

Getting Tomcat on Mac (unlike Apache, Tomcat is not pre-installed on Macs)

[NOTE] I believe the version you download should correspond to the TomCat vX.X Server you selected in Step 2 of the **Correct Eclipse Installation**

1. This is the link I followed for download instructions:
https://editrocket.com/articles/tomcat_mac.html
2. Downloads are accessible via: <http://tomcat.apache.org/>
3. Note: I had an error (Tomcat starts, but <http://localhost:8080> does not open). I resolved with this link:
<https://crunchify.com/tomcat-starts-but-home-page-does-not-open-on-browser-with-url-http-localhost8080/>

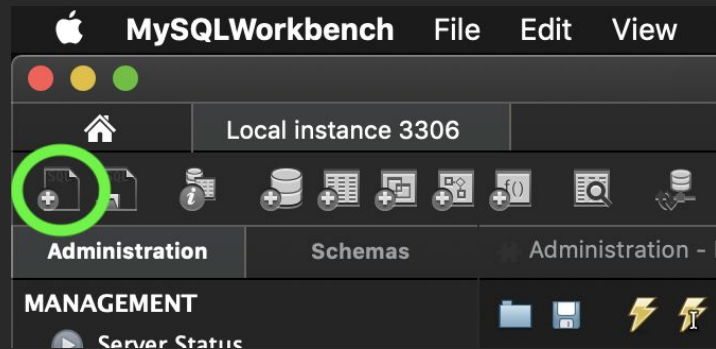
Correct Eclipse Installation:

I'm working with Eclipse IDE for Java Developers (Photon Release 4.8.0) but I need to install additional software for web application development support. Really, I mean to say, In Eclipse: Windows > Show View, I don't have an option to add servers. Solution: Go to Eclipse > Help > Install New Software. In the "Work with" bar: go to a link that contains something like: "download.eclipse.org/releases/"). After loading, the box below it should be populated with options. Scroll all the way down and select "Web, XML, Java EE and OSGi Enterprise Development" (If you can;t find this option, try loading a different link). Press next next agree etc. Wait until eclipse asks you to restart. When it does, smack that button to restart.

1. In eclipse, Windows > Show View > [Select the option] Servers (You may have to press other first and search for it!)
2. Mine says no servers are available, so Im going to go to the link eclipse displays (it says "Click this link to create a new server")
3. Here's a link to do 2:
<https://help.eclipse.org/neon/index.jsp?topic=%2Forg.eclipse.stardust.docs.wst%2Fhtml%2Fwst-integration%2Fconfiguration.html>

Creating a Database in MySQL:

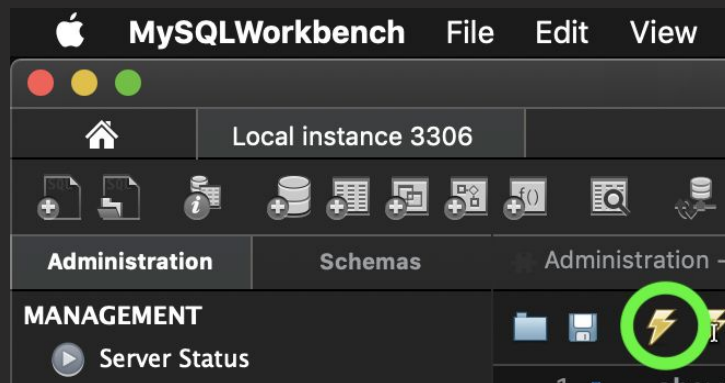
1. [In MySQL] Select "Create a new SQL tab for executing queries"



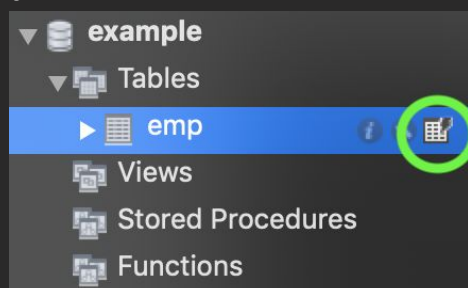
2. In that file, type:

```
create database cs157a;
use cs157a;
create table emp(id int(10),name varchar(40),age
int(3));
```

3. Now, press the lightning button:



4. A new table should have been made. Check by going to the Schemas tab (may be difficult to find but it should be somewhere on the left side of the screen). Once you find it, there should be a super tiny symbol option to refresh the Schema. Press that, and you should see the cs157a table. I made one called example. Refer to the image to find out which button to press to see the contents of your DB:

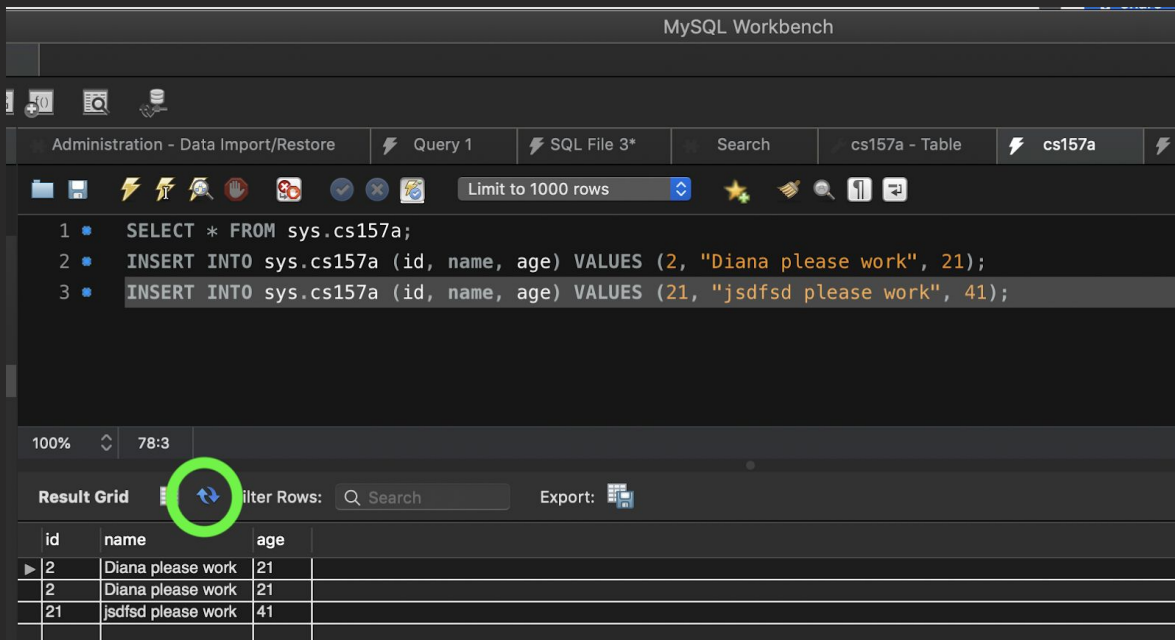


5. Now clear all of the code (3 lines in step 2) in your SQL tab and type something like:

```
INSERT INTO cs157a.emp (id, name, age) VALUES (2, "ada", 21);
```

```
INSERT INTO cs157a.emp (id, name, age) VALUES (32, "noam", 19);  
INSERT INTO cs157a.emp (id, name, age) VALUES (89, "alan", 24);
```

6. Hit that lightning button again (same button pictured in step 3)
7. To see your table updated, you'll need to hit refresh again (Please ignore line 1):



Eclipse project setup:

1. [In Eclipse] Create a new project —> New > Project > Web > Dynamic Web Project
2. [Downloading from website] Here is the link for Java connectors, download with the following options selected:
 1. Platform Independent
 2. Zip archive
 3. Link: <https://dev.mysql.com/downloads/connector/j/5.1.html>
 4. Note: unzip the package once downloaded, and don't forget where you unzipped!
3. [In Eclipse] Right-click on the project you made -> Build Path -> Configure Build Path. Here, a window should pop up. Go to the Libraries tab and select "Add External JARs." Find the mysql-connector-java-java-5.1.48.jar file downloaded in step 2 and open. Finally hit apply and close

4. [In Eclipse] Now, in your course folder, add a new Java file called MysqlCon.java. Paste the contents of Slide-4 of HW1-3Tier into this file, make the correct changes to database name and password etc in this file
5. Run the project as a java application, items in your database should be printed.

JSP File stuff:

1. Right-click on Web Content Folder > New > JSP File
2. Copy and paste: code from online and change the lines of code that look similar to these:

```
Class.forName("com.mysql.jdbc.Driver");
con =DriverManager.getConnection("jdbc:mysql://
localhost:3306/cs157a?autoReconnect=true&useSSL=false"
,"root","!!!!PUT YOUR PASSORD HERE!!!");
```

3. And just before the end of the try block, add:

```
Statement stmt=con.createStatement();
ResultSet rs=stmt.executeQuery("select * from
cs157a.emp");
while(rs.next()){
    out.println("<br>" +rs.getInt(1)+"
"+rs.getString(2)+" "+rs.getInt(3));}
con.close();
```

4. Now hit save and run on server. You'll probably see Error 500 saying something about the class not being found. You'd fix this by setting classpath, but I didn't know how to do this part so my friend helped me with this.
5. Once you figure out the classpath stuff and hit run on server, you should be able to see the web page displaying the data from your db.
6. **[You can thank my friend for this part]** If you wanted to access this webpage via your browser (http://localhost:8080/name-of-your-jsp-file.jsp), navigate to your tomcat folder you downloaded in **Getting Tomcat on Mac** > Webapps > Root and paste your jsp file here. Now, go to your preferred browser, and type: http://localhost:8080/name-of-your-jsp-file.jsp