

Practical no 2

AIM: Install Selenium server and demonstrate it using a script in Java.

Theory**Selenium Java**

Selenium is an umbrella project for a range of tools and libraries that enable and support the automation of web browsers. It provides extensions to emulate user interaction with browsers, a distribution server for scaling browser allocation, and the infrastructure for implementations of the W3C Web-Driver specification that lets you write interchangeable code for all major web browsers.

ChromeWebDriver

WebDriver is an open source tool for automated testing of webapps across many browsers. It provides capabilities for navigating to web pages, user input, JavaScript execution, and more. ChromeDriver is a standalone server that implements the W3C WebDriver standard. ChromeDriver is available for Chrome on Android and Chrome on Desktop (Mac, Linux, Windows and ChromeOS).

Eclipse IDE

Eclipse IDE is a famous IDE for java development, Eclipse IDE is open source and has been long in development since 2001. It is licensed under "Eclipse Public License". Eclipse has a lot of extensions and now has many IDEs for different Programming languages as well.

Installation of Selenium server in Eclipse IDE

Step-1 :- Install JDK,Eclipse IDE for "java developers".

Step-2 :- Download "Chromedriver","selenium-java-3.13.0.zip" and "selenium-server-standalone-3.141.59.jar".

Step-3 :- Launch the Eclipse IDE.

Step-4 :- Create a new java project give a suitable name and save it.

Step-5 :- Eclipse IDE will open the project. Now add a new java class and give it a name.

Step-6 :- To include the libraries and "jar" files, Unzip the zipped archives,next "rightclick on the project icon → Build Path → Configure Build Path.."

Step-7 :- Here we will choose "Add External JARs..." button and navigate to the ".jar" file we downloaded/extracted and select them to include in our project.

Software Testing & Quality Assurance

Step-8 :- Save the configuration. You have successfully installed selenium for java.

Step-9 :- For linking the chrome driver you need to include it in the code by adding a line

```
System.setProperty("webdriver.chrome.driver","chromedriver path");
```

Testing a Website using selenium(java) in eclipsed IDE

Step-1 :- Import all the important classes we need from the jar packages we included earlier.

```
import org.openqa.selenium.By;
```

```
import org.openqa.selenium.chrome.ChromeDriver;
```

```
import org.openqa.selenium.WebDriver;
```

Step-2 :- Next we will set the path property for chromedriver.

Step-3 :- Next Create a WebDriver object for accessing web contents.

Step-4 :- Use "WebDriver.get()" method to get the base URL .

Step-5 :- we can manipulate the browser DOM elements using "WebDriver.manage() method".

Step-6 :- Next we have a lot of methods to fetch data from the webpage and we can also manipulate them for the "By" class.

Step-7 :- Once you are done with the testing close the window using 'WebDriver.close()' method.

Step-8 :- The base URL can be any site hosted either on localserver or on the world wide web.

Code

2A. Test on an External website

```

1 package prac2;
2
3 import org.openqa.selenium.WebDriver;
4 import org.openqa.selenium.chrome.ChromeDriver;
5
6 public class Prac2 {
7
8     public static void main(String[] args) {
9         System.setProperty("webdriver.chrome.driver", "C:\\Users\\BlackBot\\Desktop\\tycs prac\\stqa prac2\\chromedriver_win32\\chromedriver.exe");
10        WebDriver driver = new ChromeDriver();
11
12        String baseUrl = "https://google.com/";
13        driver.manage().window().maximize();
14        String expectedTitle = "Google";
15        String actualTitle = "";
16
17        driver.get(baseUrl);
18        actualTitle = driver.getTitle();
19        System.out.println(actualTitle);
20
21        if(actualTitle.contentEquals(expectedTitle))
22        {
23            System.out.println("test pass");
24        }
25        else
26        {
27            System.out.println("test fail");
28        }
29    }
30 }

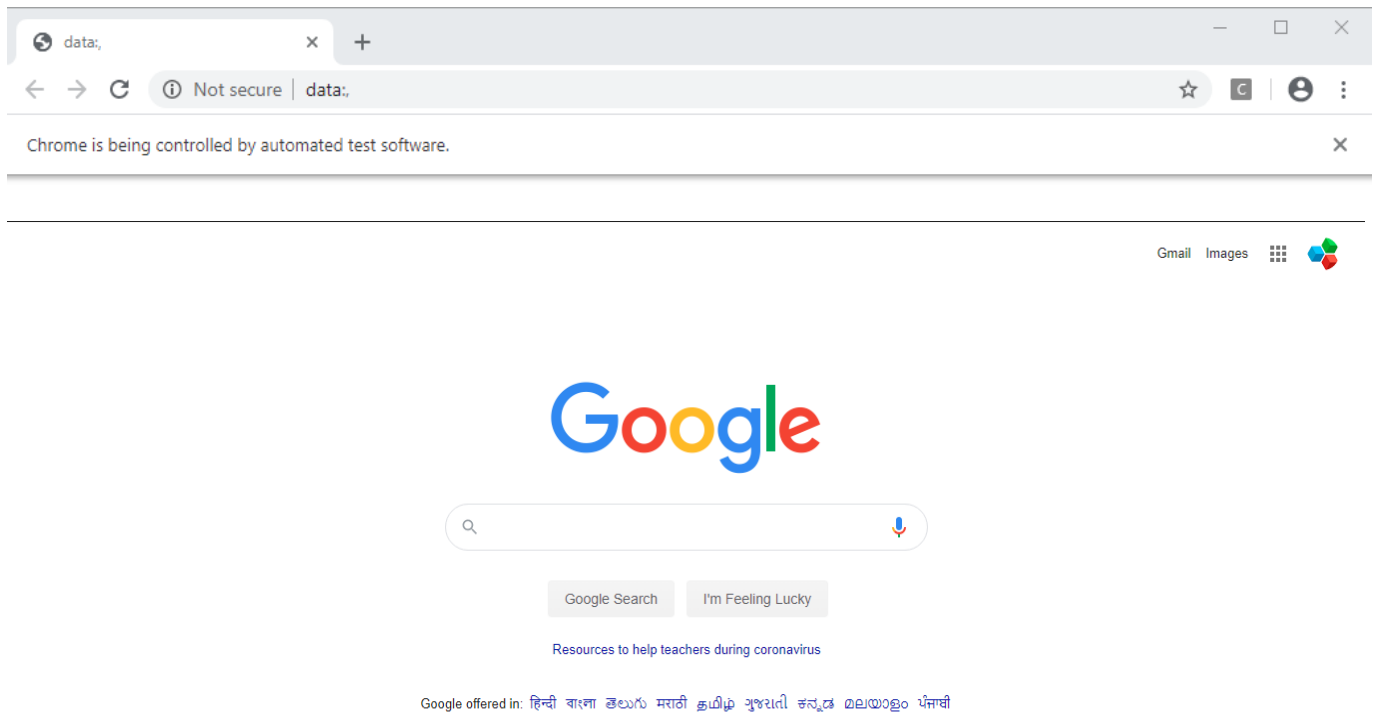
```

Console Output:

```

<terminated> Prac2 [Java Application] C:\Program Files\Java\jdk-14.0.2\bin\javaw.exe (Aug 25, 2020, 2:41:03 PM - 2:41:20 PM)
Aug 25, 2020 2:41:10 PM org.openqa.selenium.remote.ProtocolHandshake createSession
INFO: Detected dialect: OSS
[1598346672.224][WARNING]: Timed out connecting to Chrome, retrying...
Google
test pass

```



2B. Test on an Local Webpage

```

1 package prac2;
2
3 import org.openqa.selenium.By;
4 import org.openqa.selenium.WebDriver;
5 import org.openqa.selenium.chrome.ChromeDriver;
6
7 public class Prac2b {
8
9     static String driverPath = "C:\\\\Users\\\\BlackBot\\\\Desktop\\\\tycs prac\\\\stqa prac\\\\prac2\\\\chromedriver_win32\\\\chromedriver.exe";
10
11     public static void main(String[] args) {
12
13         System.out.println("hello");
14         String actualTitle , expectedTitle;
15         actualTitle=null;
16         expectedTitle = "welcome page";
17
18         System.setProperty("webdriver.chrome.driver" , driverPath);
19         WebDriver driver = new ChromeDriver();
20
21         String baseUrl = "C:\\\\Users\\\\BlackBot\\\\Desktop\\\\tycs prac\\\\stqa prac\\\\prac2\\\\prac2b\\\\user.html";
22
23         driver.get(baseUrl);
24         driver.findElement(By.name("user")).clear();
25         driver.findElement(By.name("user")).sendKeys("krunal");
26
27         driver.findElement(By.name("password")).clear();
28         driver.findElement(By.name("password")).sendKeys("713");
29
30         driver.findElement(By.name("sub")).click();
31
32         actualTitle = driver.getTitle();
33

```

```

24 driver.findElement(By.name("user")).clear();
25 driver.findElement(By.name("user")).sendKeys("krunal");
26
27 driver.findElement(By.name("password")).clear();
28 driver.findElement(By.name("password")).sendKeys("713");
29
30 driver.findElement(By.name("sub")).click();
31
32 actualTitle = driver.getTitle();
33
34 if(actualTitle.equals(expectedTitle))
35 {
36     System.out.println("title matching");
37     System.out.println("test case passed successfully");
38 }
39 else
40 {
41     System.out.println("title not matched");
42     System.out.println("test case failed");
43 }
44
45 try {
46     Thread.sleep(4000);
47 }
48 catch(Exception e)
49 {
50 }
51 driver.close();
52 }
53 }
54 }
55 }
56 }

```

Console Output:

```

<terminated> Prac2b [Java Application] C:\Program Files\Java\jdk-14.0.2\bin\javaw.exe (Aug 25, 2020, 3:51:28 PM – 3:51:40 PM)
hello
Starting ChromeDriver 2.41.578737 (49da6702b16031c40d63e5618de03a32ff6c197e) on port 35690
Only local connections are allowed.
[1598350893.198][WARNING]: Timed out connecting to Chrome, retrying...
Aug 25, 2020 3:51:35 PM org.openqa.selenium.remote.ProtocolHandshake createSession
INFO: Detected dialect: OSS
title matching
test case passed successfully

```

User.html

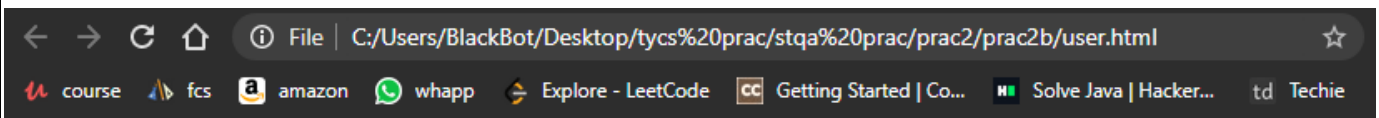
```

<!DOCTYPE html>
<html>
<body>
<h2>prac 2 </h2>
<form action="welcome.html">
  <label for="fname">First name:</label><br>
  <input type="text" id="fname" name="user"><br>
  <label for="lname">Last name:</label><br>
  <input type="password" id="lname" name="password"><br><br>
  <input type="submit" value="Submit" name="sub" >
</form>
</body>
</html>

```

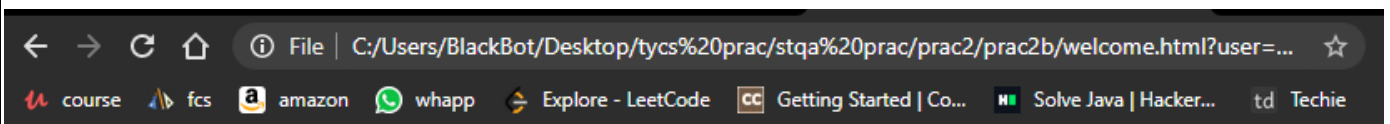
Welcome.html

```
<!DOCTYPE html>
<html>
<head>
<title> welcome page </title>
</head>
<body>
<h2>welcome page</h2>
</body>
</html>
```

**prac 2**

First name:

Last name:

**welcome page**