



# Software Testing - Automation Testing with Selenium

## *Module I: Java Programming for Selenium*

### *Java Standard Edition (Core Java)*

1. Java Environment Setup
2. Java keywords and Identifiers
3. Java Syntax
4. Java Object Oriented Programming Basics  
(Class, Object, Method, Constructor, and Interface)
5. Java Program Structure
6. Java Comments
7. Java Modifiers

8. Java Data Types

9. Java Variables

10. Java Operators

11. Java Control Flow

i. Decision Making/Conditional Statements

ii. Loop Statements

iii. Branching Statements

12. String Handling in Java

13. Java Data Structures

14. Java IO

Read User Input, Display Program Output

File Handling

Database Connectivity

15. Java Methods

i. Built-in Methods

ii. User-Defined Methods

16. Java Exception Handling

17. Java Object-Oriented Programming

i. Inheritance

ii. Polymorphism

iii. Abstraction

iv. Encapsulation

etc,

### ***Module 2: Selenium WebDriver***

1. Selenium Test Environment Setup

2. Inspect Web/HTML Elements

3. Locating Elements in Selenium (Using Element Locators)

4. Performing Actions on Elements (Using Selenium WebDriver Methods)

5. Selenium Page Object Model (Creating Object Repositories)

6. Writing Selenium Test Cases

Write Selenium Test Steps

Synchronization

Inserting Verification Points

Handling Run-time Errors

Etc,

***Module 3: TestNG Testing Framework for Selenium***

1. Install TestNG plug-in for Eclipse IDE

2. Create Test Batches (TestNG Programs)

3. Prioritize Test Cases

4. Grouping Test Cases

5. Executing Test Batches

6. Generating Test Reports

etc,

***Module 4: Selenium Automation Framework***

1. Selenium Test Environment Setup  
(By Integrating Maven with Selenium)

2. Create a Folder Structure  
(To store Automation resources like Page Objects, Reusable Functions, Test Cases, Test Data, Test Results, etc.)

3. Create Automation Resources  
(Object Repositories/Page Objects, Reusable Functions, etc.)

4. Create Selenium Test Cases

5. Execute/Run Test Batches

6. Analyze Test Results & Report Defects.

7. Re & Regression Testing

8. Maintain Test Automation Resources

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Note: Selenium Syllabus depends on our selected tools and plugins for Selenium. (Ex: Java, TestNG, etc.)

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