**Are you familiar with Selenium? If yes, what is it?**

Selenium is a suite of software testing and automation tools built for web applications. Using Selenium, software tests can be written in languages like Java, Perl,  Python, and more. The framework itself can be deployed on the three major operating systems: Windows, Mac, and Linux

**What kinds of tests can be run with the Selenium framework?**

Selenium can be used for load testing, regression testing, and functional testing of web applications.

**What is the Selenium WebDriver?**

* The Selenium WebDriver is used for automating tests for websites.

**What is the Selenium IDE and what is it used for?**

The Selenium IDE is an add-on for Firefox that includes numerous features for quality assurance and engineers to record and play back browser-based actions, such as typing and mouse clicks. Some of these particular features are: debugging functions, record/playback ability, user add-on capability. Users can speed up and slow down executions with the use of a built-in slider. They can also use the Selenium IDE as a side-bar, or as a separate pop-up window.Selenium IDE is an ideal tool for a naïve user.

**Q #9) What is Selenese?**

Selenese is the language which is used to write test scripts in Selenium IDE.

Actions: It is used for performing the operations and interactions with the target elements

Assertions: It is used as a check points

Accessors: It is used for storing the values in a variable

**What are the different types of locators in Selenium?**

Locator can be termed as an address that identifies a web element uniquely within the webpage. Thus, to identify web elements uniquely within the webpage

ID ClassName Name TagName LinkText PartialLinkText Xpath

CSS Selector DOM

**What is difference between assert and verify commands?**

**Assert:**Assert command checks whether the given condition is true or false. Let’s say we assert whether the given element is present on the web page or not. If the condition is true then the program control will execute the next test step but if the condition is false, the execution would stop and no further test would be executed.

**Verify:**Verify command also checks whether the given condition is true or false. Irrespective of the condition being true or false, the program execution doesn’t halts i.e. any failure during verification would not stop the execution and all the test steps would be executed.

**What is an Xpath?**

[Xpath](http://www.softwaretestinghelp.com/using-selenium-xpath-and-other-locators-selenium-tutorial-5/) is used to locate a web element based on its XML path. XML stands for Extensible Markup Language and is used to store, organize and transport arbitrary data. It stores data in a key-value pair which is very much similar to HTML tags. Both being markup languages and since they fall under the same umbrella, Xpath can be used to locate HTML elements.

The fundamental behind locating elements using Xpath is the traversing between various elements across the entire page and thus enabling a user to find an element with the reference of another element.

**What is the difference between “/” and “//” in Xpath?**

**Single Slash “/” –**Single slash is used to create Xpath with absolute path i.e. the xpath would be created to start selection from the document node/start node.

**Double Slash “//” –** Double slash is used to create Xpath with relative path i.e. the xpath would be created to start selection from anywhere within the document.

**What is Same origin policy and how it can be handled?**

* The problem of same origin policy disallows to access the DOM of a document from an origin that is different from the origin we are trying to access the document.
* Origin is a sequential combination of scheme, host and port of the URL. For example, for a URL http:// http://www.softwaretestinghelp.com/resources/, the origin is a combination of http, softwaretestinghelp.com, 80 correspondingly.
* Thus the Selenium Core (JavaScript Program) cannot access the elements from an origin that is different from where it was launched. For Example, if I have launched the JavaScript Program from “http://www.softwaretestinghelp.com”, then I would be able to access the pages within the same domain such as “http://www.softwaretestinghelp.com/resources” or “http://www.softwaretestinghelp.com/istqb-free-updates/”. The other domains like google.com, seleniumhq.org would no more be accessible.
* So, In order to handle same origin policy, Selenium Remote Cont was introduced.

**When should I use Selenium Grid?**

Selenium Grid can be used to execute same or different test scripts on multiple platforms and browsers concurrently so as to achieve distributed test execution, testing under different environments and saving execution time remarkably.

**Can we use Selenium grid for performance testing?**

* Yes. But not as effectively as a dedicated performance testing tool like Loadrunner.

**What do we mean by Selenium 1 and Selenium 2?**

Selenium RC and WebDriver, in a combination are popularly known as Selenium 2. Selenium RC alone is also referred as Selenium 1.

* **How do I launch the browser using WebDriver?**
* The following syntax can be used to launch Browser:  
  *WebDriver driver =****new****FirefoxDriver();*  
  *WebDriver driver =****new****ChromeDriver();*  
  *WebDriver driver =****new****InternetExplorerDriver();*

**What are the different types of Drivers available in WebDriver?**

FirefoxDriver,InternetExplorerDriver,ChromeDriver,SafariDriver,OperaDriver,AndroidDriver,IPhoneDriver

HtmlUnitDriver

**What are the different types of waits available in WebDriver?**

**Implicit Wait:**Implicit waits are used to provide a default waiting time (say 30 seconds) between each consecutive test step/command across the entire test script. Thus, subsequent test step would only execute when the 30 seconds have elapsed after executing the previous test step/command.

**Explicit Wait:** Explicit waits are used to halt the execution till the time a particular condition is met or the maximum time has elapsed. Unlike Implicit waits, explicit waits are applied for a particular instance only.

**How to type in a textbox using Selenium?**

User can use sendKeys(“String to be entered”) to enter the string in the textbox.  
*WebElement username = drv.findElement(By.id(“Email”));// entering username*  
*username.sendKeys(“sth”);*

**How can you find if an element in displayed on the screen?**

WebDriver facilitates the user with the following methods to check the visibility of the web elements. These web elements can be buttons, drop boxes, checkboxes, radio buttons, labels etc.

* **isDisplayed():*boolean****buttonPresence = driver.findElement(By.id(“gbqfba”)).isDisplayed();*
* **isSelected():*boolean****buttonSelected = driver.findElement(By.id(“gbqfba”)).isDisplayed();*
* **isEnabled():*boolean****searchIconEnabled = driver.findElement(By.id(“gbqfb”)).isEnabled();*

**How can we get a text of a web element?**

Get command is used to retrieve the inner text of the specified web element. The command doesn’t require any parameter but returns a string value. It is also one of the extensively used commands for verification of messages, labels, errors etc displayed on the web pages.  
*String Text = driver.findElement(By.id(“Text”)).getText()*

**How to select value in a dropdown?**

**selectByValue:** *Select selectByValue =****new****Select(driver.findElement(By.id(“SelectID\_One”)));*  
*selectByValue.selectByValue(“greenvalue”);*

**selectByVisibleText:** *Select selectByVisibleText =****new****Select (driver.findElement(By.id(“SelectID\_Two”)));*  
*selectByVisibleText.selectByVisibleText(“Lime”);*

**selectByIndex:** *Select selectByIndex =****new****Select(driver.findElement(By.id(“SelectID\_Three”)));*  
*selectByIndex.selectByIndex(2);*

**What are the different types of navigation commands?**   
*driver.navigate().refresh();*

**navigate().to()** – This command lets the user to launch a new web browser window and navigate to the specified URL.

**Sample code:**  
*driver.navigate().to(“https://google.com”);*

**how to click on a hyper link using linkText?**

*driver.findElement(By.linkText(“Google”)).click();*

The command finds the element using link text and then click on that element and thus the user would be re-directed to the corresponding page.

*driver.findElement(By.partialLinkText(“Goo”)).click();*

The above command find the element based on the substring of the link provided in the parenthesis and thus partialLinkText() finds the web element with the specified substring and then clicks on it.

**How to**[**handle frame in WebDriver**](http://www.softwaretestinghelp.com/selenium-tutorial-18/)**?**

An inline frame acronym as iframe is used to insert another document with in the current HTML document or simply a web page into a web page by enabling nesting.

**Select iframe by id:** *driver.switchTo().frame(“ID of the frame“);*

**Locating iframe using tagName:** *driver.switchTo().frame(driver.findElements(By.tagName(“iframe”).get(0));*

**Locating iframe using index:**

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

**frame(Name of Frame):** *driver.switchTo().frame(“name of the frame”);*

**frame(WebElement element):**

**Select Parent Window:** *driver.switchTo().defaultContent();*

**When do we use findElement() and findElements()?**

**findElement():**findElement() is used to find the first element in the current web page matching to the specified locator value. Take a note that only first matching element would be fetched.

**Syntax:**

*WebElement element = driver.findElements(By.xpath(“//div[@id=’example’]//ul//li”));*  
**findElements():**findElements() is used to find all the elements in the current web page matching to the specified locator value. Take a note that all the matching elements would be fetched and stored in the list of WebElements.

**Syntax:**  
*List <WebElement> elementList = driver.findElements(By.xpath(“//div[@id=’example’]//ul//li”));*

**How to find more than one web element in the list?**

At times, we may come across elements of same type like multiple hyperlinks, images etc arranged in an ordered or unordered list. Thus, it makes absolute sense to deal with such elements by a single piece of code and this can be done using WebElement List.

**Sample Code**

|  |  |
| --- | --- |
| 1 | // Storing the list |
| 2 | List <WebElement> elementList = driver.findElements(By.xpath("//div[@id='example']//ul//li")); | |

|  |  |
| --- | --- |
| 3 | // Fetching the size of the list |
| 4 | int listSize = elementList.size(); | |

|  |  |  |
| --- | --- | --- |
| 5 | for (int i=0; i<listSize; i++) | |
| 6 | { |

|  |  |  |
| --- | --- | --- |
| 7 | // Clicking on each service provider link | |
| 8 | serviceProviderLinks.get(i).click(); |

|  |  |  |  |
| --- | --- | --- | --- |
| 9 | // Navigating back to the previous page that stores link to service providers | | |
| 10 | | driver.navigate().back(); |

**What is the difference between driver.close() and driver.quit command?**

**close()**: WebDriver’s close() method closes the web browser window that the user is currently working on or we can also say the window that is being currently accessed by the WebDriver. The command neither requires any parameter nor does is return any value.

**quit()**: Unlike close() method, quit() method closes down all the windows that the program has opened. Same as close() method, the command neither requires any parameter nor does is return any value.

**Can Selenium handle windows based pop up?**

Selenium is an automation testing tool which supports only web application testing. Therefore, windows pop up cannot be handled using Selenium.

**How can we handle web based pop up?**

WebDriver offers the users with a very efficient way to [handle these pop ups using Alert interface](http://www.softwaretestinghelp.com/handle-alerts-popups-selenium-webdriver-selenium-tutorial-16/). There are the four methods that we would be using along with the Alert interface.

* void dismiss() – The accept() method clicks on the “Cancel” button as soon as the pop up window appears.
* void accept() – The accept() method clicks on the “Ok” button as soon as the pop up window appears.
* String getText() – The getText() method returns the text displayed on the alert box.
* void sendKeys(String stringToSend) – The sendKeys() method enters the specified string pattern into the alert box.

**Syntax:**  
// accepting javascript alert   
                Alert alert = driver.switchTo().alert(); alert.accept();

**How can we handle windows based pop up?**

Selenium is an automation testing tool which supports only web application testing, that means, it doesn’t support testing of windows based applications. However Selenium alone can’t help the situation but along with some third party intervention, this problem can be overcome. There are several third party tools available for handling window based pop ups along with the selenium like AutoIT, Robot class etc.

**How to assert title of the web page?**

*//verify the title of the web page*  
*assertTrue(“The title of the window is incorrect.”,driver.getTitle().equals(“Title of the page”));*

**Q #35) How to mouse hover on a web element using WebDriver?**

WebDriver offers a wide range of interaction utilities that the user can exploit to automate mouse and keyboard events. Action Interface is one such utility which simulates the single user interactions. Thus, In the following scenario, we have used Action Interface to mouse hover on a drop down which then opens a list of options.

|  |  |
| --- | --- |
| 1 | // Instantiating Action Interface |
| 2 | Actions actions=new Actions(driver); | |

|  |  |
| --- | --- |
| 3 | // howering on the dropdown |
| 4 | actions.moveToElement(driver.findElement(By.id("id of the dropdown"))).perform(); | |

|  |  |
| --- | --- |
| 5 | // Clicking on one of the items in the list options |
| 6 | WebElement subLinkOption=driver.findElement(By.id("id of the sub link")); | |

|  |  |
| --- | --- |
| 7 | subLinkOption.click(); |
|  |  |

**Q #36) How to retrieve css properties of an element?**

The values of the css properties can be retrieved using a get() **Syntax:**  
driver.findElement(By.id(“id“)).getCssValue(“name of css attribute”);  
driver.findElement(By.id(“id“)).getCssValue(“font-size”);

**How to capture screenshot in WebDriver?**



**Can WebDriver test Mobile applications?**

WebDriver cannot test Mobile applications. WebDriver is a web based testing tool, therefore applications on the mobile browsers can be tested.

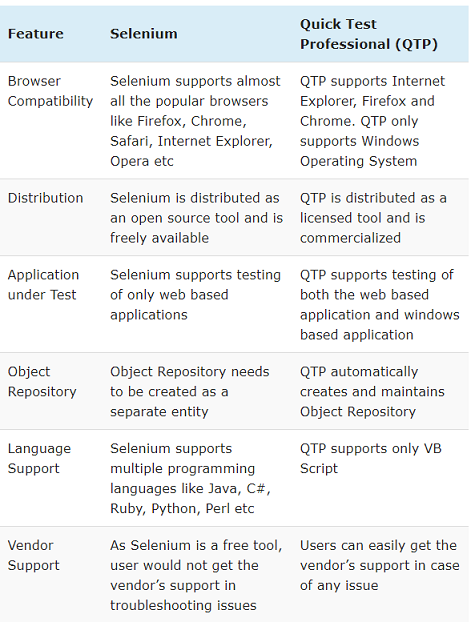
**Can captcha be automated?**

No, captcha and bar code reader cannot be automated

**What is Object Repository? How can we create Object Repository in Selenium?**

Object Repository is a term used to refer to the collection of web elements belonging to Application Under Test (AUT) along with their locator values. Thus, whenever the element is required within the script, the locator value can be populated from the Object Repository. Object Repository is used to store locators in a centralized location instead of hard coding them within the scripts.

In Selenium, objects can be stored in an excel sheet which can be populated inside the script whenever required.



**Explain what is the difference between find elements () and find element () ?**

**find element** (): It finds the first element within the current page using the given “locating mechanism”.  It returns a single WebElement

**findElements** () : Using the given “locating mechanism” find all the elements within the current page.  It returns a list of web elements.

**Which attribute you should consider throughout the script in frame for “if no frame Id as well as no frame name”?**

You can use…..driver.findElements(By.xpath(“//iframe”))….

This will return list of frames.

You will ned to  switch to each and every frame and search for locator which we want.

**What are the features of TestNG and list some of the functionality in TestNG which makes it more effective?**

TestNG is a testing framework based on JUnit and NUnit to simplify a broad range of testing needs, from unit testing to integration testing. And the functionality which makes it efficient testing framework are

Support for annotations, Support for data-driven testing,Flexible test configuration

Ability to re-execute failed test cases

**Explain what are the JUnits annotation linked with Selenium?**

The JUnits annotation linked with Selenium are

* @Before public void method() – It will perform the method () before each test, this method can prepare the test
* @Test public void method() – Annotations @Test identifies that this method is a test method environment
* @After public void method()- To execute a method before this annotation is used, test method must start with test@Before

**Explain what is Datadriven framework and Keyword driven?**

* **Datadriven framework:**  In this framework, the test data is separated and kept outside the Test Scripts, while test case logic resides in Test Scripts.  Test data is read from the external files ( Excel Files) and are loaded into the variables inside the Test Script.  Variables are used for both for input values and for verification values.
* **Keyworddriven framework:** The keyword driven frameworks requires the development of data tables and keywords, independent of the test automation.  In a keyword driven test, the functionality of the application under test is documented in a table as well as step by step instructions for each test.

**Explain how you can login into any site if it’s showing any authentication popup for password and username?**

Pass the username and password with url

* Syntax-http://username:password@url
* ex- http://creyate:[tom@www.gmail.com](mailto:tom@www.gmail.com)

**List the advantages of Webdriver over Selenium Server?**

* If you are using Selenium-WebDriver, you don’t need the Selenium Server as it is using totally different technology
* Selenium Server provides Selenium RC functionality which is used for Selenium 1.0 backwards compatibility
* Selenium Web driver makes direct calls to browser using each browsers native support for automation, while Selenium RC requires selenium server to inject Javascript into the browser

**Explain how you can find broken images in a page using Selenium Web driver ?**

* Get Xpath and get all the links in the page using tag name
* In the page click on each and every link
* Look for 404/500 in the target page title

**While injecting capabilities in webdriver to perform tests on a browser which is not supported by a webdriver what is the limitation that one can come across?**

Major limitation of injecting capabilities is that “findElement” command may not work as expected.

**38)  Using web driver how you can store a value which is text box?**

* You can use following command to store a value which is text box using web driver
* driver.findElement(By.id(“your Textbox”)).sendKeys(“your keyword”);
* **Explain how you can handle colors in web driver?**
* To handle colors in web driver you can use
* Use getCssValue(arg0) function to get the colors by sending ‘color’ string as an argument

**Explain how you can switch between frames?**

To switch between frames webdrivers **[ driver.switchTo().frame() ]** method takes one of the three possible arguments

* A number:  It selects the number by its (zero-based) index
* A number or ID: Select a frame by its name or ID
* Previously found WebElement: Using its previously located WebElement select a frame

**Mention 5 different exceptions you had in Selenium web driver?**

WebDriverException,NoAlertPresentException,NoSuchWindowException,NoSuchElementException

TimeoutException

**Explain using Webdriver how you can perform double click ?**

Syntax- Actions act = new Actions (driver);

act.doubleClick(webelement);

**How will you use  Selenium to upload a file ?**

You can use “type”command to type in a file input box of upload file. Then, you have to use “Robot” class in JAVA to make file upload work.

**Which web driver implementation is fastest?**

HTMLUnit Driver implementation is fastest, HTMLUnitDriver does not execute tests on browser but plain http request, which is far quick than launching a browser and executing tests

**What is the difference between getWindowhandles() and getwindowhandle() ?**

**getwindowhandles():** It is used to get the address of all the open browser and its return type is iterator<String>

**getwindowhandle():** It is used to get the address of the current browser where the control is and return type is string

**Explain how you can switch back from a frame?**

To switch back from a frame use method defaultContent()

Syntax- driver.switchTo().defaultContent();

**List out different types of locators?**

By.id(), By.name(),By.tagName(),By.className(),By.linkText(),By.partialLinkText(),By.xpath,By.cssSelector()

**What is the command that is used in order to display the values of a variable into the output console or log?**

* In order to display a constant string, command can be used is echo <constant string>
* If order to display the value of a variable you can use command like echo ${variable name>>

Above is using PHP. If you are using Java, replace echo with System.out.println

**Explain how you can use recovery scenario with Selenium?**

Recovery scenarios depends upon the programming language you use.  If you are using Java then you can use exception handling to overcome same.  By using “Try Catch Block” within your Selenium WebDriver Java tests

**50) Explain how to iterate through options in test script?**

To iterate through options in test script you can loop features of the programming language, for example to type different test data in a text box you can use “for” loop in Java

String[ ] testData = { “test1” , “test2” , “test3” } ; // test data collection in an array

For  (string s: test data) { selenium.type ( “elementLocator”, testData) ; } // iterate through each test data

**51) How can you prepare customized html report using TestNG in hybrid framework ?**

* Junit: With the help of ANT
* TestNG: Using inbuilt default.html to get the HTML report. Also XST reports from ANT, Selenium, TestNG combinations
* Using our own customized reports using XSL jar for converting XML content to HTML

**53)  Explain how you can insert a break point in Selenium IDE ?**

* Select “Toggle break point” by right click on the command in Selenium IDE
* Press “B” on the keyboard and select the command in Selenium IDE
* Multiple break points can be set in Selenium IDE

**54)  Explain in Selenium IDE how can you debug the tests?**

* Insert a break point from the location from where you want to execute test step by step
* Run the test case
* At the given break point execution will be paused
* To continue with the next statement click on the blue button
* Click on the “Run” button to continue executing all the commands at a time

**56)  Explain what are the limitations of Selenium IDE?**

* Exceptional handling is not present
* Selenium IDE uses only HTML languages
* External databases reading is not possible with IDE
* Reading from the external files like .txt, .xls is not possible
* Conditional or branching statements execution like if,else,  select statements is not possible

**57)  What are the two modes of views in Selenium IDE ?**

Either Selenium IDE can be opened as a pop up window or in side bar

**58)  In selenium IDE what are the element locators that can be used to locate elements on web page?**

In selenium there are mainly 4 locators that are used

* X-path locators
* Css locators
* Html id
* Html name

**59)  In Selenium IDE how you can generate random numbers and dates for test data ?**

* css=input#s - javascript{Math.random()}
* css=input#s - javascript{new Date()}

**60)  How you can convert any Selenium IDE tests from Selenese to another language?**

You can use the format option of Selenium IDE to convert tests into another programming language

**61)  Using Selenium IDE is it possible to get data from a particular html table cell ?**

You can use the “storeTable” command

Example store text from cell 0,2 from an html table

storeTable

Css=#table 0.2

textFromCell

**62)  Explain what can cause a Selenium IDE test to fail?**

* When a locator has changed and Selenium IDE cannot locate the element
* When element Selenium IDE waiting to access did not appear on the web page and the operation timed out
* When element Selenium IDE was trying to access was not created

**63)  Explain how you can debug the tests in Selenium IDE ?**

* Insert a break point from the location where you want to execute step by step
* Run the test case
* At the given break point execution will be paused
* To continues with the next step click on the Blue button
* To run commands at a time click on run button

**64)  From Selenium IDE how you can execute a single line?**

* Select “Execute this command” by right clicking on the command in Selenium IDE
* Press “X” key on the keyboard after selecting the command in Selenium IDE

**65)  In which format does source view shows your script in Selenium IDE ?**

In Selenium IDE source view shows your script in XML format

**66)  Explain how you can insert a start point in Selenium IDE?**

* Press “S” key on the keyboard and select the command in Selenium IDE
* In Seleniun IDE right click on the command and the select  “Set / Clear Start Point”

**67)  What if you have written your own element locator and how would you test it?**

To test the locator one can use “Find Button” of Selenium IDE, as you click on it, you would see on screen an element being highlighted provided your element locator is right or or else an error message will be displayed

**68)  What is regular expressions? How you can use regular expressions in Selenium ?**

A regular expression is a special text string used for describing a search pattern. In Selenium IDE regular expression can be used with the keyword- **regexp:**as a prefix to the value and patterns needs to be included for the expected values.

**69)  What are core extension ?**

If you want to “extend” the defualt functionality provided by Selenium Function Library , you can create a Core Extension. They are also called “User Extension”. You can even download ready-made Core Extension created by other Selenium enthusiats.

**70)  How will you handle working with multiple windows in Selenium ?**

We can use the command **selectWindow**to switch between windows. This command uses the title of Windows to identify which window to switch to.

**71)  How will you verify the specific position of an web element**

You can use verifyElementPositionLeft & verifyElementPositionTop. It does a pixel comparison of the position of the element from the Left and Top of page respectively

**72)  How can you retrive the message in an alert box ?**

You can use the storeAlert command which will fetch the message of the alert pop up and store it in a variable.

**73) What is selenium RC (Remote Control)?**

Selenium IDE have limitations in terms of browser support and language support. By using Selenium RC limitation can be diminished.

* On different platforms and  different web browser for automating web application  selenium RC is used with languages like Java, C#, Perl, Python
* Selenium RC is a java based and using any language it can interact with the web application
* Using server you can bypass the restriction and run your automation script running against any web application

**74) Why Selenium RC is used?**

Selenium IDE does not directly support many functions like condition statements, Iteration, logging and reporting of test results, unexpected error handling and so on as IDE supports only HTML language.  To handle such issues Selenium RC is used  it supports the language like Perl, Ruby, Python,[PHP](http://www.guru99.com/php-tutorials.html)using these languages we can write the program to achieve the IDE issues.

**75) Explain what is the main difference between web-driver and RC ?**

The main difference between Selenium RC and Webdriver is that, selenium RC injects javascript function into browsers when the page is loaded. On the other hand, Selenium Webdriver drives the browser using browsers built in support

**76) What are the advantages of RC?**

* Can read or write data from/ to .xls, .txt, etc
* It can handle dynamic objects and Ajax based UI elements
* Loops and conditions can be used for better performance and flexibility
* Support many Programming languages and Operating Systems
* For any JAVA script enabled browser Selenium RC can be used

**77) Explain what is framework and what are the frameworks available in RC?**

A collection of libraries and classes is known as Framework and they are helpful when testers has to automate test cases. NUnit, JUnit, TestNG, Bromine, RSpec, unittest are some of the frameworks available in RC .

**78) How can we handle pop-ups in RC ?**

To handle pop-ups in RC , using selectWindow method, pop-up window will be selected and windowFocus method will let the control from current window to pop-up windows and perform actions according to script

**79) What are the technical limitations while using Selenium RC?**

Apart from “same origin policy” restriction from js, Selenium is also restricted from exercising anything that is outside browser.

**80) Can we use Selenium RC to drive tests on two different browsers on one operating system without Selenium Grid?**

Yes, it is possible when you are not using JAVA testing framework.  Instead of using Java testing framework if you are using java client driver of selenium then TestNG allows you to do this.  By using “parallel=test” attribute you can set tests to be executed in parallel and can define two different tests, each using different browser.

**81) Why to use TestNG with Selenium RC ?**

If you want full automation against different server and client platforms, You need a way to invoke the tests from a command line process, reports that tells you what happened and flexibility in how you create your test suites. TestNG gives that flexibility.

**82) Explain how you can capture server side log Selenium Server?**

* java –jar .jar –log selenium.log

**83) Other than the default port 4444 how you can run Selenium Server?**

You can run Selenium server on java-jar selenium-server.jar-port other than its default port

**84) How Selenium grid hub keeps in touch with RC slave machine?**

At predefined time selenium grid hub keeps polling all RC slaves to make sure it is available for testing.  The deciding parameter is called “remoteControlPollingIntervalSeconds” and is defined in “grid\_configuration.yml”file

**85) Using Selenium how can you handle network latency ?**

To handle network latency you can use driver.manage.pageloadingtime for network latency

**86) To enter values onto text boxes what is the command that can be used?**

To enter values onto text boxes we can use command **sendkeys()**

**87) How do you identify an object using selenium?**

* isElementPresent(String locator)
* isElementPresent takes a locator as the argument and if found returns a Boolean

**88) In Selenium what are Breakpoints and Startpoints?**

* **Breakpoints:**When you implement a breakpoint in your code, the execution will stop right there. This helps you to verify that your code is working as expected.
* **Startpoints**Startpoint indicates the point from where the execution should begin. Startpoint can be used when you want to run the testscript from the middle of the code or a breakpoint.

**89) Mention why to choose Python over Java in Selenium?**

* Java programs tend to run slower compared to[Python](http://www.guru99.com/python-tutorials.html)programs.
* Java uses traditional braces to start and ends blocks, while[Python](http://www.guru99.com/python-tutorials.html)uses indentation.
* Java employs static typing, while[Python](http://www.guru99.com/python-tutorials.html)is dynamically typed.
* Python is simpler and more compact compared to Java.

**90) Mention what are the challenges in Handling Ajax Call in Selenium Webdriver?**

* Using "pause" command for handling Ajax call is not completely reliable. Long pause time makes the test unacceptably slow and increases the testing time. Instead, "waitforcondition" will be more helpful in testing Ajax applications.
* It is difficult to assess the risk associated with particular Ajax applications
* Given full freedom to developers to modify Ajax application makes the testing process challenging
* Creating automated test request may be difficult for testing tools as such AJAX application often use different encoding or serialization technique to submit POST data.

**91) Mention what is IntelliJ?**

Intellij is an IDE that helps you to write better and faster code for Selenium. Intellij can be used in the option to Java bean and Eclipse.

**92) Mention in what ways you can customize TestNG report?**

* Using ITestListener Interface
* Using IReporter Interface

**93) To generate pdf reports mention what Java API is required?**

To generate pdf reports, you need Java API IText.

**94) Mention what is Listeners in Selenium WebDriver?**

In Selenium WebDriver, Listeners "listen" to the event defined in the selenium script and behave accordingly. It allows customizing TestNG reports or logs. There are two main listeners i.e. WebDriver Listeners and TestNG Listeners.

**95) Mention what are the types of**[**Listeners in TestNG**](http://www.guru99.com/listeners-selenium-webdriver.html)**?**

IAnnotationTransformer,IAnnotationTransformer2,IConfigurable,IConfigurationListener,IExecutionListener, IHookable,IInvokedMethodListener,IInvokedMethodListener2,IMethodInterceptor,IReporter,ISuiteListener, ITestListener

**96) Mention what is desired capability? How is it useful in terms of Selenium?**

The desired capability is a series of key/value pairs that stores the browser properties like browser name, browser version, the path of the browser driver in the system, etc. to determine the behavior of the browser at run time.

For Selenium,

* It can be used to configure the driver instance of Selenium WebDriver.
* When you want to run the test cases on a different browser with different operating systems and versions.

**97) For Database Testing in Selenium Webdriver what API is required?**

For Database Testing in Selenium Webdriver, you need JDBC (Java Database Connectivity) API. It allows you to execute[SQL](http://www.guru99.com/sql.html)statements.

**98) Mention when to use AutoIT?**

Selenium is designed to automate web-based applications on different browsers. But to handle window GUI and non-HTML popups in the application you need AutoIT. know more about [How to use AutoIT with Selenium](http://www.guru99.com/use-autoit-selenium.html)

**99) Mention why do you need Session Handling while working with Selenium?**

While working with Selenium, you need Session Handling. This is because, during test execution, the Selenium WebDriver has to interact with the browser all the time to execute given commands. At the time of execution, it is also possible that, before current execution completes, someone else starts execution of another script, in the same machine and in the same type of browser. So to avoid such situation you need Session Handling.

**100) Mention what are the advantages of Using Git Hub For Selenium?**

The advantages of Using Git Hub for Selenium are

* Multiple people when they work on the same project they can update project details and inform other team members simultaneously.
* Jenkins can help you to build the project from the remote repository regularly. This helps you to keep track of failed builds.