COP2800C Module 9 Practice Exercise

In this practice exercise we will create a database and table to store our boxes. You will need to use the Horizon **Academic_IT_W11** (Windows 11) system unless you have previously installed and worked with Microsoft SQL Server on your personal system. All necessary software is preinstalled and configured on Horizon.

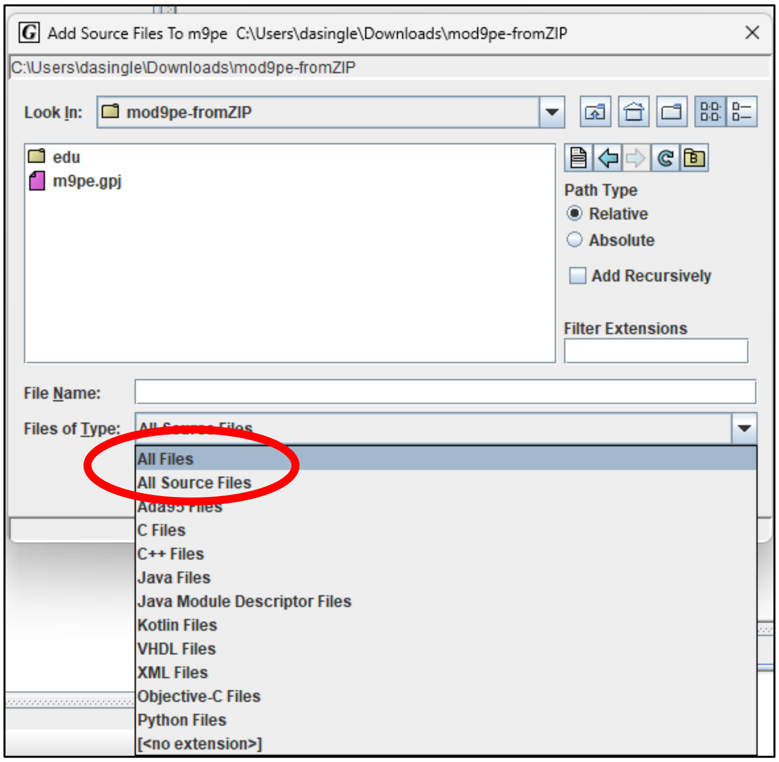
The m9upe.zip in this repo contains all necessary files for the project, including the Java source code (in the edu/ package folder), the Microsoft SQL Server driver JAR file (mssql-jdbc-9.4.0.jre8.jar), and the Windows Authentication Dynamic Load Library (DLL) file (mssql-jdbc_auth-9.4.0.x64). The zip archive also includes our boxes.csv data file.

NOTE: DO NOT EXTRACT THE SQL Server driver JAR file! It is used in the project as-is in its JAR format.

Follow these steps to build and execute the program:

1. Create a new jGrasp project and add all of the Java source files to your project.
2. Add the driver JAR file (mssql-jdbc-9.4.0.jre8.jar) to the project. As noted above, do not extract the contents of this file!)
3. When adding the files you must select **All Files,** not All Source Files, in the Add Files dialog in order to find the SQL driver file; use the drop down to scroll to the top option to find it. **The DLL file and .csv files do not need to be added to the project, but must be present in the top level project folder so the application can find them.**

Here is a screen snip showing where to find the "All Files" option when adding the files:



Add Source Files To m9pe C:\Users\dasingle\Downloads\mod9pe-fromZIP

C:\Users\dasingle\Downloads\mod9pe-fromZIP

Look In: mod9pe-fromZIP

edu
m9pe.gpj

Path Type
● Relative
○ Absolute

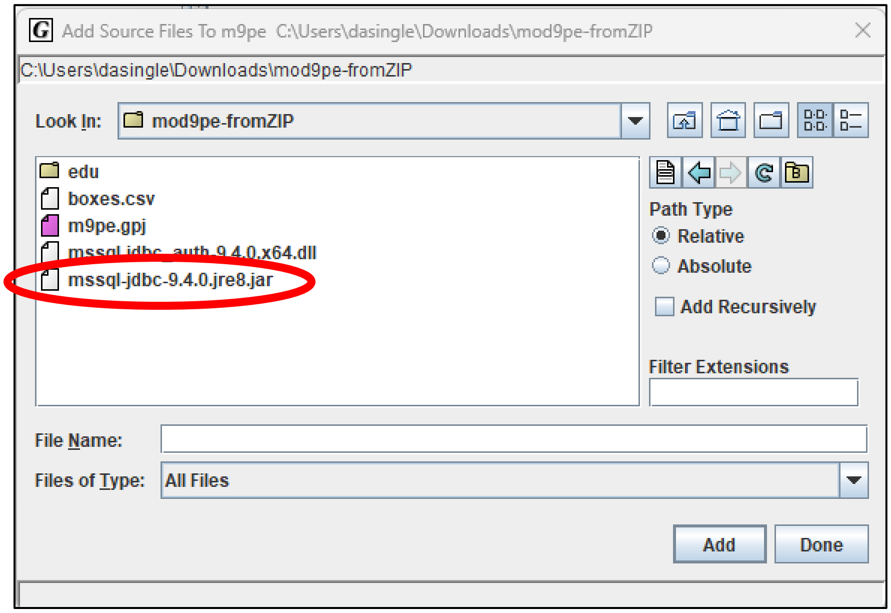
☐ Add Recursively

Filter Extensions

File Name:

Files of Type: All Source Files

Notice that in this image, after selecting All Files, the .jar file will be visible and be selected and added to the project. Do not add the .dll file or the .gpj file.



Add Source Files To m9pe C:\Users\dasingle\Downloads\mod9pe-fromZIP

C:\Users\dasingle\Downloads\mod9pe-fromZIP

Look In: mod9pe-fromZIP

- edu
- boxes.csv
- m9pe.gpj
- mssql-jdbc_auth-9.4.0.x64.dll
- mssql-jdbc-9.4.0.jre8.jar

Path Type

● Relative

○ Absolute

□ Add Recursively

Filter Extensions

File Name:

Files of Type: All Files

4. Build the project and execute it.

In the edu.fscj.cop2800c.container package folder you will find the BoxFactoryDB.java file, read through this file carefully as you will need to understand how it works in order to work on the graded programming assignment. This file is where the createDB method lives. This method takes a parameter of a Box[] array, passed from the main method of the BoxFactory application class:

```
// create the Box Factory's array with only the populated elements
BoxFactory boxFact = new BoxFactory(boxCount, boxArray);
// create the database
BoxFactoryDB.createDB(boxFact.boxes);
```

The "BoxFactory" database and "Box" table are both created in this method. The data from the array is written to the table and then read back in using a PreparedStatement.