**Selenium Supporting Locators**

ID

X-path

CSS Selector

Name

Class Name

Tag Name

Link Text

Partial Link Text

**CSS SELECTOR: -**

Class Name 🡪 TagName.ClassName (or) .ClassName

Id 🡪 Tagname#id

Other 🡪 Tagname[attribute=’value’]

Tagname 🡪 Tagname

Parent to Child 🡪 ParentTagname<space>ChildTagname

// div[class='login-container'] h2

**Link Text: -**

Achor **a** Tag represents link.

<a href="#">Forgot your password?</a>

Link Text 🡪 Forgot your password?

**X-path: -**

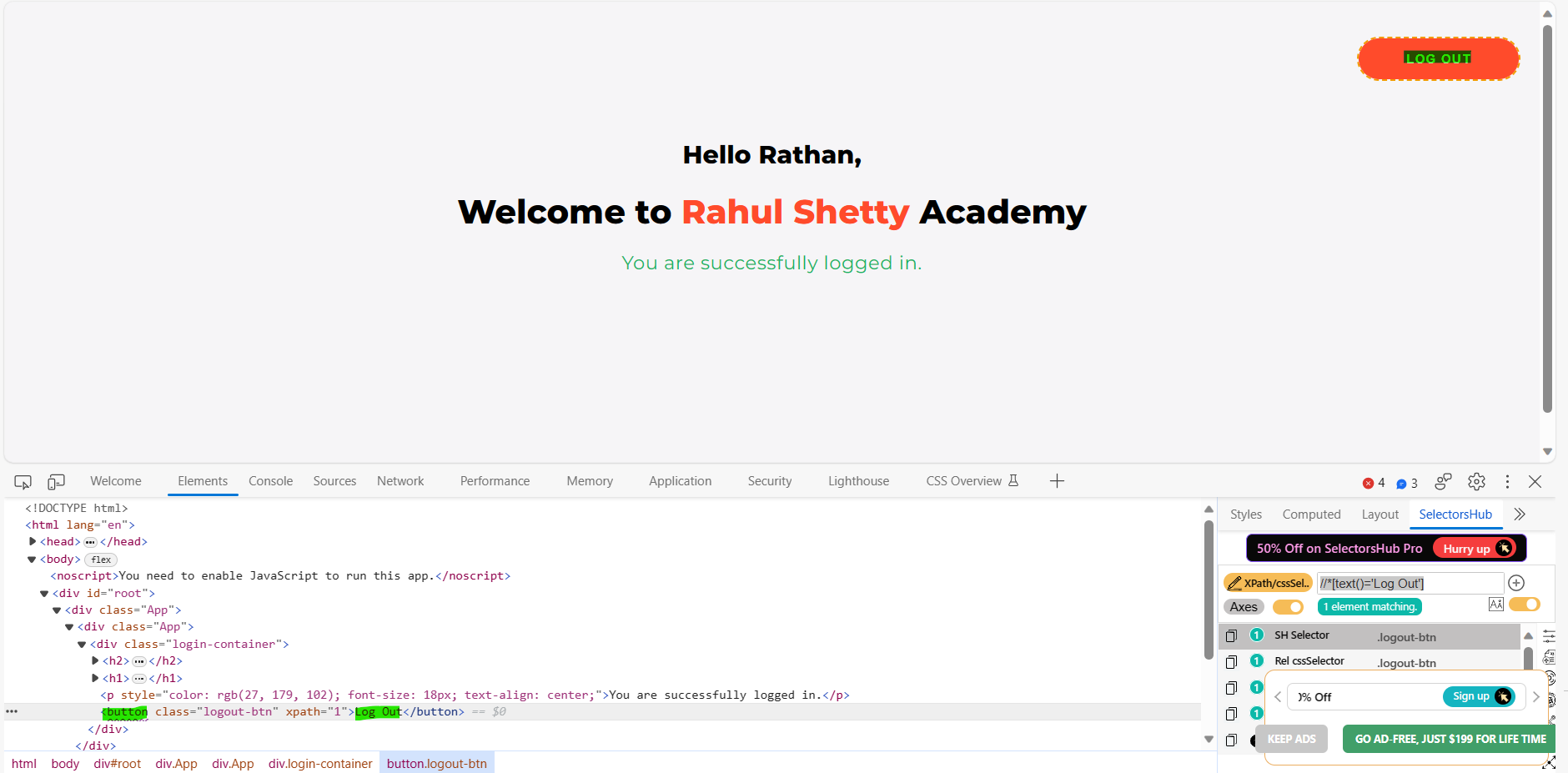
//Tagname[@attribute=”value”]

//is not a command it’s the syntax of X-Path

Tagname 🡪 //Tagname

**X-path with Text: -**

//button[text()='Log Out']



**X-Path without Tag name: -**

Here instead of Tag Name need to give (\*)

//\*[text()='Log Out’]

**With Index in X-Path: -**

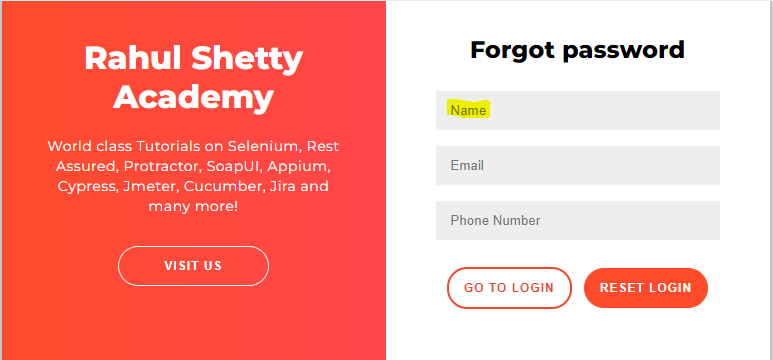
(//input[@type='text'])[2]

**With Index in CSS Selector: -**

CSS won’t Hide the Hidden Element while using index, so be careful while going with index in CSS Selector.

Input[type=’text’]:nth-child(2)

**Parent-Child Tag Xpath: -**



1St Highlighted is Parent

2nd Highlighted is Child



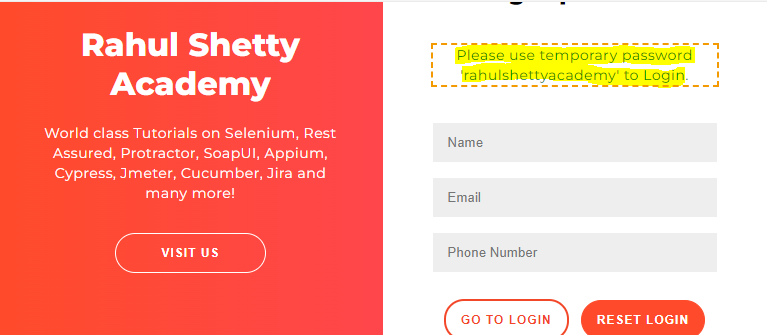
//form/input[1]

**Parent-Child Relationship Xpath: -**

//Parent//Child

//div[@id='glsctl00\_mainContent\_ddl\_originStation1\_CTNR']//a[@value='MAA']

**Parent-Child CSS Selector: -**



1St Highlighted is Parent

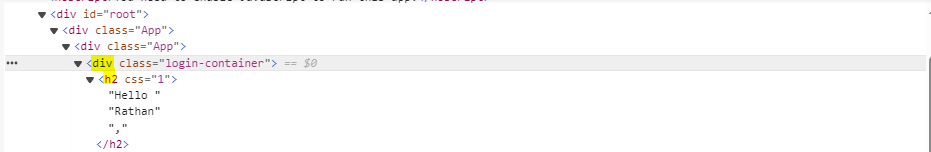
2nd Highlighted is Child

A screenshot of a computer

Description automatically generated

ParentTag<space>ChildTag

form p



Parent to Child 🡪 ParentTagname<space>ChildTagname

// div[class='login-container'] h2

**ElementClickInterceptedException: -**

**What is Single Page Application?**

In a Single Page Application (SPA), all of your application's functions exist in a single HTML page. As users access your application's features, the browser needs to render only the parts that matter to the user, instead of loading a new page. This pattern can significantly improve your application's user experience.

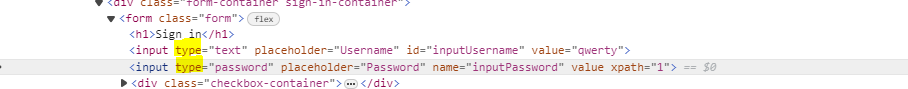
**When Element Click Intercepted Exception will occurs in Selenium?**

An ElementClickInterceptedException is a type of exception which can occur when using Selenium to run a test. The exception is usually thrown when an attempt to click on an element on a web page is intercepted or blocked by another element.

Usually this happens when another element is overlapping or positioned (partly) in front of the DOM element that your Selenium script is trying to click.

**Scanning the common attributes & picking it by scanning the value CSS Selector: -**

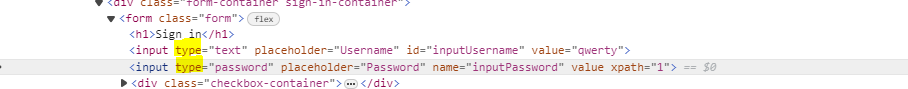
In the below Example we have a common attribute named as type using this we’re going to scan the values & pick the required one by using the below Syntax in CSS Selector.



Syntax: -

input[type\*='pass']

**Scanning the common attributes & picking it by scanning the value Xpath Selector: -**



Syntax: -

//input[contains(@value, ‘rmbrUsername’)]

**Class Name: -**

A compound class name refers to a class name that contains multiple classes separated by spaces. For example, if an HTML element has a class attribute like **<div class="class1 class2">**, then "class1 class2" is a compound class name.

Selenium won’t support compound class.

CSS: -

d.findElement(By.cssSelector(".class1.class2")).click();

Xpath: -

d.findElement(By.xpath("//div[contains(@class, 'class1') and contains(@class, 'class2')]")).click();

**Creating Object & calling that object into Main method: -**

import java.time.Duration;

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.edge.EdgeDriver;

import org.testng.Assert;

public class CorrectPassword {

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

System.setProperty("webdriver.edge.driver", "C:\\Users\\DELL\\Documents\\Drivers\\edgedriver\_win64\\msedgedriver.exe");

WebDriver d = new EdgeDriver();

d.manage().timeouts().implicitlyWait(Duration.ofSeconds(5));

CorrectPassword obj = new CorrectPassword();

String password = obj.getPassword(d);

d.get("https://rahulshettyacademy.com/locatorspractice/");

obj.getPassword(d);

d.findElement(By.xpath("//button[@class='go-to-login-btn']")).click();

d.findElement(By.id("inputUsername")).sendKeys("Rathan");

d.findElement(By.name("inputPassword")).sendKeys(password); // Here instead of writing the password we're calling it by creating a method which copy paste the password here

Thread.sleep(1000);

d.findElement(By.xpath("//button[@class='submit signInBtn']")).click();

Thread.sleep(2000);

System.out.println(d.findElement(By.tagName("p")).getText());

Assert.assertEquals(d.findElement(By.tagName("p")).getText(), "You are successfully logged in.");

System.out.println(d.findElement(By.cssSelector("h2")).getText());

Assert.assertEquals(d.findElement(By.cssSelector("h2")).getText(), "Hello Rathan,");

d.findElement(By.xpath("//button[text()='Log Out']")).click();

}

public String getPassword(WebDriver d) throws InterruptedException {

d.get("https://rahulshettyacademy.com/locatorspractice/");

d.findElement(By.xpath("//div[@class='forgot-pwd-container']")).click();

Thread.sleep(1000);

d.findElement(By.xpath("//button[@class='reset-pwd-btn']")).click();

//d.findElement(By.xpath("//p[@class='infoMsg']")).getText();

String Infomsg = d.findElement(By.xpath("//p[@class='infoMsg']")).getText();

//Please use temporary password 'rahulshettyacademy' to Login.

String[] PassordArray = Infomsg.split("'");

//0th Index - [Please use temporary password] which is before the ' will be stored

//1st Index - [rahulshettyacademy' to Login.] which is after the ' will be stored

String[] Password = PassordArray[1].split("'");

//0th Index - [rahulshettyacademy] which is before the ' will be stored

//1st Index - [ to Login.] which is after the ' will be stored

String Final = Password[0];

return Final;

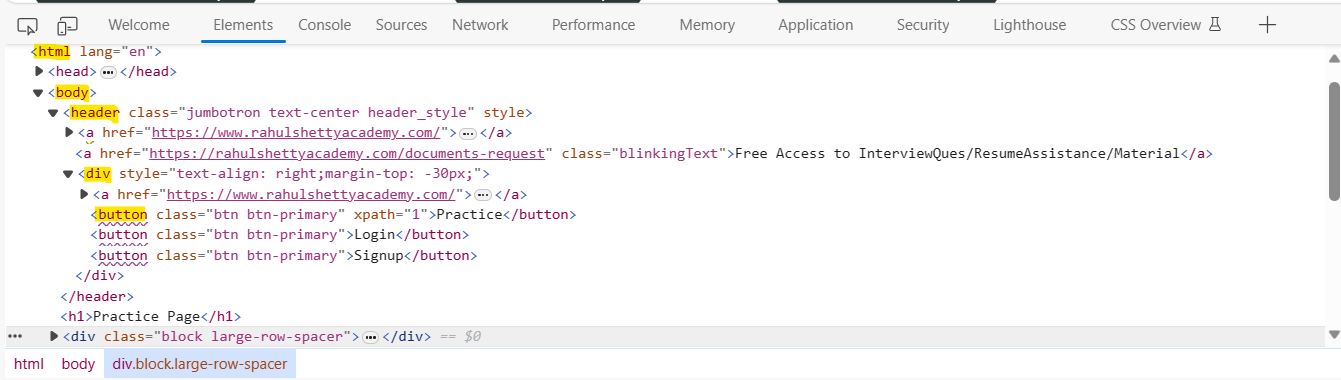
}

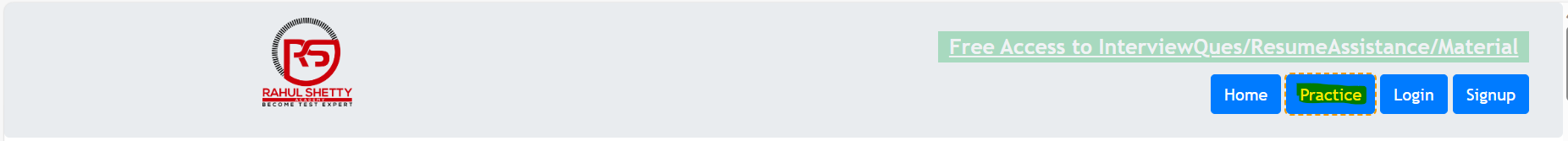
}

**Absolute X-Path:-**

Absolute XPath is the complete path of the element from the root element to the target element. It begins with a single forward slash **/**, representing the root of the document, and includes the complete hierarchy of elements.

/html/body/header/div[1]/button[1]





**Relative X-Path: -**

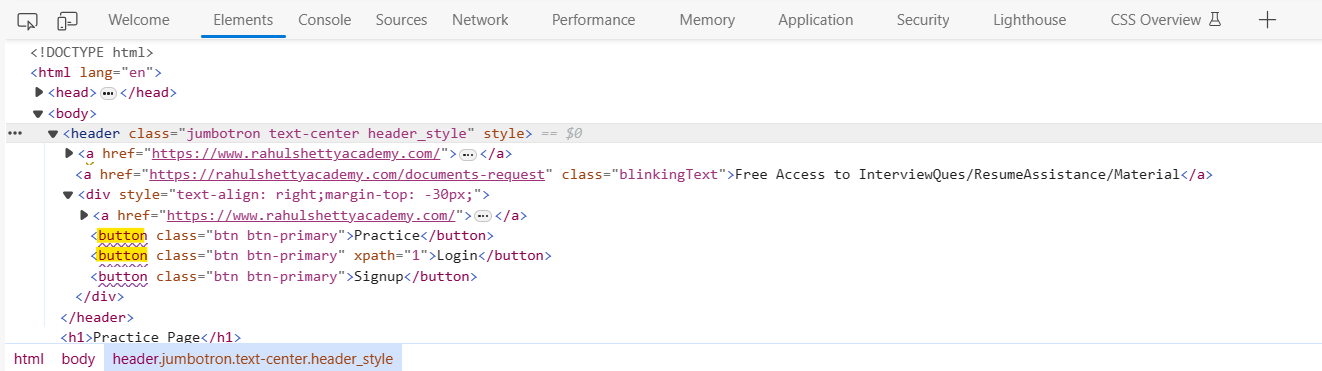
**Parent-Child & Sibling-Sibling Traverse: -**

In the context of XPath, sibling traversal refers to navigating to elements that share the same parent. Siblings are elements that have the same parent element. XPath provides several mechanisms to traverse between sibling elements. Two common axes used for sibling traversal are the following-sibling axis and the preceding-sibling axis.

The below yellow Highlighted is the Sibling Traverse

The below Red Highlighted is Parent-Child Transverse

//header/div/button[1]/following-sibling::button[1]



**Child-Parent Traverse: -**

Here Travelling back from Child to Parent

The below yellow highlighted is Sibling Traverse

//header/div/button[1]/parent::div

//header/div/button[1]/parent::div/parent::header

Reverse Traverse is not possible in CSS Locator

**Dropdowns**

1. Handling Static Dropdown
2. Handling Dynamic Dropdown
3. Handling checkboxes
4. Handling Radio Button
5. Handling Text Button
6. Handling Alert-Java Popups
7. Selenium webdriver From Methods

**Handling Static dropdown: -**

If the Tag Name is select definitely it will be Static dropdown the values available in the dropdown will not change.

**import** org.openqa.selenium.By;

**import** org.openqa.selenium.WebDriver;

**import** org.openqa.selenium.WebElement;

**import** org.openqa.selenium.edge.EdgeDriver;

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

**public** **class** Dropdown {

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

System.*setProperty*("webdriver.edge.driver", "C:\\Users\\DELL\\Documents\\Drivers\\edgedriver\_win64\\\\msedgedriver.exe");

WebDriver d = **new** EdgeDriver();

d.manage().window().maximize();

d.get("https://rahulshettyacademy.com/dropdownsPractise/");

WebElement staticdropdown = d.findElement(By.*id*("ctl00\_mainContent\_DropDownListCurrency"));

Select drop = **new** Select(staticdropdown);

drop.selectByIndex(3);

System.***out***.println(drop.getFirstSelectedOption().getText());

drop.selectByVisibleText("AED");

System.***out***.println(drop.getFirstSelectedOption().getText());

drop.selectByValue("INR");

System.***out***.println(drop.getFirstSelectedOption().getText());

}

}

**Select Tag**

<select name="ctl00$mainContent$DropDownListCurrency" id="ctl00\_mainContent\_DropDownListCurrency" class="valid" xpath="1">

<option value="">Select</option>

<option value="INR">INR</option>

<option value="AED">AED</option>

<option value="USD">USD</option>

</select>

If any dropdown have select Tag then selenium will have a special class called “Select” to handle select dropdown.

In the below step we’re handling the static dropdown by creating a object for the select class.

WebElement staticdropdown = d.findElement(By.*id*("ctl00\_mainContent\_DropDownListCurrency"));

Select drop = **new** Select(staticdropdown);

Now the select class will bring the methods available in the class to work on the dropdown

**No. of clicks using Loop: -**

**For: -**

**for**(**int** i=1;i<9;i++) {

d.findElement(By.*id*("hrefIncAdt")).click();

}

**While: -**

**int** i = 1;

**while**(i < 9) {

d.findElement(By.*id*("hrefIncAdt")).click();

i++;

}

**Handling Dynamic dropdown: -**

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.edge.EdgeDriver;

public class DynamicDropdown {

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

System.setProperty("webdriver.edge.driver", "C:\\Users\\DELL\\Documents\\Drivers\\edgedriver\_win64\\\\msedgedriver.exe");

WebDriver d = new EdgeDriver();

d.manage().window().maximize();

d.get("https://rahulshettyacademy.com/dropdownsPractise/");

d.findElement(By.id("ctl00\_mainContent\_ddl\_originStation1\_CTXT")).click();

// MAA Chennai in From dropdown

d.findElement(By.xpath("//div[@id='glsctl00\_mainContent\_ddl\_originStation1\_CTNR']//a[@value='MAA']")).click(); // Parent-Child Relationship X-path

Thread.sleep(2000);

//d.findElement(By.id("ctl00\_mainContent\_ddl\_destinationStation1\_CTXT")).click();

// BLR Banglore in To dropdown

d.findElement(By.xpath("//div[@id='glsctl00\_mainContent\_ddl\_destinationStation1\_CTNR']//a[@value='BLR']")).click(); //Parent-Child Relationship X-path

}

}

**Auto-Suggestive Dropdown: -**

**import** java.util.List;

**import** org.openqa.selenium.By;

**import** org.openqa.selenium.WebDriver;

**import** org.openqa.selenium.WebElement;

**import** org.openqa.selenium.edge.EdgeDriver;

**public** **class** AutoSuggestive {

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

System.*setProperty*("webdriver.edge.driver", "C:\\Users\\DELL\\Documents\\Drivers\\edgedriver\_win64\\\\msedgedriver.exe");

WebDriver d = **new** EdgeDriver();

d.manage().window().maximize();

d.get("https://rahulshettyacademy.com/dropdownsPractise/");

d.findElement(By.*id*("autosuggest")).sendKeys("IND");

Thread.*sleep*(2000);

List<WebElement>options = (List<WebElement>) d.findElements(By.*xpath*("//li[@class='ui-menu-item']"));

**for**(WebElement option :options)

{

**if**(option.getText().equalsIgnoreCase("India"))

{

option.click();

**break**;

}

}

}

}

**Handling Check Box with Assertion before & after: -**

**Assert.assertTrue()** will always expect True value

**Assert.assertFalse()** will always expect False value

---------------------------------------------------------------------

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.edge.EdgeDriver;

import org.testng.Assert;

public class SpicejetPractise {

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

System.setProperty("webdriver.edge.driver", "C:\\Users\\rathanr\\Documents\\Drivers\\edgedriver\_win64\\msedgedriver.exe");

WebDriver dry = new EdgeDriver();

dry.manage().window().maximize();

dry.get("https://www.spicejet.com/");

//div[text()='Family & Friends']

Assert.assertFalse(dry.findElement(By.xpath("//div[text()='Senior Citizen']")).isSelected());

//System.out.println(dry.findElement(By.xpath("//div[text()='Senior Citizen']")).isSelected());

dry.findElement(By.xpath("//div[text()='Senior Citizen']")).click();

Thread.sleep(3000);

Assert.assertTrue(dry.findElement(By.xpath("//div[text()='Senior Citizen']")).isSelected());

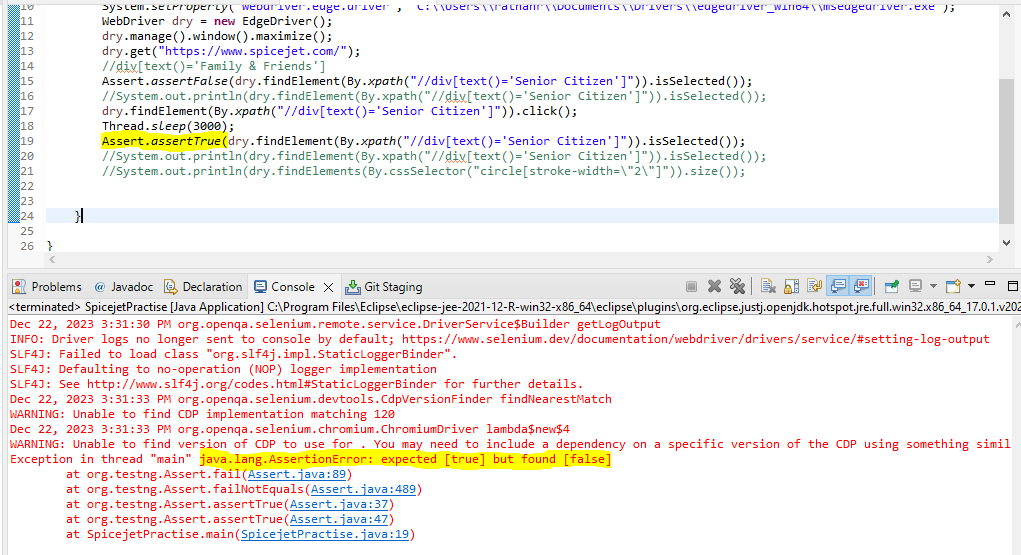
//System.out.println(dry.findElement(By.xpath("//div[text()='Senior Citizen']")).isSelected());

//System.out.println(dry.findElements(By.cssSelector("circle[stroke-width=\"2\"]")).size());

}

}

Here in the below screenshot it is expecting True value but system is throwing false so the execution has been failed.



**Handling Alert-Java Popups**

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.edge.EdgeDriver;

public class HandlingAlert {

public static void main(String[] args) {

System.setProperty("webdriver.edge.driver", "C:\\Users\\rathanr\\Documents\\Drivers\\edgedriver\_win64\\msedgedriver.exe");

WebDriver d = new EdgeDriver();

d.manage().window().maximize();

d.get("https://www.rahulshettyacademy.com/AutomationPractice/");

d.findElement(By.id("name")).sendKeys("Rathan");

d.findElement(By.id("alertbtn")).click();

System.out.println(d.switchTo().alert().getText());

d.switchTo().alert().accept();

d.findElement(By.id("name")).sendKeys("Rathan");

d.findElement(By.id("alertbtn")).click();

System.out.println(d.switchTo().alert().getText());

d.switchTo().alert().dismiss();

}

}

**Code Formatting**

Ctrl + Shift + F

**Synchronization in Selenium: -**

The Automation test script speed is very high compared to web application speed ,To make proper Automation script the speed of web application and automation test script should perfectly match this process is called Synchronization . If Synchronization is not proper than we will get "No Such Element Exception"

1. Implicit Wait
2. Explicit Wait
3. Thread. Sleep
4. Fluent Wait

**Implicit Wait**

The main function of implicit Wait is to tell the web driver to wait for some time before throwing a **"No Such Element Exception".** Its default setting is knocked at zero. Once the time is set, the driver automatically will wait for the amount of time defined by you before throwing the above-given exception.

driver.manage().timeouts().implicitlyWait(Duration.*ofSeconds*(10));

**Explicit Wait**

By using the Explicit Wait command, the WebDriver is directed to wait until a certain condition occurs before proceeding with executing the code. Setting Explicit Wait is important in cases where there are certain elements that naturally take more time to load.

//Explicit Wait

WebDriverWait wait = **new** WebDriverWait(driver, Duration.*ofSeconds*(5));

wait.until(ExpectedConditions.*visibilityOfElementLocated*(By.*xpath*("//span[@class='promoInfo']")));

**Thread. Sleep**

Thread. sleep is a wait command in Selenium that instructs the program to suspend the execution for a certain condition or a specific amount of time.

Thread. Sleep will not come out if the result is shown in 1 second when the second is given as 5. It Will wait until the 5 second is completed.

Thread.*sleep*(2000);

**Fluent Wait**

Explicit wait can be handled by 2 ways of waiting mechanism.

1. WebDriverWait
2. Fluent Wait

Fluent Wait finds the web element repeatedly at regular interval of time until the timeout or till the object gets found.

Fluent Wait = 10 seconds, 2 pooling seconds

In Fluent Wait, system will check wheather the web element is visible for each pooling seconds on the fluent Wait time interval.

**import** java.time.Duration;

**import** java.util.NoSuchElementException;

**import** java.util.function.Function;

**import** org.openqa.selenium.By;

**import** org.openqa.selenium.WebDriver;

**import** org.openqa.selenium.WebElement;

**import** org.openqa.selenium.edge.EdgeDriver;

**import** org.openqa.selenium.support.ui.FluentWait;

**import** org.openqa.selenium.support.ui.Wait;

**public** **class** FluentWaitTest {

**public** **static** **void** main(String[] args) {

System.*setProperty*("webdriver.edge.driver", "C:\\Users\\rathanr\\Documents\\Drivers\\edgedriver\_win64\\msedgedriver.exe");

WebDriver driver = **new** EdgeDriver();

driver.get("https://the-internet.herokuapp.com/dynamic\_loading/1");

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

driver.findElement(By.*xpath*("//button[text()='Start']")).click();

Wait<WebDriver> wait = **new** FluentWait<WebDriver>(driver).withTimeout(Duration.*ofSeconds*(30)).pollingEvery(Duration.*ofSeconds*(3)).ignoring(NoSuchElementException.**class**);

WebElement foo = wait.until(**new** Function<WebDriver, WebElement>() {

**public** WebElement apply(WebDriver driver) {

**if**(driver.findElement(By.*cssSelector*("[id='finish'] h4")).isDisplayed())

{

**return** driver.findElement(By.*cssSelector*("[id='finish'] h4"));

}

**else**

**return** **null**;

}

});

System.***out***.println(driver.findElement(By.*cssSelector*("[id='finish'] h4")).getText());

}

}

**Techniques to automate Ajax calls, Child Windows & IFrames**

**Handling Ajax/ Mouse Interaction**

**import** java.time.Duration;

**import** org.openqa.selenium.By;

**import** org.openqa.selenium.WebDriver;

**import** org.openqa.selenium.edge.EdgeDriver;

**import** org.openqa.selenium.interactions.Actions;

**public** **class** Action {

**public** **static** **void** main(String[] args) {

System.*setProperty*("webdriver.edge.driver", "C:\\Users\\rathanr\\Documents\\Drivers\\edgedriver\_win64\\msedgedriver.exe");

WebDriver driver = **new** EdgeDriver();

driver.manage().timeouts().implicitlyWait(Duration.*ofSeconds*(3));

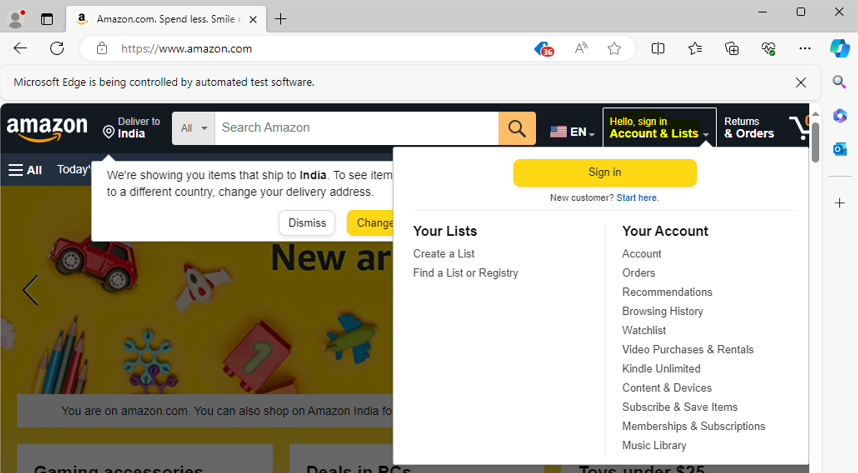
driver.get("https://www.amazon.com/");

Actions a = **new** Actions(driver);

a.moveToElement(driver.findElement(By.*id*("nav-link-accountList"))).build().perform();

}

}



**How to write in Capital letter**

Here in the below code system will hold Shift button Automatically to send the capital letter in the Web Element where we want to send.

WebElement searchbar = driver.findElement(By.*id*("twotabsearchtextbox"));

a.moveToElement(searchbar).click().keyDown(Keys.***SHIFT***).sendKeys("alpino").build().perform();

**How to Right click**

Here in the below code “contextclick()” is used to right click on a web element

a.moveToElement(searchbar).click().keyDown(Keys.***SHIFT***).sendKeys("alpino").contextClick().build().perform();

**How to Double click**

Here in the below code “doubleclick()” is used to double click on a element

a.moveToElement(searchbar).click().keyDown(Keys.***SHIFT***).sendKeys("alpino").doubleClick().build().perform();

**How to Handle Frames**

import java.time.Duration;

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.edge.EdgeDriver;

public class FrameTest {

public static void main(String[] args) {

System.setProperty("webdriver.edge.driver","C:\\Users\\rathanr\\Documents\\Drivers\\edgedriver\_win64\\msedgedriver.exe");

WebDriver d = new EdgeDriver();

d.manage().timeouts().implicitlyWait(Duration.ofSeconds(5));

d.get("https://jqueryui.com/droppable/");

d.switchTo().frame(d.findElement(By.cssSelector("iframe[class='demo-frame']")));

d.findElement(By.id("draggable")).click();

}

}

**How to Drag & Drop element**

import java.time.Duration;

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.edge.EdgeDriver;

import org.openqa.selenium.interactions.Actions;

public class FrameTest {

public static void main(String[] args) {

System.setProperty("webdriver.edge.driver", "C:\\Users\\rathanr\\Documents\\Drivers\\edgedriver\_win64\\msedgedriver.exe");

WebDriver d = new EdgeDriver();

d.manage().timeouts().implicitlyWait(Duration.ofSeconds(5));

d.get("https://jqueryui.com/droppable/");

System.out.println(d.findElement(By.tagName("iframe")).getSize());

d.switchTo().frame(d.findElement(By.cssSelector("iframe[class='demo-frame']")));

d.findElement(By.id("draggable")).click();

Actions a = new Actions(d);

WebElement source = d.findElement(By.id("draggable"));

WebElement target = d.findElement(By.id("droppable"));

a.dragAndDrop(source, target).build().perform();//Drag source & put it in Target

d.switchTo().defaultContent(); //This is used to come out from the Iframe

}

}

**How to find the Number of links in a Web Page**

A screenshot of a computer program

Description automatically generated

import java.time.Duration;

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.edge.EdgeDriver;

public class Linkcount {

public static void main(String[] args) {

System.setProperty("webdriver.edge.driver","C:\\Users\\rathanr\\Documents\\Drivers\\edgedriver\_win64\\msedgedriver.exe");

WebDriver driver = new EdgeDriver();

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

driver.manage().timeouts().implicitlyWait(Duration.ofSeconds(3));

driver.get("https://rahulshettyacademy.com/AutomationPractice/");

driver.findElement(By.xpath("//input[@name='enter-name']")).sendKeys("راثان راجيف سينغ");

System.out.println(driver.findElements(By.tagName("a")).size()); //This is used to find the Links in the whole webpage

WebElement footerdriver = driver.findElement(By.id("gf-BIG"));//(Limiting WebDriver scope)

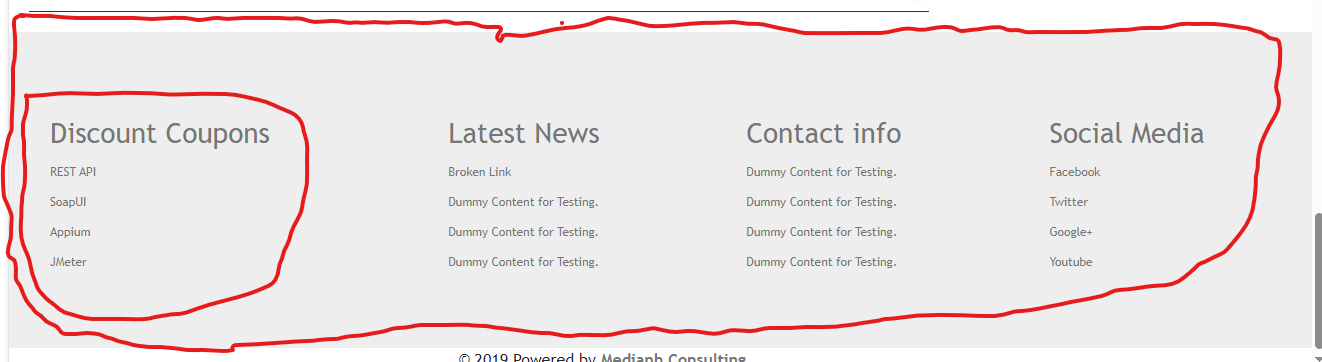
System.out.println(footerdriver.findElements(By.tagName("a")).size()); //This is used to find the Links only in the Footer

WebElementcolumn1driver=footerdriver.findElement(By.*xpath*("//table/tbody/tr/td[1]//ul"));//(Limiting WebDriver scope)

System.***out***.println(column1driver.findElements(By.*tagName*("a")).size());//This is used to find the links count in Discount coupon highlighted below

}

}



**How to open Each links in different Tab**

import java.time.Duration;

import org.openqa.selenium.By;

import org.openqa.selenium.Keys;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.edge.EdgeDriver;

public class NewWindowOpening {

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

System.setProperty("webdriver.edge.driver","C:\\Users\\rathanr\\Documents\\Drivers\\edgedriver\_win64\\msedgedriver.exe");

WebDriver driver = new EdgeDriver();

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

driver.manage().timeouts().implicitlyWait(Duration.ofSeconds(3));

driver.get("https://rahulshettyacademy.com/AutomationPractice/");

WebElement footerdriver = driver.findElement(By.id("gf-BIG")); //Limiting the scope of the driver to Footer

System.out.println(footerdriver.findElements(By.tagName("a")).size()); //This is used to find the Links only in the Footer

WebElement column1driver = footerdriver.findElement(By.xpath("//table/tbody/tr/td[1]//ul")); //Limiting the scope of the driver to Footer column 1 (Discount coupon)

System.out.println(column1driver.findElements(By.tagName("a")).size()); // This is used to find the Links only in the Footer column 1 (Discount coupon)

//The below will be used to open the each links in new Tabs

for(int i=1;i<column1driver.findElements(By.tagName("a")).size();i++)

{

String clickonlinkTab = Keys.chord(Keys.CONTROL, Keys.ENTER);

column1driver.findElements(By.tagName("a")).get(i).sendKeys(clickonlinkTab);

Thread.sleep(5000L);

}

}

}

**Getting the Title of each opened new Tab above**

//The below will be used to open the each links in new Tabs

**for**(**int** i=1;i<column1driver.findElements(By.*tagName*("a")).size();i++)

{

String clickonlinkTab = Keys.*chord*(Keys.***CONTROL***, Keys.***ENTER***);

column1driver.findElements(By.*tagName*("a")).get(i).sendKeys(clickonlinkTab);

Thread.*sleep*(5000L);

}

Set<String> windowHandles = driver.getWindowHandles();

Iterator<String> it = windowHandles.iterator();

**while**(it.hasNext()) //hasNext() tells wheather next index is there are not

{

driver.switchTo().window(it.next()); //next() will automatically move us to the next Tab

System.***out***.println(driver.getTitle());

}

**Clicking on a specific date in the current Month**

**import** java.time.Duration;

**import** java.util.List;

**import** org.openqa.selenium.By;

**import** org.openqa.selenium.WebDriver;

**import** org.openqa.selenium.WebElement;

**import** org.openqa.selenium.edge.EdgeDriver;

**public** **class** Calendar {

**public** **static** **void** main(String[] args) {

System.*setProperty*("webdriver.edge.driver", "C:\\Users\\rathanr\\Documents\\Drivers\\edgedriver\_win64\\msedgedriver.exe");

WebDriver d = **new** EdgeDriver();

d.manage().window().maximize();

d.manage().timeouts().implicitlyWait(Duration.*ofSeconds*(5));

d.get("https://www.path2usa.com/travel-companion/");

d.findElement(By.*xpath*("//input[@name='form\_fields[travel\_comp\_date]']")).click();

// Clicking on specific Date on the current Month 10-Feb-2024

List<WebElement> dates = d.findElements(By.*className*("flatpickr-day"));

**int** count = d.findElements(By.*className*("flatpickr-day")).size();

**for**(**int** i=0;i<count;i++)

{

String text = d.findElements(By.*className*("flatpickr-day")).get(i).getText();

**if**(text.equalsIgnoreCase("10"))

{

d.findElements(By.*className*("flatpickr-day")).get(i).click();

**break**;

}

}

}

}

**Clicking on a Specific Date in Different month**

import java.time.Duration;

import java.util.List;

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.WebElement;

import org.openqa.selenium.edge.EdgeDriver;

public class SelectMonth {

public static void main(String[] args) {

System.setProperty("webdriver.edge.driver","C:\\Users\\rathanr\\Documents\\Drivers\\edgedriver\_win64\\msedgedriver.exe");

WebDriver d = new EdgeDriver();

//d.manage().window().maximize();

d.manage().timeouts().implicitlyWait(Duration.ofSeconds(5));

d.get("https://www.path2usa.com/travel-companion/");

d.findElement(By.xpath("//input[@name='form\_fields[travel\_comp\_date]']")).click();

while(!d.findElement(By.xpath("//div[@class='flatpickr-current-month']")).getText().contains("August"))

{

d.findElement(By.xpath("//span[@class='flatpickr-next-month']")).click();

}

// Clicking on specific Date on the current Month 10-Feb-2024

List<WebElement> dates = d.findElements(By.className("flatpickr-day"));

int count = d.findElements(By.className("flatpickr-day")).size();

for(int i=0;i<count;i++)

{

String text = d.findElements(By.className("flatpickr-day")).get(i).getText();

if(text.equalsIgnoreCase("20"))

{

d.findElements(By.className("flatpickr-day")).get(i).click();

break;

}

}

}

}

**How to Scroll**

**import** java.time.Duration;

**import** org.openqa.selenium.JavascriptExecutor;

**import** org.openqa.selenium.WebDriver;

**import** org.openqa.selenium.edge.EdgeDriver;

**public** **class** Scrool {

**public** **static** **void** main(String[] args) {

System.*setProperty*("webdriver.edge.driver","C:\\Users\\rathanr\\Documents\\Drivers\\edgedriver\_win64\\msedgedriver.exe");

WebDriver driver = **new** EdgeDriver();

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

driver.manage().timeouts().implicitlyWait(Duration.*ofSeconds*(5));

driver.get("https://rahulshettyacademy.com/AutomationPractice/");

//Using JacascriptExecutor only we can scroll

JavascriptExecutor js = (JavascriptExecutor)driver;

js.executeScript("window.scrollBy(0, 500)"); // Window scroll

js.executeScript("document.querySelector('.tableFixHead').scroll(0, 500)"); // Particular Element Scroll

}

}

**Handling HTTPS Certification**

**import** org.openqa.selenium.WebDriver;

**import** org.openqa.selenium.edge.EdgeDriver;

**import** org.openqa.selenium.edge.EdgeOptions;

**public** **class** HandlingHTTPS {

**public** **static** **void** main(String[] args) {

System.*setProperty*("webdriver.edge.driver","C:\\Users\\rathanr\\Documents\\Drivers\\edgedriver\_win64\\msedgedriver.exe");

EdgeOptions option = **new** EdgeOptions();

option.setAcceptInsecureCerts(**true**);

WebDriver dry = **new** EdgeDriver(option);

dry.manage().window().maximize();

dry.get("https://expired.badssl.com/");

System.***out***.println(dry.getTitle());

}

}

**How to set Proxy**

**import** org.openqa.selenium.Proxy;

**import** org.openqa.selenium.WebDriver;

**import** org.openqa.selenium.edge.EdgeDriver;

**import** org.openqa.selenium.edge.EdgeOptions;

**public** **class** HandlingHTTPS {

**public** **static** **void** main(String[] args) {

System.*setProperty*("webdriver.edge.driver","C:\\Users\\rathanr\\Documents\\Drivers\\edgedriver\_win64\\msedgedriver.exe");

EdgeOptions option = **new** EdgeOptions();

option.setAcceptInsecureCerts(**true**);

Proxy proxy = **new** Proxy();

proxy.setHttpProxy("ipaddress:port");

option.setCapability("ipaddress:port", proxy);

WebDriver dry = **new** EdgeDriver(option);

dry.manage().window().maximize();

dry.get("https://expired.badssl.com/");

System.***out***.println(dry.getTitle());

}

}

**What is Proxy?**

In computer networking, a proxy server is a server application that acts as an intermediary between a client requesting a resource and the server providing that resource. It improves privacy, security, and performance in the process.

**Relative Locator**

1. Above(): Element located above with respect to the specified Element.
2. Below(): Element located below with respect to the specified Element.
3. toLeftOf(): Element located left with respect to the specified Element.
4. toRightOf(): Element located Right with respect to the specified Element.

Syntax: -

**import** java.time.Duration;

**import** org.openqa.selenium.By;

**import** org.openqa.selenium.WebDriver;

**import** org.openqa.selenium.WebElement;

**import** org.openqa.selenium.edge.EdgeDriver;

**import** org.openqa.selenium.support.locators.RelativeLocator;

**public** **class** RLocator {

**public** **static** **void** main(String[] args) {

// Set the path to your ChromeDriver

System.*setProperty*("webdriver.chrome.driver", "path/to/chromedriver");

// Initialize the WebDriver instance

WebDriver driver = **new** EdgeDriver();

// Set implicit wait time to handle dynamic page elements

driver.manage().timeouts().implicitlyWait(Duration.*ofSeconds*(10));

// Navigate to the webpage

driver.get("https://www.rahulshettyacademy.com/angularpractice/");

// Find the base element (e.g., element below which you want to locate another element)

WebElement baseElement = driver.findElement(By.*cssSelector*("input[name='name']"));

// Use RelativeLocator to find an element above the base element

WebElement elementAbove = driver.findElement(RelativeLocator.*with*(By.*tagName*("label")).above(baseElement));

// Now you can interact with the found element

System.***out***.println("Text of element above base element: " + elementAbove.getText());

// Close the WebDriver instance

driver.quit();

}

}

**Invoking Multiple windows/Tabs**

This is used to Invoke new Tab & Window from a Tab.

**import** java.time.Duration;

**import** java.util.Iterator;

**import** java.util.List;

**import** java.util.Set;

**import** org.openqa.selenium.By;

**import** org.openqa.selenium.WebDriver;

**import** org.openqa.selenium.WebElement;

**import** org.openqa.selenium.WindowType;

**import** org.openqa.selenium.edge.EdgeDriver;

**public** **class** InvokingMultipleWindow {

**public** **static** **void** main(String[] args) {

System.*setProperty*("webdriver.edge.driver", "C:\\Users\\rathanr\\Documents\\Drivers\\edgedriver\_win64\_V123.0.2420.53\\msedgedriver.exe");

WebDriver driver = **new** EdgeDriver();

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

driver.manage().timeouts().implicitlyWait(Duration.*ofSeconds*(10));

driver.get("https://www.rahulshettyacademy.com/angularpractice/");

driver.switchTo().newWindow(WindowType.***TAB***); // If need to open new window instead of Tab just mention as WINDOW instead of TAB

Set<String> window = driver.getWindowHandles();//[parentID, childID, subChildID]

Iterator<String> It = window.iterator();

String parentID = It.next();

String childID = It.next();

driver.switchTo().window(childID);

driver.get("https://courses.rahulshettyacademy.com/courses/");

String course = driver.findElements(By.*cssSelector*("div[class='course-listing-title']")).get(0).getText();

System.***out***.println(course);

driver.switchTo().window(parentID);

driver.findElement(By.*cssSelector*("[name='name']")).sendKeys(course);

}

}

**Taking Exactly the Web Element Screenshot**

**import** java.io.File;

**import** java.io.IOException;

**import** java.time.Duration;

**import** org.apache.commons.io.FileUtils;

**import** org.openqa.selenium.By;

**import** org.openqa.selenium.OutputType;

**import** org.openqa.selenium.WebDriver;

**import** org.openqa.selenium.WebElement;

**import** org.openqa.selenium.edge.EdgeDriver;

**public** **class** WebElementSS {

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

System.*setProperty*("webdriver.edge.driver", "C:\\\\Users\\\\rathanr\\\\Documents\\\\Drivers\\\\edgedriver\_win64\_V123.0.2420.53\\\\msedgedriver.exe");

WebDriver driver = **new** EdgeDriver();

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

driver.manage().timeouts().implicitlyWait(Duration.*ofSeconds*(3));

driver.get("https://rahulshettyacademy.com/loginpagePractise/#");

String username = driver.findElement(By.*xpath*("//i[text()='rahulshettyacademy']")).getText();

driver.findElement(By.*xpath*("//input[@id='username']")).sendKeys(username);

String password = driver.findElement(By.*xpath*("//i[text()='learning']")).getText();

driver.findElement(By.*xpath*("//input[@id='password']")).sendKeys(password);

driver.findElement(By.*xpath*("//input[@id='terms']")).click();

driver.findElement(By.*xpath*("//input[@id='signInBtn']")).click();

// Taking SS only the particular WeElement

WebElement form = driver.findElement(By.*xpath*("//form[@id='login-form']"));

File file = form.getScreenshotAs(OutputType.***FILE***);

FileUtils.*copyFile*(file, **new** File("Entercredentials.png"));

}

}

**Capturing the Height & Width of the Web Element for UX Validation**

**import** java.io.File;

**import** java.io.IOException;

**import** java.time.Duration;

**import** org.apache.commons.io.FileUtils;

**import** org.openqa.selenium.By;

**import** org.openqa.selenium.OutputType;

**import** org.openqa.selenium.WebDriver;

**import** org.openqa.selenium.WebElement;

**import** org.openqa.selenium.edge.EdgeDriver;

**public** **class** WebElementSS {

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

System.*setProperty*("webdriver.edge.driver", "C:\\\\Users\\\\rathanr\\\\Documents\\\\Drivers\\\\edgedriver\_win64\_V123.0.2420.53\\\\msedgedriver.exe");

WebDriver driver = **new** EdgeDriver();

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

driver.manage().timeouts().implicitlyWait(Duration.*ofSeconds*(3));

driver.get("https://rahulshettyacademy.com/loginpagePractise/#");

String username = driver.findElement(By.*xpath*("//i[text()='rahulshettyacademy']")).getText();

driver.findElement(By.*xpath*("//input[@id='username']")).sendKeys(username);

String password = driver.findElement(By.*xpath*("//i[text()='learning']")).getText();

driver.findElement(By.*xpath*("//input[@id='password']")).sendKeys(password);

driver.findElement(By.*xpath*("//input[@id='terms']")).click();

driver.findElement(By.*xpath*("//input[@id='signInBtn']")).click();

// Taking SS only the particular WeElement

WebElement form = driver.findElement(By.*xpath*("//form[@id='login-form']"));

File file = form.getScreenshotAs(OutputType.***FILE***);

FileUtils.*copyFile*(file, **new** File("Entercredentials.png"));

// Getting Height & Width of the the WebElement

System.***out***.println(form.getRect().getDimension().getHeight());

System.***out***.println(form.getRect().getDimension().getWidth());

}

}

**Create new window (or) new tab and switch**

Creates a new window (or) tab and will focus the new window or tab on screen. You don’t need to switch to work with the new window (or) tab. If you have more than two windows (or) tabs opened other than the new window, you can loop over both windows or tabs that WebDriver can see, and switch to the one which is not the original.

**Note: This feature works with Selenium 4 and later versions.**

// Opens a new tab and switches to new tab

driver.switchTo().newWindow(WindowType.TAB);

// Opens a new window and switches to new window

driver.switchTo().newWindow(WindowType.WINDOW);

**How to Handle to multiple window**

import java.time.Duration;

import java.util.Iterator;

import java.util.Set;

import org.openqa.selenium.By;

import org.openqa.selenium.WebDriver;

import org.openqa.selenium.edge.EdgeDriver;

public class AutoTabHandling {

public static void main(String[] args) {

//Here while clicking on WebElement as per the design of the element it is automatically opening that element into a new Tab

System.setProperty("webdriver.edge.driver", "C:\\\\Users\\\\rathanr\\\\Documents\\\\Drivers\\\\edgedriver\_win64\_V123.0.2420.53\\\\msedgedriver.exe");

WebDriver driver = new EdgeDriver();

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

driver.manage().timeouts().implicitlyWait(Duration.ofSeconds(3));

driver.get("https://rahulshettyacademy.com/loginpagePractise/#");

driver.findElement(By.cssSelector(".blinkingText")).click();

Set<String> window = driver.getWindowHandles();//[parentID, childID, subChildID]

Iterator<String> It = window.iterator();

String parentID = It.next();

String childID = It.next();

//Switching to the newly opened Tab to get the UserName

driver.switchTo().window(childID);

//This is directly taking the highlighted UserName in the whole sentence

String getUserName = driver.findElement(By.xpath("//a[text()='mentor@rahulshettyacademy.com']")).getText();

//This will close the newly opened Tab

driver.close();

System.out.println(getUserName);

//Switched to Original Tab & pasting the username got from the newly opened Tab

driver.switchTo().window(parentID);

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

}

}