# Congratulations! You passed!

**Grade received** 100% **To pass** 80% or higher

**1.**

1 / 1 point

## Activity overview

Recently, you've been thinking about identifying good data sources that would be useful for analysis. You also spent some time in a previous activity exploring a public dataset in BigQuery and writing some basic SQL queries. In addition to using public data on BigQuery, you will need to be able to import data from other sources. In this activity, you will create a custom table and dataset, which you'll load into a new table and query.

By the time you complete this activity, you will be able to load your own data into BigQuery for analysis. This will enable you to import your own data sources into BigQuery, which is a skill you will need in order to analyze data from different sources.

What you will need

To get started, download the baby names data zip file. This file contains about 7 MB of data about popular baby names from the US Social Security Administration website.

Click the link to the baby names data zip file to download it.

Link to baby names data: names.zip

## Create a custom table

Once you have the zip file downloaded, you can import it into BigQuery to query and analyze. In order to do that, you will need to create a new dataset and a custom table.

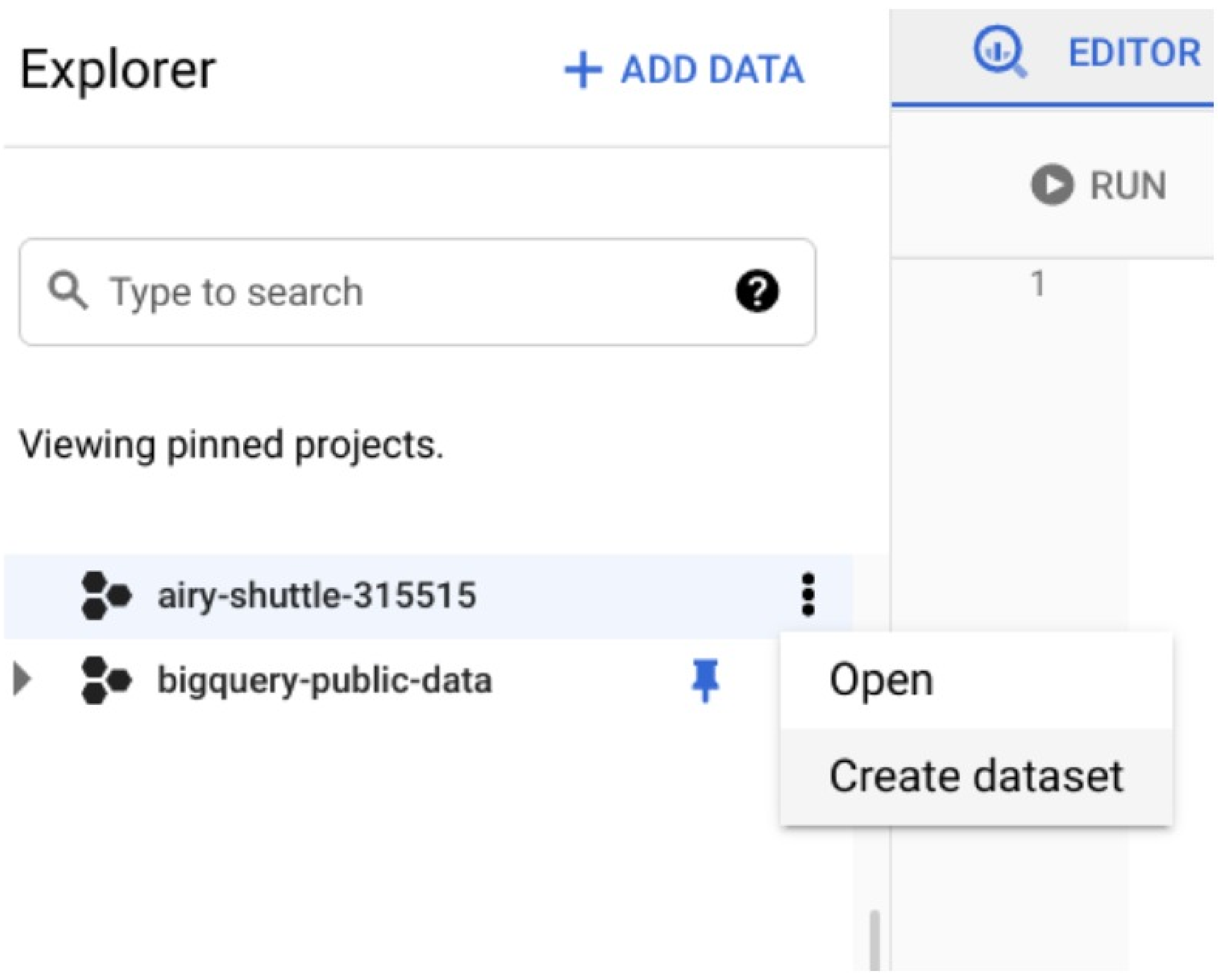
**Step 1: Unzip the file**

You will need to **unzip the file you downloaded** onto your computer in order to access it on BigQuery. Once you have unzipped the file, you will find a .pdf file titled NationalReadMe that contains more information about the dataset. This dataset tracks the popularity of baby names for each year; you can find text files labelled by the year they contain. **Open yob2014.txt** to preview the data. You will notice that it's a .csv file with three columns. **Remember where you saved this folder** so you can reference it later.

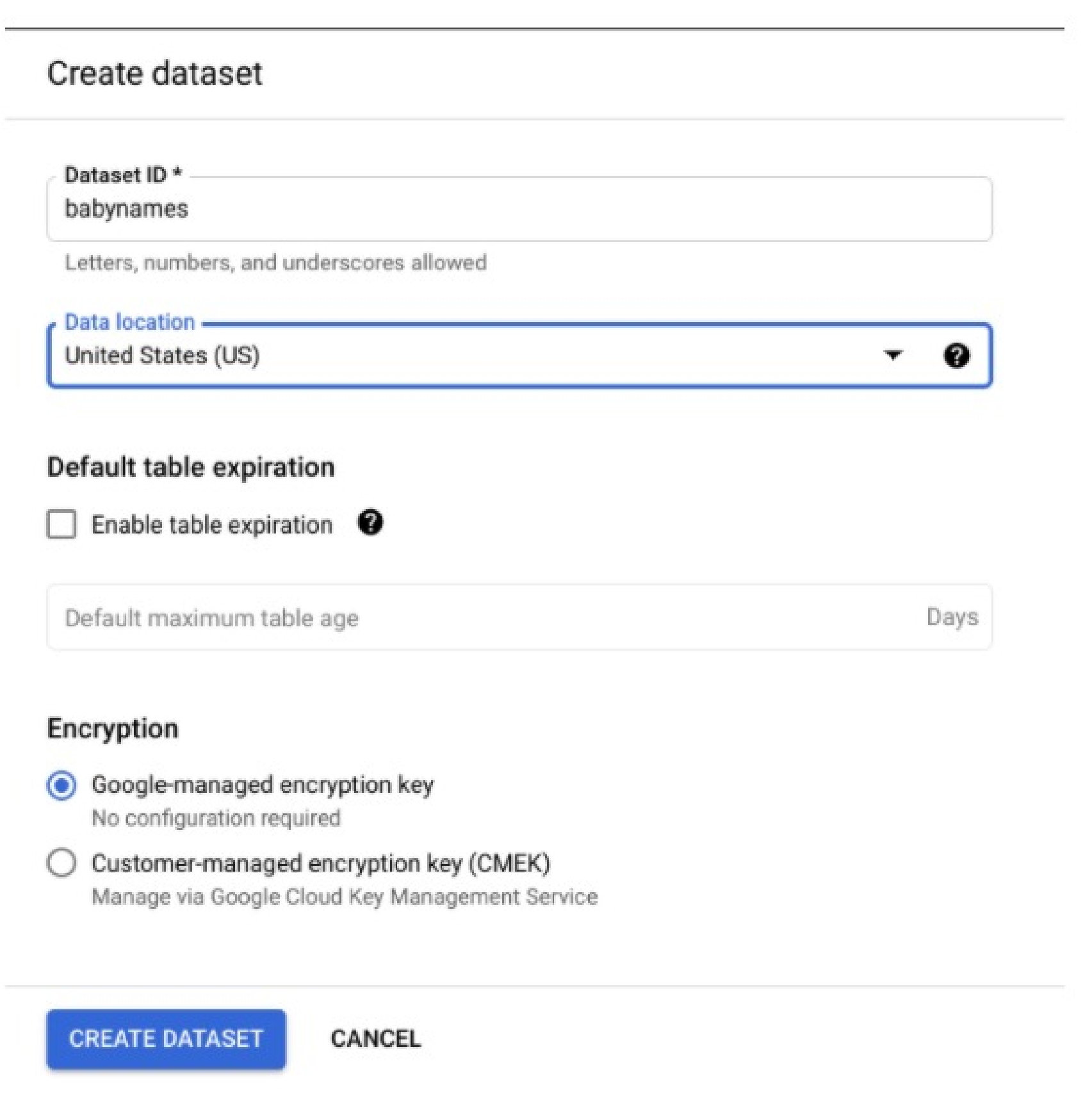
**Step 2: Create a dataset**

Before you can upload your txt file and create a table to query, you will need to create a dataset to upload your data into and store your tables.

1. Go to the **Explorer pane** in your workspace and **click the three dots next to your pinned project** to open a menu. From here, **select Create dataset.**



2. This will open the Create dataset menu on the right side of your console. This is where you will fill out some information about the dataset. You will **input the Dataset ID as *babynames*** and **set the Data location to United States (US).** Once you have finished filling out this information, you can **click the blue CREATE DATASET button** at the bottom of the menu.



Create dataset

Dataset ID *: babynames

Letters, numbers, and underscores allowed

Data location: United States (US)

Default table expiration

☐ Enable table expiration

Default maximum table age Days

Encryption

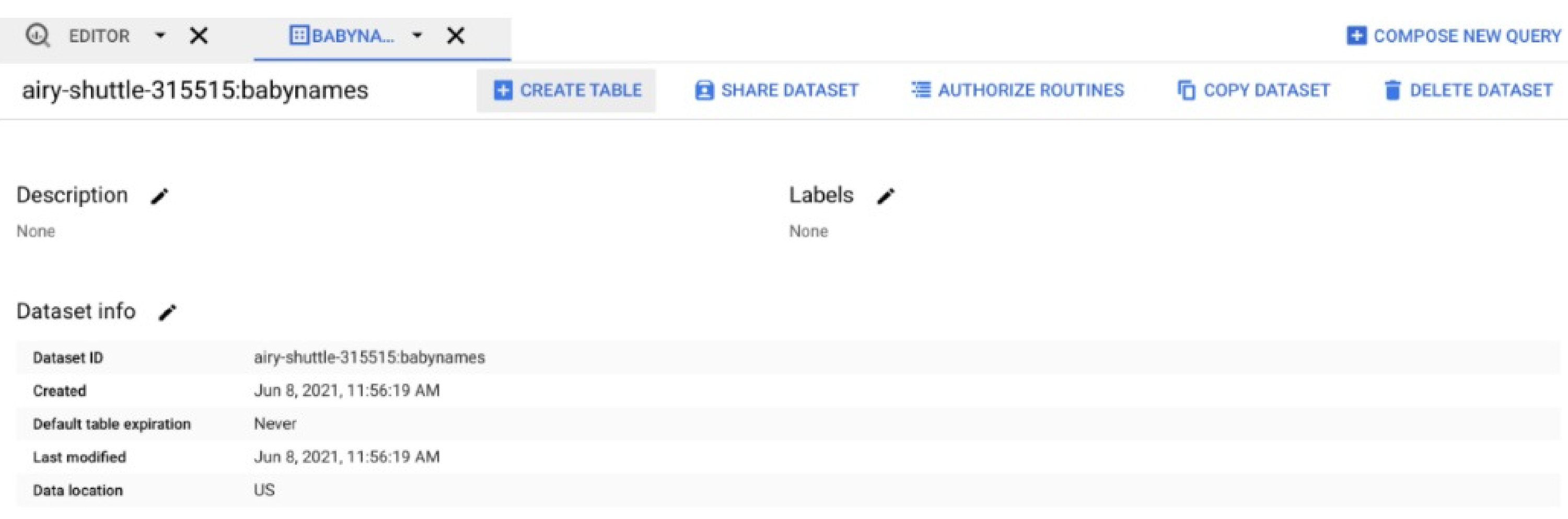
● Google-managed encryption key
No configuration required

○ Customer-managed encryption key (CMEK)
Manage via Google Cloud Key Management Service

**Step 3: Create table**

Now that you have a custom dataset stored in your project space, this is where you will add your table.

1. From the babynames dataset, **click the CREATE TABLE button**. This will open another menu on the right side of your console.



airy-shuttle-315515:babynames

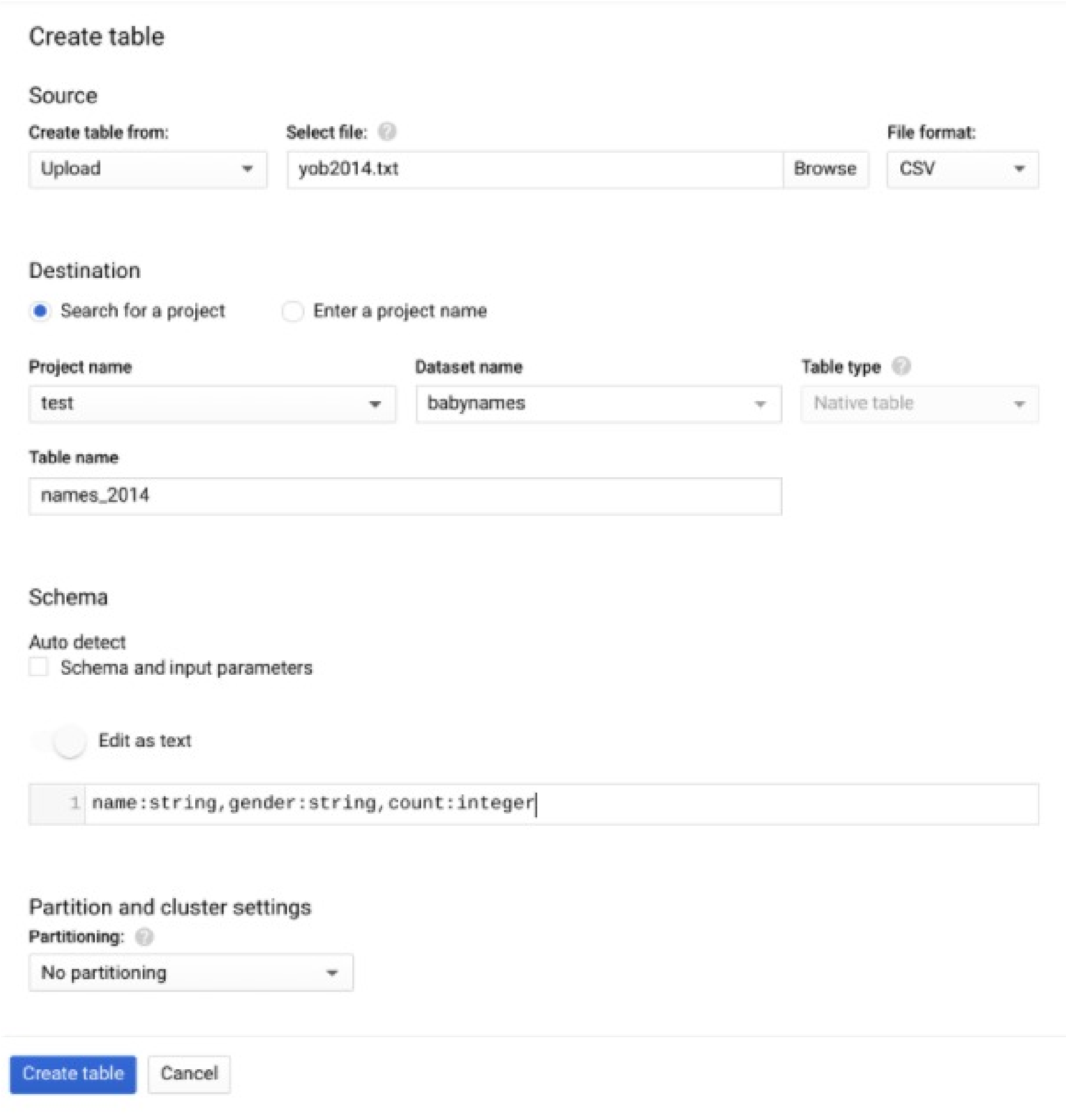
Description
None

Labels
None

Dataset info

| | |
|---|---|
| Dataset ID | airy-shuttle-315515:babynames |
| Created | Jun 8, 2021, 11:56:19 AM |
| Default table expiration | Never |
| Last modified | Jun 8, 2021, 11:56:19 AM |
| Data location | US |

2. In the Source section, you will **select the Upload option under Create table from**. Then you will **click the Browse button** to open your files. Find and **open the yob2014.txt file.** Set the file format to **.csv**. In the Destination section, name your table as **names_2014.** Under Schema, **select Edit as text** and input the following code: name:string,gender:string,count:integer. This will establish the data types of the three columns in the table. Leave the other parameters as they are, and select **Create table**.



Create table

Source

Create table from: Upload

Select file: yob2014.txt

File format: CSV

Destination

● Search for a project ○ Enter a project name

Project name: test

Dataset name: babynames

Table type: Native table

Table name: names_2014

Schema

Auto detect

☐ Schema and input parameters

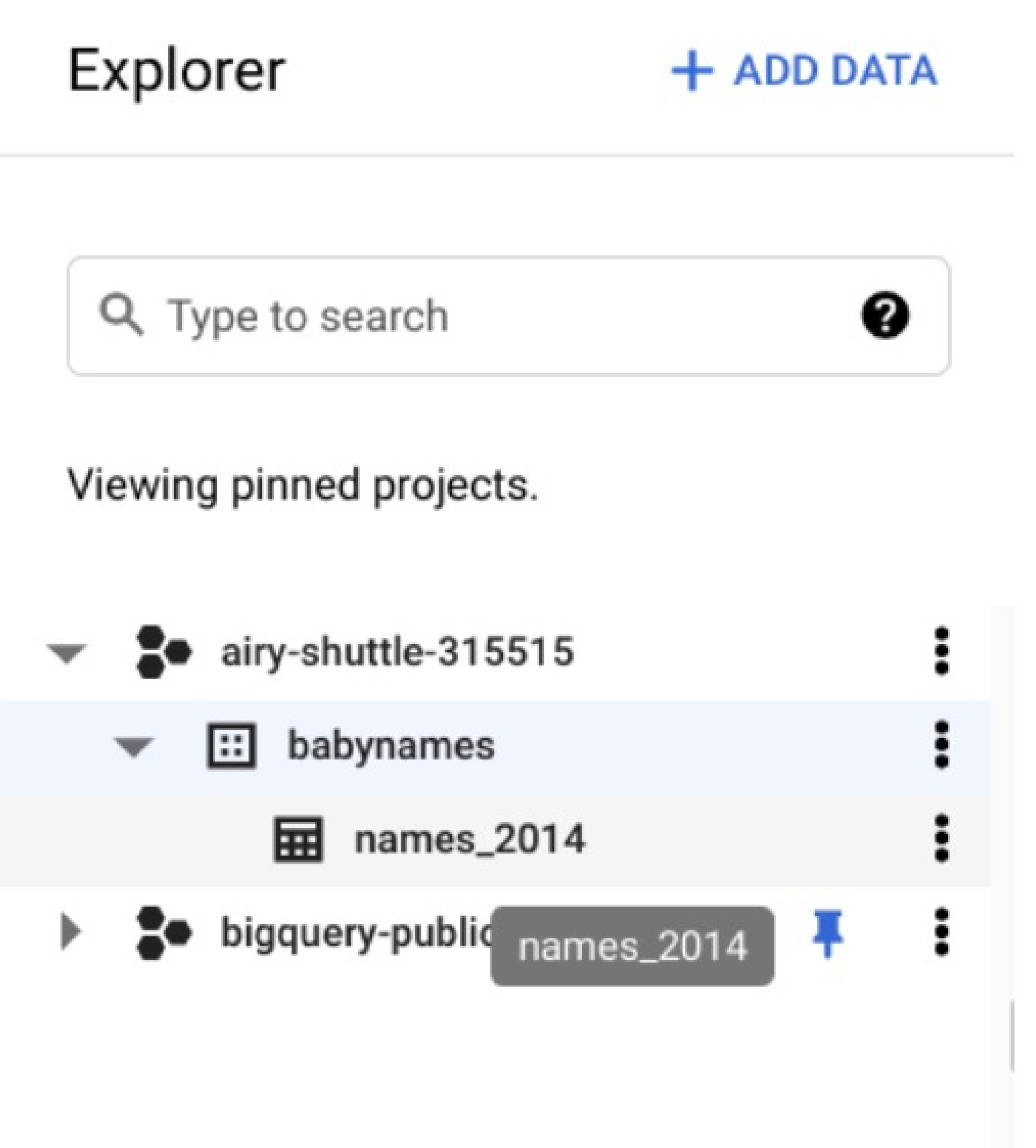
Edit as text

```
name:string,gender:string,count:integer
```

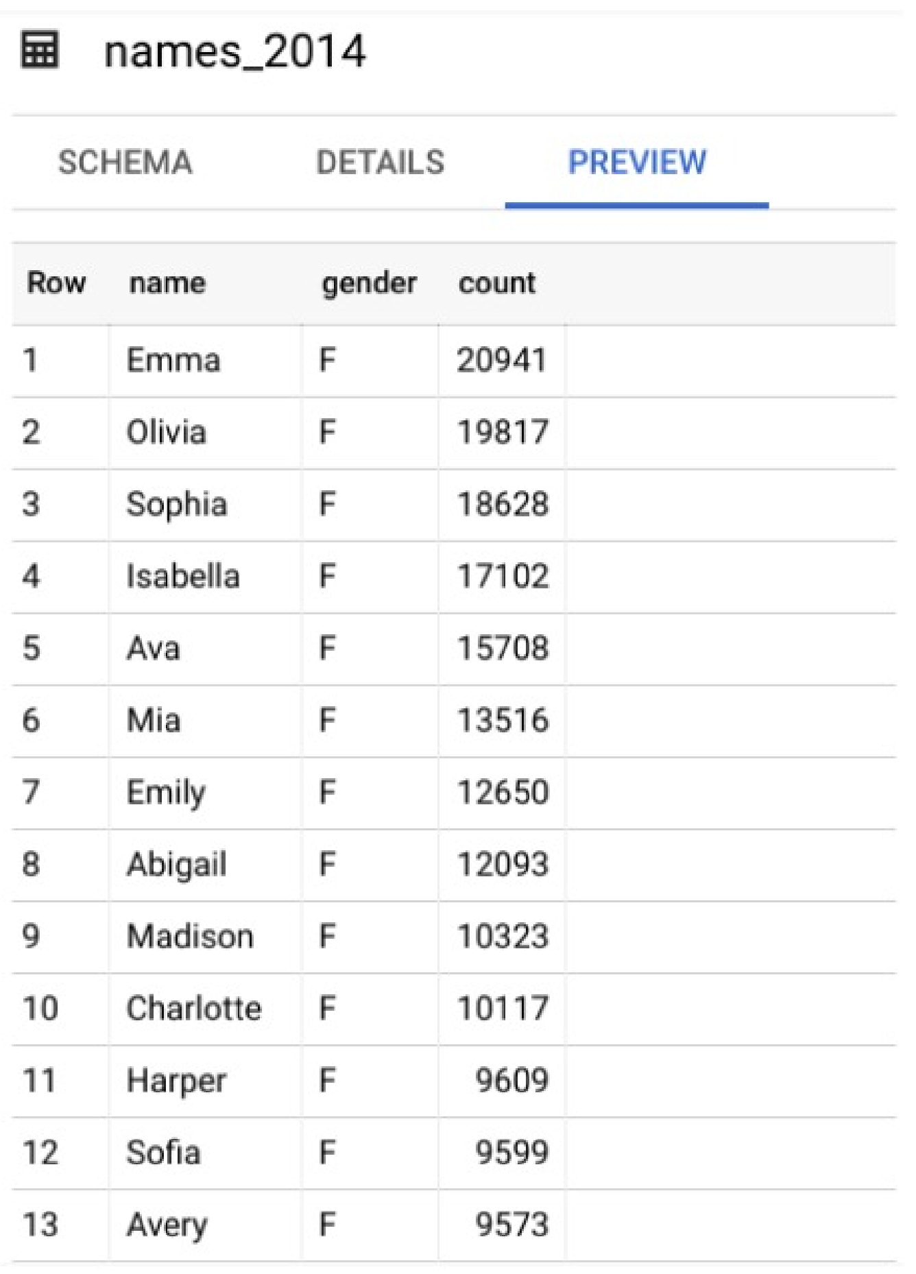
Partition and cluster settings

Partitioning: No partitioning

3. Once you have created your table, it will appear in your Explorer pane under the dataset you created earlier.



**Click on the table** to open it in your workspace. Here, you can check the table schema. Then, **go to the Preview tab** to explore your data. The table should have three columns: name, gender, and count.



| Row | name | gender | count |
|---|---|---|---|
| 1 | Emma | F | 20941 |
| 2 | Olivia | F | 19817 |
| 3 | Sophia | F | 18628 |
| 4 | Isabella | F | 17102 |
| 5 | Ava | F | 15708 |
| 6 | Mia | F | 13516 |
| 7 | Emily | F | 12650 |
| 8 | Abigail | F | 12093 |
| 9 | Madison | F | 10323 |
| 10 | Charlotte | F | 10117 |
| 11 | Harper | F | 9609 |
| 12 | Sofia | F | 9599 |
| 13 | Avery | F | 9573 |

## Query your custom table

Now that your table is set up, you're ready to start writing queries and answering questions about this data. For example, let's say you were interested in the top five baby names for boys in the United States in 2014.

Click **COMPOSE NEW QUERY** to start a new query for this table. Then copy and paste this code:

```
SELECT
  name,
  count
FROM
  `babynames.names_2014`
WHERE
  gender = 'M'
ORDER BY
  count DESC
LIMIT
  5
```

This query SELECTs the name and count columns from the names_2014 table. Using the WHERE clause, you are filtering for a specific gender for your results. Then, you're sorting how you want your results to appear with ORDER BY. Because you are ordering by the count in descending order, you will get names and the corresponding count from largest to smallest. And finally, LIMIT tells SQL to only return the top five most popular names and their counts.

Once you have input this in your console, select **RUN** to get your query results.

**Up for a challenge?**

If you are comfortable creating your own custom tables, try uploading more files from the baby names dataset into tables you can query. For example, you could upload each of the files from 2015 to 2019 to find the top baby names for those years.

## Confirmation and reflection

After running the query on your new table, what was the third most popular baby name for boys in 2014?

○ William

● Mason

○ Jacob

○ Noah

**Correct**

To find that Mason was the third most popular baby name for boys in 2014, you queried your custom table and checked the results. Going forward, you'll be able to upload your own data sources into BigQuery for future analysis projects. This will allow you to practice writing SQL queries for more data sources, which will be a key skill as a data analyst.

**2.** In this activity, you explored public data in BigQuery and used it to create a custom table. In the text box below, write 2-3 sentences (40-60 words) in response to each of the following questions:

1 / 1 point

- Why is being able to use data from different sources useful as a data analyst?
- How can you use BigQuery custom tables and datasets in your future analysis projects?

> Why is being able to use data from different sources useful as a data analyst?
> Being able to use data from different sources is useful as a data analyst because it allows you to get a more complete picture of the data. By combining data from different sources, you can identify trends and patterns that would be difficult to see if you only looked at data from one source.
>
> How can you use BigQuery custom tables and datasets in your future analysis projects?
> I can use BigQuery custom tables and datasets in my future analysis projects by creating tables that contain data that is specific to the project. I can also use datasets to organize data from different sources into a single, manageable format. This will allow me to perform more complex analysis and get more insights from the data.

**Correct**

Congratulations! In this activity, you created a new dataset within your project, uploaded a .csv file to create a new table, and ran a SQL query. A good response would include that being able to evaluate and use different data sources allows you access more data.

As a data analyst, being able to evaluate data sources and use the appropriate tool to analyze them is important. For instance, you were able to use SQL to analyze a dataset that was previously stored on your computer as a .csv file.