How to Handle iFrames in Selenium WebDriver

iFrame in Selenium Webdriver is a web page or an inline frame which is embedded in another web page or an HTML document embedded inside another HTML document. The iframe is often used to add content from other sources like an advertisement into a web page. The iframe is defined with the <**iframe**> tag.

How to Handle Frames in Selenium using WebDriver Commands

Basically, we can switch over the elements and handle frames in Selenium using 3 ways.

- **By Index**
- **By Name or Id**
- **By Web Element**

Method 1: Switch to the frame by index

Index is one of the attributes for frame handling in Selenium through which we can switch to it.

Index of the iframe starts with '0'.

Suppose if there are 100 frames in page, we can switch to frame in Selenium by using index.

- driver.switchTo().frame(0);
- driver.switchTo().frame(1);

Method 2: Switch to the frame by Name or ID

Name and ID are attributes for handling frames in Selenium through which we can switch to the iframe.

- driver.switchTo().frame("iframe1");
- driver.switchTo().frame("id of the element");

Method 3: Switch to the frame by Web Element

We can even switch to the iframe using web element .

- driver.switchTo().frame(WebElement);

How to switch back to the Main Frame

- We have to come out of the iframe.
- To move back to the parent frame, you can either use switchTo().parentFrame() or if you want to get back to the main (or most parent) frame, you can use switchTo().defaultContent();
- driver.switchTo().parentFrame();
- driver.switchTo().defaultContent();

```java
package practice;

import java.time.Duration;
import java.util.List;

import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.chrome.ChromeDriver;
import org.openqa.selenium.support.ui.Select;

import io.github.bonigarcia.wdm.WebDriverManager;

public class Frames {

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

        WebDriverManager.chromedriver().setup();
        WebDriver driver = new ChromeDriver();
        driver.manage().window().maximize();
        driver.get("https://www.hyrtutorials.com/p/frames-practice.html");

        driver.manage().timeouts().implicitlyWait(Duration.ofSeconds(10));
        driver.findElement(By.id("name")).sendKeys("Hello");

        //How to get total number of frames on a webpage?
        List<WebElement> iframes = driver.findElements(By.tagName("iframe"));
        System.out.println("Total number of iFrames are:" +iframes.size());

        // Switch to frame using WebElement
        WebElement frameElement = driver.findElement(By.id("frm3"));
        driver.switchTo().frame(frameElement);

        // Switch to frame using ID
        driver.switchTo().frame("frm1");

        Select course = new Select(driver.findElement(By.id("selectnav1")));
        course.selectByVisibleText("Tech News");

        // To move back to the parent frame, you can either use  switchTo().parentFrame()
        driver.switchTo().parentFrame();
        driver.findElement(By.id("name")).clear();
        driver.findElement(By.id("name")).sendKeys("Frame Handling");  //frame 3

        //if you want to get back to the main (or most parent) frame, you can use
switchTo().defaultContent();
        driver.switchTo().defaultContent();
        driver.findElement(By.id("name")).sendKeys("Main Web Page");

    }
}
```