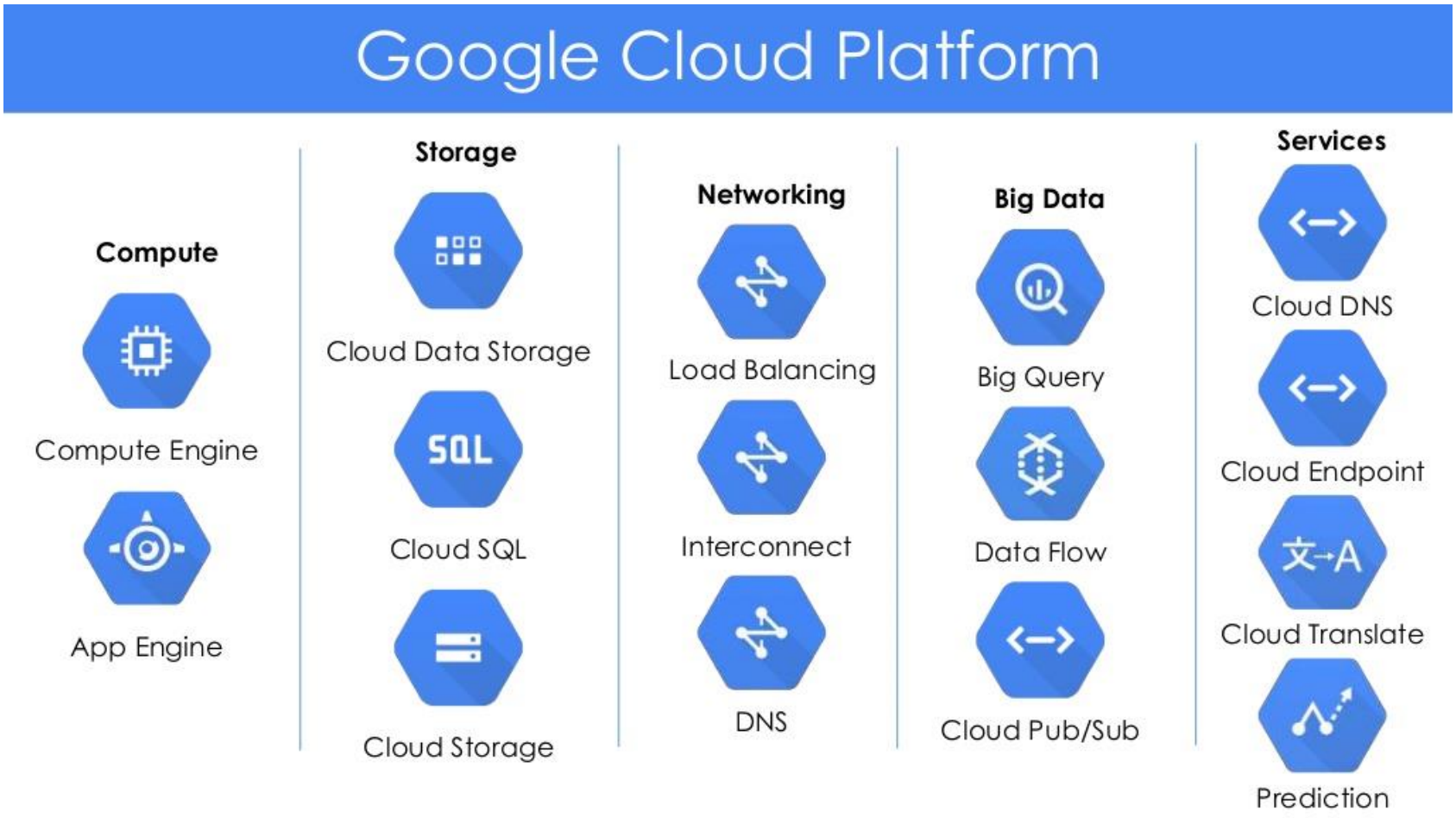
Data Warehousing and Business analytics

Lecture - 8

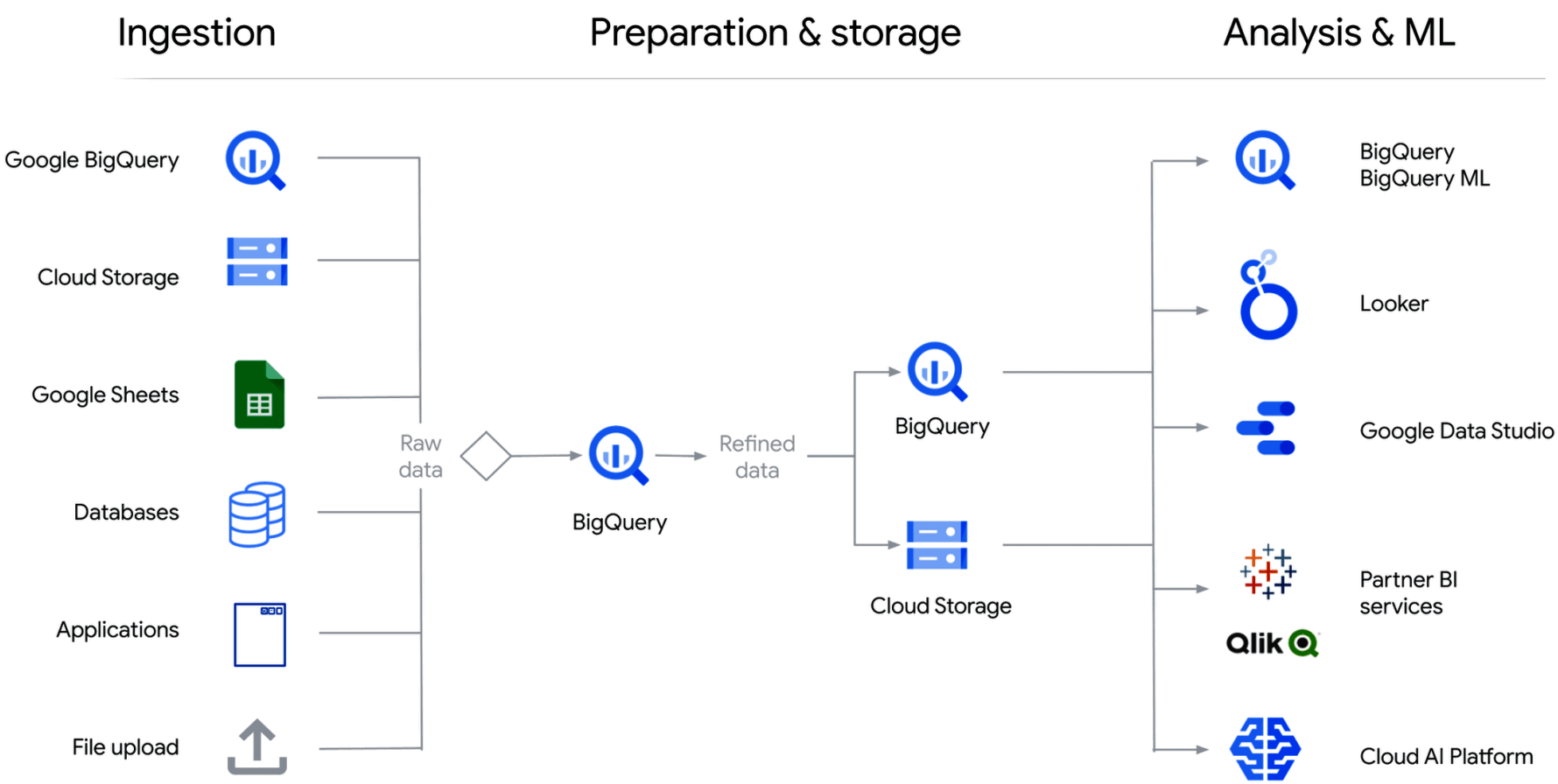
Dimensional modeling with Bigquery (Google Cloud Platform)

Google Cloud Platform (GCP)

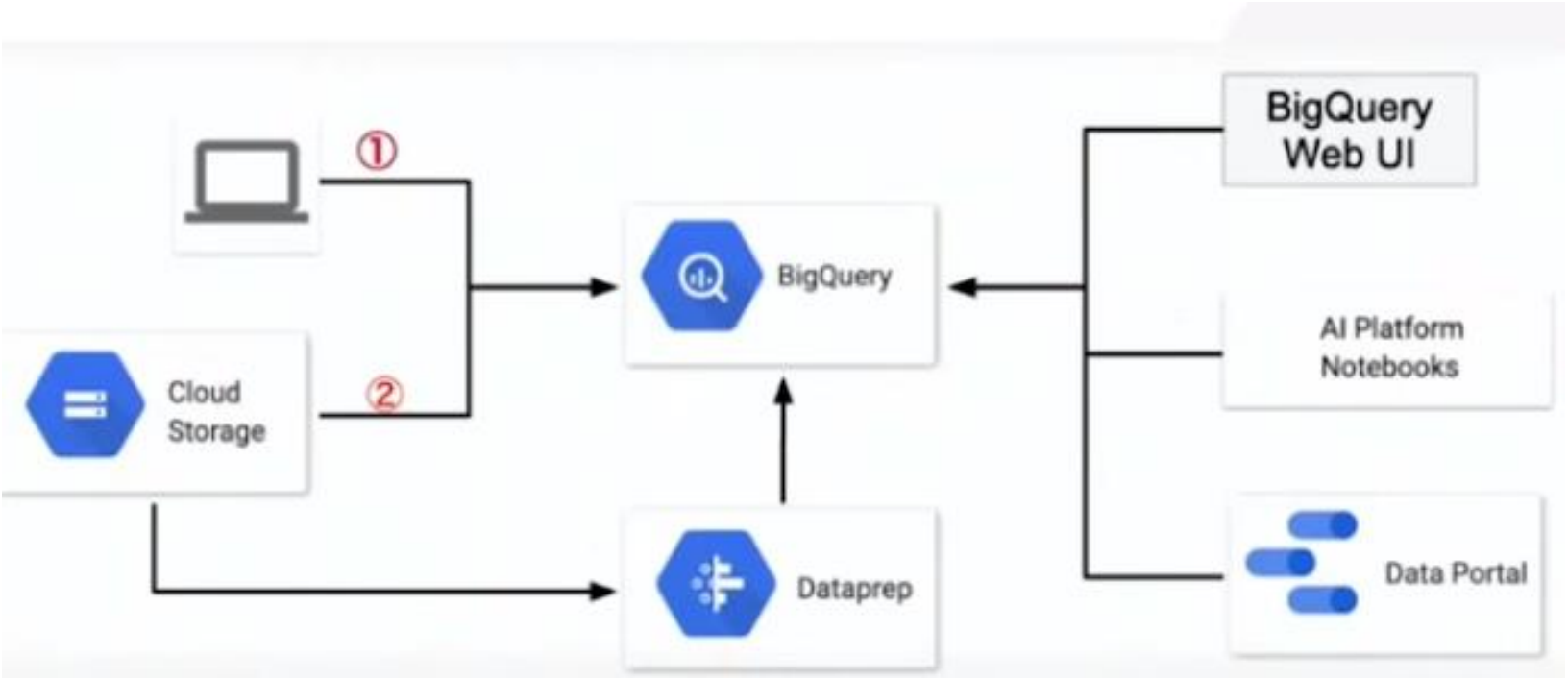


Google Cloud Platform (GCP) Services

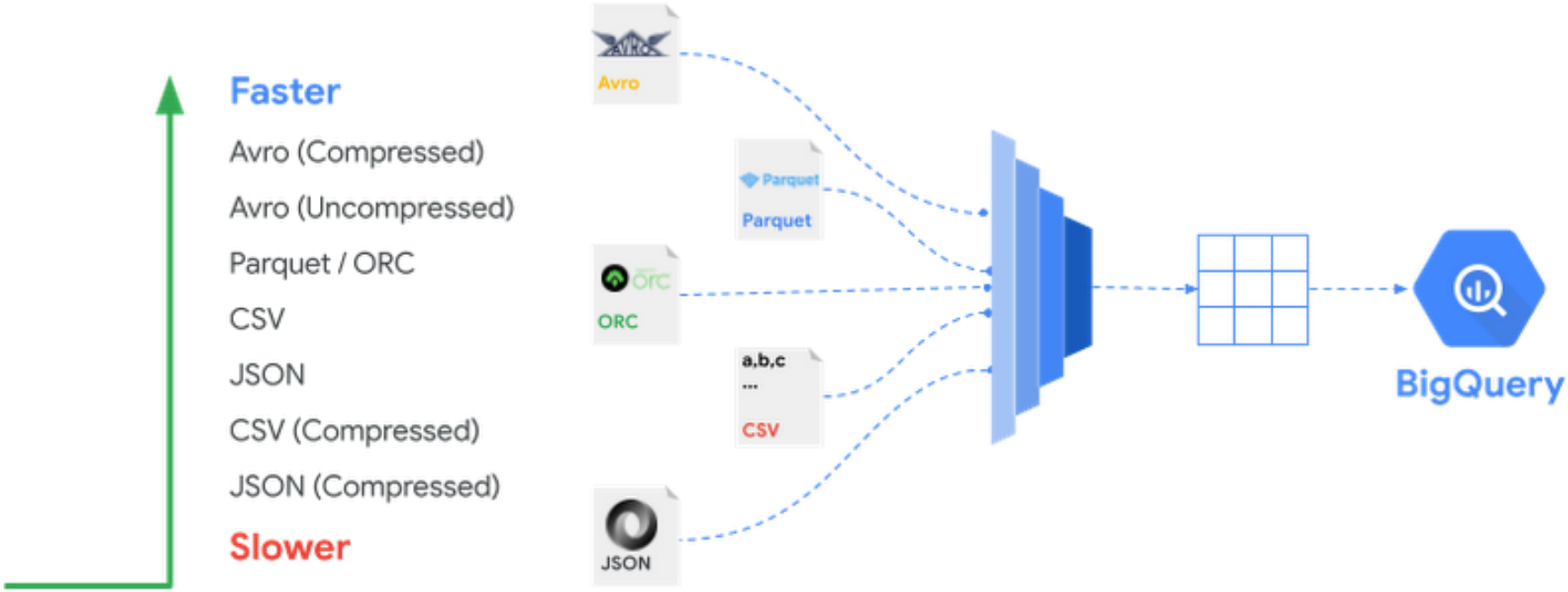
Google BigQuery: Cloud Data



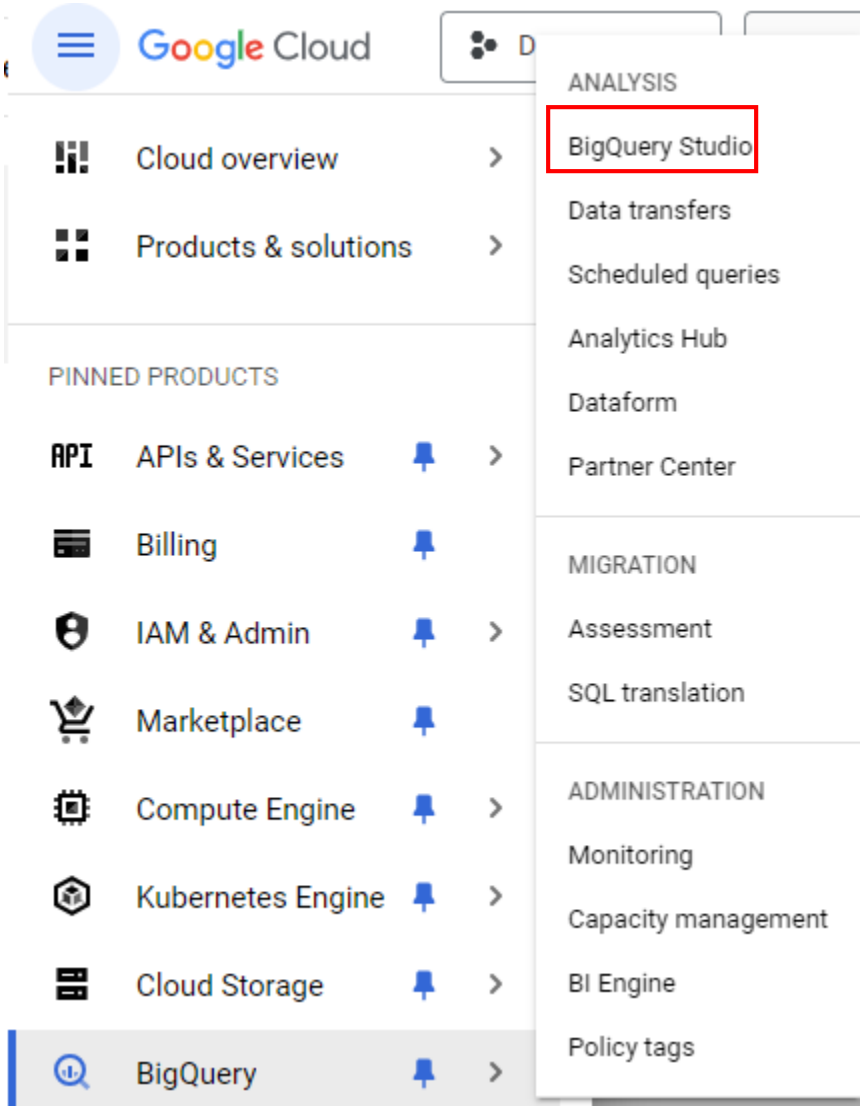
Loading Data into BigQuery



Import Data to BigQuery

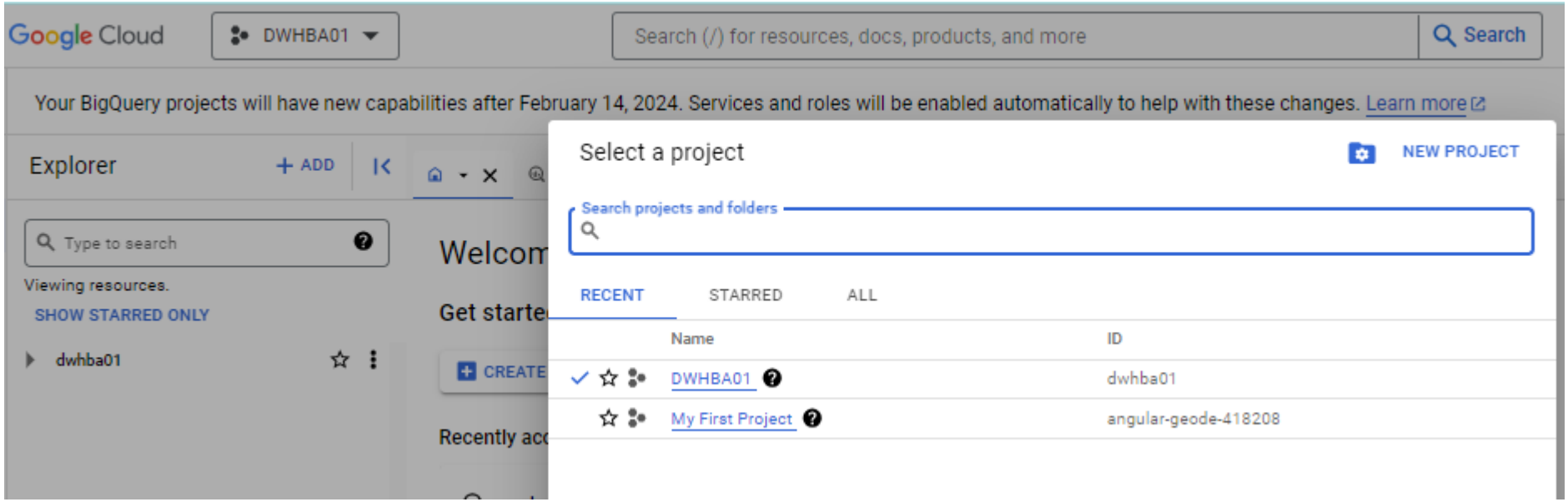


Starting with BigQuery



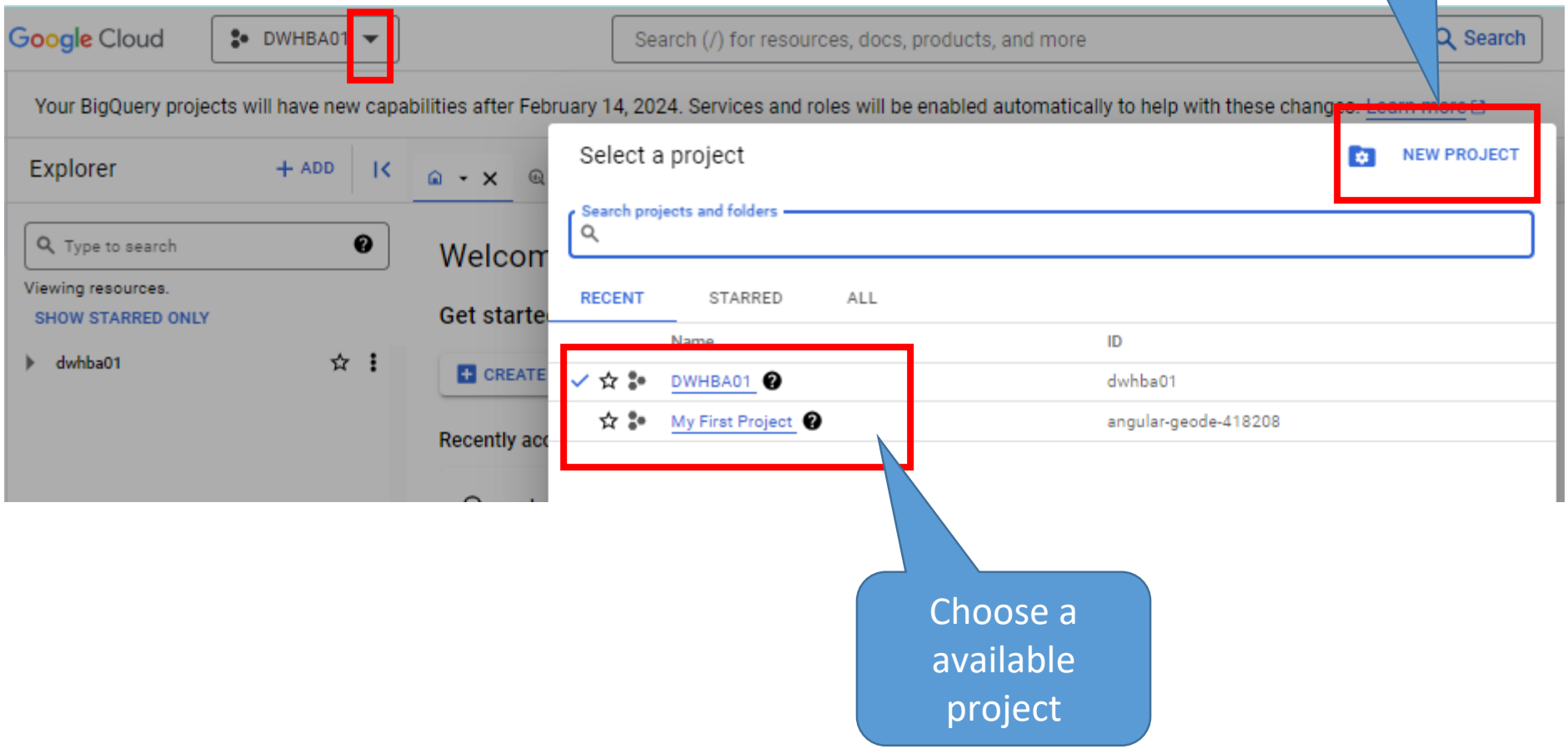
Starting with BigQuery

Choose the project

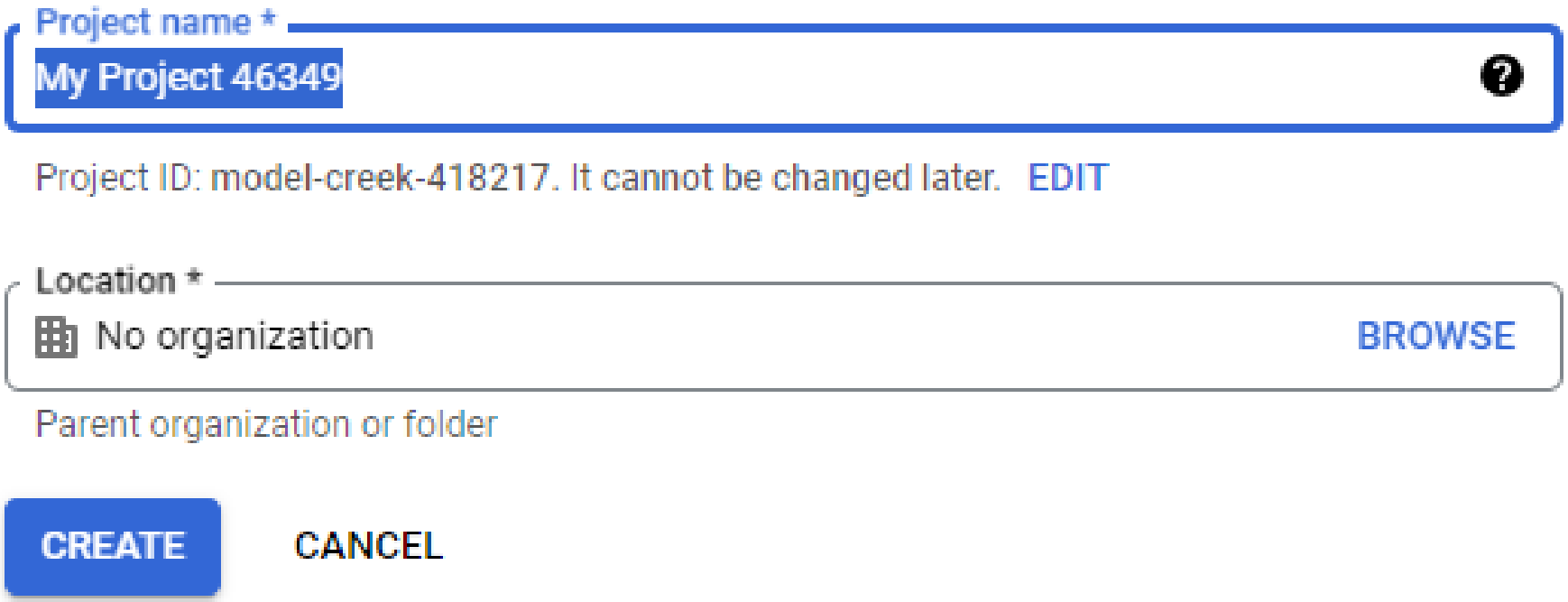


Starting with BigQuery

Choose the project

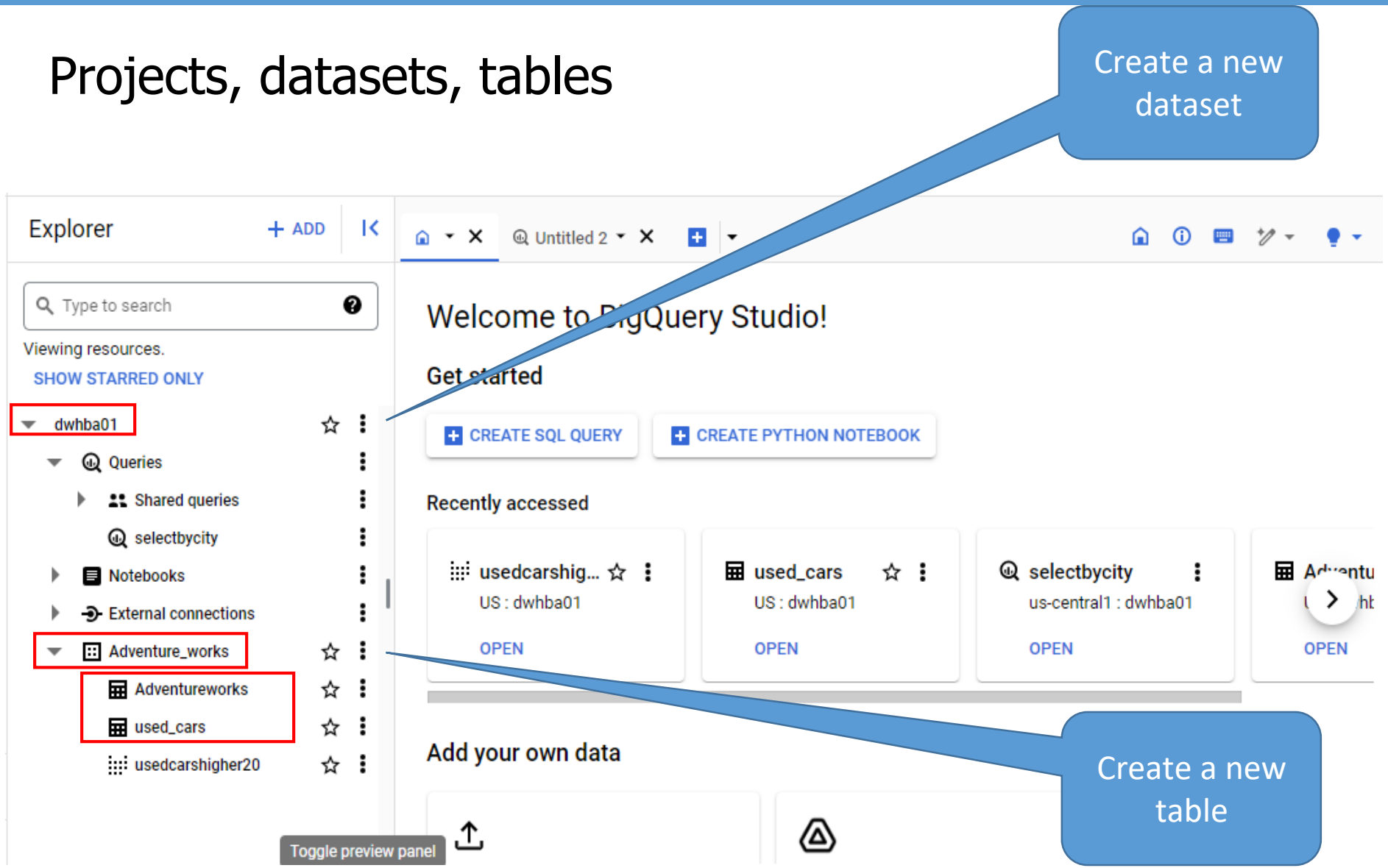


Create a Project

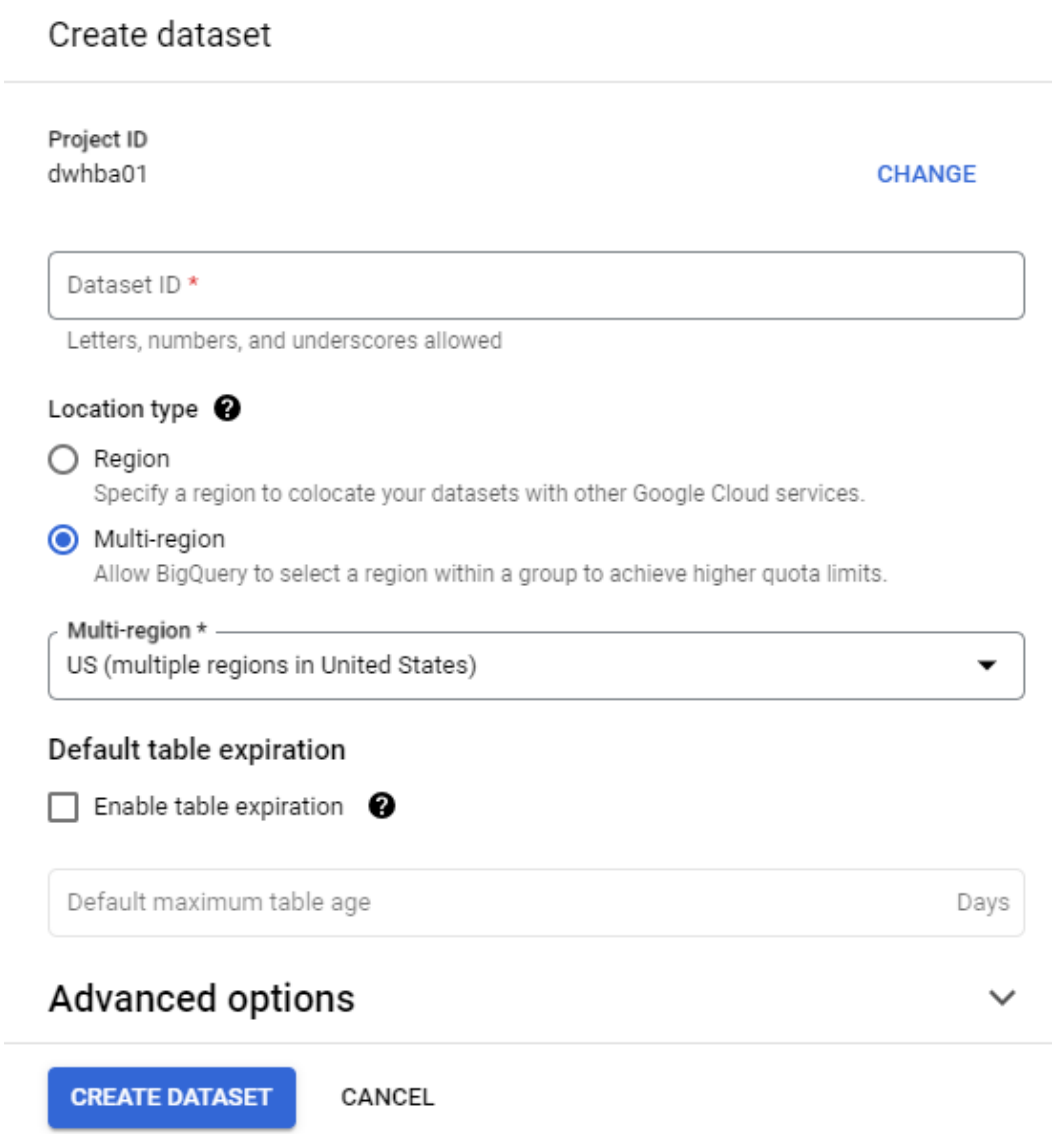


BigQuery workspace

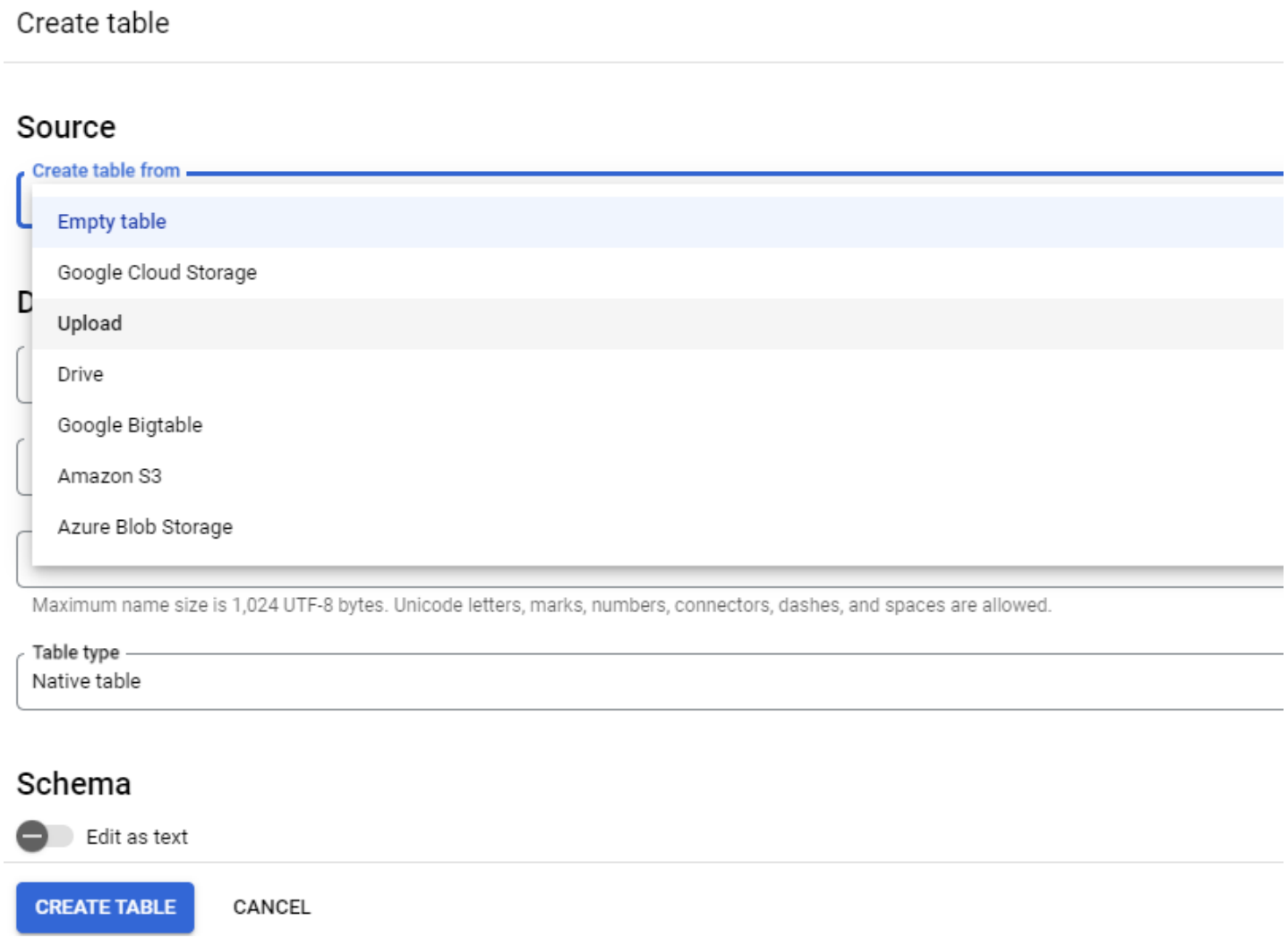
Projects, datasets, tables



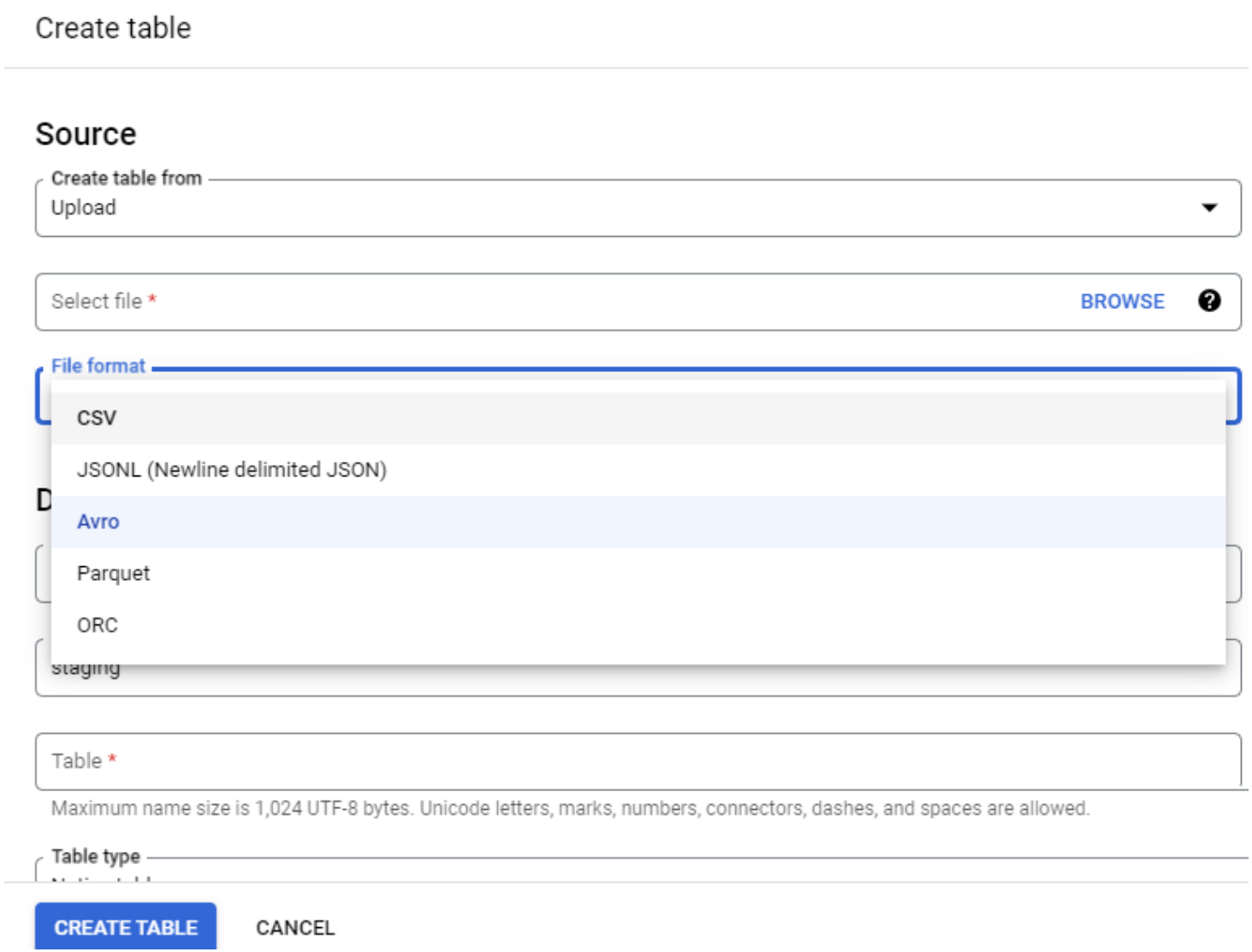
Create a dataset



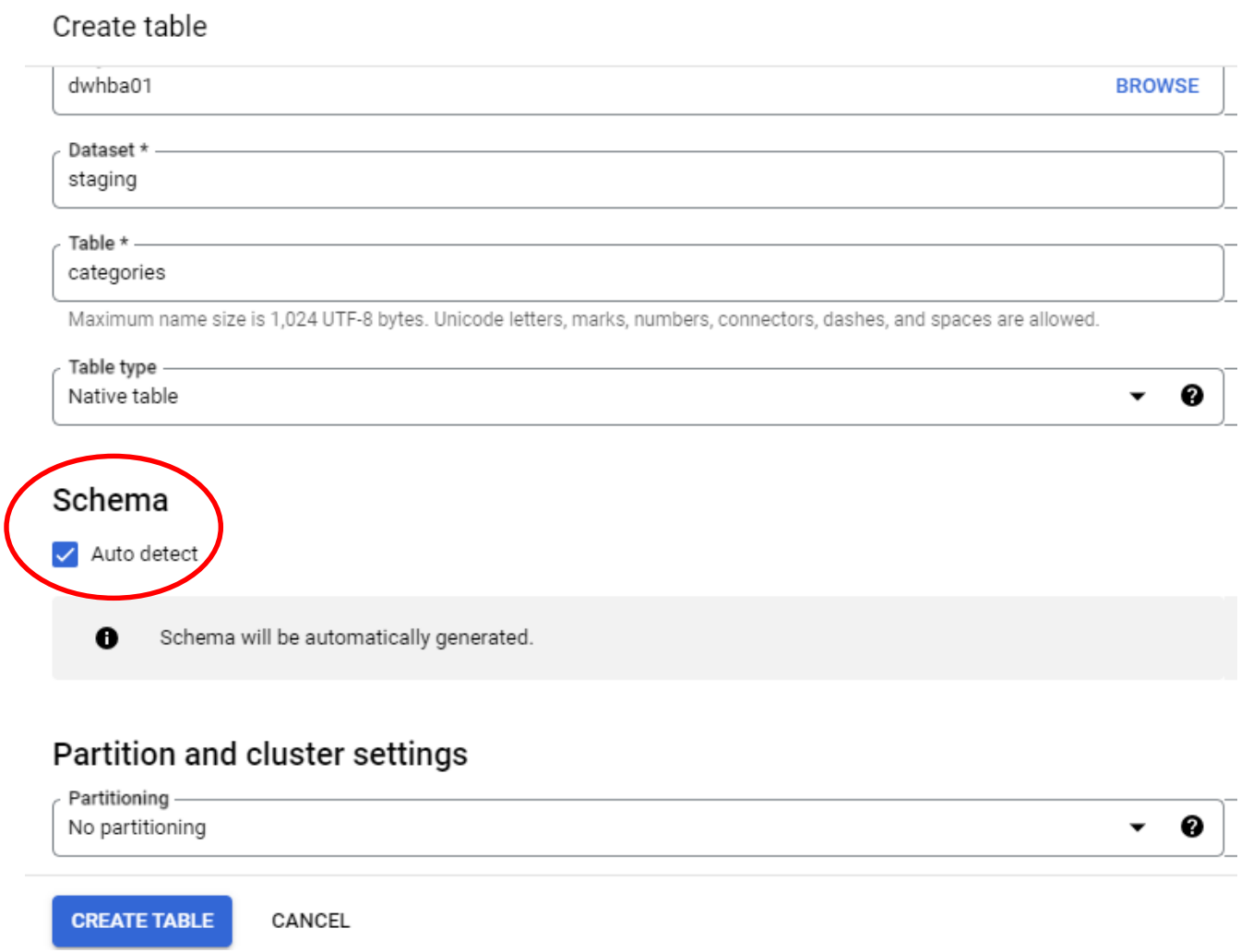
Create a table in dataset



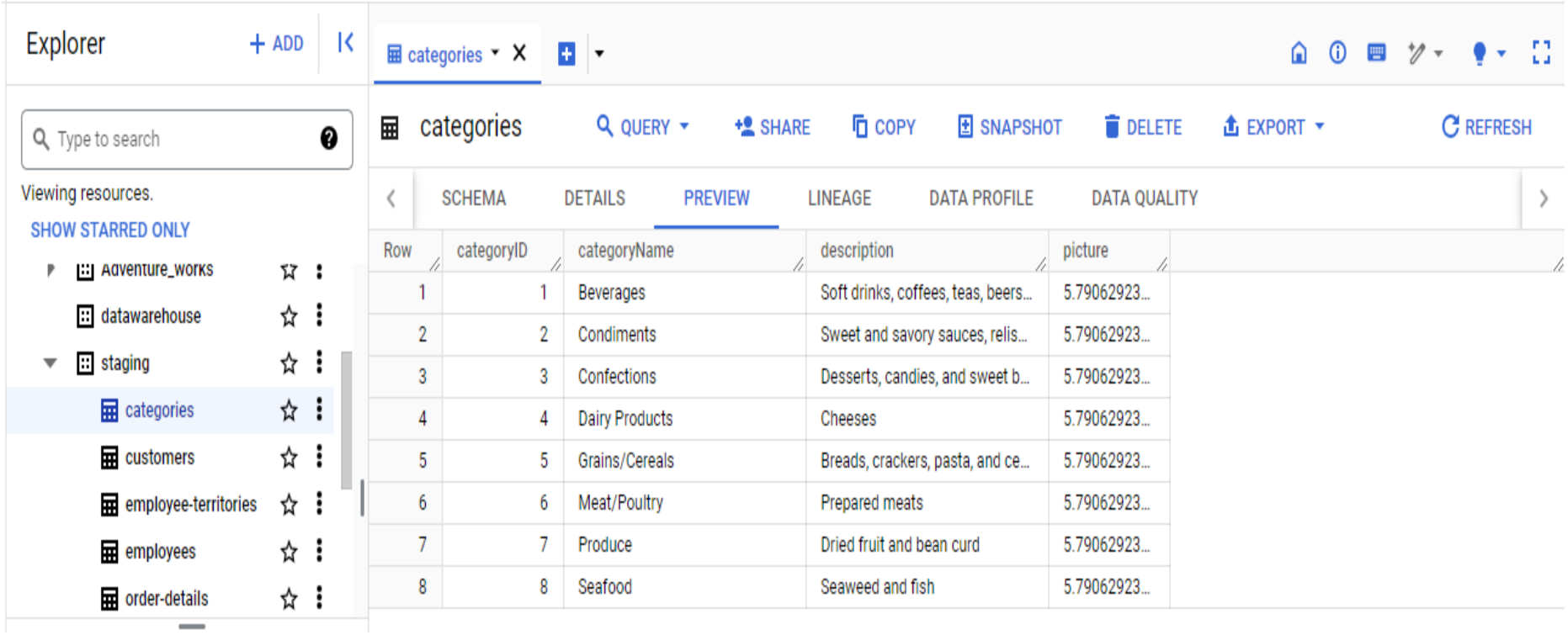
Create a table in dataset



Create a table in dataset

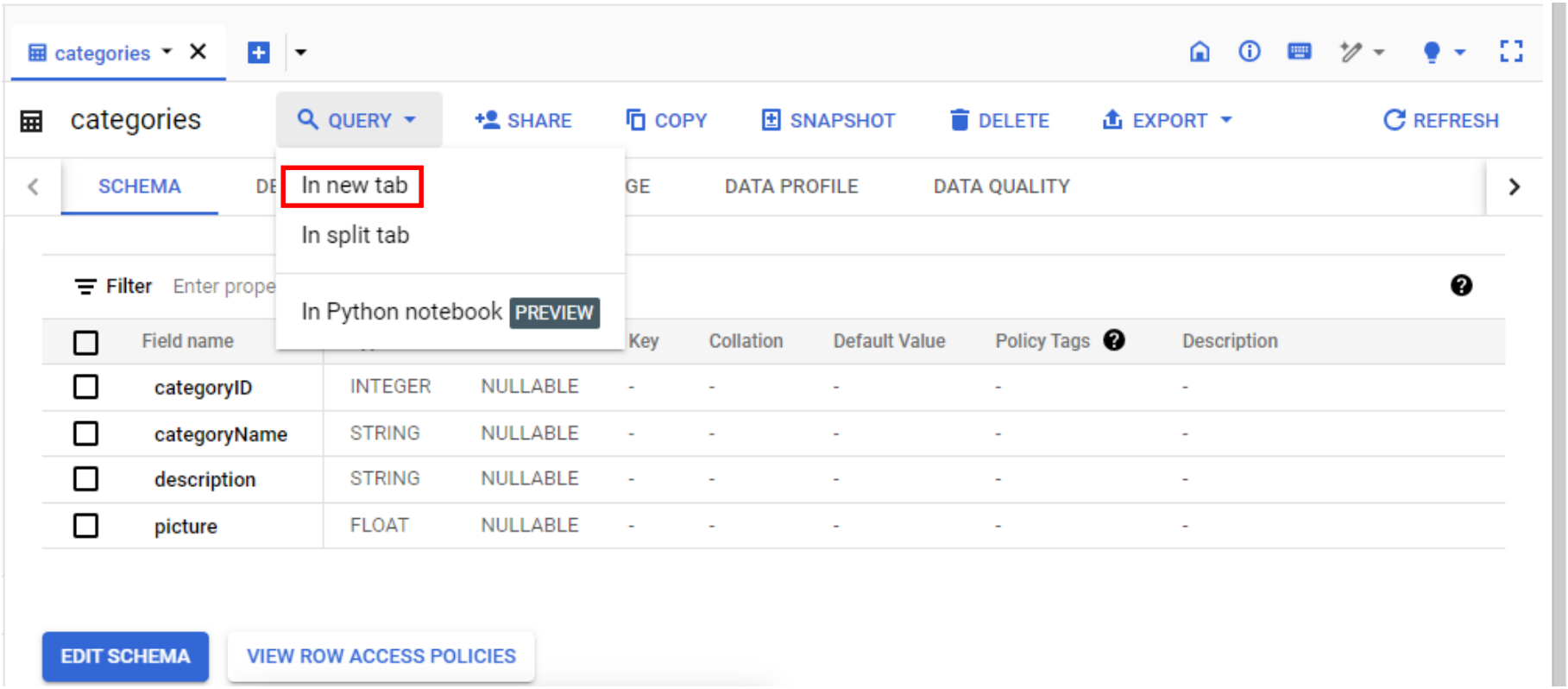


Working with tables

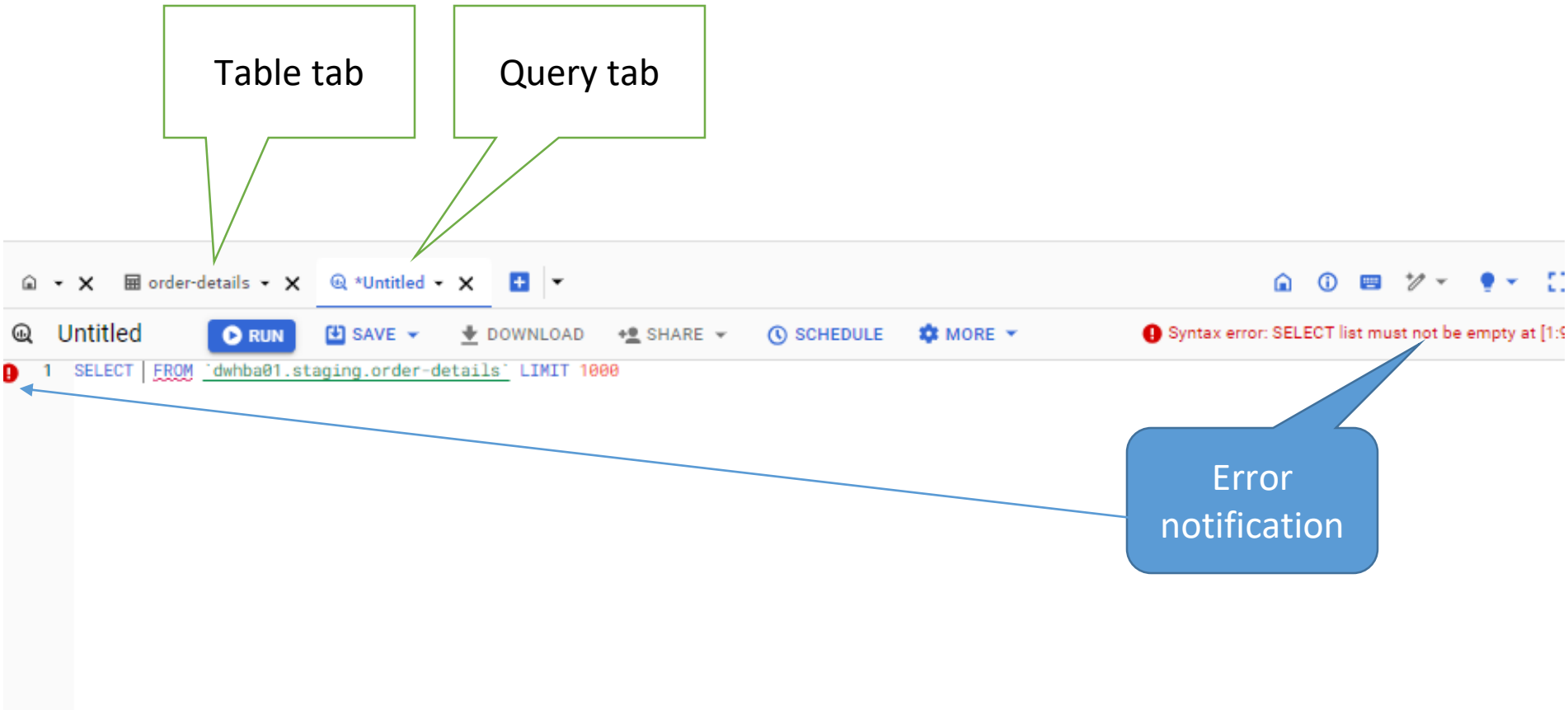


Row	categoryID	categoryName	description	picture
1	1	Beverages	Soft drinks, coffees, teas, beers...	5.79062923...
2	2	Condiments	Sweet and savory sauces, relis...	5.79062923...
3	3	Confections	Desserts, candies, and sweet b...	5.79062923...
4	4	Dairy Products	Cheeses	5.79062923...
5	5	Grains/Cereals	Breads, crackers, pasta, and ce...	5.79062923...
6	6	Meat/Poultry	Prepared meats	5.79062923...
7	7	Produce	Dried fruit and bean curd	5.79062923...
8	8	Seafood	Seaweed and fish	5.79062923...

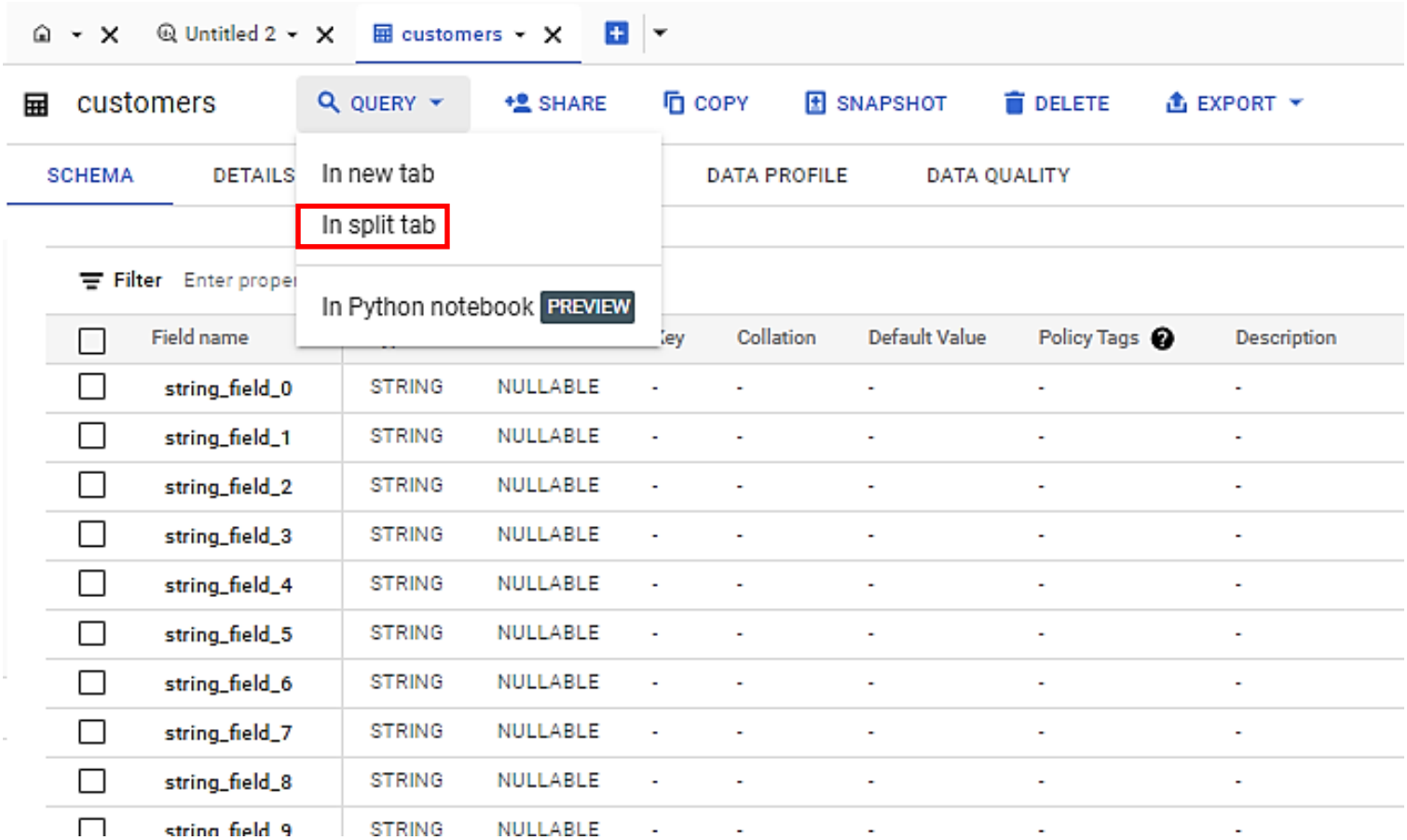
Working with tables



Working with tables

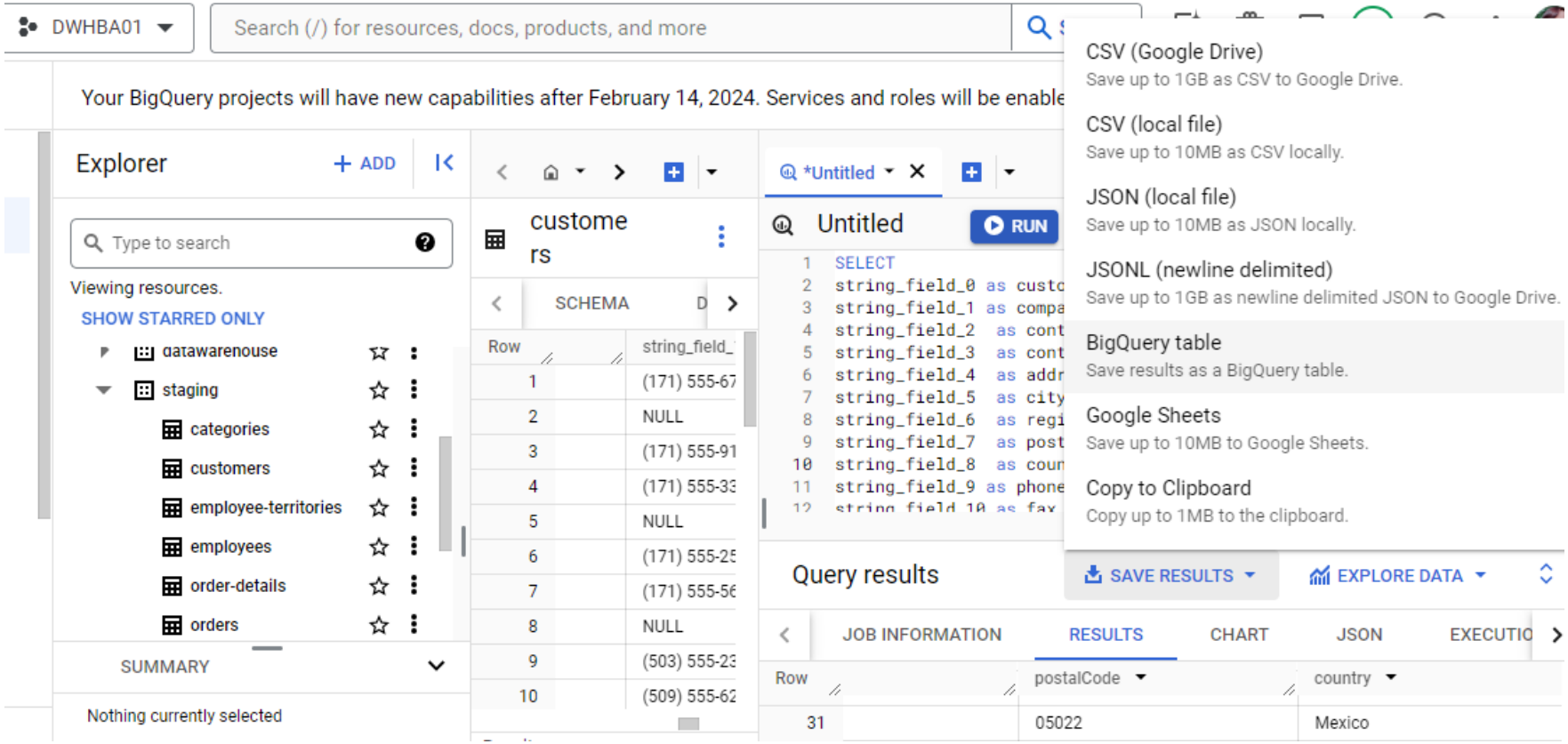


Working with tables

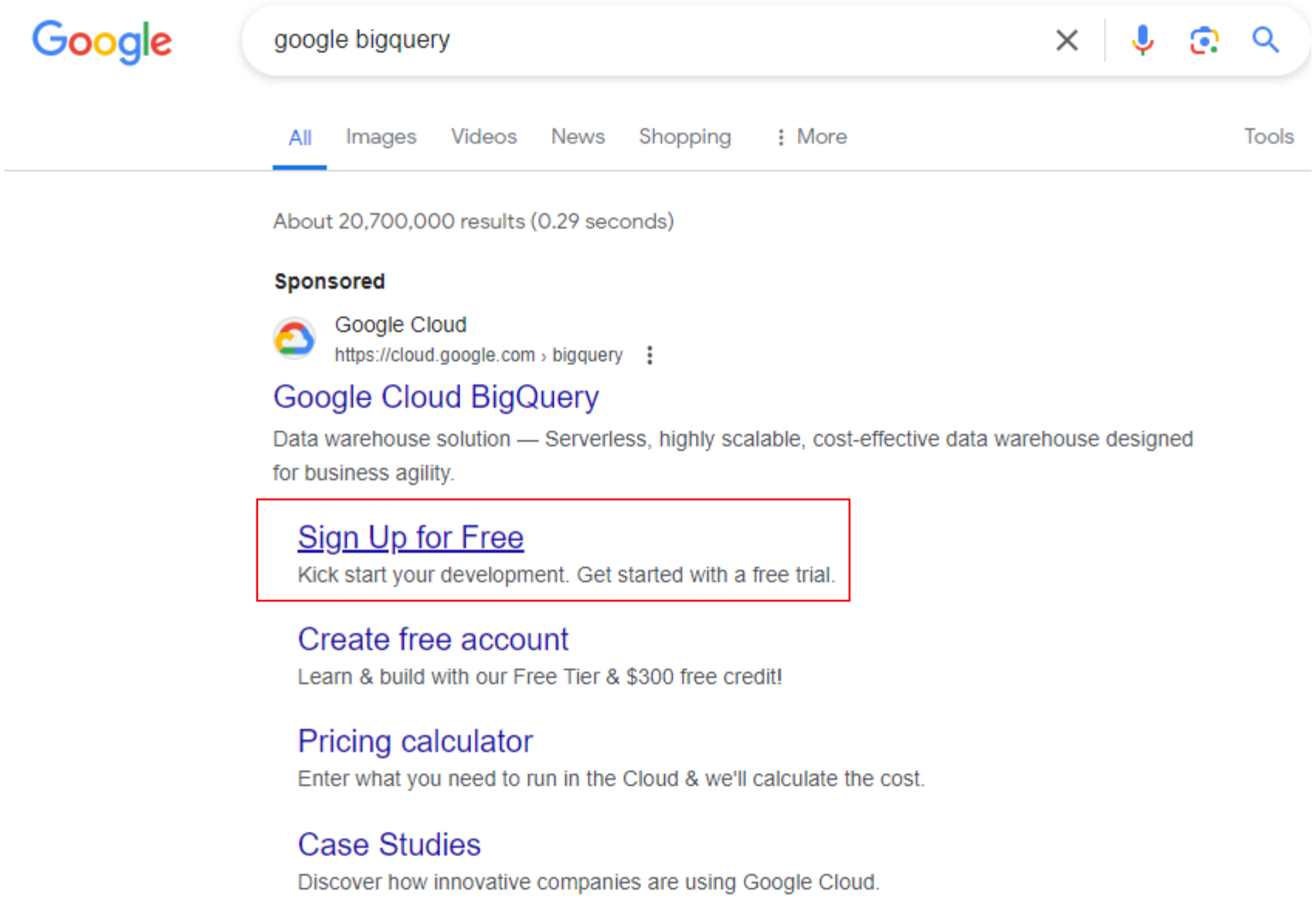


Working with tables

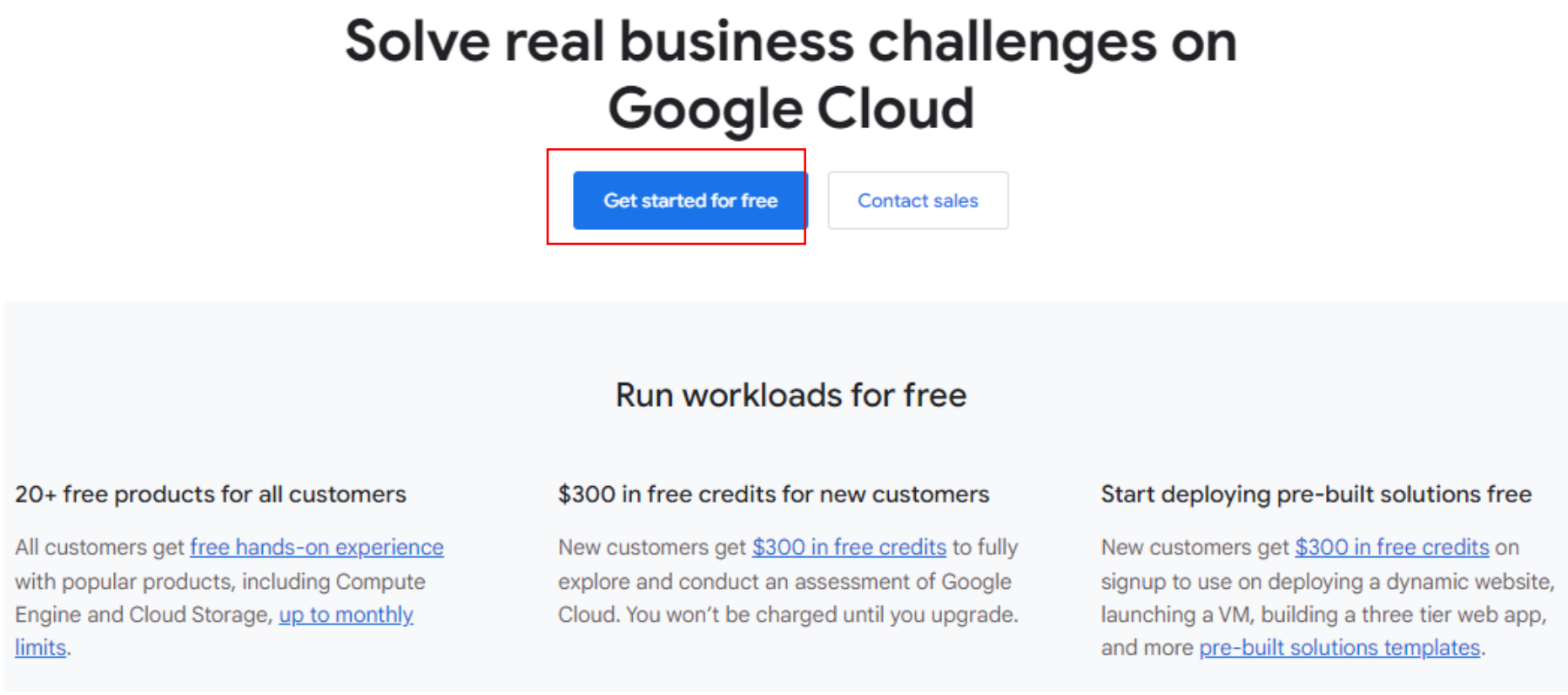
Writing the query in split tab and save the results (after running the query)



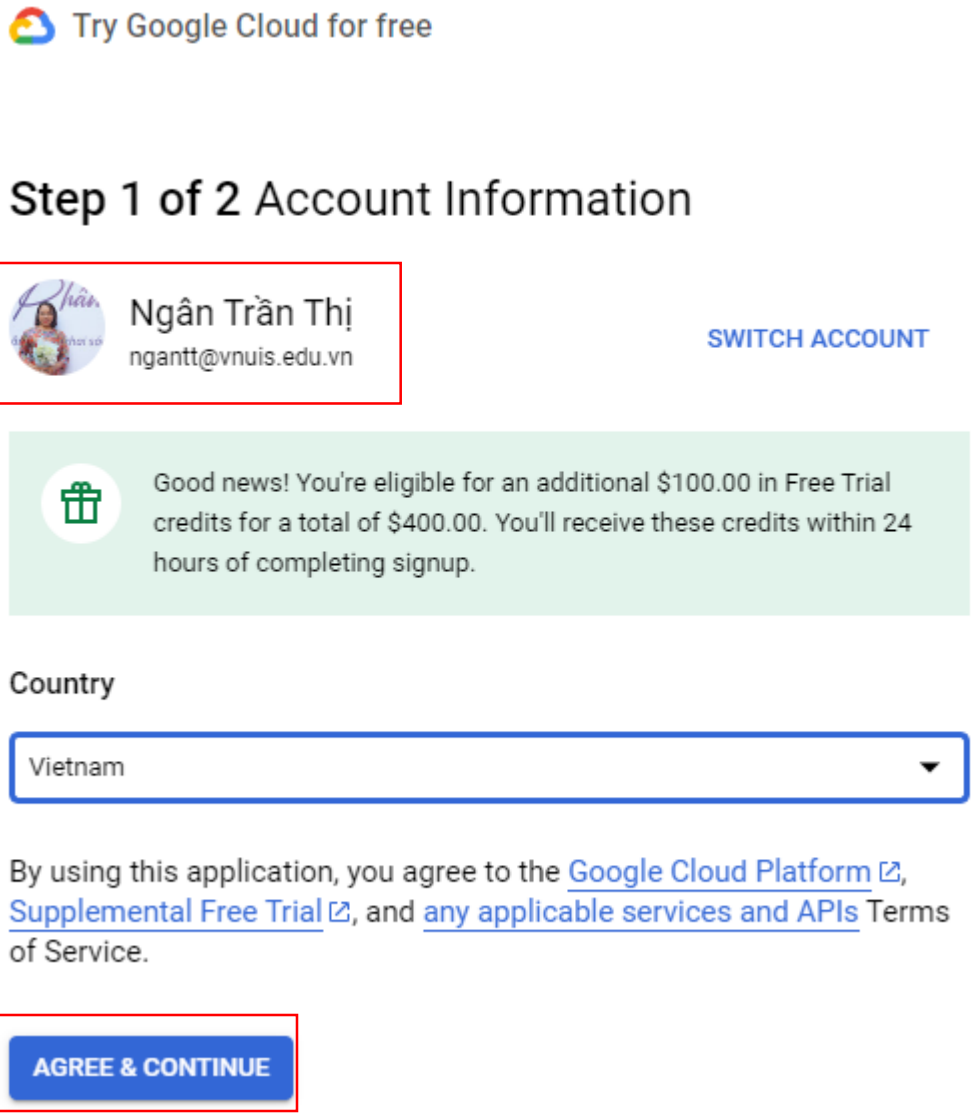
Create an account on GCP



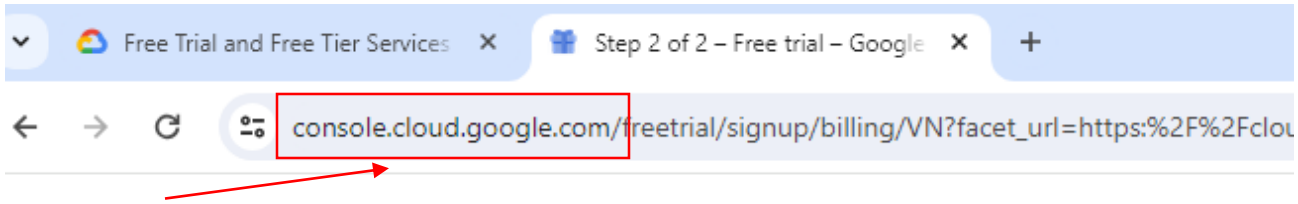
Create an account on GCP



Create an account on GCP



Create an account on GCP



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Step 2 of 2 Payment Information Verification

Your payment information helps us reduce fraud and abuse. **If using a credit or debit card, you won't be charged until you manually activate your full account.**

Account type

Business

Only Business accounts can have multiple users. You cannot change the account type after signing up. In some countries, this selection affects your tax options. If you choose Individual as your account type, you agree that use of your account is for your trade, business, craft, or profession. Learn more

Business name

Business name is a required field

Exercise 1

- Create a new project on BigQuery
- Create a dataset
- Import all tables in **Northwind** dataset to BigQuery (*https://github.com/neo4j-contrib/northwind-neo4j/tree/northwind/data*)
- Transform these tables and create fact tables and dimensional tables (stored in another dataset after transforming).

https://www.linkedin.com/pulse/oltp-operational-database-olap-transactional-data-singleton

Dimension tables

- Contains descriptive textual or categorical data that provides context to the fact table.
- Holds attributes support grouping, filtering, and categorizing the data in the fact table.
- Used to provide business context and details about specific aspects of data in the fact table.
- Typically have fewer records compared to the fact table.
- Enables querying and analyzing data from different perspectives, enhancing data insights.
- Used to define hierarchies that allow drilling down into data.
- Can contain redundant data due to data de-normalization, improving query performance.
- Typically not directly connected but linked to the fact table via foreign keys.

Fact, fact tables, factless fact tables

- **Fact** A business performance measurement, typically numeric and additive, that is stored in a fact table
- **Fact table** In a dimensional model, the central table with numeric performance measurements characterized by a composite key, each of whose elements is a foreign key drawn from a dimension table.
- **Factless fact table** A fact table that has no facts but captures the many-to-many relationships between the dimension keys. Most often used to represent events or coverage information that does not appear in other fact tables.


Questions?