

SELENIUM TESTING

With
Gen AI & Agentic AI
+
Live Projects & Placements

Courses Content :

[Selenium + Core Java + API Testing +
Database Testing + AI Testing +
Mock Interviews + Placements]

SELENIUM with Live Projects

Selenium Components & Object Identification

Automation Testing Overview & Process

- What is automation testing
- Why automation testing ?
- Difference between manual & Automation Testing
- Drawbacks of manual testing
- Advantages of Automation Testing
- When to start Automation Testing
- Tool Evaluation or POC

Types of Automation tools

- Licensed Tools
- Open Source Tools

Test Automation Fundamentals

- Automated Testing
- Benefits of Automation Testing
- Limitations of Automation Testing

Automation Testing Tools

- Test Automation Tool Evaluation
- Introduction to Selenium
- Difference between Selenium and QTP
- Why Selenium is Preferred

Selenium Components

- Selenium IDE
- Selenium RC
- Selenium WebDriver
- Selenium GRID

Object Identification/Locators

- Introduction to element locators
- Types of Element Locators
- How to use name,id,class properties
- Writing Xpath Manually
- Types of Xpath
- When to use xpath
- Xpath with attributes
- How to use tagname
- Locating using linktext,partiallinktext
- findElement & FindElements
- Element locators on different browsers

Core Java

Core Java Fundamentals

About Eclipse

- Installation of Java
- Installation of Eclipse IDE
- Creating Project in eclipse
- Creating Packages
- Creating Classes & methods
- Writing & Executing programs in Eclipse IDE
- Eclipse and Selenium together
- Debugging using Eclipse
- Why JAVA for selenium

Language Fundamentals

- History & Features of java
- Introduction to Java Programming
- First java program
- Creating classes & Methods
- Keywords & Class and Object
- Data Types & Variables
- Static methods
- Purpose of static methods
- Arrays, Construction and Initialization

Conditional Statements

- if else condition
- nested if else condition
- Switch case statement
- Examples for all the if conditions

Loop Statement

- While Loop
- Do-while
- For loop
- Foreach loop
- Examples for loops

Keywords

- break
- continue
- Examples for keywords

Arrays

- What is Array
- Advantages of Array in Java
- Working with Array and ForEach loop
- Examples for Array

Packages ,Classes and Objects

- What are Packages

- Creating packages , Class & Objects
- Types of Methods
- Writing user defined methods
- Scanner class

Inheritance

- What is Inheritance
- Advantage of inheritance
- Types of Inheritance
- Examples for inheritance

Polymorphism

- What is polymorphism
- Method Overload
- Method Override
- Examples

Encapsulation

- Introduction
- Examples

Abstraction

- Define Abstraction Class
- Define Abstract Methods
- Steps to define Abstraction
- Examples

Interface

- Implementing interface
- Difference between Abstraction & Interface
- Implements vs extends
- Examples

WebDriver with Project Testing

Basic Selenium / Web Driver

- Introduction to selenium
- Advantages of web driver
- Web Driver v/s RC
- Architecture of Web Driver and RC
- Configure Selenium with Eclipse IDE(Adding Selenium jar files)
- Working with multiple browsers Firefox, Chrome & Edge, etc...
- Creating the generic scripts in Web Driver
- Navigate methods
- Performing Verification
- Providing Test Data

Advanced Stuff

Alerts, Frames, Windows

- Handling alerts

- Alert interface methods
- Handling Frames/Iframes
- Locating Frames
- Switching between Frames
- Using window handler methods
- Switching between windows

Dropdown , WebTable page back commands

- Handling dropdown
- Select class methods
- Select Single value & multiple values
- Reading data from web table
- Page back commands

Synchronization

- Introduction of wait Methods
- Use of Wait methods in selenium
- Types of Wait Methods
- Difference between Thread.sleep, ImplicitWait & ExplicitWait
- Different Expected Conditions in Webdriver

Miscellaneous

- Capturing screenshots
- How to take data from DB
- Handling Ajax events
- Capturing screenshot on failure
- Handling Auto Suggestions
- Different Selenium Exceptions
- File upload and download

Robot Class , Mouse Events

- Robot class in Web driver
- Simulating Keyboard Events
- Windows popup using Robot class
- Action class
- Mouse Over Actions
- Drag & Drop Actions

JavaScript Executor in Web driver

- What is JavaScript Executor?
- What is JavaScript Executor in Selenium?
- When we have to use JavaScript Executor

Working with Excel

- Configure Apache POI with Eclipse

- Workbook, Sheet, Row, Cell, methods
- HSSF Workbook
.HSSFSheet, HSSFRow, HSSFCell methods
- How to Read data from Excel file (XLS or XLSX)
- How to Write data to excel file

Framework Design & Implementation from Scratch

Automation Framework Implementation

- TestNG Framework
- Hybrid Framework
- POM Framework

TestNG and JUnit in Selenium

- Introduction to TestNG
- Advantages of TestNG over JUnit
- TestNG Features
- Configure TestNG with Eclipse
- Writing Selenium testing script from scratch
- Running the Test
- Checking the reports generated by TestNG
- Annotations used in TestNG
- Prioritizing Tests
- TestNG with Excel data
- Create Testng.xml
- Creating and running Test suites using TestNG
- Skipping Tests
- Setting priority of execution for test cases
- Executing group of regression/sanity/smoke test cases using TestNG

Advanced TestNG concepts

- Printing the log statements in TestNG report
- TestNG Results output folder walkthrough
- Running Parallel & Distributed tests

Integration of Third party Tools in Framework

Log4j

- Log4j Introduction
- Usage of Logger

- Add Log4j Jars
- Integrate Log4j in Selenium
- How to Integrate Log4j in Framework

Jenkins Integration

- Why Jenkins
- Installation of Jenkins
- Steps to integrate Jenkins
- Configure Email notification in Jenkins
- Scheduling Jenkins Jobs
- Integration with Selenium Scripts and Running Scripts
- Creating Batch file
- Executing scripts using batchfile

Git Hub Integration

- What is Git Hub
- How to create Git Hub Account
- Setup of GitHub in Eclipse
- What is Commit and push
- Steps to perform Push and Commit
- Integrating with Framework

Maven

- What is Maven
- Using the pom.xml file
- Setting up the Maven project in eclipse editor
- Building and running the selenium Maven project
- Adding Dependencies to pom.xml
- Updating the selenium project dependencies by using Maven

Cucumber Tool with Web Driver

- Cucumber tool Overview
- Difference between Cucumber & other automation tools
- Preparing Features File having test scenarios
- Writing Runner Class
- Given, When, Then, And, But annotations and usage in features class
- Cucumber HTML Reports
- Usage of cucumber tool with Web driver

Sikuli/Auto it Tool for handling windows

- Sikuli Overview
- Why Sikuli?

- Configure Sikuli with Selenium
- Sikuli scripts in Selenium Web Driver

API Testing using POSTMAN & Rest Assured

- Introduction to Web Service
- Types of WebService
- What is an API?
- What is API Testing?
- What does API Testing involve
- API Testing Steps
- HTTP methods
- Status codes
- Example APIs
- Postman api
- Rest api
- Difference between SOAP and REST Web services.
- GUI tools available for API Testing
- Creation of Workspace & Collections
- Understanding GET request
- Understanding POST request
- Understanding PUT request
- Understanding DELETE request
- API Test Case Template
- Sample TestScenarios/testcases for api testing
- Test Case Execution
- What is Rest Assured
- Rest assured Installation
- API automation programs using Rest Assured
- Rest Assured Eamples

Data Base Testing using SQL

- What is DataBase
- Types of DataBase
- What is SQL
- Writing SQL queries

- Types of commands
- DDL: Data definition language
- *DML: Data manipulation language
- *DCL: Data control language
- AND / OR clauses
- Where Clauses
- Update & Delete DataBase
- Primary Key VS Foreign Key
- Joining Tables
- Right/Left joins
- joining multipul tables
- Roles and Responsibility of Tester
- Differences between User-Interface Testing and Data Testing
- Sample TestScenarios/test case for database testing

AI – Testing for Software Testing

- What is AI
- How does AI works
- Key Components of AI
- Types of AI
- What is AI Testing
- AI use in Testing
- AI Tools for Testing
- Challenges of AI Testing
- Exposure on AI Tools
- How To save Time using AI Tools
- What is GenAI? – Why It's a Game Changer for Testers
- Test Case Generation
- Test Data Generation
- Usage of Chat GPT , Claud.Ai Tools
- Finding bugs
- What is Agentic AI
- Agentic AI for Testing
- Agentic AI tools of Test Craft
- Auto Test Script generation

==Training Highlights:

- Flexible Learning Options [**Offline/Online/Hybrid**]
- **Offline / Online / Hybrid** lab support
- Real Time **Live projects** job oriented Trainings
- Real Time Trainers with more than **15+** experience
- **Mock Interviews** till getting placed
- **100%** Placement Assistance