| Ex No: 9 | AUTOMATION TESTING ON WEB PAGES USING SELENIUM |
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| Date : 04/10/2021 | |
| Video Link: | |

**OBJECTIVE**

The objective of the experiment is to perform automation testing on a web page using selenium framework on different browsers using Java/Python/C#

**DESCRIPTION:**

A webpage is to be exhaustively tested using different browsers using selenium framework. A webpage with multiple form fields (Text box, radio button, drop down buttons, buttons, hyperlink) is created and uploaded in to a webserver (IIS/Apache). The content and the form fields in the webpage is individually checked. Also, the client-side validation performed using JavaScript is also to be evaluated. The evaluation is to be carried out by developing various test cases for every individual web component. To this end, an extensive software testing framework is required. Selenium is a free opensource automating and testing framework that supports C#, Java, Perl, PHP, Python and Ruby. Selenium Webdriver provides the functionality of conducting various testcases.

**PROCEDURE:**

**Server side:**

- Load the designed Webpage to be tested in the server.
  (IIS Server- C:\inetpub\wwwroot)
  (Apache Server- ………………….)

**Client side**

- Download all the necessary selenium packages based on the host machine requirement (windows/mac/linux, x86/x64)
- Download the corresponding browser’s (Chrome/opera/firefox) web driver to integrate the IDE & browser.

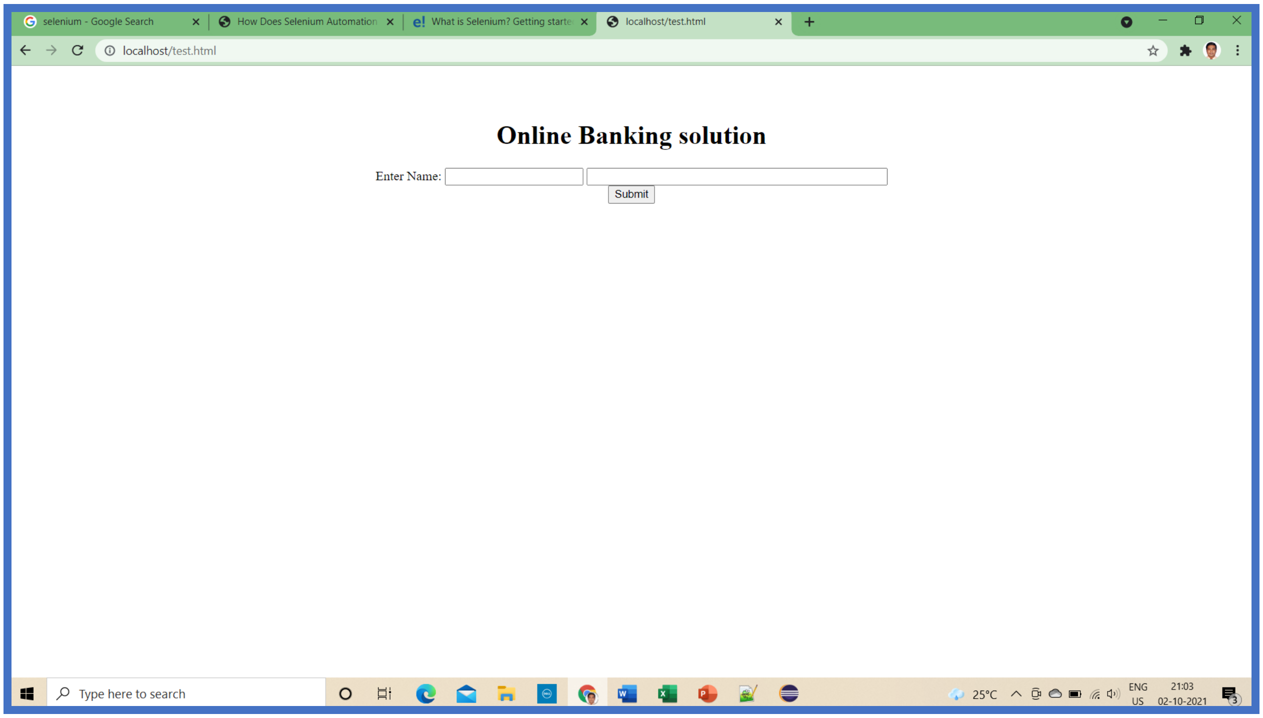
- Using the IDE (Eclipse/Jupyter) create a new Java/Python program.
- Import all the required selenium packages in the java program.
- Using setProperty(), provide the name and location of the browser's webdriver.
- And a WebDriver class instances of the browser is created and it is used to access the webpage.
- The method navigate().to("URL") launches the website in the test browser.
- Every component in a webpage is accessed by the method findElement() and specific entities using the following
  - findElement(By.id("identifier value"))
  - findElement(By.name("name"))nd
  - findElement(By.linkText("Link text"))
  - findElement(By.className("class name"))
- Values are passed on using the method sendKeys("value").
- Inner HTML values are obtained using the method getText().
- Values from forms are obtained using the method getAttribute("value").
- Browser events such as click, clear, back, forward, refresh, and close are performed using the methods click(), clear(), back(), forward(), refresh(), quit() respectively.
- Also, moving between windows and frames are performed using the methods switchTo().window("windowName") and switchTo().frame("frameName");
- Javascript method is invoked by the method executeScript() of the class JavascriptExecuter

**SOURCE CODE (Chrome):**

```
//Selenium packages

import org.openqa.selenium.By;
import org.openqa.selenium.JavascriptExecutor;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
// Chrome packages
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.chrome.ChromeOptions;
import com.sun.org.apache.bcel.internal.generic.Select;


public class chrome {
        public static void main(String args[])
        {

        //        System.out.print("hi");

        System.setProperty("webdriver.chrome.driver",
"C:\\Users\\Titus\\Documents\\KITS\\2021-22\\01 odd sem\\20CS2050 L-Software Engineering
Lab-2021-1-BIV\\09 Ex\\chromedriver.exe");
         // WebDriver driver=new ChromeDriver();
          ChromeOptions opt = new ChromeOptions();
          opt.addArguments("disable-extensions");
          opt.addArguments("--start-maximized");
          WebDriver driver = new ChromeDriver(opt);


         // Launch website
         driver.navigate().to("http://localhost/test.html");



        //Test case 1
         System.out.print("\n\n Test Case 1:  Content checking");
          String o1 = driver.findElement(By.id("HText")).getText();
   System.out.print("\n Test Outcome:"+o1);
   System.out.print("\n Desired Outcome:"+"Online Banking solution");

   if (o1.equals("Online Banking solution"))
   {
          System.out.print("\n Summary  Test case 1 status: Success ");
   }else
   {
          System.out.print("\n Summary  Test case 1 status: Fail");
   }



  //Test case 2:


  System.out.print("\n\n\n Test Case 2:  Checking for null elements");
  driver.findElement(By.id("fname")).sendKeys("");
```

```
   System.out.print("\n Given input for textbox (Name):"+"");
   JavascriptExecutor jse = (JavascriptExecutor) driver;
   jse.executeScript("tbox()");

   String o2=driver.findElement(By.id("efname")).getAttribute("value");
   System.out.print("\nTest Outcome:"+o2);
   System.out.print("\n Desired Outcome:"+"Name field cant be empty");

  if (o2.equals("Name field cant be empty"))
  {
          System.out.print("\n Summary: Test case 2 status: Success ");
  }else
  {
          System.out.print("\n Summary: Test case 2 status: Fail ");
  }



//Test case 3:
  System.out.print("\n\n\n Test case 3");
  driver.findElement(By.id("fname")).sendKeys("1234567890000");
  System.out.print("\n Given input for textbox (Name):"+"1234567890000");
  jse.executeScript("tbox()");
  String o3=driver.findElement(By.id("efname")).getAttribute("value");

  System.out.print("\n Test Outcome:"+o3);
  System.out.print("\n Desired Outcome:"+"First name cannot be more than 10 chars");

  if (o3.equals("First name cannot be more than 10 chars"))
  {
          System.out.print("\n Summary  Test case 2 status: Success ");
  }else
  {
          System.out.print("\n Summary  Test case 2 status: Fail");
  }



//Close the Browser
  driver.close();
         }
```

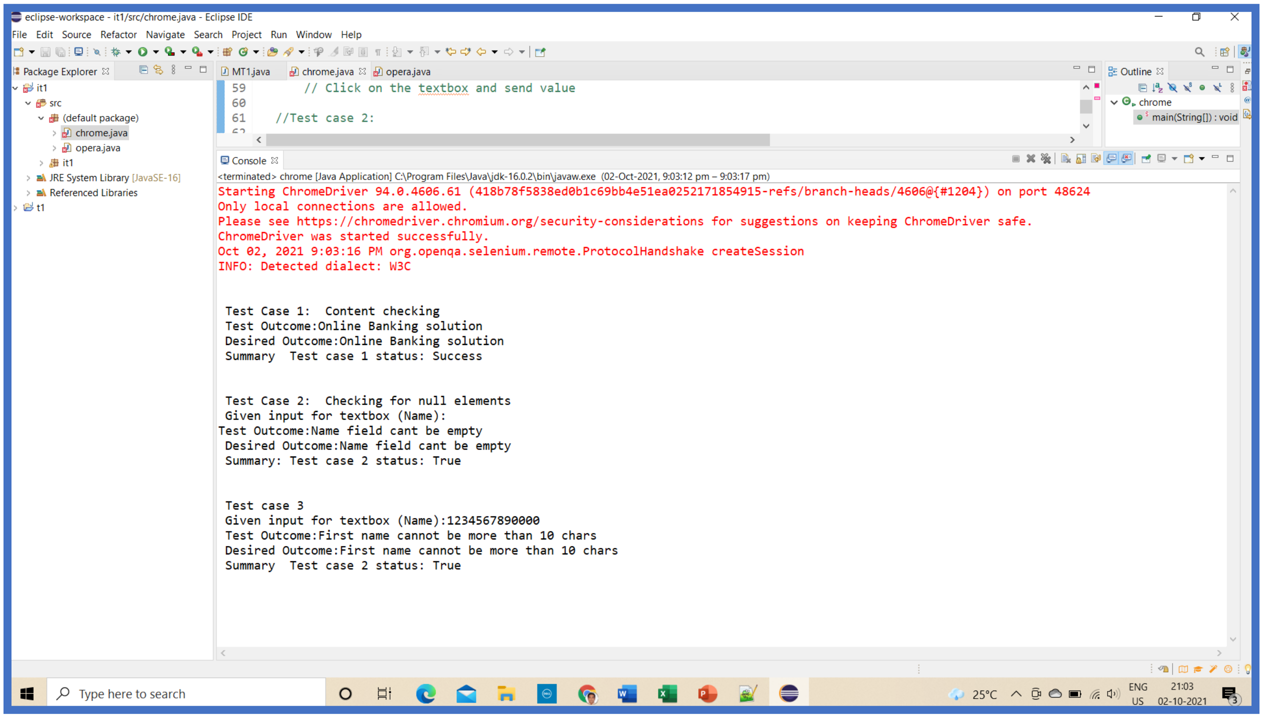
**OUTPUT(Chrome):**



## Online Banking solution

Enter Name:

Submit



```
        // Click on the textbox and send value

    //Test case 2:
```

```
<terminated> chrome [Java Application] C:\Program Files\Java\jdk-16.0.2\bin\javaw.exe  (02-Oct-2021, 9:03:12 pm – 9:03:17 pm)
Starting ChromeDriver 94.0.4606.61 (418b78f5838ed0b1c69bb4e51ea0252171854915-refs/branch-heads/4606@{#1204}) on port 48624
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDriver safe.
ChromeDriver was started successfully.
Oct 02, 2021 9:03:16 PM org.openqa.selenium.remote.ProtocolHandshake createSession
INFO: Detected dialect: W3C


 Test Case 1:  Content checking
 Test Outcome:Online Banking solution
 Desired Outcome:Online Banking solution
 Summary  Test case 1 status: Success


 Test Case 2:  Checking for null elements
 Given input for textbox (Name):
Test Outcome:Name field cant be empty
 Desired Outcome:Name field cant be empty
 Summary: Test case 2 status: True


 Test case 3
 Given input for textbox (Name):1234567890000
 Test Outcome:First name cannot be more than 10 chars
 Desired Outcome:First name cannot be more than 10 chars
 Summary  Test case 2 status: True
```

**Browser: Chrome/Opera/Firefox/Safari**

**SOURCE CODE(Browser 2):**

**Browser: Chrome/Opera/Firefox/Safari**

**OUTPUT (Browser 2):**

**Browser: Chrome/Opera/Firefox**

**RESULT:**

A web page was tested in the Chrome & Opera Browsers by creating various testcases using java and selenium framework.