<u>Project 2: Testing Tool-Selenium</u>

<u>Download Selenium and Install Selenium WebDriver</u>:

Prerequisites to install Selenium Webdriver:

i)   Download and Install Java

a)   http://www.oracle.com/technetwork/java/javase/downloads/index.html
b)   Download the latest JDK file based on System Requirements. Accept License Agreement.
c)   Once downloaded and installed, go to command prompt to verify Java Version
java -version

ii)   Download Eclipse

a)   https://www.eclipse.org/downloads/packages/release/neon/2/eclipse-ide-java-developers
b)   Extract the eclipse file. Choose specific path to create Workspace. Click OK.
c)   We can now create Java Projects and Classes in Eclipse.

iii)   Download Chrome Webdriver based on Chrome version on your system

a)   http://chromedriver.chromium.org/downloads

iv)   Follow the link and download latest Selenium Jar files
https://www.seleniumhq.org/download/
Extract the zip file to a new folder

v)   Open Eclipse and create a Java project. Add project Name. Click on Finish.
Create a package. Add package name. Click on Finish. Create a class file.

vi)   Right click on newly created project. Goto Build path à Configure Build Path.
Select Libraries tab; Select Classpath and click on ' Add External JARs'. Browse and add
external JARs from the "libs folder" and the rest present in extracted folder.

Click on Apply. Click on OK.

Here are the core components of the Selenium Test Suite:

- · Selenium Integrated Development Environment (IDE)
- · Selenium Remote Control (RC)
- · Selenium WebDriver
- · Selenium Grid

Example Application would be https://www.mdbootstrap.com

Advantages:

Open Source: Selenium allows users to share, extend, and modify the available code.

Support Languages: Selenium supports a range of languages, including Java, Perl, Python, C#, Ruby, Groovy, Java Script, etc.

Server Starting Not Required: A major benefit of automation testing with Selenium WebDriver is that you don't need to start any server prior to testing.

Supports Operating Systems: Selenium can operate and support across multiple Operating Systems (OS) like Windows, Mac, Linux, UNIX, etc.

Support across browsers: Selenium provides support across multiple browsers, namely, Internet Explorer, Chrome, Firefox, Opera, Safari, etc. This becomes highly resourceful while executing tests and testing it across various browsers simultaneously.

It can be integrated with **Maven, Jenkins & Docker** to achieve Continuous Testing.

Limitations:

It only supports Web based applications: We can use Selenium only to test web applications. We cannot test desktop applications

Handling pop up windows: Windows-based pops are part of the operating system. It's beyond selenium's capabilities.

Handling captcha: Handling captcha is a limitation in selenium. There are some third-party tools to automate captcha but still, we cannot achieve 100% results.

There is **limited reporting facility**. But we can overcome that issue by integrating it with frameworks like TestNG or Junit.