



## **Course Content: Selenium 3.0**

### **Lesson 01 - Core Java Refresher**

- Keywords and Syntax
- variables, operators, and control flows
- OOPs overview from Java context
- Exception Handling, File and DB handling
- Collections overview, and ArrayList example

### **Lesson 02 - Automation Basics**

- 2.1 Fundamentals of test automation
- 2.2 ROI in Automation
- 2.3 Automation framework
- 2.4 Various tools and comparison with Selenium

### **Lesson 03 - Introduction to Selenium WebDriver**

- 3.1 What Selenium is and how it is used in the industry
- 3.2 Features of Selenium
- 3.3 Selenium IDE - Overview with a couple of examples
- 3.4 WebDriver Architecture
- 3.5 Installation of Selenium and supporting tools/Frameworks

### **Lesson 04 - Locating Techniques**

- 4.1 Simple WebDriver Program Demonstration
- 4.2 Basics of HTML page, tags, attributes, and visible texts
- 4.3 Importance of attributes in locating elements
- 4.4 Installation of Firebug and Firepath in Firefox browser
- 4.5 Locators and Eight Locating Techniques
- 4.6 Creating robust locators using CSS and XPath

### **Lesson 05 - WebDriver Basics - I**

- 5.1 Execute Tests in Firefox, Chrome, and Internet Explorer
- 5.2 WebDriver Commands: Driving Browsers and Handling Cookies
- 5.3 WebElement Commands
- 5.4 Handling Various WebElements
- 5.5 WebDriver Timeout Methods

### **Lesson 06 - WebDriver Basics - II**

- 6.1 Handling Multiple elements using find Elements() method

- 6.2 Handling Alerts, Pop-ups, and Frames
- 6.3 Limitation of Implicit Wait and how Explicit Wait helps
- 6.4 Advanced User Interactions
- 6.5 Taking Screenshots
- 6.6 Working with Firefox profiles
- 6.7 Handling File Uploads Using AutoIT
- 6.8 Introduction to Flash Application Testing using Selenium WebDriver

### **Lesson 07 - TestNG**

- 7.1 Arranging Tests in 3-As format
- 7.2 F.I.R.S.T Principles and SRP
- 7.3 Various Annotations in TestNG
- 7.4 TestNG configuration file
- 7.5 Configuration Annotations
- 7.6 Attributes of @Test
- 7.7 Parallel Test Execution Capability
- 7.8 Assertion APIs
- 7.9 Passing Parameters to Tests
- 7.10 Configuring Test Suites
- 7.11 Reports using TestNG
- 7.12 Reports using ReportNG

### **Lesson 08 - WebDriver - Framework**

- 8.1 Introduction to various frameworks
- 8.2 Page Object Design Pattern
- 8.3 Data Driven Tests using TestNG and POI
- 8.4 Introduction to Maven and ANT
- 8.5 Use of Log4j
- 8.6 Use of Listeners
- 8.7 Typical components of a framework
- 8.8 Overview of BDD, TDD
- 8.9 Code Coverage in Java
- 8.10 Overview of Sikuli tool for UI testing
- 8.11 Introduction to Jenkins
- 8.12 Configuring Jenkins to invoke Selenium Tests

### **Lesson 09 - Selenium Grid**

- 9.1 What is Selenium Grid?
- 9.2 When to Use Selenium Grid
- 9.3 Setting up Grid - Hub and Nodes?
- 9.4 Configuring TestNG.xml to run tests on Grid

### **Lesson 10 - Project Execution**

- 10.1 Automate an eCommerce Application
- 10.2 Test Automation Requirements Description
- 10.3 What Next? How to Start?
- 10.4 High Level Framework
- 10.5 Configurability—No To Hard-Coding
- 10.6 Modularity—Re-Use And DRY
- 10.7 Test Data Management
- 10.8 Logging And Reporting