

Setting up Java for Web Development

In order to run a dynamic web project we have to set up 3 things; install latest Java JDK (version 8u121), setting up Apache Tomcat Server version 8.5.13 , and finally download and install latest Eclipse IDE for Java EE Developers (something like Neon). The instructions to set up the work environment is listed below.

NOTE: Even if you already have Eclipse I highly suggest you still download this latest one that I will link to in the document. This is the version I tested with, and I know 100% it works. Additionally, not any version of Eclipse will work, this is specific to web development.

JAVA SDK:

Download and install the latest Java SE JDK from Oracle - we only need the JDK, not NetBeans or Java EE. It should be version 8u121

[DOWNLOAD SDK](#)

Tomcat Server:

Download the latest Tomcat 8.5 binary release from the Apache Project. Note that there are several packages available for download. You should download the ZIP file under the "Core" distribution. After downloading the file, unzip it to a local directory. I prefer it to be in c:\apache-tomcat-8.5.13

[DOWNLOAD TOMCAT](#)

Next download the JSP Standard Tag Library (JSTL) JAR file. Extract the zip folder and navigate to the **lib** folder within it and copy the 2 JAR files labeled **jstl.jar** and **standard.jar**

[DOWNLOAD JSTL](#)

Paste those 2 JAR files into the **lib** folder of the Tomcat directory (it should be where you extracted it C:\apache-tomcat-8.5.13\apache-tomcat-8.5.13\lib)

Eclipse for EE Developers:

Download the latest **Eclipse IDE for Java EE Developers**. I find downloading the ZIP file to be better than the installer, so get the zip file.

[DOWNLOAD ECLIPSE FOR JAVA EE](#)

Extract the Eclipse zip folder, and navigate within it. Find the Eclipse application, and create a shortcut on your desktop

Testing:

We will create a sample web application using Eclipse. The application consists of a servlet called HelloServlet and a JSP page HelloJSTL.jsp.

First, create a Dynamic Web Project (File -> New -> Project ... -> Dynamic Web Project).

You need to specify the project name and a target runtime. We'll use webtest as the project name. The type of the target runtime is Apache Tomcat 8.5. To set the runtime;

Click "New Runtime" -> Select Apache 8.5 (make sure to check "Create new local server") -> click next, and set the installation directory to where your tomcat is located (if you copied the whole extracted folder you will need to navigate ALL THE WAY into the folder so the directory might be C:\apache-tomcat-8.5.13\apache-tomcat-8.5.13\) -> hit finish

Keep hitting Next on the project creation screens and be sure to check the option Generate web.xml deployment descriptor when you see it.

Create a new servlet (Right click on the project name -> New -> Servlet). Enter webtest.servlet as the package name and HelloServlet as the class name then click Finish. Edit HelloServlet.java so the doGet() method looks like the following:

```
protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
    response.getWriter().print("Hello Servlet");
}
```

Create a new JSP page (Right click on the project name -> New -> JSP). Enter HelloJSTL.jsp as the file name then click Finish. Edit HelloJSTL.jsp so it looks like the following:

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1" pageEncoding="ISO-8859-1"%>
<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
<c:out value="Hello JSTL" />
</body>
</html>
```

Run the application (Right click on the project name -> Run As -> Run on Server). Select Tomcat v8.5 Server as the server type then click Finish.

Open up your browser (like IE, chrome, firefox, etc) and enter the URL

http://localhost:8080/webtest/HelloServlet and you should see "Hello Servlet" output by the servlet.

Next enter the URL **http://localhost:8080/webtest/HelloJSTL.jsp** and you should see "Hello JSTL" displayed by the JSP page.

If you saw these outputs, then your environment is set up correctly.

