**Chrome Driver:**

Link: <https://googlechromelabs.github.io/chrome-for-testing/#stable>

**Create a folder in your project name called drivers.**

**in maven selenium version:3.141.5**

Link: <https://mvnrepository.com/artifact/org.seleniumhq.selenium/selenium-java>

**TESTNG**

Link: <https://mvnrepository.com/artifact/org.testng/testng>

Eclipse marketspace install testng

**OR**

**In Pom.xml**

<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 https://maven.apache.org/xsd/maven-4.0.0.xsd">

<modelVersion>4.0.0</modelVersion>

<groupId>seleniumdemo</groupId>

<artifactId>sekeniumdemo</artifactId>

<version>0.0.1-SNAPSHOT</version>

<dependencies>

<!-- https://mvnrepository.com/artifact/org.seleniumhq.selenium/selenium-java -->

<dependency>

<groupId>org.seleniumhq.selenium</groupId>

<artifactId>selenium-java</artifactId>

<version>3.141.5</version>

</dependency>

<dependency>

<groupId>io.github.bonigarcia</groupId>

<artifactId>webdrivermanager</artifactId>

<version>5.4.0</version> <!-- Use the latest version -->

</dependency>

<!-- https://mvnrepository.com/artifact/org.testng/testng -->

<dependency>

<groupId>org.testng</groupId>

<artifactId>testng</artifactId>

<version>6.14.3</version>

<scope>test</scope>

</dependency>

</dependencies>

</project>

1. **Demonstrate the Locators (id,css selector, path)**

package sekeniumdemo;

import org.openqa.selenium.WebDriver.Options;

import org.openqa.selenium.WebDriver.Window;

import org.openqa.selenium.chrome.ChromeDriver;

public class search {

public static void main(String args[]) throws InterruptedException {

System.setProperty("webdriver.chrome.driver", "./drivers/chromedriver.exe");

ChromeDriver driver = new ChromeDriver();

Options manage = driver.manage();

Window window = manage.window();

window.maximize();

driver.get("https://www.google.co.in");

//driver.findElementByClassName("gLFyf").sendKeys("Mumbai University");

//driver.findElementByCssSelector("#APjFqb").sendKeys("Mumbai University");

driver.findElementByXPath("//\*[@id=\"APjFqb\"]").sendKeys("University of Mumbai");

driver.findElementByCssSelector("body > div.L3eUgb > div.o3j99.ikrT4e.om7nvf > form > div:nth-child(1) > div.A8SBwf > div.FPdoLc.lJ9FBc > center > input.gNO89b").click();

driver.findElementByXPath("//\*[@id=\"rso\"]/div[1]/div/div/div/div/div/div/div/div[1]/div/span/a").click();

Thread.sleep(3000);

driver.close();

}

}

1. **Demonstrate Assertions in TestNG framework**

import org.testng.Assert;

import org.testng.annotations.Test;

public class TestNGAssertions {

@Test

public void testAssertions() {

int expected = 5;

int actual = 5;

// Assert equals

Assert.assertEquals(expected, actual, "Test failed: Values are not equal");

// Assert true

Assert.assertTrue(true, "Test failed: Condition is not true");

// Assert false

Assert.assertFalse(false, "Test failed: Condition is not false");

// Assert not null

Assert.assertNotNull("Test", "Test failed: Object is null");

// Assert null

Assert.assertNull(null, "Test failed: Object is not null");

}

}

1. **Demonstrate Browser command and navigation Commands.**

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.chrome.ChromeDriver;

public class BrowserNavigation {

public static void main(String[] args) {

WebDriver driver = new ChromeDriver();

// Opening a URL

driver.get("https://mu.ac.in/distance-open-learning");

// Navigating to another URL

driver.navigate().to("https://mumidolal.digitaluniversity.ac/");

// Going back to the previous page

driver.navigate().back();

// Forward navigation

driver.navigate().forward();

// Refreshing the page

driver.navigate().refresh();

// Maximizing the window

driver.manage().window().maximize();

driver.quit();

}}

1. **Demonstrate alerts in selenium.**

import org.openqa.selenium.Alert;

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.chrome.ChromeDriver;

public class SeleniumAlerts {

public static void main(String[] args) {

WebDriver driver = new ChromeDriver();

driver.get("https://example.com/alert");

// Handling an alert (simple alert)

Alert alert = driver.switchTo().alert();

alert.accept(); // Accept the alert (click OK)

// Handling a prompt alert (alert with input)

alert = driver.switchTo().alert();

alert.sendKeys("Selenium Test");

alert.accept(); // Accept the prompt

// Handling a confirmation alert

alert = driver.switchTo().alert();

String alertText = alert.getText();

System.out.println("Alert text: " + alertText);

alert.dismiss(); // Dismiss the confirmation

driver.quit();

}

}

1. **Demonstrate handling multiple frames in selenium**

package sekeniumdemo;

import org.openqa.selenium.By;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.chrome.ChromeDriver;

public class HandlingFrames {

public static void main(String args[]) {

System.setProperty("webdriver.chrome.driver", "./drivers/chromedriver.exe");

ChromeDriver driver = new ChromeDriver();

driver.get("https://letcode.in/frame");

//frame

//driver.switchTo().frame("firstFr");

//driver.switchTo().frame(0);

WebElement frameEle = driver.findElementByXPath("//\*[@id=\"firstFr\"]");

driver.switchTo().frame(frameEle);

driver.findElement(By.name("fname")).sendKeys("Bhairi");

driver.findElement(By.name("lname")).sendKeys("Rajput");

//nested frame

WebElement innerFrames = driver.findElement(By.cssSelector("iframe.has-background-white"));

driver.switchTo().frame(innerFrames);

driver.findElement(By.name("email")).sendKeys("bhairi5000@gmail.com");

//parent Frame

driver.switchTo().parentFrame();

driver.findElement(By.name("fname")).sendKeys(" DevendraSingh ");

//default frame

driver.switchTo().defaultContent();

driver.findElement(By.linkText("Log in")).click();

//driver.quit();

}

}

1. **Demonstrate: Handling Drop Down**

package sekeniumdemo;

import org.openqa.selenium.WebDriver.Options;

import org.openqa.selenium.WebDriver.Window;

import org.openqa.selenium.chrome.ChromeDriver;

import org.openqa.selenium.support.ui.Select;

public class dropdown {

public static void main(String args[]) throws InterruptedException {

System.setProperty("webdriver.chrome.driver", "./drivers/chromedriver.exe");

ChromeDriver driver = new ChromeDriver();

Options manage = driver.manage();

Window window = manage.window();

window.maximize();

driver.get("https://blazedemo.com/");

Thread.sleep(1000);

Select departure = new Select(driver.findElementByName("fromPort"));

Select destination = new Select(driver.findElementByName("toPort"));

departure.selectByVisibleText("Boston");

destination.selectByVisibleText("London");

Thread.sleep(2000);

driver.findElementByCssSelector("body > div.container > form > div > input").click();

Thread.sleep(2000);

driver.close();

}

}

1. **Demonstrate: Handling List Boxes**

package sekeniumdemo;

import org.openqa.selenium.By;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.chrome.ChromeDriver;

public class HandlingFrames {

public static void main(String args[]) {

System.setProperty("webdriver.chrome.driver", "./drivers/chromedriver.exe");

ChromeDriver driver = new ChromeDriver();

driver.get("https://letcode.in/frame");

//frame

//driver.switchTo().frame("firstFr");

//driver.switchTo().frame(0);

WebElement frameEle = driver.findElementByXPath("//\*[@id=\"firstFr\"]");

driver.switchTo().frame(frameEle);

driver.findElement(By.name("fname")).sendKeys("Bhairi");

driver.findElement(By.name("lname")).sendKeys("Rajput");

//nested frame

WebElement innerFrames = driver.findElement(By.cssSelector("iframe.has-background-white"));

driver.switchTo().frame(innerFrames);

driver.findElement(By.name("email")).sendKeys("bhairi5000@gmail.com");

//parent Frame

driver.switchTo().parentFrame();

driver.findElement(By.name("fname")).sendKeys(" DevendraSingh ");

//default frame

driver.switchTo().defaultContent();

driver.findElement(By.linkText("Log in")).click();

//driver.quit();

}

}

1. **Demonstrate data driven Framework.**

import org.apache.poi.ss.usermodel.\*;

import org.apache.poi.xssf.usermodel.XSSFWorkbook;

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.chrome.ChromeDriver;

import java.io.File;

import java.io.FileInputStream;

import java.io.IOException;

public class DataDrivenTest {

public static void main(String[] args) throws IOException {

System.setProperty("webdriver.chrome.driver", "path\_to\_chromedriver");

WebDriver driver = new ChromeDriver();

// Load the Excel file

FileInputStream file = new FileInputStream(new File("TestData.xlsx"));

Workbook workbook = new XSSFWorkbook(file);

Sheet sheet = workbook.getSheetAt(0);

// Iterate through the rows of the Excel file

for (int i = 1; i <= sheet.getLastRowNum(); i++) {

Row row = sheet.getRow(i);

// Read data from the Excel sheet

String username = row.getCell(0).getStringCellValue();

String password = row.getCell(1).getStringCellValue();

// Navigate to the login page

driver.get("https://practicetestautomation.com/practice-test-login/");

// Perform login action

driver.findElement(By.id("username")).sendKeys(username);

driver.findElement(By.id("password")).sendKeys(password);

driver.findElement(By.id("submit")).click();

// Verify login success or failure

String currentURL = driver.getCurrentUrl();

if (currentURL.equals("https://practicetestautomation.com/logged-in-successfully/")) {

System.out.println("Login successful for: " + username);

} else {

System.out.println("Login failed for: " + username);

}

}

// Close the browser after testing

driver.quit();

// Close the workbook and the file

workbook.close();

file.close();

}

}

1. **Demonstrate Command Button, text boxes & Radio buttons &**
2. **Demonstrate handling of Radio buttons & text boxes and search element.**

package sekeniumdemo;

import org.openqa.selenium.WebDriver.Options;

import org.openqa.selenium.WebDriver.Window;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.chrome.ChromeDriver;

public class radio\_check {

public static void main(String args[]) throws InterruptedException {

System.setProperty("webdriver.chrome.driver", "./drivers/chromedriver.exe");

ChromeDriver driver = new ChromeDriver();

Options manage = driver.manage();

Window window = manage.window();

window.maximize();

driver.get("https://www.htmldog.com/examples/inputcheckboxes.html");

WebElement drama = driver.findElementByName("drama");

WebElement action = driver.findElementByName("action");

WebElement comedy = driver.findElementByName("comedy");

WebElement horror = driver.findElementByName("horror");

WebElement scifi = driver.findElementByName("scifi");

comedy.click();

scifi.click();

WebElement lt20 = driver.findElementById("lt20");

WebElement gt20tolt40 = driver.findElementById("20to39");

WebElement gt40tolt59 = driver.findElementById("40to59");

WebElement gt59 = driver.findElementById("gt59");

gt59.click();

Thread.sleep(10000);

driver.close();

}

}

1. **Demonstrate annotations using TestNG**

package sekeniumdemo;

import org.testng.annotations.AfterClass;

import org.testng.annotations.AfterMethod;

import org.testng.annotations.AfterSuite;

import org.testng.annotations.AfterTest;

import org.testng.annotations.BeforeClass;

import org.testng.annotations.BeforeMethod;

import org.testng.annotations.BeforeSuite;

import org.testng.annotations.BeforeTest;

import org.testng.annotations.Test;

public class testng {

@Test

public void f() {

System.out.println("First Test");

}

@BeforeMethod

public void beforemethod() {

System.out.println("Before Method");

}

@AfterMethod

public void aftermethod() {

System.out.println("After Method");

}

@BeforeClass

public void beforeclass() {

System.out.println("Before Class");

}

@AfterClass

public void afterclass() {

System.out.println("After Class");

}

@BeforeTest

public void beforeTest()

{

System.out.println("Before Test");

}

@AfterTest

public void afterTest()

{

System.out.println("After Test");

}

@BeforeSuite

public void beforeSuite()

{

System.out.println("Before Suite");

}

@AfterSuite

public void afterSuite()

{

System.out.println("After Suite");

}

}

1. **Implement cross browser Testing**

package sekeniumdemo;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.chrome.ChromeDriver;

import io.github.bonigarcia.wdm.WebDriverManager;

import org.testng.annotations.Test;

public class cross {

@Test

public void myTest() {

System.out.println("Hello World");

WebDriverManager.chromedriver().setup(); // Automatically handles the driver version

WebDriver driver = new ChromeDriver();

driver.get("https://mu.ac.in/distance-open-learning");

driver.quit();

}

}

1. **Demonstrate Validation testing**

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.chrome.ChromeDriver;

import org.testng.Assert;

public class ValidationTest {

public static void main(String[] args) {

// Set up WebDriver

System.setProperty("webdriver.chrome.driver", "path\_to\_chromedriver");

WebDriver driver = new ChromeDriver();

// Open the Login Page

driver.get("https://example.com/login"); // Replace with actual URL

driver.manage().window().maximize();

// Validate Empty Fields

driver.findElement(By.id("loginButton")).click();

String emptyError = driver.findElement(By.id("errorMessage")).getText();

Assert.assertEquals(emptyError, "Fields cannot be empty", "Empty fields validation failed!");

// Validate Invalid Credentials

driver.findElement(By.id("username")).sendKeys("invalidUser");

driver.findElement(By.id("password")).sendKeys("wrongPassword");

driver.findElement(By.id("loginButton")).click();

String invalidError = driver.findElement(By.id("errorMessage")).getText();

Assert.assertEquals(invalidError, "Invalid username or password", "Invalid credentials validation failed!");

// Validate Valid Credentials

driver.findElement(By.id("username")).clear();

driver.findElement(By.id("password")).clear();

driver.findElement(By.id("username")).sendKeys("validUser");

driver.findElement(By.id("password")).sendKeys("correctPassword");

driver.findElement(By.id("loginButton")).click();

Assert.assertTrue(driver.findElement(By.id("dashboard")).isDisplayed(), "Login with valid credentials failed!");

// Close the browser

driver.quit();

}

}

1. **Demonstrate Action classes in selenium**

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.chrome.ChromeDriver;

import org.openqa.selenium.interactions.Actions;

public class ActionClassExample {

public static void main(String[] args) {

// Set up WebDriver

System.setProperty("webdriver.chrome.driver", "path\_to\_chromedriver");

WebDriver driver = new ChromeDriver();

// Navigate to the website

driver.get("https://mu.ac.in/distance-open-learning");

// Maximize browser window

driver.manage().window().maximize();

// Create an Actions object

Actions actions = new Actions(driver);

// Example 1: Hover over a menu item

WebElement menu = driver.findElement(By.xpath("//a[text()='About Us']")); // Update with a valid menu item

actions.moveToElement(menu).perform();

System.out.println("Hovered over the 'About Us' menu.");

// Example 2: Right-click (context click) on a specific element

WebElement notices = driver.findElement(By.xpath("//h3[text()='Notices']")); // Replace with a valid element

actions.contextClick(notices).perform();

System.out.println("Performed right-click on the Notices section.");

// Example 3: Drag and drop (if applicable)

// WebElement source = driver.findElement(By.id("sourceElementId")); // Replace with actual element ID

// WebElement target = driver.findElement(By.id("targetElementId")); // Replace with actual element ID

// actions.dragAndDrop(source, target).perform();

// System.out.println("Dragged element to target location.");

// Close the browser

driver.quit();

}

}

1. **implementation of Data provider using Testng**

import org.testng.annotations.DataProvider;

import org.testng.annotations.Test;

public class DataProviderExample {

// Step 1: Create a DataProvider method

@DataProvider(name = "loginData")

public Object[][] provideLoginData() {

return new Object[][]{

{"user1", "password1"},

{"user2", "password2"},

{"user3", "password3"}

};

}

// Step 2: Link DataProvider with the test method

@Test(dataProvider = "loginData")

public void testLogin(String username, String password) {

// Step 3: Use the data

System.out.println("Testing login with Username: " + username + " and Password: " + password);

// Add your login logic here (e.g., WebDriver code for a login page)

}

}

1. **Demonstrate synchronization in selenium**

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.chrome.ChromeDriver;

public class ImplicitWaitExample {

public static void main(String[] args) {

// Set up WebDriver

System.setProperty("webdriver.chrome.driver", "path\_to\_chromedriver");

WebDriver driver = new ChromeDriver();

// Implicit Wait: Apply a global wait of 10 seconds

driver.manage().timeouts().implicitlyWait(java.time.Duration.ofSeconds(10));

// Open the website

driver.get("https://mu.ac.in/distance-open-learning");

// Verify and print the Notices section

WebElement notices = driver.findElement(By.xpath("//h3[text()='Notices']"));

System.out.println("Notices Section Displayed: " + notices.isDisplayed());

driver.quit();

}

}

1. **Write test cases for testing application tripodeal.com for booking hotel.**

Test Cases for Booking Hotel on Tripodeal.com

1. Test Case 1: Open the website
   * Navigate to https://tripodeal.com.
   * Verify that the homepage loads successfully.
2. Test Case 2: Search for a hotel
   * Enter destination city, check-in and check-out dates.
   * Click on "Search" button.
   * Verify that a list of available hotels is displayed.
3. Test Case 3: Select a hotel and book
   * Choose a hotel.
   * Enter guest details.
   * Click "Book Now" button.
   * Verify that booking confirmation is shown.
4. **Write test cases for testing application for searching trains on Indianrail.gov.in**

Test Cases for Searching Trains on Indianrail.gov.in

1. Test Case 1: Open the website
   * Navigate to https://indianrail.gov.in.
   * Verify that the homepage loads successfully.
2. Test Case 2: Search for trains
   * Enter source and destination stations.
   * Select travel date.
   * Click on "Search" button.
   * Verify that the list of trains is displayed.
3. Test Case 3: Check train details
   * Click on a train from the list.
   * Verify that train details (schedule, availability) are displayed.