**W11 Scenario:**

*Karl is considering expanding his lunch & bowl cafe area into your server room and getting rid of the hardware on premises. He wants you to test and prove the "Database as a service" concept in the cloud.*

**W11 Scenario Submission Guidelines:**

Be sure you submit all elements labeled by the bolded word, **SHOW**.

In this scenario, you will be testing one of the more affordable "Database as a service" options. You will choose **either MySQL OR PostgreSQL**. If you struggle with the one you choose, you are free to switch and test the other option.

1. After choosing **either MySQL OR PostgreSQL,** provision your chosen “Cloud SQL” database (NOT a VM) in **YOUR** personal GCP project (not the class project).
    a. This is done under the "SQL" section of GCP as you did in this week's stepping stone assignments. This is not done under "Compute Engine."
    b. **DO NOT ACCEPT THE DEFAULTS** (They can amount to $2,000+/month). Be sure to expand configuration options under customize and change the drop down list for machine type from "high memory" to "shared core" (1 vCPU and 1.7 GB of RAM or less) and select Single Zone under Zonal Availability!! You should also switch to the lowest sized HDD drive (not 100 GB SDD drive). You are encouraged to look at the other options and become familiar with them as well. These can also be addressed by choosing “development” as your *default configuration path* instead of “production.” Reduce what you see fit. Everything amounts to a charge according to this calculator (scroll over in the banner to Cloud SQL). **Remember** to contact your instructor if you run out of budget, but do **NOT** enter a credit card.
2. Prepare the needed network configurations to make a connection to your new database.
    a. You will need to determine the port used by the database you choose and create a firewall rule in GCP for the proper port (the port will not be the same as before).
    b. For your remote connection, you will also need to click on "Connections" on the left pane of your Cloud SQL database properties and add 0.0.0.0/0 as an authorized network as explained here for MySQL and here for Postgres.

    **SHOW 1:** Your new database in GCP and describe the options you selected when you created it. Also display the firewall and network authorizations you added in step 2.

3. Now you will need to establish a remote connection to your new database and load the bowling table structures and data.
    a. Download the appropriate client tool to connect to the database you created. (NOTE: If you already have the client installed, that should work.)
        i. If you selected MySQL, you will use MySQL Workbench here.

   ii. If you selected PostGresSQL you will download pgadmin.
b. Establish a connection using the IP address and port of your GCP database.
c. Select and run the appropriate scripts for the bowling database below:
   i. MySQL Create Bowling Tables Script
   ii. MySQL Load Bowling Data Script

   -OR-

   iii. PostGreSQL Create Bowling Tables Script
   iv. PostGreSQL Load Bowling Data Script

**SHOW 2:** That you were able to connect remotely from a client tool, run the two scripts, and query bowling data in your new database.

**NOTE:** When you have completed this scenario, go ahead and stop your SQL instance to help save credits.