<https://www.w3schools.com/xml/xpath_syntax.asp>

<https://www.w3schools.com/xml/xpath_axes.asp>

<http://automationtricks.blogspot.com/2010/09/how-to-use-functions-in-xpath-in.html>

<http://courses.ischool.berkeley.edu/i290-14/s05/lecture-4/allslides.html>

Xpath basic syntax: //tagName[@attribute=’value’]

xPath use:

driver.findElement(By.xpath(“//input[@name='uid']”)).sendKeys(“Test123”);

for Practice: <https://rahulshettyacademy.com/>

**Basic:**

//input[@name='uid']

//\*[@id='pwd']

**Contains():**

//\*[contains(@name,'btn')]

//td[contains(text(),’UserID’)]

//\*[contains(@href,'guru99.com')]

//[href\*=’guru99.com’] 🡺 this is CSS Selector equivalent to above xpath

**Using OR and AND:**

//\*[@type='submit' OR @name='btnReset']

//input[@type='submit' AND @name='btnLogin']

**Starts-with():**

//label[starts-with(@id,'message')]

**text():**

//td[text()='UserID']

//\*[text()='UserID']

//td[contains(text(),’UserID’)]

Note: If //ul[@id='Menu']**/**li=> it will give immediate children ‘li’ items

If //ul[@id='Menu']**//**li=> it will give all children and grandchildren ‘li’ items

**Nth sub-element:**

//tr[2]

//tr[position()=2]

**Xpath Axes method:**

These XPath axes methods are used to find the complex or dynamic elements. Below we will see some of these methods.

**Following:**(all following elements in the document of the current node)

//input[@name='uid']**//**following::input

//input[@name='uid']**/**following::input

Above two xpath will give same result. Single slash and double slash won’t impact here.

//input[@name='uid']//following::input[1]

//input[@name='uid']//following::input[@name='btnLogin']

**Ancestor:**(all ancestors element (grandparent, parent, etc.) of the current node)

//input[@id='log']//ancestor::div

//input[@id='log']//ancestor::div[1]

//input[@id='log']//ancestor::div[@class='wbkgcont']

**Child**: (all children elements of the current node)

//div[@class='main user-login']//child::input

//div[@class='main user-login']//child::input[1]

//div[@class='main user-login']//child::input[@id='pwd']

//input[@id='pwd']//ancestor::div[@class='wrapper']//child::h1[text()='Login']

//div[@class='main user-login']//child::input[@id='pwd']//ancestor::form

**Preceding:**(all nodes that come before the current node)

//input[@id='pwd']//preceding::input

//input[@id='pwd']//preceding::input[1]

//input[@id='pwd']//preceding::input[@value='tm-login']

**Following-sibling:**(Siblings are at the same level of the current node)

//\*[@id='log']//following-sibling::input

//input[@id='log']//following-sibling::input[1]

//input[@id='log']//following-sibling::input[@id=’pwd’]

**Parent:**(immediate parent node of the current node)

//input[@id='log']//parent::form//parent::div

//input[@id='log']//parent::form//parent::div//following-sibling::p

Also, you can navigate to parent using double **dot ..**

//input[@id=’log’]/..

**Self:** (Selects the current node or it indicates the node itself. It always gives single/only one node)

//\*[@id='log']//self::input

**Descendant:** (Selects the descendants (all children and grandchildren) of the current node)

//div[@id='tm-login']//descendant::input

//div[@id='tm-login']//descendant::input[1]

//div[@id='tm-login']//descendant::input[@name='log']

**CSS Selector:**

Basic Syntax: tagName[attribute=’value’] (Note – we can skip ‘tagName’ from this syntax)

Use of CSS selectors:

driver.findElement(By.cssSelector(“input[id=’uid’])).sendKeys(“test123”);

**Using Class attribute:**

tagName.classname

.classname

**Using ID attribute:**

tagName#ID

#ID

**Using ID and Class**

#ElementID.ClassName

.ClassName#ElementID

**Using Attribute value**

tagName[attribute=’value’]

[attribute=’value’]

[type=submit] or [type=’submit’]

**Using Nth position**

Type:nth-child(n)

tr:nth-child(2)

What is the difference between XPath and CSSSelectors?

* In xpath, we can traverse backward & forward; In CSSSelectors, we can traverse only forward
* CSSSelector is lightweight and faster than xpath
* Class under the class can be identified using CSS only; not by xpath.