What is Xpath in selenium?

XPath is XML path. It is a syntax or language for finding an element on the webpage using XML path expression. XPath is used to find the location of any element on a webpage using HTML DOM structure.

Finding an element by Xpath

* Writing our own xpaths ("//input[@color='red']"))
* Writing xpaths with regular expression (By.xpath("//\*[@id='firstname']"))
* Writing xpaths by using contains keyword (By.xpath("//input[contains(@id,'last')]"))
* Writing xpaths with starts-with keyword (By.xpath("//input[starts-with(@id,'last')]"))
* Writing xpaths with ends-with keyword (By.xpath("//input[ends-with(@id,'name')]"))
* Finding an element using parent child relationship (By.xpath("//div[@name='pcrel']/div/div/input"))
* Finding siblings (By.xpath("//li[@id='list1']/following-sibling::li[2]"))
* Finding parent elements (By.xpath("//div[@id='child2']/parent::div"))
* Finding ancestors (By.xpath("//div[@id='child2']/ancestor::div")
* Finding an element by using visible text

**Testing Xpath or CssSelector in browsers:**

Right click on the web page and go to “Inspect” and then go to console tab.

Under the console tab for xpath use $x(“xpath”) and for CssSelector use $(“Css”). Replace xpath and Css with the xpath and css generated.

**Writing your own xpath:**

//tagName[@attribute=’value’]

Using **regular expression**

//\*[@attribute=’value’]

Ex: //\*[@color=”red”] – whatever the tag name is but if the attribute is color and if the value is red, do the operation.

Using contains in xpath

//input[contains(@id,'last')]

Using starts-with in xpath

//input[starts-with(@id,'last')]

Using ends-with in xpath

//input[ends-with(@id,'name')]

**Locating an element by using Parent Child Relationship:**

Sometimes you may not have all the attributes you need to locate an element. But you may have some parent tag attributes.

//div[@name='pcrel']/div/div/input

**Identifying Siblings using Xpath:**

For example we have three li elements.

<li id=”tablist-tab1”>

<li>

<li>

If we have to go to the third one

//li[@id=’tablist-tab1]/following-sibling::li[2]

**Identifying Parent tag using Xpath:**

//div[@id='child2']/parent::div

**Identifying Ancestors tags using Xpath:**

//div[@id='child2']/ancestor::div

**Example:**

**package** Selenium;

**import** org.openqa.selenium.By;

**import** org.openqa.selenium.WebDriver;

**import** org.openqa.selenium.firefox.FirefoxDriver;

**public** **class** FirstProgram {

**public** **static** **void** main(String[] args) **throws** InterruptedException {

System.*setProperty*("webdriver.gecko.driver", "C:\\BrowserDrivers\\geckodriver.exe");

WebDriver driver = **new** FirefoxDriver();

//Opening an URL

driver.get("file:///D:/Selenium%20Course/Java/index.html");

Thread.*sleep*(2000);

//Finding Element by xpath

//driver.findElement(By.xpath("//input[@color='red']")).sendKeys("Subbu");

//Finding Element by xpath

//driver.findElement(By.xpath("//input[@id='firstname']")).sendKeys("subbu");

//Finding Element by xpath

//driver.findElement(By.xpath("//input[@name='firstname']")).sendKeys("subbu");

//Finding Element by xpath

//driver.findElement(By.xpath("//input[@class='beautifultextbox']")).sendKeys("subbu");

//Finding Element by xpath when the attribute value has spaces

//driver.findElement(By.xpath("//input[@id='first name']")).sendKeys("subbu");

//Other way of writing xpath using regular expression

//driver.findElement(By.xpath("//\*[@id='firstname']")).sendKeys("subbu");

//Finding an element by using xpath contains

//driver.findElement(By.xpath("//input[contains(@id,'last')]")).sendKeys("venkat");

//Finding an element by using xpath starts-with

//driver.findElement(By.xpath("//input[starts-with(@id,'last')]")).sendKeys("venkat");

//Finding an element by using xpath ends-with

//driver.findElement(By.xpath("//input[ends-with(@id,'name')]")).sendKeys("venkat");

//Locating an element using Parent-Child relationship

//driver.findElement(By.xpath("//div[@name='pcrel']/div/div/input")).sendKeys("Ganesh");

//Identifying Siblings

//String str = driver.findElement(By.xpath("//li[@id='list1']/following-sibling::li[2]")).getText();

//System.out.println(str);

//Locating parent

//String str1 = driver.findElement(By.xpath("//div[@id='child2']/parent::div")).getAttribute("color");

//System.out.println(str1);

//String str1 = driver.findElement(By.xpath("//div[@id='child2']/parent::div")).getText();

//System.out.println(str1);

//Locating Ancestors

//String str1 = driver.findElement(By.xpath("//div[@id='child2']/ancestor::div")).getText();

//System.out.println(str1);

//String str1 = driver.findElements(By.xpath("//div[@id='child2']/ancestor::div")).get(1).getText();

//System.out.println(str1);

//Finding an element using visible text

String str = driver.findElement(By.*xpath*("//div[contains(text(),'I am child 2')]")).getAttribute("id");

System.***out***.println(str);

Thread.*sleep*(3000);

//Closing Browser

driver.close();

}

}