

Selenium Course Curriculum

Java Basics Refresher

Topics

- Why Java?
- Need of Java (Cover Java Terminology—JDK, JVM, Byte Code, and JRE; How Java Works? How to Setup Java Path and Class Path? Explain About IDE and Where We are Going to Write Our Java Program.)
- Platform Independence in Java
- Explain Java Program Structure and Naming Convention
- Java Data Types and Variables and Output Statement
- Basic Operators in Java
- Features of Java
- Keywords and Syntax
- Classes and Objects
- Conditional Statements
- Iterative Statements
- Comments in Java
- Access Specifiers
- Java Methods
- Constructors
- What is Object Oriented Programming?
- OOPs Concepts

Hands-On

- Basic Applications on Java and OOPs Concepts

Skills You Will Learn

- Basics of Java

- Implementing Constructors
- OOPs Concepts

Arrays and Collection Framework in Java

Topics

- Arrays
- Strings
- Packages
- Blocks in Java
- Exceptional Handling in Java
- What are Collections?
- Collections
- Interfaces in Java
- Map Interface in Java

Hands-On

- Basic Applications on Arrays, Strings, Packages, and Blocks
- Basic Applications on Exceptional Handling and Collections

Skills You Will Learn

- Basics of Arrays and Strings
- Implementing Packages
- Collection Frameworks

Introduction to Automation Testing and Selenium

Topics

- Test Automation Fundamentals
- Types of Applications (Desktop, Web, Mobile, and Hybrid)
- Software Testing Methods (Manual and Test Automation)
- Test Automation Types (Unit Testing, API Testing, and GUI Testing)
- Test Automation Frameworks
- Test Automation Tools
- Test Automation Process
- Components of Selenium Suite
- Types of Testing
- Selenium vs. Other Testing Tools
- Introduction to Selenium
- Features of Selenium
- Selenium IDE
- Integration of Selenium with Other Tools

Hands-On

- Basic Selenium Application Without Maven
- Integration of Selenium with Other Tools (Maven)

Skills You Will Learn

- Basic of Selenium
- Test Automation Frameworks
- Implementing Selenium IDE
- Maven Framework

Interacting with waits in Selenium and TestNG Framework

Topics

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

Hands-On

- Types of Waits in Selenium
- Installing TestNG Plug-In
- Executing a TestNG Script
- TestNG Parameters
- Parallel Testing Using TestNG
- TestNG Reporting
- Parallel Testing Using TestNG
- TestNG Assertions

Skills You Will Learn

- Waits in Selenium
- TestNG Framework Annotations
- TestNG Grouping
- TestNG Sequencing
- TestNG Parameterization

Selenium WebDriver and Locators

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 Customizations
- What are CSS Selectors?
- Locating Web Elements Using CSS Selectors
- Selenium Commands in WebDriver
- Interacting with Web Elements

- Types of XPath
- XPath Functions and Customizations
- What are CSS Selectors?
- Locating Web Elements Using CSS Selectors
- Selenium Commands in WebDriver
- Interacting with Web Element

Hands-On

- Selenium WebDriver and Architecture
- Locating Web Elements Using Various Locators
- Absolute and Relative XPath
- XPath Functions
- XPath Axes
- Locating Web Elements Using CSS Selectors
- Selenium Commands in WebDriver

Skills You Will Learn

- Selenium Framework
- Selenium WebDriver Handling
- Web Elements Locating
- Locating Web Elements Using CSS Selectors
- Selenium Commands in WebDriver

Handling Alerts and Modal Dialog Box in Selenium

Topics

- What are Alerts?
- Types of Alerts
- 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 Selenium WebDriver
- Verifying Tooltip Using Selenium WebDriver

Hands-On

- Handling Web Page Alerts Using Selenium WebDriver
- Handling Modal Dialog Box Using Selenium WebDriver
- Verifying a Tooltip Using Selenium WebDriver
- Handling Multiple Windows and Multiple Tabs Using Selenium WebDriver
- Scrolling on a Web Page Using JavaScriptExecutor

Skills You Will Learn

- Handling Web Pages with Navigation Pop-Ups and Alerts
- Modal Dialog Box Handling

- Tooltip with Selenium WebDriver
- Handling Multiple Browser Windows and Webpage Scrolling

Selenium Grid and Robot Class

Topics

- Introduction to Selenium Grid
- Deploy a Grid
- Introduction to Robot Class
- Methods under Robot Class (KeyPress, Key Release, Mouse Press, Mouse Release, and Mouse Move)
- Implementation of the Robot Class
- Advantages and Disadvantages of the Robot Class
- Selenium Robot Framework for Page Crawling and Data Extraction

Hands-On

- Running Test Scripts on Selenium Grid
- Robot Class Methods

Skills You Will Learn

- Implementing Selenium Grid
- Robot Class Methods (KeyBoard Methods)
- Robot Class Methods (Mouse Methods)

Selenium IDE and Page Object Model

Topics

- What is Selenium IDE?
- Features of Selenium IDE
- Selenium IDE Interface
- Selenese in Selenium IDE
- Why Page Object Model (POM)?
- What is Page Factory?
- Implementing POM Using Selenium WebDriver
- Implementing POM with Page Factory
- Test Case in Selenium IDE
- Page Object Model Using Selenium WebDriver
- Page Object Model with Page Factory

Skills You Will Learn

- Implementing Selenium IDE
- Selenese in Selenium
- Basics of Page Object Model

Automation Frameworks - I

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

Hands-On

- Selenium Framework Working
- Hybrid Test Frameworks
- Driven Test Framework Using POI and Data Providers
- Data-Driven Testing
- Data-Driven Page Testing
- Apache with Page Object Model

Skills You Will Learn

- Selenium WebDriver Working
- Selenium Commands in WebDriver
- Data-Driven Test
- Apache

Automation Frameworks - II

Topics

- Introduction to Keyword-Driven Test Framework
- Uses of Keyword-Driven Test Framework
- Keyword-Driven Framework Components
- Implement Keyword-Driven Framework

- Advantages and Limitations of Keyword-Driven Testing
- Implement Keyword-Driven Framework
- Introduction to Hybrid Driven Test Framework
- Advantages and Limitations of Hybrid Test Framework

- Use of Log4j
- Use of Listeners
- Introduction to Jenkins
- Configuring Jenkins to Invoke Selenium Tests

Hands-On

- Keyword-Driven Testing Framework
- Keyword-Driven Testing Implementation
- Hybrid Test Framework Implementation
- Log4j
- Jenkins

Skills You Will Learn

- Website Testing with Keyword Driven
- Hybrid Testing Implementation
- Logging Using Log4j
- Jenkins

IFrames, Actions Class, and Dropdowns

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
- Methods for Handling Keyboard and Mouse-Based Interactions
- Testing Drag and Drop and Mouse Hover Functionality Using Actions Class

Hands-On

- IFrames in Selenium
- Handling IFrames Using Selenium WebDriver
- Handling Select Class in WebDriver
- Handling Dropdowns and Multiple Select Operations
- Handling Keyboard and Mouse-Based Interactions Using Actions Class
- Testing Mouse Functionality on WebDriver

Skills You Will Learn

- Handling Select Class and Dropdowns
- Handling Keyboard and Mouse-Based Interactions
- Working on Mouse-Driven WebDriver Functionality

BDD Framework with Cucumber

Topics

- Agile Testing
- Behavior Driven Development (BDD)
- Advantages and Limitations of BDD
- Cucumber Fundamentals—About Cucumber
- Gherkin Syntax in Cucumber
- Step Definition for Cucumber Feature File
- Advantages of Cucumber
- Implementing BDD Framework Using Cucumber

Hands-On

- BDD with Cucumber

Skills You Will Learn

- Agile Testing
- BDD Framework
- Gherkin
- Cucumber