

Setting Up Java Web Development Environment

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Outline

1. Install Eclipse EE IDE
 - Use Eclipse IDE for Enterprise Java and Web Developers(EE) for the project.
2. Download Tomcat and jsoup
3. Web Tutorials
4. Proposal example

Install Eclipse EE via Eclipse Installer

- <https://www.eclipse.org/downloads/>

The Eclipse Installer 2022-09 R now includes a JRE for macOS, Windows and Linux.



Get **Eclipse IDE 2022-09**






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eclipseinstaller by Oomph


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- **Eclipse IDE for Java Developers**
The essential tools for any Java developer, including a Java IDE, a Git client, XML Editor, Maven and Gradle integration
- **Eclipse IDE for Enterprise Java and Web Developers**
Tools for developers working with Java and Web applications, including a Java IDE, tools for JavaScript, TypeScript, JavaServer Pages and Faces, Yaml, Markdown, Web...
- **Eclipse IDE for C/C++ Developers**
An IDE for C/C++ developers.
- **Eclipse IDE for Embedded C/C++ Developers**
An IDE for Embedded C/C++ developers. It includes managed cross build plug-ins (Arm and RISC-V) and debug plug-ins (SEGGER J-Link, OpenOCD, pyocd, and QEMU),...
- **Eclipse IDE for PHP Developers**
The essential tools for any PHP developer, including PHP language support, Git client and editors for JavaScript, TypeScript, HTML, CSS and XML.
[Click here to report an issue...](#)

Install Eclipse EE via Eclipse Packages

- <https://www.eclipse.org/downloads/packages/>


Eclipse IDE 2022-09 R Packages




Eclipse IDE for Java Developers

296 MB 563,998 DOWNLOADS

The essential tools for any Java developer, including a Java IDE, a Git client, XML Editor, Maven and Gradle integration



Windows x86_64
macOS x86_64 | AArch64
Linux x86_64 | AArch64




Eclipse IDE for Enterprise Java and Web Developers

502 MB 349,825 DOWNLOADS

Tools for developers working with Java and Web applications, including a Java IDE, tools for JavaScript, TypeScript, JavaServer Pages and Faces, Yaml, Markdown, Web Services, JPA and Data Tools, Maven and Gradle, Git, and more.

Click [here](#) to open a bug report with the Eclipse Web Tools Platform.
Click [here](#) to raise an issue with the Eclipse Platform.
Click [here](#) to raise an issue with Maven integration for web projects.
Click [here](#) to raise an issue with Eclipse Wild Web Developer (incubating).



Windows x86_64
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Download Tomcat

- <https://tomcat.apache.org/>
- Tomcat 9 and earlier implement specifications developed as part of Java EE.
- Recommend the same group use the same version.

Download

Which version?

Tomcat 10

Tomcat 9

Tomcat 8

Tomcat Migration Tool
for Jakarta EE

Tomcat Connectors

Tomcat Native

Taglibs

Archives

Binary Distributions

- Core:
 - [zip](#) ([pgp](#), [sha512](#))
 - [tar.gz](#) ([pgp](#), [sha512](#))
 - [32-bit Windows zip](#) ([pgp](#), [sha512](#))
 - [64-bit Windows zip](#) ([pgp](#), [sha512](#))
 - [32-bit/64-bit Windows Service Installer](#) ([pgp](#), [sha512](#))
- Full documentation:
 - [tar.gz](#) ([pgp](#), [sha512](#))
- Deployer:
 - [zip](#) ([pgp](#), [sha512](#))
 - [tar.gz](#) ([pgp](#), [sha512](#))
- Extras:
 - [Web services jar](#) ([pgp](#), [sha512](#))
- Embedded:
 - [tar.gz](#) ([pgp](#), [sha512](#))
 - [zip](#) ([pgp](#), [sha512](#))

Download jsoup jar

- <https://jsoup.org/download>
- A web crawler
- jsoup is a Java library for working with real-world HTML. It provides a very convenient API for fetching URLs and extracting and manipulating data, using the best of HTML5 DOM methods and CSS selectors.

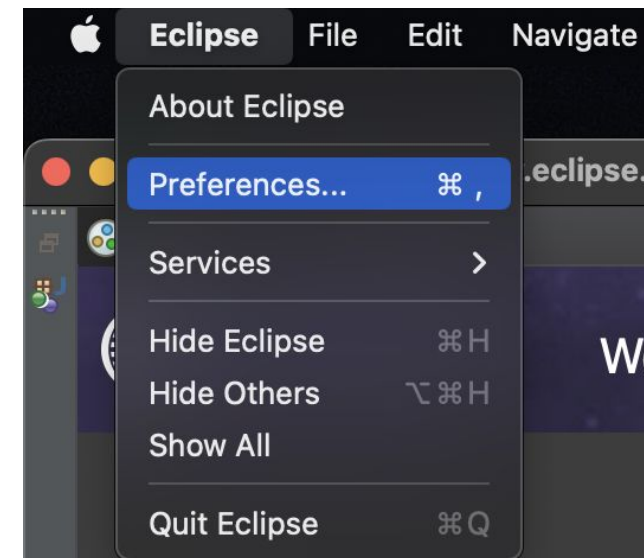
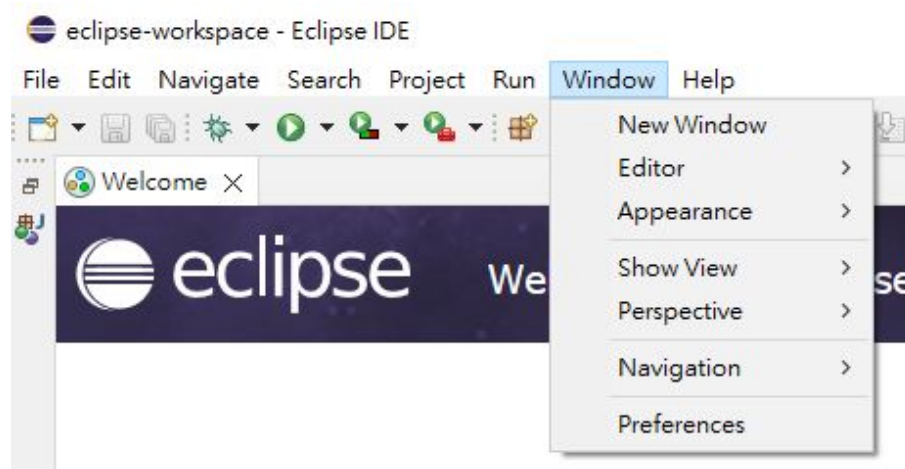
Download and install jsoup

`jsoup` is available as a downloadable `.jar` java library. The current release version is **1.15.3**.

- `jsoup-1.15.3.jar` core library
- `jsoup-1.15.3-sources.jar` optional sources jar
- `jsoup-1.15.3-javadoc.jar` optional javadoc jar

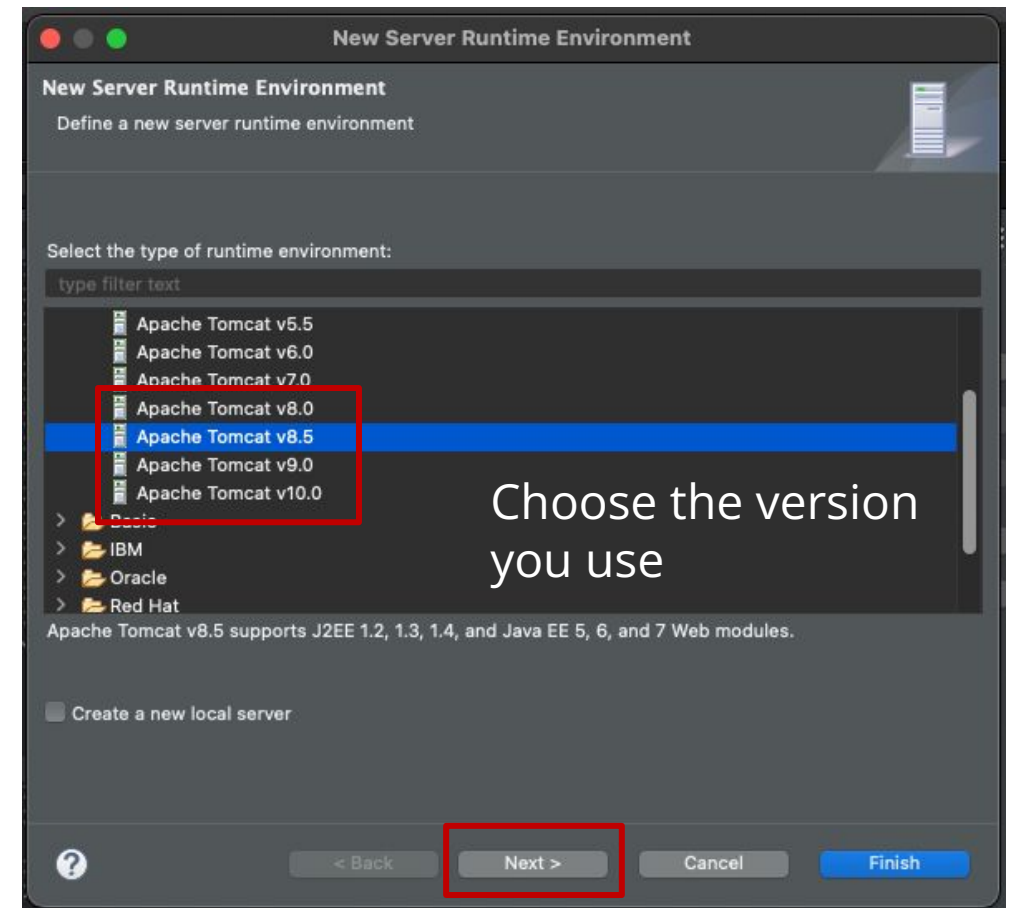
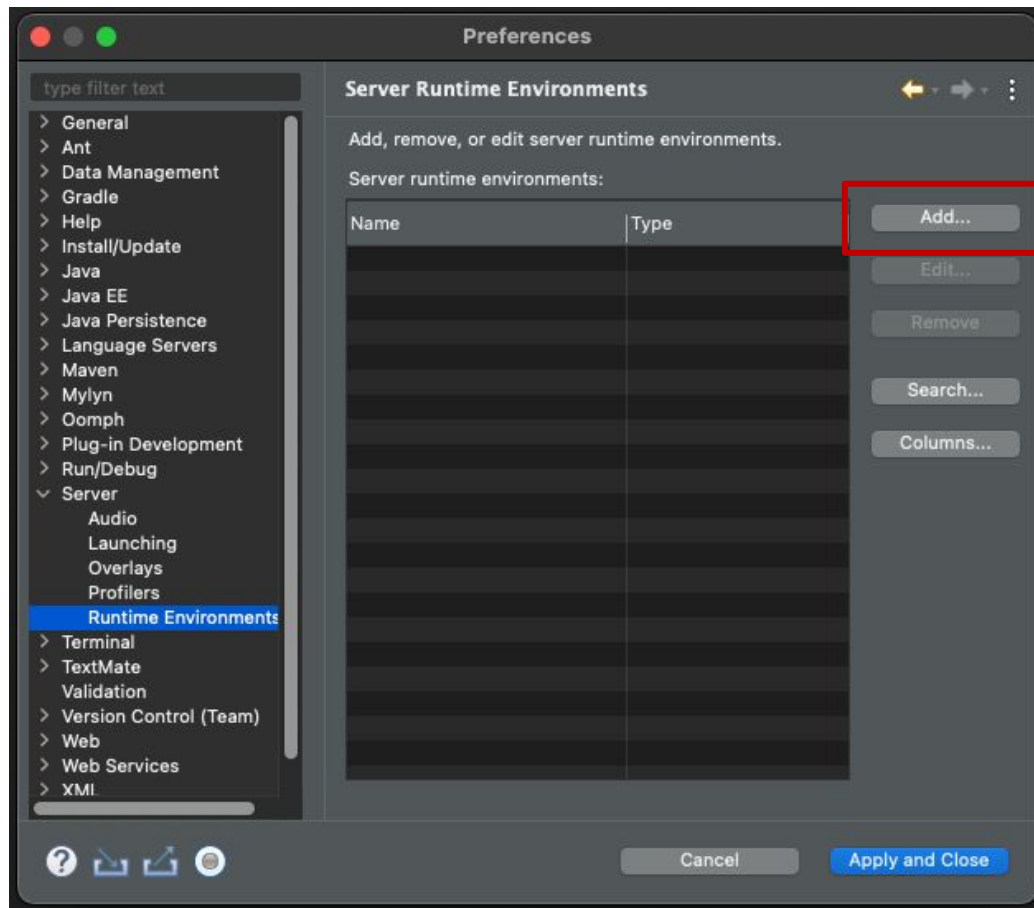
New Server Runtime Environment

- Open Preferences
 - Windows : "Window" → "Preferences..."
 - MAC : "Eclipse" → "Preferences..."



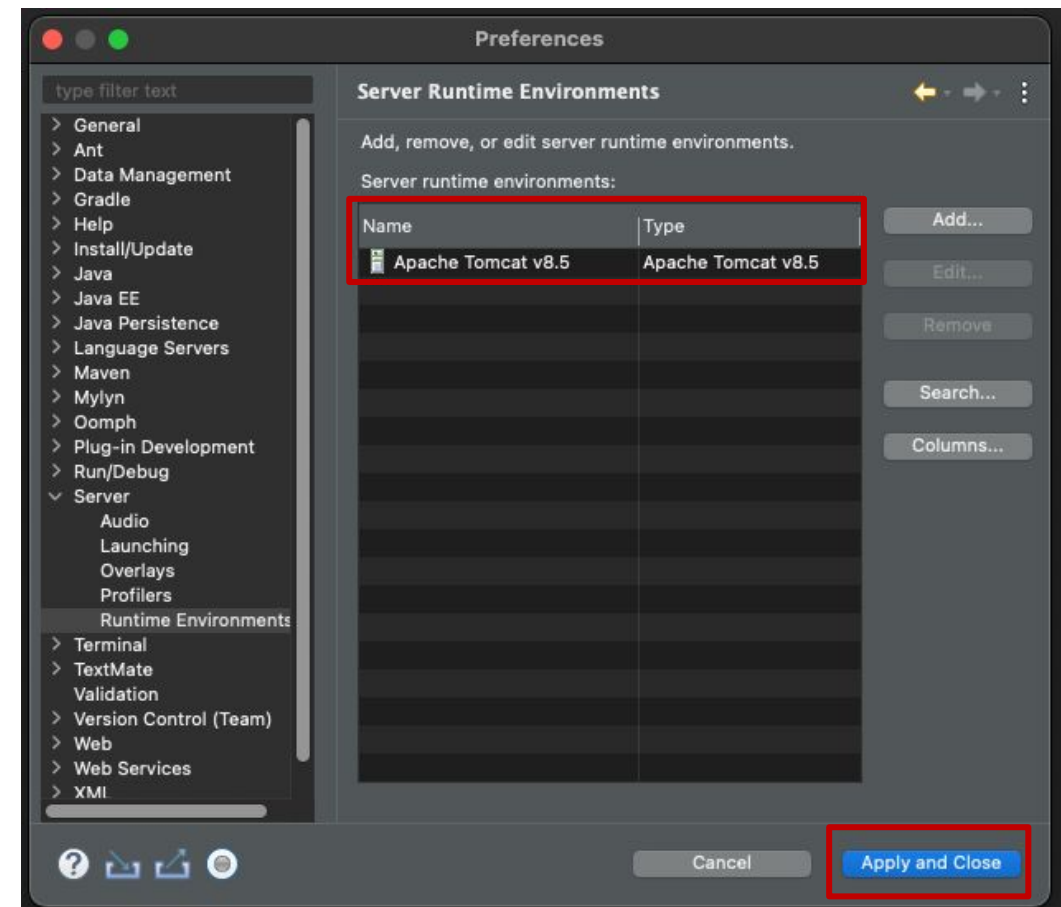
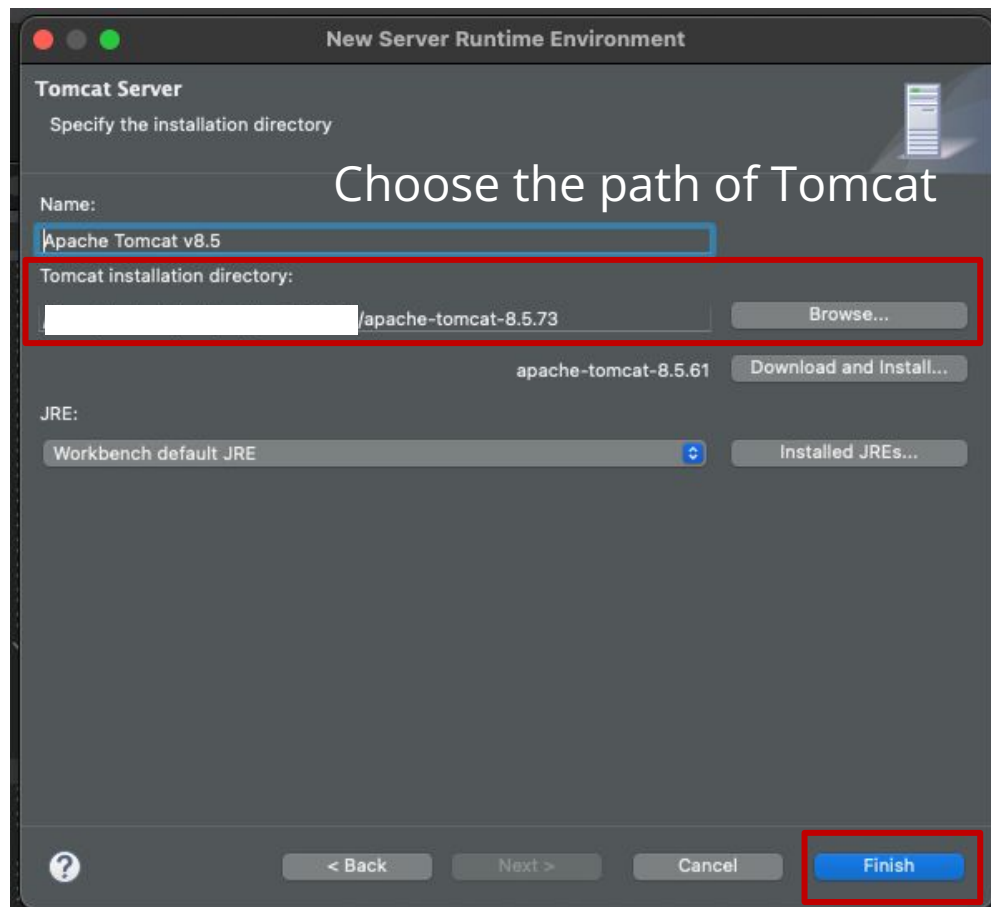
New Server Runtime Environment

- “Server” -> “Runtime Environments”

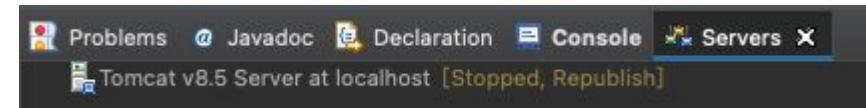
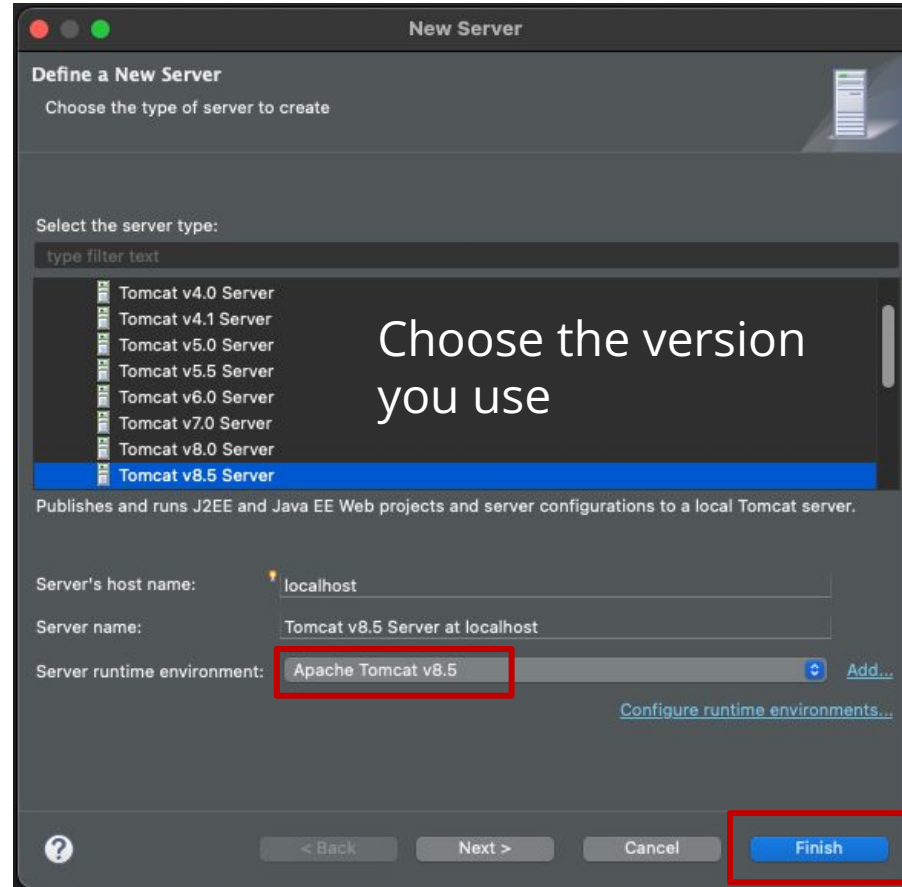
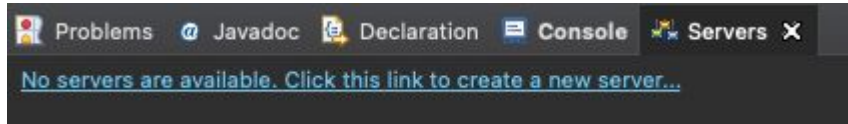


New Server Runtime Environment

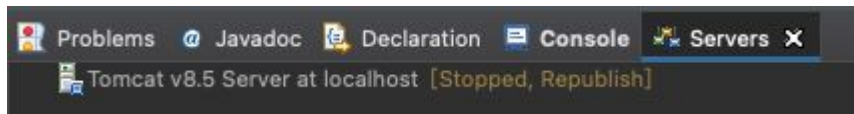
- “Server” -> “Runtime Environments”



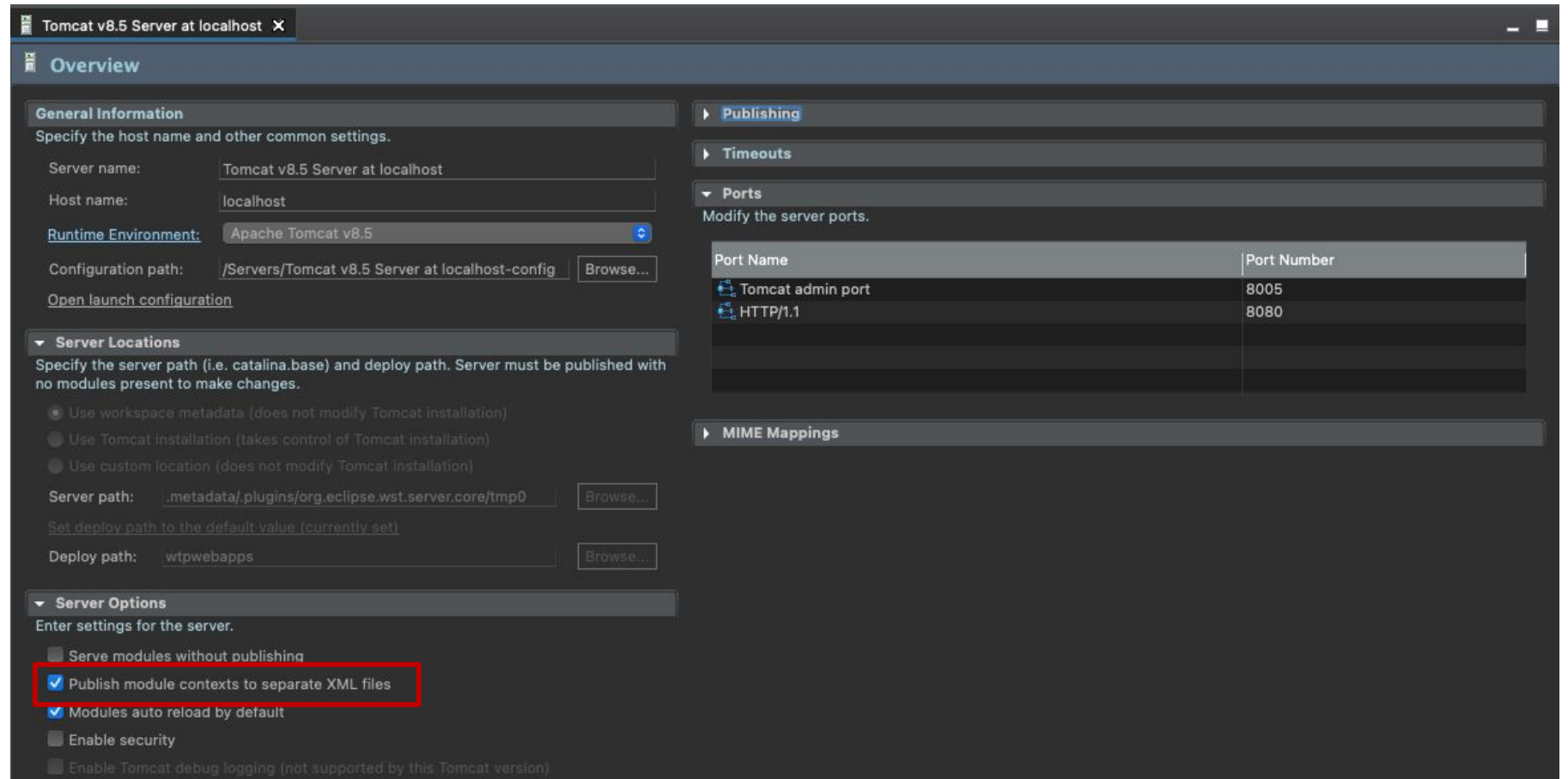
Create Server



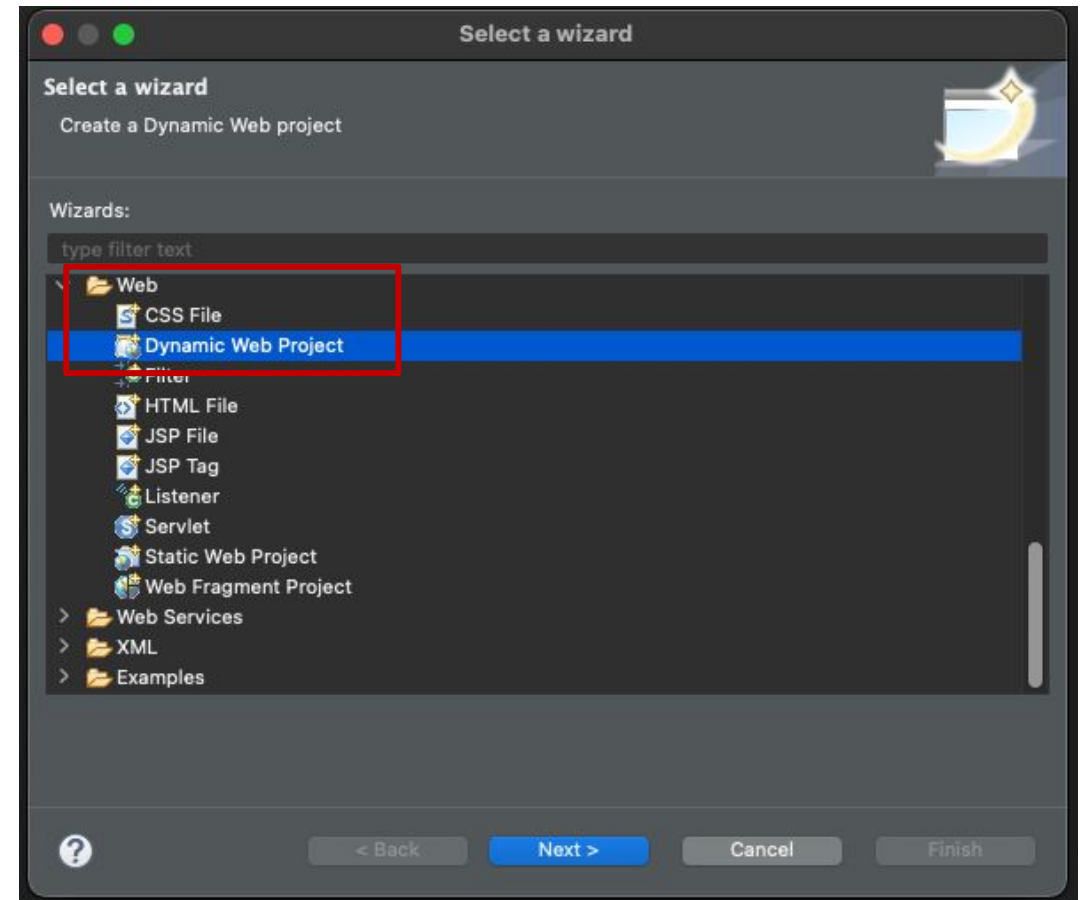
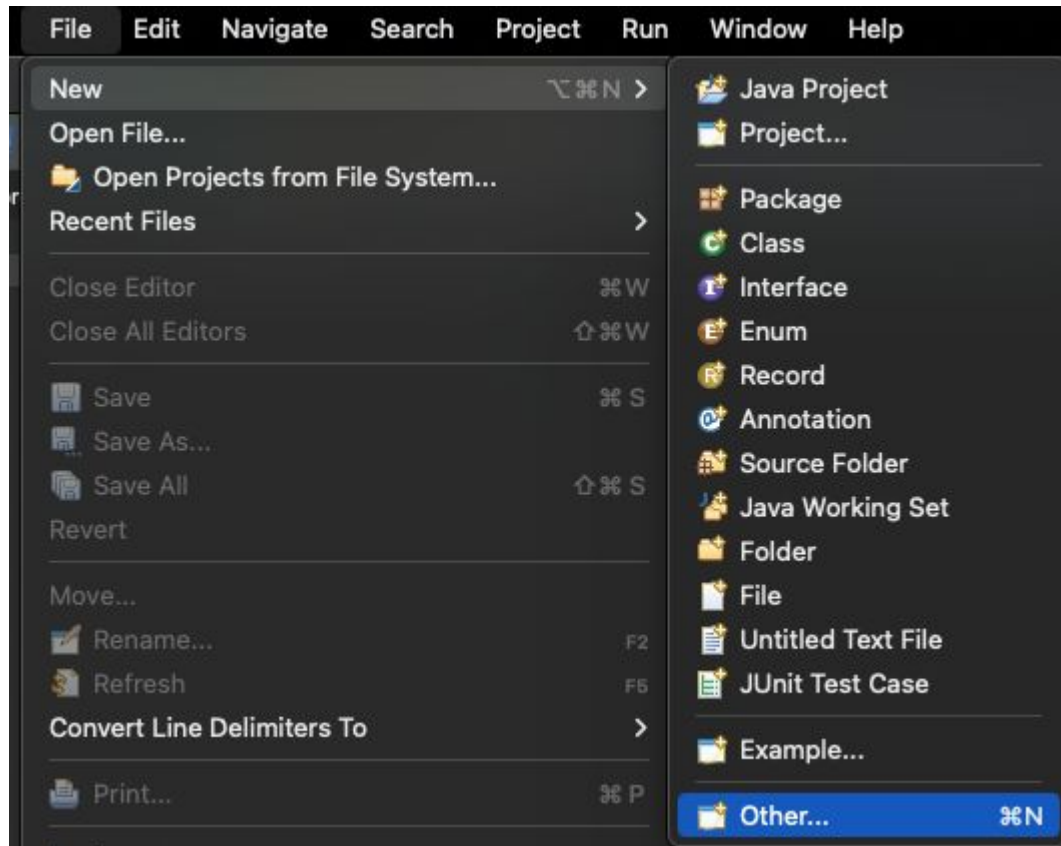
Create Server



Double Click

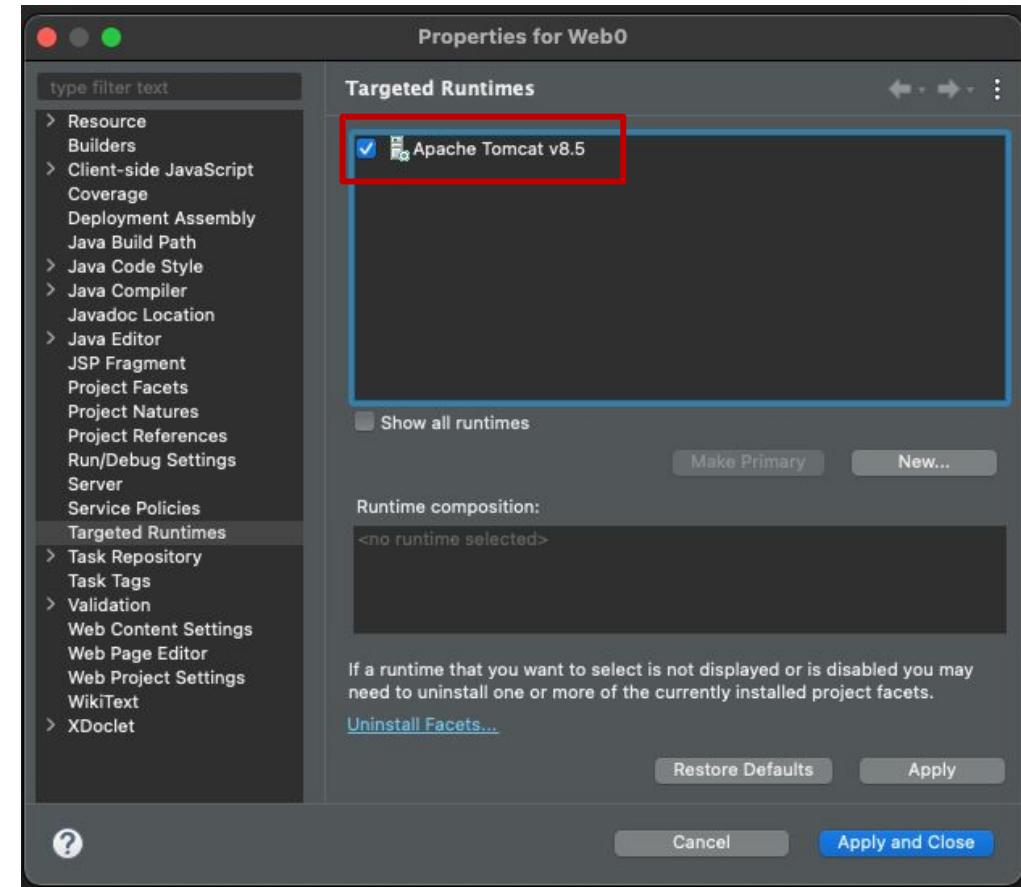
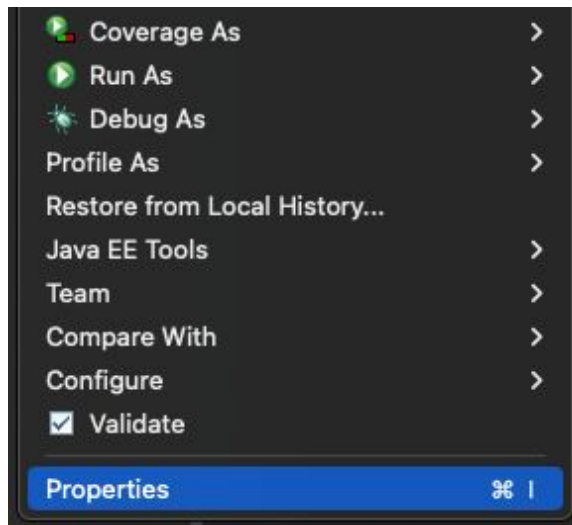


New Web Project in Eclipse EE



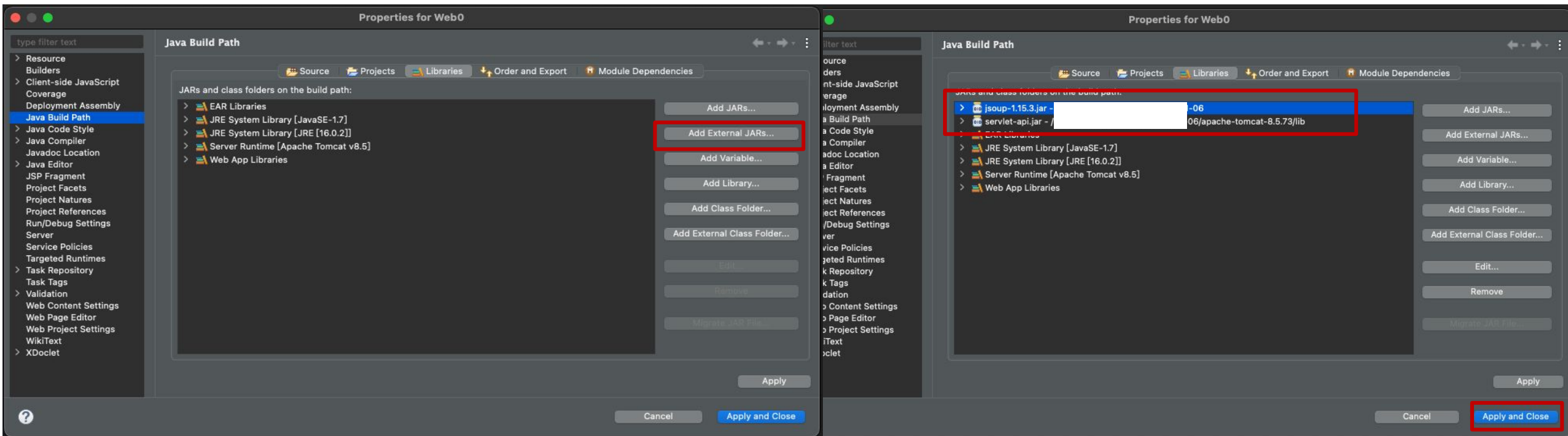
New Web Project in Eclipse EE

- Right click your project
- “Properties” -> “Target Runtimes”



Add External JAR for Project

- servlet-api.jar
 - *path of Tomcat/lib/servlet-api.jar*
- jsoup.jar

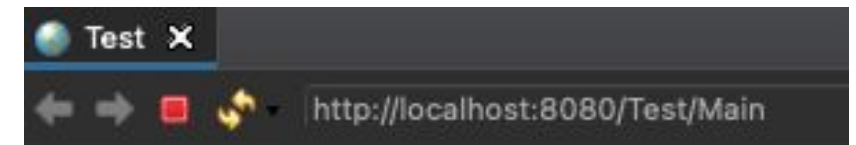


Example

- Copy the code from GitHub to your project.

```
1 import java.io.IOException;
9
10 @WebServlet("/Main")
11 public class Main extends HttpServlet {
12     private static final long serialVersionUID = 1L;
13
14     public Main() {
15         super();
16     }
17
18     protected void doGet(HttpServletRequest request, HttpServletResponse response)
19         throws ServletException, IOException {
20         PrintWriter out = response.getWriter();
21
22         out.println("<!DOCTYPE html>");
23         out.println("<html>");
24         out.println("<head>");
25         out.println("<title>Test</title>");
26         out.println("</head>");
27         out.println("<body>");
28         out.println("<h1>");
29         out.println("Hello World");
30         out.println("</h1>");
31         out.println("<p>");
32         out.println("You can write some messages here!");
33         out.println("</p>");
34
35         out.println("</body>");
36         out.println("</html>");
37
38         out.flush();
39         out.close();
40     }
41 }
```

Run

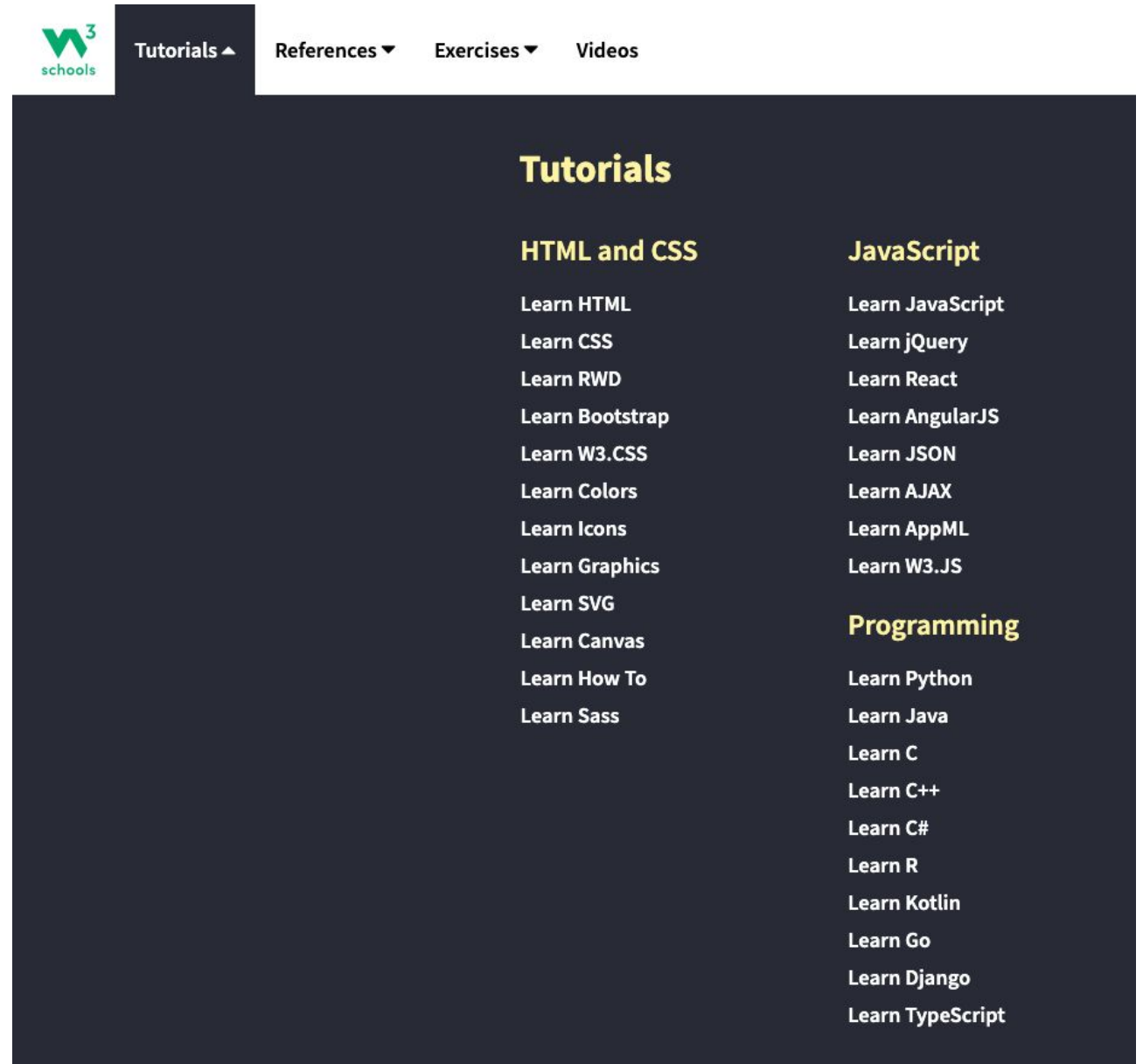


Hello World

You can write some messages here!

Web Tutorials

- <https://www.w3schools.com/>
- HTML
- CSS
- JavaScript



Proposal Example

- Will show some examples from previous course.
- Project proposal should include the following sections:
 - Introduction /Your topic and motivation
 - Search tricks /Your score formulation
 - System design /Class diagrams
 - Schedule /How and when to accomplish stages
 - Challenges /Techniques that you need but may have a hard time to learn on your own

Notice

- Send your GitHub link and contact information via Google form!
<https://forms.gle/L1ve3bTjiecEdwNb8>
- Project proposal (due 11/17)
 - Hand in the hard copy of your proposal in class
 - and Upload the file of your proposal via WM5
 - Both!!!