

## QA Automation Testing(MANUAL& Automation Testing SELENIUM JAVA)

# Curriculum

### Software Testing Overview

- Introduction to Software Testing
- Why Testing is Necessary
- What is Manual Testing?
- What is Automation Testing?
- Error / Defect / Failure?
- Why Software has defects?
- Role of a Tester?

### Software Development Life Cycle (SDLC)

- SDLC Phases
- SDLC Models
  - Waterfall Model
  - V Model
  - Agile Model



### White Box Testing

- What is White Box Testing?
- Unit Testing
- Integration Testing
- Why WBT is Necessary?

### Black Box Testing

- What is Black Box Testing?
- Why BBT is Necessary?
- System Testing
- Acceptance Testing
  - Alpha Testing
  - Beta Testing(UAT)

### Smoke Testing & Sanity Testing

### Functional Testing Types

- Re-Testing
- Regression Testing
- Difference between Re-Testing & Regression Testing
- System Integration Testing

- End-to-End Testing
- Exploratory Testing
- Monkey Testing

### **Non-Functional Testing**

- UI Testing
- Security Testing
- Compatibility Testing
- Load Testing
- Performance Testing

### **Software Testing Life Cycle (STLC)**

- What is STLC
- STLC Phases

### **Test Planning**

- Test Plan

### **Test Analysis**

- Analyzing Functional Requirements

### **Test Design**

- Preparing Test Scenarios
- Preparing Test Cases
- Test Case Design Techniques
  - ECP&BVA
- Test Data
- RTM



### **Test Execution**

- Executing Test cases

### **Defect / Bug Life Cycle**

### **Defect Management**

- What is defect?
- Defect Reporting Process
- Defect Severity & Defect Priority
- Defect Status

### **Test Closure**

- Test Summary Reports
- Status Reports (Daily and Weekly)

### **Agile & Scrum**

- What is Agile Testing?
- Scrum Introduction

- Getting Agile with Scrum
- Characteristics of Scrum
- Scrum team

### Scrum Project

- Sprint Planning
- Product backlog
- Concept of Epics
- Concept of User Stories
- The Daily Scrum Meeting
- Sprint Review Meeting
- Sprint Retrospection

### Overview on Automation & Selenium

- What is Software Testing? Types of Software Testing?
- Challenges in Manual testing
- How Automation Overcome challenges in Manual testing?
- How Automation tools work?
- Importance of Programming in Automation
- What is Selenium? What are the components of Selenium?
- What are the Advantages & Disadvantages of Selenium WebDriver?

### Java Essentials for Selenium



- Java and Eclipse Environment setup
- How to write Basic Java program?
- Understanding console output
- Java Variables and Data Types
- Java Operators
- Conditional statements – if, if else, switch case
- Loops – while do while, for
- Jumping statement – break and continue
- Arrays
- String Class
- String methods

### Java OOPS Concepts

- Classes and Objects
- Java methods
- Passing parameters to the methods
- Java Constructor
- Encapsulation
- Polymorphism
- Overloading Methods
- Overloading Constructors
- this keyword
- Static variables and methods

- Inheritance
- Types of Inheritance
- Method Overriding
- super keyword
- final keyword
- Abstract Class
- Java Interface
- Access Modifiers
- Data conversion functions
- Reading Input from keyboard
- Exception Handling
- Java Collections
- List
- Set
- Hash Map

### **Selenium Introduction**

- What is Selenium?
- Who developed Selenium?
- Selenium Components
- 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 Internet explorer
- Launching AUT in Chrome
- Launching AUT in Safari
- Inspecting properties of elements on Browser

### **Finding elements using Locators**

### **Creating Customize XPath/CSS Selectors**

- What is Xpath
- When to Use Xpath
- Absolute XPath/Relative XPath
- Specifying conditions with Xpath
- C55 Selectors

### **Automating WebElements Operation**

- 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 Alerts

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

## Handling Frames

- What is iFrame?
- Locating Frames
- Handling Frames

## Handling multiple Windows

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



## Synchronization

- ImplicitWait
- WebDriverWait
- Fluentwait
- PageLoadTimeout

## TestNG

- Advantages of TestNG over Junit
- Why do we need TestNG in Selenium?
- Installing TestNG in Eclipse
- Creating a New TestNG Test File
- TestNG annotation
- TestNG assertions
- Running the TestNG Test
- Checking reports created by TestNG
- Creating multiple Tests
- Prioritizing Tests
- Parameterizing Tests with @dataProvider

- TestNG dataProvider
- Creating and Running Test Suites with TestNG.xml
- Sequential Test Execution with TestNG
- Parallel Test Execution with TestNG

### **Automation Test Frameworks**

- Hybrid Framework with Page Object Model (POM)

### **Maven**

- What is Maven and Why Maven?
- Installing/Configuring Maven
- Creating Maven Project
- Importing Maven Project into Eclipse
- What is POMxml?
- Adding Dependencies to POM.xml!

### **Git and GitHub**

- Create GitHub Account
- Configure Git & GitHub with Eclipse
- GitHub Commands

