

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
- CSS 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 POM.xml?
- Adding Dependencies to POM.xml!

Git and GitHub

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

