Assignment 2

Due: Wednesday, February 1st, 2023

Total: 10 Points

Establishing your Environment

Screen capture

Download and install the Sharex capture tool from : https://getsharex.com/. There are many out there and this step is not necessary if you already have a screen capture tool. This application is free and has robust features. You can also use the native windows screen capture tool, albeit with less feature.

Installing the Development tools

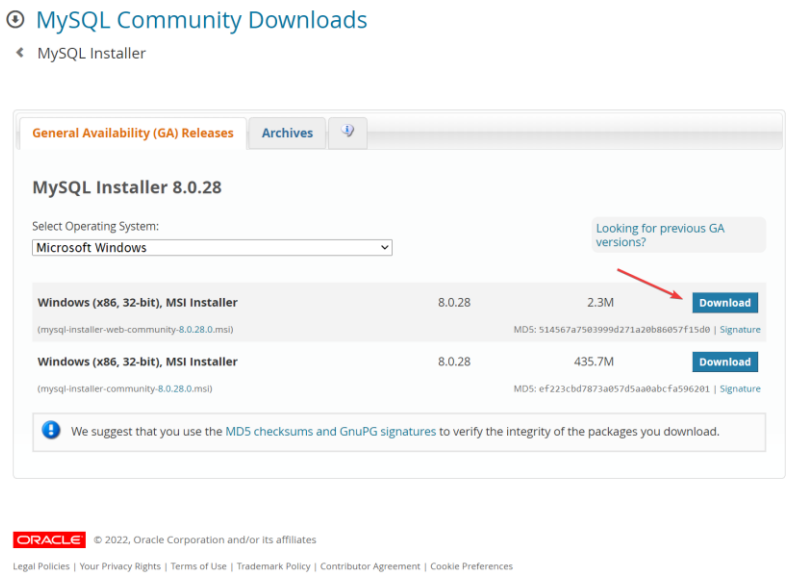
This assignment assumes that you are using a Windows 10 machine like those provided by the University. I cannot provide support for every other platform, but most of these tools and software are cross platform. If you choose to use a different platform or operating system, please read the documentation carefully on the respected sites to ensure you understand how to install and make the software work.

Install and Configure MySQL

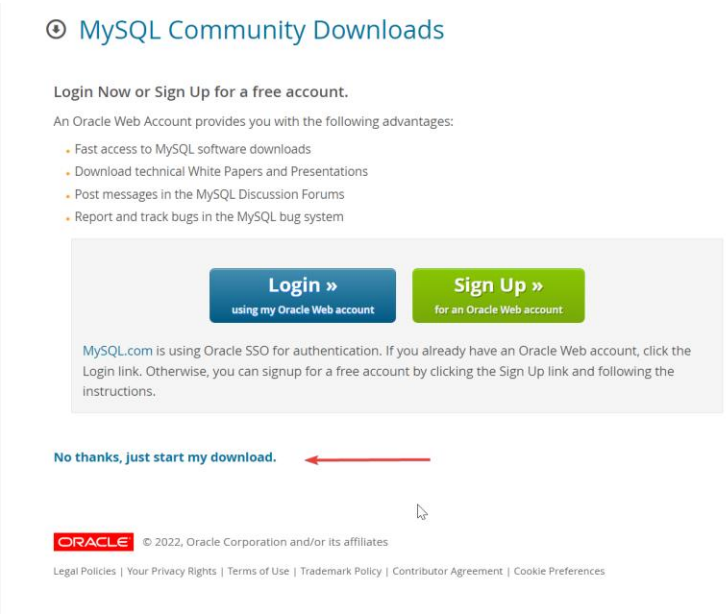
Note: If already if MySQL installed from a previous class, you can skip this section.

Download and install MySQL from the following site: https://dev.mysql.com/downloads/windows/installer/8.0.html

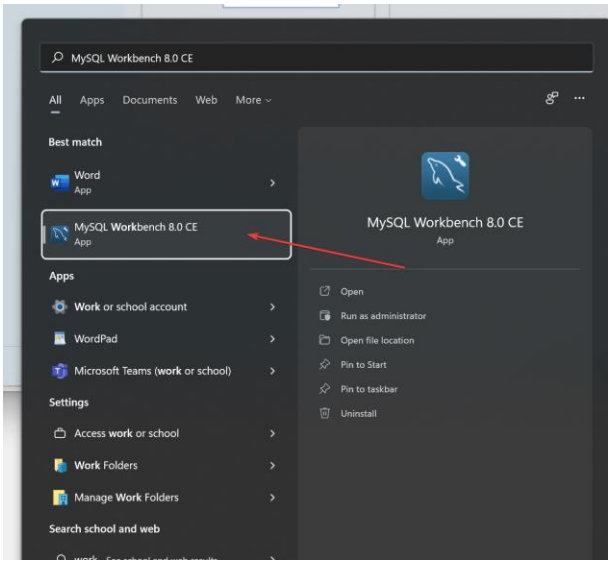
You can download either option to install. The first option just installs via the web, while the other option downloads the entire package locally and then does the install.



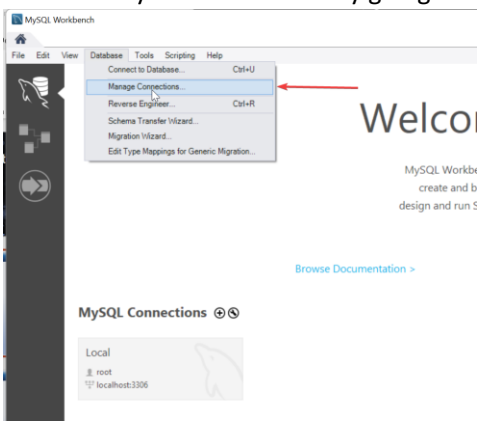
You can skip the registration by clicking the link below.



1. Once downloaded, double click the file to launch the installer. You will be prompted for administrator rights and you have to allow the installation or it won't proceed.
2. All options should be left as default. If you choose, you can change the default username and password for the admin or the path of the installation, but I won't be able to help you if something goes wrong with your database and you forget what these are. Changing the default settings could lead to your environment not working properly and will only hinder your performance in this class.
3. Upon Completion, you should have MySQL and MySQL workbench installed.
4. Verify the installation by accessing the database through MySQL Workbench. My system is Windows 11, so it might look a little different, but you can launch the application by going to the start menu and type workbench, which should take you straight to the MySQL workbench application. It would be a good idea to pin application this to the taskbar because we will be using it throughout the semester.



5. Connect to your Local server by going to Database, then Manage Connections.



6. Create a new Connection by following the steps as indicated in the screenshot.(Figure: Manage connections)
    1. Click on the new button
    2. Type in the connection name, “Main” or “Local” will work just to indicate that this is the local instance of MySQL.
    3. Leave this option as Standard
    4. Username should be root
    5. You should not need a password, unless you changed this during the installation process otherwise you can click on the store in vault and set the password.
    6. Leave the default schema blank. You can change this later to the database that you want to connect to by default once we have created a database.
    7. Click on the Test connection to make sure you can connect. A prompt of connection succeeded (Fig: Successful) will be shown if it worked.
    8. Finally you can close this dialog.
    9. This should bring you to the home screen. If your connection does not appear here, exit the application, and reopen it. Your database connection should appear under the MySQL connections.(Figure: Connections)
    10. Clicking on this should bring you to your database, with all of your Schemas listed to the left (Figure: Schemas)
    11. Take a Screen shot of the application opening and listing your schemas. Save this screenshot as workbench.jpg for Submission.

Figure: Manage Connections

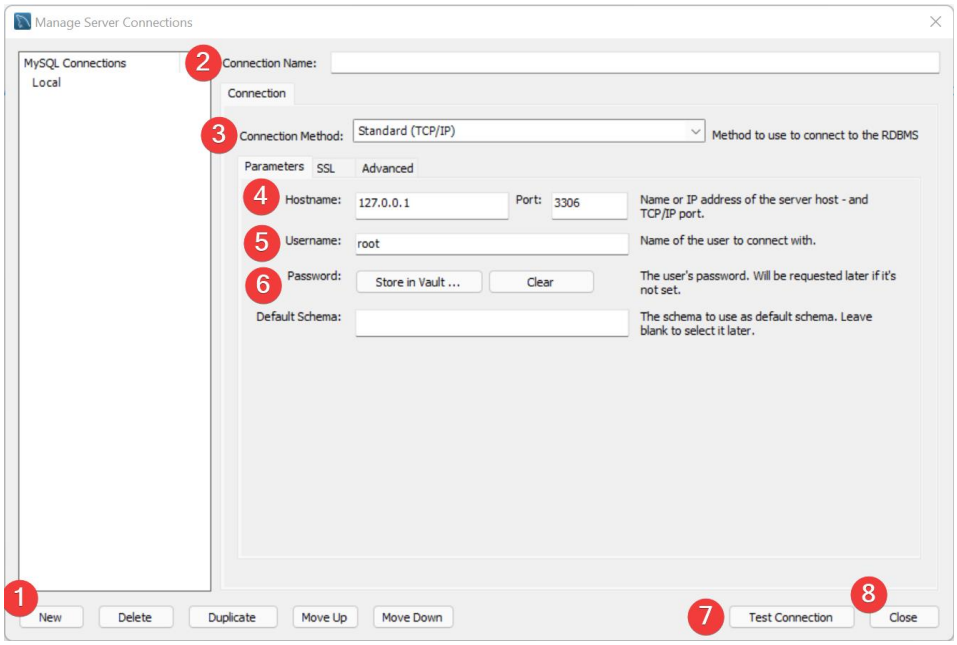


Figure: Successful

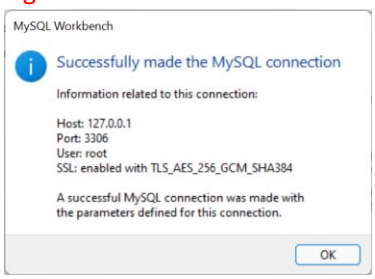


Figure: Connections

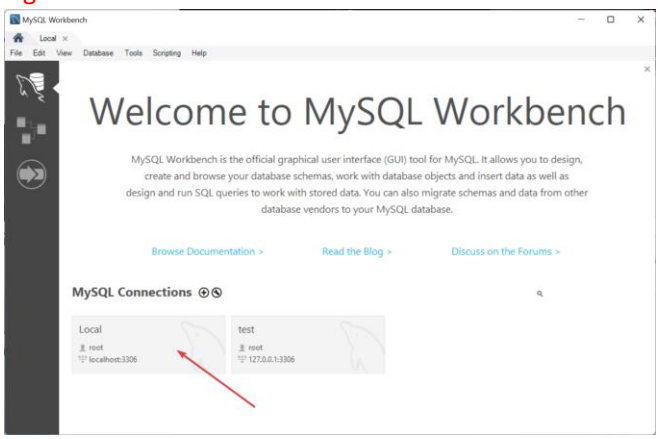
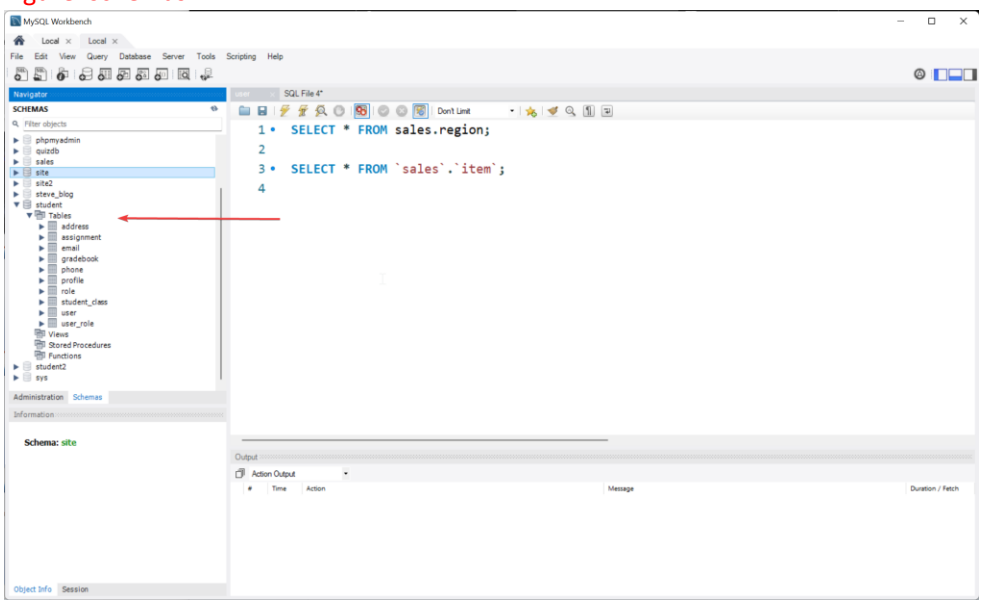


Figure: schemas



Installing Your IDE (integrated Development Environment)

This semester, we will be using Apache Netbeans IDE.

Install JDK

1. Install the latest version of JDK (the Java Development Kit): https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.exe
2. Mac OS or Linux Versions can be found here: https://www.oracle.com/java/technologies/downloads/#jdk17-windows
3. Accept All prompts and click next until the installation is complete.

Install Netbeans IDE

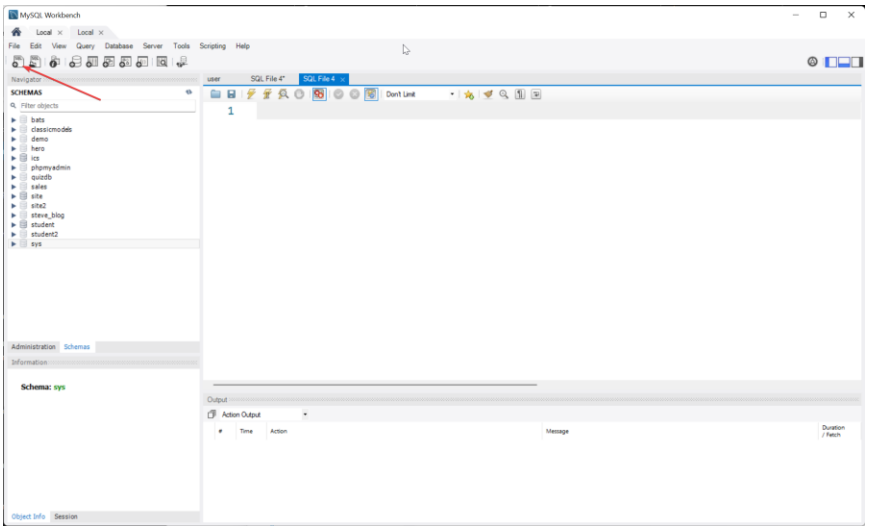
4. Install the latest version of Netbeans by clicking on this link: https://www.apache.org/dyn/closer.cgi/netbeans/netbeans-installers/12.6/Apache-NetBeans-12.6-bin-windows-x64.exe. If this is very slow, an alternate site for the download is here: https://downloads.apache.org/netbeans/netbeans-installers/12.6/Apache-NetBeans-12.6-bin-windows-x64.exe
5. For Linux or Apple versions go to this site: https://netbeans.apache.org/download/nb126/nb126.html and download the respective version for your operating system.
6. Upon opening the installer, allow the administrator access by clicking yes on the prompt.
7. You must have completed the JDK installation, or you will be prompted to search for the JDK. If you haven't done the previous step, then cancel this installation and perform the JDK installation and start the installer again.
8. Once, the installer finds the JDK, then click next to proceed.
9. Finally click install.
10. Open Netbeans and take a screenshot of application after it successfully launches. Save this screenshot as netbeans.jpg for submission.

Seeding your Database

In order to work with the examples of MySQL in our book, we need to create a sample database that we will be using throughout the semester. Use the following steps to create the database and seed the data that is needed.

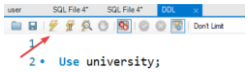
Creating the Schema

1. Connect to your database using the steps above.
2. Create a new database by clicking on new query



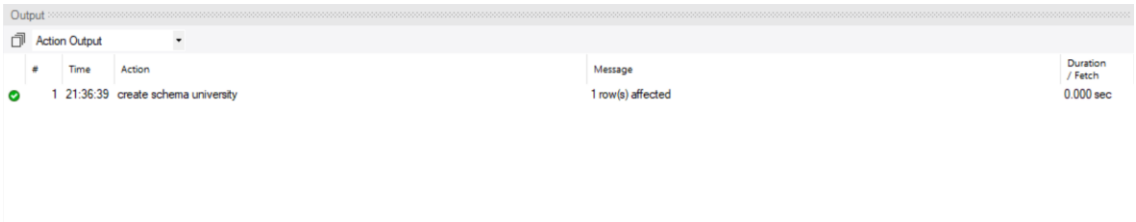
3. In the Query window type in the following:

   Create Schema 'University';

   Then click on the execute button  or the ctrl+shift+return keyboard combination to execute the query.

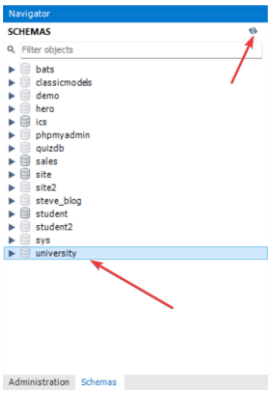
   For more keyboard shortcuts: https://dev.mysql.com/doc/workbench/en/wb-keys.html

4. This will create a University schema in your server. Often, Schema is referred to as database and these terms can be used interchangeably. You should see the following in the action output:

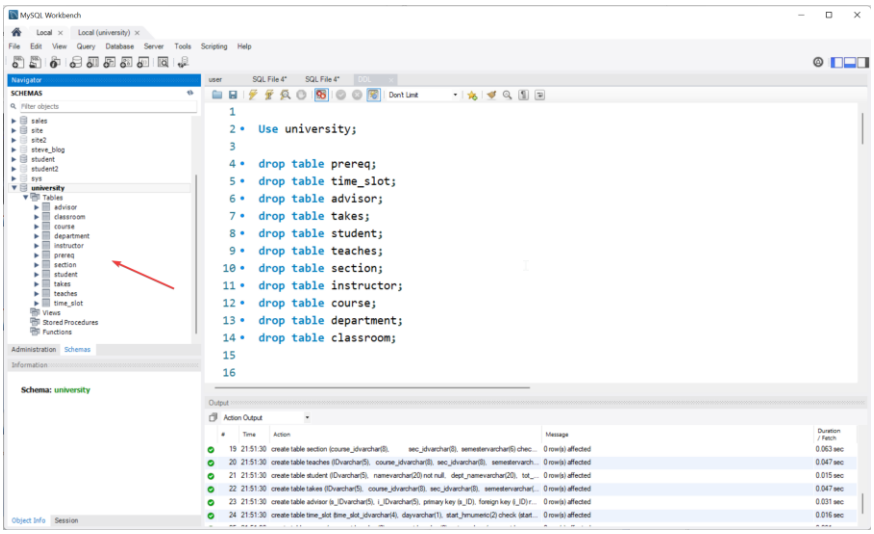


   The results of Every query you run will always be displayed here, including errors and success messages.

5. Verify that the schema is created by refreshing the schema listing:



6. To create the tables for the database,download the “DDL.sql” file from the assignment and drag and drop the “DDL.sql” file into the query window. This will open up a new query window with he code that is in the DDL.sql file. You can directly open any .sql file by doing this.
7. Press execute button or the ctrl+shift+return key combination to execute the code. This will create your tables in the university schema. Verify this by going to the schema and refreshing it as previously demonstrated.
8. Your listing should look like this:



Seeding the database

This step is crucial since seeding our database with data will allow you to follow along as I demonstrate the queries in class. It is also import for assignments that use the database for queries. You can always create a fresh copy of the database by executing the following steps.

1. Like the previous step, download the SeedData.sql script and drag and drop it into the query window.
2. This script will delete all data from the tables, which should be empty at this point.
3. Like the previous step, you simply must execute the script by clicking on the execute button or the ctrl+shift+return key combination. You should see the output window run the scripts to completion.
4. Validate that the data has been created by downloading the DataValidation.sql script and drop it into the query window. Execute the script and screen capture the Result Grid, which should display the data in a grid. Save this screenshot as Validation-Results.jpg for submission.

Submission

Compress(Zip) your screenshots (Validation-Results.jpg, netbeans.jpg, workbench.jpg) into a Zip file named "Assignment2.zip" by using the native windows compressor or an application like 7-zip. Submit this compressed zip on D2L under Assignment 2.

Assessment

Criteria	Points
MySQL Server and workbench is installed and screenshot of successful connection is included in the zip file.	3
Netbeans IDE is installed and screenshot of application opening is included in the zip file.	3
All scripts are executed in MySQL Workbench per instructions and a screenshot of the DataValidation.sql script execution is included in the zip file.	4
Total	10

Learning Outcomes

This assignment guides the student through the installation of the MySQL database server, The installation of the JDK and Netbeans IDE for GUI development and the creation of the University Schema and seed data. It is crucial that all of the steps are completed for the student to be successful in the course since all three of these outputs will be used throughout the semester.

Disclaimer

Please review the syllabus on academic integrity and the submission policy. I will follow both strictly, so please adhere to the policy for each subsequent assignment or project. As a reminder you have 3 days grace period for late work with 10% deducted for each day or 24 hour period starting from the time of the due date. Any assignment that goes beyond 3 days or 72 hours will be an automatic zero.