SOFTWARE ENGINEERING LAB

EXERCISE – 5

TOPIC – 1

INSTALLATION OF ECLIPSE, MAVEN, JDK, TOMCAT, CONFIGURING TOMCAT TO ECLIPSE

Note: At every step take screenshots and save in a document

Installing JDK (Java Development Kit)

- JDK is essential for running Java programs. Versions like 11, 17, or 21 can be installed.
- **Steps:**
  1. Install JDK from the official website.
  2. Set the class path in your system, which helps your computer find JDK.
  3. Check if JDK was installed properly by typing java -version in the terminal.

2. Installing Maven

- Maven is a tool that helps manage and build Java projects.
- **Steps:**
  1. Check if Maven is already installed by typing mvn -version.
  2. If not installed, search for "Download Maven" on Google.
  3. Go to the official Apache Maven website, download the **apache-maven-3.3.9-bin.zip** file.
  4. Extract the downloaded zip file.
  5. Set the environment variables by editing your system’s path to include the Maven folder.

3. Installing and Configuring Tomcat

- **Tomcat** is a server used to run web applications built in Java.
- **Steps:**

1. Download Tomcat from its official website. You'll need the 64-bit Windows zip version.
2. Unzip the file into a folder.
3. Configure Tomcat in Eclipse by integrating it as a server. Eclipse will be used to manage and run Tomcat easily.
4. After installation, check if the Tomcat server is visible in Eclipse under the "Servers" tab.

4. Eclipse Updates and Installation

- Eclipse is the IDE (Integrated Development Environment) for developing Java projects.
- Before configuring Tomcat, you'll need to install **Java EE** features into Eclipse.
- **Steps:**
    1. Open Eclipse, go to the update settings.
    2. Select **Java EE** and **WebXML** under available options.
    3. After installation, restart Eclipse.

5. Configuring Tomcat in Eclipse

- After installing Tomcat, you need to configure it to run inside Eclipse.
- **Steps:**
    1. Add Tomcat as a new server in Eclipse.
    2. Change the port number of Tomcat to avoid conflicts (Jenkins also uses port 8080, so you may want to use a different one).
    3. Edit the tomcat-users.xml file to allow proper access to the Tomcat management console.
    4. Restart the Tomcat server within Eclipse to apply the changes.

6. Running Tomcat: Once everything is set up, you can start the Tomcat server directly from Eclipse. The final step involves confirming that Tomcat is running properly by checking if the server starts without errors.