

GcReddy Classes, NOIDA Nature: Weekend Course: Java, Selenium & Adv.Selenium
Each Class Duration: 3.0 Hrs (96 Hrs) **Software Development Engineer in Testing (SDET)**
core Java: 30 hrs.Selenium -30 Hrs.Advanced Selenium: 36 Hrs
Includes: Java Robot, Sikuli and over view of SoapUI and Ready API and 2 live projects

10+ years of experienced Automation tester working professional

Written 2 books on manual testing

Was taught MEFA & OR subjects in Engineering / MBA / B-Pharmacy colleges.

Specialist In: Handling with real time applications as examples like Gmail, Amazon, flipkart, eBay, Way2sms, Share market Web Tables, jQuery sites and Travel sites, million clouds, gangnam style, YouTube videos etc... etc....

- Native / Desk top application handling → [Java Robot](#)
- Web Applications → [Selenium Web Driver \(Basic & Advanced\)](#)
- Web Services → [SoapUI](#) → [Groovy Scripting](#)
- Image based / videos Automation → [SikuliX](#)
- Reporting mechanism → [Log4j and Extent Reports](#)
- Agile Methodology – [Fundamental Certification](#) (Free of Cost)
- xpath Access, <div> tag handling and [JavascriptExecutor](#) class expert
- Data driven, TestNg, Keyword driven and [Cucumber](#) (BDD) Framework
- TestNg annotation, Maven dependencies, pom.xml, testNg.xml
- Test Execution through command prompt, batch file, [Jenkins / github](#)
- Class room practical's / programs will be shared to your mails
- Smart answers with ppts will be shared after class to your personal mail
- Apart from running notes → course material as pdf file

Core java (30 hrs.) or crash course CORE JAVA.

Class -1: Overview of Selenium Course (Automation Testing)

Introduction to Automation Testing
Introduction to Java, Features of Java
Simple, Platform independent
Architectural Neutral, Portable
Multi-threading, Distributed
Robust, Dynamic, Secured etc...

Oops concepts class vs. object (My First program in Java with case study_1)

Class -2: Naming conventions in java

OOPs Principles: 1. Class 2. Object

3. Data Abstraction 4. Data Encapsulation
5. Inheritance 6. Polymorphism
7. Interfaces 8. Packages
Static / Private / Protected
Implicit / Explicit Type Casting
Data types in Java
Different types of variables in Java

Class - 3: Access modifiers and its scope.

1. Public 2. Private 3. Default 4. protected
Non – Access modifiers in Java

1. Static 2. Abstract 3. final

Behaviour of static / final keywords in java and Constants in Java

Various Operators in Java

Short circuit, right shift, left shift

Class – 4: Conditional statements in java

Switch and case statements in java

Scanner class and BufferedReader class in java

Class – 5: various loops in java

Jump (break and continue) keywords in java

Data Encapsulation

Behaviour private keyword in java and Getters / setters in java.

Class – 6: Inheritance in java

Is - A relation vs. Has-A relation (Java aggregation)

super vs. this and overriding vs. overloading's in java

Behaviour or protected access modifier

Dynamic dispatch method in java with exercise

Abstract Vs. Constant Classes

0% and 100% Abstraction

Dynamic Dispatch method

Extends Vs. Implements

Default & Parameterized constructors

Getters and Setters in Java

Diamond problem

Method Overloading & Overriding

Run time polymorphism

Class – 7: arrays and its index system and Object array in java

ArrayList class behaviour – how to add dynamic data with arrays

Date and time (time stamp) programs using java

Abstract class and methods and its behaviour in java

Class – 8: constructor in java, Default vs. parameterized constructors its rules

Collection Framework in java (Various interfaces)

1. Collections 2. List 3. Set 4. Sorted Set

5. Navigable Set 6. Queue 7. Map 8. Sorted Map

9. Navigable Map

Interfaces vs. Abstract classes

Hash Map Vs. Hash Table

Legacy classes in java and hashmap© vs. hashtable©

Interface and its behaviour in java

Concrete class vs. interface

Class – 9: Exception handling, checked and unchecked exceptions

Runtime & Compile time errors

1. try 2. catch 3. Finally 4. Throw 5. throws

try-catch, nested try blocks & try-catch-final etc...

Agile methodology – fundamental certification course

Various string methods useful to selenium coding

Java interview questions and quiz

➔ Resume preparation & interview preparation

Total duration is 10 X 3 hrs. ➔ 30 hrs. (1 month)

Selenium Web Driver 3.0 (30 hrs.)

Class – 1: Introduction to selenium

How to install Selenium WebDriver / drivers in tester computer

Browser invoke code for various browsers

Selenium WebDriver Basic methods

Download and Associate SWD

Launch Browser, invoke any URL

Multi Browser Testing using SWD

Locators , Instant & Static classes in SWD

get() Vs. navigate().to()

close() Vs. quit()

getAttribute() Vs. getcssValue();

getText(), getTitle(), getCurrentUrl();

findElement() Vs. findElements()

Various locators to locate an element in SWD.

Selenium WebDriver Basic operations methods

Handle drop downs by using select class methods

Class – 2: combination of keyboard keys (sendKeys)

Handling with combination of keyboard keys ex. Alt+F4 etc...

Handling with coding attributes and style attribute methods

Various browser inspector

Tags in HTML

findElements() method

Some Exercises on find elements() by tagName() methods

How to handle WebTable in the page?

Class – 3: Locating elements using xpath

Absolute xpath vs. Relative xpath

select "INDIA" in 3rd dropdown in 4th row

collect all radio buttons in page

What is xpath access? 18 ways to create your own xpath.

Why companies are searching for xpath access experts

1. contains() 2. startswith() 3. endswith() 4. Text() methods

A. preceding B. following C. preceding-sibling D. following-sibling

E. parent F. child G. descendant I. ancestor

cssSelector () syntaxes

Class – 4: switchTo(). frames concepts.

switchTo() methods – frames handling

Web based popups (Alert) handling

Window / tabbing handlings

Manage().window() methods

Point Vs. Dimensions classes

1. getSize() 2. getPosision() 3. setSize() 4. setPogision()

Cockles handling

Handling with various windows (tabs) in application

Getting current window id (Window handling)s

Class – 5: switchTo(). alert() concepts.

manage() class methods

Setting up the display expected size and position on desktop

Dimension and point classes in Selenium WebDriver.

Save screenshot of the Window (desktop screen)

Navigate functions

1, getX() 2. getY() 3. getH() 4.getW()

save screenshot as External files

navigate().back(), forward(), refresh()

Class – 6: Mouse Automation using Actions class in Selenium WebDriver

Actions Class Methods

1. Double click 5. Vertical slider

2. Right click 6. Horizontal slider

3. Mouse hover 7. Auto Complete

4. Drag and drop 8. Element scroll

Perform DoubleClick on Element

Perform right Click on Element

Mouse hover Pointer to an Element

Perform drag And Drop in between elements in the page

Perform Operation on Horizontal / vertical slider

Automate Auto Complete / cache elements

Mouse central wheel down (Scroll down) Automation

Document Object Model / What is parameterization?

Class – 7: Automating dropdown boxes

Developer using 1. Single select <select> tag

2. Single select <div> tag

3. multi select <select> tag 4. multi select <div> tag

Other select class methods usages.....

Single Select Vs. Multiple Select

<select> Tag Vs. <div> tag

DOM document Object Model

Hardcode values Vs. Parameterization

WebElement, List, ArrayList concepts

JavascriptExecutor class usage in automation

A. An Element Click

B. Fill the Element with the Data

C. Dropdowns handling with giving index

- D. Highlight border / background of an Element
- E. Create an Alert by tester and close it
- F. Page Scrolling 1. top to bottom 2. Bottom to top
- G. Page scrolling for Specific element by providing coordinates
- H. Disable and Enable of an Element

Class – 8: WebDriver waits in Selenium (3.5 hrs.)

JavaScriptExecutor Class Methods

- 1. Click on Element 4. Create Alert
 - 2. Fill the Element 5. ScrollingPage
 - 3. High light 6. Disable / Enable
- keyDown() , keyUp() operations

Wait methods in Selenium

- 1. Simple Wait() 3. ExplicitWait()
- 2. implicitWait() 4. FluentWait()

Selenium interview questions and quiz between two teams (1.0 hrs.)

Points to remember in tell me about yourself? / Introduce yourself?

Interview preparation.... Resume preparation.

Advance Selenium: Course Duration: 36 Hrs.

Class – 1 : Different Frameworks and their usages in companies.

How you can define framework?

Automation workflow for the application can be presented as.

Advantages of test Automation frameworks

Different types of frameworks.

Reading / writing the Data from External Files

working with xls excel sheets using jxl jars

How to configure jxl. Jars in eclipse library.

Class – 2 : Working with xlsx Excel sheets using apache.poi jars. (3.5 hrs)

How to configure apache.poi jars in eclipse library.

How to read specific row and column data from a cell.

DataFormatter class usage from java while reading from xlsx.

Creation of Data providers while reading the excel data

Reading and writing the data from text files and usage of CSV data

Reading the data from .properties files.

Class – 3: **Keyword Driven Framework**

Creation utility methods class

Creation of Driver class

Reading the data from xlsx and running the test externally

Java Robot Class usage

Working with desktop popups / Windows based file uploads.

Java Robots Classes

- A. Robot
- B. Runtime
- C. Toolkit
- c. String selection
- F. KeyEvent
- h. DataFlavor

Class – 4: Sikuli tool usage on Image matching based Automation (3.5 hrs.)

Introduction and how to Configure sikuliX jars in tester computer

Various sikulix Methods

How to highlight full screen of the page

How to highlight part of screen

SikuliX classes a. Match Class b. Region Class c. BufferedImage class

How to capture specific region using BufferedImage class.

Practical program on Image based automation (<http://www.millionclouds.com>)

Practical program on videos automation (<http://youtube.com>)

while composing www.gangnamstyle.com videos

Class – 5: TestNG i. introduction to testNG

Advantages / benefits of testing

How to install testNG in tester computer (2 ways)

Usual structure vs. TestNG structure

TestNG annotations prioritizing

- A. @Test
- B. [@Test\(priority\)](#)
- C. @Test(dependsOnMethods)={ }
- D. @Test(alwaysRun = true)
- F. @Test(invocationalCount = 3)

Other testNG annotations like

- A. @BeforeMethod
- B. @AfterMethod
- c. @BeforeClass
- D. @AfterClass
- F. @BeforeSuite
- G. @AfterSuite
- H. @BeforeTest
- I. @AfterTest

Class – 6: TestNG i. textNG.xml usages (3.5 hrs.)

Multiple classes running

Grouping the Test cases

Parallel methods / classes running

Reports in TestNG A. Emailablereport.html B. index.html

Threadcount = "2" how to get threadID single machine

@DataProvider usage in TestNG

Assertions in Selenium WebDriver

Hard assertion vs. Soft Assertion

Class – 7: **Maven** why we should use Maven ?

setting up and configure Maven with Eclipse

m2e eclipse – maven integration plugin for eclipse

Creating maven project with Selenium TestNG

Add dependencies and working with pom.xml
maven repositories and plugins.

Execute testNG.xml suite file / files using pom.xml
explanation on maven folder structure.

log4j How to generate log as using log4j

Associate log4j jars in tester computer

log4j.xml – components

How to configure the log4j to the Project for runner class.

Class – 8: ExtentReport Class for Generation UI Reports

How to configure ExtentReports with testNG.xml file

Add ExtentReport dependencies with pom.xml

Create a Report object using ExtentReports Class & ExtentTest

Generic (Hybrid Framework)

Introduction to Generic Framework

Certificate handling in browsers

Provides readymade project and explain the

- | | | |
|------------------------|--------------------------------------|--------------------|
| A. Folder structure | B. Base Class | C. utility methods |
| d. Object Repositories | D. Constant Class | F. appModule |
| g. Page Object model | h. object Repository model | |
| i. page factory model | j. data.properties | k. log4j.log |
| l. ExtentReports | m. Test runner classes creation | |
| n. Drivers folder | n. screenshots folders etc... etc... | |

Class – 8: Generic (Hybrid Framework) as a Project No.1 (3.30 hrs.)

ii Practical program using TestNG (<https://phptravels.org/clientarea.php>)

Class – 9: Behavior Driven Development (Cucumber Framework)

As a Project No. 2

Provides real time project and explain the code

Behaviour Driven Framework introduction

Configure cucumber with maven and add dependencies.

Add dependencies to junit

Development of feature file using Gherkins sentences

Cucumber Annotations:

- A. Given B. When C. Then D. And F. But

Developing feature file with Scenario-outline & Example data

Developing .properties files

Create cucumber methods using Annotations

Creation of junit runner classes and setting up @tags

Class – 10: JDBC Connection working with Database

How to connect database using JDBC connection string.

Working with sql and oracle data bases.

Load and register the Driver

Establish the Connection

Create Statement Object

Execute the Statement

Closing the Connection

Test execution using **Command prompt**

Batch file creation executing test cases from double click from Desktop

Selenium Grid

Introduction Selenium Grid

Remote web Driver

Configure hub

Run selenium Web Driver scripts in parallel selenium grid

Running scripts on remote computer.

Jenkins

Introduction Jenkins

Installing Jenkins with selenium

Setting up a continuous integration and continuous deployment environment

Creating jobs in Jenkins tool

Scheduling jobs for timely execution

Integration with selenium scripts and running scripts

Configure mail notification using jenkins

Class -11: Web services TestingSOAPUI (Overview)

What is web service?

Web service architecture.

Introduction to SOAPUI

Test Case level, suite level and project level and Global properties

Assertion in SoapUI

End point and Credential and headers setting

Execute single test step , multiple test steps, multiple suites etc...

Property transfer

Introduction Groovy Scripting

Registered students will be provided detailed Course Content like below:

Example Selenium class:

Class – 2: i. combination of keyboard keys (sendKeys) (3.5 hrs.)

- sendKeys("xxxxx",Keys.TAB, Keys.ENTER,.....);
- ii. Handling with combination of keyboard keys ex. Alt+F4 etc...
- Keys.chord(Keys.CONTROL, "a");
- iii.Handling with coding attributes and style attribute methods
getAttribute()/ getCssValue() / getText(); methods
- iv. Various browser inspectors
- v.Tags in HTML
- vi. findElements() method
- vii. Click 3rd image in 4th column in 3rd row in 2nd table in page exercises
- Select "india" in 3rd dropdown in 4th column in 4th row in 2nd table.
- *Count all radio buttons in page*
- *Count number of buttons in web page which are developed using button tag*
- *2. using input tag in HTML*
- *Count number of text boxes and password boxes in in web page*

Which are developed using input tag

- *Viii. Specific program on WebTable handling in the page(["http://money.rediff.com/gainers/bsc/daily/group?"](http://money.rediff.com/gainers/bsc/daily/group?))*
- *xi. Case study_2 Above program extension with other scenario*