## Selenium: Automation Tool

### Core Java

1. **Overview of Java**
   - OOP's , Data Types and Variables
   - Operators, Control Structures
   - Strings, Arrays

2. **Objects and Classes**
   - Object, Classes and Methods
   - Method Overloading
   - Constructors

3. **Inheritance**
   - Types of Inheritance
   - Method Overriding

4. **Packages and Interfaces**
   - Defining Packages
   - Extending Interfaces

5. **Exception Handling**
   - Fundamentals of Exception Handling
   - Exception types
   - Try and Catch and finally
   - Multiple Catch

6. **Collections Framework**
   - Collection Interfaces and Classes
   - List, Set, HashSet, Iterator, other Classes

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## Basic Selenium

### 1. Introduction to Automation Testing
- What is Automation Testing?
- Which Test Cases to Automate?
- Different Automation tools
- Automation challenges & Mitigations

### 2. Introduction to selenium

- What is selenium?
- History and various versions of selenium
- Advantages of using Selenium over other tools.
- Selenium components

### 3. Selenium-IDE
- Introduction
- IDE Features
- Building & Running Test Cases
- Building and Running Test Suites

### 4. Selenium Web Driver 3.0
- Why Selenium Web Driver
- What is a Driver
- Automation Setup for Selenium Web Driver
- Configuration of Selenium Jar using Eclipse

### 5. Identification of Locators
- Tools to identify elements/objects
- Setup for Firebug, Firepath
- Different methods of finding element

- By ID, By name, class
- By Xpath, By Tag name
- By Link text
- By CSS
- Using Effective X-path

### 6. Selenium Commands
- Various types of operation that can be performed on any elements and how to use them.
- Browser Commands, Navigation Commands
- Working with different browser
- Handling Checkbox, RadioButton
- Dropdown and Select Operations
- Capturing Screen shots
- Handling Keyboard Event and Mouse Event
- Multiple Window Handling
- Alert & Pop Up Handling.

### 7. Handling WebTables
- What is WebTables
- Extracting values from WebTables
- Static and Dynamic WebTables

### 8. Wait Commands in Selenium
- Implicit Wait
- Explicit Waits,Expected Conditions

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# Innovatus Technologies

## Advanced Selenium

### 1. Framework Designing
- What is Framework
- What is a Framework?
- Different Types of Framework.
- How to Design a framework?
- Data Driven Framework using Excel
  - Downloading and configuration of Apache POI
  - Executing Testcases from Excel

### 2. TestNG Framework
- Test NG & TestNG features
- How to integrate TestNG with Eclipse
- Test NG Annotations
- TestNG Reporting

### 3. Build Tools -Maven
- How to create a maven project in Eclipse
- Maven Build Cycles.
- How to compile and Run tests using Maven

### 4. Reporting
- Using Report NG for generating reports through TestNG
- Log4j -What is Log4j, how to use it, integration of Log4j with Eclipse

### 5. POM Framework
- Advantages of POM
- How to implement
- Using Page Object and Page Factory

### 6. Cucumber Framework
- What is BDD
- Cucumber implements BDD
- Preparing Features File having test scenario
- Writing a step definition
- Writing Runner Class
- Given, When, Then, And, But annotations and usage in features class

- Passing parameters in Step Functions
- Using regular expression in step implementation to parameterize
- Parameterize complete scenario using features class
- Datatable in Cucumber and its implementation
- Running Cucumber through ANT Pretty, Tags and Glue
- Junit Report Generation in Cucumber
- Cucumber HTML Reports Log4j Usage
- Using Assertions to report failure
- Running simple feature/Step scenario
- Introducing selenium layer - WebConnector
- Building custom functions in WebConnector
- Building a simple test case
- Implementing logging using Log4J
- Executing project from eclipse
- Executing project from ANT
- Generating Junit, Cucumber reports
- Background and Pending Exception
- Parameterizing/repeating test cases from feature classes
- Implementing/deciding Tags
- Running all/limited tests

### 7. Continuous Build Integration tools Jenkins
- What is Jenkins and how to use it
- How to integrate Jenkins with Eclipse

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**Hands on Experience on Industry Project**

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