JDBC Tutorial

CSCI 201
Principles of Software Development

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Outline

- JDBC Tutorial

- Program

Download MySQL

- Hopefully you have already downloaded the MySQL Community Server, but if not, download it from http://dev.mysql.com/downloads/

- You will also need the MySQL Workbench from the same URL

MySQL Workbench

- After installing MySQL and the MySQL Workbench, run MySQL and then run the Workbench
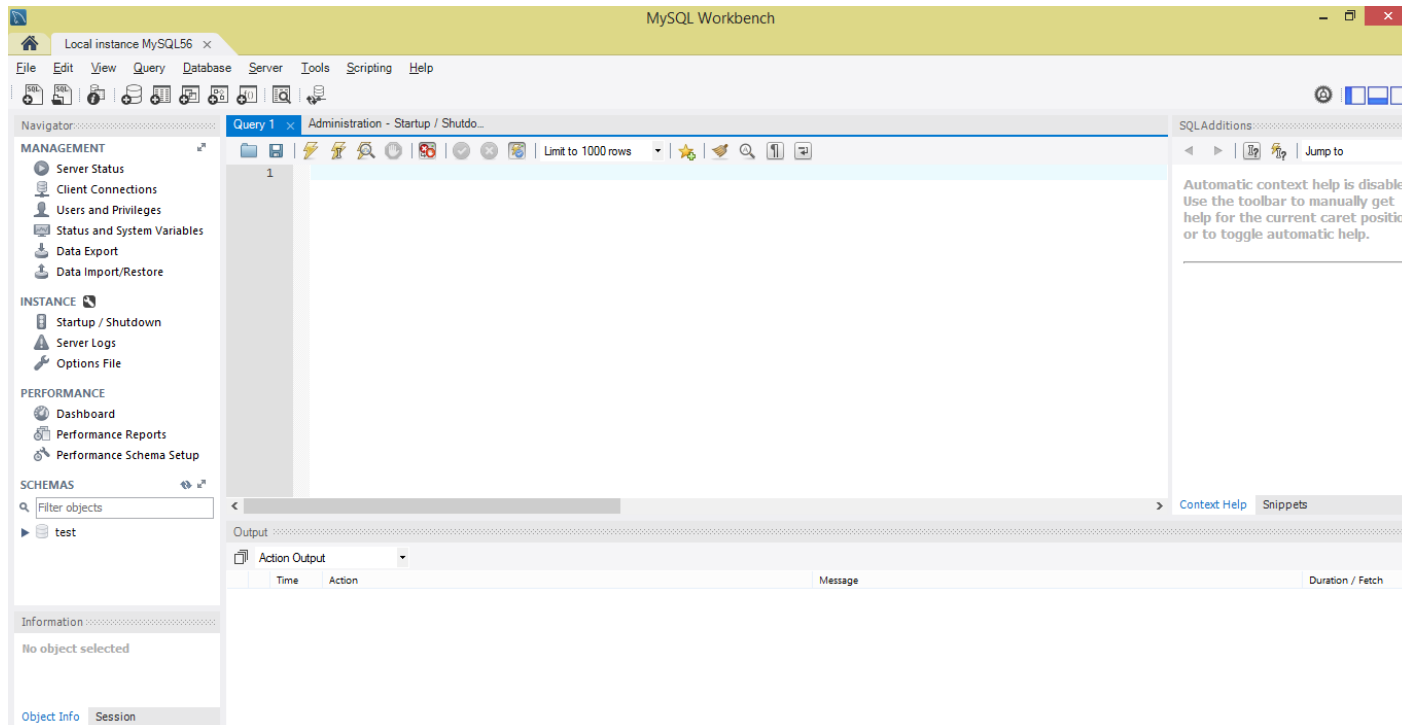- Click on the "Local instance MySQLxx" box that is displayed
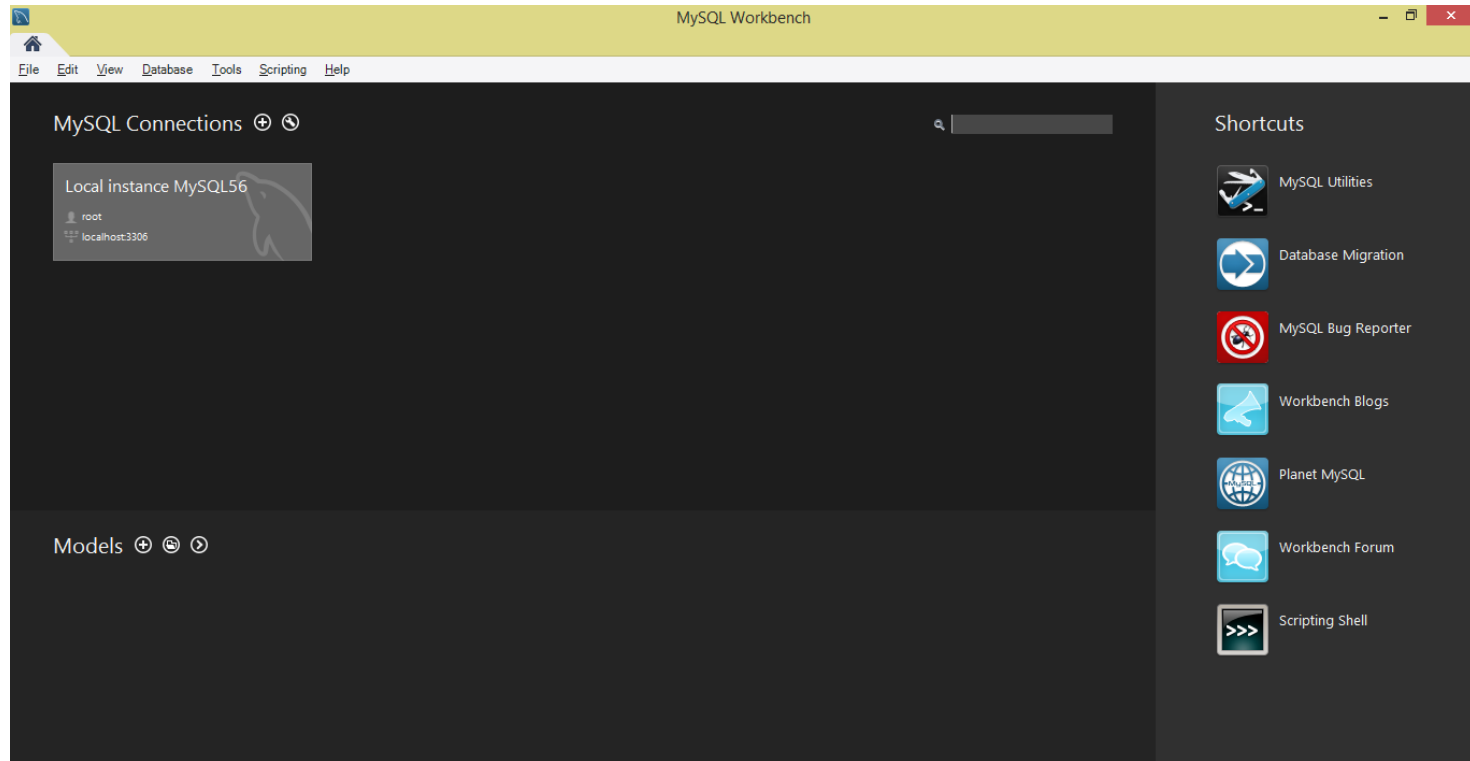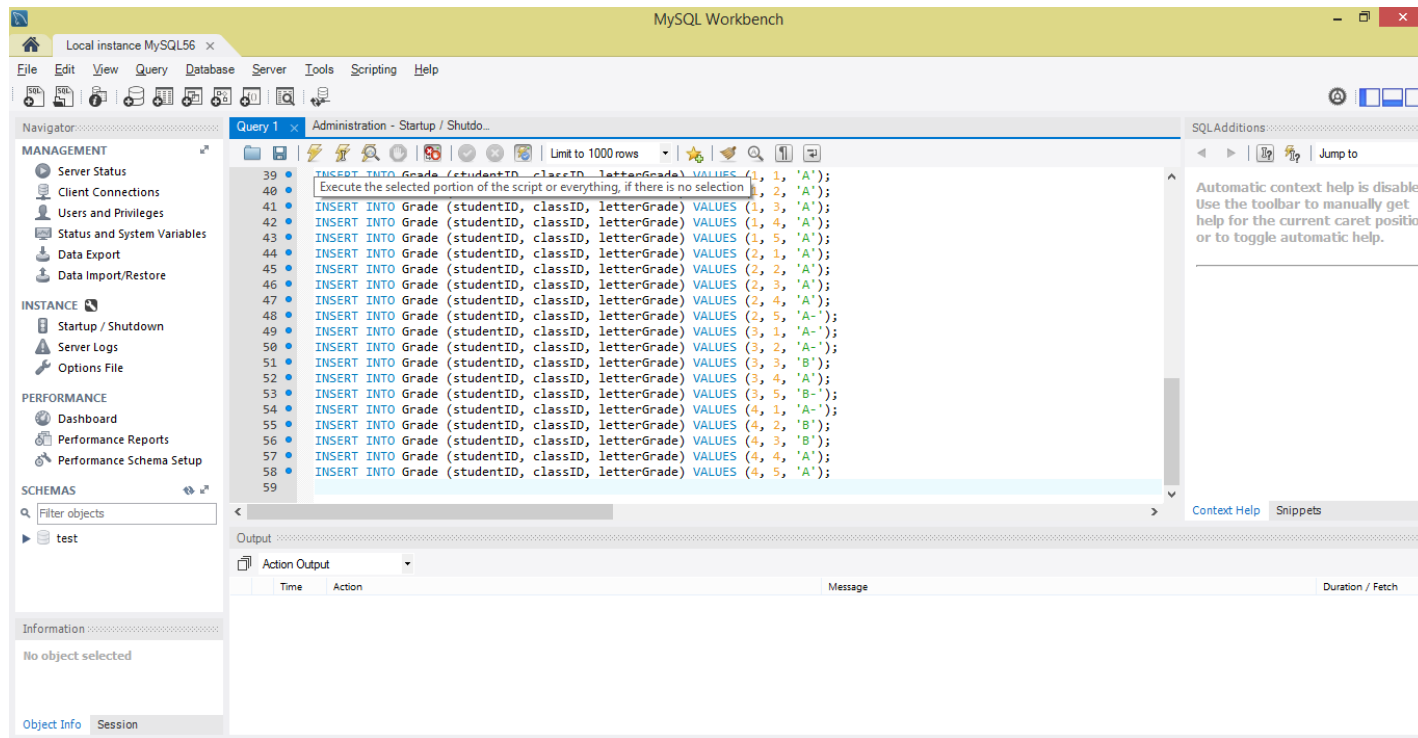
MySQL Workbench

- If the MySQL server is running, you will see the window below
- If the MySQL server is not running, no schemas will be showing
  - › Click on Startup/Shutdown and click the Start Server button
  - › You should hopefully see what is below when you click the Query 1 tab at the top

MySQL Database Creation

- Copy the content of http://www-scf.usc.edu/~csci201/lectures/Lecture16/Grades.sql into the Query 1 text area
- Click the lightning bolt that says "Execute the selected portion of the script or everything, if there is no selection"

MySQL Database Viewing

- Click the refresh button next to SCHEMAS and you should see your new schema called **studentgrades**

MySQL Database Query

- Click the arrow next to the schema to see the tables and columns
- Create a new tab by clicking the SQL+ button at the top left
- Type some queries and execute them using the lightning bolt button

Download MySQL JDBC Driver

- Download the MySQL JDBC Driver from
  http://dev.mysql.com/downloads/connector/j/
  › You might already have this if you downloaded the entire DBMS when you downloaded MySQL – it will be in the ConnectorJ subdirectory in the MySQL directory
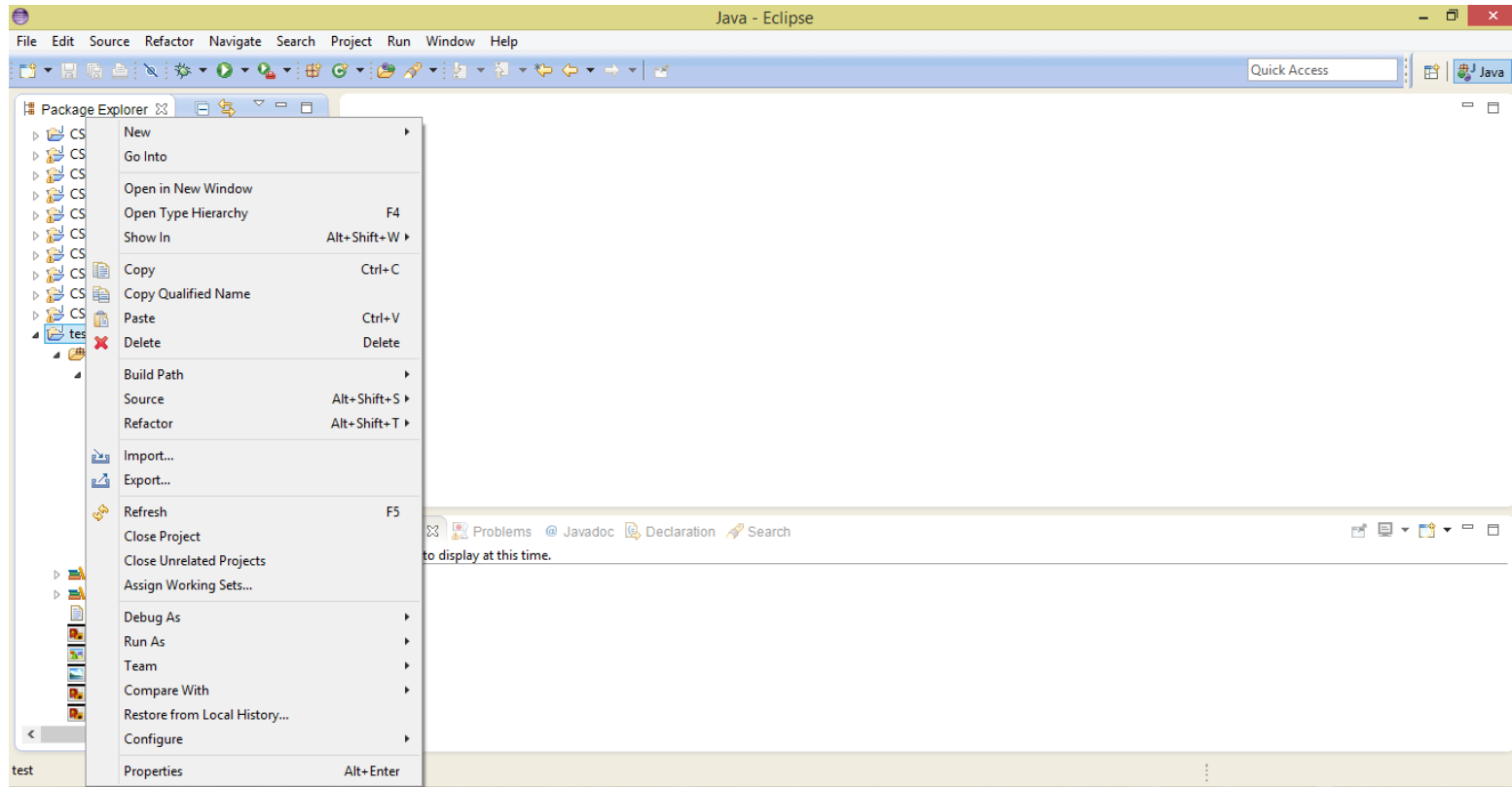- Run the installer and find the directory where you saved it!
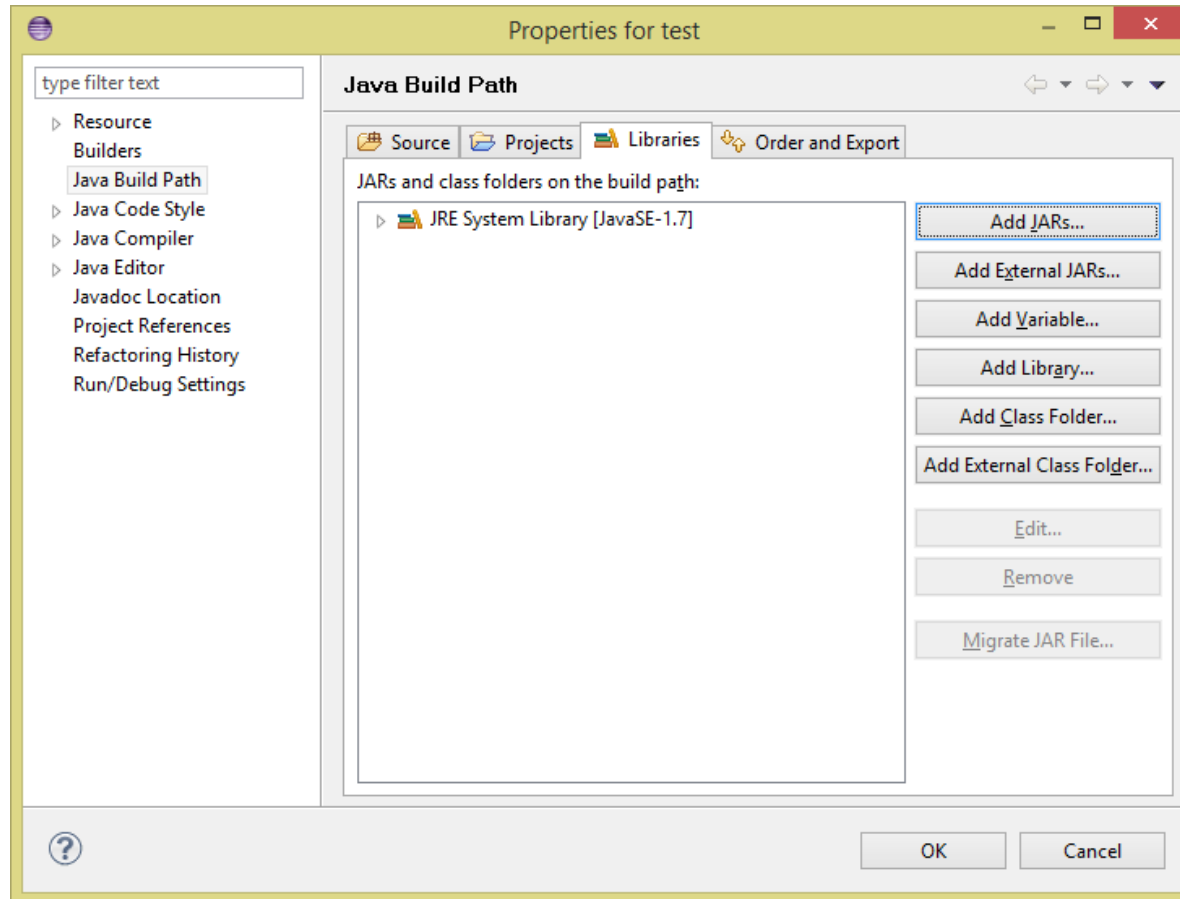
Adding JAR File to Eclipse Classpath

- Create a new project in Eclipse

- Right click on your project and click Properties

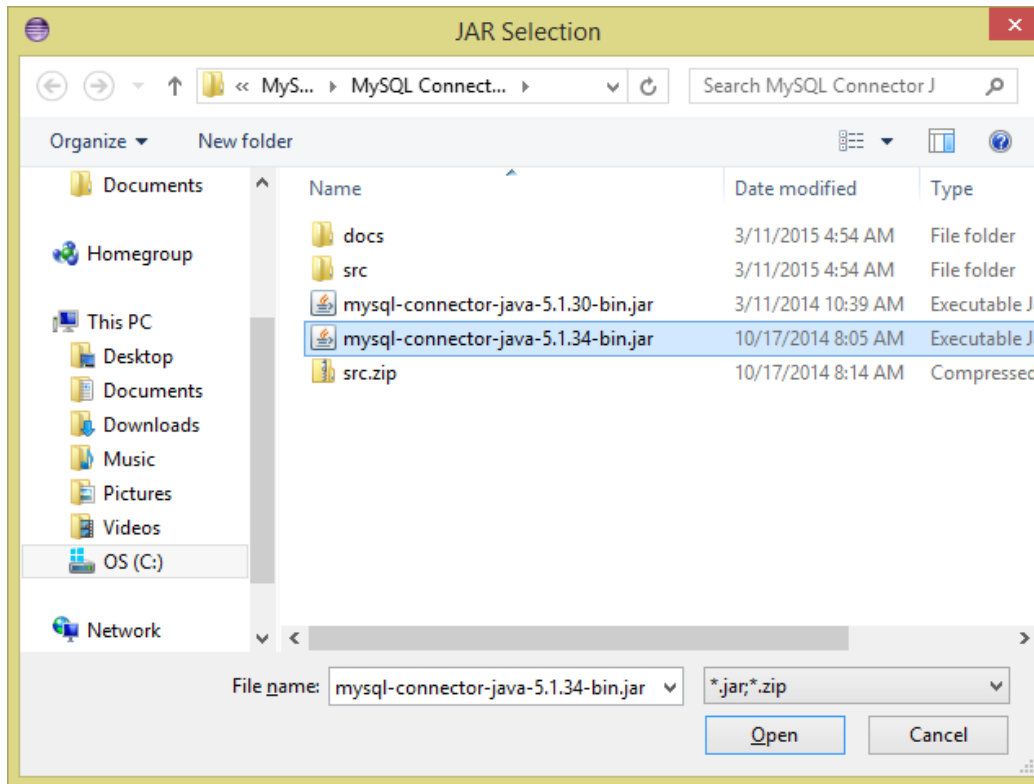# Adding JAR File to Eclipse Classpath

- Click Java Build Path on the left

Adding JAR File to Eclipse Classpath

- Click Add External Jar on the right and find the MySQL JDBC Driver
  - › Note that this should be in your Connector/J directory in your MySQL directory

Write the Code

- Copy the content of http://www-scf.usc.edu/~csci201/lectures/Lecture16/ JDBCTest.java to a file named JDBCTest.java in your project

- Change the root password in the code if necessary

- Run the code and hope for the output below

Dynamic Web Application

- If you are creating a dynamic web application, after adding the JDBC jar file to the build path, you also need to add it to the deployment
  - › Go to Project->Properties->Deployment Assembly->Add
  - › Select Java Build Path Entries and click Next
  - › Select the JDBC Driver and click Finish
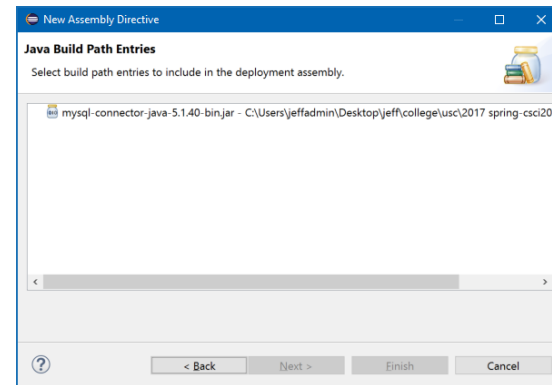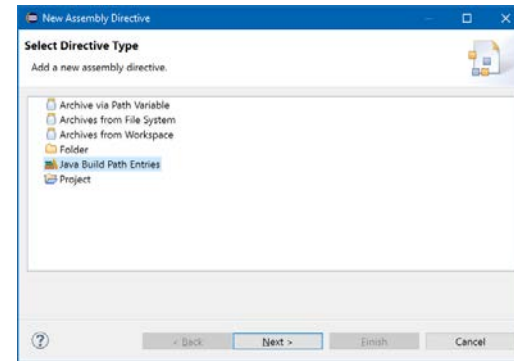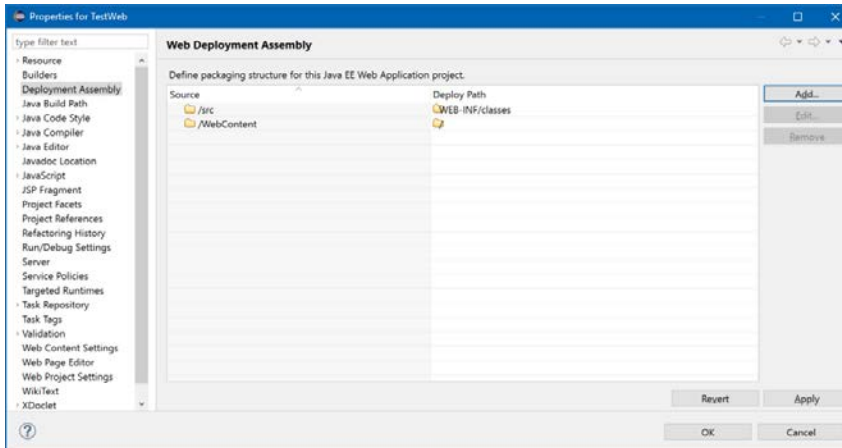
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Program

- Write a program to prompt the user for a class and a grade, and then the program will display all of the students who earned that grade in that class.

```
C:>java ClassGrade
Enter class prefix: CSCI
Enter class number: 103
Enter grade: A
Here are all the students in CSCI 103 who earned an A.
Sheldon Cooper
Leonard Hofstadter
```