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Introduction

In this document I will explain how to create a Table in a Dataset in Google BigQuery, using a CSV File.

This document accompanies the text “Kaye is Learning SQL”.

In the scripts that create the Training Database of the text “Kaye is Learning SQL”, the dataset is named “**kayeilsql**”. Although we will use the CSV files in this document, it is best to use the name “**kayeilsql**” for the dataset which will hold the training database tables, for consistency.

It is assumed that, you already have a free GCP (Google Cloud Platform) account.

Of course, you might already have access to GCP through your work, through your company.

If you don’t please open an account before you start working on this document.

If you accessed this document from GitHub, you will also find a document on how to open a free GCP account.

Let’s get going!



Create a Google BigQuery Table from a CSV File

Dicle Ertan Ülger

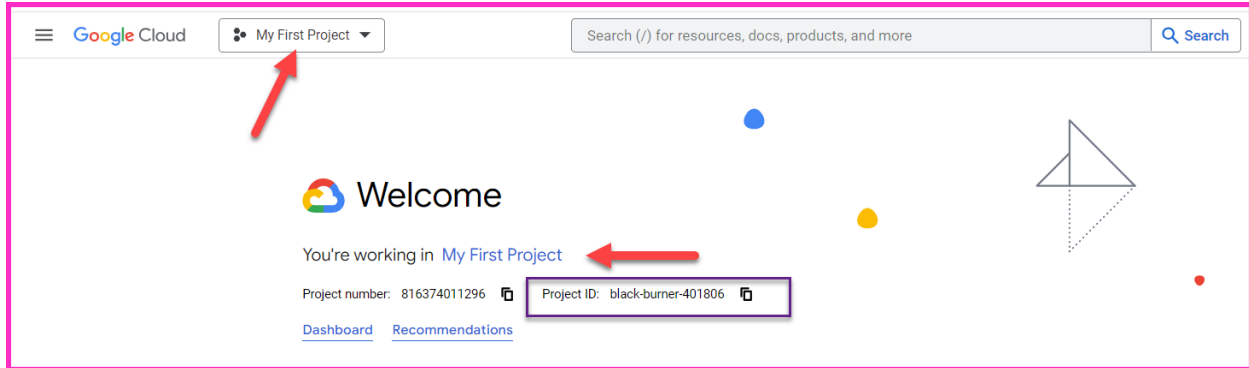
Go to Google Cloud Console

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

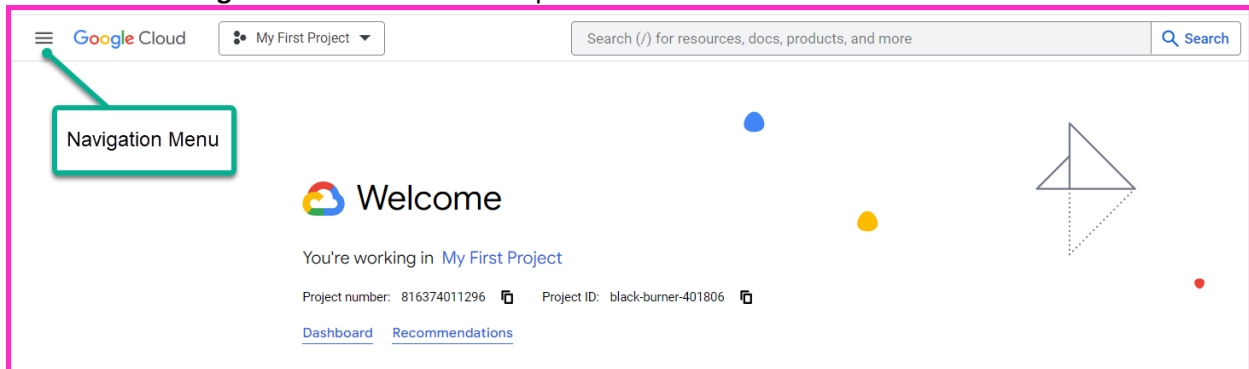
Here I am in the console, in the project named “My First Project”.

The ID of this project is displayed also.

Google gives the projects random IDs.



I click on the **Navigation Menu** on the left top.

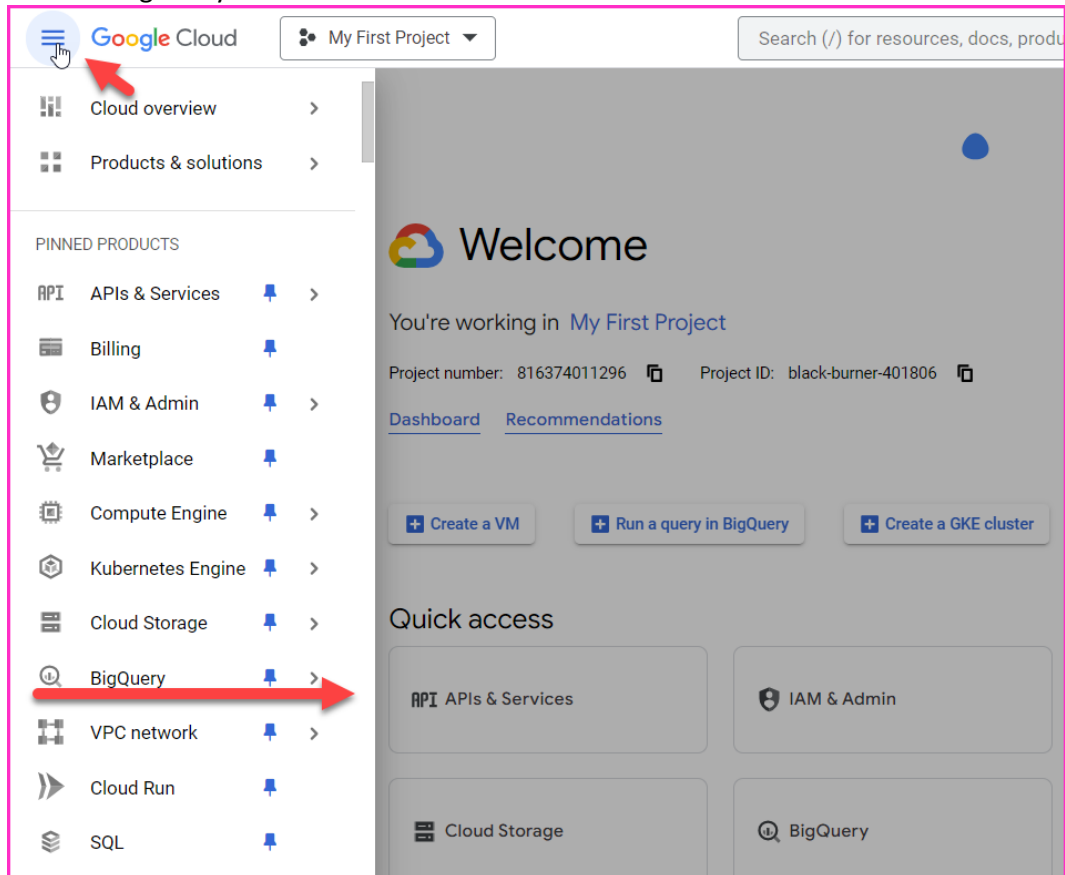


Create a Google BigQuery Table from a CSV File

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I can see BigQuery down below in the Menu Items.
I click on BigQuery.

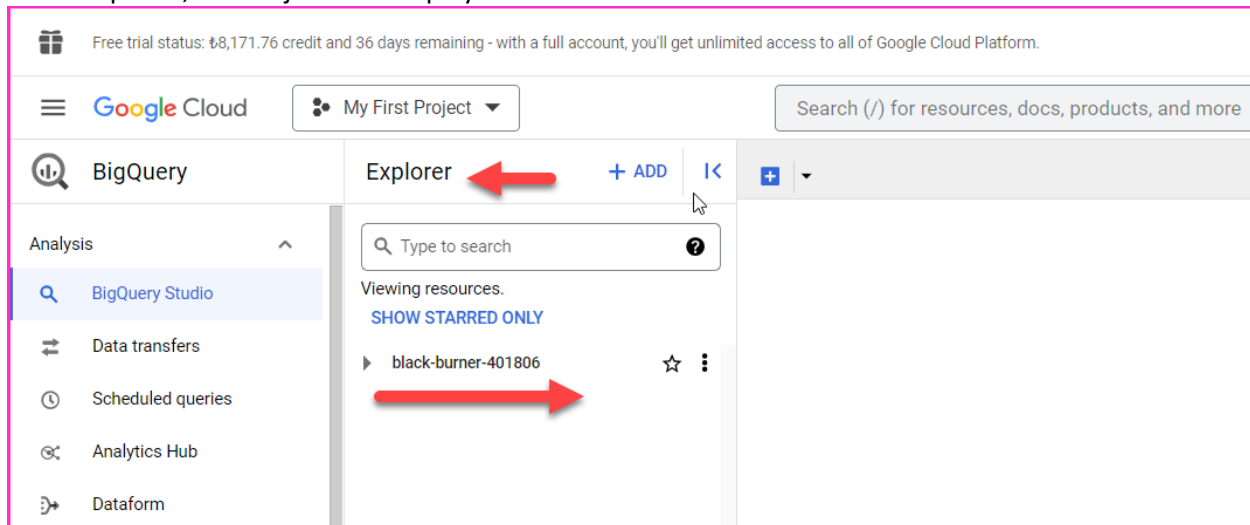


Create a Google BigQuery Table from a CSV File

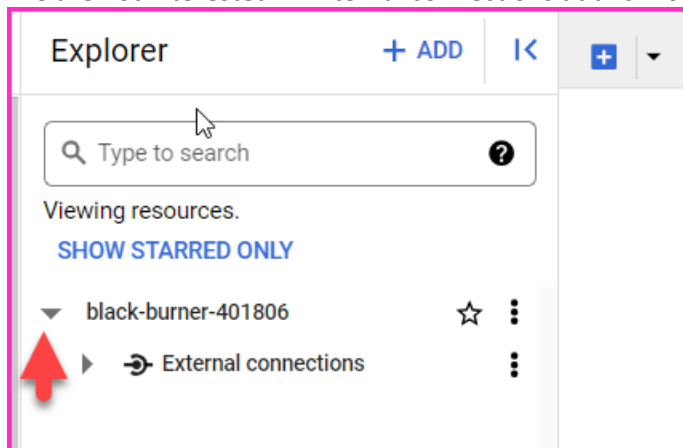
Dicle Ertan Ülger

Here I am in BigQuery.

In the Explorer, the Project ID is displayed.



If we click on the small arrow on the left of the Project ID, **External connections** are displayed. We are not interested in External connections at this moment in time.



Create a Google BigQuery Table from a CSV File

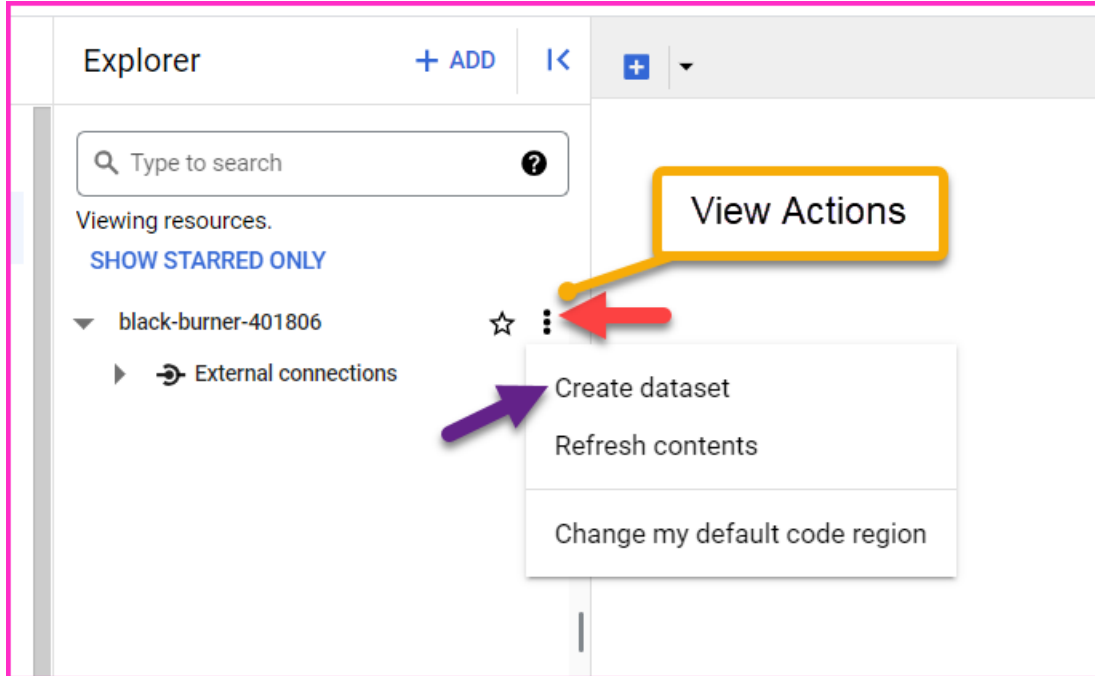
Dicle Ertan Ülger

Create the Dataset

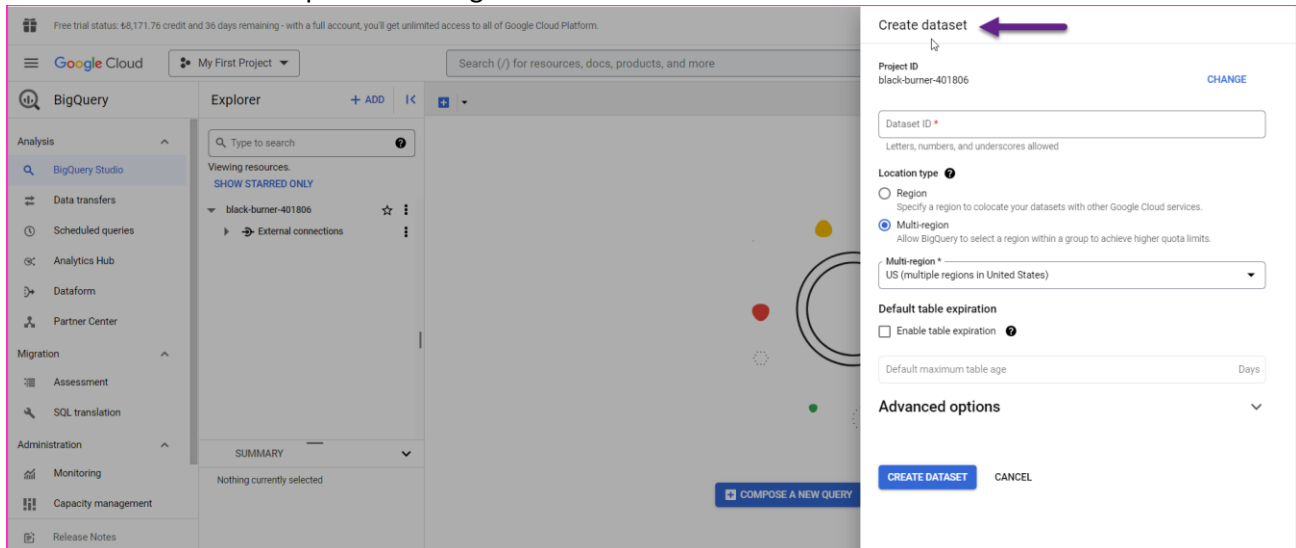
We click on the **three dots** at the right-hand-side of the Project ID.

This is the **View Actions** icon.

In the displayed Actions, we click on **Create dataset**.



Create dataset window opens on the right-hand-side of the screen.



Create a Google BigQuery Table from a CSV File

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We can see our Project ID.

The Project Name and Project ID, does not matter for us.

They can have any name.

What we see in the Create dataset window are the Default Values.

Create dataset

Project ID
black-burner-401806

CHANGE

Dataset ID *

Letters, numbers, and underscores allowed

Location type ?

☐ Region
Specify a region to colocate your datasets with other Google Cloud services.

☒ Multi-region
Allow BigQuery to select a region within a group to achieve higher quota limits.

Multi-region *

US (multiple regions in United States)

Default table expiration

☐ Enable table expiration ?

Default maximum table age

Days

Advanced options

▼

CREATE DATASET

CANCEL

Create a Google BigQuery Table from a CSV File

Dicle Ertan Ülger

Dataset ID is what is important for us.

If we are creating the Training Tables for “Kaye is Learning SQL”, then, the Dataset ID will be “kayeilsql”. It is in all lower case.



Create dataset

Project ID
black-burner-401806 [CHANGE](#)

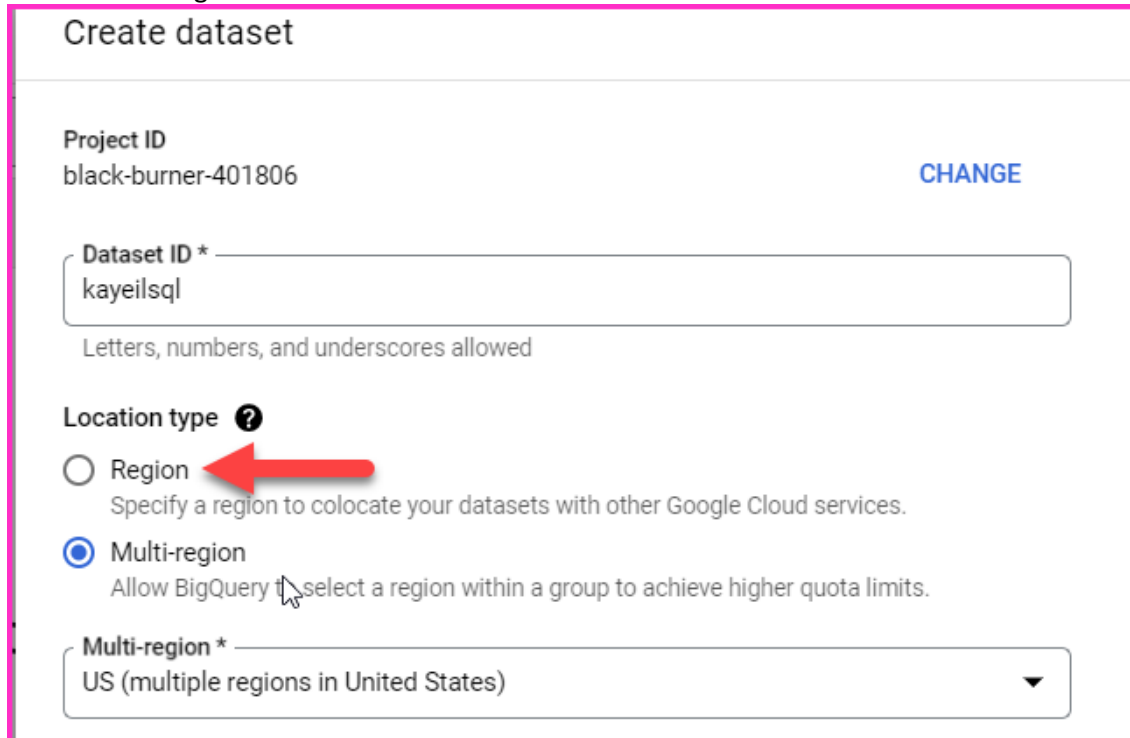
Dataset ID *
kayeilsql

Letters, numbers, and underscores allowed

Next, I enter the Region.

I want a single region.

I click on the Region.




Create dataset

Project ID
black-burner-401806 [CHANGE](#)

Dataset ID *
kayeilsql

Letters, numbers, and underscores allowed

Location type ?

☐ Region 
Specify a region to colocate your datasets with other Google Cloud services.

☒ Multi-region
Allow BigQuery to select a region within a group to achieve higher quota limits.

Multi-region *
US (multiple regions in United States) ▼

Create a Google BigQuery Table from a CSV File

Dicle Ertan Ülger


I can now select a Region.

Location type ?

☒ **Region**
Specify a region to colocate your datasets with other Google Cloud services.

☐ **Multi-region**
Allow BigQuery to select a region within a group to achieve higher quota limits.

Region *



I will select a low carbon region.






Location type ?


☒ **Region**
Specify a region to colocate your datasets with other Google Cloud services.

☐ **Multi-region**
Allow BigQuery to select a region within a group to achieve higher quota limits.

Region *

Filter | Type to filter

Americas	
northamerica-northeast1 (Montréal)	 Low CO2
northamerica-northeast2 (Toronto)	 Low CO2
southamerica-east1 (São Paulo)	 Low CO2
southamerica-west1 (Santiago)	 Low CO2
us-central1 (Iowa)	 Low CO2
us-east1 (South Carolina)	
us-east4 (Northern Virginia)	



CANCEL OK


Create a Google BigQuery Table from a CSV File


Dicle Ertan Ülger


This is the data I entered.

Create dataset

Project ID
black-burner-401806 [CHANGE](#)

Dataset ID *
kayeilsql 
Letters, numbers, and underscores allowed

Location type ?
☒ Region 
Specify a region to colocate your datasets with other Google Cloud services.
☐ Multi-region
Allow BigQuery to select a region within a group to achieve higher quota limits.

Region *
us-central1 (Iowa) 

I leave everything else as is.

I click on the **CREATE DATASET** button.

Create dataset

Project ID
black-burner-401806 [CHANGE](#)


Dataset ID *
kayeilsql
Letters, numbers, and underscores allowed


Location type ?
☒ Region
Specify a region to colocate your datasets with other Google Cloud services.
☐ Multi-region
Allow BigQuery to select a region within a group to achieve higher quota limits.

Region *
us-central1 (Iowa)

Default table expiration
☐ Enable table expiration ?

Default maximum table age Days

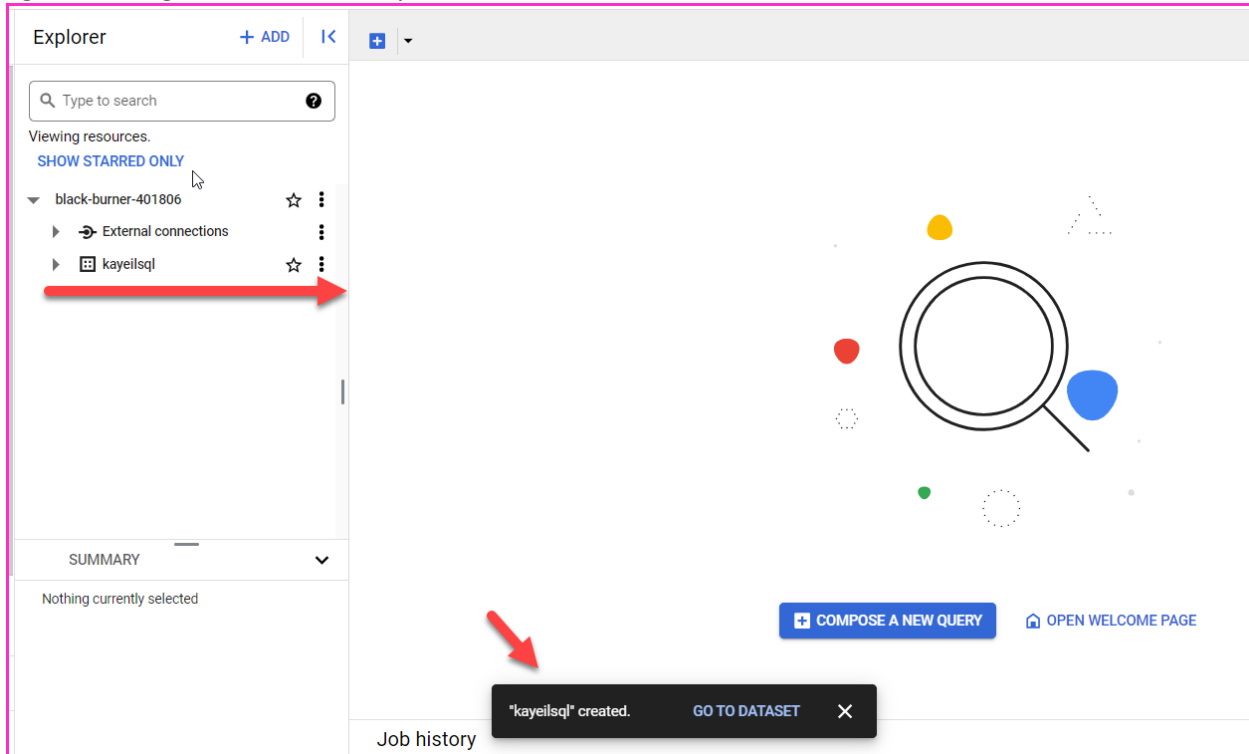
Advanced options 

[CREATE DATASET](#) [CANCEL](#) 

Create a Google BigQuery Table from a CSV File

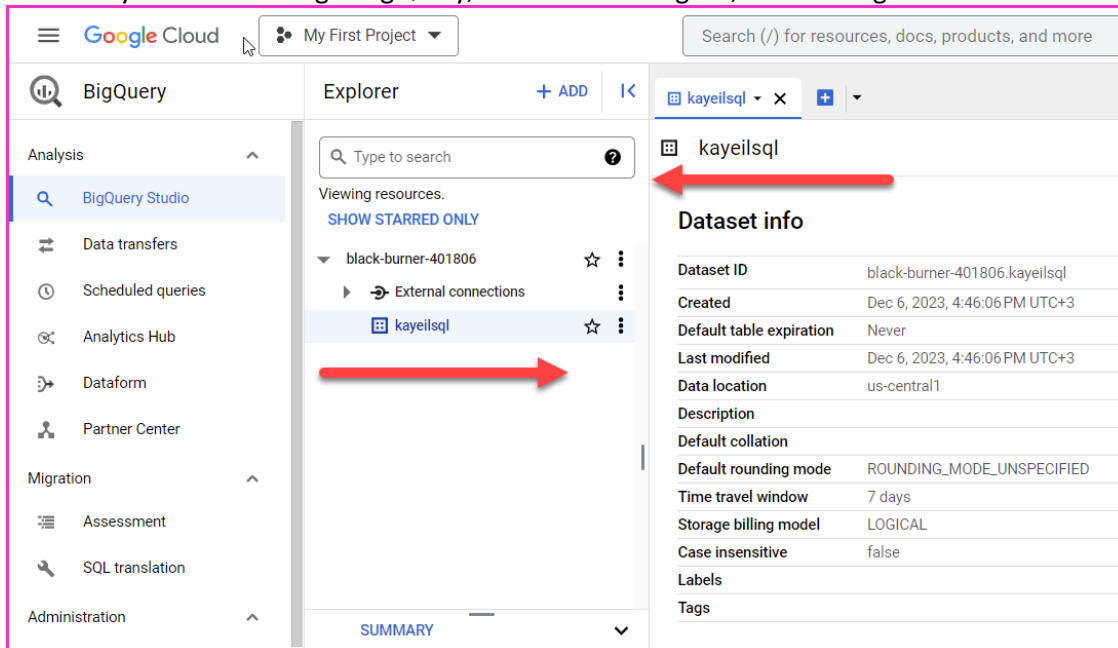
Dicle Ertan Ülger

I get a message, and I see that my Dataset is created.



I dismiss / close the message, and click directly on my Dataset.

Here is my Dataset in Google BigQuery, with the name I gave, and the Region I chose



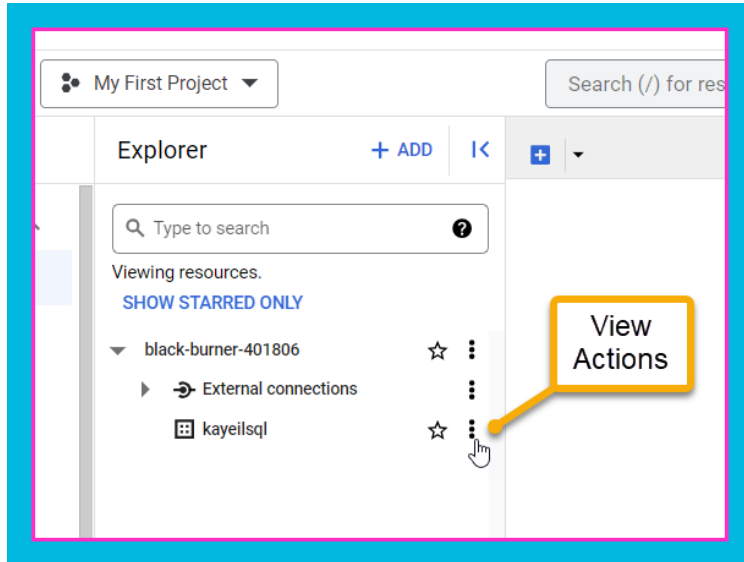
Create a Google BigQuery Table from a CSV File

Dicle Ertan Ülger

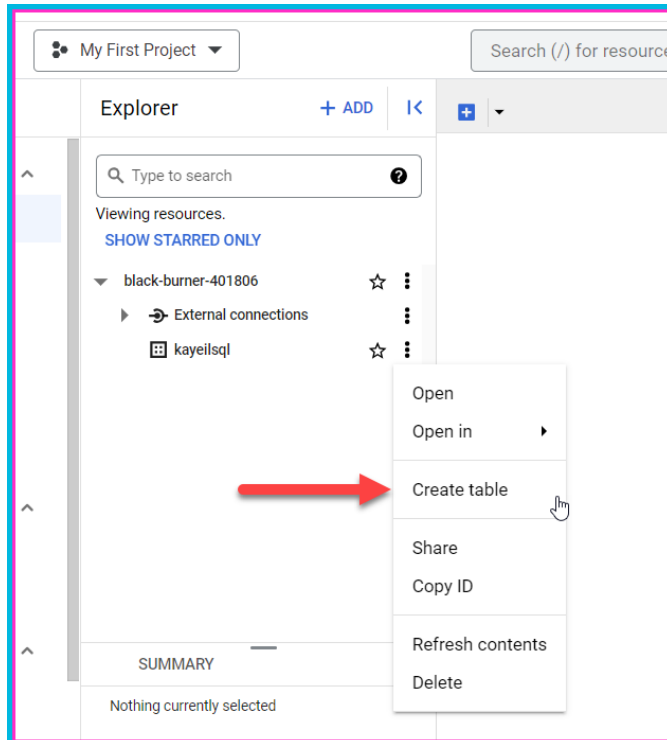
Create the Table

I will now create a table in this dataset in Google Cloud BigQuery, by using a .csv file in my local file.

Click on View Actions.



Click on Create Table.



Create a Google BigQuery Table from a CSV File

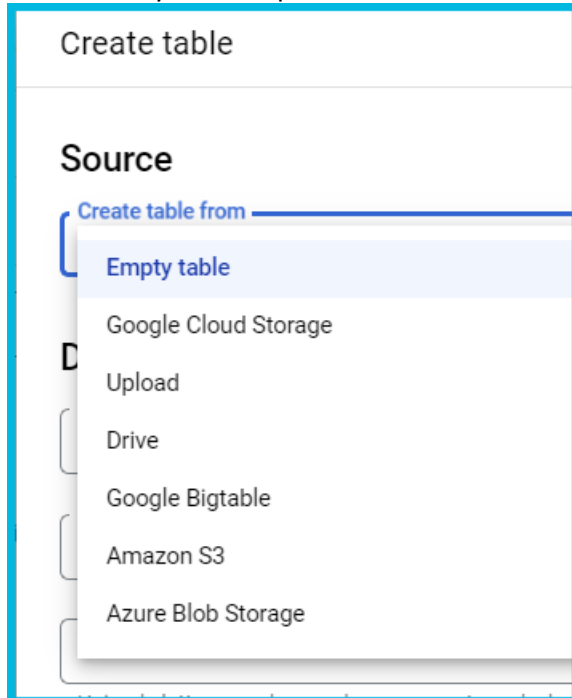
Dicle Ertan Ülger

Here is the Default Create Table window.



The screenshot shows the 'Create table' dialog window in Google BigQuery. The window has a title bar with a close button. It is divided into several sections: 'Source' with a dropdown menu set to 'Create table from Empty table'; 'Destination' with fields for 'Project *' (black-burner-401806), 'Dataset *' (kayeilsql), and 'Table *' (with a note: 'Unicode letters, marks, numbers, connectors, dashes or spaces allowed.'), a 'BROWSE' button, and a 'Table type' dropdown set to 'Native table'; 'Schema' with a toggle for 'Edit as text' and a plus icon; and 'Partition and cluster settings' with a dropdown set to 'No partitioning'. At the bottom are 'CREATE TABLE' and 'CANCEL' buttons.

These are my Source options to create a table from:



This screenshot shows the 'Source' dropdown menu from the 'Create table' dialog. The menu is open, showing the following options: 'Empty table' (highlighted in blue), 'Google Cloud Storage', 'Upload', 'Drive', 'Google Bigtable', 'Amazon S3', and 'Azure Blob Storage'.

Create a Google BigQuery Table from a CSV File

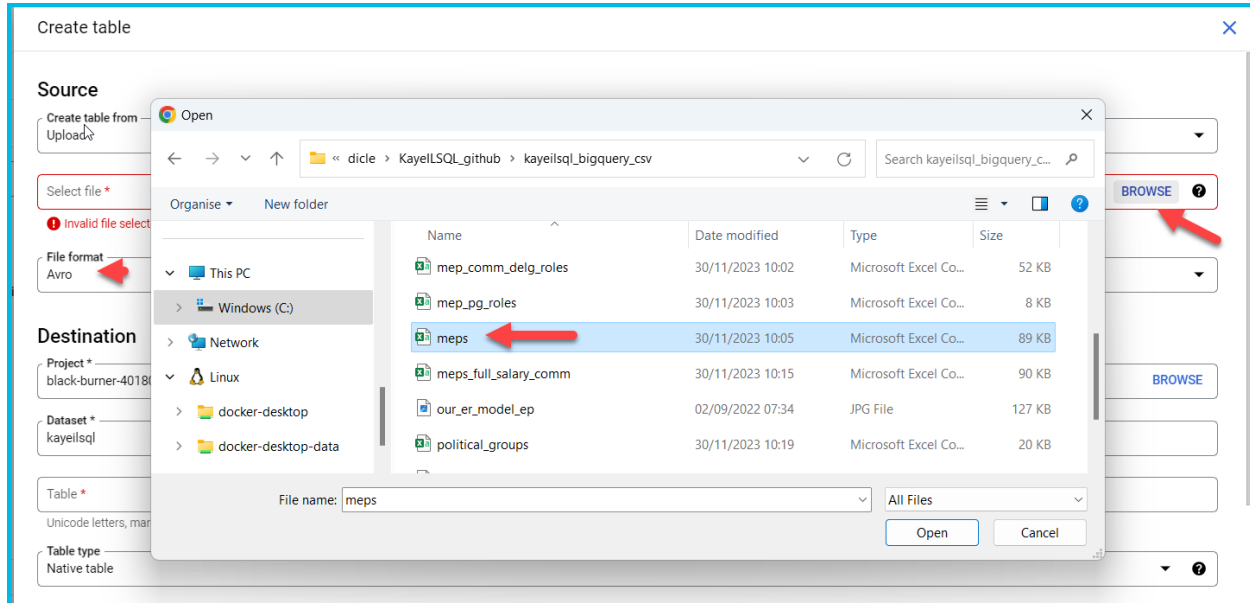
Dicle Ertan Ülger

I select **Upload** as the Source of the table.

It gives me two new fields to fill in:

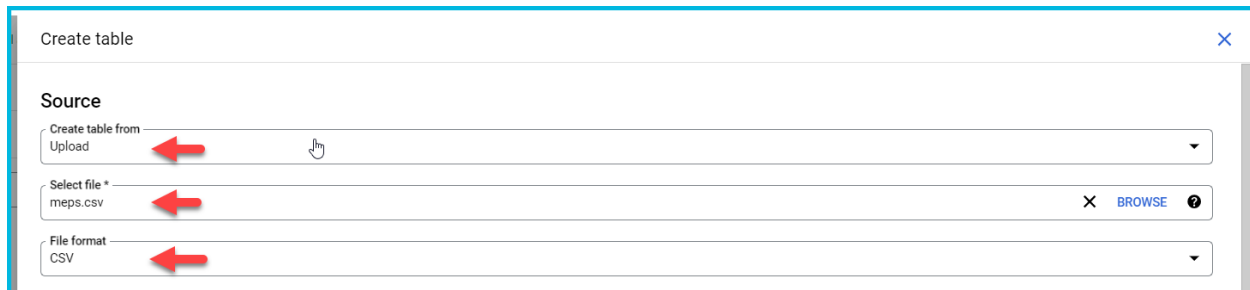
One. Browse to Select the file to be Uploaded.

Two. File format.



I upload the .csv file from my local.

File format is automatically filled in as CSV.



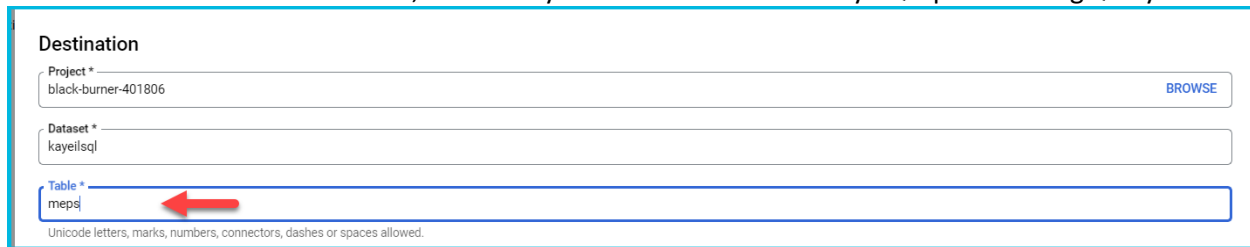
Create a Google BigQuery Table from a CSV File

Dicle Ertan Ülger

I name my table “meps”.

Please note that, table names are case sensitive in Google SQL.

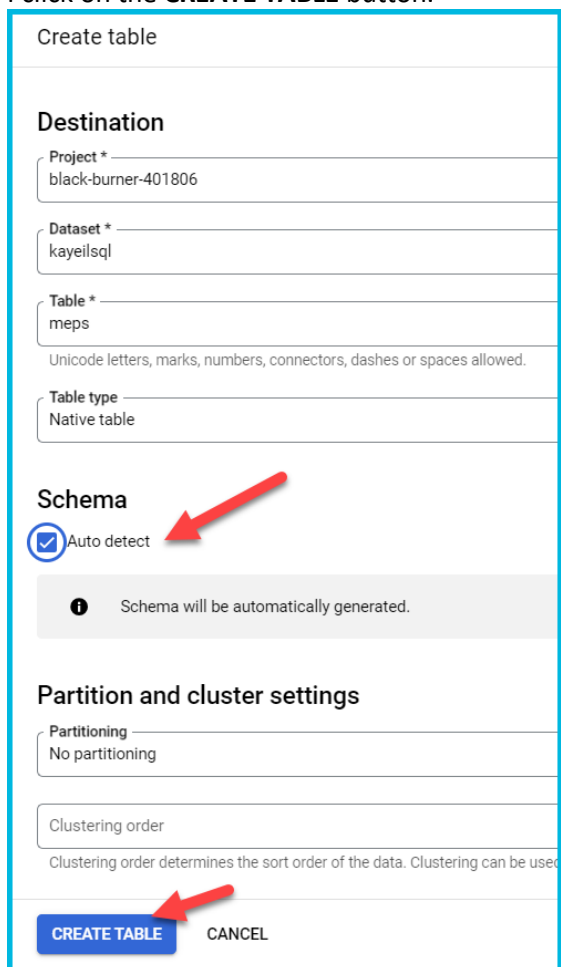
Because I used a lower case name, I will always have to use it as is in my SQL queries in BigQuery.



The screenshot shows the 'Destination' section of the Google BigQuery console. It contains three input fields: 'Project *' with the value 'black-burner-401806', 'Dataset *' with the value 'kayeilsql', and 'Table *' with the value 'meps'. A red arrow points to the 'Table *' field. A 'BROWSE' button is located to the right of the 'Project *' field. Below the 'Table *' field, there is a note: 'Unicode letters, marks, numbers, connectors, dashes or spaces allowed.'

I choose “Auto detect” for Schema, so that the table will be created in the same structure as the .csv file.

I click on the **CREATE TABLE** button.

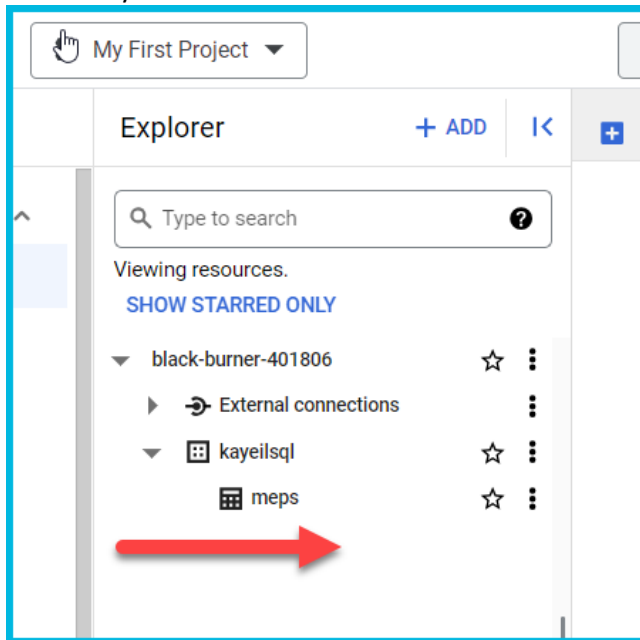


The screenshot shows the 'Create table' dialog in the Google BigQuery console. It has a title 'Create table' and a 'Destination' section with fields for 'Project *' (black-burner-401806), 'Dataset *' (kayeilsql), and 'Table *' (meps). Below the 'Table *' field is the same Unicode note. The 'Table type' is set to 'Native table'. The 'Schema' section has the 'Auto detect' option selected, indicated by a red arrow. Below this is an information icon and the text 'Schema will be automatically generated.' The 'Partition and cluster settings' section has 'Partitioning' set to 'No partitioning' and 'Clustering order' set to an empty field. At the bottom, there are two buttons: 'CREATE TABLE' (highlighted with a red arrow) and 'CANCEL'.

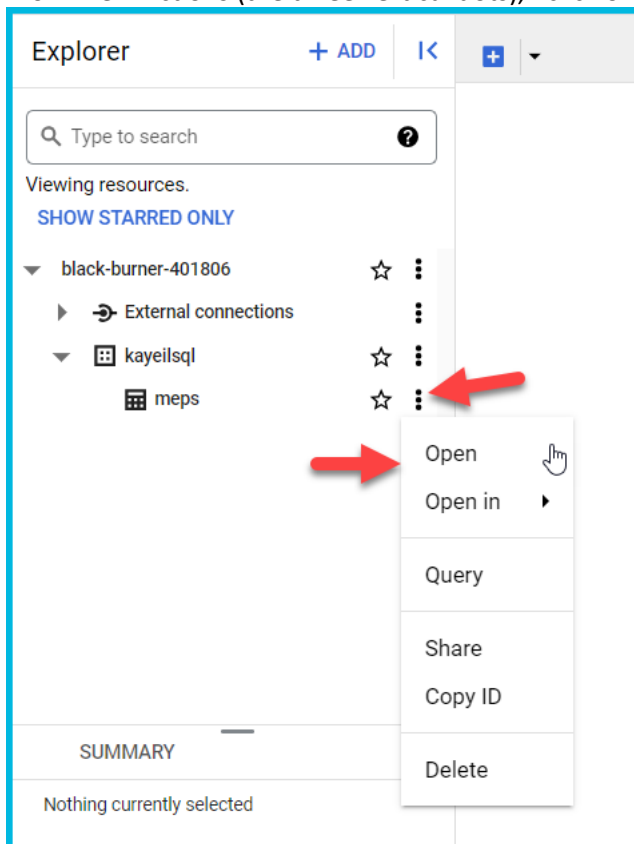
Create a Google BigQuery Table from a CSV File

Dicle Ertan Ülger

Here is my table.



From View Actions (the three vertical dots), I click on Open.



Create a Google BigQuery Table from a CSV File

Dicle Ertan Ülger

SCHEMA Tab

meps

+

meps

QUERY

SHARE

COPY

SNAPSHOT

DELETE

EXPORT

SCHEMA

DETAILS

PREVIEW

LINEAGE

DATA PROFILE

DATA QUALITY

NEW

Filter

Enter property name or value

	Field name	Type	Mode	Key	Collation	Default Value	Policy Tags
<input type="checkbox"/>	MEP_ID	INTEGER	NULLABLE	-	-	-	-
<input type="checkbox"/>	FIRST_NAME	STRING	NULLABLE	-	-	-	-
<input type="checkbox"/>	LAST_NAME	STRING	NULLABLE	-	-	-	-
<input type="checkbox"/>	SALARY	FLOAT	NULLABLE	-	-	-	-
<input type="checkbox"/>	BONUS_PCT	FLOAT	NULLABLE	-	-	-	-
<input type="checkbox"/>	EMAIL	STRING	NULLABLE	-	-	-	-
<input type="checkbox"/>	TEL	STRING	NULLABLE	-	-	-	-
<input type="checkbox"/>	INTERNET	STRING	NULLABLE	-	-	-	-
<input type="checkbox"/>	START_DATE	STRING	NULLABLE	-	-	-	-
<input type="checkbox"/>	COUNTRY_ID	STRING	NULLABLE	-	-	-	-
<input type="checkbox"/>	PG_ID	INTEGER	NULLABLE	-	-	-	-
<input type="checkbox"/>	NR_OR_COCHAIR1	INTEGER	NULLABLE	-	-	-	-

DETAILS Tab

meps

meps

QUERY

SHARE

COPY

SNAPSHOT

DELETE

EXPORT

SCHEMA

DETAILS

PREVIEW

LINEAGE

DATA PROFILE

DATA QUALITY

NEW

Table info

Table ID

black-burner-401806.kayeilsq.meps

Created

Dec 8, 2023, 8:18:08 AM UTC+3

Last modified

Dec 8, 2023, 8:18:08 AM UTC+3

Table expiration

NEVER

Data location

us-central1

Default collation

Default rounding mode

ROUNDING_MODE_UNSPECIFIED

Case insensitive

false

Description

Labels

Primary key(s)

Create a Google BigQuery Table from a CSV File

Dicle Ertan Ülger

PREVIEW Tab

meps														QUERY	SHARE	COPY	SNAPSHOT	DELETE	EXPORT	REFRESH
SCHEMA		DETAILS		PREVIEW		LINEAGE		DATA PROFILE		DATA QUALITY		NEW								
Row	mep_id	first_name	last_name	salary	bonus_pct	email	tel													
14	140001	Graham	Watson	50000.0	null	graham.watson@europarl.euro...	32 2 28 45626													
15	160012	Mogens	Camre	42000.0	null	mogens.camre@europarl.euro...	32(0)2 28 45205													
16	160015	Gintaras	Didziokas	19000.0	null	gintaras.didziokas@europarl.e...	32(0)2 28 45546													
17	160046	Roberts	Zile	18000.0	null	roberts.zile@europarl.europa.eu	32(0)2 28 45224													
18	160003	Adam	Bielan	15000.0	null	adam.bielan@europarl.europa....	32(0)2 28 45925													
19	20010	Ingo	Friedrich	32000.0	null	ingo.friedrich@europarl.europa...	32(0)2 28 45324													
20	20004	Rodi	Kratsa-Tsagaropoulou	27000.0	null	rodi.kratsa-tsagaropoulou@eur...	32(0)2 28 45308													
21	20005	Alejo	Vidal-Quadras	29000.0	null	alejo.vidal-quadras@europarl.e...	32(0)2 28 49322													
22	20006	Mario	Mauro	29000.0	null	mario.mauro@europarl.europa...	32(0)2 28 49387													
23	20009	Astrid	Lulling	78000.0	null	astrid.lulling@europarl.europa....	32(0)2 28 45386													
24	20007	Edward	McMillan-Scott	33000.0	null	edward.mcmillan-scott@europ...	32(0)2 28 45959													
25	20008	James	Nicholson	33000.0	null	james.nicholson@europarl.eur...	32(0)2 28 45933													
26	40009	Mia	De Vits	35000.0	null	mia.devits@europarl.europa.eu	(32-2)284 5715													
27	40005	Mechtild	Rothe	32000.0	null	mechtild.rothe@europarl.europ...	(32-2)284 5414													
28	40004	Miguel Angel	Martinez Martinez	29000.0	null	miguelangel.martinez@europa...	(32-2)284 5269													
29	40006	Martine	Roure	32000.0	null	martine.roure@europarl.europa...	(32-2)284 5138													
30	40010	Szabolcs	Fazakas	18000.0	null	szabolcs.fazakas@europarl.eu...	(32-2)284 5818													
...													

Results per page: 501 - 50 of 787

This is the easiest and quickest way to create a table, and insert data in it, that I have come across so far.

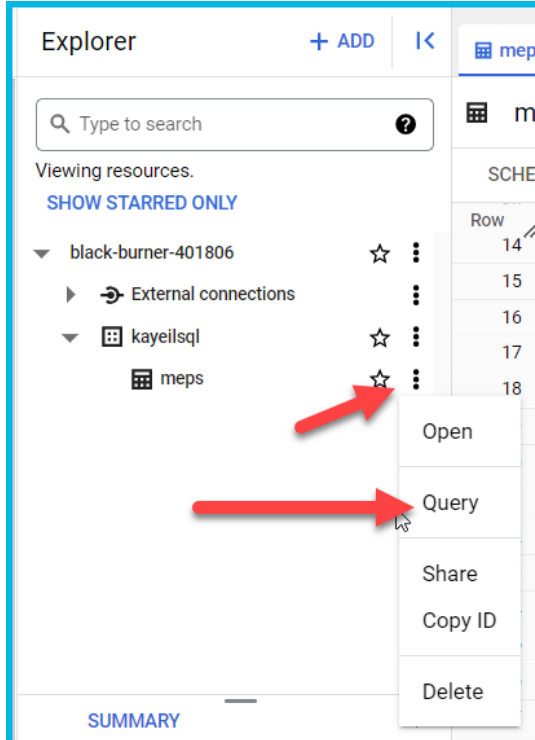
Create a Google BigQuery Table from a CSV File

Dicle Ertan Ülger

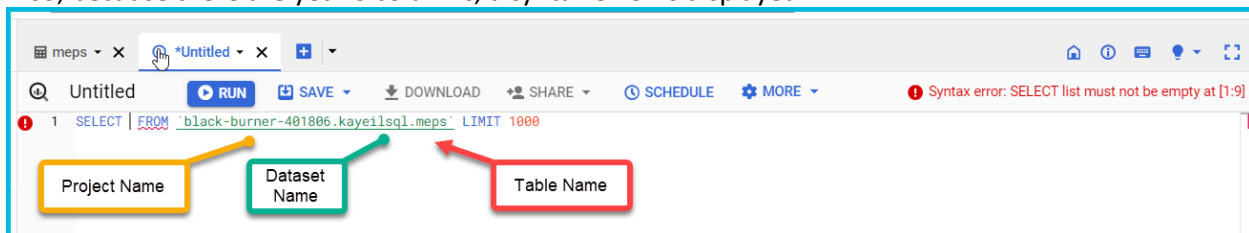
Query the Table

Now, we will query the data in SQL Worksheet.

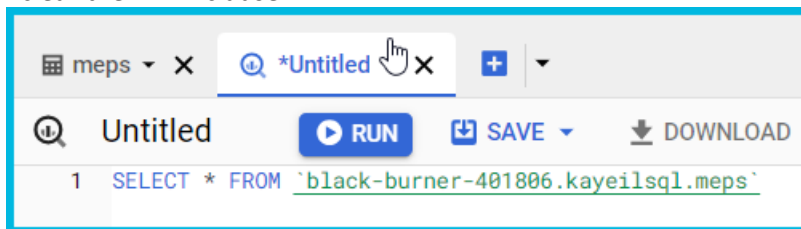
From View Actions next to the meps table, I click on Query.



It opens an Editor, and gives me a SELECT statement with no columns, but with the complete syntax for the table name: **project_name.dataset_name.table_name**. Thank you Google BigQuery! Also, because there are yet no columns, a syntax error is displayed.



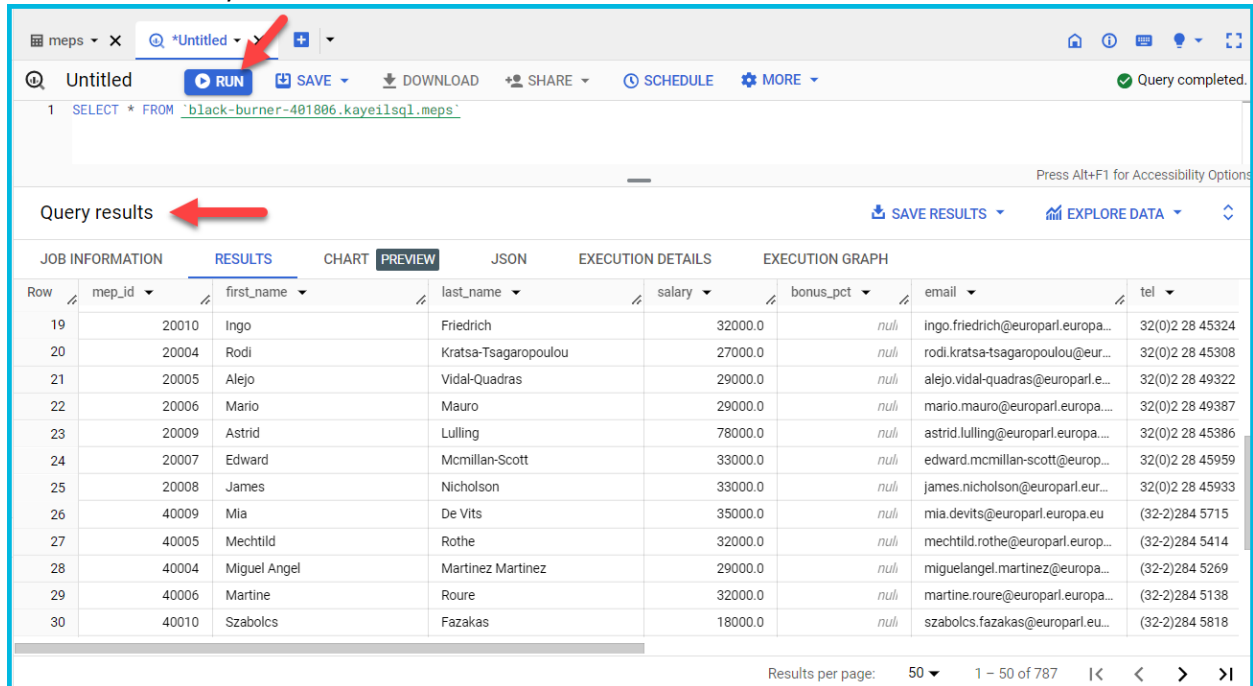
I change the query to select all columns.
I clear the LIMIT clause.



Create a Google BigQuery Table from a CSV File

Dicle Ertan Ülger

I click on the RUN button.
Here are the Query Results!



The screenshot shows the Google BigQuery interface. At the top, there's a toolbar with buttons for RUN, SAVE, DOWNLOAD, SHARE, SCHEDULE, and MORE. A red arrow points to the RUN button. Below the toolbar, the query editor shows a SQL query: `SELECT * FROM `black-burner-401806.kayelsql.meps``. Below the query editor, the 'Query results' section is active, showing a table with 10 columns: mep_id, first_name, last_name, salary, bonus_pct, email, and tel. The table contains 11 rows of data. A red arrow points to the 'Query results' tab. At the bottom, there's a pagination bar showing 'Results per page: 50' and '1 - 50 of 787'.

Row	mep_id	first_name	last_name	salary	bonus_pct	email	tel
19	20010	Ingo	Friedrich	32000.0	null	ingo.friedrich@europarl.europa...	32(0)2 28 45324
20	20004	Rodi	Kratsa-Tsagaropoulou	27000.0	null	rodi.kratsa-tsagaropoulou@eur...	32(0)2 28 45308
21	20005	Alejo	Vidal-Quadras	29000.0	null	alejo.vidal-quadrass@europarl.e...	32(0)2 28 49322
22	20006	Mario	Mauro	29000.0	null	mario.mauro@europarl.europa...	32(0)2 28 49387
23	20009	Astrid	Lulling	78000.0	null	astrid.lulling@europarl.europa...	32(0)2 28 45386
24	20007	Edward	Mcmillan-Scott	33000.0	null	edward.mcmillan-scott@europ...	32(0)2 28 45959
25	20008	James	Nicholson	33000.0	null	james.nicholson@europarl.eur...	32(0)2 28 45933
26	40009	Mia	De Vits	35000.0	null	mia.devits@europarl.europa.eu	(32-2)284 5715
27	40005	Mechtild	Rothe	32000.0	null	mechtild.rothe@europarl.europ...	(32-2)284 5414
28	40004	Miguel Angel	Martinez Martinez	29000.0	null	miguelangel.martinez@europa...	(32-2)284 5269
29	40006	Martine	Roure	32000.0	null	martine.roure@europarl.europa...	(32-2)284 5138
30	40010	Szabolcs	Fazakas	18000.0	null	szabolcs.fazakas@europarl.eu...	(32-2)284 5818

This is how I create a table in Google BigQuery with full data, using a CSV file from my local.
Very simple!

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



Dicle Ertan Ülger