**Selenium**

1. Introduction to Selenium

* Selenium is an Open – source Test Automation tool.
* Key concepts of selenium are –
* Selenium WebDriver
* Selenium IDE
* Selenium GRID
* Used for testing web applications on multiple browsers like Firefox, Chrome, IE, Edge, Safari, Opera.
* Selenium supports multiple operating systems like Windows, MacOS, Linux.
* Selenium supports multiple programming languages such as Java, Python, C#, Java Script, and Ruby.

Go through with the selenium website for more details [www.selenium.dev](http://www.selenium.dev).

1. Selenium WebDriver Architecture

A picture containing text, screenshot, diagram

Description automatically generated

1. How to Install Java on Windows OS

Step – 1: Open <https://www.oracle.com/in/java/technologies/downloads/>

Step – 2: Select JDK version and OS version and download .exe file.

Step – 3: Once downloaded, open and click on install.

Step – 4: Add java to the environment variables.

1. How to Install Eclipse on Windows OS

Step – 1: Open <https://www.eclipse.org/downloads/>

Step – 2: Select the latest version and click on download.

Step – 3: Once downloaded, Open the application, and click on install.

1. How to setup Selenium WebDriver in Eclipse IDE

We can setup selenium WebDriver in Eclipse IDE in two ways.

* Using jar file

By creating a java project, we can add the latest version of selenium jar file.

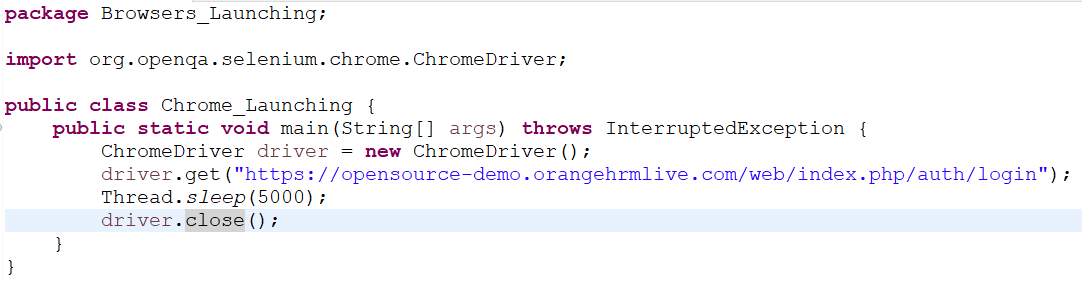
* Using pom.xml file

By creating a maven project, we can add the dependencies of selenium from maven repository <https://mvnrepository.com/>.

1. How to run tests on different browsers

To run a test case, we need browser types.

* Chrome Browser:



* Microsoft Edge Browser:

A picture containing text, screenshot, font, line

Description automatically generated

1. Maven Introduction and Installation

* Maven: Maven is a build management tool which is provided by Apache Software foundation, and it is a completely open-source tool.
* Advantages:
* It gives project structure.
* It has POM (Project Object Model).XML.
* It generates reports.
* It generates documentation.
* Pom.xml has two entries – dependencies and plugins.
* Dependencies: Responsible for downloading third party libraries or jars like drivers into your project.
* Plugins:
* Controls the entire project.
* Contains different types of configurations on which our project will run.
* After adding dependencies, pom.xml will be –

A screenshot of a computer program

Description automatically generated with low confidence

1. How to manage dependencies with Maven
2. How to use WebDriver Manager
3. How to write first testcase in selenium