HHA 504 Database Design| End to End Assignment

**Objective**: Word document that contains the IP addresses (as well as appropriate usernames/passwords if you decide to create something different then what I have recommended) of your master and slave instances so I can confirm each of the steps has been completed.

# Step 1: Setup and deploy EC2

Launch Azure Virtual Machine:

* Use Ubuntu Gen1
* Create username and password
* Inbound rule for MySQL by adding port 3306 under networking
* Review configs and Create the Virtual Machine

# Step 2: Connect to Virtual Machine via Terminal

* Open Windows Terminal and connect to VM
  + Terminal Command: ssh e2e@ 20.127.54.159
    - Username and password
  + IP address on the Azure overview page for the instance.
  + Password: **Appliedhealth2021!**
  + **Yes**
* **Update UBUNTU server**
  + **Terminal Command: sudo apt-get update**

# Step 3: Installing MySQL to terminal

* + **Terminal Command: sudo apt-get mysql-client mysql-server**
  + **Yes**
  + **Enter to mysql server via terminal command**
    - **Terminal Command: sudo mysql**
  + Show any available databases
    - Terminal Commmand: sudo mysql
    - MySQL Command Via Terminal: SHOW DATABASES;

# Step 4: Create a MySQL User and Granting permissions

* Creating a new user via Terminal
  + Terminal Command: CREATE USER 'DBA' IDENTIFIED BY 'ahi2021';
* Confirm USER via Terminal
  + Terminal Command: SELECT USER FROM mysql.user;
* Grant permissions via terminal for user
  + Terminal Command: GRANT ALL PRIVILEGES ON \*.\* TO 'DBA'@'%' WITH GRANT OPTION;
* Confirm granted permissions via terminal
  + Terminal Command: SHOW GRANTS FOR DBA;
* Confirm user via terminal
  + Terminal Command: mysql -u DBA -p \*\*\*\*\*

# Step 5: Create a new database

* Create a database via terminal
  + Terminal Command: CREATE DATABASE e2e;
* Confirm database via terminal
  + Terminal Command: SHOW DATABASES;

# Step 6: Python that connects to your SQL instance

Open Google Colab or preferred python IDE

* Import necessary packages using the import command
* Install any packages using the !pip install command
* Update SQL configs to ensure python code works.
  + Terminal Command: sudo nano /etc/mysql/mysql.conf.d/mysqld.cnf
* Update blind-address to 0.0.0.0 Ctrl + O to save changes and Ctrl + X to exit config menu
* Restart mysql
  + Terminal Command: /etc/init.d/mysql restart

# **Step 7: Create a dump (.sql) file**

* Create dump via terminal
  + Terminal Command: sudo mysqldump e2e > backup\_e2e.sql
  + Terminal Command: ls – to confirm

# Step 8: Using the SCP command from your terminal, move that file to your own local computer:

Launch AZURE to create a replica instance

IP Address for replica: 13.82.195.157

In current terminal (Primary e2e) use scp terminal command

* Terminal Command: scp backup\_e2e.sql [replica@52.179.23.94:/home/replica](mailto:replica@52.179.23.94:/home/replica)

# Step 9: Create a trigger

* Refer to the sql file HHA\_504\_Trigger\_final.sql

# IP Address| Username & Password

IP Address: 20.127.54.159 on Microsoft Azure

Username: e2e(as is)

**Password ‘Appliedhealth2021!’**

**Database: ‘e2e’**

**Table: ‘H1N1’**