Locators in Selenium

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Locators in Selenium

1. Id

2. Name

3. Classname

4. Tagname

5. Linktext

6. Partial Linktext

7. Xpath

8. Css Selectors

XPath Definition

XPath is the path written using html tags(or XML tags) and their attributes to reach to a particular node (or web element) in an HTML page or XML page.

Types of XPath:

Absolute XPath

Relative XPath

Absolute XPath

Absolute XPath starts from the beginning of the page. As in an html page, the first tag is HTML. So all absolute XPath always start with html tag and then accessing immediate child to reach to a node.

"/" is used to access an immediate child of the parent tag.

Example:

html/body/table/tbody/tr[2]/td/input

Relative XPath

Relative XPath starts from anywhere on the page.

"//" is used to access any child of the parent tag.

Basic Syntax: //htmlTagname[@attribute='value']

Example: //input[@type='text'] –

It represents xpath of a WebElement which is represented by an input tag and also has an attribute type = 'text'.

Absolute Vs Relative

Absolute xpath are fast, but they have one disadvantage that if there is an addition or deletion of some nodes in between, then they fail to work.

In such a situation relative xpath are much better, and one should be good at writing dynamic xpath. There are some methods, operators, and axes which are available in xpath which can help to locate elements uniquely.

How to Identify Dynamic Web Elements?

Dynamic Web Elements are one which changes dynamically like – their attributes such as Id or Classname are changing, or text associated is changing.

Best possible way to identify these elements is to first search for another web element which stable and also can be identified uniquely, then on this element using methods, operators, or axes, one can reach to the desired element.

Methods in XPaths:

Contains():

Contains is a method used when the value of any attribute changes dynamically. It can search an element with partial information.

Starts-with()–

This method can be used when we are searching for web elements matching the start of the text of the attributes passed. The text() method can also be used which will match the starting of the text.

Text() –

This method is used when we are searching for elements matching the exact text.

Operators in XPath:

AND and OR are two operators available in xpath.

AND operator, when applied with multiple attributes and/or methods, identifies a web element only when all the attributes are pointing to that element.

OR operator, when applied to multiple attributes, identifies a web element only when any one of the attributes points to that element.

AXES in Selenium WebDriver:

Axis in xpath points the xpath processor to the direction in which it should navigate in the hierarchy of the html nodes.

Basic Syntax:

//html_tag[@attribute='value']//axes::html_tag

Frequently used Axes in XPath:

1. Ancestor – contains ancestor of the context node.

2. Child – includes the child of the context node.

3. Following – select the elements which follow after the context node.

4. Preceding – choose the elements which precede before the context node.

5. Following-Sibling – choose the sibling coming after the context node.

6. Preceding-Sibling – choose the sibling coming before the context node.

7. Parent – contains the parent of the context node.

CSS Selectors

Agenda –

What is CSS Selector locator?

Basic Syntax?

Operators in CSS Selectors?

CSS Selector

CSS is "Cascading Style Sheets" and it is defined to display HTML in structured and colorful styles are applied to webpage.

Selectors are patterns that match against elements in a tree, and as such form one of several technologies that can be used to select nodes in an HTML/XML document.

CSS is much faster and simpler than the XPath.

Basic Syntax –

htmltag[attribute='value']

Operators in CSS Selector

Using class in css

.(dot) operator is used in classes

.small.cbx.btn.btn-s.btn-
ter.tab.tgl_button.center_b

Using Id:

(hash) operator is used

#ListViewInner -- example using Id

Operators in CSS Selector

^ (power symbol) -- its like starts with

       -- starting of the string

       input[id^=ema]

$ (dolar symbol) -- its like ends with

       -- matches ending text

* (astrick) -- its like contains method

       -- matches some part of the string