

XPATH CHEAT SHEET

TYPES OF XPATH

ABSOLUTE XPATH

```
/html/body/div/div/section/section/div/div/input
```

RELATIVE XPATH

```
//*[@id='row1']/input
```

XPATH FORMULA

```
//tag[@attribute='value']
```

Example:

```
//div[@class='round-button']
```

SYNTAX EXPLANATION

/	Absolute XPATH - Starts at the top of the DOM, or a direct descendant (child)
//	Relative XPATH - Looks anywhere on the page. Starts at any element on the page with this tag, or an indirect descendant
div	Example of an element tag
[]	Predicates - Used to find a specific node or a node with a specific value
@	Attribute
=	Specific attribute value to search for
.	Uses the node that is in context
..	Selects the parent of the current node

/ VS //

/ - short for child node
// - short for descendant or self node

At the beginning of xpath

/ - selects a root element
// - selects element anywhere on the page

In the middle of xpath

/ - selects child of the element
// - selects descendant of the element

// VS .//

Dot introduces a relative location path, starting at the context node.

Examples:

```
WebElement parentElement = driver.findElement(By.id("somed"));
```

```
By childLocator1 = By.xpath("//input");  
parentElement.findElement(childLocator1);
```

This will ignore parentElement and will search for input element anywhere on the page

```
By childLocator2 = By.xpath(".//input");  
parentElement.findElement(childLocator2);
```

This will search input element that is descendant of the parentElement

INDEX

```
//tag[index]  
//h5[2] - Get second element with tag h5
```

```
//tag1[index1]/tag2[index2]  
//div[@class='row']/input[3]/h5[2] - Find third div element that has class row, and then get second h5 direct child
```

```
//tag1[@attribute='value']/tag2[index]  
//div[@class='row']/input[@class='text'][2] - Get all input elements with class text that are children of any div elements with class row, and then get second element from that list
```

POSITION FUNCTIONS

position()=2 works the same way as index [2]

```
//h5[position()=2] same as //h5[2]
```

Operators that we can use with position

position()=2 Equal
position()!=2 Not equal
position()>2 Greater than
position()>=2 Greater than or equal to
position()<2 Less than
position()<=2 Less than or equal to

last() - get last element from the list

```
//h5[last()]
```

We can also use subtraction with the last function

```
//h5[last()-1]
```

FUNCTIONS

Text Function

```
<div>Full element text</div>  
//div[text()='Full element text']
```

Contains Function

Works with attribute values
<div id='username123'>
//button[contains(@id,'username')]

And with text

```
<div>Lets learn how to automate tests</div>  
//div[contains(text(),'how to automate')]
```

Starts-With Function

Works with attribute values
<input class='input-field'>
//input[starts-with(@class,'input')]

And with text

```
<p>This page is created to be able to reproduce the most common Selenium Exceptions.</p>  
//p[starts-with(text(),'This page is created')]
```

not Function

```
//div[not(@id='login')]  
//a[not(text()='Click here')]  
//input[not(contains(@class,'input'))]  
//p[not(starts-with(text(),'Selenium'))]
```

XPATH AXES

Formula:

```
axisname::nodetag[predicate]
```

XPath axes:

ancestor:: Selects all ancestors of the current nodes
descendant:: Selects all children, grand-children etc... of the current node
parent:: Only the parent of the current node
following-sibling:: Siblings after the current node
preceding-sibling:: Siblings before the current node

Examples:

```
//button[@id='btn']/parent::div - Find div parent of button element with id "btn"
```

```
//button[@id='btn']/following-sibling::label - Find label sibling that is located after button element with id "btn"
```

```
//button[@id='btn']/preceding-sibling::label - Find label sibling that is located before button element with id "btn"
```

```
//button[@id='btn']/parent::div/following-sibling::div/div - Combination of few axes in the same expression
```

XPATH OPERATORS

Using 'OR'

```
//button[@name='Add' or @name='Remove']
```

Using 'AND'

```
//button[@id and @class='btn' and @style and @name='Add']  
//button[@id][@class='btn'][@style][@name='Add']
```

XPATH WILDCARDS

```
//*[@class] - Element with any tag that has 'class' attribute
```

```
//button[@*='btn'] - Any button element where any attribute has value 'btn' //div[@*] - Div element that has any attribute
```

FINDING ELEMENTS RELATIVE TO OTHER ELEMENTS

```
//div[./input] - Find div element that has input child  
//input[parent::div[@id='row2']] - same as div[@id='row2']/input - The same as div[@id='row2']/input
```

SELECTING SEVERAL PATHS

Use the vertical bar to combine two or more XPath expressions into one

```
//div[@id='row1']/button | //div[@id='row1']/input  
//h2 | //h5 | //p
```

SVG ELEMENTS

To get to SVG element, use wildcard in place of tag name, and use name function for the SVG element tag

```
//*[name()='svg']//*[name()='rect' and @transform]  
//*[name()='rect' and contains(@transform,'rotate(45.0)']
```