Configuring JEE working environment in Eclipse

Install JEE development tools in Eclipse

Run Eclipse and go to menu Help-> Eclipse Marketplace.

Find and install: Eclipse Enterprise Java and Web Developer Tools.

Eclipse Marketplace Select solutions to install. Press Install Now to proceed with installation. Press the "more info" link to learn more about a solution. Search Recent Popular Favorites Installed ? Giving IoT an Edge Image: Provides world-class support more info by VMware. EPL spring Spring IDE Cloud Spring Tool Suite STS Image: Provides world-class support more info by VMware. EPL spring Spring IDE Cloud Spring Tool Suite STS Image: Provides world-class and Web Developer Tools 3.28 Enables Enterprise Java and Web Developer Tools 3.28 Enables Enterprise Java Bean, Java Enterprise Application, Fragments, and Connector, Java Web Application, JavaServer Faces (JSF), Java Server Pages (JSP), Java more info by The Eclipse Foundation, EPL mithml CSS is jsp Imatalls: 905K (21,574 last month) Imatalled Imatalls: 905K (21,574 last month) Imatalled Imatalled Imatalled Imatalled Imatalled Imatalled Imatalle: 905K (21,574 last month)	Eclipse Marketplace			\times
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After installation, switch Eclipse working environment to **JEE Perspective** that allows development of distributed enterprise applications with JEE technologies. In left upper corner of Eclipse there is a button for selecting perspective (Open Perspective). Just select **Java EE**.

Open Perspective		\times
* Debug		
🖥 Git		
🖏 Java (default)		
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🞖 Java Type Hierarchy		
Plug-in Development		
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Install and configure Tomcat server within Eclipse

The next spet is to add Tomcat Server to Servers tab in Eclipse.



Just click the link to add Tomcat server to Eclipse JEE environment. Select Tomcat version and install server with the name **localhost**, and in the next step select folder where Tomcat is installed.

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Installed server is stopped, so it should be started (right mouse click on server).

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Typical problem with starting servers is with invalid ports, as it is stated with the following error message.



To solve this problem just double click on Tomcat Server to change configuration.

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Set Tomcat Admin Port to 8081, and save configuration. Try to starting again.

The next problem relates to used port 8080.



Just change HTTP port from 8080 to 8082 and save new configuration.

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Try starting Tomcat again [successful!]. Tomcat is started and synchronized.

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Create the first web project

Select menu option: File -> New -> Dynamic web project

Add project name and select Target runtime to be installed Apache Tomcat.

New Dynamic Web Project				
Dynamic Web Project Create a standalone Java-based	Web Application	or add it to a new	or existing Enterprise	Application.
Project name: FirstWebProject				
Project location				
✓ Use default location				
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Add first servlet to the project.



Set servlet name and package in dialog **Create Servlet**, and do not change other parameters when moving to the next steps.

Create Ser	vlet	
Create Serv	et	S
Specify class	file destination.	
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<u>S</u> uperclass:	jakarta.servlet.http.HttpServlet	 Brows <u>e</u>
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Now, in **Eclipse we have Jakarta EE**, which is <u>the same as</u> Java EE (JEE) that is legally owned by Oracle. The transition was in 2018.

So, we have new classes for working with Servlets in package jakarta:

```
import jakarta.servlet.ServletException;
import jakarta.servlet.annotation.WebServlet;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
```

Just to compare with older versions of JEE and Tomcat that supported Servlet classes in package javax.

```
import javax.servlet.*;
import javax.servlet.http.*;
```

Some modifications to doGet() method to enable servlet to work (print message):

```
protected void doGet(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {
        PrintWriter pw = response.getWriter();
        response.setContentType("text/html");
        pw.println("<h1>hello from the first servlet</h1>");
```

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Running servlet from the Eclipse workspace



Execution in web browser.

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Elements of execution:

Server name and port: localhost:8082

Web application: FirstWebProject

Servlet: ServletFirst