

# Short Note

## 1. How to perform double click and right click operation.

- (1) the first step is to navigate to a particular web page and locate a specific element on which the double click action needs to be performed.
- (2) Once the element is located, perform the Double Click operation using the Actions class.

The code above will do the following:

- 1.Navigate to the desired website on which the test needs to be performed.
- 2.Create the object of Action class where pass argument as a driver and use action class's methods to perform double click operation

```
Actions action = new Actions(driver);  
WebElement ele= driver.findElement(By.xpath("path"));  
action.doubleClick(ele).perform();
```

## Different type of click method:

1.Using .click() method

2.using JavaScriptExecutor

```
JavascriptExecutor js= (JavascriptExecutor)driver;  
js.executeScript("arguments[0].click()", element);
```

or

```
js.executeScript("document.getElementsByName('login')[0].click()");
```

3.using your element.sendKeys(Keys.RETURN) or .sendKeys(Keys.ENTER)

## 4.Using Action class

```
Actions action =new Actions(driver);  
action.click(element).perform();
```

### What is Action Class in Selenium?

Actions class is an ability provided by Selenium for handling keyboard and mouse events. In [Selenium WebDriver](#), handling these events includes operations such as drag and drop, clicking on multiple elements with the control key, among others. These operations are performed using the advanced user interactions API. It mainly consists of *Actions* that are needed while performing these operations.

Action class is defined and invoked using the following syntax:

```
Actions action = new Actions(driver);  
  
action.moveToElement(element).click().perform();
```

### Methods of Action Class

Action class is useful mainly for mouse and keyboard actions. In order to perform such actions, Selenium provides various methods.

#### Mouse Actions in Selenium:

1. **doubleClick(ele):** Performs double click on the element
2. **clickAndHold(ele):** Performs long click on the mouse without releasing it
3. **dragAndDrop(source,target):** Drags the element from one point and drops to another
4. **moveToElement(ele):** Shifts the mouse pointer to the center of the element
5. **contextClick(ele):** Performs right-click on the mouse

#### Keyboard Actions in Selenium:

1. **sendKeys():** Sends a series of keys to the element
2. **keyUp(modifier\_key):** Performs key release
3. **keyDown(modifier\_key):** Performs keypress without release

modifier\_key – any of the modifier keys (Keys.ALT, Keys.SHIFT, or Keys.CONTROL)

## 2.Checkboxes

```
driver.findElement(By.id("checkBoxOption1")).click();
```

to check:

```
System.out.println(driver.findElement(By.id("checkBoxOption1")).isSelected());
```

To find no of checkboxes on the web Page:

```
driver.findElements(By.xpath("//label/input[@type='checkbox']")).size()
```

## 3.AutoIT

**AutoIT is a third-party tool that gives Selenium a helping hand to handle pop-ups like Windows Authentication pop up, Flash applications, Desktop application and so on.**

AutoIT is a freeware programming language for Microsoft Windows. In its earliest release, it was primarily intended to create automation scripts for Microsoft Windows programs but has since grown to include enhancements in both programming language design and overall functionality.

## 4.Auto Suggestion

1>locate the element on webpage and using send key we can pass key value after that autosuggestion window comes..

2>Now we have to find locate path of any one autosuggested element , actually all the autosuggested value will come in particular tag. Here we can use driver.findElements method to store all the autosuggested value in list.

3>using iterator and if condition we can select our desired element on web page.

```
WebElement ele= driver.findElement(By.id("autosuggest"));
    ele.sendKeys("ind");
    Thread.sleep(2000);

    List<WebElement> options=
driver.findElements(By.cssSelector("[id='ui-id-1'] a"));

    for(WebElement option:options)
    {
        if(option.getText().equalsIgnoreCase("India"))
        {
            option.click();
            break;
        }

    }
```

## 5.Brokage link

(1)Using FindElements Method for anchor tag where all links will be present and store it in list

```
List<String> links= driver.findElements(By.tagName("a"));
```

(2)using .getAttribute("href") we can pick the url of the links

```
url= link.getAttribute("href"); // for(link:links) using iteretor
```

```
URL link= new URL(url);
```

```
URLConnection httpCon = (URLConnection)link.getConnection();
```

```
httpCon.connect();
```

```
httpCon.getResponseCode();
```

```
httpCon.getResponseMessage();
```

## 6. DataBase Connection

(1) first need to load the JDBC Driver using the code

```
Class.forName("com.mysql.driver");
```

(2) Make a connection to the Database

In order to make a connection to the database the syntax is

```
DriverManager.getConnection(URL, "userid", "password" )
```

(3) Once connection is made, we need to execute queries.

(4) we can use the Statement Object to send queries.

```
Connection conn=
```

```
DriverManager.getConnection("jdbc:mysql//hostname:SID,user,password");
```

```
Statement stat= conn.createStatement();
```

```
ResultSet rs= stat.executeQuery("Query");
```

```
While(rs.isNext())
```

```
{
```

```
System.out.println(rs.getInt(0)+" "+rs.getString(1));
```

```
--for date we use .getDate()
```

```
}
```

## 7.Exception Handling

**Exception** is an unwanted or unexpected event, which occurs during the execution of a program, i.e. at run time, that disrupts the normal flow of the program's instructions. In Java, there are two types of exceptions:

### **(1)checked Exception->compile time exception:**

These are the exceptions that are checked at compile time. Means we can not compile program without handling it.

- ClassNotFoundException

- IOException-> EOFException

  - >FileNotFoundException

  - >InterruptedIOException

- NoSuchMethodFoundException

- SQLException

- IntrruptedException

### **(2)Unchacked Exception->RunTime Exception**

These are the exceptions that are not checked at compile time. Means program compile successfully but compiler is not able to check these Exception at compile Time.

- AirthmaticExeception

- ClassCastException

- NullPointerExeception

- IlligalArgumentException

**try** -> In try block we write statement which can throw Exception. ie it means risky code.

**catch**-> It maintain Exception Handling code ie alternative way for exception.

**finally**-> It maintain clean up code, it is always executed after try or multiple catch block, it is use for closing the resources.

**throw**->It create Exception object Manually (by programmer) and handover to JVM ie it is best for customized exception.

**throws**-> Keyword is used to declare an exception. It gives an information to caller method that there may occur an exception so it is better for the caller method to provide the exception handling code so normal flow can be maintained.

StaleElementReferenceException:-

Assume there is an element found in webpage referenced as a webElement in webdriver. If the DOM changes then the webElement goes to stale. If we try to interact with an element which is staled then the staleElementReferenceException is thrown.

- To handle this we need to refresh our reference or find the element again.
- We are using try and catch block

-if page changes/reload—DOM is Rebuilt previously found element becomes stale.

```
try{
    ele2.click();// NOT EXECUTED
    System.out.println("run try block sucessfully");
}
catch(StaleElementReferenceException e)
{
    ele2=driver.findElement(By.linkText("Electronics"));
}
```

```

        ele2.click();
        System.out.println("run catch block sucessfully");
    }

```

## 8. File Upload

-using third party tool like AutoIT

- using Robot class

```

        Robot robot= new Robot();
        ele.click();

        robot.delay(2000);
        //to put the file on click board
        StringSelection ss= new
        StringSelection("C:\\Software_Ravi\\AutoitPDF\\TESTNG.pdf");
        Toolkit.getDefaultToolkit().getSystemClipboard().setContents(ss,
        null);

        robot.keyPress(KeyEvent.VK_CONTROL);
        robot.keyPress(KeyEvent.VK_V);

        robot.keyRelease(KeyEvent.VK_CONTROL);
        robot.keyRelease(KeyEvent.VK_V);

        robot.keyPress(KeyEvent.VK_ENTER);
        robot.keyRelease(KeyEvent.VK_ENTER);

```

- if type="file" in DOM then sendKeys works

```

ele.sendKeys("C:\\Software_Ravi\\AutoitPDF\\TESTNG.pdf");

```

## 9.Properties File

```

writePropertiesFile()

```

```

{

```



```
Properties prop =new Properties();  
FileOutputStream output = new FileOutputStream("path of property file");  
prop.setProperty("key","value");  
prop.store(output,null);  
}
```

```
readPropertiesFile()  
{  
Properties prop = new Properties();  
FileInputStream input = new FileInputStream("path of prop file");  
prop.load(input);  
prop.getProperty("key");  
}
```

## 10.Read Data From Excel (xls and xlsx)

### Using Apache POI

Apache POI is an open-source java library often utilized to create and handle Microsoft Office-based files. Users can leverage POI to perform various operations (modify, create, display, read) on certain file formats.

```
FileInputStream file = new FileInputStream("path of xsl file");  
XSSFWorkbook wb= new XSSFWorkbook(file);  
XSSFSheet sheet = wb.getSheetAt(0);  
Row row= sheet.getRow(0);  
Cell cell= sheet.getCell(0);  
System.out.println(sheet.getRow(0).getCell(0));
```

## 11. SendKey Alternative

### (1) Using Action Class:

-- sometimes

```
Actions act= new Actions(driver);  
act.sendKeys(ele , "ravindra purbey").perform();
```

### (2) using javascriptExecutor

```
WebElement element= driver.findElement(By.xpath("element's path in DOM"));
```

```
javascriptExecutor js=(javascriptExecutor)driver;
```

```
js.executeScript("argument[0].value='ravindra'", element);
```

or

```
js.executeScript("document.getElementById('id')[0].value='ravindra'");
```

### (3) Using Robot class

```
Robot robot= new Robot();
```

```
robot.keyPress(KeyEvent.VK_R);
```

```
robot.keyRelease(KeyEvent.VK_R);
```

## 12. TakesScreenShots

```
TakesScreenshot screenShot= (TakesScreenshot)driver;
```

```
File file= screenShot.getScreenshotAs(OutputType.FILE);
```

```
File destFile= new File("path where screen shot to be store"+" .png");
```

```
FileUtils.copyFile(file,destFile);
```

### 13. Sync and Async:

Sync is single-thread, so only one operation or program will run at a time. Async is non-blocking, which means it will send multiple requests to a server.

Sync is blocking — it will only send the server one request at a time and will wait for that request to be answered by the server.

Async is multi-thread, which means operations or programs can run in parallel

### 14. Handling Authorization Window.

Approach 1: Handling Authentication/Login Popup Window using Selenium WebDriver

By passing user credentials in URL. Its simple, append your username and password with the URL.

e.g., <http://Username:Password@SiteURL>

<http://rajkumar:myPassword@www.softwaretestingmaterial.com>

### 15. Security Testing

It ensures that the software system and application are free from any threats or risks that can cause a loss. Security testing of any system is focused on finding all possible loopholes and weaknesses of the system which might result in the loss of information or reputе of the organization.

### 16. What is OOPs Concept?

Object-oriented programming is a core java which is used for designing a program using classes and objects. This can also be characterized as data controlling for accessing the code. In this type of approach, programmers

define the data type of a data structure and the operations that are applied to the data structure.

OOPS is programming methodology which is used for designing a program using classes and objects.

Main pillars of OOPS is

1.Class, 2.object & methods , 3.inheritance, 4.polymorphism , 5.abstraction , 6.encapsulation

## 17. Collection

### What is Collection in Java

It is single entity and object which can store multiple data.

### What is a framework in Java

- It provides readymade architecture.
- It represents a set of classes and interfaces.
- It is optional.

### Collection framework

It is set of predefined classes and interface which can be used to store multiple DATA.

-java.util.Collection

-java.util.Map

Read note book..

.

## 19. Statically and Dynamic typed Language

-The language in which user is forced to define the datatype before initialization of any variable is called Statically typed language. Eg. java, C, C++;

-The language in which datatype is not compulsory and it is optional is called Dynamic typed language. Eg. python, javascript.

## 20. Groovy

Apache Groovy is an object-oriented programming language. It is used for Java platform. It is static as well as a dynamic language. Groovy has features similar to Python, Ruby, Perl, and Smalltalk. Groovy can be used both as a programming language and as a scripting language for the Java Platform. It uses curly bracket syntax which is similar to Java. We can say that it is a super version of Java which offers Java's enterprise capabilities.

## 21. Performance Testing and Load testing

It is testing the stability and response time of an application by applying load is known as performance testing.

Stability is nothing but it shows the ability to withstand for design number of users.

Load- no of user uses the application at particular period of time.

Response time- it is time taken to the server to execute particular execution.

(1)load testing – if application is design for 100 user and we are testing the application under design no of user and checking stability of application and response time . eg 90, or  $\leq 100$ .

(2)Stress Testing- if application is design for 100 user and we are testing the application more than design no of user and checking stability of application and response time.

(3)scalability testing- here we applied the load like testing application under more than design no of load and try to find out where my software is crashing .

(4)Volume Testing or flood testing- By transferring the huge volume of data and checking the stability , here we testing the capacity of database.

(5)soak testing and endurance testing- Testing the stability and response time of an application by applying load continuously for a longer period of time.

## 22. What is JMeter? Why it is used?

The Apache JMeter is an open-source, purely Java-based software. The software is used **to perform performance testing, functional testing, and load testing of web applications**. It is used to test load testing functional behavior and measuring performance.

J meter simulates multiple user sending request to target server and returns the performance result of the target.

## 23.Accessibility Testing

Accessibility testing is subset of usability testing where in the users under consideration are people with all abilities and disabilities.

Accessibility testing is **the practice of making your web and mobile apps usable to as many people as possible**. It makes apps accessible to those with disabilities, such as vision impairment, hearing disabilities, and other physical or cognitive conditions.

Accessibility aims to cater people of different ability such as :

- (1) Visual impairments
- (2) Physical impairments
- (3) Hearing impairments
- (4) Learning impairments

## 24.Security Testing

It is type of testing in which we are ensuring the any application and system is free from the threads, and risk.

-it is about finding all possible loopholes and weakness of the system which might result into a loss of data/information revenue of an organization.

-it helps to detecting all possible security risk in the system and help developer to fix it.

## 25. Webdriver Archetecture:

JSON wire protocol acts as a mediator between client libraries and WebDrivers. It sends transfers data between the client and the server on the web.

## 26.Selenium Grid

Selenium Grid is a **smart proxy server that makes it easy to run tests in parallel on multiple machines**. This is done by routing commands to remote web browser instances, where one server acts as the hub. This hub routes test commands that are in JSON format to multiple registered Grid nodes.

## 27. Jenkins

Jenkins is an open source continuous integration/continuous delivery and deployment (CI/CD) automation software DevOps tool written in the Java programming language. It is used to implement CI/CD workflows, called pipelines.

Jenkins is an open source automation tool written in Java programming language that allows continuous integration.

Jenkins **builds** and **tests** our software projects which continuously making it easier for developers to integrate changes to the project, and making it easier for users to obtain a fresh build.

It also allows us to continuously **deliver** our software by integrating with a large number of testing and deployment technologies.

## Workflow—

Developer check their source code ->> Jenkins will pick up the changed source code and trigger a build and run any tests if required ->> the build output will be available in the Jenkins dashboards. Automatic notifications can also be sent back to the developer.

**Let's see how Jenkins works.** The above diagram is representing the following functions:

- First of all, a developer commits the code to the source code repository. Meanwhile, the Jenkins checks the repository at regular intervals for changes.
- Soon after a commit occurs, the Jenkins server finds the changes that have occurred in the source code repository. Jenkins will draw those changes and will start preparing a new build.
- If the build fails, then the concerned team will be notified.
- If built is successful, then Jenkins server deploys the built in the test server.
- After testing, Jenkins server generates a feedback and then notifies the developers about the build and test results.
- It will continue to verify the source code repository for changes made in the source code and the whole process keeps on repeating.

## Disadvantages of Jenkins

- Its interface is out dated and not user friendly compared to current user interface trends.
- Not easy to maintain it because it runs on a server and requires some skills as server administrator to monitor its activity.
- CI regularly breaks due to some small setting changes. CI will be paused and therefore requires some developer's team attention.



## Advantages of Jenkins

- It is an open source tool.
- It is free of cost.
- It does not require additional installations or components. Means it is easy to install.
- Easily configurable.
- It supports 1000 or more plugins to ease your work. If a plugin does not exist, you can write the script for it and share with community.
- It is built in java and hence it is portable.
- It is platform independent. It is available for all platforms and different operating systems. Like OS X, Windows or Linux.
- Easy support, since it open source and widely used.
- Jenkins also supports cloud based architecture so that we can deploy Jenkins in cloud based platforms.
- 
- 

## What is Continuous Integration?

Continuous Integration (*CI*) is a development practice in which the developers are needed to commit changes to the source code in a shared repository at regular intervals. Every commit made in the repository is then built. This allows the development teams to detect the problems early.

Continuous integration requires the developers to have regular builds. The general practice is that whenever a code commit occurs, a build should be triggered.

Git is an open-source distributed version control system. It is designed to handle minor to major projects with high speed and efficiency. It is developed to co-ordinate the work among the developers. The version control allows us to track and work together with our team members at the same workspace.

## Benefits of Git

A version control application allows us to **keep track** of all the changes that we make in the files of our project. Every time we make changes in files of an existing project, we can push those changes to a repository. Other developers are allowed to pull your changes from the repository and continue to work with the updates that you added to the project files.

Some **significant benefits** of using Git are as follows:

- **Saves** **Time**  
Git is lightning fast technology. Each command takes only a few seconds to execute so we can save a lot of time as compared to login to a GitHub account and find out its features.
- **Offline** **Working**  
One of the most important benefits of Git is that it supports **offline working**. If we are facing internet connectivity issues, it will not affect our work. In Git, we can do almost everything locally. Comparatively, other CVS like SVN is limited and prefer the connection with the central repository.
- **Undo** **Mistakes**  
One additional benefit of Git is we can **Undo** mistakes. Sometimes the undo can be a savior option for us. Git provides the undo option for almost everything.
- **Track** **the** **Changes**  
Git facilitates with some exciting features such as **Diff**, **Log**, and **Status**, which allows us to track changes so we can **check the status**, **compare** our files or branches.

## What is GitHub?

GitHub is a Git repository hosting service. GitHub also facilitates with many of its features, such as access control and collaboration. It provides a Web-based graphical interface.

### 29.What is the difference between Git and GitHub?

Git is a distributed version control tool that can manage a development project's source code history, while GitHub is a cloud based platform built around the Git tool. Git is a tool a developer installs locally on their computer, while GitHub is an online service that stores code pushed to it from computers running the Git tool. The key difference between Git and GitHub is that Git is an open-source tool developers install locally to manage source code, while GitHub is an online service to which developers who use Git can connect and upload or download resources.

### 30.What is Docker?

Docker provides a **containerization platform** which supports various operating systems such as Linux, Windows, and Mac. It allows us to easily build applications, package them with all required dependencies, and ship it to run on other machines. The advantage of using Docker is that it provides benefits for both developers as well as a system administrator. For developers it focuses on writing the code without worrying about the system. For a system administrator, **it provides flexibility to reduce the number of systems for testing the applications.**

Docker includes various features such as easy and faster configuration, manages security, use Swarm, routing mesh, application isolation, and increase productivity.

It is a container based technology used to create isolated environment for applications.

## What is Kubernetes?

Kubernetes (also known as k8s) is an **open-source platform** developed by **Google**. It offers powerful, useful, and scalable tools for managing, deploying complicated

containerized applications. The advantage of using Kubernetes is that it provides the best solution for scaling up the containers.

Kubernetes includes various features such as runs everywhere, automated rollouts and rollback, storage orchestration, Batch execution, secret and configuration management, horizontal scaling, and offers additional services.

It is an infrastructure for managing multiple containers

### 31.What is Domain Testing in Software Testing?

Domain testing is a testing process where the software is tested to ensure it doesn't accept invalid or out-of-range values. The output is tested against a minimum number of inputs to see whether the system is accepting the input within the required range or not. The white box testing is a perfect example of domain testing.

### 32.What is HTTP Protocol?

Hypertext Transfer Protocol (HTTP) is an **application-layer protocol for transmitting hypermedia documents, such as HTML**. It was designed for communication between web browsers and web servers.

### 33.Selenium WebDriver Architecture



1. After we trigger the test, complete selenium code which we have written will be converted to JSON format.
  2. generated Json is sent to browser driver(server) through http protocol.
- Note- each browser contains a separate browser driver.
3. Browser drivers communicate with its respective browser and executes the commands by interoperating JSON which it received on the browser.
  4. Browser Driver receive responses back from the browser and send JSON response back to client(output->java code console ).

### 34. Static import in Java

With the help of static import, we can access the static members of a class directly without class name or any object. For Example: we always use `sqrt()` method of `Math` class by using `Math` class i.e. **`Math.sqrt()`**, but by using static import we can access `sqrt()` method directly.

#### Ambiguity in static import:

If two static members of the same name are imported from multiple different classes, the compiler will throw an error, as it will not be able to determine which member to use in the absence of class name qualification.

```
// Java program to illustrate
// ambiguity in case of
// static import
import static java.lang.Integer.*;
import static java.lang.Byte.*;
class Geeks {
```

```

    public static void main(String[] args)
    {
        out.println(MAX_VALUE);
    }
}

```

### Output:

Error:Reference to MAX\_VALUE is ambiguous

### Difference between import and static import:

With the help of import, we are able to access classes and interfaces which are present in any package. But using static import, we can access all the static members (variables and methods) of a class directly without explicitly calling class name.

- The main difference is Readability, ClassName.dataMember (System.out) is less readable when compared to dataMember(out), static import can make your program more readable

### 35.What is Traceability Matrix? (TM)

It is used to track the requirements and to check the current project requirements are met.

### 36.What is Requirement Traceability Matrix?

**Requirement Traceability Matrix (RTM)** is a document that maps and traces user requirement with test cases. It captures all requirements proposed by the client and requirement traceability in a single document, delivered at the conclusion of the Software development life cycle. The **main purpose of Requirement Traceability Matrix** is to validate that all requirements are checked via test cases such that no functionality is unchecked during Software testing.

### 37.Defect Life Cycle

Defect life cycle, also known as Bug Life cycle is **the journey of a defect cycle, which a defect goes through during its lifetime**. It varies from organization to organization and also from project to project as it is governed by the software testing process and also depends upon the tools used.

38. what do you mean by user story (apic) and task.

39. what is agile ceremony

40. how to configure CICD PIPELINE

40a.how to find second salary

## 41. TestNG

a>TestNG provides parallel execution .

```
<test name="PersonalLoan1Test" parallel="methods" thread-count="2">
```

b>it can allow the dependency one method to other test method

```
@Test(dependsOnMethods={"method name"})
```

```
@Test(dependsOnGroup={"smoke"})
```

c> it allows to priority

```
@Test(priority=1)
```

d>we can group the testcase using group

```
@Test(groups= {"smoke"})
```

```
<groups>
    <run>
    <include name="smoke"></include>
    </run>
</groups>
```

e>Parametrizing testcase using @Parameters

```
<parameter name="url" value="http:hdf"/>
```

f>we can do DataDriven testing using @DataProvider annotation

```
@DataProvider
```

```
Public Object[][] getData()
```

```
{
```

```
    Object data[][]= new Object[2][2];
```

```
    Data[0][0]=11;
```

```
}
```

g>can use different type of annotation

```
@Test(dataProvider ="getData",  
group="smoke",dependsOnMethod="methodName",priority=1)
```

g>different type of Assertion

h>Report HTML

g>TestNG listners

h>different type Annotation pre and post

```
i>t1(expectedExpection=ElementNotFoundException)
```

xml schema and doc type defining .

## **42. how to generate the logs .**

We are using Log4j.properties – it is third pary API

```
Logger log= Logger.getLogger(className.class);
```

```
log.info("message");
```



First we have to create main class, where we have to create instance of TestNG Class.

Then we can use .setTestClasses method where we have to pass classes which we want to run with runnable jar. And we have to use .run method. After that we can export runnable jar where we can pass “Run with” runnable jar.

#### 43. How to make executable jar

```
testNg= new TestNG();  
testNg.setTestClasses(new Class[] {Day1.class,Day3.class});  
testNg.run();
```

#### 44.How to customize the chrome browser

```
ChromeOptions option=new ChromeOptions();  
option.setExperimentalOption("excludeSwitches", new String[]  
{"enable-automation"});  
WebDriver driver = new ChromeDriver(option);
```

```
Dimension d= new Dimension(1000,600);  
driver.manage().window().setSize(d);
```

#### 45.frames

While automating a web page that contains multiple iframes, we have to switch to the particular iframe to interact with the web elements present in that iframe. In order to switch between the iframes in Selenium Java, we can use either of the three different methods mentioned below.

We can even identify total number of iframes by using below snippet.

```
Int size = driver.findElements(By.tagName("iframe")).size();
```

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

- (1) By Index(index starts from zero)
- (2) By Name or Id
- (3) By Web Element

```
driver.switchTo().parentFrame();  
driver.switchTo().defaultContent();
```

#### 46. Difference bw size() and length();

size() is a method specified in java. util. Collection , which is then inherited by every data structure in the standard library. length is a field on any array (arrays are objects, you just don't see the class normally), and length() is a method on java.

#### Selenium Remote Driver

Selenium RemoteWebDriver is **used to execute the browser automation suite on a remote machine**. In other words, RemoteWebDriver is a class that implements the WebDriver interface on the remote server. The browser driver classes like FirefoxDriver, ChromeDriver, InternetExplorerDriver,

#### 47.Refresh a webpage in selenium

- 1.Using driver.navigate() command-driver.navigate().refresh();
- 2.Opening current URL using driver.getCurrentUrl() with driver.get() command-driver.get(driver.getCurrentUrl());
3. Opening current URL using driver.getCurrentUrl() with driver.navigate() command-driver.navigate().to(driver.getCurrentUrl());
4. Pressing F5 key on any textbox using sendKeys command  
-driver.findElement(By textboxLocator).sendKeys(Keys.F5);

## 48. Select Class

```
Select select = new Select(webelement);  
  
select.
```

## 49. Jenkins accept maven command

Configure global setting in Jenkins:

- 1> Manage Jenkin->global Tool configuration(configure tools, their location and automatic installers)
- 2> Do JDK installation or we can pass JAVA HOME path if jdk is already present in our machine.
- 3> Maven Installation, provide MAVEN\_HOME
- 4> GIT Installation-> we can pass information about source code here
- 5> Also we can put our source code to Jenkins home dir  
New job->mavenJOB (Freestyle Project)->we can configured source code (can pass git repository url and credential
- 6>Build Triggers->build periodically→pass parameter M H D M DayinWeek
- 7>Build -> maven version and maven command-> mvn test-PRegression
- 8>publish reports-> we can install testNG plugin for extent result ->we can use post build action where we can pass testNG-result.xml

## 50.What is DOM

DOM stands for Document Object Model. In simple words, DOM specifies the structural representation of HTML elements.

There are four ways through which we can identify and locate a web element using DOM.

1. `getElementById`
2. `getElementsByName`
3. `dom:name` (applies only to elements within a named form)
4. `dom:index`

#### 51.What is Desired Capabilities.

**Desired Capabilities** is a class in Selenium used to set properties of browsers to perform cross browser testing of web applications. It stores the capabilities as key-value pairs and these capabilities are used to set browser properties like browser name, browser version, path of browser driver in the system, etc. to determine the behaviour of browser at run time.

```
DesiredCapabilities caps = new DesiredCapabilities();  
caps.setBrowserName("chrome");  
caps.setPlatform(platform.WINDOW);  
caps.setCapability(CapabilityType.BROWSER_NAME,"chrome");  
caps.setCapability(CapabilityType.ACCEPT_SSL_CERTS,"true");
```

#### 52.Difference bw Action and Actions

## 53. Java Lambda Expressions

Lambda Expressions were added in Java 8.

A lambda expression is a short block of code which takes in parameters and returns a value. Lambda expressions are similar to methods, but they do not need a name and they can be implemented right in the body of a method.

## Syntax

The simplest lambda expression contains a single parameter and an expression:

*parameter -> expression*

*(parameter1, parameter2) -> { code block }*

To bring functional programming feature (in oo, data will store in the form of object and classes but in functional programming data will be stored in the form of function and variables)

Code optimization /consise code

Lambda expression is anonymous function—nameless function and does not have return type ,no access modifier.

Functional Interface- only contain one abstract method but we can have any no. of default and static method.

Runnable—Run()

Callable-call()

Comparable-compareTo()

ActionListner-actionPerformed()

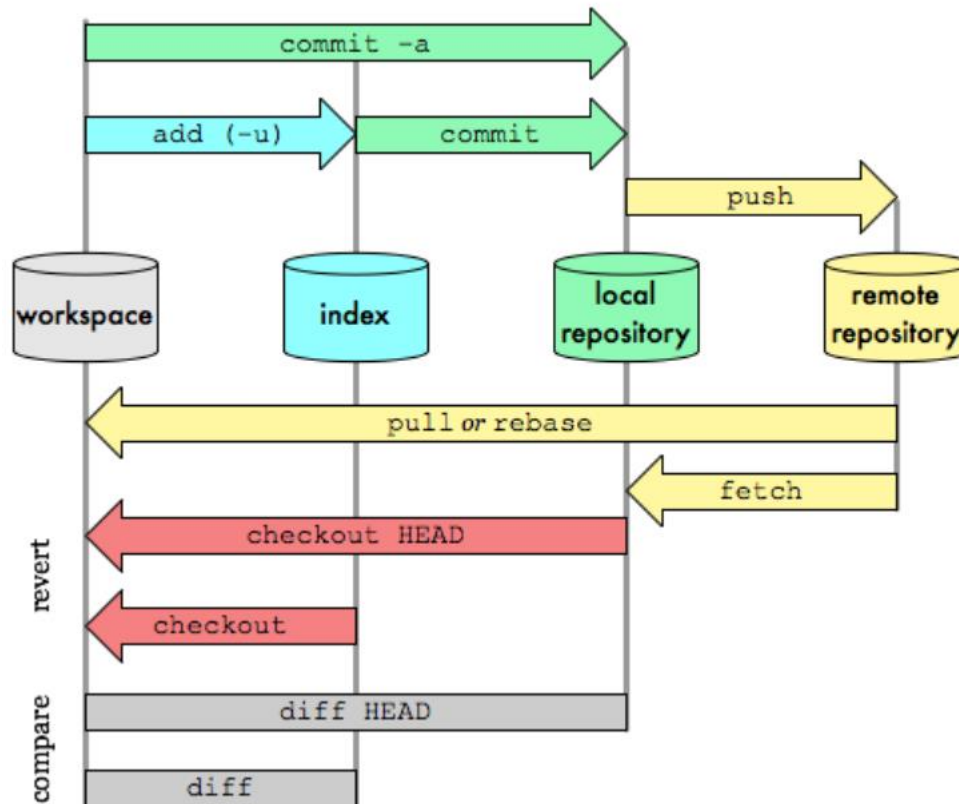
## **Git**

### **1.diff bw git and git hub**

Git is distributed version control system which is used for manage and keep track our source code history. GitHub is cloud-based hosting service where we can manage git repository.

# Git Data Transport Commands

<http://ostelee.com>



## 2.repository and branch

Repository is our whole project (directories and files) that we clone to our computer but branch is independent line. we can say branch is version of our repository. One repository can contain multiple branches which means there are multiple versions of repository.

## 3.git push and git pull

Git push origin <branch name> is used for checkin the code at central git repository which is committed at local git repository.

Git pull command is used for download content from remote repository to our local repository so we can immediate update our local repository to latest code. Git

## 4.git pull and git featch

Git pull command is used for download content from remote repository to our local repository so we can immediate update our local repository to latest code.

git fetch only download latest changes into local repository. It does not changes anything in staging area and our workspace so we add it manually like using git merge.

5.what is main diff bw git clone and git remote

Git clone is primarily used to point existing depo and make a clone or copy of that depo at some other location..

Git remote is directly pointed to repository at remote (central repository).

6.diff and status

7.merge and rebase

8.How can fix a broken commit

9.what happen if the .git dir deleted

10.what is use of staging area or indexing of git

11.what is diff git repository hosting functions.

12.what do you mean by VCS(version control system).

13.what is advantage of git.

14.diff bw git and svn

15.git config

16.what is functionality of git is-tree

17.git stash, git stash apply, git stash pop, git stash drop

18.what does git annotate command do?

19.what does git cherry-pick command do?

20.git revert and git reset

21.Head in git

22.what is a conflict in git and how to resolve it

23. what is version control

Version control is also known as source control, it is practicing of tracking and managing changes of software code. Version control software keeps track of every modification. if a mistake is done by any Developer, they can compare their code to earlier version and can fix their mistake in easy way. Version control helps teams to solving these kind of problems and keep tracking to every individual changes by each contributor and helping to prevent concurrent work from conflict. Changes made by one part of the software can be incompatible with those made by another

developer at the same time. This problem should be discovered and solved orderly manner without blocking the work of rest of the team member. Further in any software development any changes can introduce new bug so without tested we can't trust in new software so testing and development can do together until a new version ready.

**24. what is positive and negative testcase.**

Positive testcase means we are going to check given software is working perfectly when we are providing all correct information for input in their domain range. In Negative testcase scenario we are insuring the given software should give correct feedback when we provide any invalid input data like out of domain range.