**Exercise 1: Relational Database**

Create a relational database container and create and access the case study database.

Open the Cloud Platform Console at [https://console.cloud.google.com](https://console.cloud.google.com/). Go to Compute Engine and VM Instances. Start the VM if it isn’t running, and connect using SSH.

git clone https://github.com/simplilearn-devops/devops-capstone

Change to the lab directory.  
cd  
cd devops-capstone/lab-1

Create a Docker data volume to hold the database.

docker volume create --name monitoring\_data

Confirm that the data volume has been created.

docker volume ls

chmod u+x runserver\_first

Examine the script that will run and create the case study database structure.

cat runserver\_first

Now, change the port from 3xxx to 8080. Follow the below steps:

nano ./runserver\_first

Change the EXTERNAL\_PORT AND INTERNAL\_PORT to 8080.

Type ctrl+x to exit and select Yes ( Y ) .

Run ./runserver\_first

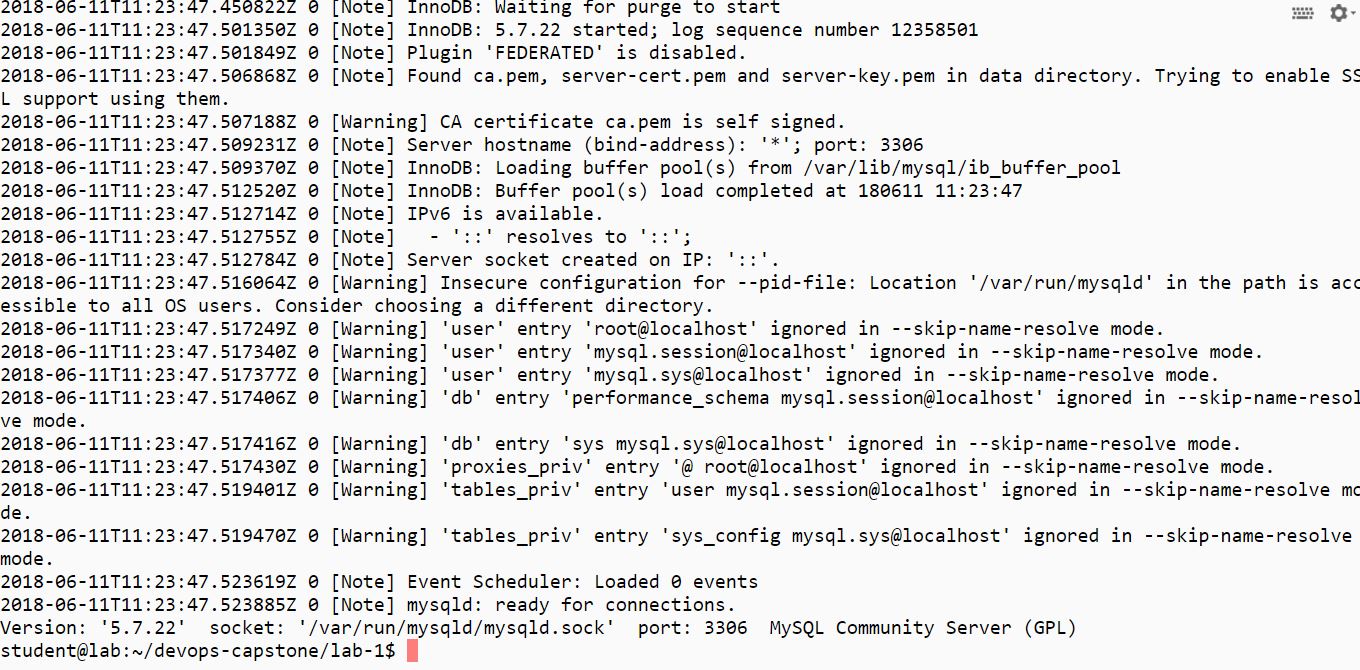
You should be able to see that connection is up and running at the specific port number.

Run the script to create a container with MySQL running, and create the database.

docker run --name=mysql mysql

You will need to monitor the logs to see when MySQL has completed creating the student database and is waiting for connections. This may take several minutes to complete.  
docker logs mysql

When you see the following in the logs, you may continue. Run the command until you see.



Find the IP address of the server.  
docker inspect mysql

To run the client and log the data to the database. Follow the steps:

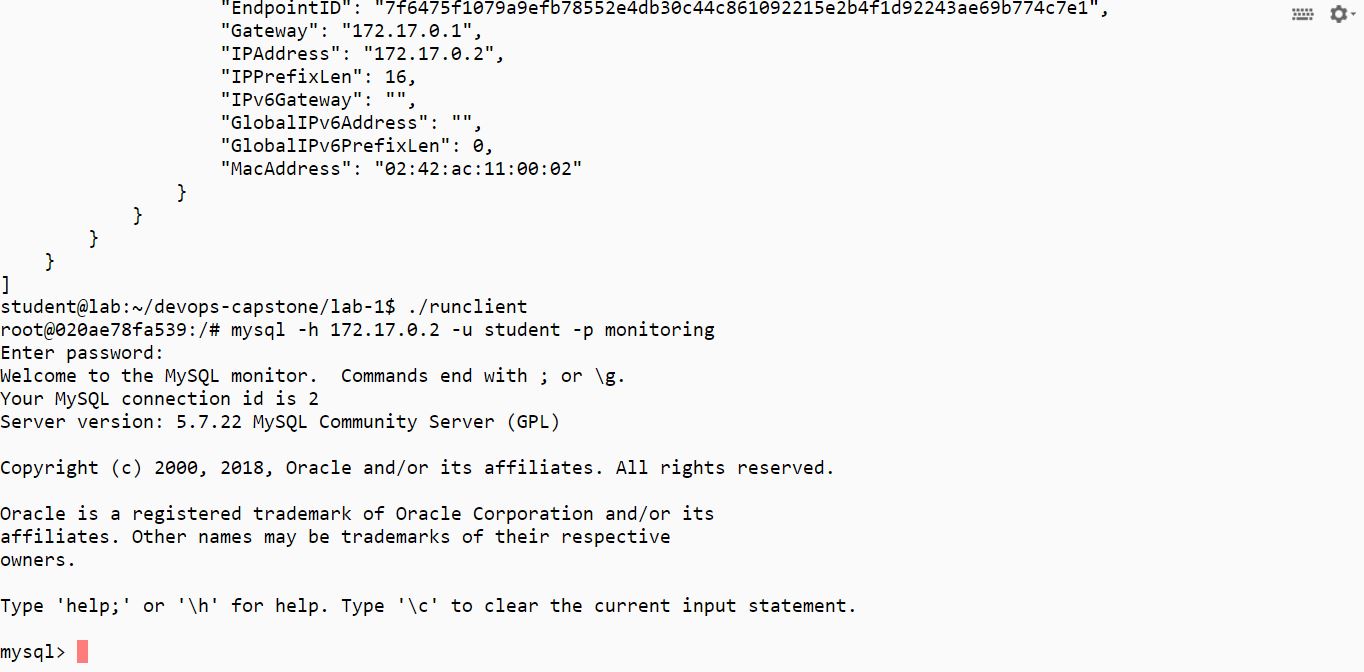
Run *Chmod 777 runclient*

Your will be working as at **root** level. You will be placed inside the client container running the Bash command shell. You can now type commands to use the database. You may need to change the IP address to that of the server.

Type *mysql –h 172.17.0.2 –u student –p monitoring*

Password is *student*

When you connect, you will see the MySQL client prompt mysql> as shown below:



At the prompt, read in the definition for the employee information.  
mysql> source /data/docker.sql;

Examine the database tables in the database by selecting the first 10 rows from each.

mysql> show tables;

Get the content of the Docker table.

Examine the database tables in the database by selecting the first 10 rows from each.

mysql> show tables;

Get the content of the Docker table.

mysql> select \* from docker;

Exit from the MySQL client.  
mysql> quit;

Exit from the client container.  
exit

