1. Download *Eclipse IDE for **Java EE** Developers* and extract it to a proper directory in your machine. (Recommended : Eclipse Photon R).

http://www.eclipse.org/downloads/packages/release/photon/r/eclipse-ide-java-ee-developers

2. Download and Extract Apache Tomcat-7 Server to a proper directory in your machine

https://tomcat.apache.org/download-70.cgi

3. Download the Postgresql JDBC Driver.

https://jdbc.postgresql.org/download/postgresql-42.2.5.jar

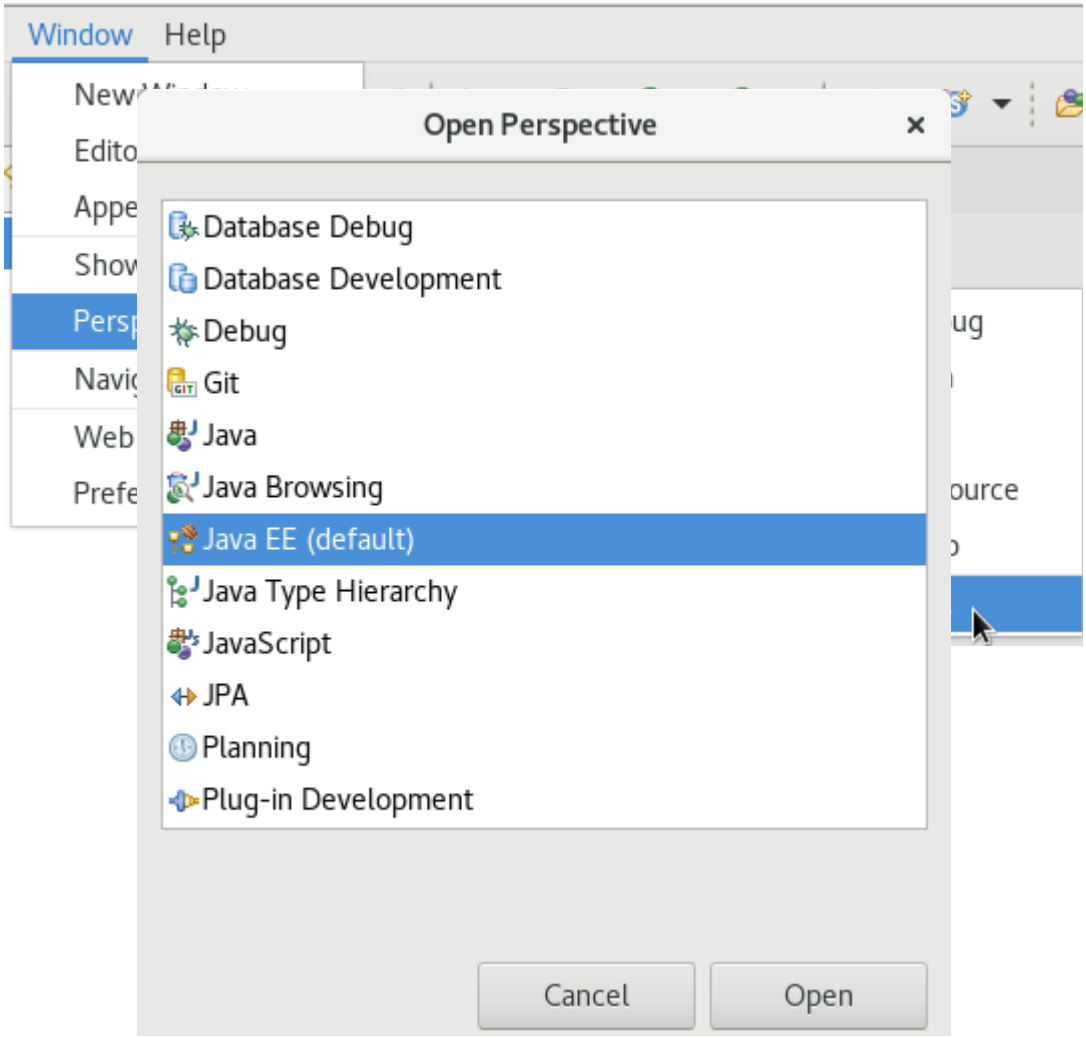
4. Login to your Postgres either from *psql* or pgadmin. Create a new database for your project. Create a new user and grant all privileges to it on the newly created database. Logout of the default postgres account.

```
sysad@debian:~$ psql -U postgres
psql (9.6.10)
Type "help" for help.

postgres=# CREATE DATABASE cs387;
CREATE DATABASE
postgres=# CREATE USER dbuser WITH LOGIN PASSWORD '123456';
CREATE ROLE
postgres=# GRANT ALL PRIVILEGES ON DATABASE cs387 TO dbuser;
GRANT
postgres=# \q
```

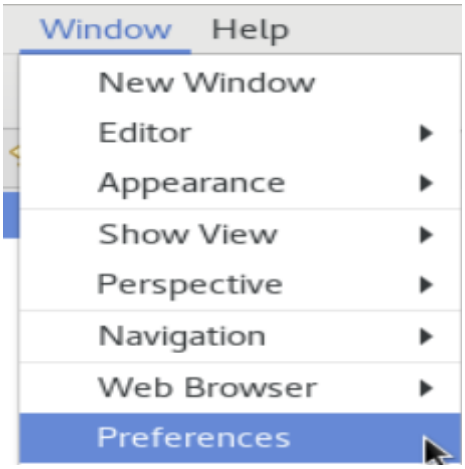
5. Login to postgres as a new user created earlier. Create the required tables and insert appropriate values into them. Exit your postgresql.

```
sysad@debian:~$ psql -U dbuser -d cs387
Password for user dbuser:
psql (9.6.10)
Type "help" for help.

cs387=> \i '/home/sysad/Public/create.sql'
CREATE TABLE
CREATE TABLE
cs387=> \i '/home/sysad/Public/create2.sql'
CREATE TABLE
CREATE TABLE
cs387=> \i '/home/sysad/Public/trigger.sql'
psql:/home/sysad/Public/trigger.sql:1: ERROR:  trigger "calculate_rating" for table "reviews" does not exist
CREATE FUNCTION
CREATE TRIGGER
cs387=> \i '/home/sysad/Public/insert.sql'
DELETE 0
DELETE 0
INSERT 0 1
INSERT 0 1
INSERT 0 1
```

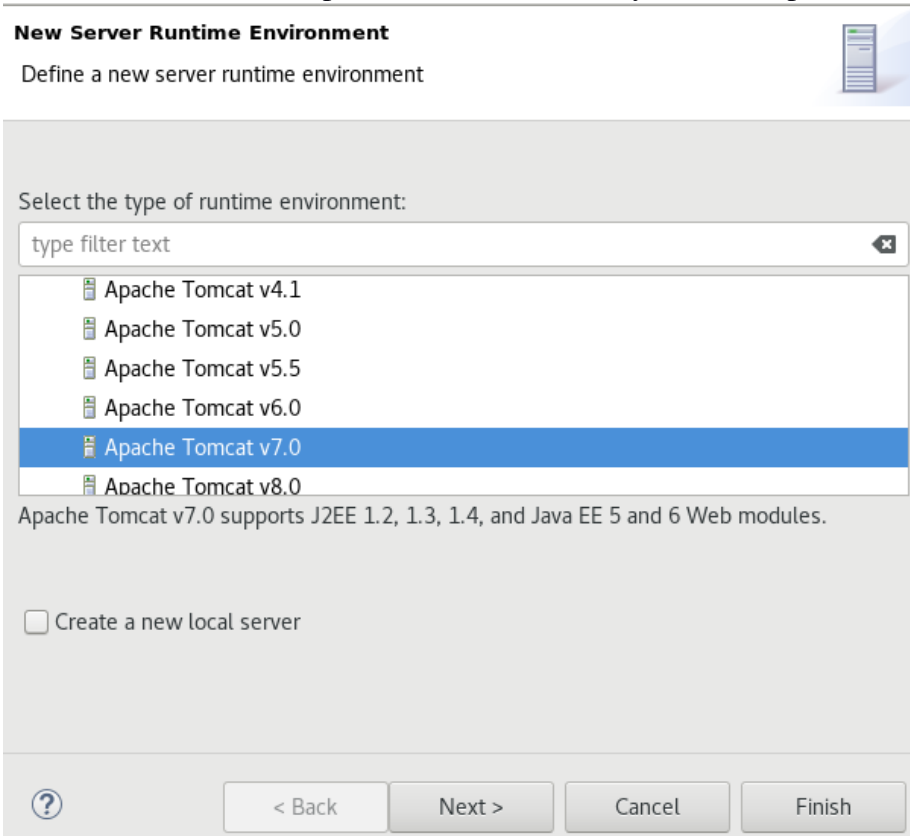
6. Launch your Eclipse IDE. Make sure that your Eclipse is set to default Java EE Perspective. From the menubar, Window -> Perspective -> Open Perspective -> Other -> Java EE (default).



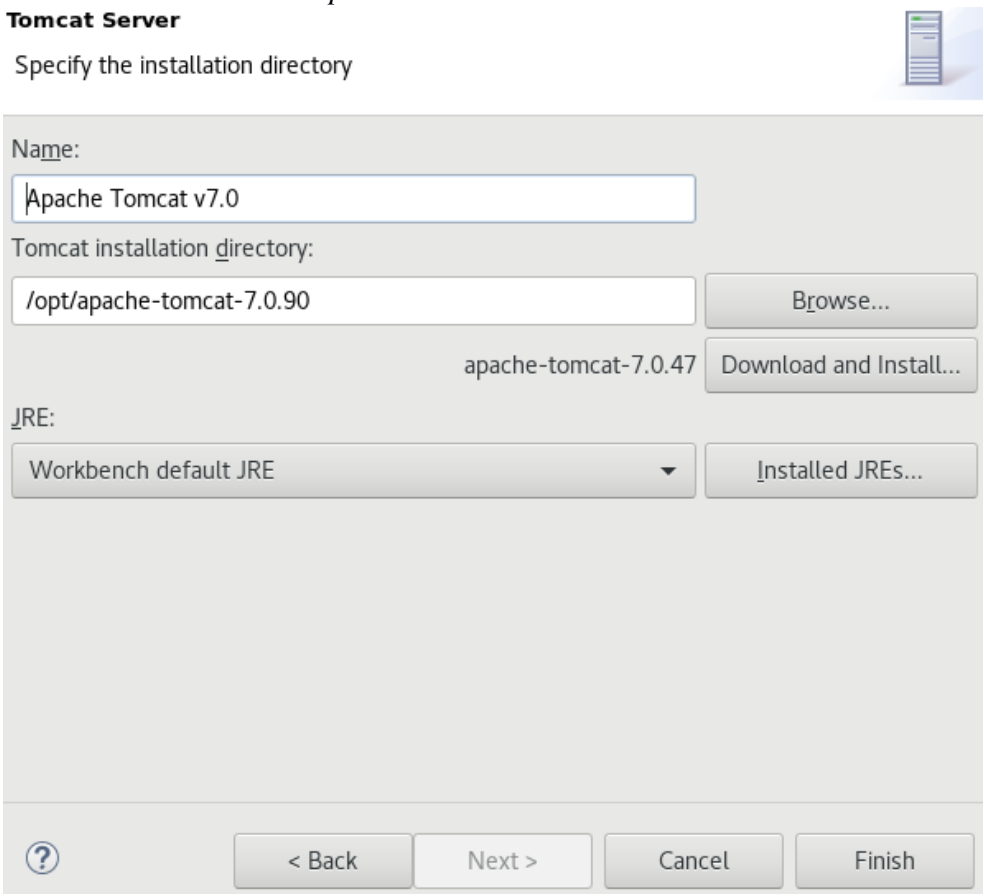
7. Add a Server to in your Eclipse IDE. From menubar, Window -> Preferences -> Server -> Runtime Environments.



Click on *Add* button to add a new Apache Tomcat Server to your Development Environment.

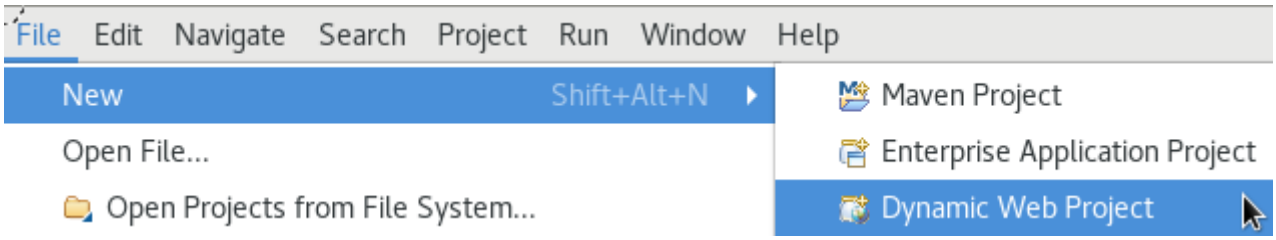


Select *Apache Tomcat v7.0* and Click next

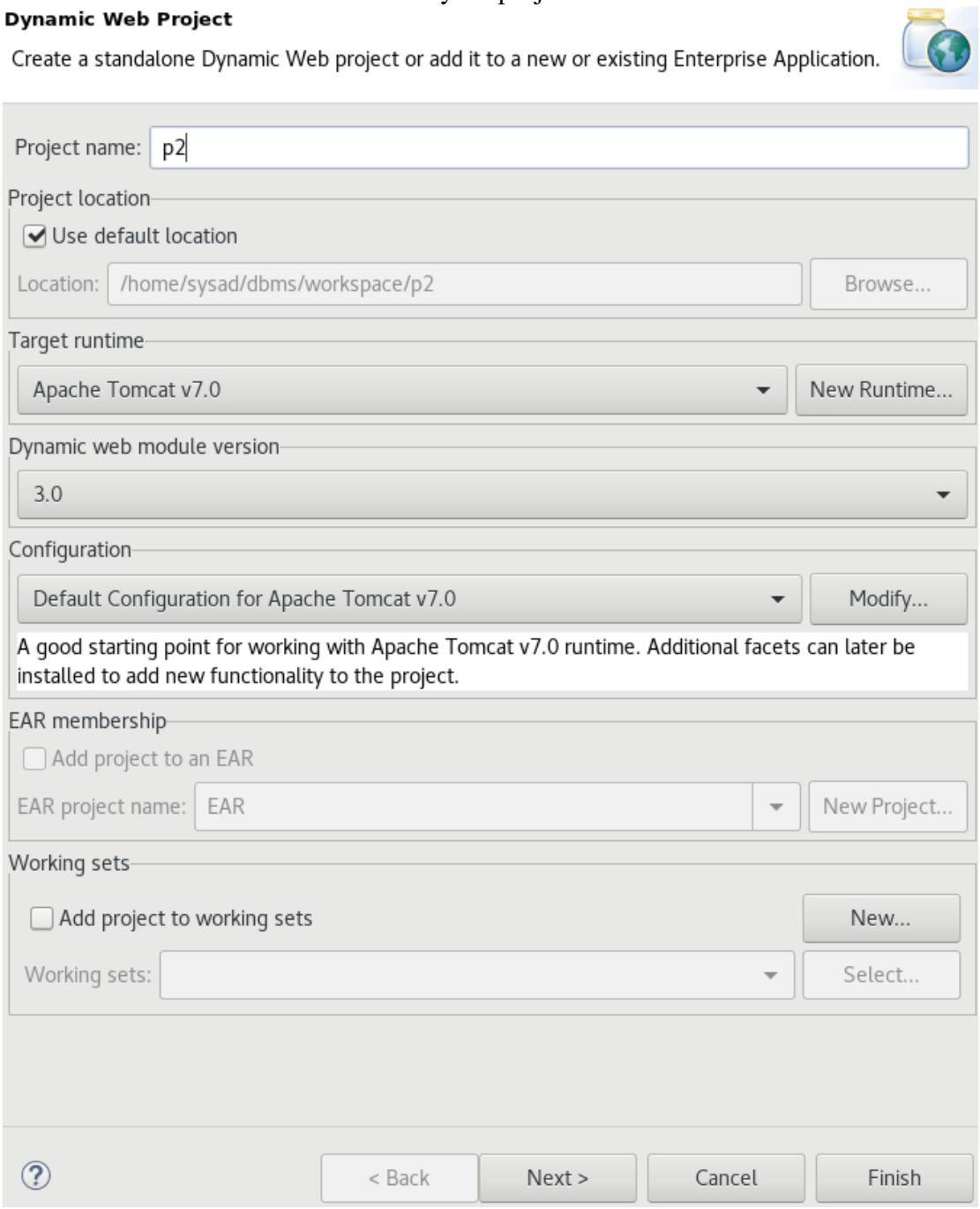


Mention the Tomcat Installation directory and hit finish.

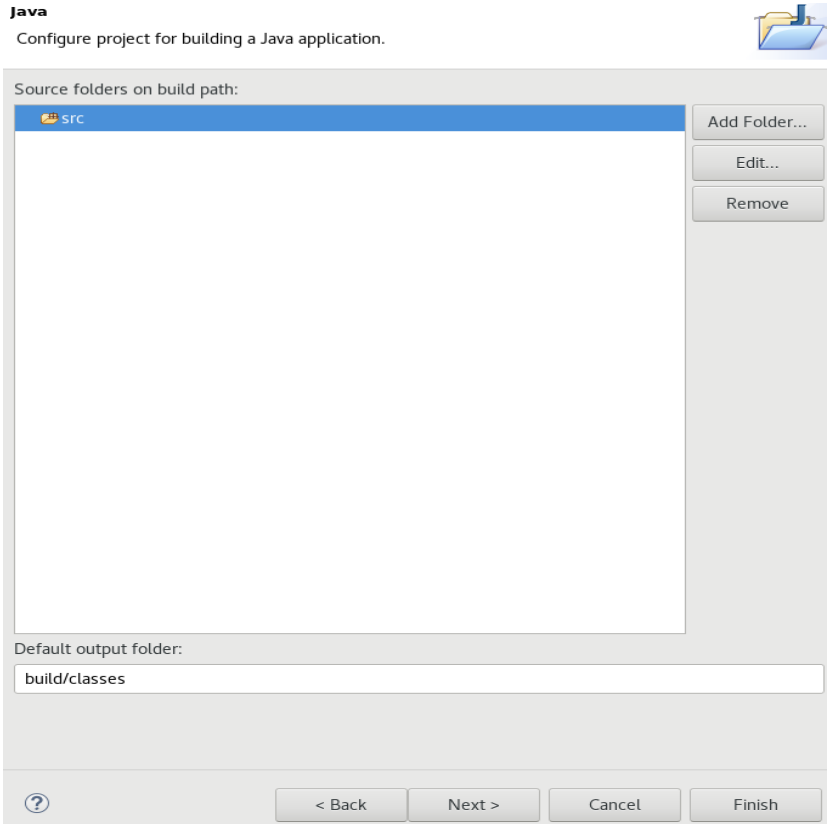
8. Create a new *Dynaminc Web Project*, From menubar, File -> New -> Dynamic Web Project

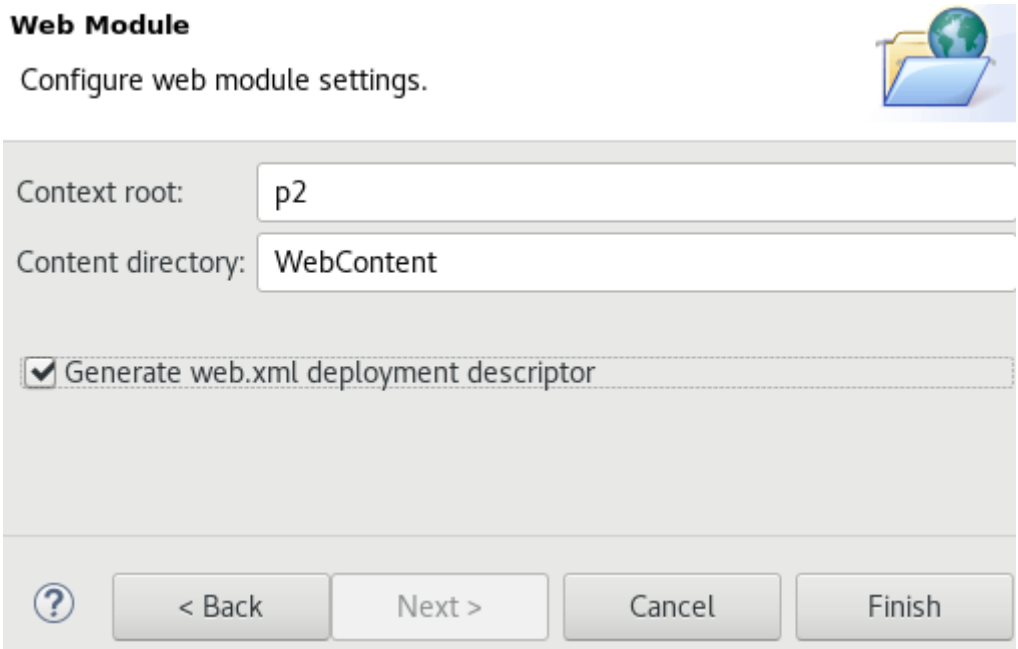


Give a name to your project. Click Next.



Set a *src* as a source folder on build path and click next

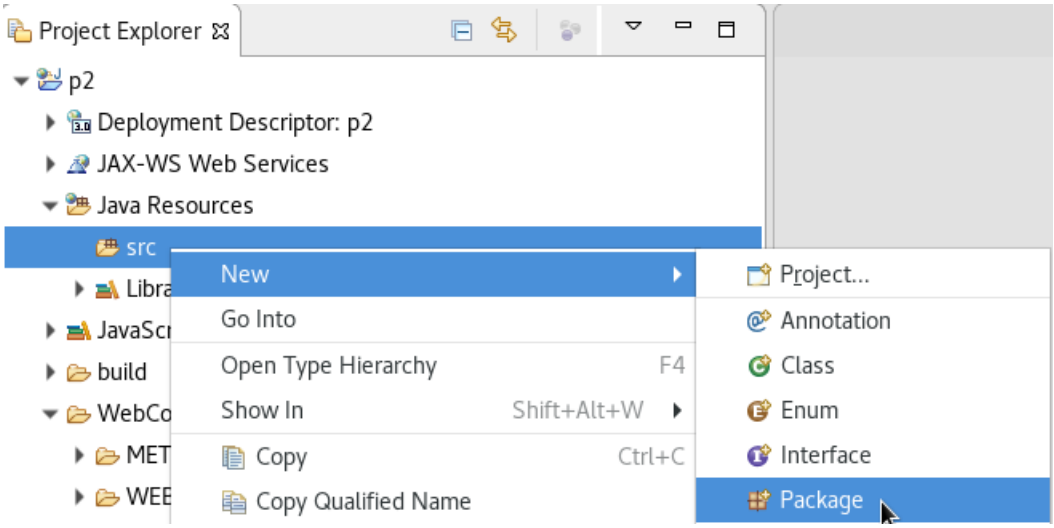




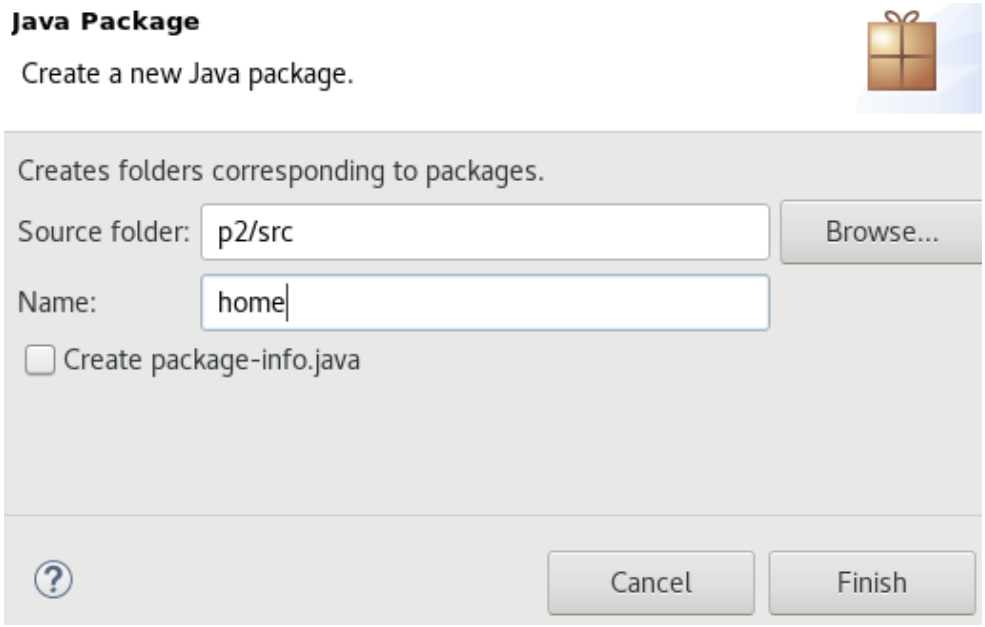
Don' forget to check-mark the *Generate web.xml deployment descriptor*. Click finish

9. Your project will be shown in *Project Explorer* on left side of Eclipse window. Expand your project folder and your *src* folder. Add packages in this directory.

Right-click on your project -> New -> Package

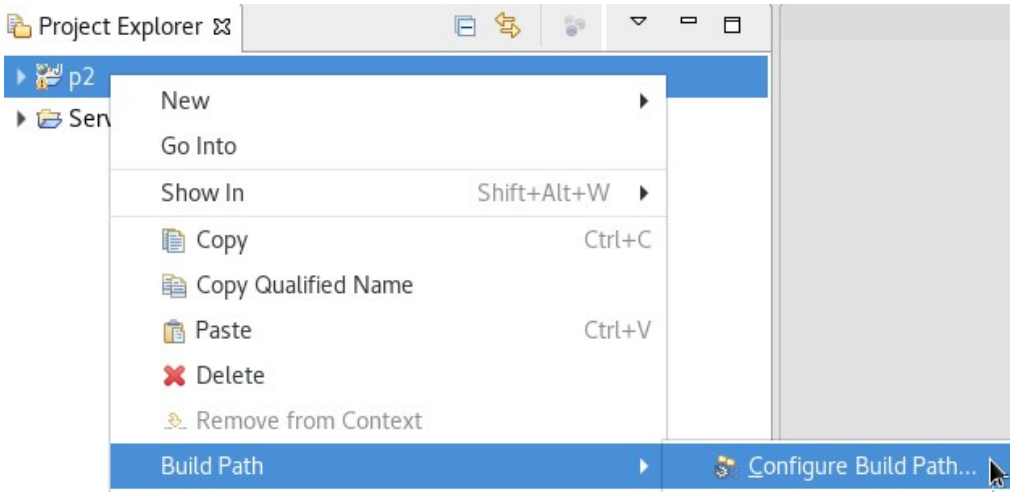


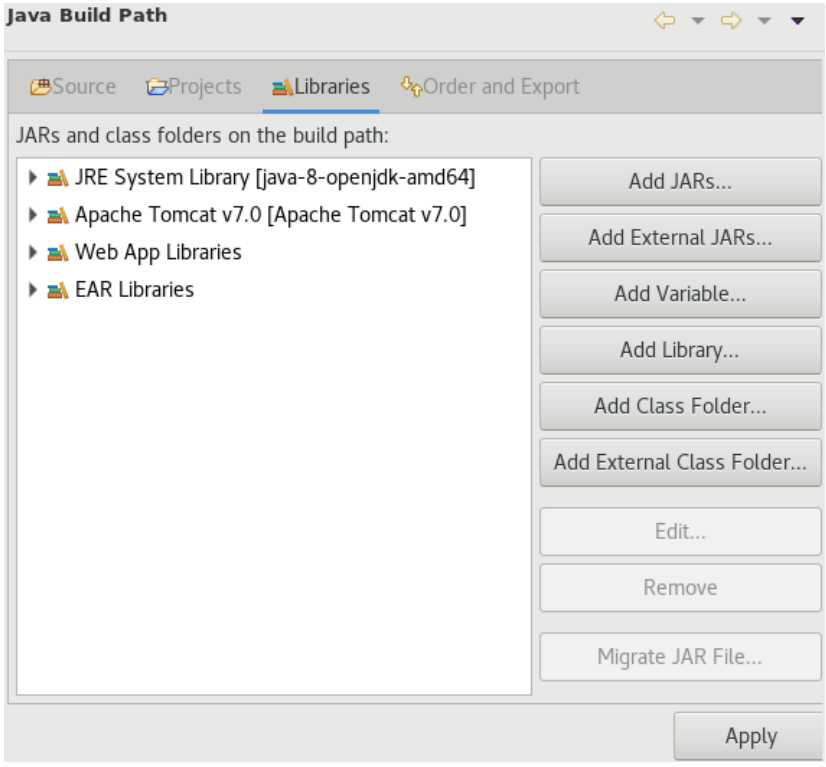
Give a name to your package and click finish



Put all your Servlet files (Java Source files) in these Packages. If you already have Java files you can simply copy those files inside these packages (like copying files to a directory).

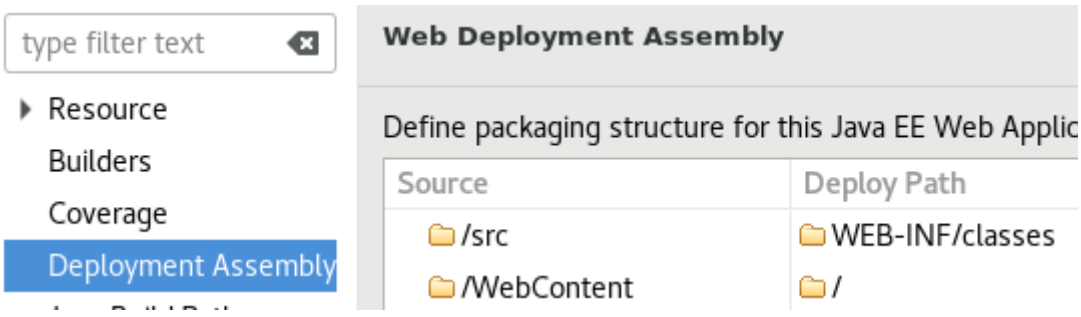
10. Add JDBC driver. Right-click on project, Build Path -> Configure Build Path



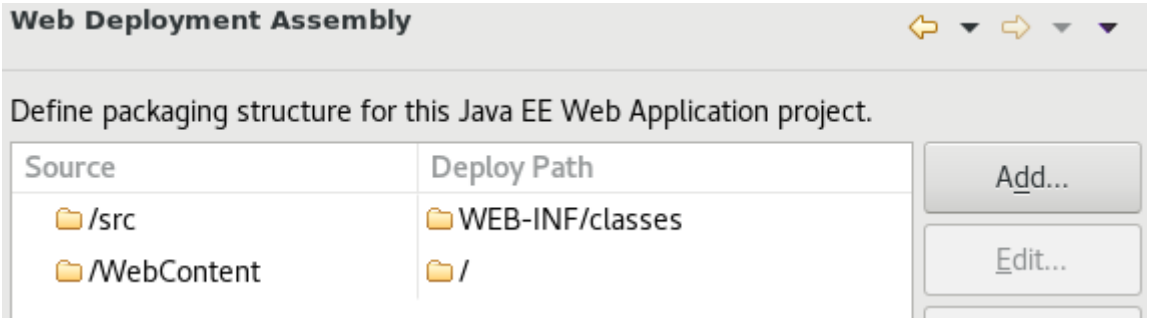


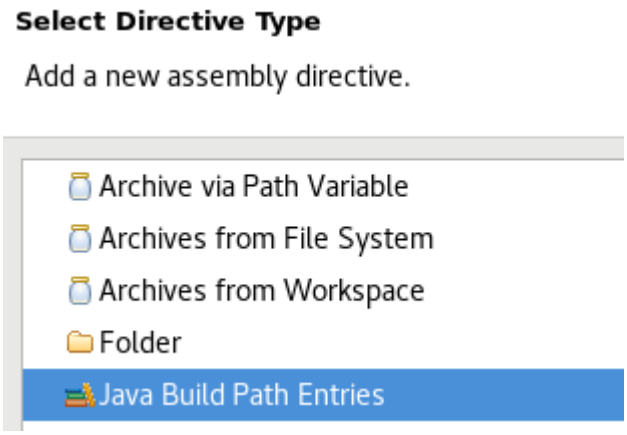
Click on *Add External JARs*, Select your Postgresql JDBC driver

On the same Window, Select *Deployment Assembly*

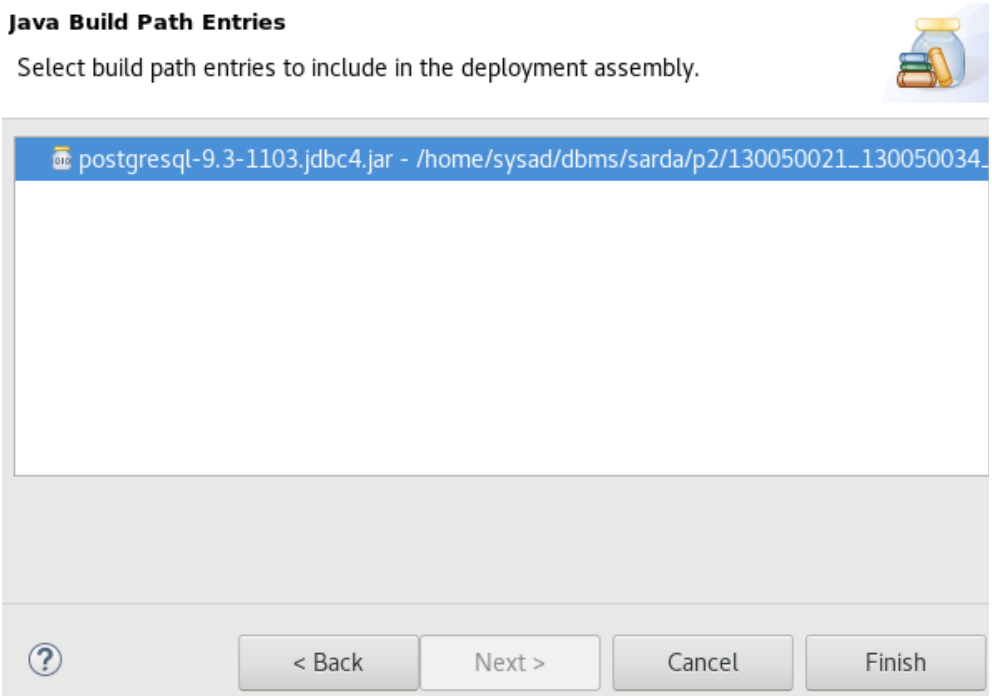


11. In the *Deployment Assembly*, Click Add.



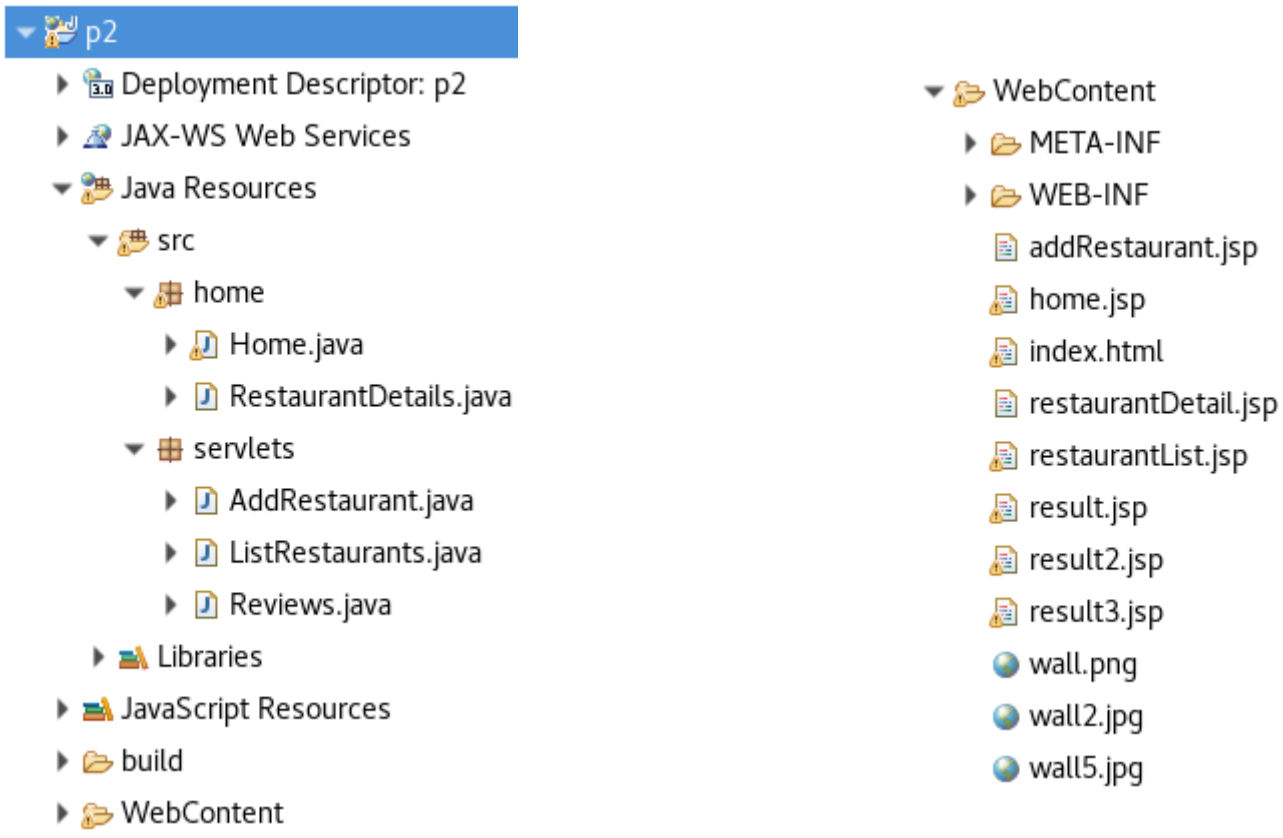


Click Next



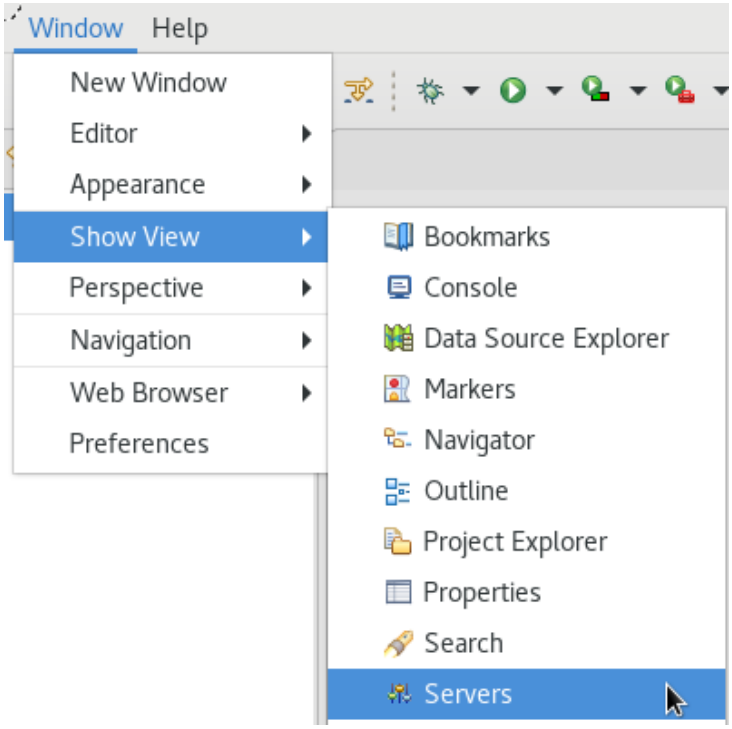
Select JDBC driver, Click Finish. Apply and Close.

12. Put your Web contents (HTML, JSP and/or Image files) inside the WebContent folder.

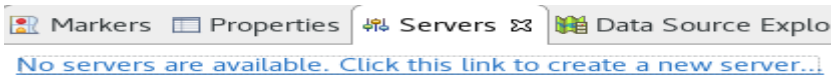


13. Resolve the errors if they are present.

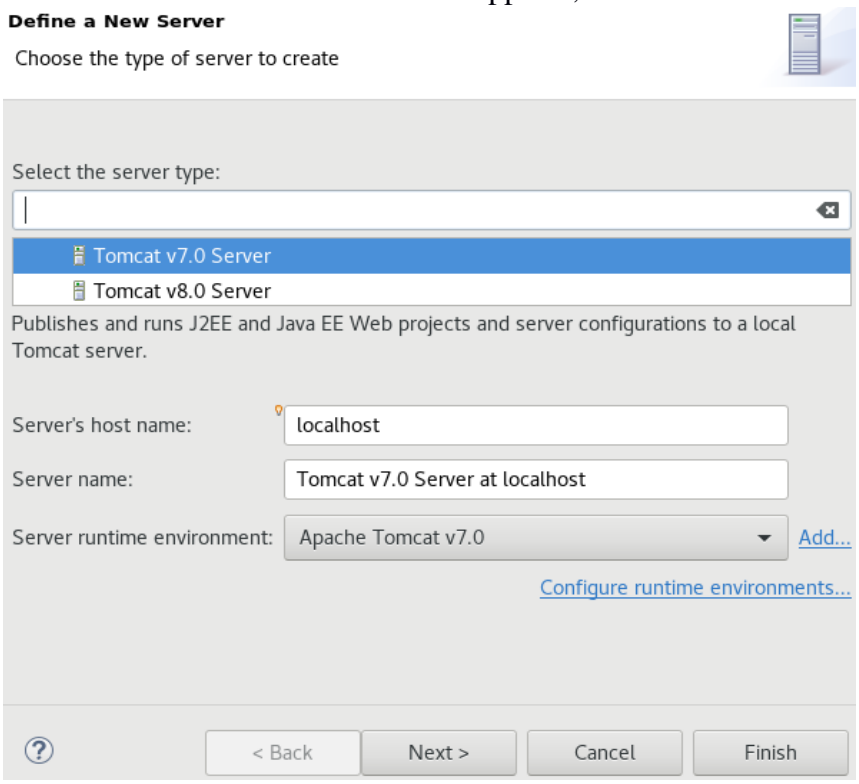
14. Make sure the *Server* View is available. From menubar, Window -> Show View -> Servers.



15. Create a server from previously added Apache Tomcat server. Select the *Servers* tab located at the bottom part of your Eclipse Window. Click on the link provided in *Server* tab.



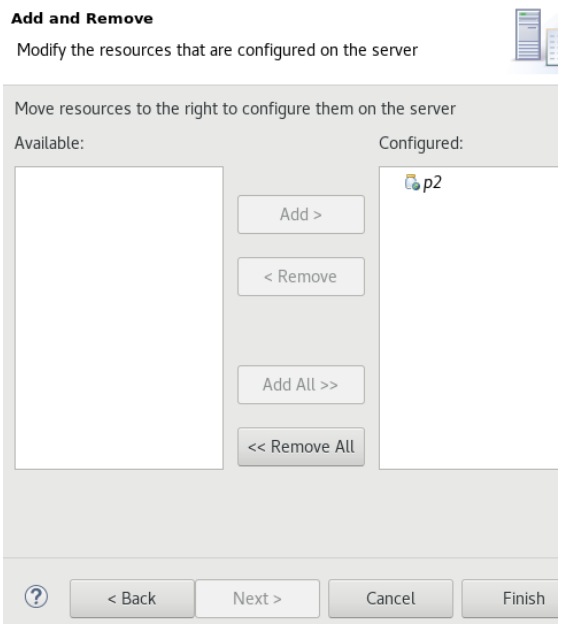
The window shown below appears, Click next.



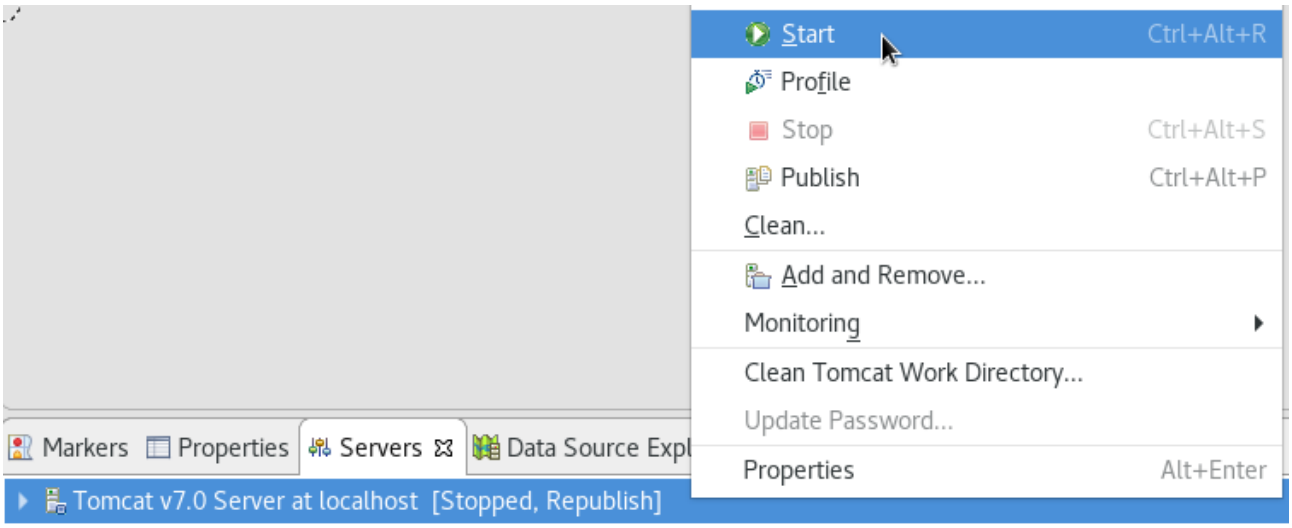
Click Next

16. Configure your project on the server.

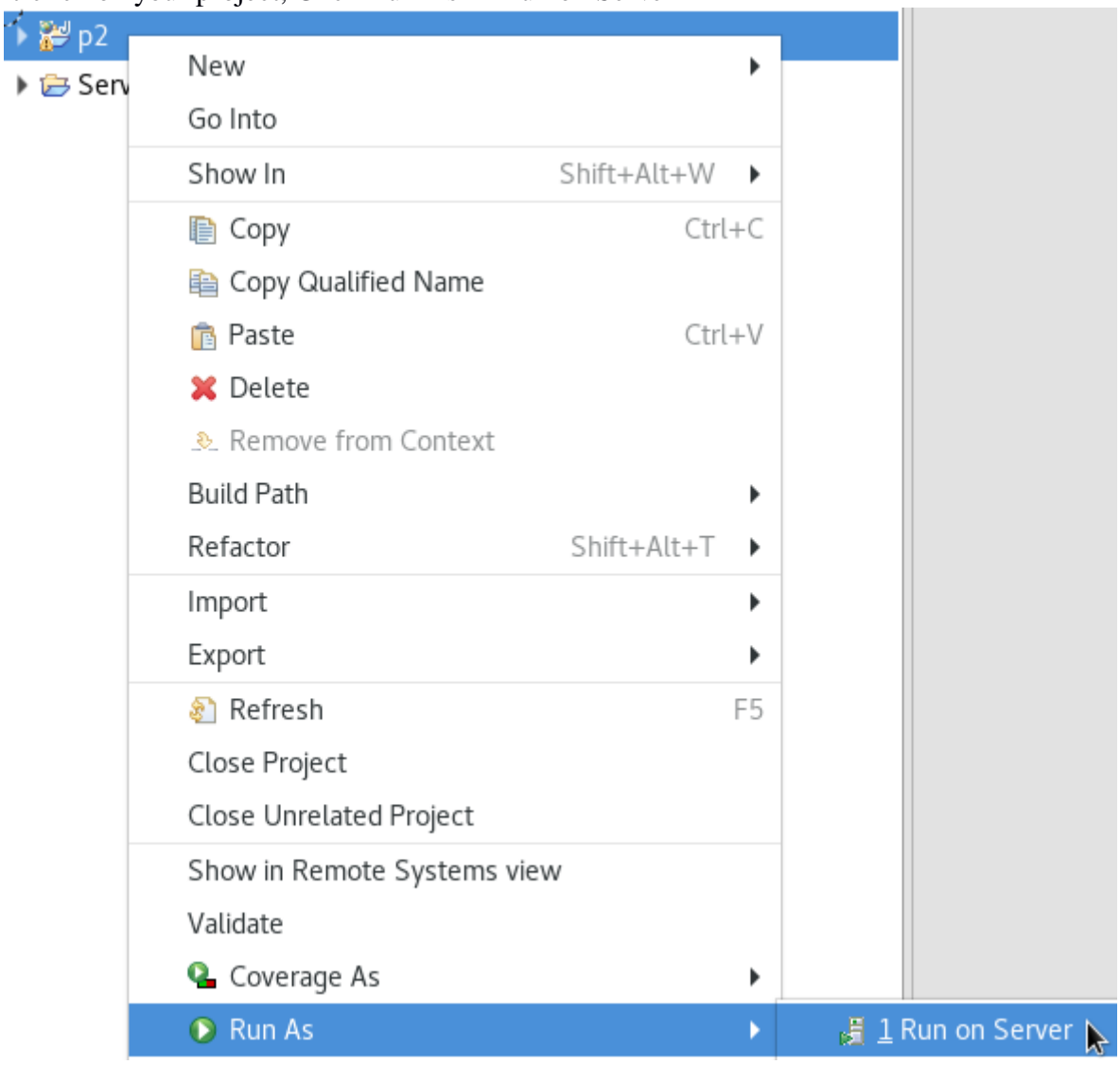
Move your project from *Available* to *Configured* using the *Add* button. Hit finish.



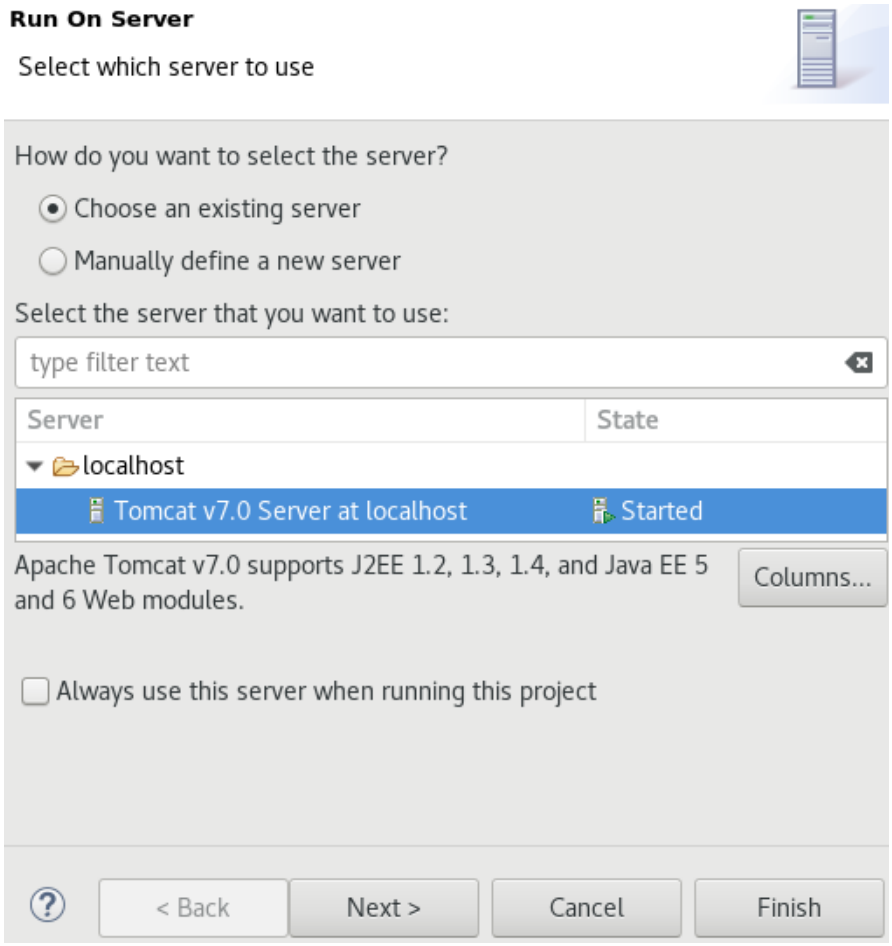
17. Start your Tomcat Server from Server View. Right-click on *Server* and hit *Start*.



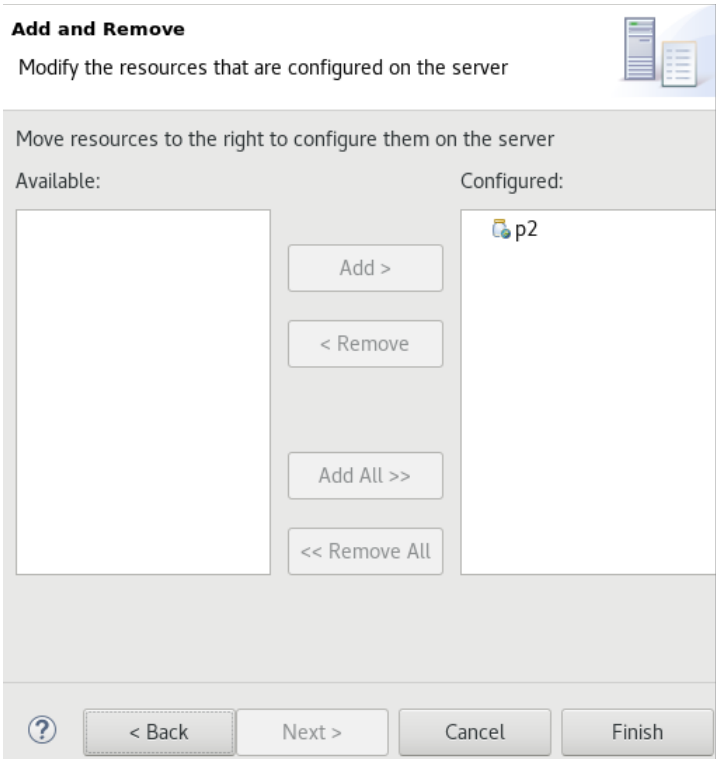
Right-click on your project, Click Run As -> Run on Server



18. Select the server to use.



Click Next



Click Finish

19. In newer versions of Eclipse, you can observe your work inside the built-in browser. If built-in browser is not present, you can use other web browser in your machine.