



Activity Overview

In this activity, you will use your knowledge of SQL and potentially Google Dataflow to combine and move the key datasets you identified for the Google Fiber project into a target table. This represents the extraction phase of an ETL pipeline, when data is pulled from different sources and moved to its destination. You will use the table you create in this activity to develop the final dashboard for stakeholders. As you complete this activity, remember to refer to the previous work you did when [completing the business intelligence project documents for Google Fiber](#), as well as the activity to [create a target table in BigQuery](#) for a refresher on target tables.

Be sure to complete this activity before moving on. The next course item will provide you with a completed exemplar to compare to your own work. You will not be able to access the exemplar until you have completed this activity.

Scenario

Review the following scenario. Then, complete the activity. As a reminder, the end-of-course project activities are more open to your personal interpretation than other activities in this program. This is to give you an opportunity to practice the skills you have been learning in your own way. If you need help or feel stuck, you can always discuss your work with other learners in the discussion forums or review the exemplar to help guide your process.

The Google Fiber customer service team's goal is to understand how often customers are calling customer support after their first inquiry; this will help leadership understand how effectively the team is able to answer customer questions the first time. The dashboard you create should demonstrate an understanding of this goal and provide your stakeholders with insights about repeat caller volumes in different markets and the types of problems they represent. As part of the interview process, they have asked you to create a dashboard that will:

Help them understand how often customers are calling customer support after their first inquiry; this will help leadership understand how effectively the team is able to answer customer questions the first time

Provide insights into the types of customer issues that seem to generate more repeat calls

Explore repeat caller trends in the three different market cities

Design charts so that stakeholders can view trends by week, month, quarter, and year.

You met with stakeholders to complete project planning documents and uploaded the necessary tables into your BigQuery project space.

Instructions

Follow the instructions and answer the following question to complete the activity. Then, go to the next course item to compare your work to a completed exemplar.

Step 1: Log into your GCP tool

To begin this activity, log into your Google Cloud account and navigate to [the BigQuery console](#). You can complete this activity using the BigQuery Sandbox, which does not require a Google Cloud billing account. Learn more about enabling the Sandbox from [the BigQuery help guide](#). You can also use Dataflow to execute SQL code as a Job by navigating to [the Dataflow console](#) instead; this will require you to have a Google Cloud account. Both tools are useful for this project, so choose the tool you are more interested in working with for this project.

Step 2: Querying your data

For this step, keep in mind the key metrics you and your stakeholders have identified, their business questions, and what data you will need to develop the final dashboard. Previously, you explored the different datasets your stakeholders provided and uploaded them to use in your chosen tool. For the final dashboard, you will need to create a unified target table. Because the tables are already cleaned and the columns match, you could use a UNION ALL statement:

```
1  SELECT*
2  FROM `your project table location for market_1`
3  UNION ALL
4  SELECT*
5  FROM `your project table location for market_2`
```

You will need to develop a second UNION ALL statement to include the third table.

Step 3: Finish the job

Once you execute the code, it will take a few moments to process. After the query has finished running, you will be able to download the tables as CSV files by using the Save Results dropdown and selecting the appropriate file type.

SAVE RESULTS

EXPLORE DATA

	contact	new_market
0		market_3
0		market_3
0		market_3
0		market_3
0		market_3
0		market_3
0		market_3
0		market_3
0		market_3
1		market_3
0		market_3
0	type_1	market_3
0	type_1	market_3
0	type_1	market_3
1	type_1	market_3

CSV (Google Drive)

Save up to 1GB as CSV to Google Drive.

CSV (local file)

Save up to 10MB as CSV locally.

JSON (local file)

Save up to 10MB as JSON locally.

JSONL (newline delimited)

Save up to 1GB as newline delimited JSON to Google Drive.

BigQuery table

Save results as a BigQuery table.

Google Sheets

Save up to 10MB to Google Sheets.

Copy to Clipboard

Copy up to 1MB to the clipboard.

This might take a few minutes. Once you have downloaded the table, you will be ready to upload it to Tableau to create your dashboard!

What to Include in Your Response

Be sure to address the following criteria:

- Necessary tables are successfully combined into a summary table
- Appropriate tables are downloaded and ready to upload to Tableau