UNIVERSITY OF THE PHILIPPINES VISAYAS
COLLEGE OF ARTS AND SCIENCES
DIVISION OF PHYSICAL SCIENCES AND MATHEMATICS

CMSC 127 Database Systems
2nd Semester AY 2021-2022

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ACTIVITY GUIDE 1
(UNIT 3)

ACADEMIC INTEGRITY

As a student of the University of the Philippines, I pledge to act ethically and uphold the value of honor and excellence. I understand that suspected misconduct on given assignments/examinations will be reported to the appropriate office and if established, will result in disciplinary action in accordance with University rules, policies and procedures. I may work with others only to the extent allowed by the Instructor.

Lab 3.1: UNDERSTANDING YOUR DATABASE EXERCISE

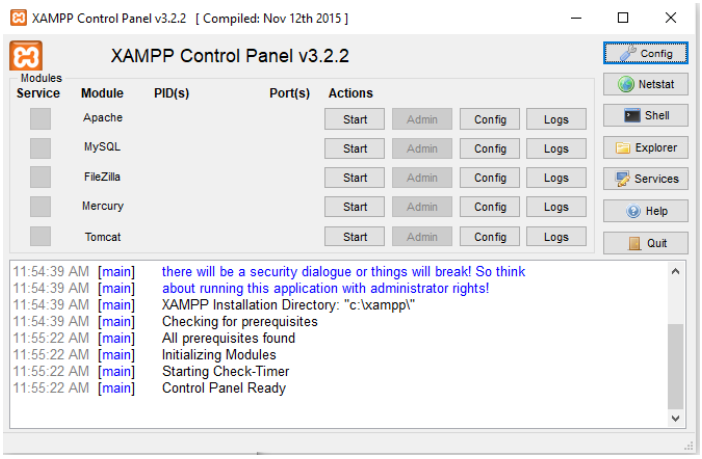
Instructions:

Before we start this lab, download and install XAMPP at https://www.apachefriends.org/download.html in your computer.

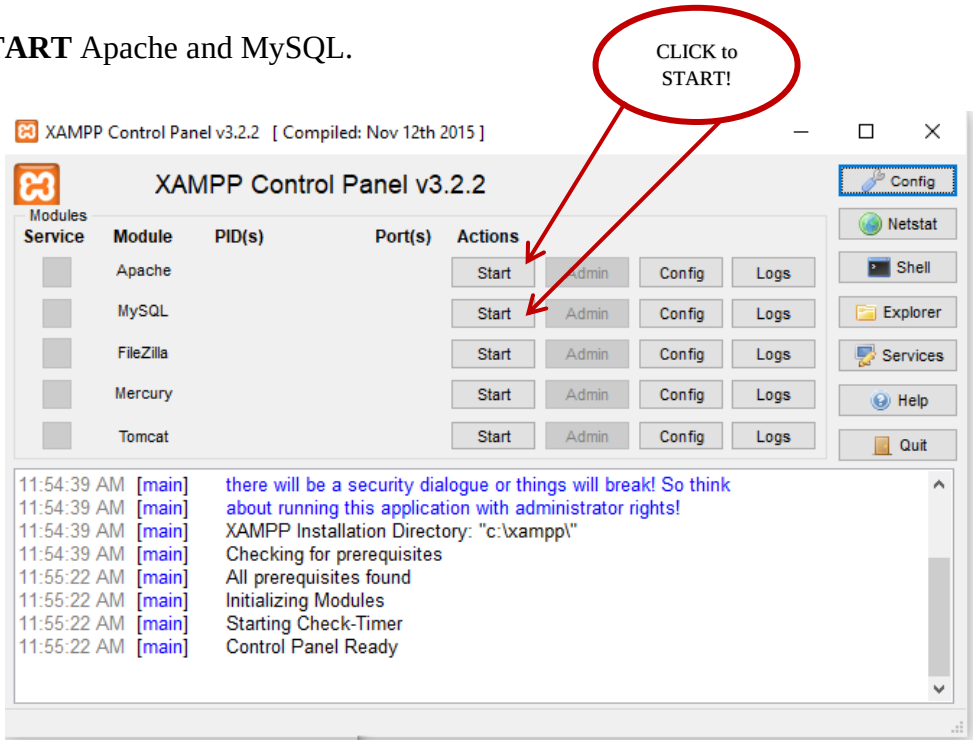
Save the **University.sql** file inside the XAMPP folder located in your local computer C Drive. (**Note:** we need to save all our sql files inside the XAMMP folder later)

Follow the instructions below to create a database and to use the sql file (***University.sql***) provided.

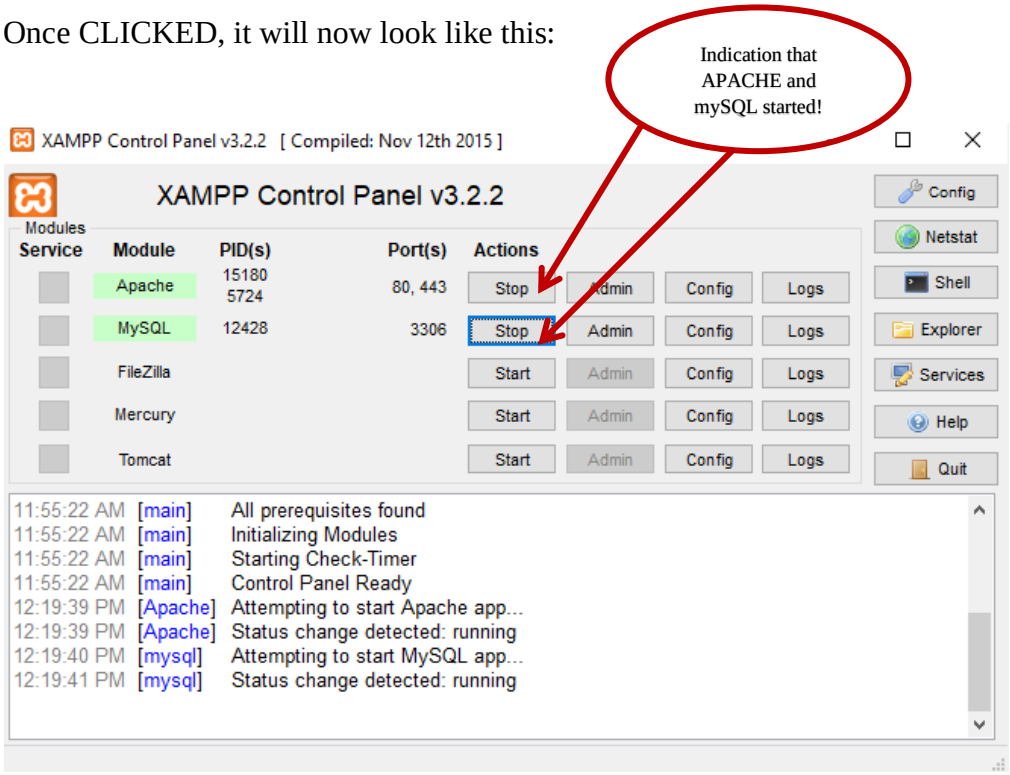
1. OPEN XAMMP in your computer. The figure below will then be displayed to you.



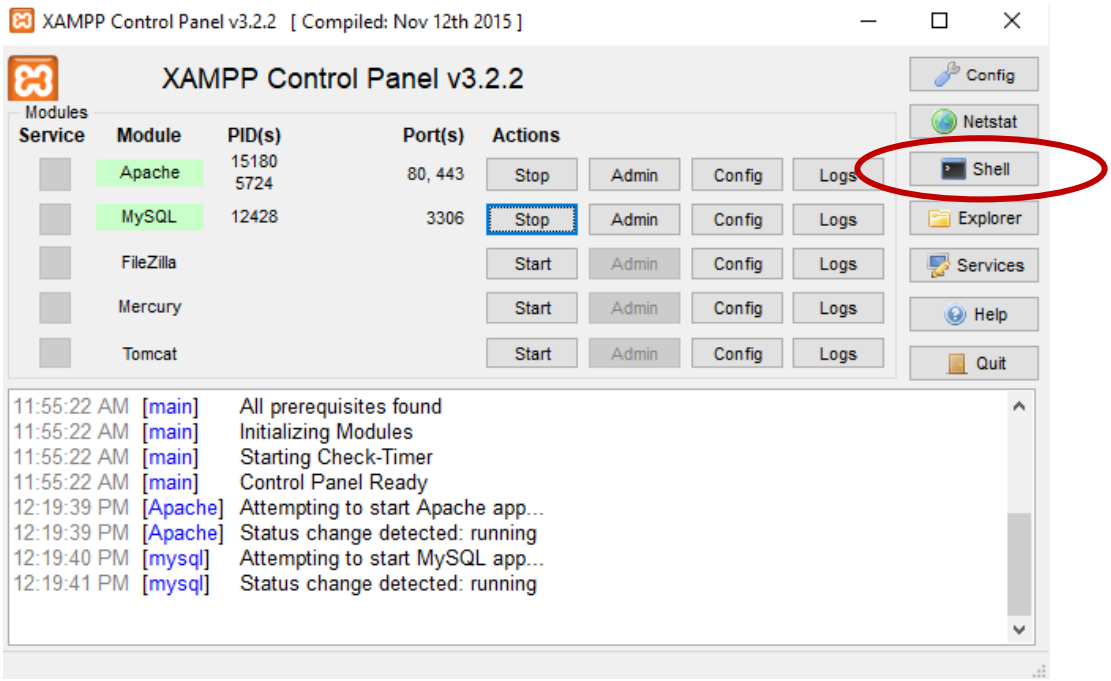
2. START Apache and MySQL.



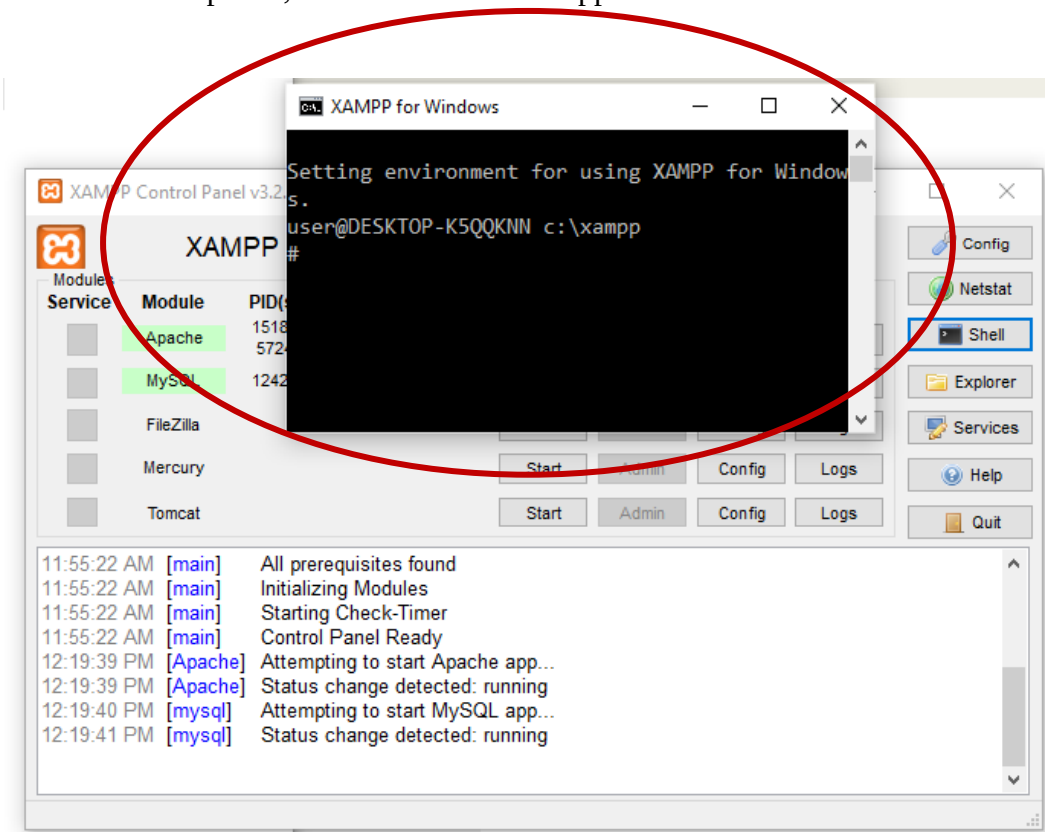
Once CLICKED, it will now look like this:



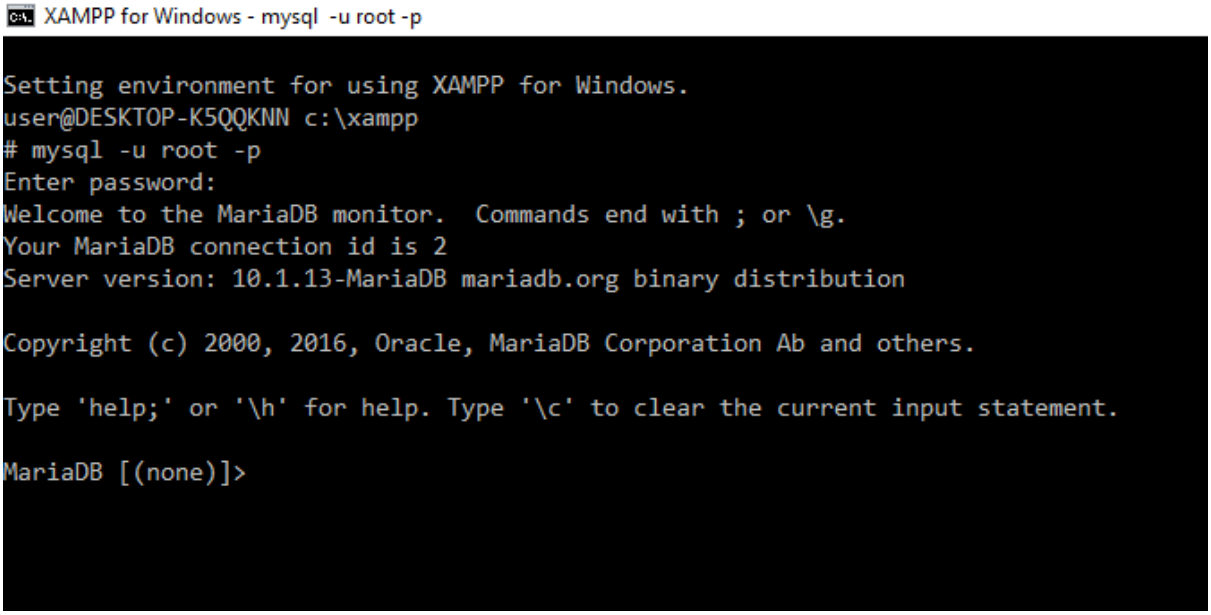
3. Open the **SHELL**



Once SHELL is opened, a Shell window will appear. This is how it looks like.

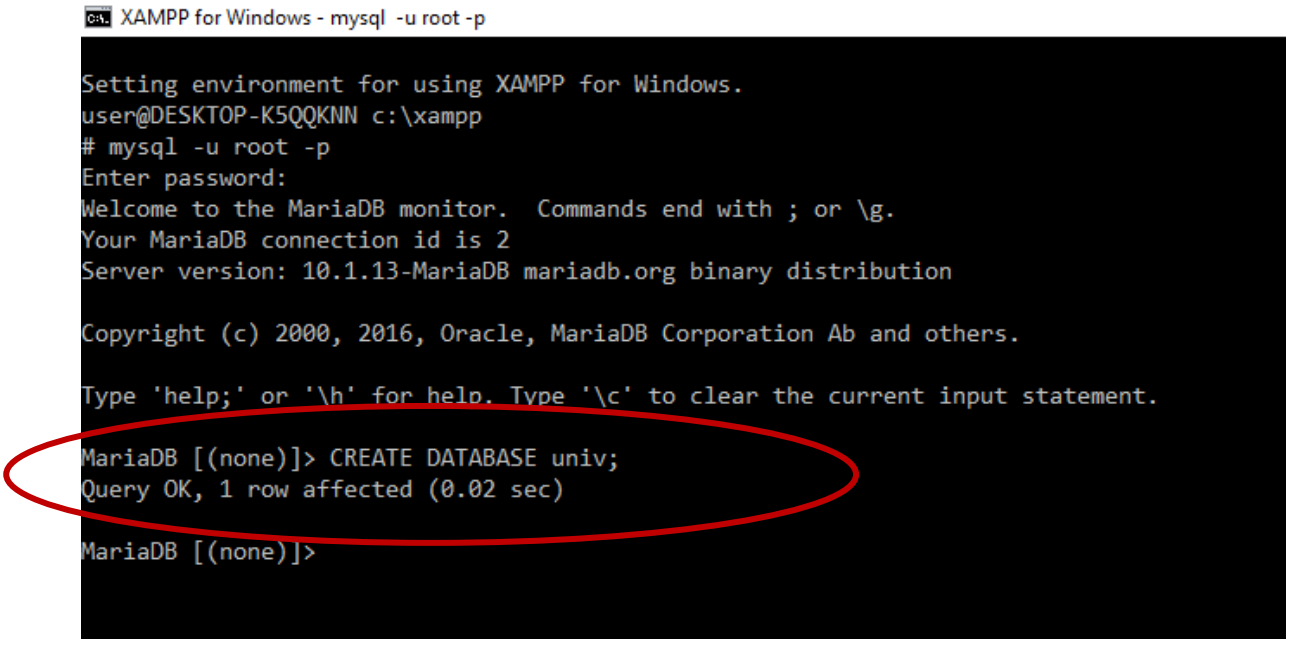


4. In the Shell or XAMMP Command Prompt, type **mysql -u root -p** and press ENTER. You will be asked for a password, since we didn't set any password, just **PRESS** ENTER again. The command prompt should look like this.



5. Type **CREATE DATABASE** ***your_preferred_database name***

In the example below, the *database_name* that I set is **univ**



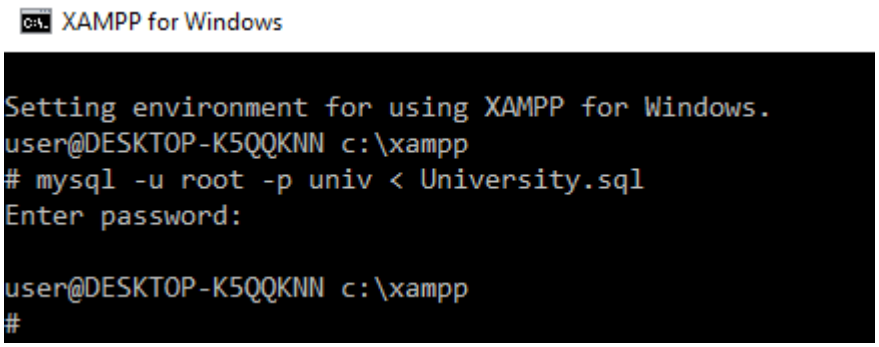
6. After creating your database, **CLOSE** the SHELL.

7. OPEN the shell again just like how you did it in STEP 3.

8. In the shell, type **mysql -u root -p *your_preferred_database_name* < *existing_database.sql*** and press ENTER.

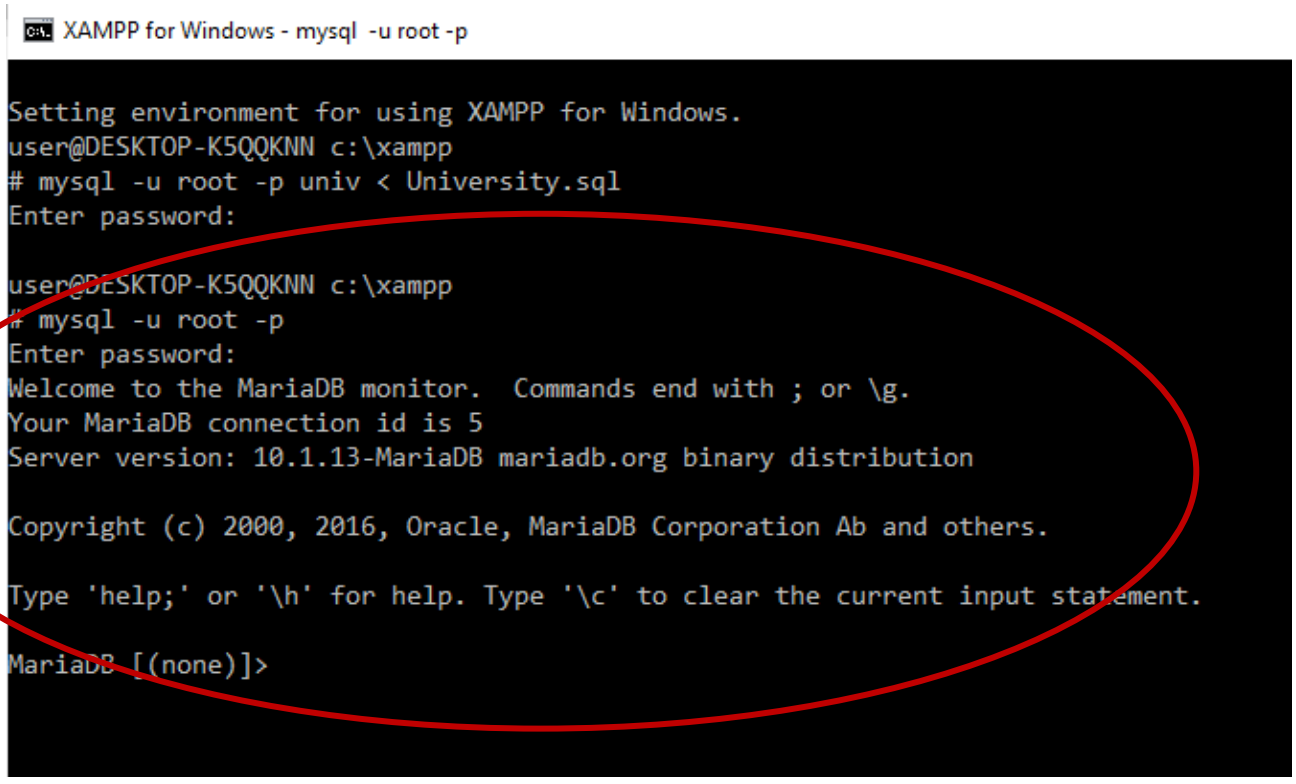
In our example, our **preferred_database_name is univ** and our **existing_database is University.sql**

Password will be asked again, just press ENTER as we do not have any password. The shell should look like this:



9. Login again just like how you did it in STEP 4. When you successfully logged in, a welcome message will be displayed to you.

Your shell should look like this.



10. Type **USE *your_preferred_database_name*** and press ENTER.

Note: USE *database_name* is a command to used to switch databases.

Your shell should look like this:

```
MariaDB [University]> USE univ
Database changed
MariaDB [univ]>
```

11. If you want to show the tables inside your database, type **SHOW TABLES;**

Your shell should look like this:

```
MariaDB [uni]> show tables;
+---------------+
| Tables_in_uni |
+---------------+
| attempts      |
| contains      |
| course        |
| enrolsin      |
| program       |
| student       |
+---------------+
6 rows in set (0.00 sec)
```

The **tables** in the database **univ** will be displayed to you.

An SQL CHEAT SHEET was uploaded in the LMS, use the CHEAT SHEET to explore more commands in SQL where you will be able to see the contents of your database and answer the questions for this laboratory exercise.

You will have a write up for this laboratory exercise.

If you are done using XAMMP, don't forget to STOP your APACHE and MySQL.

Writeup Structure (each answer is worth 10 points, use questions below as answer headers):

1. What entities/ tables are in your database?
2. What columns does each table have and what data types do the columns hold?
3. Explain what primary and secondary keys are and list which primary and secondary keys exist in your database.
4. Draw an Entity Relationship Diagram (ERD) of your database. You must use either Microsoft Visio or any of the Free Open Source Software (FOSS) alternatives such as Dia. Include a screenshot of your drawing in the final write up file.

5. Give an example of each of the following from your database and describe in detail why your example satisfies the definition:

a. One-to-one relationship

b. One-to-many relationship

c. Many-to-many relationship

d. Recursive relationship

Additional Instruction: Include screenshots of your terminal (command and output) for numbers 1-3.

Submission Instructions:

Save and submit your file as **LastnameFirstLetterOfFirstName_Lab3.1.pdf.**

Please take note of the use of **Camel Case** for your filename. **Those who are not following instructions will have a 20% deduction on their Laboratory exercise**.

Upload your file in the UPV LMS (on or before May 02, 2022 11:59 PM).