**Installing JAVA onto Your System:**

1. Download JDK 1.8 or above, for reference we can use this link : <https://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>
2. Now you will get a JAR file, double click on it and then click on next until the JDK gets installed.
3. Next step is to setting up the environment variables:
4. Go to Environment Variables
5. Then System Variables:

a.1. click on new; in the “Variable Name” field => type “JAVA\_HOME”.

a.2. Now for Variable Value type => “C:\Program Files\Java\jdk1.8.0\_231”.

a.3. click on “OK” and save the System variables appropriately.

4. Open CMD, to check whether you have correctly edited the System variable for JAVA type command “echo %JAVA\_HOME%”

It must return the path that we just written for JAVA\_HOME.

1. Now we need to set the path for bin folder into our Environment Variable:
   1. Open System Variables
   2. Go to Path Variable value
   3. Click on new and then add the path of the bin folder i.e. “C:\Program Files\Java\jdk1.8.0\_231” then move it to the top of the list in the path variable value list by clicking on Move Up button.
   4. Click on subsequent OK button and close the environment Variable window.
2. Now again use the CMD and type “java -version”
3. It must return the current version of the java.

**NOTE:**

While installing eclipse, make sure that your JDK, ECLIPSE IDE, and OS all are of needed to of  64-bit trio:

* 64-bit OS
* 64-bit Java
* 64-bit Eclipse

# Otherwise eclipse ide will forcibly close and throws the error: “[Failed to load the JNI shared Library (JDK)](https://stackoverflow.com/questions/7352493/failed-to-load-the-jni-shared-library-jdk)”

**Configure Tomcat server with eclipse:**

1. Download Apache Tomcat server, and Tomcat Documentation from <https://tomcat.apache.org/download-90.cgi>.
2. Unzip the Apache Tomcat server and will get the folder of tomcat.
3. Now open Eclipse JEE, click on window > show view > servers
4. Add server by clicking on to the link below the **servers** tab. (near the console)
5. Search for apache then go to latest version of tomcat server, as currently its tomcat 9.0.
6. Now give the directory where we have our tomcat folder; as in this system I have tomcat at: “C:\Users\AnujKumarSingh\Downloads\apache-tomcat-9.0.27-windows-x64\apache-tomcat-9.0.27”
7. Now click subsequently on next button, and close the window.
8. The tomcat has been added now, to check just do right click on the server and start, and on the browser type localhost:8080; and will get error 404, and to see the management console, go on to the eclipse and double click onto the server and then
9. Go to server locations option and click on the radio button: Use tomcat installation (takes control of tomcat installation).
10. And restart the server, you will get the management console.

**Servlet:**

MVC (Model view Controller), let say user sends a request then it will be handle by controller and then controller will generate the data.

**Controller**: which will accept the request.

**Model**: where we will hold the data.

**View**: where we will show the data.

We can implement controller with the help of servlet, can implement model with a normal java class, and can implement view with jsp.

**Spring (Micro-services with Spring cloud):**

we use Maven for dependency management, and eclipse comes with embedded maven.

Spring boot is one of the most popular framework to develop micro-services, and we can create our spring boot project from <https://start.spring.io/>.

1. Group Id = Package name in java.
2. Artifact Id = class name in java.