

Source code:

Webapp.java:

```
package com.samples;

import java.time.Duration;
import java.util.concurrent.TimeUnit;
import org.openqa.selenium.By;
import org.openqa.selenium.JavascriptExecutor;
import org.openqa.selenium.Keys;
import org.openqa.selenium.NoSuchElementException;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.edge.EdgeDriver;
import org.openqa.selenium.firefox.FirefoxDriver;
import org.openqa.selenium.support.ui.ExpectedConditions;
import org.openqa.selenium.support.ui.FluentWait;
import org.openqa.selenium.support.ui.Wait;
import org.openqa.selenium.support.ui.WebDriverWait;
import org.testng.annotations.AfterClass;
import org.testng.annotations.AfterMethod;
import org.testng.annotations.BeforeClass;
import org.testng.annotations.BeforeMethod;
import org.testng.annotations.Test;
import com.google.common.base.Function;

@Test
public class Webapp {
    WebDriver wd;

    @BeforeClass
    public void startBrowser() throws InterruptedException{
        System.setProperty("webdriver.chrome.driver","C:\\\\wastefolders\\\\chromedriver.exe")
    ;
}
```

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wd = new ChromeDriver();

        //System.setProperty("webdriver.edge.driver",
        //"D:\\phase 5\\edgedriver_win64/msedgedriver.exe");
        //wd = new EdgeDriver();

wd.get("https://www.flipkart.com/");

wd.manage().window().maximize();

}

@AfterClass

public void closeBrowser() throws InterruptedException {

wd.close();

}

@Test(priority = 1)

public void loadtime() throws InterruptedException {

long s = System.currentTimeMillis();

WebDriverWait wait = new WebDriverWait(wd, 40);

wait.until(ExpectedConditions.elementToBeClickable(By.className("LOZ3Pu")));

long e = System.currentTimeMillis();

long r = e - s;

System.out.println("load time in milliseconds: " + r);

}

@Test(priority = 2)

public void search() throws InterruptedException {

// Search

wd.findElement(By.cssSelector("_2IX_2-

.VJZDxU")).sendKeys(Keys.ESCAPE);

Thread.sleep(2000);

wd.findElement(By.className("_3704LK")).sendKeys("iPhone 13");

Thread.sleep(2000);

wd.findElement(By.className("_3704LK")).sendKeys(Keys.ENTER);

Thread.sleep(2000);

// Check if image loaded

try {

```

```

boolean image3 = wd.findElement(By.xpath("//img[contains(@src,
'https://rukminim1.flixcart.com/image/312/312/ktketu80/mobile/a/m/7/iphone-13-mlpj3hn-
aapple-original-imag6vpyk3w4zarg.jpeg?q=70')]")).isDisplayed();

//WebElement image3 =
wd.findElement(By.xpath("/html/body/div[1]/div/div[3]/div[1]/div[2]/div[4]/div/div/div/a/di
v[1]/div[1]/div/div/img"));

System.out.println("Image 3 is loaded.");
} catch (org.openqa.selenium.NoSuchElementException e) {
System.out.println("Image 3 is not loaded.");
}
}

@Test(priority = 3)
public void scroll() throws InterruptedException {
String JS_ELEMENT_IS_SCROLLABLE = "return
arguments[0].scrollHeight > arguments[0].offsetHeight;";
JavascriptExecutor jse = (JavascriptExecutor) wd;
WebElement container = wd.findElement(By.xpath("//div[@id='container']"));
Boolean isScrollable = (Boolean)
jse.executeScript(JS_ELEMENT_IS_SCROLLABLE, container);
if (isScrollable == true) {
System.out.println("Scroll bar is present");
} else {
System.out.println("Scroll bar is absent.");
}

// Checking frequency of refresh
Wait<WebDriver> wait = new
FluentWait<WebDriver>(wd).withTimeout(Duration.ofSeconds(10))
.pollingEvery(Duration.ofMillis(500)).ignoring(NoSuchElementException.class);
WebElement foo = wait.until(new Function<WebDriver, WebElement>() {
public WebElement apply(WebDriver wd) {
return wd.findElement(By.cssSelector("._396cs4._3exPp9"));
}
}
});

```

```

}
});
System.out.println("Checking the frequency of refresh every 5s for 30s.");
// Verify image is downloaded just before scrolling
WebElement element = wd.findElement(By.xpath("//img[contains(@src,
'https://rukminim1.flixcart.com/image/312/312/ktketu80/mobile/a/m/7/iphone-13-mlpj3hn-
aapple-original-imag6vpyk3w4zarg.jpeg?q=70')]"));
boolean dispBefore = element.isDisplayed();
if (dispBefore == true) {
System.out.println("Before Scrolling : Image downloaded.");
}
else {
System.out.println("Before Scrolling : Image not downloaded.");
}
jse.executeScript("arguments[0].scrollIntoView(true);",element);
boolean dispAfter = element.isDisplayed();
if (dispAfter == true) {
System.out.println("After Scrolling : Image downloaded.");
}
else {
System.out.println("After Scrolling : Image not downloaded.");
}
Thread.sleep(2000);
// scroll to the bottom
Thread.sleep(2000);
System.out.println("Scrolling to the end of the page.");
jse.executeScript("window.scrollTo(0,document.body.scrollHeight)");
Thread.sleep(2000);
}
}

```

2)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>com.org</groupId>
  <artifactId>WebApp</artifactId>
  <version>0.0.1-SNAPSHOT</version>
  <build>
    <sourceDirectory>src</sourceDirectory>
    <plugins>
      <plugin>
        <artifactId>maven-compiler-plugin</artifactId>
        <version>3.8.1</version>
        <configuration>
          <release>18</release>
        </configuration>
      </plugin>
      <plugin>
        <groupId>org.apache.maven.plugins</groupId>
        <artifactId>maven-surefire-plugin</artifactId>
        <version>3.0.0-M5</version>
        <configuration>
          <suiteXmlFiles>
            <suiteXmlFile>testng.xml</suiteXmlFile>
          </suiteXmlFiles>
        </configuration>
      </plugin>
    </plugins>
  </build>
  <dependencies>
```

```
<dependency>
<groupId>org.testng</groupId>
<artifactId>testng</artifactId>
<version>7.5</version>
</dependency>
<dependency>
<groupId>org.seleniumhq.selenium</groupId>
<artifactId>selenium-java</artifactId>
<version>4.1.2</version>
</dependency>
</dependencies>
</project>
```

3)Testing.xml:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE suite SYSTEM "https://testng.org/testng-1.0.dtd">
<suite name="Suite">
  <test thread-count="5" name="Test">
    <classes>
      <class name="com.samples.Webapp"/>
    </classes>
  </test> <!-- Test -->
</suite> <!-- Suite -->
```