WebDriver Methods/Commands

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WebDriver Methods/Commands:-

WebDriver method or command is a interface used to perform actions on web element/Webpage.

Get Methods/Commands:-

1. Get Method- To launch URL in browser
   It is used to enter URL in a browser and it will wait for fully loaded the webpage.

   > *Syntax :- driver.get("url");*
   > *Eg. driver.get("https://www.amazon.com/");*

2. Get Title Method - returns title of page
   It is used to get/return title of webpage

   > *Syntax :- driver.getTitle();*
   > *Eg. driver.getTitle();*

3. Get CurrentURL Method - Returns current URL of webpage
   It is used to get/return current URL of webpage

   > *Syntax :- driver.getCurrentUrl();*
   > *Eg. driver.getCurrentUrl();*

4. Get PageSource Method - Returns HTML code of webpage

   > *Syntax :-driver.getPageSource();*
   > *Eg.driver.getPageSource();*

Navigate Commands/Methods

Navigate is used to back,forward,refresh the browsers.

5. navigate().to()
   It is used to navigate from one webpage to other webpage and load new URL/webpage in the existing window of browser

   > *Syntax :- driver.navigate().to("URL");*

6. Forward command

This method is used to click on the forward button (arrow) of the browser window

> *Syntax :-driver.navigate().forward();*

7. Back command

This method is used to click on back button(arrow) of the browser window

> *Syntax :- driver.navigate().back();*

8. Refresh command

This method is used to refresh/reloads the current webpage in the browser

> *Syntax :- driver.navigate().refresh();*

Browser Commands/Methods

9. Close - to close particular window

This method is used to close current browser window or selenium focused browser window

> *Syntax : - driver.close();*

10. Quit - to cloe all windows

This method is used to quit/close all windows presnet in browser. It woll use to end selenium script

> *Syntax :- driver.quit();*

11. Maximize - To maximize launched browser

This method is used to maximize the browser window

> *Syntax :-driver.manage().window().maximize();*

12. Thread.sleep() -

It is used to stop loading of browser for some time by proving second

> *Syntax :- Thread.sleep();*

Selenium Locators

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Selenium Locators

- Locators are nothing but it is technique used to find web elements which are present on webpage.
- Each web element has it's certain position on webpage so selenium locators are used to find web element from webpage.
- Locators are methods of By class by which we can find element.
- Selenium Locators are one of the most powerful command
- It is the building block of selenium for automation script/testing.
- Hence it helps to locate GUI elements through which multiple user actions we can perform.
- The locators are one of the most important parameters for scripting base foundation and they may lead script failure
- Locating elements in Selenium WebDriver is performed with the help of findElement() and findElements() methods provided by WebDriver and WebElement class.

There are 8 locators which are used to find the web elements from the webpage

1. TagName
2. Id
3. Name
4. ClassName
5. CSS selector
6. Link Text
7. Partial LinkText
8. Xpath
   a. Absolute xpath
   b. Relative xpath

1. ID :-

- The most efficient way and preferred way to locate an element on a web page is By ID.
- ID will be the unique on web page which can be easily identified.
- IDs are the safest and fastest locator option
- It is like an Employee Number or Account which will be unique.
- Locates an element using the ID attribute

> *Syntax :- driver.findElement(By.id("id value"));*
> *Eg. driver.findElement(By.id("search_query_top"));*

2. Name

- Locating elements by name is similar to locating by ID except we use   name as prefix
- When there is no Id to use, the next worth seeing if the desired element has a name attribute.
- But make sure there the name cannot be unique all the times.
- Locates an element using the Name attribute

> *Syntax :-driver.findElement(By.name("name_value"));*
> *Eg . driver.findElement(By.name("submit_search"));*

3. ClassName

- Locates an element using the Class attribute

> *Syatax :-driver.findElement(By.className("value"));*
> *Eg . driver.findElement(By.className("submit_search"));*

4. TagName

- Locates an element using the HTML tags
- Tag Name can be used with Group elements like , Select and check-boxes / dropdowns.

> *Syntax :-driver.findElement(By.tagName (<htmltagname>))*

5. Link Text

- This type of locator applies only to hyperlink texts.
- Finding an element with link text is very simple. But make sure, there is only one unique link on the web page.

> *Syatax :-driver.findElement(By.linkText("Text"));*
> *Eg.driver.findElement(By.linkText("Login"));*

6. Partial Link Text

- Locates a link using the link's partial text if text is to long.

> *Syatax :-driver.findElement(By.partiallinkText("webpage_partial_value"));*
> *Eg.driver.findElement(By.partiallinkText("password"));*

XPath in Selenium
- XPath is a technique in Selenium that allows you to navigate the structure of a webpage's HTML and find web element.
- In automation, if the elements are not found by the general locators like id, class, name, etc. then XPath is used to find an element on the web page.
- XPath in Selenium is an XML path used for navigation through the HTML structure of the page.

Types of X-path
1. Absolute XPath
2. Relative XPath

Absolute XPath:
- It is technique of locators to find web elements which are present on web page
- It is the direct way to find the element
- To achieve absolute xpath we have to use single forward slash(/).
- Navigating from root of the parent to the immediate child it is nothing but absolute xpath.
  PARENT HTML >> CHILD

Absolute XPath:
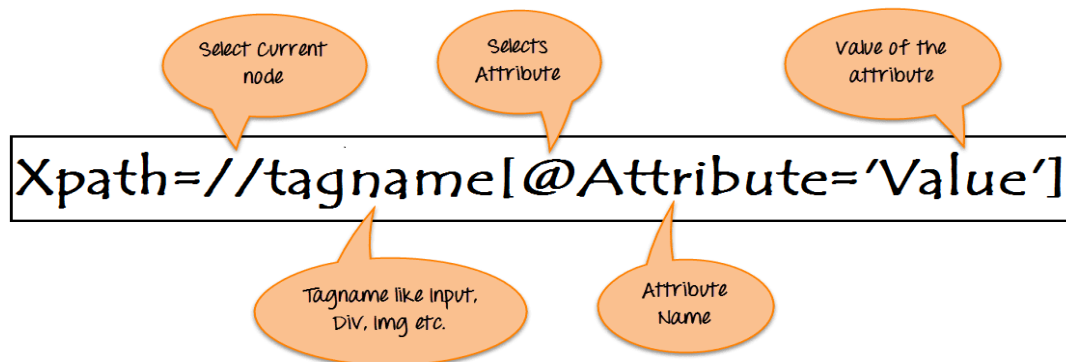*/html/body/div[2]/div[1]/div/h4[1]/b/html[1]/body[1]/div[2]/div[1]/div[1]/h4[1]/b[1]*

Drawbacks
- The disadvantage of the absolute XPath is that if there are any changes made in the path of the code then that XPath gets failed
- It is very difficult to locate web element as we need complete understanding of HTML code.
- Because of single slash / it provides less security.

Relative Xpath:

- Navigating root of the parent to any child is called relative xpath.
- To achieve relative xpath we have to use double forward slash(//).
- Relative Xpath starts from the middle of HTML DOM structure.
- It can search elements anywhere on the webpage, means no need to write a long xpath and you can start from the middle of HTML DOM structure.
- Relative Xpath is always preferred as it is not a complete path from the root element.

Syntax:-

//	: Select current node.
Tagname	: Tagname of the particular node
@	: Select attribute.
Attribute	: Attribute name of the node.
Value	: Value of the attribute.

Using XPath >> Handling complex & Dynamic elements in Selenium

1. Basic XPath:

➢ XPath expression select nodes or list of nodes on the basis of attributes like ID , Name, Classname, etc. from the HTML document

1. Xpath by tagname –
   Whenever we have only tagname then we will preferred this one

2. Xpath by attribute –
   Used different attributes and value to find xpath by using id, class, classname, name etc.

   > *Syatax :- //tagname[@attribute='value']*
   > *Eg . //input[@id="search_query_top"]*
   > *//input[@class="search_query form-control ac_input"]*
   > *//input[@name='search_query']*

3. Xpath by text function –
   If we want to find web element which is present along with link.

   > *Syntax :- //tagname[text()='text_value']*
   > *Eg. //b[text()="Cart"]*

2. Xpath by using contains

If we want find web element by using partial text/value.

1. Xpath by attribute –

> *Syntax :- //tagname[contains(@attribute,"value")] -*
> *Eg. //a[contains(@id,"u_0_2")]*

2. Xpath by text function –

> *Syatax :-//tagname[contains(text(),"value")] - Syntax*
> *Eg. //span[contains(text(),'Apple iPhone 12 Pro Max, 256GB, Pacific Blue -*
> *Unlocked (Renewed Premium)')]*

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Notes

Web Page –

Webpage is a collection of web elements like text box, buttons, radio buttons, checkbox, links, object, text etc

It contains live Element and dead Element

- ➢ Live Elements :- The Elements which have functionality
  - ▪ eg. click operation on button
- ➢ Dead Elements :- The Elements which don't have any functionality
  - ○ eg.text

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Questions :-