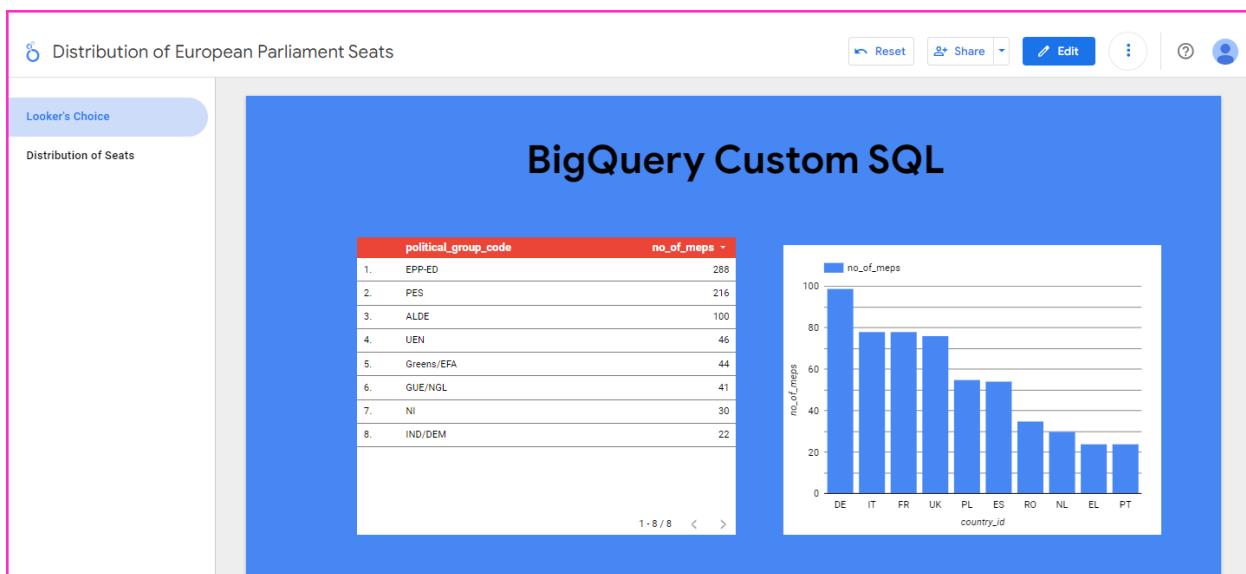
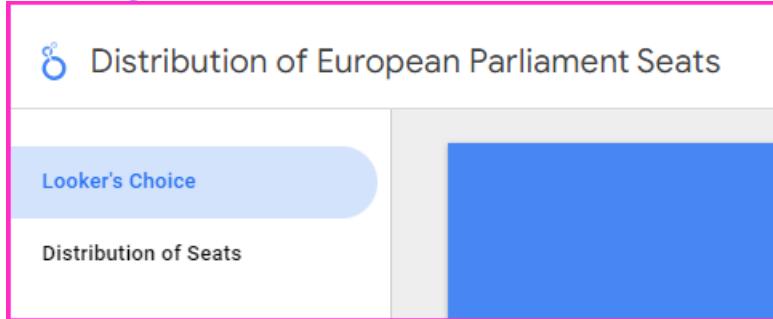
Add title to the Bubble Map

I add a title to the Google Bubble Map, in the same way.

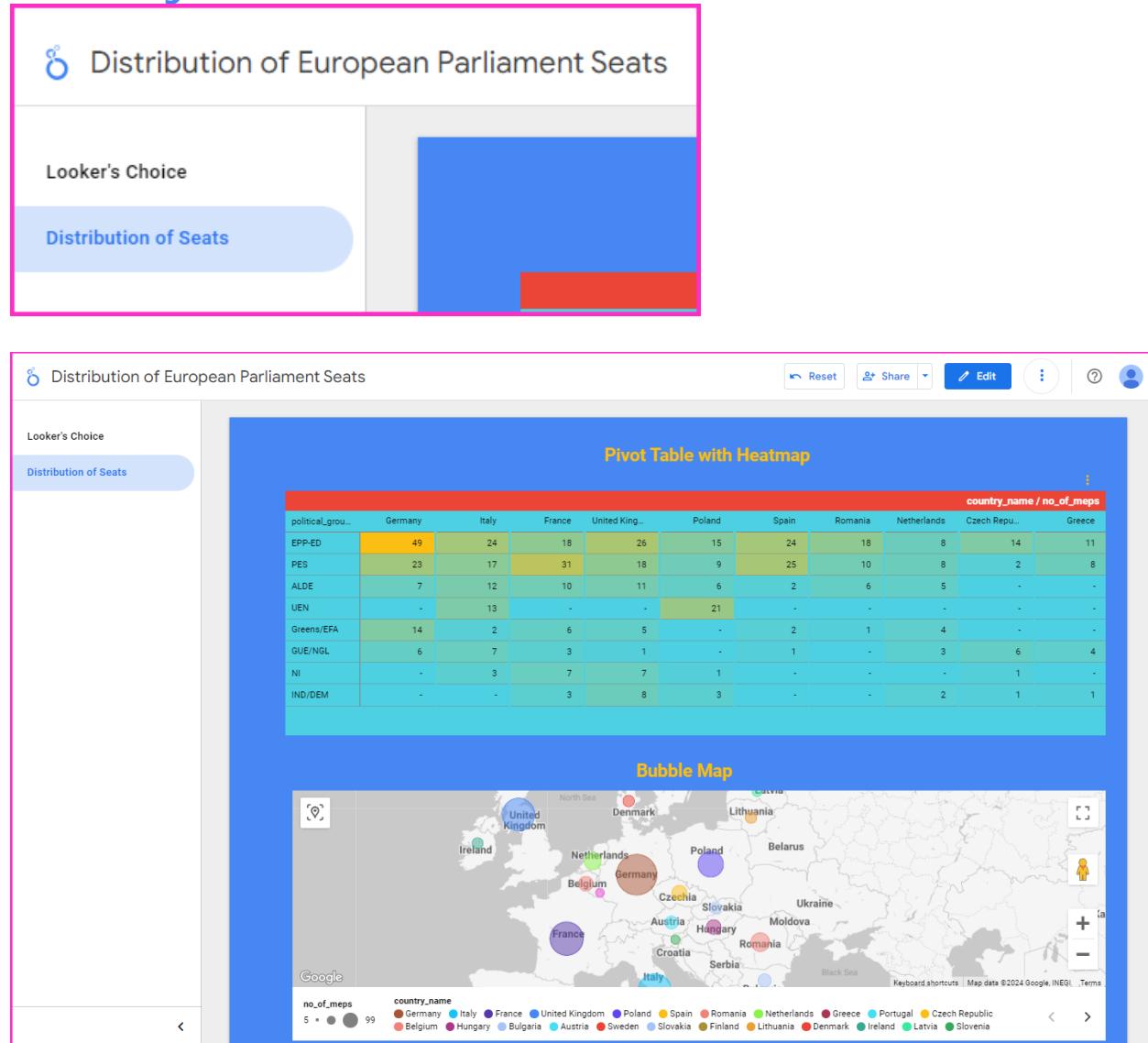


This is What My Report Looks Like Now

First Page: Looker's Choice



Second Page: Distribution of Seats



The End

This is the end of "[How to Create a Report in Google Cloud Looker Studio](#)".

I wish you good health, courage, hope, strength and the will to go after your dreams.



**START
WHERE
YOU ARE.
USE WHAT
YOU HAVE.
DO WHAT
YOU CAN.**

Remember,
You Can

**START LATE
START OVER
BE UNSURE
ACT DIFFERENT
TRY AND FAIL
and still
SUCCEED.**