**

Selenium - Handling Iframes

***Lecture Notes***

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# A Complete Guide for Beginners

Selenium - Handling Iframes

In this section we will learn handling iframes using Selenium Webdriver. Iframe is a HTML document embedded inside an HTML document. Iframe is defined by an *<iframe></iframe>* tag in HTML. With this tag you can identify an iframe while inspecting the HTML tree.

*<html>*

*<body>*

*<div class="box">*

*<iframe name="iframe1" id="IF1" height="600" width="400" src="http://softech.wpengine.com"></iframe>*

*</div>*

*<div class="box">*

*<iframe name="iframe2" id="IF2" height="600" width="400" align="left" src="http://softechsolutionsgroup.com"></iframe>*

*</div>*

*</body>*

*</html>*

Before starting we have to understand that to work with different iframes on a page we have to switch between these iframes. To Switch between iframes we have to use the driver’s ***switchTo().frame*** command. We can use the  ***switchTo().frame()*** in three ways:

* ***switchTo.frame(int frameNumber):*** Pass the frame index and driver will switch to that frame.
* ***switchTo.frame(string frameNameOrId):*** Pass the frame element Name or ID and driver will switch to that frame.
* ***switchTo.frame(WebElement frameElement):*** Pass the frame web element and driver will switch to that frame.

**How to find total number of iframes on a webpage**

There are two ways to find total number of iframes in a web page. First by executing a JavaScript and second is by finding total number of web elements with a tag name of iframe. Here is the sample code using both these methods:

*//By executing a java script*

*JavascriptExecutor exe = (JavascriptExecutor) driver;*

*Integer numberOfFrames = Integer.parseInt(exe.executeScript("return window.length").toString());*

*System.out.println("Number of iframes on the page are " + numberOfFrames);*

*//By finding all the web elements using iframe tag*

*List<WebElement> iframeElements = driver.findElements(By.tagName("iframe"));*

*System.out.println("The total number of iframes are " + iframeElements.size());*

## **Switch to Frames by Index**

Index of an iframe is the position at which it occurs in the HTML page. In the above example we have found total number of iframes. In the sample page we have two Iframes, index of iframe starts from 0. So there are two iframes on the page with index 0 and 1. Index 0 will be the iframe which exists earlier in the HTML page.

To switch to 0th iframe we can simple write ***driver.switchTo().frame(0).*** Here is the sample code:

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

*WebDriver driver = new FirefoxDriver();*

*driver.get("~~http://softech.wpengine.com/iframe-practice-page/~~");*

*//Switch by Index*

*driver.switchTo().frame(0);*

*driver.quit();*

*}*

## **Switch to Frames by Name**

Now if you take a look at the HTML code of iframe you will find that it has **Name** ***attribute***. Name attribute has a value iframe1. We can switch to the iframe using the ***name*** by using the command ***driver.switchTo().frame(“iframe1”).*** Here is the sample code

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

*WebDriver driver = new FirefoxDriver();*

*driver.get("~~http://softech.wpengine.com/iframe-practice-page/~~");*

*//Switch by frame name*

*driver.switchTo().frame("iframe1");*

*driver.quit();*

*}*

## **Switch to Frame by ID**

Similar to the name attribute in the iframe tag we also have the *ID* ***attributes***. We can use that also to switch to the frame. All we have to do is pass the id to the ***switchTo*** command like this ***driver.SwitchTo().frame(“IF1”)***. Here is the sample code:

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

*WebDriver driver = new FirefoxDriver();*

*driver.get("~~http://softech.wpengine.com/iframe-practice-page/~~");*

*//Switch by frame ID*

*driver.switchTo().frame("IF1");*

*driver.quit();*

*}*

## **Switch to Frame by WebElement**

Now we can switch to an iframe by simply passing the iframe WebElement to the ***driver.switchTo().frame()***command. First find the iframe element using any of the locator strategies and then passing it to***switchTo*** command. Here is the sample code:

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

*WebDriver driver = new FirefoxDriver();*

*driver.get("~~http://softech.wpengine.com/iframe-practice-page/~~");*

*//First find the element using any of locator stratedgy*

*WebElement iframeElement = driver.findElement(By.id("IF1"));*

*//now use the switch command*

*driver.switchTo().frame(iframeElement);*

*driver.quit();*

*}*

## **Switching back to Main page from Frame**

There is one very important command that will help us to get back to the main page. Main page is the page in which two iframes are embedded. Once you are done with all the task in a particular iframe you can switch back to the main page using the ***switchTo().defaultContent()***. Here is the sample code which switches the driver back to main page.

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

*WebDriver driver = new FirefoxDriver();*

*driver.get("~~http://softech.wpengine.com/iframe-practice-page/~~");*

*//First find the element using any of locator stratedgy*

*WebElement iframeElement = driver.findElement(By.id("IF1"));*

*//now use the switch command*

*driver.switchTo().frame(0);*

*//Do all the required tasks in the frame 0 Switch back to the main window*

*driver.switchTo().defaultContent();*

*driver.quit();*

*}*

# **Interact with Elements inside an Iframe**

In earlier sections we learn how to switch between Iframes on a webpage. There were mainly three ways of switching between Iframes.

* By Frame Index
* By Frame ID or Name
* By Frame WebElement

Now let’s learn how to interact with elements inside an iframe. Once we have switched to a particular iframe everything else after that can be done using regular WebDriver command. Let’s first create a hypothetical test case; here are the steps that we would take in our test.

1. Navigate to the page with multiple iframes
2. Switch to first frame and then find First Name and last name element.
3. Fill some value in the first name and Last name value
4. Switch to second frame.
5. Find the first image element and then click on it.