Setting up (and Maintaining) FirstWebApplication on Windows

Download Correct Software

ENSURE YOUR VERSIONS ARE **IDENTICAL**

1. Install NetBeans 12.5
   1. ([Apache NetBeans Releases](https://netbeans.apache.org/download/index.html))
2. Install Tomcat 9.0.54
   1. (<https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.54/bin/apache-tomcat-9.0.54-windows-x64.zip>)
3. Ensure your computer is connected to the labs network via cable.
4. Download (or re-download) the given project folder called WebApplications.
   1. (<https://files.bloomu.edu/>) Under MADS Course Data>COMPSCI-221-1>Code
5. Open the project with NetBeans in **administrator mode**.

Setup JDK 11 as the SDK for NetBeans

1. Install JDK 11.0.12
   1. ([https://www.oracle.com/java/technologies/javase/jdk11-archive-downloads.html#license-lightbox](https://www.oracle.com/java/technologies/javase/jdk11-archive-downloads.html" \l "license-lightbox))
2. Launch NetBeans.
3. At the top of NetBeans, navigate to ‘Tools’>’Java Platforms’.
4. In the ‘Java Platforms’ window, delete all existing JDKs you may have installed.
5. Close NetBeans.
6. In file explorer, navigate to “C:\Program Files\NetBeans-12.5\netbeans\etc”.
   1. This is just the file path where you have installed NetBeans, then \netbeans\etc.
7. Open ‘netbeans.conf’ in Notepad.
8. Close to the bottom, there will be a parameter called ‘netbeans\_jdkhome’. The path to your old JDK should be inside of there.
9. Delete the path in the config file and replace it with the path to wherever you installed JDK 11.

Setup Web Plugin & Server

THESE WILL BE CHANGES IN NETBEANS, SO OPEN NETBEANS.

1. At the top of NetBeans, select Tools>Plugins
2. In the plugins window, select ‘Installed’ at the top of the window.
3. Check the circle to the right of ‘Java Web and EE’.
   1. If it is green, skip to step 7.
   2. If it is grey, complete steps 4 through 6.
4. Check the box next to ‘Java Web and EE’ to select it.
5. Select ‘Activate’ at the bottom of the window.
6. Close NetBeans and re-launch it.
7. At the top of NetBeans, select Tools>Servers
8. In the servers window, select ‘Add Server’ at the bottom of the window.
9. Select ‘Apache Tomcat or TomEE’.
10. Click ‘Next’ at the bottom of the window.
11. Enter the server location. This will be the path to the folder where you installed Tomcat, including the Tomcat folder ‘apache-tomcat-9.0.54’
    1. i.e. C:\Program Files\Apache Software Foundation\apache-tomcat-9.0.54
12. Enter the username ‘Ide’ into the ‘Username’ field.
13. Enter the password ‘admin’ into the ‘Password’ field.
14. Select ‘Finish’ at the bottom of the window.
15. Right click the project folder in the left of NetBeans.
16. Click ‘Resolve Missing Server Problem…’.
17. In the window that was opened, select the server you made.
    1. Unless you renamed it, the name will be ‘Apache Tomcat or TomEE’.
18. Select ‘Finish’ at the bottom of the window. The button name may differ slightly.

Update Credentials

THESE ARE CHANGES TO THE PROJECT FOLDER, SO OPEN IT IN NETBEANS

This happens to change a running application from using class credentials to your own credentials.

1. Navigate to ‘Web Pages’>’META-INF’>’context.xml’.
2. Around lines 37 and 38, change the following lines so they use your username. (i.e. usr12345)
   1. url="jdbc:mysql://classDB.mads.bloomu.edu/usr12345"
   2. username="usr12345" password="usr12345"
3. Navigate to ‘Web Pages’>’WEB-INF’>’config’>’General.properties’.
4. Around lines 25-27, change the following lines so they use your username. (i.e. usr12345) mty87392
   1. DatabaseName=usr12345
   2. MySQLUserName=usr12345
   3. MySQLPassword=usr12345
5. Navigate to ‘Web Pages’>’WEB-INF’>’web.xml’
6. Around line 41, replace the test email with your university email. (i.e. [usr12345@huskies.bloomu.edu](mailto:usr12345@huskies.bloomu.edu))mty87392@huskies.bloomu.edu
   1. <param-value>[usr12345@huskies.bloomu.edu</param-value](mailto:usr12345@huskies.bloomu.edu</param-value)>
7. Navigate to ‘Source Packages’>’common’>’Paths.java’.
8. Change the path around line 13 to the path leading to the project folder.
   1. i.e. P:/WebApplications/FirstWebApplication
9. Navigate to ‘Web Pages’>’WEB-INF’>’sql\_scripts’>’CreateTables.sql’
   1. This file will be what you use to create database tables in your database. Make sure to run it in SQL Workbench so it can be tested before it is used here.

Cleaning, Building, and Running

THIS IS THE EXPERIMENTAL PART. YOUR SOLUTION MAY REQUIRE SOME VARIATION OF THESE STEPS.

1. Make sure NetBeans is open in **Administrator Mode**.
2. Run the project. If it does not run, re-install and retry these instructions.
3. Try to Clean & Build the project folder. This should fail.
4. Open the command prompt in **administrator mode**.
5. Run this command: netstat -ano | findstr 8080
   1. When the command finishes, there will be a number on the right of the generated table that is not 0. Run the next command with this number.
6. Run this command: taskkill /F /pid XXXX
   1. The XXXX is the number mentioned in step 4a.
7. This has killed Tomcat. Now you should be able to run the program and clean & build it.
8. If your program still cannot run, try some variations of these steps.
9. If it does run and clean & build, then the cart project should successfully Clean & Build with 4 errors and run.

Error Handling

ONCE THESE STEPS ARE COMPLETED YOU MAY ENCOUNTER FURTHER ERRORS. IF YOU DO, REFERENCE HERE.

1. After Cleaning & Building: Unable to delete file…
   1. Open the command prompt in **administrator mode**.
   2. Run this command: netstat -ano | findstr 8080
      1. When the command finishes, there will be a number on the right of the generated table that is not 0. Run the next command with this number.
   3. Run this command: taskkill /F /pid XXXX
      1. The XXXX is the number mentioned in step 4a.
   4. This has killed Tomcat. Now you should be able to run the program and clean & build it.

**For FirstWebApplication you also need to do the following**

1. Navigate to ‘Source Packages’>’servlets’>’Options.java’.
2. Around line 37, change the following line from ‘SampleWebApplication’ to ‘FirstWebApplication’.
   1. if(action==null) url = "/FirstWebApplication" ;