

Selenium Course Content

Introduction

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

Different flavors in Selenium

- IDE
- Selenium RC (Introduction Only)
- Selenium Web Driver/Selenium 3.0
- Selenium-Grid

Selenium IDE

- Installing Selenium IDE
- Selenium IDE icons
- Recording your first test with Selenium IDE
- IDE Context Menu
- Assert
- Verify
- Adding Selenium IDE comments
- Synchronization commands
- Working on pages with AJAX
- Storing elements
- Creating test suites
- What you cannot record

Locators & Object Identification

- Tools to identify elements/objects
- Firebug
- IE Developer tools
- Google Chrome Developer tools
- Locating elements by ID
- Finding elements by name
- Finding elements by link text
- Finding elements by XPath

- Finding Elements by using CSS
- Summary
- Some Special IDE commands
- Write your own Selenium IDE script without record and playback

Java For WebDriver

- **Introducing the JAVA technology:**
 1. Relating Java with other languages
 2. Showing how to download, install, and configure the Java environment on a Windows system
 3. Key features of the technology and advantages of using Java
 4. Java Features
 5. Write Simple Java Program
 6. Compile and Run the class files
 7. Java Programming format
 8. Java Keywords
 9. Java Data Types
 10. Declarations and Access Control
 11. Operators and Assignments
 12. Flow Control
 13. Typecasting
 14. Arrays
 - **Packages:**
 1. Introduction to all predefined packages
 2. User Defined Packages
 3. Access Specifiers
- **Object Oriented Programming Concepts:**
 1. Introduction
 2. Class
 3. Object
 4. Local, Instance and static variables
 5. Constructors
 6. This keyword
 7. Inheritance and Types
 8. Working with super classes and subclasses
 9. Using types of polymorphism such as overloading, overriding, and dynamic binding
 10. Abstraction
 11. Encapsulation
 12. Abstract classes

13. Interfaces

- **String Processing:**

1. String manipulation with String Builder and String Buffer
2. Essential String Methods

- **Exceptions and Assertions:**

1. Introduction
2. Exceptions categories
3. Standard Java Exception classes
4. Using Try-catch and finally clause

- **I/O Streams:**

1. I/O using Java
2. Files (Create/Read/Write operations on files)

- **Wrapper Classes:**

1. Introduction
2. Byte, Short, Integer, Long
3. Float, Double
4. Character
5. Boolean classes

- **Collections:**

1. Introduction to Collections framework
2. util Package
3. List, Set and Map
4. Difference of All Collections Interfaces and classes
 - Reading data from Property files using java program
 - Reading and Writing data from/to Excel files using Apache POI API and JXL API

Junit FrameWork:

- Running Java Programs using junit
- Writing Selenium tests from scratch using Junit FrameWork
- JUNIT Annotations
- JUNIT Methods
- Frequently used Selenium commands
- Test Suites using JUNIT

- Parameterized test cases using junit framework

TestNG FrameWork

1. Overview of TestNG
2. Environment of TestNG
3. Writing WebDriver Test Cases using TestNG
4. Basic Annotations of TestNG
5. Executing Tests
6. Executing Test Suites
7. Ignore Test
8. Dependency Test
9. Parameterized Tests
10. TestNG XML
11. Report Generation

Selenium WEB-DRIVER

- Why WebDriver?
- Downloading web driver Jars configuring in eclipse
- Architecture of selenium webdriver
- Drivers for Firefox, IE, Chrome, Iphone, Android 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 Verfyng 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

1. What is Web Table
2. Extracting data from web tables
3. Examples on static and dynamic Web Tables
4. Creating Reusable functions for Web Tables

- Web Driver with TEST NG Frame Work
- Batch Running Test cases using TestNG
- Validations and its usage in Automation test scripts
- Customized Report Generation
- Implementing Logs using Apache Log4j API
- Database testing using Web Driver

Working with multiple browsers

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

Maven Project Management Tool

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

- **Maven Dependencies**

1. Dependency version
2. Versions
3. Types
4. Transitive Dependencies
5. Scopes

- **Maven Repositories**

1. What is a Repository
2. Dependency Repository
3. Adding a Repository
4. Plugin Repository

- **Maven Eclipse Integration**

1. Demo Installation
2. Importing Projects
3. Converting Existing Projects
4. Pom Viewer
5. Effective Pom

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

Continuous Integration Testing using Jenkins

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

- Integrating Jenkins to the Project

Interview Questions on

- Selenium IDE
- Selenium webdriver and Automation Testing
- Core Java
- Manual Testing Concepts
- Overview on Selenium Grid

- Proper hands on will be there on each aforementioned concepts.
- PPTs and related documents will be shared with you.
- Assignments for better understanding will be given.