

# CS 2316 – Lab 2 – Create MySQL Database in Azure

## Lab 2 –Create MySQL Database in Azure- 50 Points

Due: Wednesday, March 16<sup>th</sup>, Before 11:55pm

Files to submit:

happyHalloween.py

Contents:

Part 1 –Create a MySQL Database in Azure Portal

Part 2 – Download MySQL WorkBench

Part 3 – Connect to MySQL Database

Part 4 – Add Data and See Table in MySQL Workbench

For Help:

- PIAZZA – TAG Lab2 Keren Rempe if it is Azure specific
- TA Helpdesk – schedule is posted on class website

Notes:

- 1. Do not wait until the last minute to do this assignment** in case you run into problems or the TA helpdesk is closed.
2. If you find a significant error in the assignment, let a TA know immediately!



Introduction:

The goal of this Lab is to create a MySQL Database in Azure. Then run the happyHalloween.py module to create a table named boo within the database. You will have to modify the happyHalloween.py file to include your correct username, password, hostname, and database name before it will work.

## Part 1 -- Create a MySQL Database in Azure

**You are responsible to save your credentials and all subsequent credentials.**

1. Log in to Azure Portal

<https://portal.azure.com>

Once logged in you will see the dashboard. Below will be a step by step guide of how to create your MySQL Database that you will need for lecture and HW9.

- Go to + New
- Data + Storage
- MySQL Database (at the very bottom of the list)
- The Database Name should be happyhalloween
- Subscription should be "Azure Pass" and/or "Free Trial"
- Create a new Resource Group named CS2316HW9
- Location East US
- Pricing Tier should be Mercury which is FREE YAY! - Basically, you are signing up for the tiny little free database.....
- Accept the Legal Terms

- Pin it to your dashboard
- Click Create

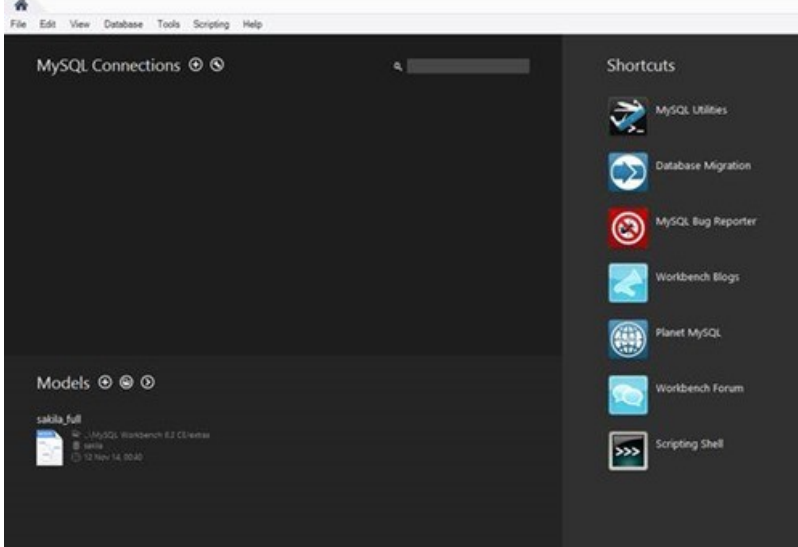
It takes some time to create the database. Work on Part 2 while it is deploying.

## Part 2 — Download MySQL WorkBench

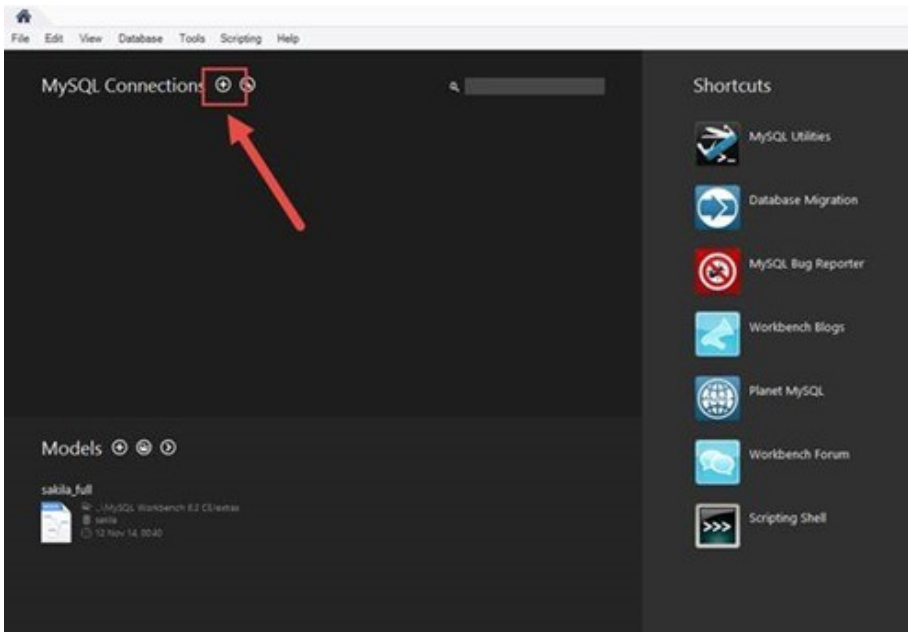
Go to this link. Download MySQL Workbench for your operating system.

<http://dev.mysql.com/downloads/workbench/>

Stupendous! You're running MySQL Workbench and it looks like the image below.

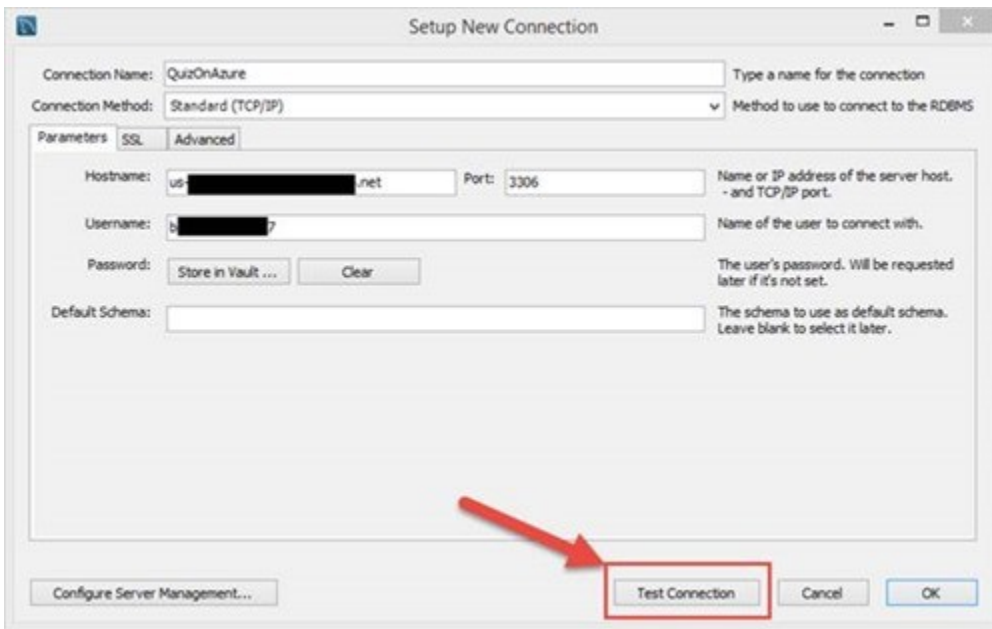
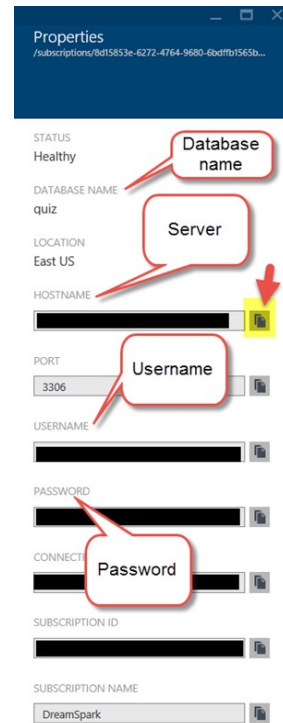


Click the + to add a connection to the MySQL database created in Part 1.

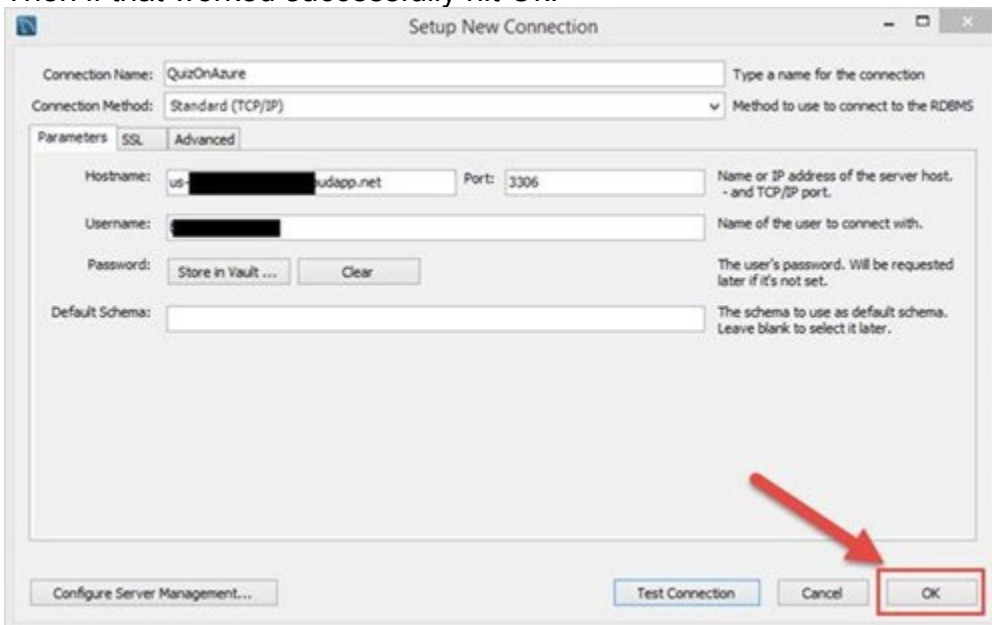


From Azure Properties of your MySQL Database happyhalloween get the following items:

- Connection Name: happyhalloween
- Hostname copy and paste it from Azure
- Port copy and paste it from Azure
- Username copy and paste it from Azure
- Then **Test the Connection**



Then if that worked successfully hit Ok.



We will come back to MySQL Workbench after we create the table in Python.

## Part 3 — Connect to your MySQL Database

Magical! We created a MySQL Database.

The screenshot displays the Azure portal interface for a MySQL database. The left sidebar shows the navigation menu with categories like 'New', 'Resource groups', 'All resources', 'Recent', 'App Services', 'Virtual machines (classic)', 'Virtual machines', 'SQL databases', 'Cloud services (classic)', and 'Subscriptions'. The main content area is titled 'happyhalloween' and 'MYSQL DATABASE'. It features an 'Essentials' section with a table of key properties:

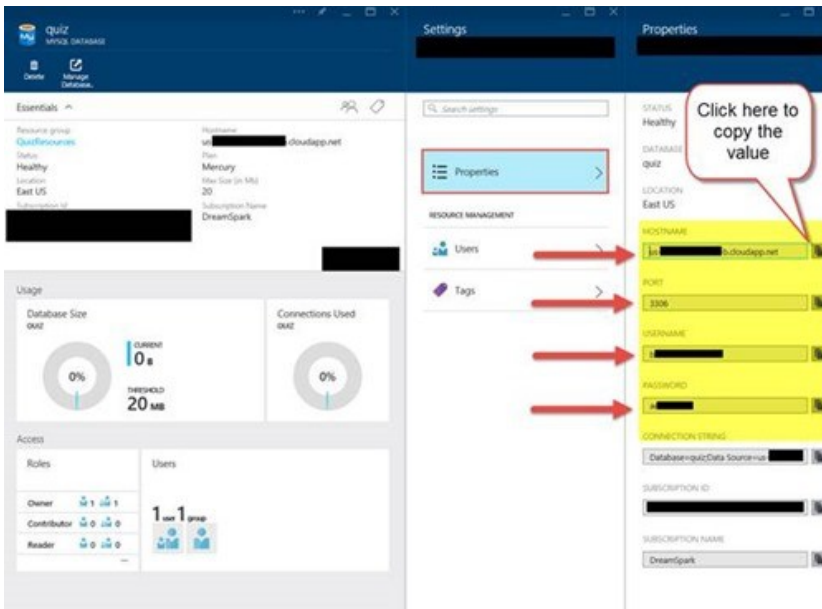
Property	Value
Resource group	CS2316HW9
Hostname	us-cdbr-azure-east-a.cloudapp.net
Status	Healthy
Plan	Free
Location	East US
Max Size (in Mb)	20
Subscription Id	b35278bc-ee13-47ae-ad09-df57d720ba07

Below the Essentials section, there are two usage tiles: 'Database Size' showing 0% current usage against a 20.97 MB threshold, and 'Connections Used' showing 0% current usage. An 'Access' section displays a table of roles and their counts:

Role	Count
Owner	0
Contributor	0
Reader	0

The 'Users' section shows 0 users and 1 group. A right-hand 'Settings' pane is open, showing a search bar and sections for 'SUPPORT & TROUBLESHOOTING' (Audit logs), 'GENERAL' (Properties), and 'RESOURCE MANAGEMENT' (Users, Tags).

Check out the amount of memory we can store on there 20.97 MB. Not too much. We can also have up to 4 connections at one time to the database. Go to Properties in the right column.



The Hostname, Port, Username, Password, and connection string will be needed to connect to the database in both your happyHalloween.py script and Part 3 to connect through MySQL Workbench.

## Part 4— Install Module PyMySQL and run happyHalloween.py

This should have been completed in recitation or office hours but here are the instructions from the DMSI Course Notes to install PyMySQL.

[https://www.summet.com/dmsi/html/installing\\_modules.html](https://www.summet.com/dmsi/html/installing_modules.html)

After it is installed be sure to restart Python and import pymysql in the shell to see if it installed successfully.

Once you have checked that you have the pymysql module, run the happyHalloween.py script. This script is creating a table named BOO in a MySQL database. The table has the following columns:

Spooky\_Costumes: TEXT type (Holds the name of the costume as text)  
 ID: INTEGER type, auto-increment, primary key  
 Price: NUMERIC (the price of the costume item stored like a float)  
 Sales\_Rating: INTEGER type (Holds the rating to which the costume belongs)  
 Category: TEXT type (Holds the category to which the costume belongs)

This is the SQL statement to create the table:

```
CREATE TABLE BOO(
  Spooky_Costumes VARCHAR(30) NOT NULL,
  ID INT NOT NULL AUTO_INCREMENT,
  Price DECIMAL(5,2),
  Sales_Rating INT,
  Category VARCHAR(30));
```

These are the SQL statements to insert the data into the table:

```
INSERT INTO BOO VALUES ("Bob the Builder", 735, 34.99, 5, "TV Show")
INSERT INTO BOO (Spooky_Costumes, ID) VALUES ("Psycho Dorothy", 866)
```

INSERT INTO BOO (Spooky\_Costumes,ID, Price, Sales\_Rating, Category) VALUES ("Borat", 423, 13.23, 5, "Movie")

<b>BOO</b>				
<b>Spooky_Costumes</b>	<b>ID</b>	<b>Price</b>	<b>Sales_Rating</b>	<b>Category</b>
Bob the Builder	735	34.99	5	TV Show
Psycho Dorothy	866			
Borat	423	13.23	5	Movie

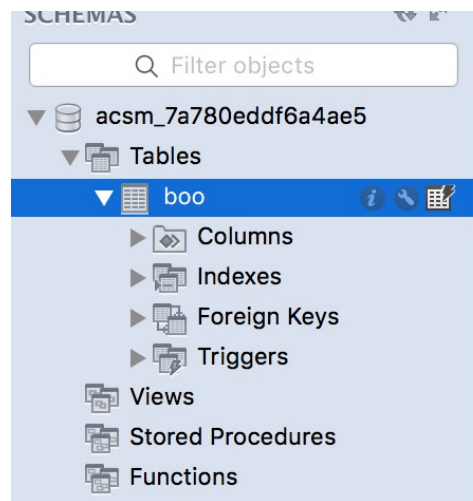
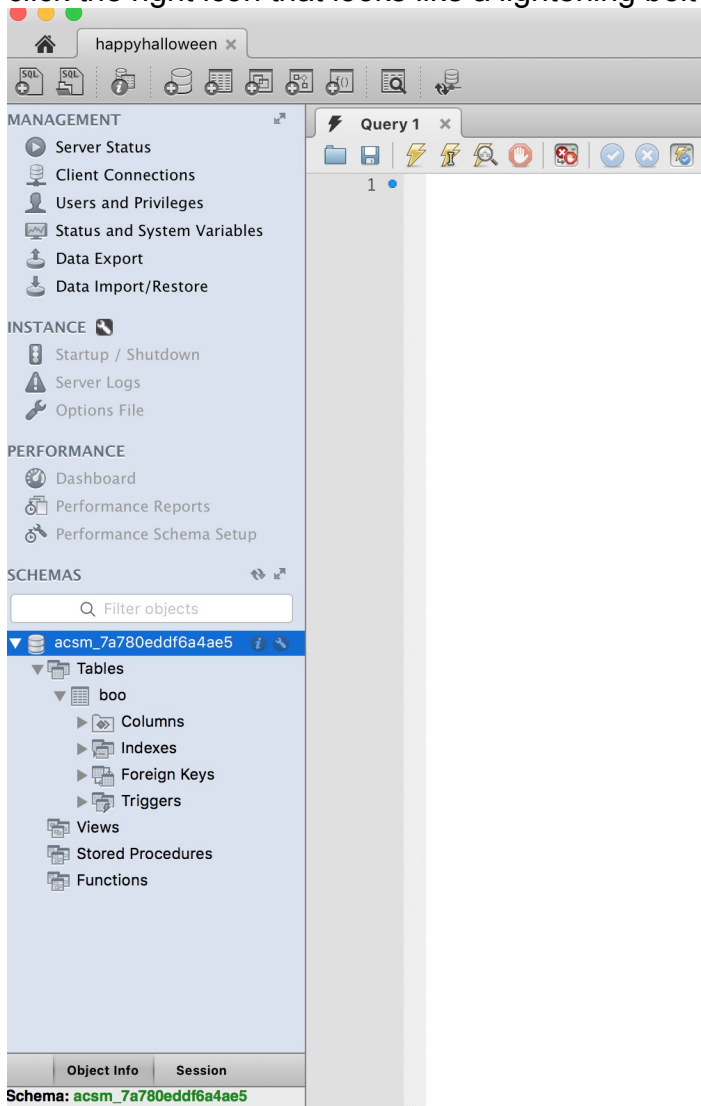


You can only run the script once because there can only be one table boo in the happyhalloween database.

If you are successful, the shell should have printed 'This value should be 3: 3'

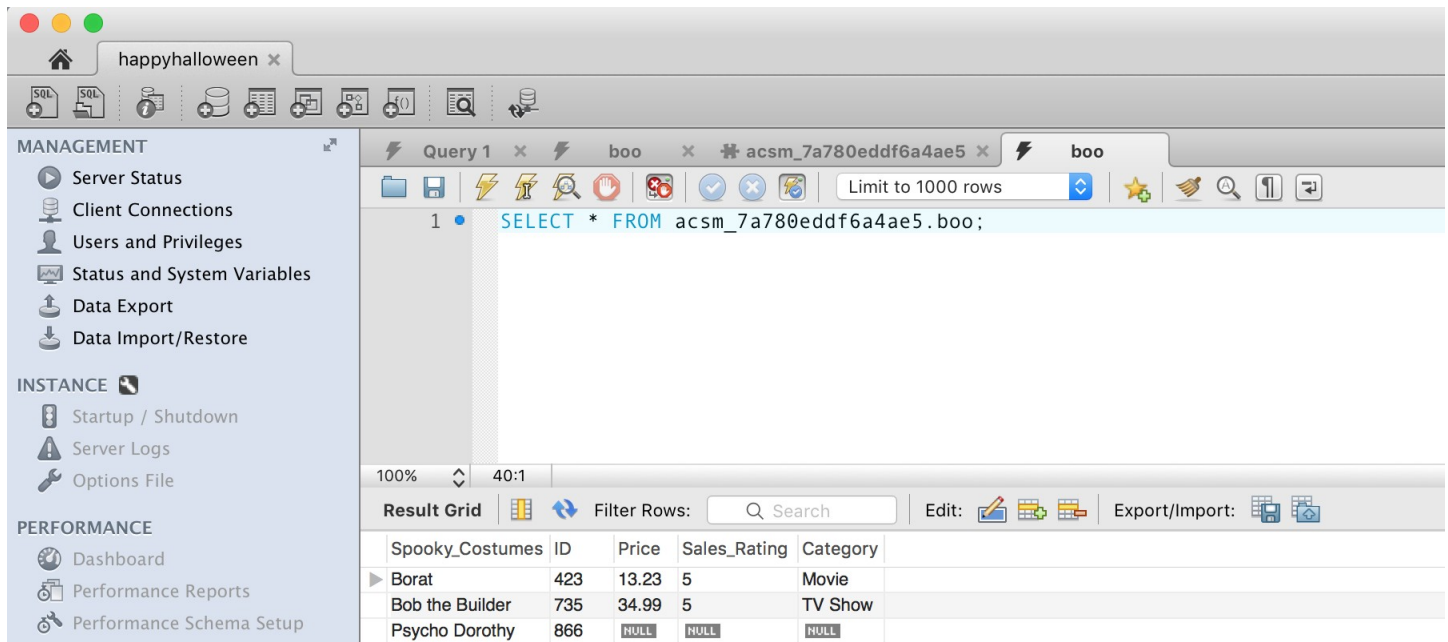
## Part 4— Add data and see boo Table in the MySQL WorkBench

Connect to your MySQL Database on MySQL WorkBench through your happyhalloween connection. Once you've connected a window like below will pop up. Drop down the schema, then drop the tables to see the table boo that you created. To see the data currently inserted hover over the table boo and click the right icon that looks like a lightning bolt over a table.



Through MySQL WorkBench we will now insert the row of data below. Clear the SELECT \* SQL statement and copy the INSERT SQL statement below. Change the **SCHEMANAME** to the name of your schema.

```
INSERT INTO SCHEMANAME.BOO (Spooky_Costumes,ID, Price, Sales_Rating, Category)
VALUES ("Annie", 221, 12.99, 2, "Movie");
```



In the Action Output Pane on the bottom there should be a green check mark indicating that the data was inserted. Now `SELECT * FROM SCHEMANAME.boo` where the SCHEMANAME is your schema name and you will see the data added to the table!

NOTE: the TA's will be checking your database after you turn in your happyHalloween.py file, so make sure that you do not remove/delete the database, and do not modify the contents after you follow the above directions.

### Grading:

Note about grading: If you do not have all the requirements, you will NOT receive any credit.

25 points – Submitted happyHalloween.py with the correct credentials created in the students MySQL Database in Azure and database is accessible to the TA's when they check for it.

25 points – Database has the correct data (as outlined above) showing that you followed the directions.

Note: To receive credit, you **must** follow the directions completely and include all requested. **No partial credit** will be awarded, so you will receive a score of 0 or 50