#### Πανεπιστήμιο Κρήτης, Τμήμα Επιστήμης Υπολογιστών Χειμώνας 2018

ΗΥ359 – Διαδικτυακός Προγραμματισμός

# Διαδικτυακός Προγραμματισμός Eclipse – Tomcat – Maven

Διδάσκων: Παναγιώτης Παπαδάκος

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## Tutorial: Using Tomcat with Eclipse

#### Tutorial

http://www.coreservlets.com/Apache-Tomcat-Tutorial/tomcat-7-with-eclipse.html#un

#### Outline

- Install Java
- Unzip Tomcat
- Install Eclipse
- Tell Eclipse about Tomcat
- Run Tomcat
- Making New Apps in Eclipse
- Project Structure
- Links



- Download from
  - Use JDK 8
  - http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.h
  - You need the full JDK (with compiler), not just the JRE (for running existing apps)

# Unzip Tomcat

Download Apache Tomcat

https://tomcat.apache.org/download-80.cgi#8.5.5

- Unzip tomcat-8.5.23-preconfigured.zip into the top level of the C drive C:\apache-tomcat-8.5.23\
- The invoker servlet is enabled
  - This let you run servlets with a URL of the form <a href="http://localhost/appName/servlet/packageName.servletName">http://localhost/appName/servlet/packageName.servletName</a>
  - The invoker servlet saves you from editing web.xml to give a servlet-mapping to your servlet



#### Install Eclipse

- Download Eclipse
  - https://eclipse.org/downloads/
- Choose "Eclipse IDE for Java EE Developers"
- Download and Unzip
- Install with all the default setting
- Start it and select "Workbench"

#### Package Solutions

Filter Packages ▼



#### Eclipse IDE for Java EE Developers, 254 MB

Downloaded 727,337 Times

Tools for Java developers creating Java EE and Web applications, including a Java IDE, tools for Java EE, JPA, JSF, Mylyn...

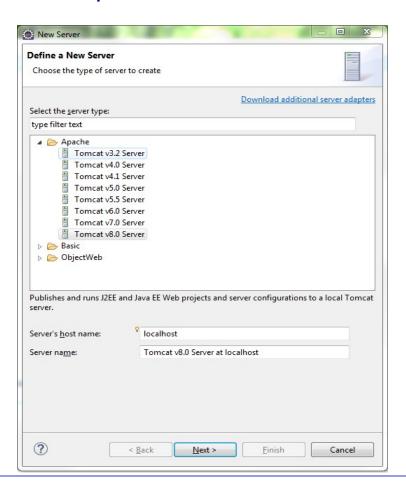


Windows 32 Bit Windows 64 Bit



## Tell Eclipse about Tomcat

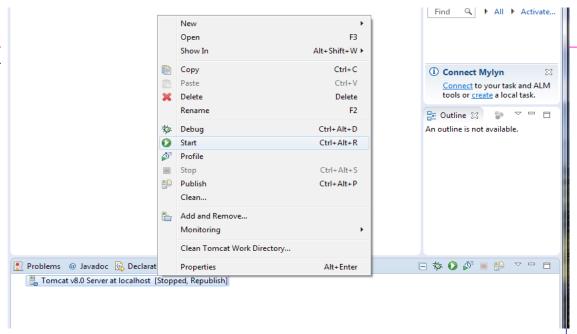
- Click on Servers tab at bottom
- Right-click -> New -> Server -> Apache -> Tomcat v8.5 Server
- Navigate to folder
- Finish



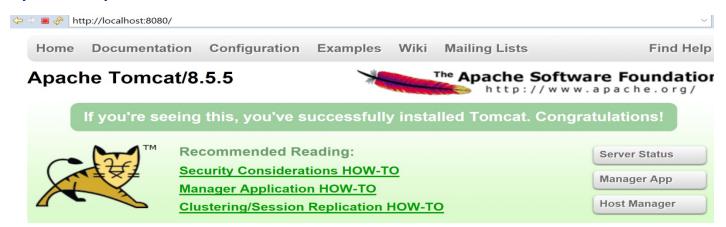


#### Run Tomcat - Oops!

- Click on Servers tab at bottom
- Right-click on Tomcat v8.5
- Choose "Start"



Open http://localhost:8080 in a browser



If you see a 404 error then follow the instructions of the next slide

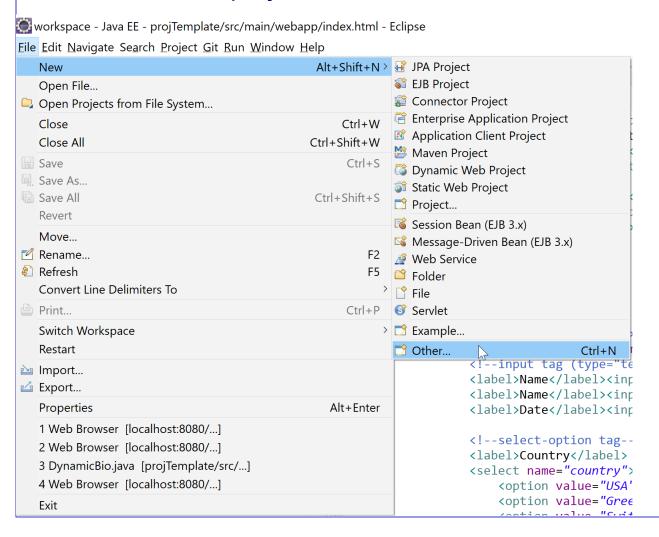


## Run Tomcat – Why 404?

- 1) Eclipse forgets to copy the default apps (ROOT, examples, etc.) when it creates a Tomcat folder inside the Eclipse workspace.
- 2) Go to C:\{path-to}\apache-tomcat-8.5.23\webapps, R-click on the ROOT folder and copy it.
- 3) Then go to your Eclipse workspace, go to the .metadata folder, and search for "wtpwebapps". You should find something like your-eclipse-workspace\.metadata\.plugins\org.eclipse.wst.server.core\tmp0\wtpwebapps (or .../tmp1/wtpwebapps if you already had another server registered in Eclipse). Go to the wtpwebapps folder, R-click, and paste ROOT (say "yes" if asked if you want to merge/replace folders/files).
- 4) Then reload http://localhost:8080 to see the Tomcat welcome page.

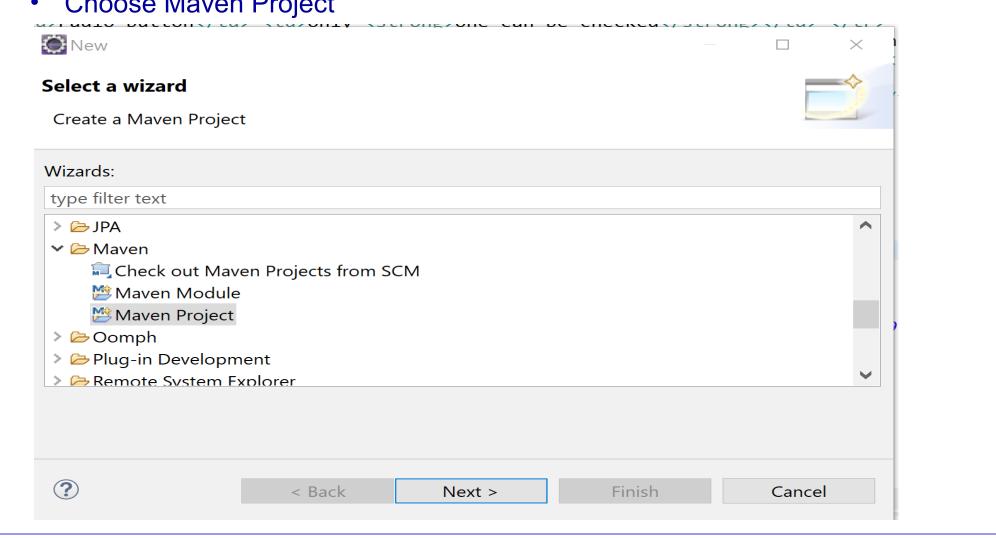


#### Create new project



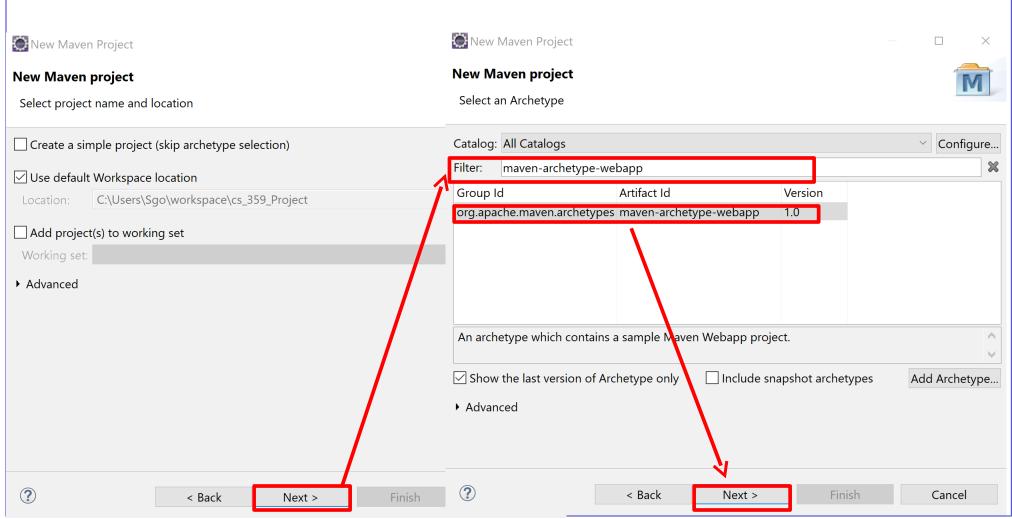


**Choose Maven Project** 





Use default Workspace location and Filter maven-archetype-webapp

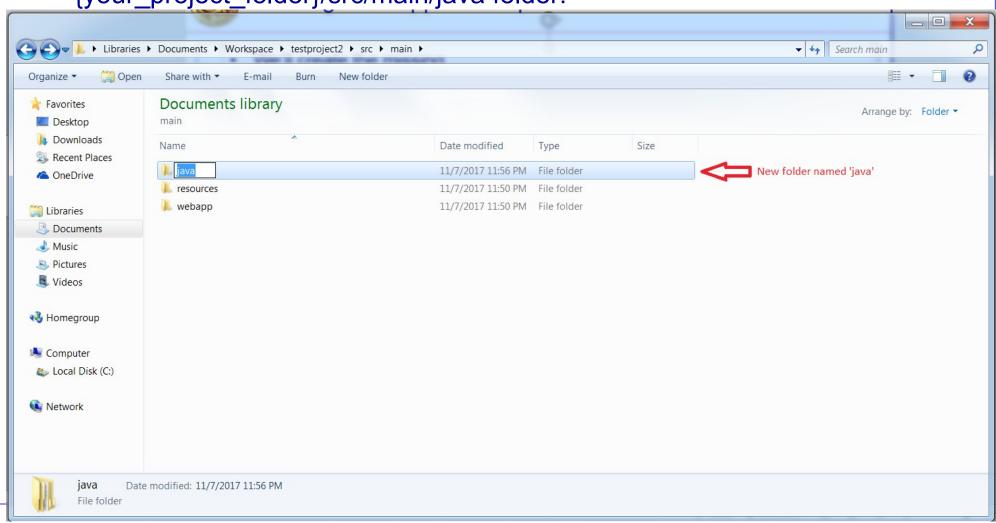




- If you see error :
  - Add maven compiler.target: 1.7
    and maven.compiler.sourse: 1.7 to the pom.xml

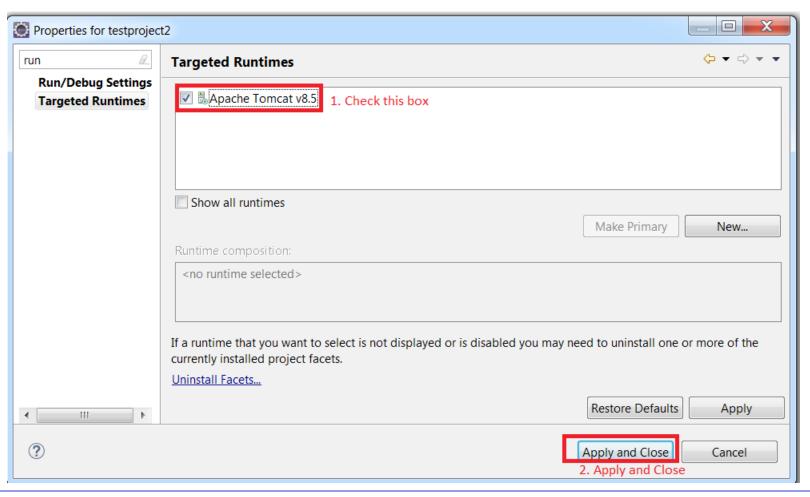


 We'll create the missing {your\_workspace}/ {your\_project\_folder}/src/main/java folder:





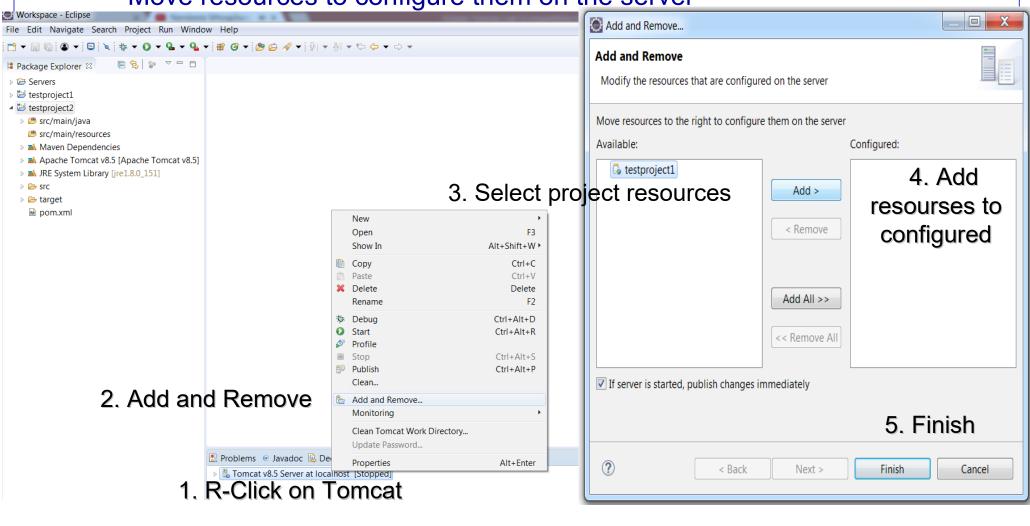
 Set the project runtime to tomcat 8.5 so it will know about the container provided classes





Deploy the project to our local server

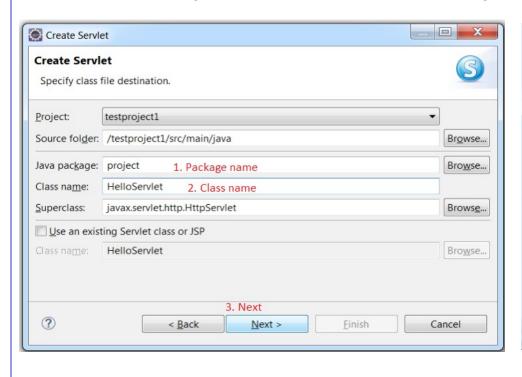
Move resources to configure them on the server

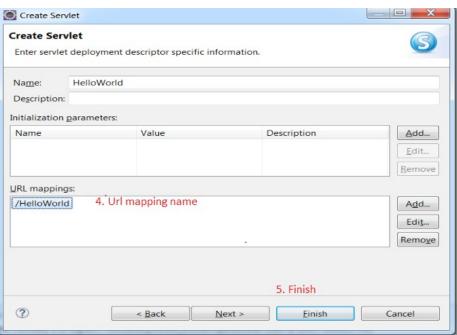




#### Create a first servlet...

• Expand project, R-click on src/main/java > New > Servlet





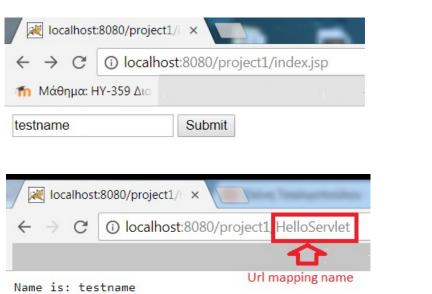


#### Create a first servlet...

- Now that you have created your first Servlet.
- Write inside post method:

Create a .jsp page as index.jsp:

You may have to restart the server
 (Servers tab R-click on tomcat > Restart).



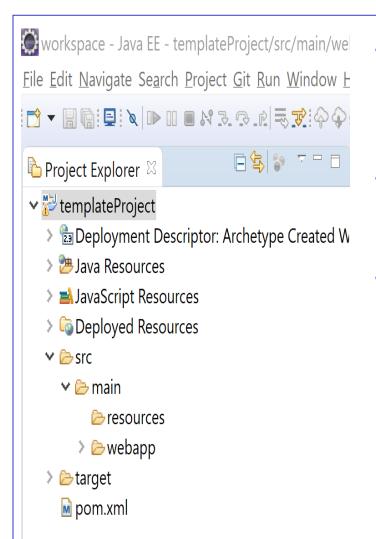
\* @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)

protected void doGet(HttpServletRequest request, HttpServletResponse response)

Write to your browser: localhost:8080/testproject1/index.jsp



## **Project Structure**



- pom.xml
  - Is a single configuration file that contains the majority of information required to build a project in just the way you want.
- src\main\resources\
  - Is made to contain all the java files of your project (e.g. servlets, javabeans).
- src\main\webapp
  - Is made to contain all the client side files of your project (e.g. js, css, html).



Tutorial: Configuring and Using Apache Tomcat 7 with Eclipse(simillar with 8, for the most things)

http://www.coreservlets.com/Apache-Tomcat-Tutorial/tomcat-7-with-eclipse.html#un

#### **Download Java JDK**

http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-213315

#### **Download Apache Tomcat (64-bit)**

https://tomcat.apache.org/download-80.cgi#8.5.5

#### **Download Eclipse**

https://eclipse.org/downloads/

How-to-create-dynamic-web-project-using-maven-in-eclipse

http://crunchify.com/how-to-create-dynamic-web-project-using-maven-in-eclipse/

## Thank you for your attention!

May the force be with you!