

## Expert Selenium Automation Testing

Duration- 40 hours

### Core Java (Part I)

- **Introducing the JAVA technology:**

- Relating Java with other languages
- How to download, install, and configure the Java environment on a Windows system
- Key features of the technology and advantages of using Java
- Java Features
- Write Simple Java Program
- Compile and Run the class files
- Java Programming format
- Java Data Types
- Declarations and Access Control
- Operators and Assignments
- Flow Control
- Typecasting
- Arrays

- **Packages:**

- Introduction to all predefined packages
- Packages in Java
- Access Modifiers

- **Object Oriented Programming Concepts:**

- Introduction
- Class
- Object
- Constructors
- Local, Instance and Static variables

- This keyword
- Final keyword and its use with variables, method and class
- Inheritance and its Types
- Working with super classes and subclasses
- Polymorphism and its types such as overloading, overriding and dynamic binding
- Abstraction and its types
- Encapsulation and getter setter methods
- Abstraction and its types
- Abstract method and Concrete method
- Abstract classes and Interfaces
- **String Processing:**
  - String manipulation with String Builder and String Buffer
  - String vs String Builder vs String Buffer
- **Exceptions and Assertions:**
  - Introduction
  - Exceptions categories
  - Standard Java Exception and exception handling
  - Using Try-catch and finally clause
- **File Handling:**
  - I/O using Java to read and write files
  - Reading data from Property files using java program
  - Reading and Writing data from/to Excel files using Apache POI API
- **Collections:**
  - Introduction to Collections framework
  - Java util Package

- List, Set and Map
- Difference of All Collections Interfaces and classes

## **Selenium (PART II)**

### ● **Selenium Introduction**

- What is automation testing?
- What is Selenium?
- What is the use of automation testing?
- What is the difference between Selenium and QTP?
- What we need to Automate?
- Advantages of Selenium

### ● **Different Components of Selenium & its Architecture**

- Selenium IDE
- Selenium RC / Selenium 1.0
- Selenium Web Driver/Selenium 2.0
- Selenium-Grid

### ● **Locators & Object Identification**

- Tools to identify elements/objects
- IE Developer tools
- Google Chrome Developer tools
- Locating elements by ID
- Types of locators
- How to create Xpath and CSS
- Preference of locators while automating test script

### ● **TestNG FrameWork**

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- Overview of TestNG
- Environment of TestNG
- Writing WebDriver Test Cases using TestNG
- Basic Annotations of TestNG
- Executing Tests
- Executing Test Suites
- Ignore Test
- Dependency Test
- Parameterized Tests
- TestNG XML
- Report Generation

- **Selenium WEB-DRIVER**

- Why WebDriver?
- Downloading web driver Jars configuring in eclipse
- Architecture of selenium webdriver
- Drivers for Firefox, IE, Chrome etc
- What is the difference between Selenium RC and WD?

- **Sample programs in Webdriver**

- Handel Text box
- Handel HyperLink
- Handel Button and Check box
- Handel Radio Button and DropDown Controls
- Select value from DropDown
- Display all values
- Select values step by step
- Capture screenshots
- Synchronization Commands In Web Driver

- Why Implicit wait and Implementation of Implicit wait
- Why Explicit wait and Implementation of Explicit wait
- Web Driver Fluent wait and Thread Sleep functionality
- File uploads and File downloads (Handling Window based controls using Robot and Sikuli API)
- Handling alerts box and Verifying the Alert Texts
- Handling confirmation messages
- Keyboard actions
- Mouse actions
- Handling Iframes working with Nested Iframes
- Handling multiple tabs
- Handling popups
- Preparing web driver test cases using customized x-path
- Identifying controls using x-path predefined functions
- Web Tables
- What is Web Table
- Extracting data from web tables
- Examples on static and dynamic Web Tables
- Creating Reusable functions for Web Tables

● **Automation Test Frame Work**

- How to develop Test automation frame work in live environment
- What is a frame work
- Types of frame work
- Data driven frame work
- Modular driven frame work
- Keyword driven frame work
- User Defined Keyword driven framework with implementation
- Execute test scripts from the framework

- **Web Driver with TEST NG Frame Work**

- Batch Running Test cases using TestNG
- Validations and its usage in Automation test scripts
- Report Generation

- **Working with multiple browsers**

- Executing Automation Test Cases in multiple browsers Sequentially
- Working with Chrome and IE browsers
- What is WebDriver Desired Capabilities class
- Executing Automation Test Cases in multiple browsers Parallel

- **Introduction to Sauce Labs**

- **Maven Project Management Tool**

- Introduction about maven
- High Level Overview
- Ant vs Maven
- Installation of Maven
- Demo using Sample Maven Project
- Maven Structure
- Introduction of Maven Folder Structure
- The pom.xml
- Dependencies
- Goals
- Local Repo Structure
- Defaults
- Sample Demo of Build Session of Maven Project

- **Maven Dependencies**

- Dependency version

- Versions
- Types
- Transitive Dependencies
- Scopes

- **Maven Repositories**

- What is a Repository
- Dependency Repository
- Adding a Repository
- Plugin Repository
- Demo Installation
- Importing Projects
- Converting Existing Projects
- Pom Viewer
- Effective Pom

- **Maven Eclipse Integration**

- **Discuss about DB connectivity**

- **Continuous Integration Testing using Jenkins**

- About Jenkins
- Installing Jenkins
- History of Jenkins
- Creating a simple job
- Splitting of Projects
- Integrating Jenkins to the Project
- What is Continues Integration

- **Repository**

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- **Introduction to repository**
- **Create repository and cloning projects**
- **Commands**
- **Automation Project**

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