

# **Software Testing Online Training**

Manual, QTP, Selenium

Duration: 35+ (hours)

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LECTURES



Life Time Free Library Access \* Doubts Clarification

## Manual Concepts and QC

### **Topic 01: Concepts**

- Software Testing and its Importance
- Principles of Testing
- System Development Life Cycle (SDLC) and System Testing Life Cycle (STLC)
- Difference between Software Testing and Quality Assurance

### **Topic 02: Types of Testing**

- Unit Testing
- Integration Testing
- System Acceptance Testing
- Sanity Smoke Testing
- Maintenance Regression Testing
- Non Functional Testing

### **Topic 04: Test Case Development**

- Steps of Test Case Development
- Test Scenario
- Test Case Specifications
- Test Basis
- Traceability Matrix

### **Topic 05: Test Management and Control**

- Test Estimation
- Test Plan

### **Topic 06: Defects**

• Defect Life Cycle

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## **Quality Center**

### **Topic 01: Quality center: Introduction**

- 1. Purpose of Quality center
- 2. Phases of Quality center
- 3. Quality center architecture
- 4. Quality Center Modules

### **Topic 02: Quality center: Administration**

- 5. Creation of domain
- 6. Creation of project
- 7. Creation of users
- 8. Assigning users to project

### **Topic 03: Quality center: Modules**

- 9. Requirement module:
- a. creating requirements
- 10. Test plan module:
- a. creating test cases
- 11. Test lab module:
- a. creating test sets and
- b. test execution
- 12. Defects module:
- a. defect reporting
- b. tracking
- 13. Linking requirements, test cases & defects





### **Topic 04: Quality center: features**

- a. Views
- b. Edit
- c. Analysis :Reports & Graphs

### Topic 05: Quality center: Integration with QTP

- 14. Integration with QTP
- 15. Running QTP scripts from QC

## **QTP** syllabus

### **Topic 01: INTRODUCTION TO AUTOMATION TESTING**

- 1. Understanding what is Automation Testing and Need of Automation
- 2. Introducing different areas of automation
- 3. Difference between manual testing and Automation testing
- 4. Prerequisites for QTP
- 5. Introduction to QTP tool and discussion on various version of QTP

### **Topic 02 : TESTING PROCESS OF QTP**

- 6. Understanding the Test Process of QTP
- 7. Discussion of menu items
- 8. Discussion on the various components of QTP
- a. window like test pane





- b. Test details pane
- c. Active screen
- d. Data table
- e. Information and missing
- f. Resources window
- g. Result window
- 9. Discussion on the keyword view and Expert view
- 10. IMPLEMENTING GUI AND BITMAP REGRESSION TEST
- 11. Understanding the Add-in manager
- 12. Working with Automation Record and Run setting
- 13. Working with File settings
- 14. Working with Tools options

15. Understanding the basic structure of QTP script on different technologies like(VB,Net, Java/J2EE,

Web and Standard windows)

- 16. CREATING TEST SCENARIOS/COMPONENTS
- 17. Creating a basic script
- 18. Recording and script generation
- 19. Understanding Test Object, Run Object, Pre Learning and Auto Learning
- 20. Understanding how QTP identifies the

objects(Mandatory, Assistive properties & Ordinal Identifier)





### **Topic 03: PREDEFINED FUNCTIONS IN VB SCRIPT**

- 21. String Functions
- a. Instr
- b. Replace
- c. Right
- d. Left
- e. Trim
- 22. Date Time Functions
- a. Date
- b. Time
- c. Day
- d. Month
- e. Week
- 23. Control Statements
- a. If else and nested if
- b. For
- c. While
- d. Do while
- e. Select

### **Topic 04: Debugging**

- 24. Implementing break point mode
- 25. Debugger window in run time
- 26. Adding variables to debugger window
- 27. V and v approach in Debugger mode





### **Topic 05: CHECKPOINTS AND OUTPUT VALUES**

- 28. Understanding the need of checkpoints in Automation
- 29. Working on various checkpoints available in QTP
- 30. Understanding the need of output values in Automation
- 31. Working on various output values available in QTP
- 32. Understanding the Environment Variables/Global Variables
- 33. Working on both inbuilt and User defined Variables

### **Topic 06: ACTIONS IN QTP**

- 34. Introduction to Actions in QTP, advantages of Actions ,Dis –Advantages of action
- a. Creating New actions
- b. Split actions
- c. Working on reusability of Actions with call to existing and call to copy options

### **Topic 07: FUNCTIONS, PROCEDURES AND CLASSES (LIBRARY FILES)**

- 35. Understanding the need of reusability while Automation Testing
- a. Creating Local and Global functions in QTP
- b. Working with Library Files of QTP
- c. Creating user defined classes, methods and objects in QTP
- d. Understanding how a function returns the value in QTP
- e. Associating QLF with Test





### **Topic 08: OBJECT REPOSITORY**

- 36. Working with Object Repository(Shared and Per- Action)
- 37. Working with Object Repository Manager
- 38. Associating Objects Repositories to Actions of QTP
- 39. Working with Object SPY
- 40. Discussion of various control in AUT and their mandatory properties
- 41. Discussion of get to set to properties

### **Topic 09: Working with Regular expressions**

- 42. Scope for regularization
- 43. Properties for regularization
- 44. Sample or regularization expressions

### **Topic 10: Introduction to parameterization**

- 45. Creating a Parameterized script(Data Driven Test)
- 46. Working on different methods of Data Table object
- 47. Working on different way of parameterizing an object in QTP
- 53. EXCEL OBJECT METHODS WITH QTP
- a. Create
- b. Read
- c. Write
- d. Save
- e. Quit





### **Topic 11: Real time features**

- 55. Master script
- 56. Framework and design parameters
- 57. Business flow diagrams and Functional flow diagrams(free Software)
- 58. Test data generation(Test data patterns generations)
- 59. Positive Test data
- 60. Conversion of manual test cases sheet to automation

### **Topic 12: ADVANCED OPTIONS**

- 61. Descriptive programming & Description object, Static& dynamic desc programming
- 62. Advantage , Dis advantages of DP , Performance of descriptive programming
- 63. Exception Handling/Recovery scenario Manager
- 64. Smart Identifications, Configuration of object Identification
- 65. Database connection using ADODB objects

### **Topic 13: Project Work**

- 66. Order of preferences while developing Automation Project
- 67. OR and Scripts developments with Dry runs
- 68 Test Execution configuration sheets
- 69. Test data capturing and traversing Data Driven FW
- 70. Automation architecture





## Main Topic: Selenium syllabus

Installation of Selenium IDE

Installation of Webdriver

Configuring TestNG and Eclipse.

Basic set up test frameworks for JAVA

**MAVEN + Jenkins + Selenium integration** 

## Selenium syllabus

### Topic 01: Selenium IDE

- Core Java Concepts
- Selenium WebDriver
- Page object model in selenium
- TestNG framework
- Maven
- Jenkins
- Sample Project which reflects the real time project.

## **Topic 02: Selenium IDE:**

- Selenium IDE installation
- Identifying the elements
- Record and playback features.
- Properties of Selenium IDE
- Assert and Verify commands in selenium IDE
- Establishing checkpoints in test cases using selenium IDE





## **Topic 03: Java Concepts:**

- Introduction to JAVA
- OOPs concepts
- Conditional statements
- Loops
- Switch statement

### **Topic 04: Break and continue statements**

- Creating classes and Objects
- Data Types
- Operators in java
- Method overloading
- Constructors
- Constructor overloading
- Inheritance
- a.Single inheritance
- b.Multiple inheritance
- c. Multilevel inheritance
- Method overriding
- Interfaces
- Reading Excel and Writing into Excel files using Java

### **Topic 05: Selenium WebDriver**

- WebDriver environment setup
- First automation program
- Interacting with Chrome, Firefox and IE browsers using WebDriver
- Synchronization in selenium
- Handling Input fields, buttons, dropdowns.
- Handling Check boxes, Radio buttons and Alerts.
- Retrieving the data from the tables.
- Retrieving the data from the drop downs.
- Mouse over the elements and click on buttons
- Handling Multiple windows and Pop-ups
- Handling the Non-browser windows using Autolt tool.

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- Data Driven programming
- Taking the screenshots of failed test cases.

- Reading the Data from external files and using in test cases
- Writing the test results to test cases.

### Topic 06: TestNG (Test frame work)

- a.TestNg installation
- b.Creating test cases in testng
- c.Creating test suites in testng
- d..Running the test suite using testng
- e.HTML test reports generation
- f.Executing the test cases on multiple browsers

### **Topic 07: MAVEN**

- a.Maven installation
- b.Configuring the maven with selenium project
- c.Running the test cases using the maven

### **Topic 08: JENKINS**

- a. Installing the Jenkins
- b. Configuring the Jenkins with the selenium project
- c. Building the project using the jenkins
- d. Running the test cases using the jenkins
- e. Generating the reports

### **Topic 09: SELENIUM GRID**

- Configuration of selenium GRID
- Running parallel test cases using GRID

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## Load Runner Course Content

### Topic 01: Web Application

- Static Content, Dynamic Content, Web Hosting
- Features of Browsers
- Types of requests (GET vs POST)
- Query String, From Data
- Networking modules (OSI Module, TCP/ IP)
- 2- Tier, 3- tier, n- tie architecture
- Types of Operating Systems (Widows, Linux, HP UX, IBM AIX, MAC)
- Web/ APP/ DB Servers and their purpose

## **Topic 02: Introduction to Performance Testing**

- What is Performance Testing Benefits of Performance Testing
- Performance Testing phases / Life Cycle
- Types of Performance Testing (Load, Stress, Volume, Endurance, Baseline, Benchmark etc)
- Introduction about various Performances Testing tools and scripting language info
- Indentifying the business scenarios for Performance Testing
- Think time, rendezvous point, IP Spoofing, Denial of Services Attack
- Workload Characterization

## **Topic 03: Introduction to Load Runner**

- Introduction about the LoadRunner with various versions
- Components of LoadRunner and purpose of each component
- Load Generators, Calculating the # of LGs for a load test

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### **Topic 04: Virtual User generator**

- A Small introduction about the C language (Variable, functions, loops)
- Recording a Script
- Recording Log, Generating Log, Replay Log and Correlation results log

- Regenerate Script, recording options
- Best Practice for recording a script
- Run time settings
- Correlation
- Parameterization
- Page Validations
- Transaction Timers
- Think times
- Randomizing the script
- Frequency used C functions
- Debug a script
- LR Variables Vs C Variables custom Requests
- Tips for advances scripting

### **Topic 05: Controller**

- Manual Scenario Vs Goal oriented scenario
- Schedule by group Vs Schedule by Scenario
- Adding Load Generators and verifying the connectivity (Performance test environment setup)
- Run Time settings
- Executing the tests
- Configuring the Rendezvous, IP Spoofing etc
- Monitoring servers through controller
- Windows resources, UNIX resources, other servers

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- Auto collection of results, issues with auto collection, sampling intervals
- Configuring Diagnostics

### **Topic 06: Analysis**

- Adding graphs
- Merging graphs
- Web Page Diagnostics
- Advanced Filters/ Drill down
- Raw data/ Graph data
- How to start Analysis (Analysis approach using Client side and server side measurement)

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- Correlate the graphs/results and analyzing the results (Response Time vs HPS Vs throughput Vs TPS)
- Most commonly seen issues / errors and possible reasons

### **Topic 07: Next Steps**

- Understanding the server configuration files
- Understanding the relationship among various settings
- Monitoring the servers without LoadRunner
- JVM architecture abd GC methods
- Some important tips

## **SOAPUI**

## **Topic 01: Introduction to Webserives testing**

## **Topic 02: Introduction to SOAPUI**

- What is SOAP UI?
- Why use SOAPUI?
- SOAP UI Vs Selenium:
- SOAP UI Vs SOAP UI PRO
- SOAP vs REST

### Topic 03: SOAP UI Installation and Configuration: Complete Guide

Topic 04: SoapUI Tutorial: Create a Project, Test Suite, TestCase

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Learn the SOAP Message FORMAT

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- Create a Project
- Creating Test Suite

- Creating Test Case
- Test Step Insert
- Understanding the Soap Response & Log Panels
- Sending Request Manually & Reading Response

## **Topic 05: Assertions in SoapUI: Complete Tutorial**

- Contains Assertion
- Not contains Assertion
- X Path Match Assertion.
- X Query Match Assertion
- Scripting Assertion

## Topic 06: Working with a project on Soap UI

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