



AUTOMATION COURSE CONTENTS

Duration:40hrs.

Course Objective

- Understand OOPS /java concepts - 15 hours
- Understand Selenium WebDriver tool in depth, it's features & components – 10 hours
- Building a new Test Framework by using Webdriver, TestNG , Cucumber and Maven – 12 hours
- Configuring the code externally and building CI/CD – 3 hours

Java Programming Basics

- Installing Java
- Installing Eclipse
- First Eclipse Project
- First Java program
- Datatypes in Java
- String class and functions
- Conditional Statements
- Loops
- Arrays
- Single Dimensional Arrays
- Two Dimensional arrays
- Operators
- Types Of Variables
- Access Modifiers – Public/Private/Default/Protected

Object-Oriented Programming in Java

- Creating Objects in Java
- Overloading and Overriding
- Abstraction
- Constructors
- Interface
- Inheritance
- Encapsulation
- Usage of OOPS in Automation

Exception Handling

- Exception handling with try catch block
- Importance of exception handling

- Exception and Error
- Throwable Class
- Final and Finally
- Throw and Throws
- Different Types of Exceptions
- Need of exception handling in Selenium framework

Collections

- Collection Framework
- Collection Interfaces
- List
- Set
- Map
- Usage of Collections in Automation

Selenium

Introduction

- What is Selenium?
- Who developed Selenium?
- Selenium Components

WebDriver Introduction

- Introduction to WebDriver
- Installing Selenium WebDriver
- Architecture of selenium Webdriver
- Creating your First Script in Webdriver

Launching AUT and Inspecting properties of Elements

- Launching AUT in FireFox
- Launching AUT in InternetExplorer
- Launching AUT in Chrome
- Launching AUT in Safari
- Inspecting properties of Elements on different Browsers

Creating Customize XPath

- What is XPath
- When to Use XPath
- Absolute XPath/Relative XPath
- Specifying conditions with XPath
- CSS Selectors

Automating Operations on various Elements

- Browser
- TextBox
- ListBox
- Links
- Check Box
- Radio Button
- HTML Tables
- Calendars

Automating Keyboard and Mouse Events

- Action Class
- KeyBoard Events
- Drag & Drop Actions
- Mouse Hover Action
- RightClick, Double Click & Tool Tip

Handling multiple Windows

- getWindowHandle()
- getWindowHandles()
- Switching between windows
- Handling elements present in different windows

Handling Alerts

- accept()
- dismiss()
- getText()
- sendKeys()

Handling Frames

- What is iFrame?
- Locating Frames
- Switching between Frames
- Handling Frames

Synchronization

- ImplicitWait
- WebDriverWait
- FluentWait
- PageLoadTimeout

JavaScript Executor and Take Screenshot

- How to capture Screenshot
- How to perform actions using JavaScript

Automation Test Frameworks

TestNG

- Why do we need TestNG in Selenium?
- Installing TestNG in Eclipse
- Creating a New TestNG Test File
- Test annotation
- Running the Test
- Checking reports created by TestNG
- Generating HTML Reports
- Annotations used in TestNG
- Validating Tests with Assertions
- Creating multiple Tests
- Prioritizing Tests
- Parameterizing Tests with dataProvider
- TestNG dataProvider with Excel
- Creating and Running Test Suites with TestNG.xml
- Parallel Test Execution with TestNG
- Cross Browser Testing using TestNG

Data Driven Framework using Apache POI

- Configuration of Apache POI
- How to Read data from Excel File
- How to Write data to Excel File

BDD Framework using Cucumber

- Overview of BDD and Cucumber

- Configuration of Cucumber
- Overview Of Gherkin Keywords
- How to create Feature File
- How to generate step Definition File
- How to integrate Cucumber with Selenium WebDriver
- Test Runner Class
- How to generate Reports in Cucumber

Page Object Model (POM) & Page Factory in Selenium

- What is POM
- Why POM?
- Advantages of POM
- Creating POM Tests
- What is Page Factory?
- Creating Tests with Page Factory

Maven

- What is Maven?
- Creating Maven Project in Eclipse
- Adding dependencies to POM.xml
- Maven Integration with testing

Github

- How to create Github account
- Git & Github Commands
- How to add the code to Github

Jenkins

- Configuration of Jenkins
- Creating Jobs in Jenkins
- Scheduling job in Jenkins
- Configuring email notifications in Jenkins