Selenium

Eclipse location in my system--->>C:\Users\Amit kamble\eclipse-workspace

How to install chrome Firefox and edge driver

1. Download the driver executable files
2. Save driver in folder--->> C:\Driver files for selenium
3. C:\users\amit kamble\eclipse\java-2022-032\eclipse\eclipse.exe

-----How to add web Driver in project---

1 create java project in Eclips

2 Download web driver jar files

Jar file—contains all the classes and methods and

Version number and jar number is different but core functionality is same

How to add jar in project

---configure all jar files in java project---

Right click on project --> properties --> java build path --->go to libraries section-- > add external jars -- > all copy open --- >apply--- > apply and close

---Selenium is not a tool is just a jar files –

Version no is different , jar number is different but core functionality is same

Test case---

Open browser

Open URL

Enter username

Enter password

Click on ok

Check the page title

Web driver is used to implement multiple classes

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

**import** org.openqa.selenium.chrome.—it is a package

ChromeDriver;--it is a class name

Constructor –automatically invoke the browser

Web Driver---it is a interface name ---it is a generic statement--- > it is used to multiple browser

Exception in thread "main" java.lang.NoClassDefFoundError: org/openqa/selenium/chrome/ChromeDriver----- >

Add selenium jar files in class path

Right click on project --> properties --> java build path --->go to libraries section-- > classpath ---> add external jars -- > all copy open --- >apply--- > aply and close

IlligalStateException in selenium

Exception in thread "main" java.lang.IllegalStateException: The path to the driver executable The path to the driver executable must be set by the webdriver.chrome.driver system property; for more information, see https://chromedriver.chromium.org/. The latest version can be downloaded from <https://chromedriver.chromium.org/downloads>

Reason

1. Do not specify path of driver

2. Do not specify path of driver at correct location

3. When key is wrong

4. Do not specify complete path of driver

5. If do not specify .exe at end

Solution:-

<http://selenium.dev/---> > download--- > browser --- > chrome drive--- > document--- > stable driver--- >

(beta)---it is a non stable driver---

Chrome driver both version is same---

Selenium jar all copy in lib folder

Right click on project --> properties --> java build path --->go to libraries section-- > class path ---> add external jars -- > C:\Users\Amit kamble \Downloads\selenium-java-4.3.0-- > lib folder-- > open lib folder--- >copy all --- > open -- > Apply and close

Exception in thread "main" org.openqa.selenium.SessionNotCreatedException:

1st Program

Open the browser

Open the url

Enter username

Enter password

Click on ok

Check the page title

System.*setProperty*("webdriver.chrome.driver","C://EclipseWorkspace//seleniumTest//chromedriver.exe");

WebDriver driver= **new** ChromeDriver(); // invoke the browser

driver. get("https://demo.guru99.com/test/newtours/");

// Open the URL in browser

driver.manage().window().maximize(); //Maximize the screen in browser

WebElement—Everything is a web element (text box, button, image,link)

---How to interact this field in url----

Text box---

2 Types

1 Property/address---is based on I want to catch that objects

2.Method

Firebug plug-in ---- > it is a property--->to interact the user name text box

Click on Firebug plug in to -- -- -> to open the html code

Locator----Will identify that particular element

name="userName"

name="password"

name="submit"

This 3 are properties and addresses of the element

findElement()---is a method-- > Used for finding the element on the page

it is immediately catch the element based on the address

after catching element we need to enter some text 🡪 by using send key method

By.name("userName")--- > It will provide the address of that element

By-- > is a predefine class

.name()--- > it is a static method

sendkeys() --- > Used for entering some text in the text box

Click()--- > After this method---- >let me execute program

Close()---- > this method is used to close the browser

Exception in thread "main" org.openqa.selenium.WebDriverException: unknown error: cannot determine loading status

from unknown error: unexpected command response

---Selenium WebDribverException---

Unknown error: cannot determine loading status

Web Page is design by using html language—

it is a scripting language

4 locators support to webdriver

Name

Id

cssSelector

Xpath

--- > How to install firefox bug < ---only for firefox browser

Go to 3 line -- > goto add ons --- >

Type firebug --- > click on enter --- > firebug –is display the html script for web page and highlighting the element

Fire path ---- > it will generate the Xpath of element

Automatically

Measure Elements in web page

List of Web Elements

Textbox/input box -- -->> sendkeys() method

Radio button/ check button -- -->> Click() method

Links ---- -->> Click() method

Images

Dropdown

List box

Web table

Drag and drop

Calendars (date picker)

-------Radio button ---We can select only one value

-------> Check box ---We can select multiple values

Windows based application not supported to web driver

Invalid selector Exception

An invalid or illegal selector was specified

----------- >> Locators in selenium << --------

We can identify various elements on the web by using locators

Locators are the addresses that identify the web element

Uniquely within the page

There are 8 types of locators

Id, name, className,TagName, link list/Partial link list,

Customize locators --- > cssSelector, Xpath

1st – identify the element --- > By using locator

2nd --Action ---Enter the any values from user/ tester

---HTML Structure---(Hypertext markup language)----

After inspect 2 language shows

1HTML

2.Css language

<input name= “txt username” id=”tstuser” type=”text”>

<input – (Element) it is a tag name

Name= attribute

“txtusername” =value

Dropdown – we can see the <select> tag

Sendkeys(“any name”)--- it is a action method

Click on any link --- > provide the details information about link

Name= “submit\_search”---- > name is an attribute –

---- > by using by.name locator

-------------------- > Locators < ------------------------

Locator techniques & Tools used to identify WebObjects

With the help of locator selenium interact with your browser actions on your browser elements

Attribute is the unique thing to define by the particular web page.

Locators is support to identify the object of elements

This locator help to correct with web objects on the web page

Types of locators

ID -- > Find the element with the help of Id locator

ID--- it is a alphanumeric values -🡪 This locator is used for click / login / button/ send message in the any text box on the web page

After refresh web id is change -🡪 that’s why Id locator is not used in this situation

In edit box --- > we used to send the information means (write needed information)

We need to send information that’s why not used as click() method

In forgot password field --- > there is no name and last name attribute as well which is supported by selenium

--- In that case we can use Css and Xpath locators

Css and Xpath -- > Most commonly used locators across the world / mostly clients preper css and xpath locator.

**ID locator important point**

1. Every object may not have ID, ClassName, Name -- > that time use Xpath and Css preferred
2. Alpha numeric ID may vary on every refresh – Check
3. Confirm the link object with anchor “a” tag
4. Classes should not have spaces—compound classes cannot be accepted
5. Multiple of same values – selenium identify the first value – it scan from top left -- > 1st field is identify. (Id= ‘amit’, name=’amit’ same in 2 to 3 fields)
6. Right click on blue highlighted html code to generate xpath
7. Firepath depreciated from firefox.
8. When Xpath starts with html-Not reliable-switch browser to get another one.
9. There is no direct way to get CSS in chrome. You will find it in tool bar
10. Degrade Browser to less firefox 55 to go firpath
11. $(“ ”) is for css and $x(“ ”) is for xpath
12. //tagName[@attribute =’value’]--- xpath syntax
13. tagName[attribute=’Value’]--- & tagNmae#id---- tagname.classname --- CSS syntax

----- General Expression of CSS And Xpath

1. //tagName[contains(@attribute, ‘value’)] – xpath
2. tagName[Attribute\*=’value’] -- css regular Expression

input[name\*=’username’]

**Forget password field is used to identify by using link text locator**

If you have any link on web page --- > you just provide text to that link to me

All the link list tag a – called as anchor “a” tag

Not using send key --- > you are not sending something your click on this link

If button and link --- > used to click(); method

ClassName With Spaces selenium will not Accept

In facebook

Email and password – both have same classname = ”inputtext”

X Path and CSS Locator---

How to handle text box using xpath and css ?

Xpath and css is a different locator

//\*[@id="facebook"]

//\*[@id="facebook"] -- inside (“//\*[@id="facebook"]”) java is not accept this syntax

(“//\*[@id=’facebook’]”) -- java accept this syntax

(“//\*[@id="facebook"]”)--- > cannot accept the xpath

Xpath can be defined in n number of ways.

Right click copy on blue highlighted html code to generate xpath

When Xpath start with html is not reliable—Switch browser to get other one

//\*[@id="loginbutton"]

----One Object we can write xpath in any number of ways

----Only one xpath for one object

Inside (“ ”) java is not accept he syntax

How to get Css from browser

//\*[@id="u\_0\_2\_B9"]/div[3]/a---- forgot likn of xpath

Everything will handle with Css and Xpath on the web page.

Firefox and chrome browser selection of css is different

There is no direct way to css in chrome you will find it in tool bar

Degrade browser to less firefox 55 to get firepath

**Validation Of Xpath and CSS**

$(“ ”) is for css and $x(“ ”) is for xpath – It is a validation

-- See the actual application one

Generating the Xpath and CSS selector

Input –Tag Name

Attribute – class ----------------- It is a unique attribute

Value –Input Text

Write the own xpath by using this syntaxt

Syntax of Xpah

//tagName[@attribute=’value’]----- very important syntaxt

Ex-- //input[@id=’ username’]

//input[@value=’password’]

//\*[@type=’email’]

//\*[@id=’pass’]

Write a own Xpath by using tag name and attribute--- according to above step

//\*[@name="login"]

//\*[@id="email"]

//\*[@type="password"]

-----Generate Css selector-----------

1.TagName[attribute=’value’]----css

<input type="text" class="inputtext \_55r1 inputtext \_1kbt \_9ay4 inputtext \_1kbt" name="email" id="email" tabindex="0" placeholder="Email address or phone number" value="" autofocus="1" autocomplete="username" aria-label="Email address or phone number">

2. TagName#id----css

input#email

3.tagName.classname ---css

Qst imp

Which locator uses contain keyword --🡪 xpath locator

Static , dynamic dropdown, checkboxes radio buttons ,text buttons, Alerts-java popup

Webdriver from method

What is the select class and methods presents in the select class

After using select class we can manipulate the drop down in websites

Create a one select class called select class in this we have lot of method to automate this drop down

1. Static drop down

Select s= **new** Select(driver.findElement(By.*id*(" ")));

In select class argument pass the web element

So that maximum 99% of TagName in static drop down field is select only

I need 4 passenger

Same 4 time clicks 🡪 not write a 1 statement 4 times

By using while loop

int i=5

while(i<5)

{

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

i++;

}

For(i=1; i<5; i++)

{

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

}

Dynamic drop down

So this are loaded based upon users actions that’s why is called as dynamic drop down

css-1dbjc4n r-1awozwy r-18u37iz r-1wtj0ep

//\*[@id="main-container"]/div/div[1]/div[3]/div[2]/div[5]/div[1]/div/div[1]/div[1]

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Radio button --- > How to automate

Radio button is an html element Which allows to users to select only one in the given options .

We can select only one option out of the given options.

<input> it is a tagName “type” -- it is a attribute

Which will have the values of radio button

Selenium provides various locator strategies and almost all of them can locate radio buttons using selenium driver.

How to locate radio buttons using Name locator

If the radio button contains unique value in the name attribute then we can use name locator of selenium to locate the radio button

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How to automate Drop Down field

3 different way to select the options from drop down

1. SelectByVisibleText()
2. SelectByValue
3. SelectByIndex

This 3 method inside the select class

Drop down cannot handle directly

SelectByValue : - for every option there is value attribute which is associated

We need to pass the value of the value attribute

Without using select method how to automate drop down field.

Multiple drop down on page

We can write a generic method and we can pass the dropdown element and value

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Check box automation without maven

1. Select specific check box

driver.findElement(By.*xpath*("")).click();

1. How to select Multiple Checkbox or All checkboxes

Write a loop statement

After apply loop they are selects all the check boxes on web page

Every id in the element is a common think of checkbox

Dive is a name of check box ( Monday, Tuesday, wensday, Friday, sunday)-this are the id

TagName = input ,

Type- = Checkbox

After using [contains(@id,’day’)] -- it is exactly pointing to only day element –7

We need to used additional method to filter the check boxex

Driver.findElement

Windows handle

How to switch the multiple browser --- > it is most import to browser id

How to capture the browser window id ---

Browser window is will not be same every time

They will randomly generate window id only at the run time , every time this id will be different

1. CDwindow-F5991052D46EBB7135780C51AF669B3F -- 1st time run
2. CDwindow-5FA8702EDB4ED146358F413A313C3CB7 --- 2nd time run

How to capture the multiple browser ids in a program at a time

2 .windows are open in chrome driver at same time

1st is the parent browser and 2nd is the child browser

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Demo site of testing -- https://courses.letskodeit.com/practice