



# JavaScript and Selenium

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## JavaScript and Selenium

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#### Introduction

JavaScript is the preferred language inside the browser to interact with HTML dom. This means that a Browser has JavaScript implementation in it and understands the JavaScript commands. You can disable it using browser options in your browser.

JavaScript was also the language that was used by earlier Selenium versions, it is still used by Selenium webdriver to perform some actions. For e.g. Selenium has Xpath implemented in JavaScript for IE, to overcome the lack of Xpath engine in IE. Understanding JavaScript is fun and it can enable you to do lot of cool things that otherwise you may find tricky. Lets understand how

Webdrivers give you a method called `Driver.executeScript` which executes the JavaScript in context of the loaded browser page.

#### What can JavaScript do for us?

Well practically anything you want to do in browser. Lets see how, we try to parallel selenium commands with JavaScript

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## Evaluating Xpaths

You can use javascripts to find an element by Xpath. This is a brilliant way to skip internal Xpath engines. Here is what you have to do

```
r.executeScript("return document.evaluate( '//bod
```

Notice the command document.evaluate(). This is the Xpath evaluator in javascript. Signature of the function is

```
1 document.evaluate( xpathExpression, contextNode
```

**xpathExpression:** A string containing the XPath expression to be evaluated.

**contextNode:** A node in the document against which the xpathExpression should be evaluated, including any and all of its child nodes. The document node is the most commonly used.

**NamespaceResolver:** A function that will be passed any namespace prefixes contained within xpathExpression which returns a string representing the namespace URI associated with that prefix.

**resultType:** A constant that specifies the desired result type to be returned as a result of the evaluation. The most commonly passed constant is XPathResult.ANY\_TYPE which will return the results of the XPath expression as the most natural type.

**result:** If an existing XPathResult object is specified, it will be reused to return the results. Specifying null will create a new XPathResult object

## Finding element

Using selenium we can find any element on page using something similar to

```
1 Driver.findElementById("Id of the element");
```

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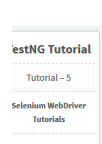
## Problems

```
1 | List elements = (List') ff.executeScript("retu
```

**Changing style attribute of the elements**

You can change the style property of elements to change the rendered view of the element. For e.g this is how you can create a border around the about me element on toolsQa home page. See the below images of same element before and after creating border

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Here is the code.

```
1 | Driver.executeScript("document.getElementById(
```

Coloring elements can also help us take screenshots with visual markers to identify problematic elements.

**Getting element Attributes**

You can get any value of valid attributes of the element. For eg

```
1 | Driver.findElementById("gsc-i-id1").getAttribu
```

this code will get the value of class attribute of an element with id = gsc-i-id1.

In Javascript same thing can be executed using

```
1 | String className = Driver.executeScript("retur
```

**Total frames in browser**

Lets say you want to know total number of frames inside a webpage, including the Iframes. You cant do it using selenium directly, you may need to create your own logic to parse and find frames. However in JavaScript is simple and is

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List  
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HashTable  
class

Dictionary  
Class

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Structure

Data  
Structures –  
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Exception  
Handling

done like this.

```
1 | ff.executeScript("document.frames.length;");
```

Be ware of this one. It only works in IE, cant get it to work for Mozilla.

### Adding an element in DOM

Just for fun if you want to add an element in the DOM. Lets add a button html object

```
1 | Driver.executeScript("var btn=document.createElement('button');")
2 |
3 |                               + "document.body.appendChild(btn);")
```

### Size of window

Finding the size of inner browser window. It is the size of the window in which you see the web page.

```
1 | Driver.executeScript("return window.innerHeight;")
2 |
3 | Driver.executeScript("return window.innerWidth;")
```

### Navigating to different page

```
1 | ff.executeScript("window.location = 'http://you.com';")
```

Similarly you can execute practically any JavaScript command using Selenium. I hope this blog gives you an idea of what can be done and you can take it forward by playing around with different JavaScripts.

July 13, 2014 By Virender Singh

JavaScript



## SELENIUM PROBLEMS

[Automation Framework Regarding Reading data from Apache POI in webdriver. How to handle this kind of scroll down and need to scroll up and down ? In Keyword- Driver Framework. Object Repository file used in framework here is Text File and it includes only webelements located by "Xpath". In Text file locators are not specified, so how web-driver locates element while execution? If locator is](#)

## About the author

I am Virender Singh and I am a software test engineer. I have total experience of little more than eight years. I have worked on variety of test automation projects and development projects. I have keen interest in test automation primarily because of wide range of challenging problems inherited to this field. Talking about test tools I have worked on QTP, Selenium, JMeter, Self developed and off the shelf WebServices tools like SOAP UI and a few more from the same genre. I also love to learn new technologies, current skill set include C++/CLR, C#.net and VB.net. With a fair amount of understanding I also know Java, JavaScript and PHP. I live in Hyderabad and work for a technology giant here. Apart from the professional front I appreciate Digital signal processing, Robotics and beauty of beer.



used as  
id/name/tag,  
how to deal  
with this  
situation?  
Selenium  
webdriver –  
unable to  
upload file  
with AutoIT  
I am getting  
a pop up as  
displaying  
in the  
attached  
screen shot  
when i am  
accessin  
the site  
using IE.I  
have to  
click on  
‘Show all  
Contents’ in  
the pop up  
to access  
the site  
further.Please  
give give  
input on  
how to  
handle this  
pop up  
Is there any  
way in  
Testlink to  
manage  
Testcases  
Sprint  
Wise?

