**Loading Data into Cloud SQL**

**Overview**

In this lab, you import data from CSV text files into Cloud SQL and then carry out some basic data analysis using simple queries.

The dataset used in this lab comes from the [US Bureau of Transport Statistics](https://www.bts.gov/) and contains historical information about internal flights in the United States. This dataset can be used to demonstrate a wide range of data science concepts and techniques.

Objectives

* Create Cloud SQL instance
* Create a Cloud SQL database
* Import text data into Cloud SQL
* Build an initial data model using queries

Relational databases are suited to smallish datasets on which you perform ad hoc queries that return a small a subset of the data. For larger datasets, you tune the performance of a relational database by indexing the columns of interest. Further, because relational databases typically support transactions and guarantee strong consistency, they are an excellent choice for data that will be updated often.

However, a relational database is a poor choice if:

* Your data is primarily read-only
* If your dataset sizes go into the terabyte range
* You have a need to scan the full table (such as to compute the maximum value of a column) or if your data streams in at high rates.

This describes the flight delay use case. For this case you would switch from a relational database to an analytics data warehouse – BigQuery. The analytics data warehouse will allow us to use SQL and is much more capable of dealing with large datasets and ad hoc queries (i.e. doesn’t need the columns to be indexed).