Developer Machine Setup Instructions

1. Java 8, 64-bit.  May need to remove old versions of Java.

* <http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>
* Download and install: Windows x64    186.16 MB      jdk-8u60-windows-x64.exe

2. NetBeans

* <https://netbeans.org/downloads/index.html>
* Download and install: Java EE NetBeans IDE Download Bundle

3. MySQL

* <http://dev.mysql.com/downloads/mysql/>
* Windows (x86, 32-bit), MSI Installer
* During installation, use the following selections:
  + Developer default
  + Ignore check requirements and confirm
  + Execute!
  + Settings: use defaults
    - MySQL Root Password: password

4.Install SQLyog

<https://code.google.com/p/sqlyog/wiki/Downloads>  
Download and install: SQLyog Community Edition - 12.09 (64-Bit)

5. Resolve issues between Oracle Database and Glassfish Server.  You must stop Oracle database service before using NetBeans/Glassfish.  Restart Oracle database when NetBeans is closed.

<http://stackoverflow.com/questions/20138136/could-not-start-glassfish-server>

6.  To Use a JDBC connection in Glassfish, copy MySQL JDBC driver (mysql-connector-java-5.1.36-bin.jar) from C:\Program Files (x86)\MySQL\Connector.J 5.1 to  
C:\Program Files\glassfish-4.1\glassfish\lib

More info: <https://computingat40s.wordpress.com/how-to-setup-a-jdbc-connection-in-glassfish/>

7. Open NetBeans, stop Derby database from starting.  (Since we're not using Derby database, this improves efficiency and startup times.)  
<https://forums.netbeans.org/ntopic26773.html>

8. Download Zip file Book Applications and Exercises from Free Downloads here: <https://www.murach.com/shop/murach-s-java-servlets-and-jsp-3rd-edition-detail>  
  
Save this zip file for later.  We'll be referring to many of these applications throughout the course.

Extract \servlet\_and\_jsp\netbeans\book\_apps\ch02email

9. In NetBeans, open ch02email project, resolve server (right-click on project and choose resolve...) , and run.  If Glassfish won't start, ensure Oracle is stopped.

10. Ensure application works in a browser.

Congratulations your development environment is now set up correctly!

11. In NetBeans, go to the Services tab on the left.  Expand Servers, GlassFish Server 4.1, Applications.  This is where applications are deployed.  Applications can also be undeployed from the web server.

JDBC Pools

**If any of the database steps do not work for you, redo the installation above.**

## Initial Database Setup

### Step 1

Create an empty MySQL database called “NotesDB”. Do **one** of the following:

* In a command shell, type:
  1. cd c:\Program Files\MySQL\MySQL Server 5.6\bin\
  2. mysql -u root –p
     + enter password: password
  3. create database NotesDB;
  4. exit
* Open SQLyog
  1. Create a new connection
     + Address: localhost
     + Username: root
     + Password: password
  2. Right-click on root@localhost and create a database called “NotesDB”

### Step 2a

Database connections are time consuming. Instead, we use a pool of connections and retrieve a connection from the pool.

1. Go to the admin console for Glassfish.
2. Under Resources -> JDBC -> JDBC Connection Pools, click on “New”.
   * Pool name: NotesPool
   * Resource Type: javax.sql.ConnectionPoolDataSource
   * Database Driver Vender: MySql
3. Next
4. Under “Additional Properties” edit the following name/value pairs. Leave the others as defaults
   * User: root
   * Password: password
   * URL: jdbc:mysql://localhost:3306/NotesDB
   * Url: jdbc:mysql://localhost:3306/NotesDB
5. Finish

### Step 2b

In Glassfish admin console, add a JDBC Resource

* JNDI Name: jdbc/NotesDB
* Pool: NotesPool

In your connection class, you will use the JNDI name.

InitialContext ic = new InitialContext();

dataSource = (DataSource)ic.lookup("jdbc/NotesDB");

### Step 3

Add a database connection in NetBeans

1. Under the Services tab, right-click and choose “New Connection”
2. Choose “MySQL” Driver and click Next
3. Enter the following values:
   * Host: localhost
   * Database: notesdb
   * Port: 3306
   * User Name: root
   * Password: password
   * Remember password: checked
4. Next
5. Next
6. Input connection name: NotesDB
7. Finish

**Run NotesDB.sql!**