

Software Testing (Manual + Automation)

Course Content

Module - 1: Introduction

- Overview of Software Companies
- Overview of Software Projects
- Interview Process for Testers
- Types of Jobs in IT companies
- Types of Teams
- Teams Collaboration
- Role Chart of Test Engineer

Module - 2: Software Development Life Cycle

- Overview of Software Engineering
- What is SDLC
- SDLC Phases
- Waterfall Model
- Advantages of Waterfall
- Dis-Advantages of Waterfall Model
- Spiral Model
- Introduction to Agile
- Agile Terminology
- Spring Overview
- Scrum
- Retrospective Meetings
- Backlog Grooming

Module - 3: Software Testing

- Introduction to Software Testing
- Principles of Software Testing
- Software Testing Life Cycle
- Bug Life Cycle
- Types of Software Testing
- Levels of Testing
- Functional Testing
- Non-Functional Testing
- Unit Testing
- Integration Testing
- System Testing
- User Acceptance Testing (UAT)
- Alpha and Beta Testing
- Positive Testing
- Negative Testing
- End-To-End Testing
- Maintenance Testing
- Exploratory and Ad-hoc Testing
- Smoke and Sanity Testing
- What is Regression Testing & When Do We Do?
- What is Retesting & When Do We Do?
- Manual Testing Methods
- Test Deliverables

- How To Write Test Strategy
- How To Write Test Plan
- How To Write Test Scenario
- Test Case Template With Explanation
- Bug Report Template
- Test Metrics
- Requirement Traceability Matrix – RTM
- Black Box Test Design Techniques
- Equivalence Partitioning Testing Technique
- Boundary Value Analysis Testing Technique
- Decision Table Test Design Technique
- State Transition Test Design Technique
- Localization Testing
- Bug Severity and Priority
- Defect Triage Process in Software Testing
- What is Testing in Production
- Test Estimation
- Test Report
- Test Strategy vs Test Plan
- Bug Tracking Tool Jira

Module - 4: CORE JAVA

- Java Basics
- Features of Java
- Variables and Data Types
- What is JRE, JVM, and JDK

- Operators
- Control Flow Statements
- Arrays
- Object-oriented programming
- Object and Class
- Method
- Constructor
- Static & this keywords
- Access Modifiers
- Inheritance
- Polymorphism
- Super Key Word
- Abstraction
- Encapsulation
- Type casting
- Interfaces
- String class
- Packages
- Exception Handling
- Introduction
- Pre-Defined Exceptions
- Try-Catch-Finally
- Throws, throw
- User Defined Exception examples
- Collection Framework
- Introduction
- Collection interface
- List interface and its classes
- Set interface and its classes
- Map interface and its classes
- Queue interface and its classes

Module - 5: Automation Testing

- Introduction
- What is automation testing?
- Advantages of Automation testing
- Types of Automation Tools

Module - 6: Selenium

- What is Selenium?
- Who developed Selenium?
- Advantages of Selenium
- Difference between Selenium and UFT
- Selenium Components
- Introduction to WebDriver & Comparison with Selenium RC
- Architecture of Selenium Webdriver
- How to install Eclipse?
- Configure Selenium WebDriver with Eclipse
- Working with different browser drivers
- First Selenium WebDriver Script
- Working with WebDriver methods
- Difference Between FindElement & FindElements
- Locators in Selenium
- Dynamic Xpath
- Dynamic CSS
- Handle drop-downs and WebTable
- Handle Alerts & Popups

- Handle Frames/Iframes
- Handle Windows
- Mouse Hover event in Selenium
- Right Click
- Double Click
- Introduction of wait Methods
- Use of Wait methods in selenium
- Types of Wait Methods
- Difference between Thread.sleep,ImplicitWait&ExplicitWait
- Capturing screenshots
- Capturing screenshot on failure test cases
- Handling Ajax events
- Handling Auto Suggestions
- Different Selenium Exceptions
- File upload and download
- Robot Class, Mouse Events
- Handling JavaScript in Selenium
- Configure Apache POI with Eclipse
- Workbook,Sheet,Row,Cell ,methods
- HSSFWorkbook .HSSFSheet,HSSFRow ,HSSFCell methods
- How to Read data from Excel file(XLS or XLSX)
- How to Write data to excel file
- Listeners in Selenium
- Stale Element Reference Exception in Selenium
- Headless Browser Testing
- Introduction to Selenium Frameworks
- Data-Driven Framework
- Keyword driver Framework

- & Responsibilities Of TesterHybrid framework
- Page Object Model
- Selenium with TestNG
- TestNG Introduction
- Selenium with TestNG Sample Script
- TestNG Annotations
- Data-Driven Testing
- Running Tests in Parallel
- Multi-browser Testing
- Rerun Failed Tests
- Set Test Priority
- Dependency in TestNG
- Soft Assertion
- Timeouts in TestNG
- Extent Reports
- BUILD & CONTINUOUS INTEGRATION TOOLS
- How to Download and Install Maven Build Tool
- Creating Maven Selenium Project
- GIT Integration with Selenium
- How to download and Install Jenkins
- Execute TestNG Scripts in Jenkins
- Generating Reports after Test Execution

- Executing Maven Project in Jenkins
- Create and Execute Build in Jenkins
- Send Email report based on build status
- Selenium Continuous Integration with Jenkins Step by Step Guide

Module - 7: Real-time Tools

- Maven
- Git Hub
- Jenkins
- POSTMAN
- JMETER
- TestNG

Module - 8: Interview Guide

- Resume Preparation
- Interview Questions
- Mock Interviews
- Job Profile Creation
- Day To Day Activities Of Tester
- Roles

