

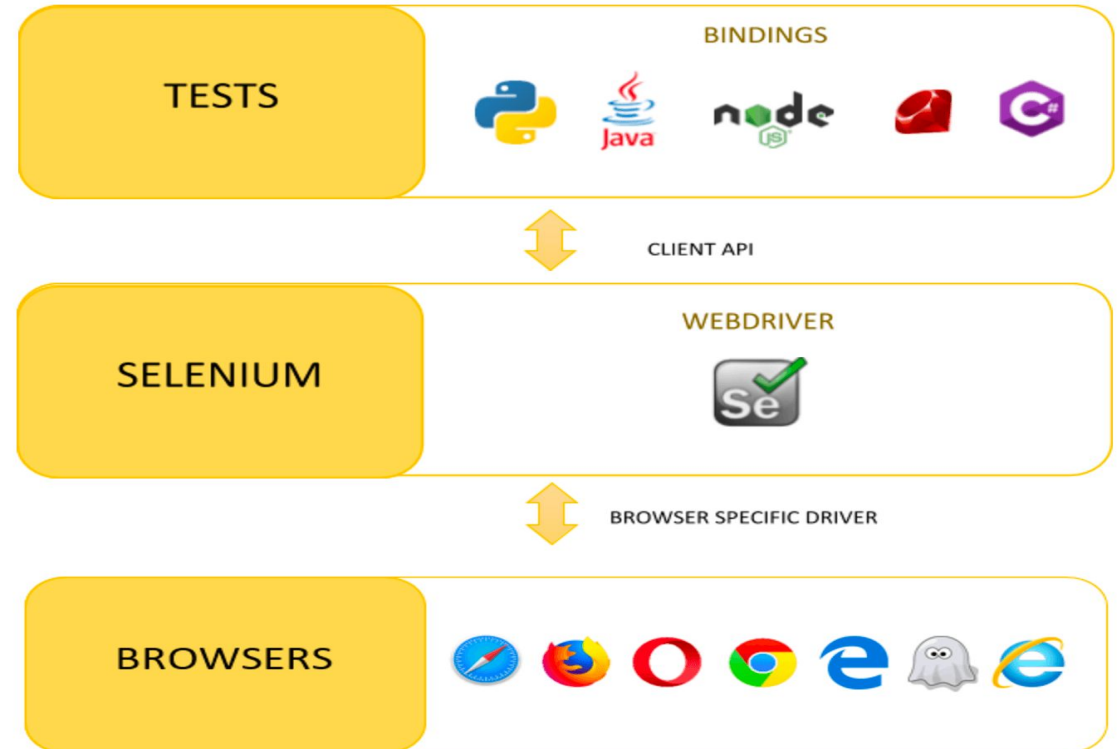


Selenium Webdriver(Locators)



Selenium Webdriver

Selenium WebDriver tool is used to automate web application and to verify that it works as expected or not. It supports many browsers such as Firefox, Chrome, IE, Opera and Safari.

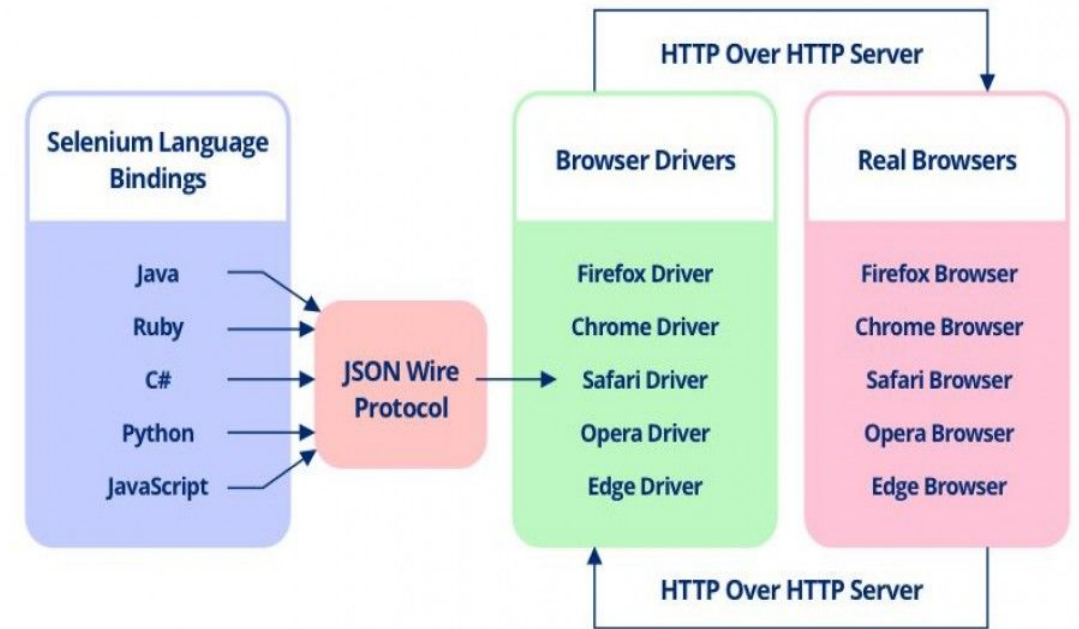


Architecture of Selenium WebDriver

Selenium WebDriver is not a standalone testing tool. It comprises various components that are required to run tests. These are the architectural components of Selenium.

- ✓ Selenium WebDriver Client Libraries / Language Bindings
- ✓ JSON WIRE PROTOCOL
- ✓ Browser Drivers
- ✓ Browsers

Selenium WebDriver Architecture




Advantages of Selenium WebDriver


- ✓ Free and Open Source
- ✓ Support Programming Language
- ✓ Support Multiple OS
- ✓ Supports Multiple Frameworks
- ✓ Easy to Implement.
- ✓ Does not require the user to start any server




Disadvantages of Selenium WebDriver

- 
- ✓ Requires Programming Knowledge and Expertise
 - ✓ No Support for Desktop Applications.
 - ✓ No Customer Support
 - ✓ No Built In Object Repository
 - ✓ Lack of built-in reporting
 - ✓ Managing Browser-Selenium Dependencies

Setting up Selenium

- 
- ✓ Step 1 – Install Java on your computer. Download and install the Java Software Development Kit (JDK)
 - ✓ Step 2 – Install Eclipse IDE. Download latest version of "Eclipse IDE for Java Developers"
 - ✓ Step 3 – Download the Selenium Java Client Driver
 - ✓ Step 4 – Configure Eclipse IDE with WebDriver

Setting up Selenium

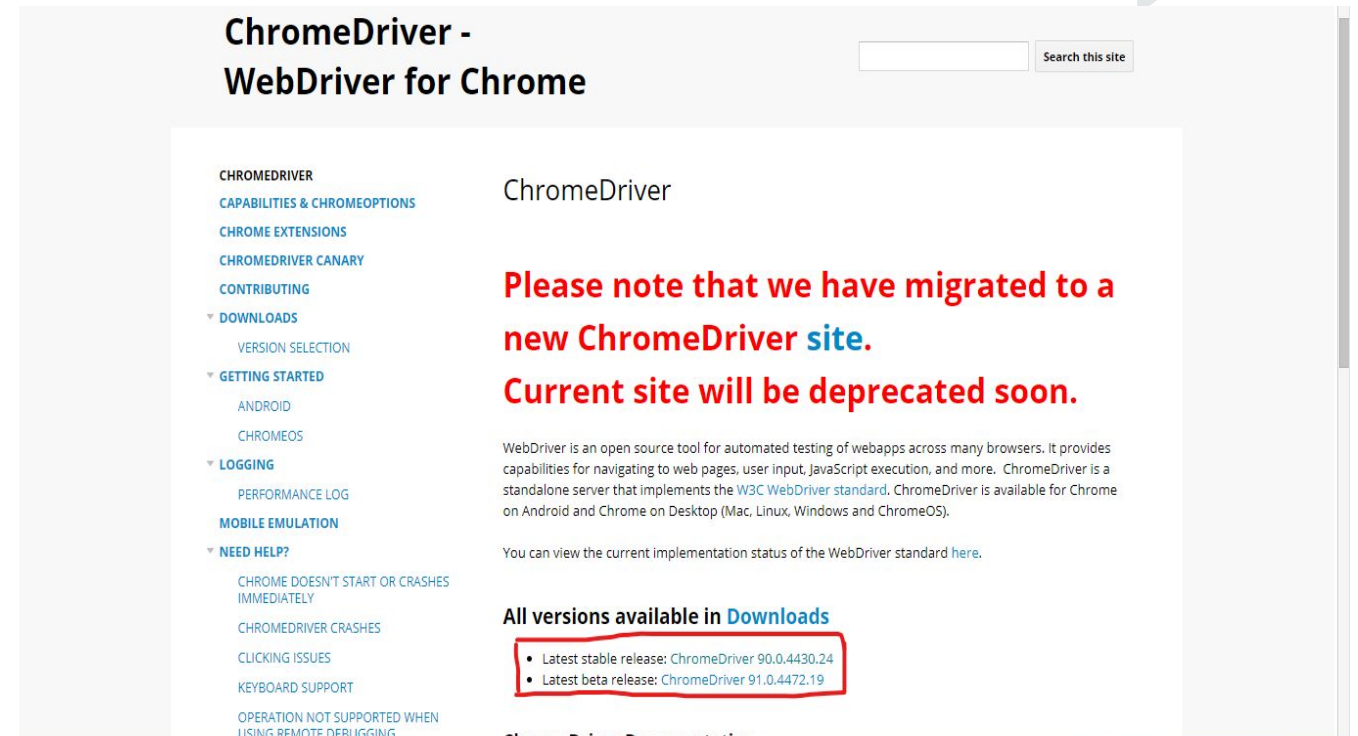
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Launching Chrome Browser

✓ To launch the chrome browser, you need to download the chrome Driver executable file which will link your tests in Selenium and the Chrome browser. You can download the driver from "<https://sites.google.com/a/chromium.org/chromedriver/>".

✓ Steps to download Chrome Driver – Step 1

- Click the link
- Click the Latest stable release



Launching Chrome Browser







- ✓ Steps to download Chrome Driver – Step 2
 - ✓ Click any one of the executable file based on operating system.
 - ✓ Downloaded file is in Zip format. So we need to extract it.

Note:

Window → Chromedriver(win32.zip), it supports windows 64 and 32 bit.

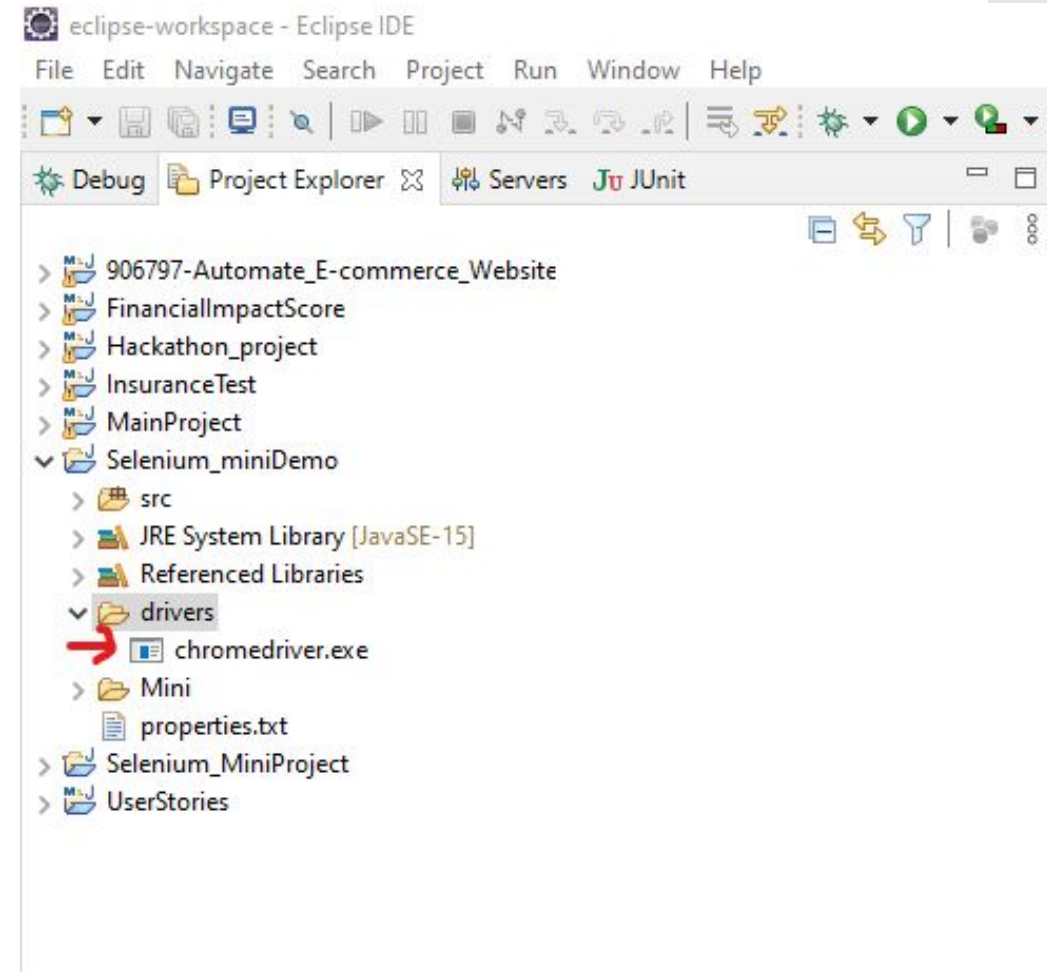
Mac → chrome driver(mac64.zip)

Index of /90.0.4430.24/

	Name	Last modified	Size	ETag
	Parent Directory	-	-	-
	chromedriver_linux64.zip	2021-03-15 16:49:46	5.53MB	ff32297377308392f3e5b44cf282f77a
	chromedriver_mac64.zip	2021-03-15 16:49:48	7.68MB	01378f44ca91150771859e254809fb66
	chromedriver_mac64_m1.zip	2021-03-15 16:49:50	7.01MB	9cd97b08730a9d395610d051b4aa2c05
	chromedriver_win32.zip	2021-03-15 16:49:51	5.67MB	eeb5e37fc4d4b21337a46576137a2053
	notes.txt	2021-03-15 16:49:56	0.00MB	a79b03d7895fbb145c4d3d0a63ba0d41

Launching Chrome Browser

- ✓ Create driver folder
 - ✓ Create a folder name as driver
 - ✓ Right Click on the project name > Click New > Click Folder > Enter name as driver
- ✓ Invoke Chrome Driver
 - ✓ Copy the extracted exe file and paste it in the driver folder.



Launching Chrome Browser (Cmd)



- ✓ Set the system property path to the location of ChromeDriver executable. To set path, the command is:

```
System.setProperty("webdriver.chrome.driver"," Path of chrome driver exe file ")
```

- ✓ Create a new instance for the ChromeDriver.
- ✓ Now, you have successfully launched the browser and can navigate to the web page.

What is locator?

- ✓ Locators provide a way to access the Selenium Java elements from a web page.
- ✓ In Selenium, we can use locators to perform actions on the text boxes, links, checkboxes and other web elements.

Locators type:

- ✓ Id
- ✓ Name
- ✓ Class Name
- ✓ Linked Text
- ✓ XPath
- ✓ CSS
- ✓ Partial Link Text
- ✓ HTML Tag Name



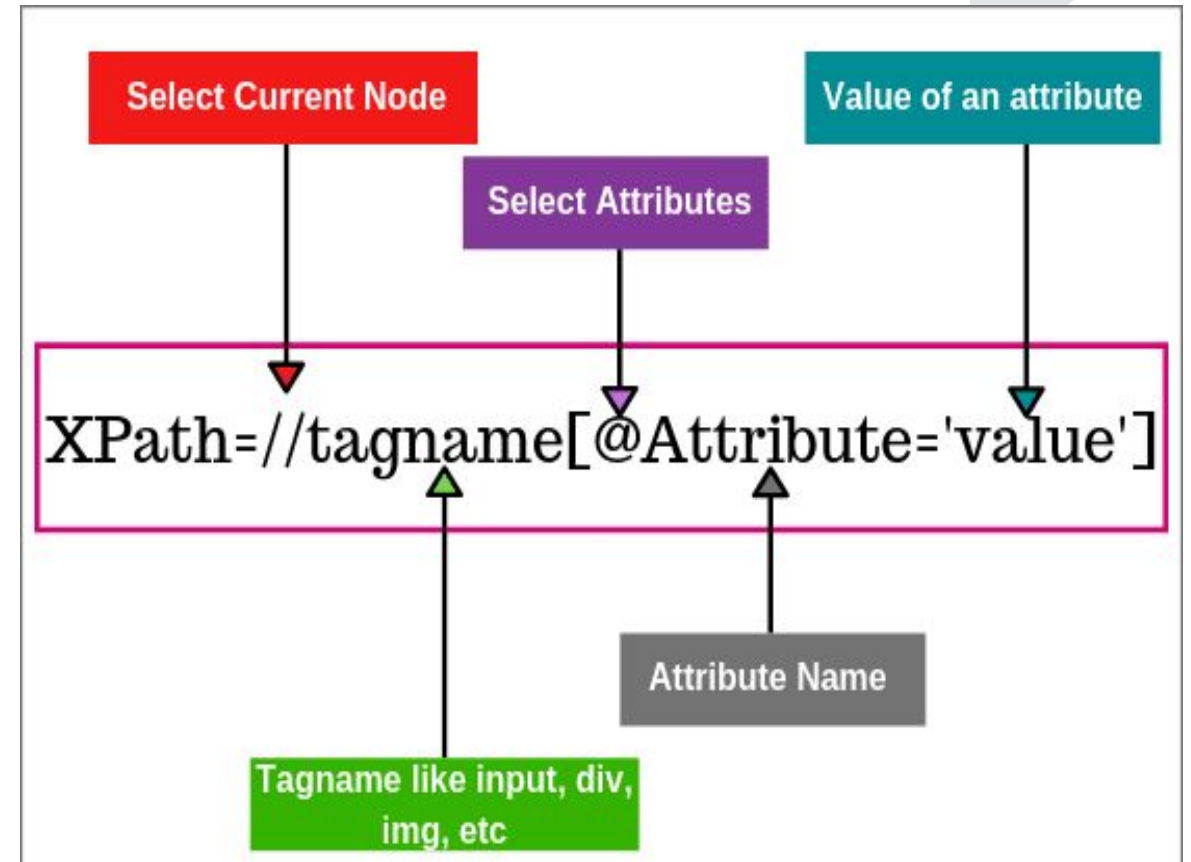
XPath and it's Type

- ✓ XPath stands for XML Path.
- ✓ It's a query language that helps identify elements from an XML document.
- ✓ It uses expressions that navigate into an XML document in a way that can be traced from the start to the intended element like forming a path from the start



Absolute XPath

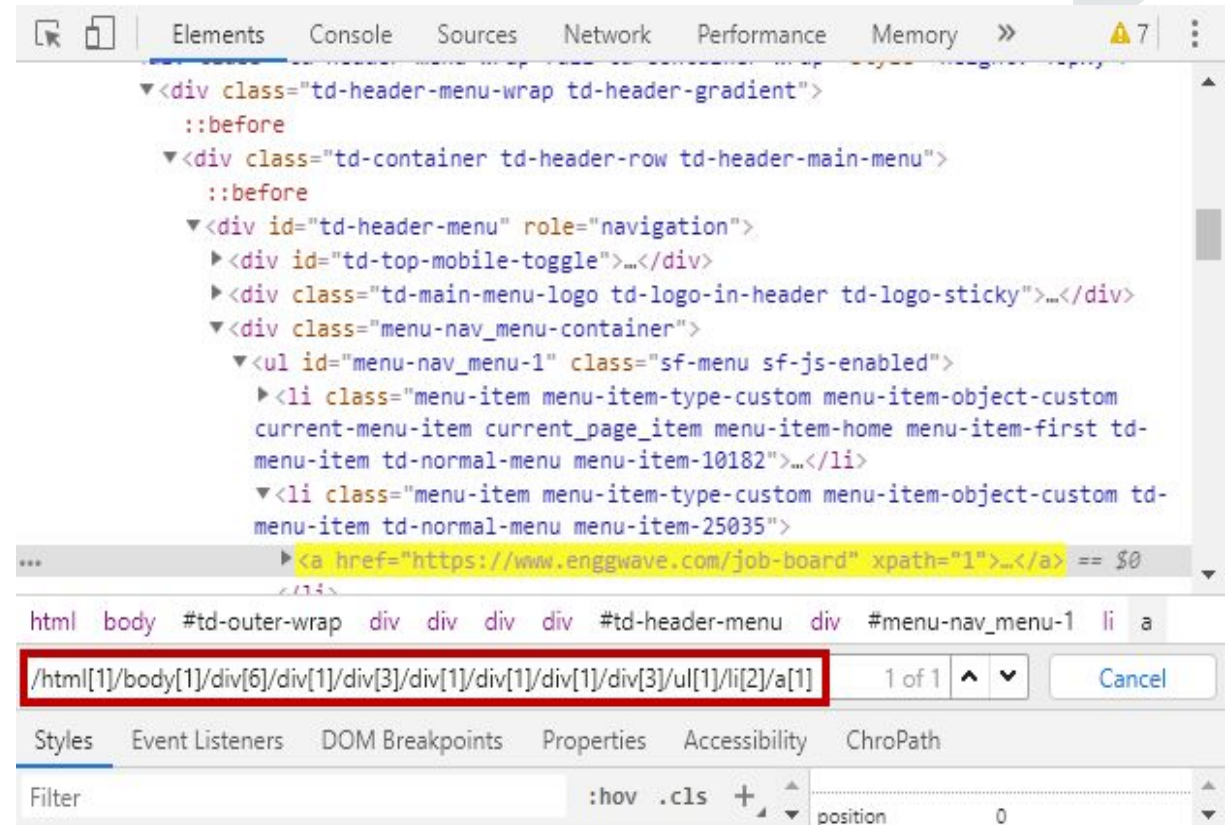
- ✓ The relative xpath starts by referring to the element that we want to identify and not from the root node.
- ✓ A relative xpath starts with the "//"symbol.
- ✓ Even if an element is removed or added in the DOM, the relative xpath is not impacted
- ✓ It can search elements anywhere on the webpage



Relative XPath



- ✓ Absolute xpath has the complete path beginning from the root to the element which we want to identify.
- ✓ An absolute xpath starts with the / symbol.
- ✓ An absolute xpath is lengthy and difficult to maintain



XPath – Contains

- ✓ contains() is a function within Xpath expression which is used to search for the web elements that contain a particular text
- ✓ We can extract all the elements that match the given text value using the XPath contains() function throughout the webpage
- ✓ Contains in XPath has ability to find the element with partial text

Syntax :

```
//<HTML tag>[contains(@attribute_name,'attribute_value')]
```


CSS Selector

- ✓ CSS Selectors in Selenium are string patterns used to identify an element based on a combination of HTML tag, id, class, and attributes. Locating by CSS Selectors in Selenium is more complicated than the previous methods, but it is the most common locating strategy of advanced Selenium users because it can access even those elements that have no ID or name.
- ✓ CSS Selectors in Selenium have many formats, but we will only focus on the most common ones.
 - Tag and ID
 - Tag and class
 - Tag and attribute
 - Tag, class, and attribute
 - Inner text