

Selenium Course Content

Java Basics Refresher for Selenium

Learning Objective: Refresh your knowledge of Java required for Selenium.

Topics:

- Features of Java
- Classes, Objects, Methods, and Constructors
- Datatypes in Java
- Types of Variables in Java
- Basic Operators in Java
- Control Flow Statements
- Object-Oriented Programming Concepts
- Exception Handling Mechanism

Selenium and its Components

Learning Objective: Getting started with Selenium and its components. Also, use Java collection framework.

Topics:

- Collection Framework (ArrayList, LinkedList, HashSet, and LinkedHashSet)
- Map Interface in Java
- Types of Applications (Desktop, Web, Mobile, Hybrid)
- Software Testing Methods (Manual and Test Automation)
- Test Automation Types (Unit Testing, API Testing, GUI Testing)
- Test Automation Frameworks
- Test Automation Tools
- Test Automation Process
- Components of Selenium Suite
- Types of Testing
- Selenium vs. Other Testing Tools
- Integration of Selenium with Other Tools

Selenium WebDriver and Locators

Understand the working and architecture of the Selenium WebDriver and utilize different web element locating strategies to automate your test scripts

Topics:

- Introduction to Selenium WebDriver
- Evolution of Selenium WebDriver
- Advantages of Selenium WebDriver
- Selenium WebDriver Architecture
- Introduction to Web elements
- Locating Web elements using various Locators (ID, Name, Class Name, Tag Name, Link Text, Partial Link Text, CSS Selector, and XPath)
- Introduction to XPath
- Types of XPath
- XPath Functions and Customisations

Interacting with Web Elements and Waits in Selenium

Locate Web Elements using CSS Selector and implement Synchronization mechanism in test automation scripts.

Topics:

- What are CSS Selectors?
- Locating Web Elements using CSS Selectors
- Selenium Commands in WebDriver
- Interacting with Web Elements
- Performing Actions on Web Elements
- Checking the Web Element state
- Types of Waits in Selenium

TestNG Framework

Implement TestNG Framework in Selenium Scripts and structurize test cases using concepts such as annotations, grouping, sequencing, and parameterization. Perform parallel tests as well as generate test reports of the executed tests.



- Introduction to TestNG
- Installing TestNG Plug-in in Eclipse
- Rules to write TestNG
- Annotations
- Grouping
- Sequencing
- Parameterization
- Parallel/Cross Browser Testing
- Introduction to Reports
- Types of Reports

Handling Web UI Elements-I

Handle Alerts, Modal Dialog Box, Multiple Windows, Tabs, and scrolling on a web page.
Verify Tooltip using Selenium WebDriver.

Topics:

- What are Alerts?
- Types of Alerts
- Alert Interface methods
- Handling Alerts in Selenium WebDriver
- What is a Modal Dialog Box?
- Handling Modal Dialog Box using Selenium WebDriver
- Handling Multiple Windows and Multiple Tabs using Selenium WebDriver
- Scrolling on a web page using JavaScriptExecutor
- Verifying Tooltip using Selenium WebDriver

Handling Web UI Elements-II

Handle IFrames using Selenium WebDriver. Manage Dropdowns and Multiple Select Operations using Select Class and Keyboard/Mouse-based interactions using Actions Class.

Topics:

- What is an IFrame?
- Identifying an IFrame
- Switching to IFrames using Selenium WebDriver
- Select Class in Selenium WebDriver
- Methods under Select Class
- Handling Dropdowns and Multiple Select Operations using Select Class
- Actions Class and Action Interface
- Methods for handling Keyboard and Mouse based interactions
- Testing Drag and Drop and Mouse Hover functionality using Actions Class

Selenium Grid and Robot Class

Deploy a Grid of multiple nodes and browsers. Automate Keyboard and Mouse events using the Robot Class.

Topics:

- Introduction to Selenium Grid
- Selenium Grid Architecture
- Deploy a Grid
- Introduction to Robot class
- Methods under Robot class (KeyPress, Key Release, Mouse Press, Mouse Release, Mouse Move)
- Implementation of the Robot class
- Advantages and disadvantages of the Robot class
- Limitations of the Robot class

Selenium IDE and Page Object Model

Use Selenium IDE and implement the Page Object Model (POM) using Selenium WebDriver and Page Factory.

Topics:

- What is Selenium IDE?
- Features of Selenium IDE
- Selenium IDE Interface

- Selenese in Selenium IDE
- Why Page Object Model?
- What is Page Object Model?
- What is Page Factory?
- Advantages of POM
- Implementing POM using Selenium WebDriver
- Implementing POM with Page Factory

Automation Frameworks-I

Understand the key Test Automation Frameworks. Utilize Apache POI as well as Data Provider annotation to implement Data-Driven Framework.

Topics:

- Introduction to Selenium Frameworks
- Types of Selenium Frameworks
- Introduction to Data-Driven Test Framework
- Advantages and Disadvantages of Data-Driven Test Framework
- Best practices of Data-Driven Testing Apache POI Data Providers

Automation Frameworks-II

Implement Keyword-Driven and Hybrid Frameworks. Maintain keyword function library and use the Page Object Model with Hybrid Framework.

Topics:

- Introduction to Keyword-Driven Test Framework
- Uses of Keyword-Driven Test Framework
- Keyword-Driven Framework Components
- Advantages and Limitations of Keyword-Driven Testing
- Implement Keyword-Driven Framework
- Introduction to Hybrid Driven Test Framework
- Advantages and Limitations of Hybrid Test Framework
- Utilize the Page Object Model with Hybrid Framework
- Implementing Hybrid Test Framework



BDD Framework with Cucumber

Understand Agile Testing concepts and the benefits of the BDD framework in an Agile environment. Use Cucumber and Gherkin to write BDD Acceptance Tests in Selenium.

Topics:

- Agile Testing
- Behaviour Driven Development (BDD)
- Advantages and Limitations of BDD
- Cucumber Fundamentals
- Gherkin Syntax in Cucumber
- Step Definition for Cucumber Feature File
- Advantages of Cucumber
- Advantages of Cucumber

Contact Us

For more information visit Selenium Certification Course page
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