

Software Testing (Manual and Automation)

Objective: To test the real world application using testing tools and techniques.

Pre-requisites: Basic Understanding of the software development life cycle (SDLC). Basic Understanding of Java or any other object oriented programming language. In addition, you should be well-versed with the fundamentals of testing concepts.

Session 1 (Introduction to Testing)

- Brief Introduction to Software Testing and Its Definition
- 7 Principles of Testing
- Why Testing Necessary and How much Testing is enough

Session 2 (Introduction to Documents)

- Business Requirement Specification
- Software Requirement Specification
- Functional Requirement Specification
- Requirement Traceability Matrix
- Test Plan

Session 3 (Introduction to SDLC and Models)

- Waterfall Model
- V Model
- Prototype Model
- Spiral Model

Session 4 (Introduction to STLC)

- Software Testing Life Cycle
- Agile Methodology
- Agile Scrum

Session 5 (Bug/Defect)

- Introduction to Bug
- Bug, Defect, Failure, Error
- Bug Life Cycle
- Bug Release, Bug leakage
- Latent Defect
- Masked Defect

Session 6 (Manual and Automation Testing)

- Differences between Manual and Automation testing
- Functional Testing, Non-Functional Testing
- GUI Testing, Usability Testing, UX Testing, Performance Testing
- Security Testing, Database Testing, Smoke Testing, Sanity Testing

Session 7 (Levels of Software Testing)

- Unit Testing, Integration Testing
- System Testing, UAT Testing
- Alpha Testing, Beta Testing
- Black box Testing, White Box Testing, Gray Box Testing

Session 8 (Q.A, Q.C and Terms of Testing)

- Verification Testing, Validation Testing
- Static Testing, Dynamic Testing
- Severity and Priority
- Test Case, Test Scenario
- Test Data, Test Script

Session 9 (Black Box Testing Techniques, Experience Based Testing)

- BVA, ECP, Decision Table/Cause Effect
- Exploratory Testing
- Error Guessing Testing
- Testing at glance

Session 10 (Introduction to Tools)

- Basics of Jmeter, Setup of Jmeter, Uses of Jmeter
- Load Testing, Stress Testing, Performance Testing
- Introduction to Selenium, Setup of Eclipse
- Installation of firebug, Installation of Firepath
- What is Selenium, Uses of Selenium, Types of Selenium Tools

Session 11 (Selenium WebDriver Testing and Types)

- Introduction to WebDriver
- Guide to Install WebDriver
- Add and Import Jar Files
- Script Writing

- Access forms in WebDriver
- Select Web Elements
- Dropdown List
- Accessing Link and Tables
- Keyboard Mouse KeyEvents
- Upload and Download Files

Session 12 (Introduction to Robot Framework)

- What is a Test Automation Framework?
- Origin and History of Robot Framework
- Features and Capabilities
- Robot Framework Vs Selenium Framework

Session 13 (Installation Overview and Preconditions)

- Install Python and PIP, Install Robot Framework
- Selenium Library, Install Desired Browsers
- Create Base Scripts Directory and Project
- Navigate and Search Script Files

Session 14 (First Script Execution)

- Organizing Your Project Files
- Sections of the Script File
- Selenium2Library vs Selenium Library
- Write Test Steps – Part1
- Test Setup and Test Teardown
- An Important IE Precondition Settings
- Run the Script on Different Browsers
- Examine the Great Results Files

Session 15 (Make the Script More Readable)

- Style: Procedural vs Gherkin
- Introduction User Defined Keywords
- Break the Script into Keywords
- Moving Keywords to Resources
- Adding Set Up and Tear Down

Session 16 (Use Variable to Centralize Data)

- Scalar Variables, List Variables, Variable Scope

- Passing Variables to Keywords

Session 17 (Test Reports and Log Reports)

- Log Files
- Report Files

Session 18 (Introduction to Appium)

- Various Tools for Mobile Applications
- What is Appium?
- What all can be tested with Appium?

Session 19 (Download and Configure Appium)

- Configuring Appium on Real Device
- Download and Configure Android on Local Machine
- Starting Appium Server from Console
- Starting Appium Server from Command Prompt

Session 20 (First Appium Program)

- Running Your First Appium Program
- Installing Simulator
- Running First Script on Simulator
- Maven Dependencies

Session 21 (Launching Hybrid/Native Apps with Appium)

- Concept of Apk File, AppCompatActivity and AppCompatActivity
- Javadocs for Appium
- AppiumDriver and RemoteWebDriver classes
- Launching System Hybrid Apps
- Appium Re-installs App
- Checking Whether App is Installed on Phone
- Launching Native Apps like calculator, Contacts, Settings
- Always quit appium - Mandatory

Session 22 (Project Work)