

Introduction to Java

For learning Selenium Webdriver it is essential that you have basic knowledge of any one Webdriver supported programming language like Java.

It is added advantage to you if you have learnt Selenium IDE before learning selenium Webdriver.

Java is a high level programming language

In the Java programming language, all source code is first written in plain text files ending with the `.java` extension. Those source files are then compiled into `.class` files by the `javac` compiler.

A `.class` file does not contain code that is native to your processor; it instead contains *bytecodes* – the machine language of the Java Virtual Machine¹ (Java VM). The `java` launcher tool then runs your application with an instance of the Java Virtual Machine.

Because the Java VM is available on many different operating systems, the same `.class` files are capable of running on Microsoft Windows, the Solaris™ Operating System (Solaris OS), Linux, or Mac OS.

Where will write the Java code and run ?

We will write the Java code in Eclipse IDE

Configure Java and Eclipse

Step 1 : Install Java in your system

Install JDK (Java development kit) in your system by downloading Java from here

<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

Please follow the instruction guide given in the above link

Step 2: Configuring the Environment Variables for Java

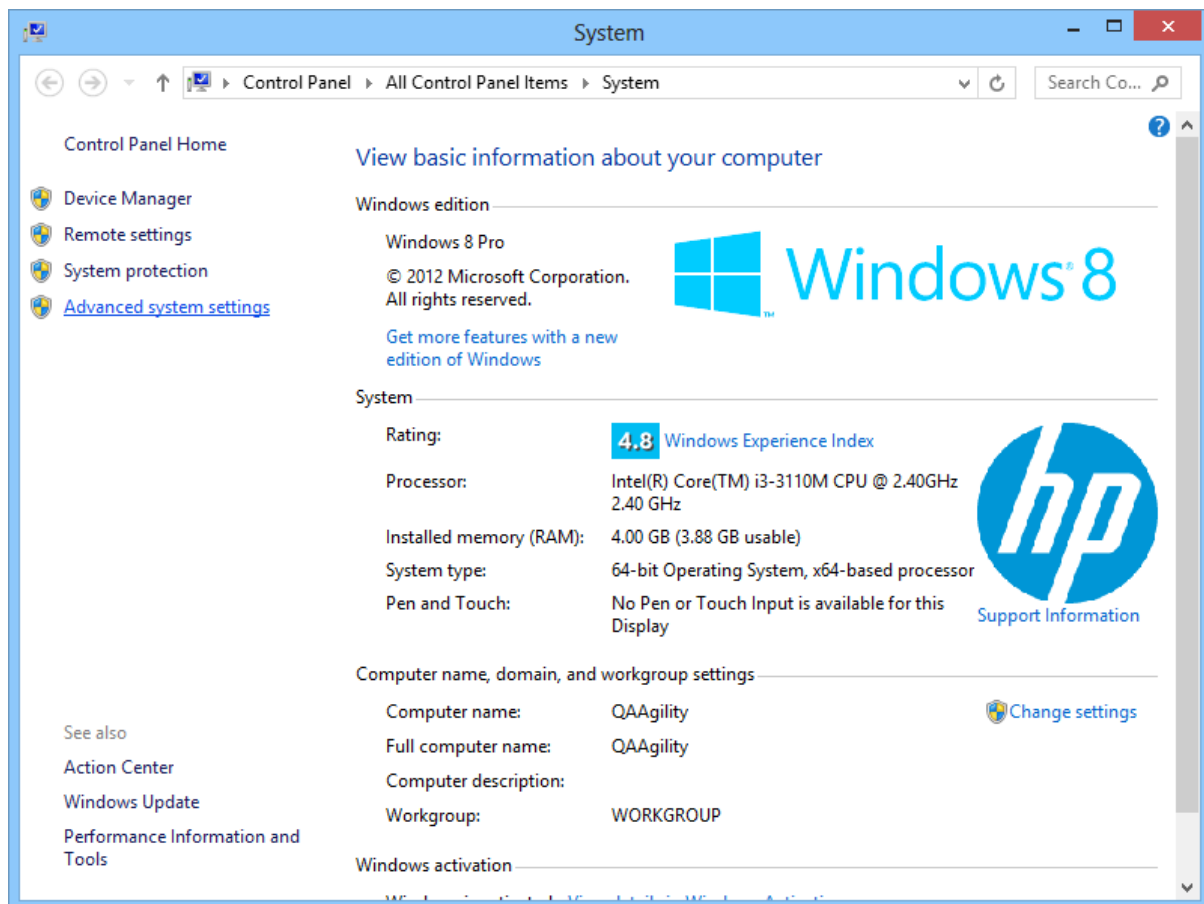
After installation of Java, Java will be installed at c:\Program Files\Java

Before starting Java we need to configure Java by configuring Environment variables

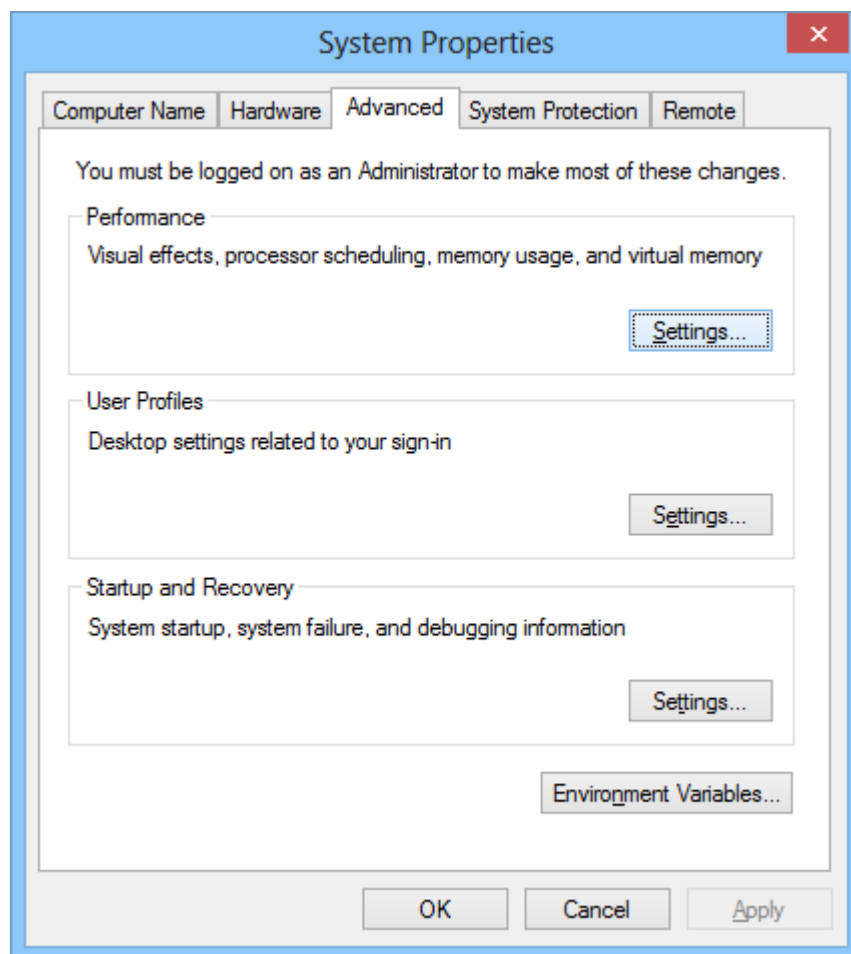
We will create an Environment variable JAVA_HOME and configure its properties

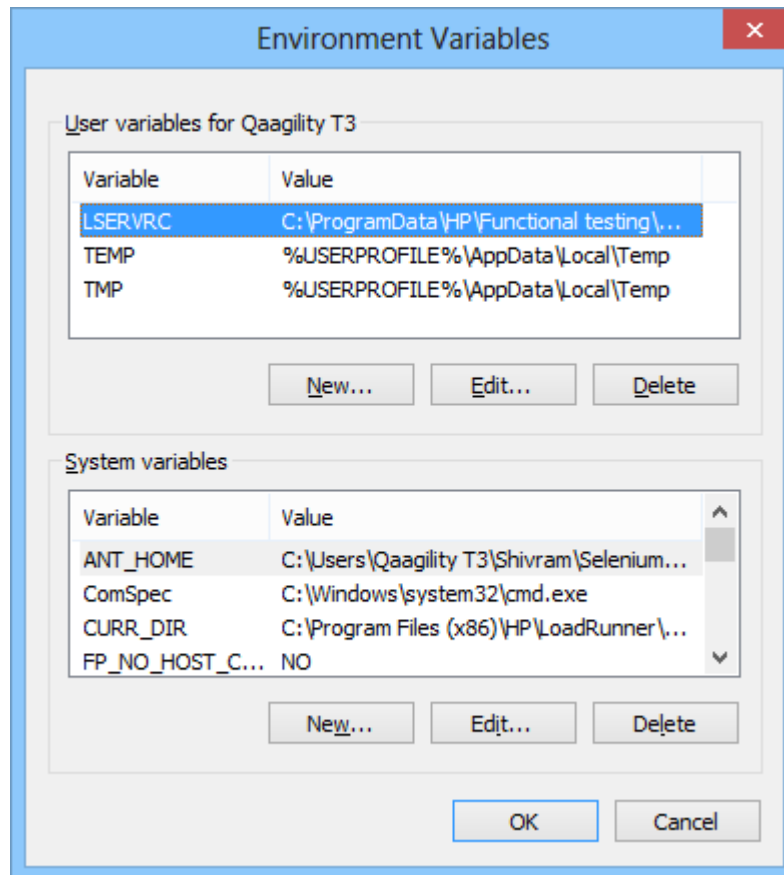
Please follow the below steps

- a. Right-click My Computer->Properties. In the System window that opens, click Advance System settings

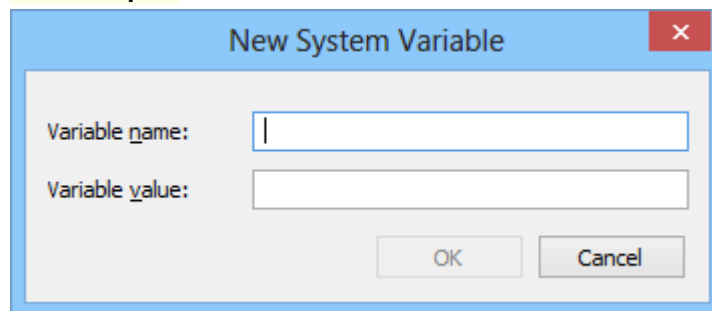


b. In the Advance System Settings window, click on Environment variables

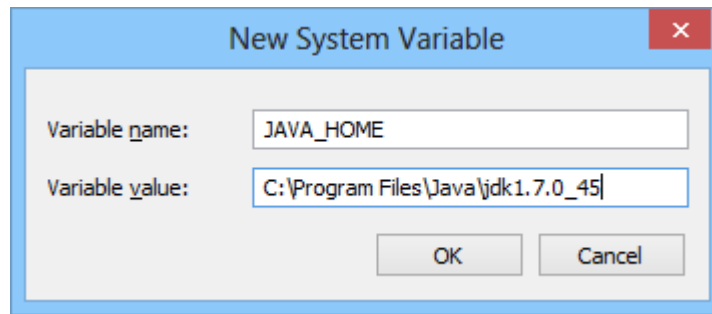




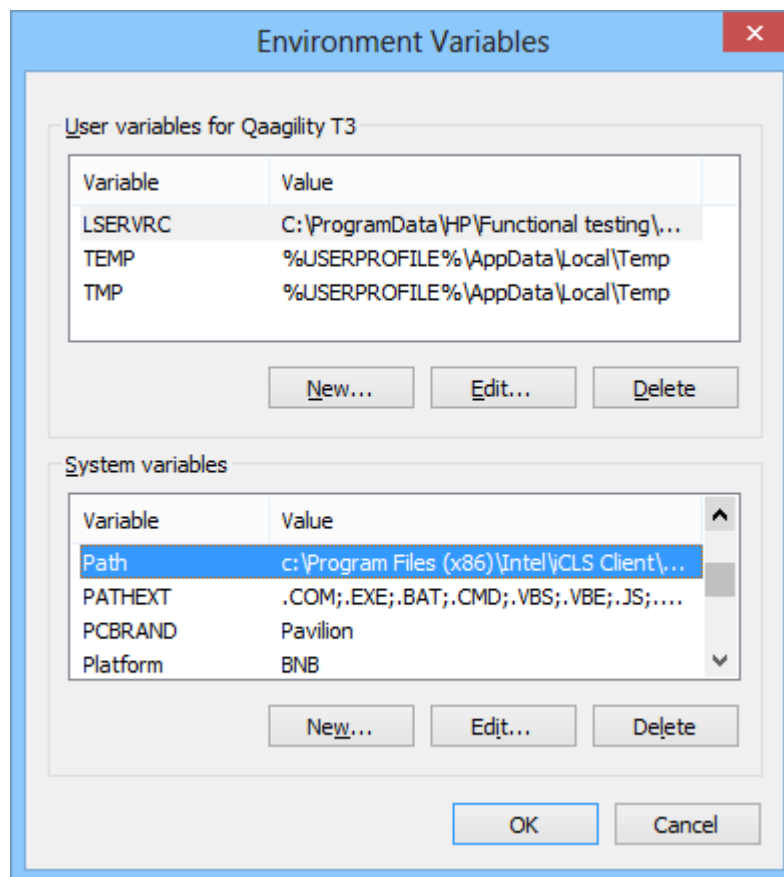
- c. Under System Variables, click New and a New System Variable window will be open



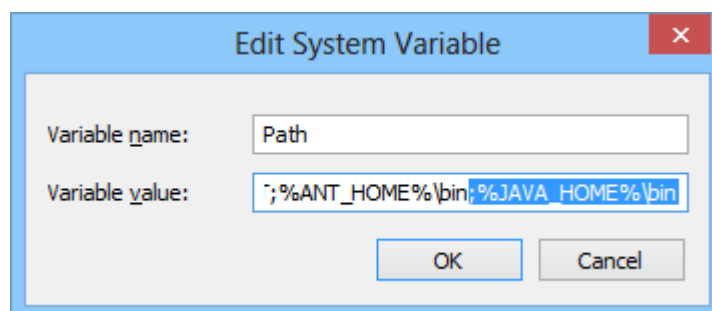
- d. Under Variable name: specify JAVA_HOME and under Variable value specify the Java path where JDK is installed. In this case C:\Program Files\Java\jdk1.7.0_45 and press OK button



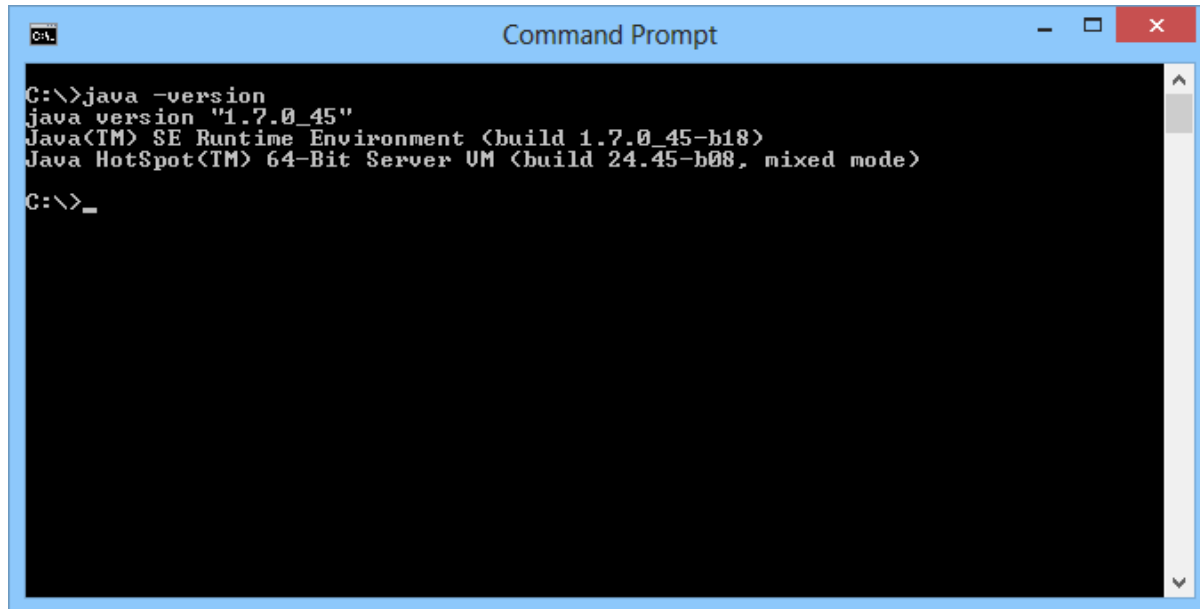
- e. After this scroll in the System Variables, and select the Path variable.



- f. Double click the Path Variable and in the Variable Value window at the end type a semicolon and then type %JAVA_HOME%\bin;



- g. Verify whether Java is installed successfully by typing the command `java -version` in the command prompt. This will show the version of java and also means that java is successfully configured



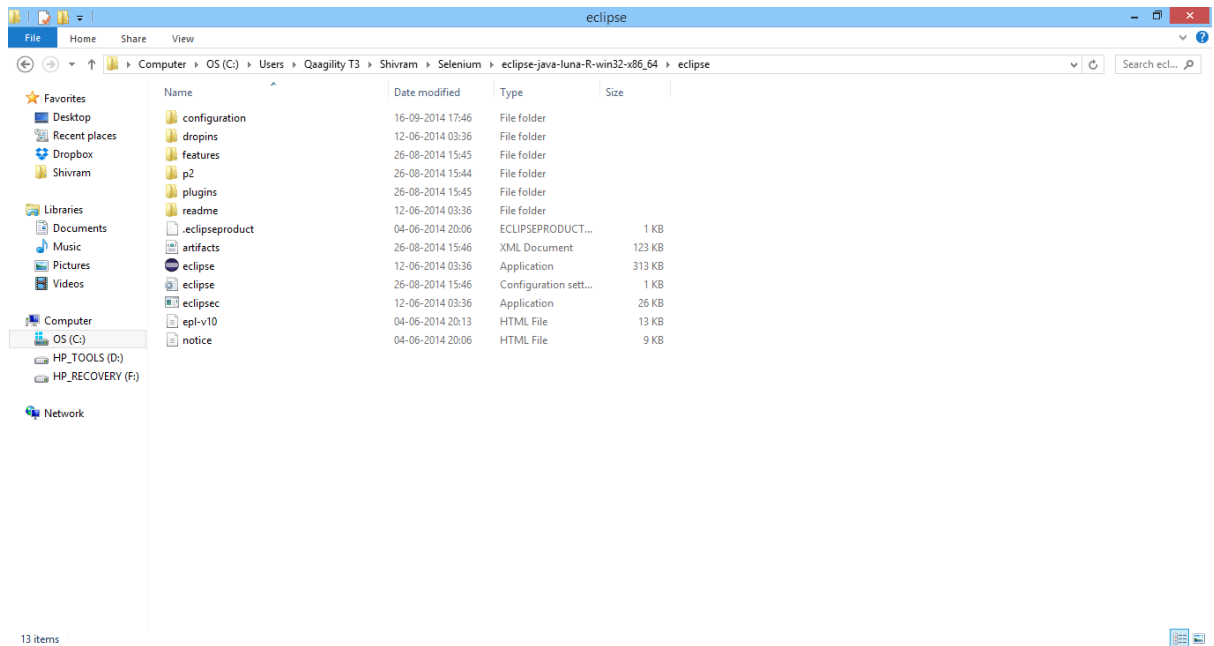
```
C:\>java -version
java version "1.7.0_45"
Java(TM) SE Runtime Environment (build 1.7.0_45-b18)
Java HotSpot(TM) 64-Bit Server VM (build 24.45-b08, mixed mode)
C:\>_
```

Step 2: Install Eclipse

Download Eclipse IDE for Java Developers from the below link. Check the system type required whether it is 32-bit or 64-bit

www.eclipse.org/downloads

Save it in a folder. Once saved you can directly run from Eclipse.exe from that folder



Step 3: Download Selenium WebDriver Jar Files

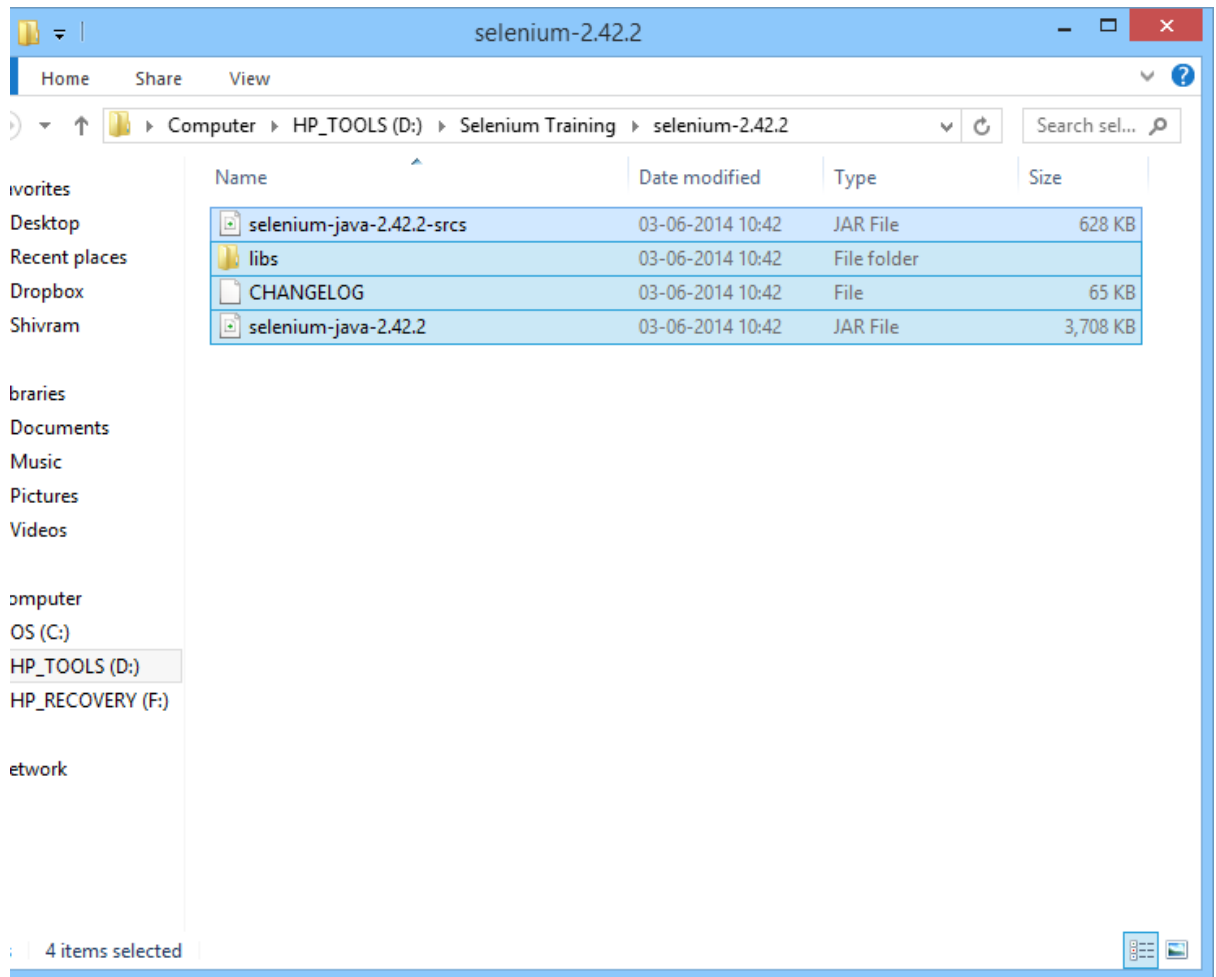
Since we will write Java code for WebDriver tests we will configure Selenium WebDriver with Java. Hence we will need WebDriver Java client driver.

Please download the Java client drive from the link

<http://docs.seleniumhq.org/download/>

Which you can find Under the heading “Selenium Client & WebDriver Language Bindings”

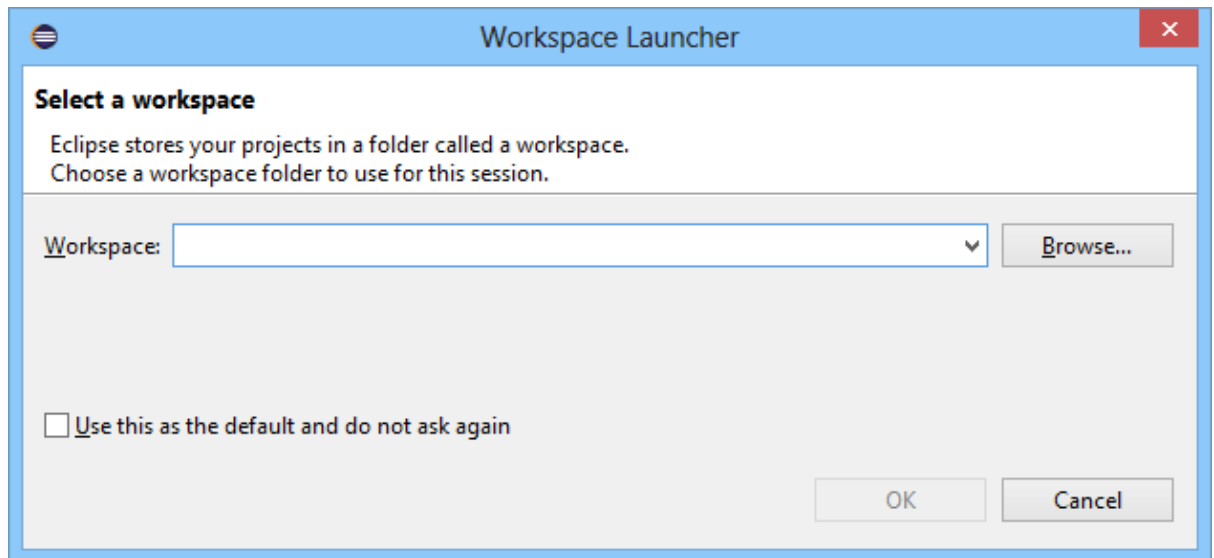
The Downloaded 'webDriver Java client driver' will be in zip format. Extract and save it in your system at path D:\Selenium Training\selenium-2.x.x
x.x represents the version number. For e.g. : 2.42.2. There will be 'libs' folder, 2 jar files and change log in unzipped folder as shown in below image. We will use all these files for configuring webdriver in eclipse



Step 4: Configuring Eclipse with WebDriver – Creating workspace

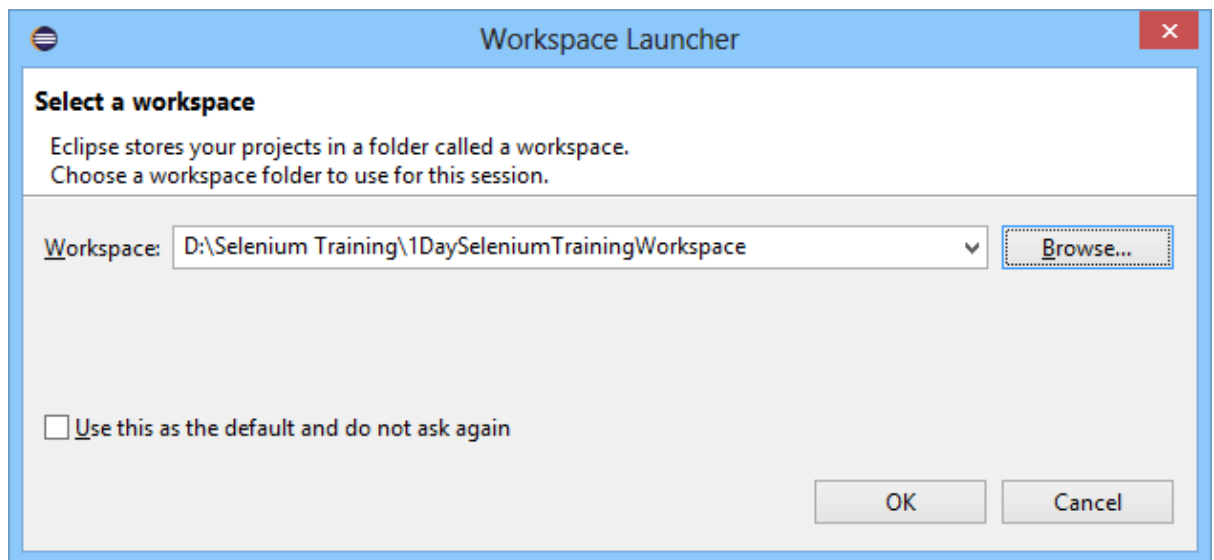
Create new folder in D:\Selenium Training with name '1DaySeleniumtrainingWorkspace'

Double click on 'eclipse.exe' to start eclipse. First time when you start eclipse, it will ask you to select your workspace where your work will be stored as shown in bellow image.



Click the Browse button in the above window and locate the 1DaySeleniumtrainingWorkspace

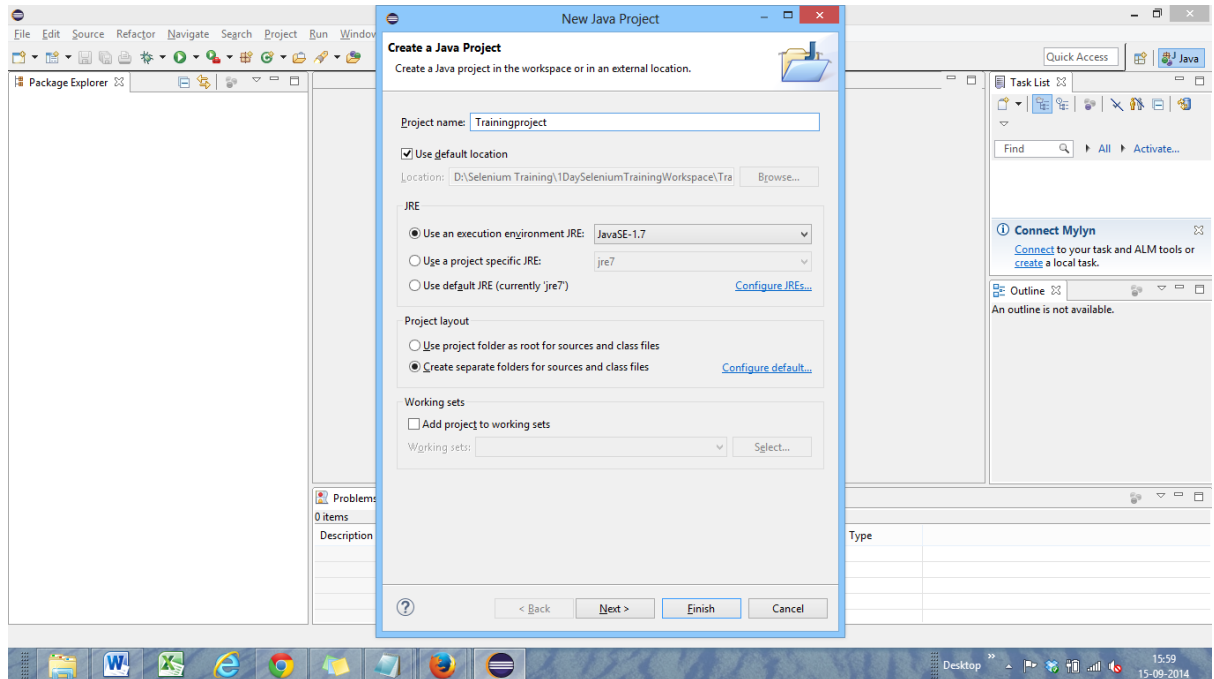
The window will look as follows

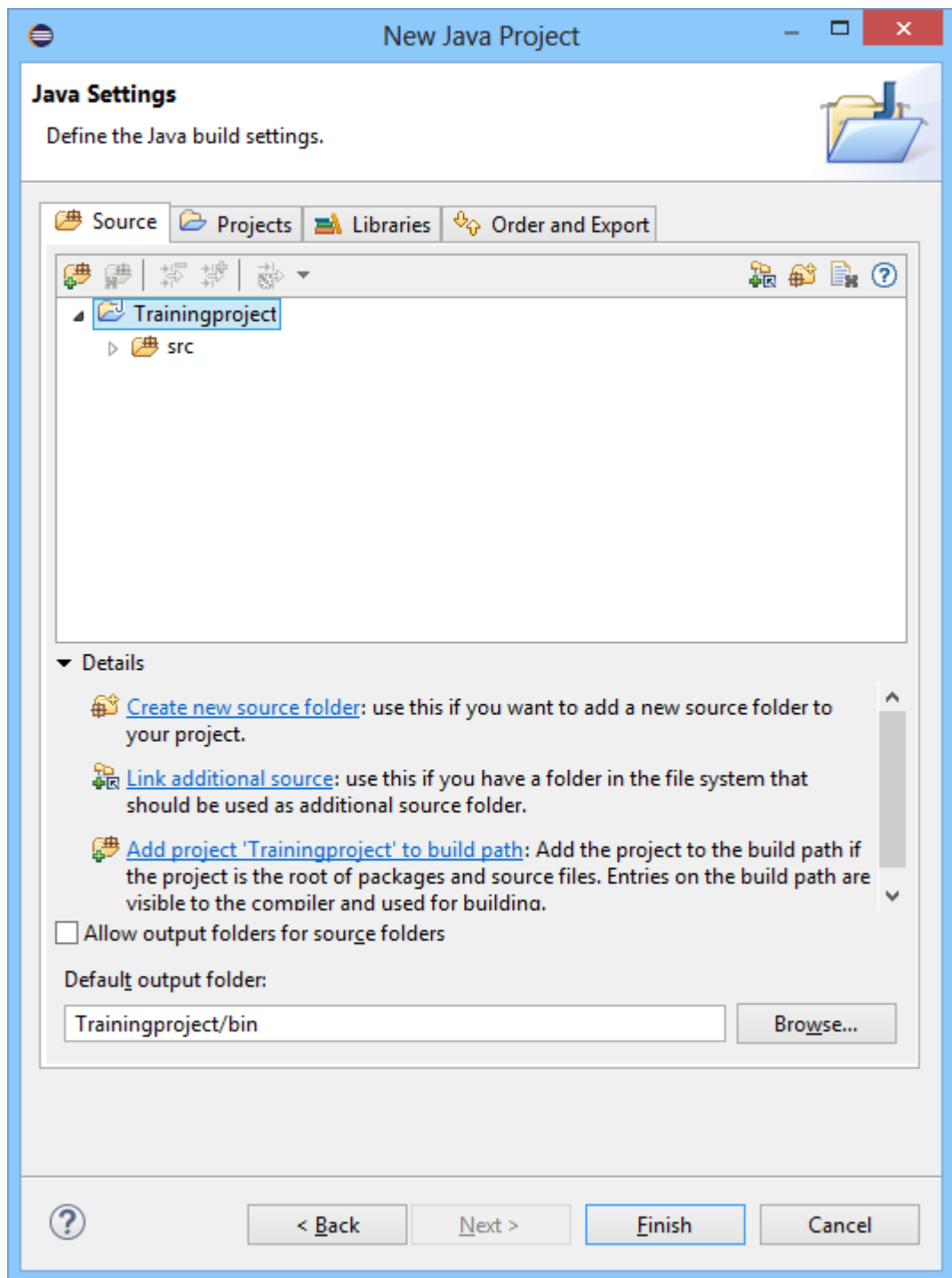


Click the OK Button. Eclipse will now be open

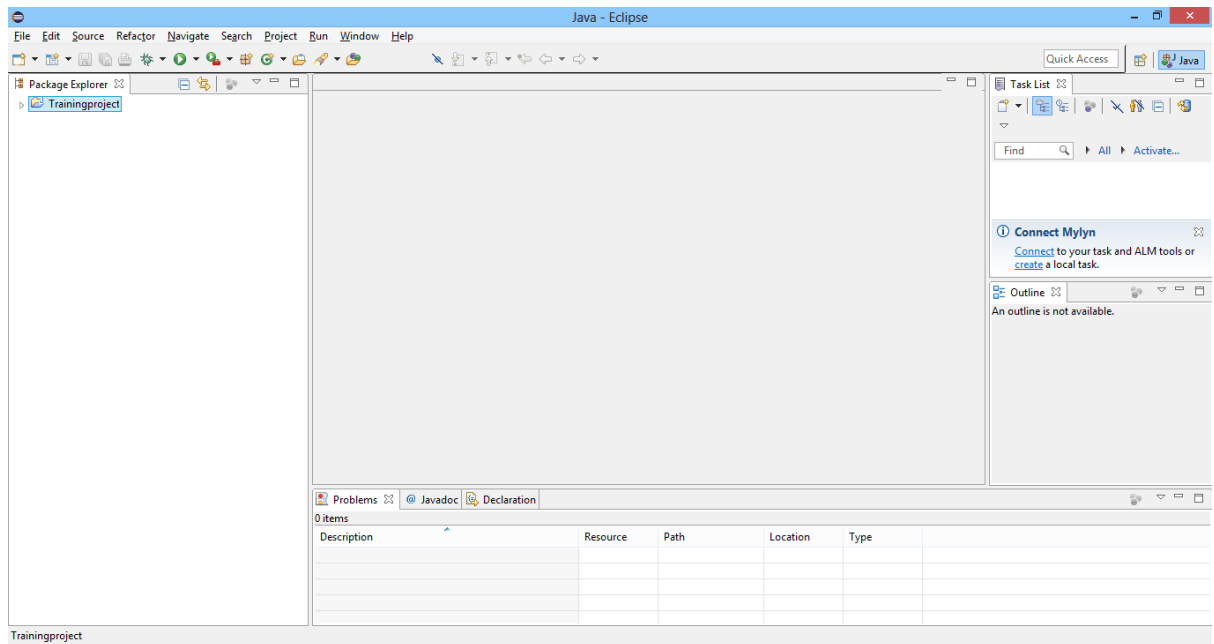
Step 5: Creating new project

Create new java project from **File > New > Project > Java Project** and give your project name 'Trainingproject' as below image



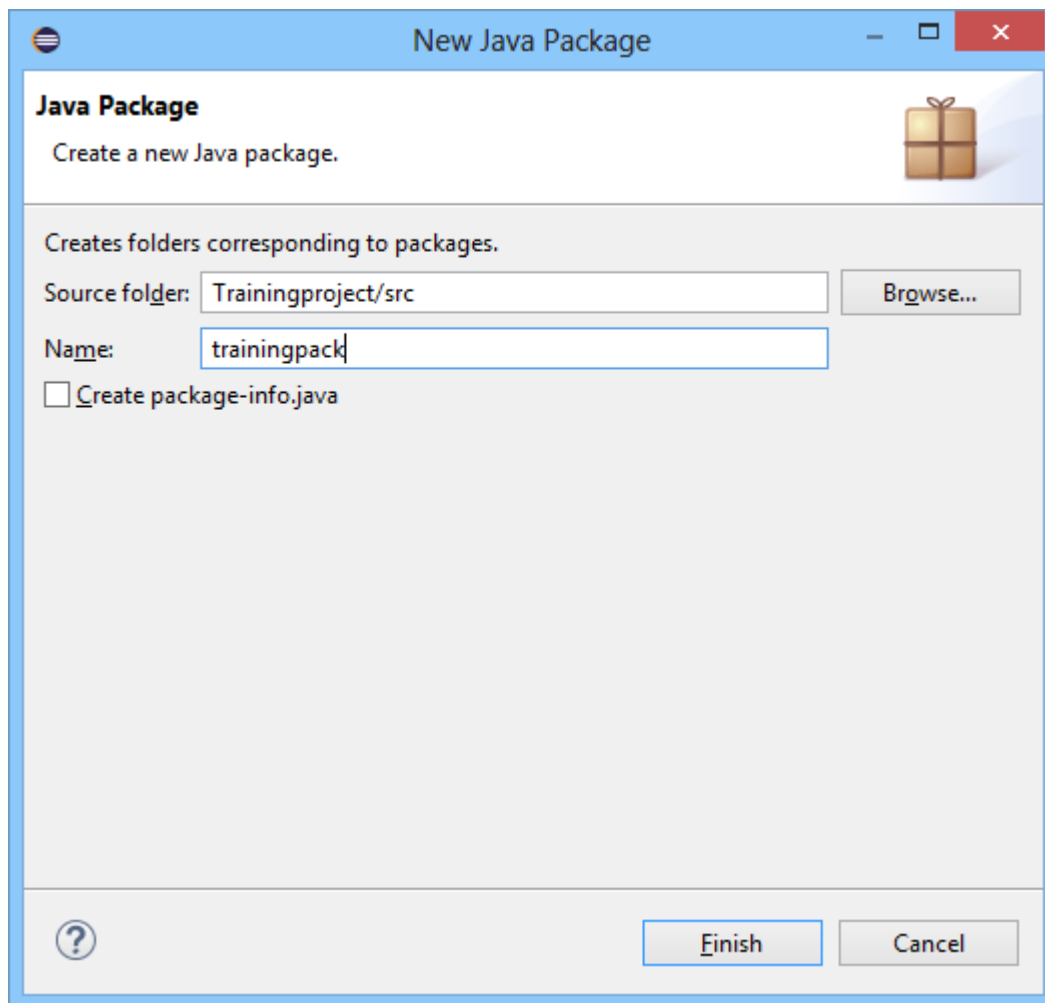


Click on Finish button. Now your new created project ' Trainingproject' will display in eclipse project explorer as below.

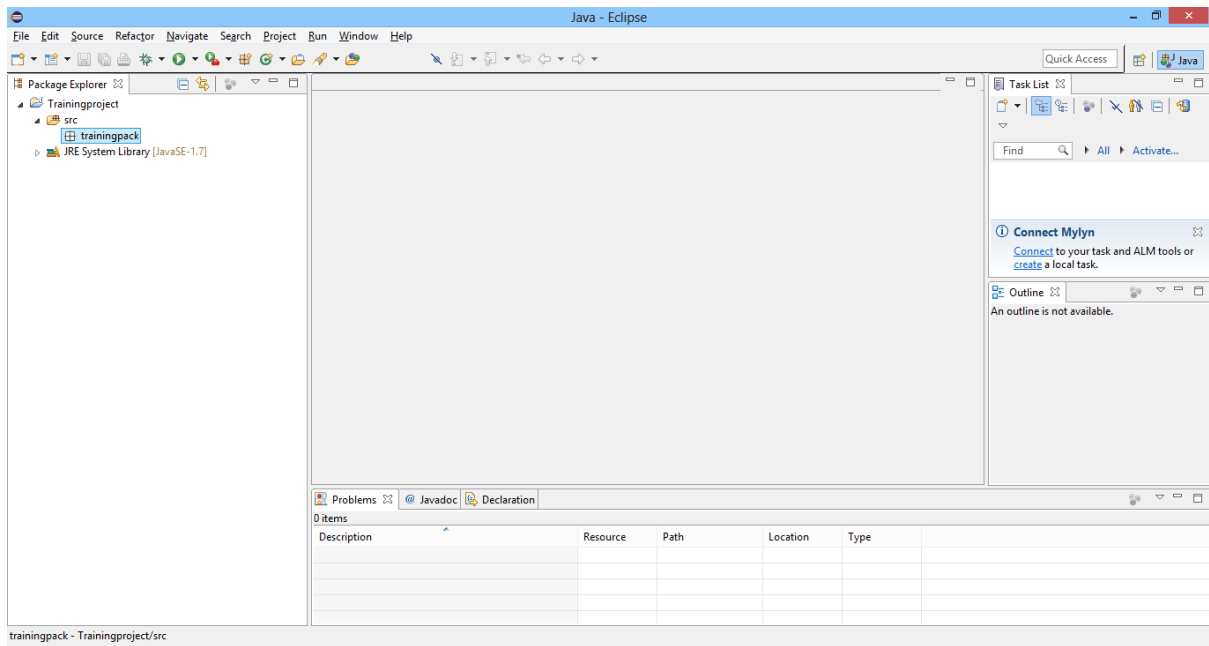


Step 6: Creating new package

Right click on project name 'trainingproject' and select **New > Package**. Give your package name = 'trainingpack' and click on finish button. It will add new package with name 'trainingpack' under project name 'trainingproject'.



The package should be displayed as below





Step 7:

Since Java is based on Object Oriented Programming concept, the Java class is used to create Objects.

Create New Class - Right click on package and create new class with name trainingclass1

New Java Class

Java Class

 Type name is discouraged. By convention, Java type names usually start with an uppercase letter 

Source folder:

Package:

☐ Enclosing type:

Name:

Modifiers: ☒ public ☐ package ☐ private ☐ protected
☐ abstract ☐ final ☐ static

Superclass:

Interfaces:

Which method stubs would you like to create?


☐ public static void main(String[] args)

☐ Constructors from superclass

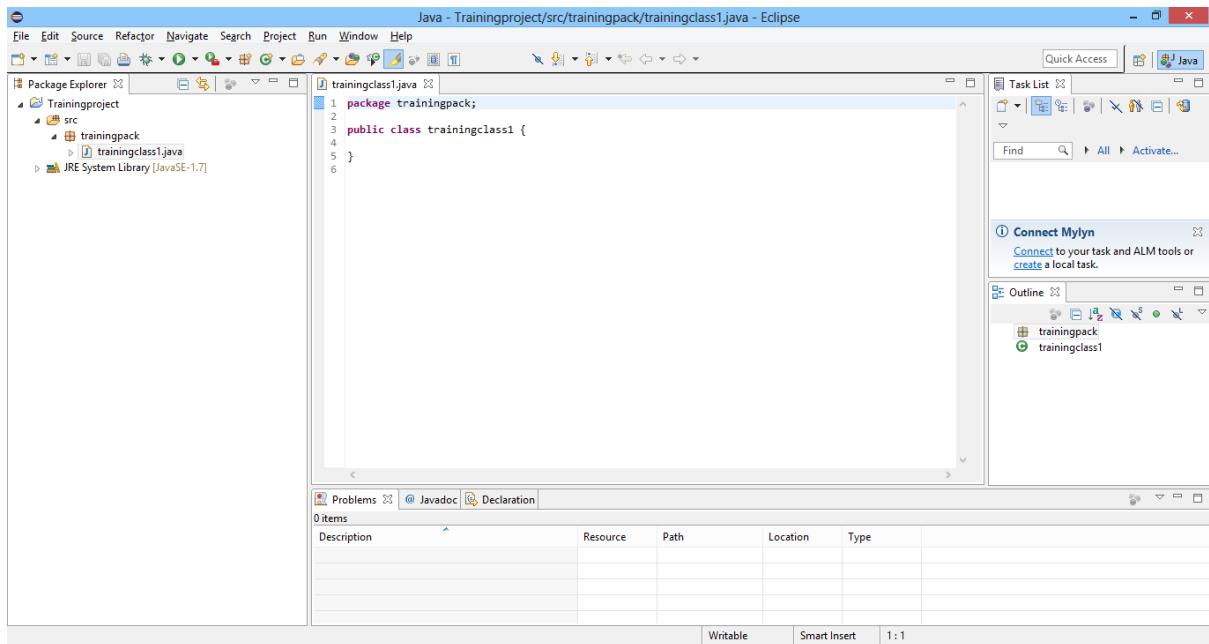
☒ Inherited abstract methods

Do you want to add comments? (Configure templates and default value [here](#))

☐ Generate comments

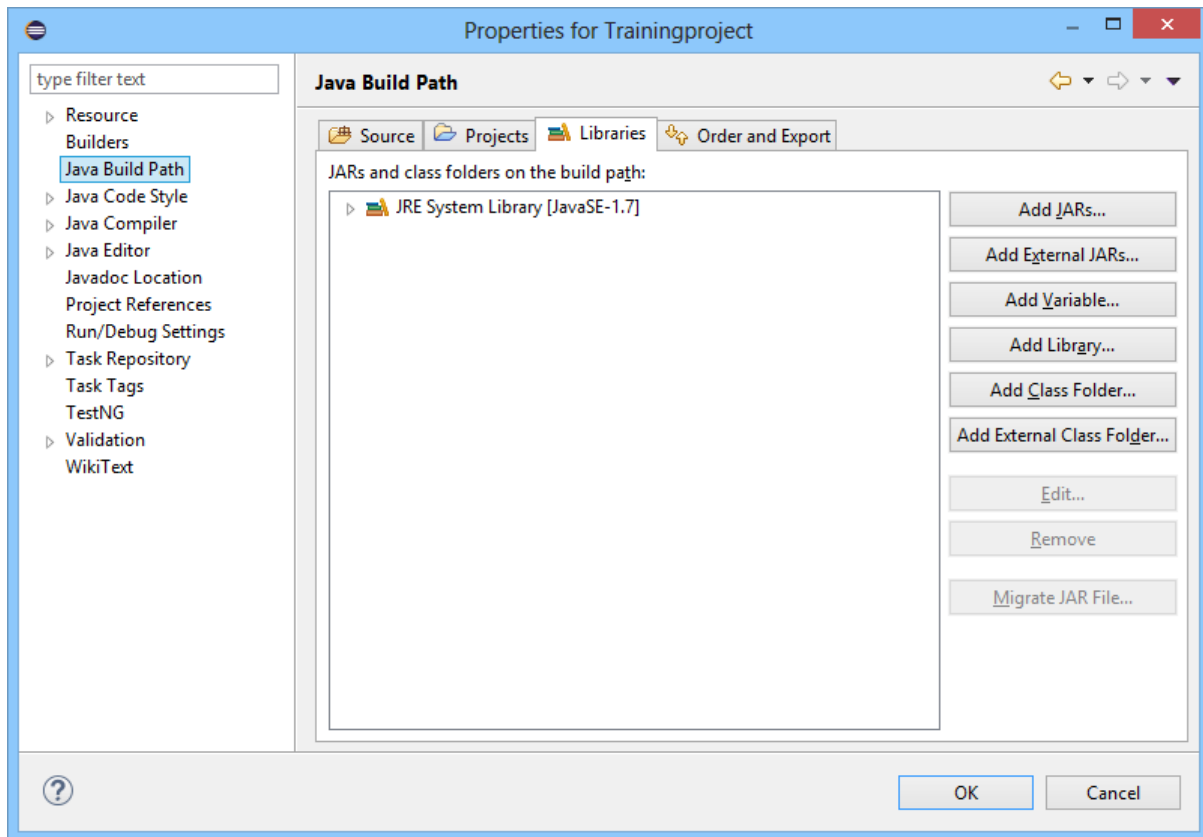


The Eclipse window will look like this

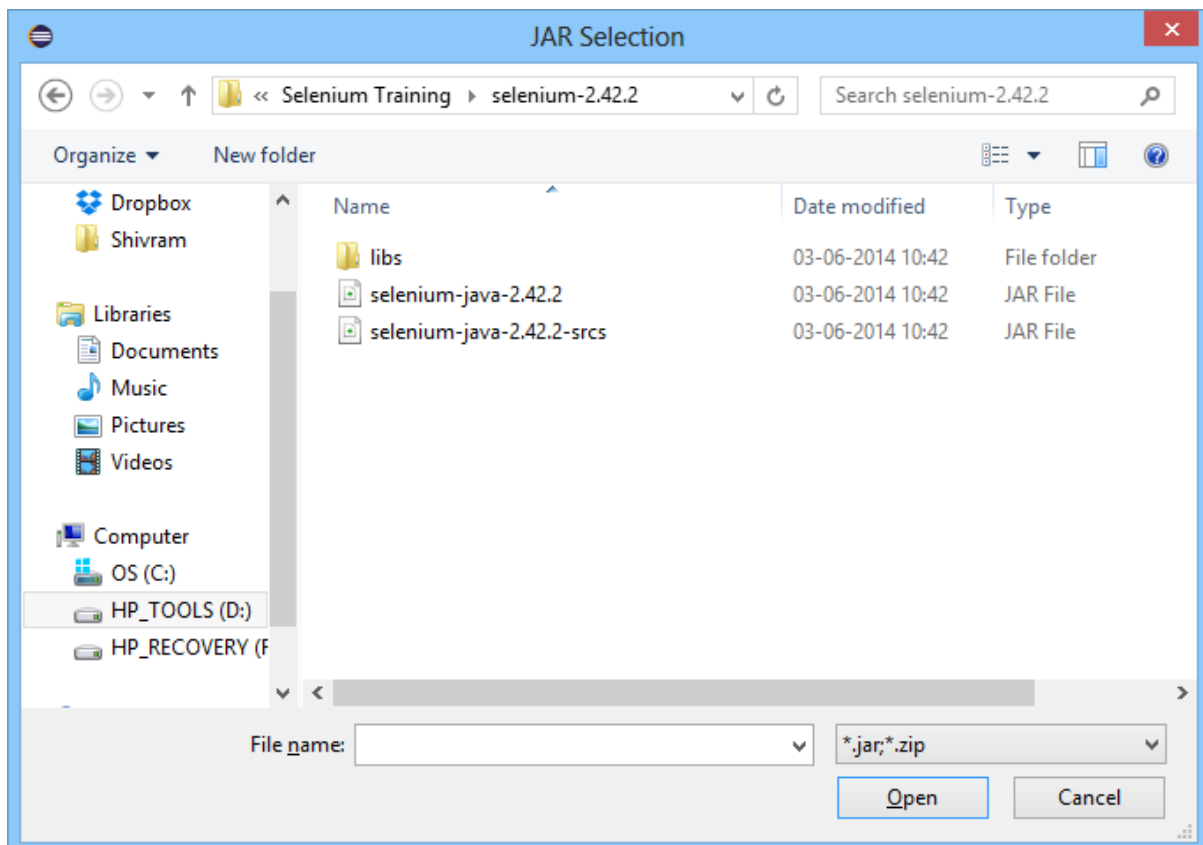


Step 8: Add Selenium WebDriver jar files to java build path

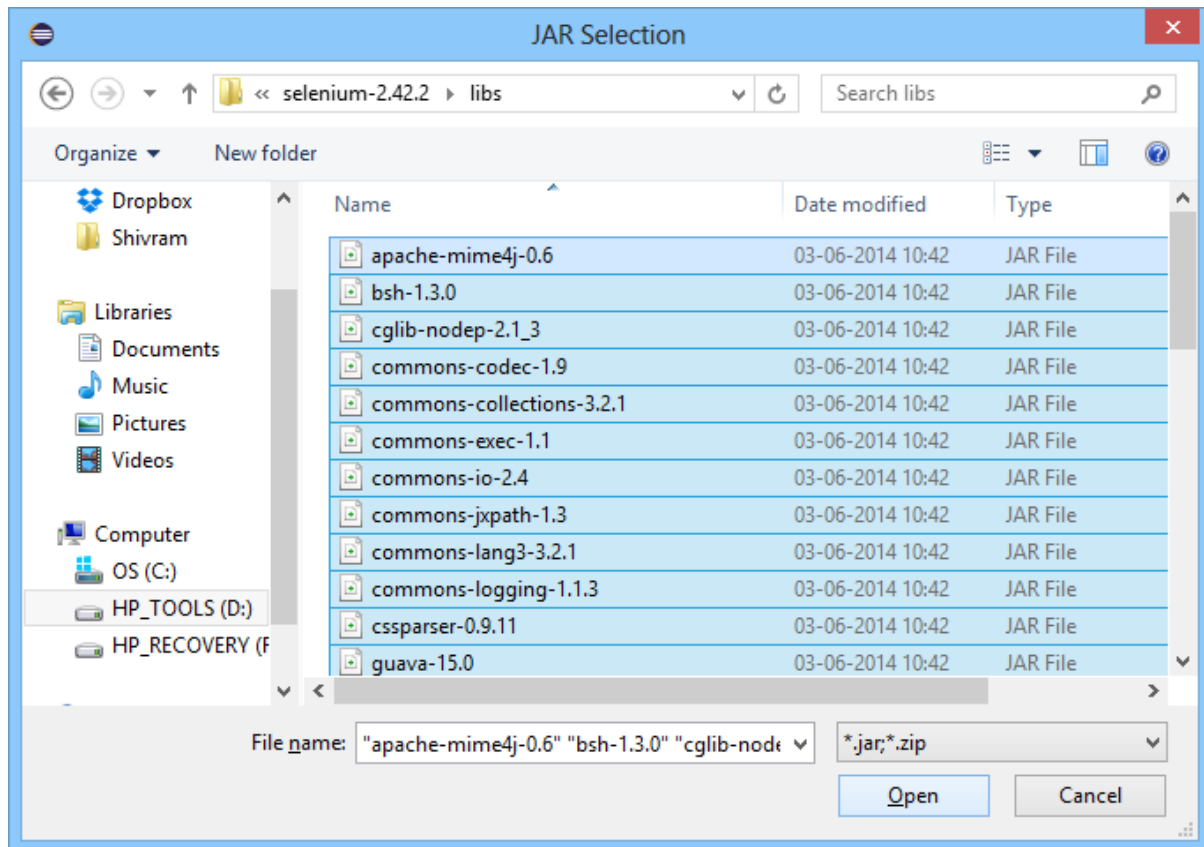
Right click on project 'trainingproject' > Select Properties > Select Java build path > Navigate to Libraries tab



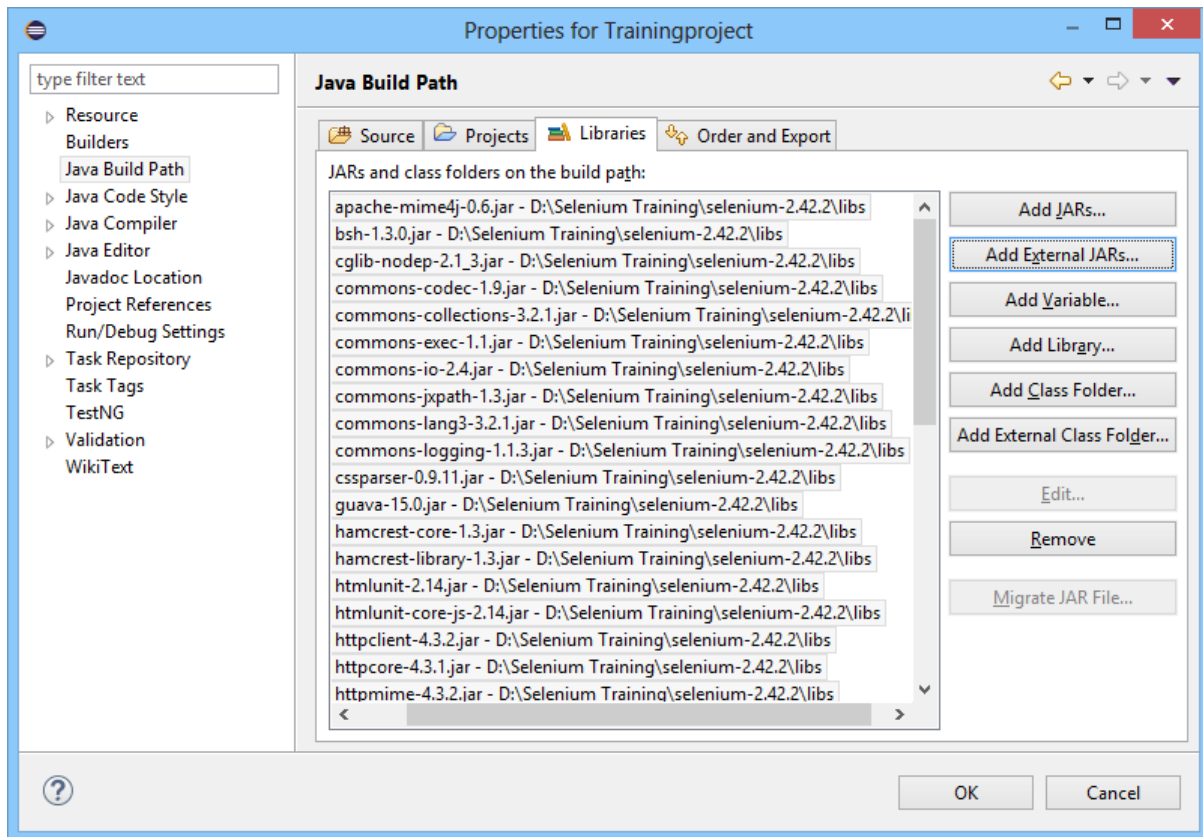
Click on add external JARs button > select both *.jar files from D:\selenium Training\selenium-2.x.x



Click on add external JARs button > select all .jar files from D:\selenium Training\selenium-2.x.x \libs



The configuration window in Eclipse will look as follows.



Click the OK button. This completes the configuration of WebDriver with Eclipse and now we are ready to write a Java program in Eclipse