CS 330 Winter 2016, Database Access

In order to access a MySQL database from Java you need the MySQL Java connector software included with your Java program(s). This document discusses how to do that with Eclipse, IntelliJ, jGrasp and from the command line. It is assumed that you already know how to use your chosen tool for ordinary Java programs.

The latest version of the MySQL Java connector (mysql-connector-java-5.1.38-bin.jar) is available on the course site on Canvas. This version should work with all of Windows, Mac OS X, and Linux.

Eclipse

1. Establish an Eclipse workspace.
2. Create a project for the assignment.
3. To run a Java/SQL program, Eclipse will need to include the MySQL Java connector when running your program. You can do that as follows:
    - Select the project.
    - In the toolbar at the top, click the down-arrow next to the green run-button.
    - Click Run Configurations.
    - Double click the Java Application entry to get a new run configuration for your project.
    - The project line will be filled in, but you should complete the Configuration Name entry at the top.
    - Click the Classpath tab, select Bootstrap Entries, then click Add External JARs.
    - Navigate to your MySQL Java connector ".jar" file, select it, and click Open.
    - Finally, click Apply and Close to add the connector to the project classpath.
4. When you run your program, make sure to run it using the Run Configuration you named in the previous step.

IntelliJ

1. Create an IntelliJ project for the Assignment.
2. With the project open:
    - Open the Project Structure dialog, Menu: File/Project Structure ..., or click the project structure button in the upper right hand corner (approximately).
    - Click Libraries in the list on the Left.
    - Click + to add a library, then click Java.
    - In the Select Library Files dialog, find the mysql connector Jar file and click OK.
    - Click OK the close the Project Structure dialog.
3. When you run your program, the jar file should be accessible in the class path.

Jgrasp

1. Create a separate directory for the assignment.
2. Open jGrasp.
3. In jGrasp, click New on the Project menu.
4. Fill in the name of your project (something like Assign2) and save it in your directory for the assignment. When you want to restart jGrasp with this project, double click the .gpj file (for example, Assign2.gpj) to open jGrasp, or use the Open item on the Project menu to open the project.
5. Use the Add Files item on Project menu to add any source files and other files you might want to edit to project. They will appear in the window at the bottom left of the jGrasp window.
6. Finally, before you run your program, click on the Setting/PATH CLASSPATH/Project menu item.
7. Click the PATH tab and then the CLASSPATHS tab under the PATH tab.
8. In the CLASSPATHS tab, click New. In the resulting dialog, click Browse for "Path or JAR file". Now "open" the MySQL Java connector JAR file.
9. Click OK until you've exited the dialogs.

Command Line

You can comiple your program without accessing the MySQL Java connector. But, to run your program you will need to ensure that the connector is in your CLASSPATH. There are a number of ways to do this; however, here's a simple one:

```
Windows> java -cp .;mysql-connector-location.jar YourMain
Linux> java -cp .:mysql-connector-location.jar YourMain
```

This is assuming that the class file(s) for your assignment are located in the current directory. Fill in the "mysql-connector-location.jar" with the path to the MySQL Java connector JAR file.

Databases and User IDs

The CS department's MySQL server is `mysql.cs.wwu.edu`. The databases described here reside on that server and your access id is gets you access to that server.

Each CS330 student receives a database and a user account. The databases is named *`user`*, where *`user`* is your CS department user name.

You will not need to use this database for Assignment 2. You will need to use this database for Assignment 3.

You can access this database as well as the `reedy330` database, described below, from your user account. You will recieve the passwords for your account in an email from the course instructor.

When you are logged on to MySQL, you have all privileges to the *user* database. You can create and drop tables, populate tables with data, and execute queries against the tables. You can also grant access to other users, although it is not recommended to do so casually.

When you are logged on, you can also execute queries against selected tables in the `reedy330` database, which contains the stock transaction data that you will be mining in the programming assignments. Your CS330 instructor has read-only access to your *user* database, where you will record solutions for Assignment3.

Access from off Campus

The `mysql.cs.wwu.edu` server is not directly accessible from off campus. If you want to access the server from off campus, see the discussion "Tunneling MySQL ports through SSH" at the CS department support page: https://support.cs.wwu.edu/index.php/Main_Page