

## Daily Question - \$

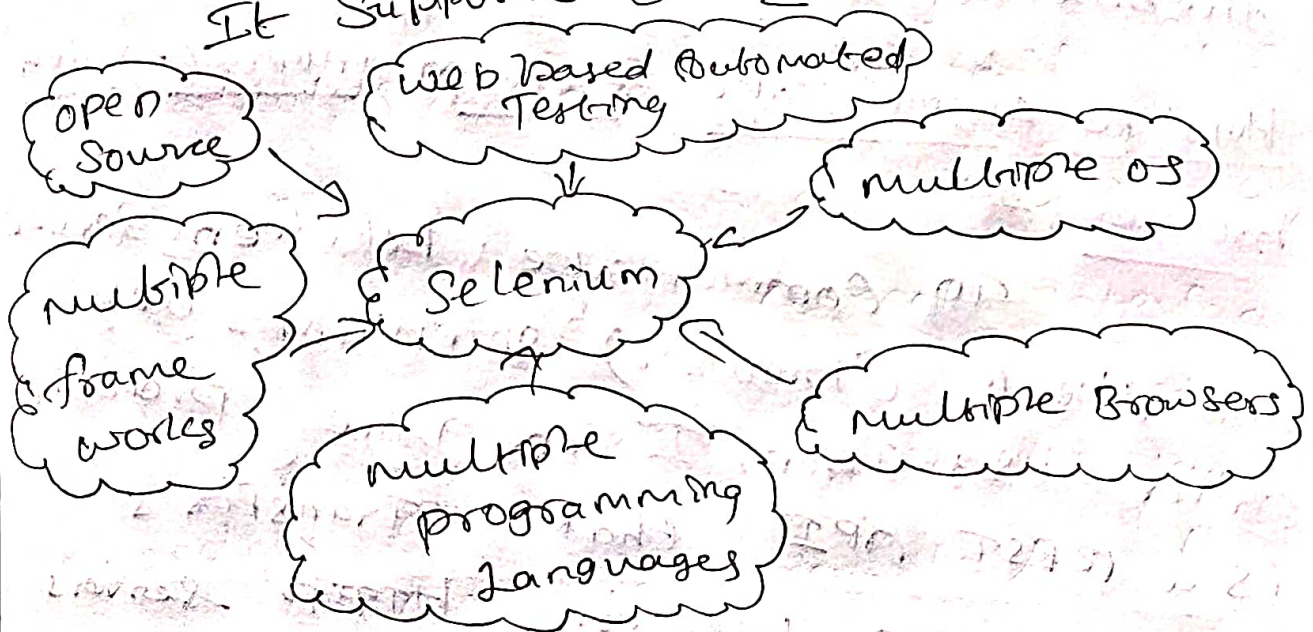
Q: What is selenium?

Selenium is one of the most widely used open source web UI (user interface) automation testing suite.

Developed by Jason Huggins in 2004.

Selenium supports automation across different browsers, platforms and programming.

It supports all OS



Components of selenium:-

Selenium	IDE
Selenium	RC
Selenium	webdriver
Selenium	GRID



## Selenium WebDriver

It is a collection of open source APIs which are used to automate the testing of a web application.

Selenium web driver tool is used to automate web application testing to verify that it works as expected. It supports many browser such as Firefox, Chrome, IE and Safari.

### How to communicate Selenium interact with browser:-

To communicate between server and client (browser) selenium web driver uses JSON, JSON wire protocol is a REST API that transfers the information between HTTP servers. Each browser driver has its own HTTP server.



Selenium Script creates an HTTP request for each Selenium command and send it to the browser driver.

An HTTP request is the sent to the server using Browser Driver.

The step are executed on the HTTP server.

The execution status is sent to the HTTP server which is then captured by the automation script.

### 3] Locators in Selenium:

By CSS ID: find - element - by - id

By CSS classname: find - element - by - classname

By name attribute: find element - by - name

By DOM structure or xpath: find element - by xpath

By LinkText: find element - by - link - text

By Partial LinkText: find elements - by - partial - link - text

By HTML tagname: find - element - by - tagname



4] Why ID is preferable than xpath?

because ID is considered as Unique key so there cannot be more than 1 element for same ID while xpath is created using relative path/position of element. we can get 2 more Idem for same xpath.

5] How to select value in Drop Down?

`selectByvalue(" ")`

This method used to select value in DropDown

`<select> <option value=" " > text`  
`</option> </select>`

6] Absolute Path	Relative path
It contains the complete path from the Root element to the desired element.	This is more like starting simply by referencing the element you want and go from the particular location.
It is start with the / symbol	It is relative xpath start // symbol



One drawback with the absolute xpath is that if there is any change in attributes beginning from the root to the element. Our absolute xpath will become invalid.

It is mainly used for automation since even if an element is removed or added in the DOM, the relative xpath is not impacted.

7] How to verify if the checkbox is checked or not in selenium :-

we can use `isSelected()` method. It returns boolean value of true.

```
Driver.findElement(By.xpath("")).click();  
boolean selected = driver.findElement("xpath").isSelected();
```

```
if (selected == true)
```

```
{  
    System.out.println("The checkbox is selected");  
}
```

## 8] Difference

System: set property	WebDriver Manager
<pre>System.setProperty("webdriver.chrome.driver", "C:\\\\ChromeDriver.exe");</pre>	<pre>webdrivermanager.chromedriver().setup();</pre>
<p>This is you need to download the chrome driver.exe file each time to download the this file.</p>	<p>But this is actually download driver you can just add the webdriver manager dependency in your Maven Project (pom.xml)</p>

## 4] Syntax for preceding & ancestor :-

Elder Cousin ---- Younger Cousin :-

Elder Cousin  
 //Tagname [@Attribute = "Attribute value"]

following :: Younger Cousin  
 Tagname

Elder Cousin XPath (following :: Younger Cousin  
 Tagname

Younger-to-Elder :-

Younger Cousin XPath (preceding :: Elder Cousin Tagname



10] How to get attribute value in using Selenium :-

getAttribute() method is help to get the value of any attribute of a web element, which is returned as a string.

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