



# TESTING COURSE

# SYLLABUS



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## Testing Course Syllabus

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### Manual Testing

- ❖ Software Engineering
- ❖ SDLC (Software Development Life Cycle) Models
- ❖ Testing Requirments - Role of Tester
- ❖ Testing Levels & Techniques
- ❖ Unit Testing
- ❖ Integration Testing
- ❖ Top Down & Bottom Up Approach
- ❖ System Testing, User Acceptance Testing
- ❖ White Box
- ❖ Black Box
- ❖ Testing Types
- ❖ Module Testing
- ❖ Functional Testing
- ❖ Mutation Testing
- ❖ Regression Testing
- ❖ Security Testing
- ❖ Load/Performance Testing
- ❖ Smoke Testing, Live Testing

- ❖ Gorilla Testing
- ❖ Verification & Validation
- ❖ V Model
- ❖ Types of Reviews
- ❖ Quality Assurance
- ❖ Quality Standards
- ❖ ISO 9000 Standards
- ❖ CMM & TQM
- ❖ Quality Process Implementation
- ❖ Canon or Cook Book
- ❖ Pareto Analysis
- ❖ Test Strategy
- ❖ Testing Methodology
- ❖ Test Plans
- ❖ Test Scenario
- ❖ Use Case
- ❖ Real Time Test Cases
- ❖ Real Time Bug Report Generation

### Selenium Automation Tool

#### Selenium IDEBasic

- ❖ Selenium features
- ❖ IDE overview-Record
- ❖ Run-Understand IDE-Command
- ❖ Target
- ❖ Value-Verifying Page Elements Assertion
- ❖ Verification Matching Text Patterns Locating elements
- ❖ Installing & Using Fire bug to inspect elements
- ❖ Understand ID
- ❖ Name
- ❖ XPath
- ❖ CSS-Attribute
- ❖ Text and Dynamic Object.

### WebDriver

- ❖ Setup Eclipse
- ❖ Selenium Server
- ❖ Batch file Create new Eclipse projects
- ❖ Java Class Move IDE code to JuUnit code in Eclipse Basics of JUnit & JUnit Annotations
- ❖ Setup Apache Ant
- ❖ Build.xml-Run JUnit Tests with Ant- Understanding JUnit Results
- ❖ Parameterizing Selenium Tests in junit- Understanding Selenese commands
- ❖ Java Data Types
- ❖ Conditions
- ❖ Loops-Java Methods
- ❖ Classes and Global Variables
- ❖ Execute Selenium Test Cases and get Test results.

### Data-Driven Framework

- ❖ Create Manual Test Scenario & Sample Test Data
- ❖ Write JUnit code for new test Scenario
- ❖ Learn to Read Test Data from Excel
- ❖ Initialize Test Parameters and feed data to AUT Obtain Test Results from AUT
- ❖ Learn to Write Results into Excel
- ❖ Read/Write from Excel using Apache POI.

### Keyword- Driven Framework

- ❖ Create re-usable methods(Keywords)for various web commands
- ❖ Write Test Cases and Test Steps with Keywords
- ❖ Build a Java Driver code to read Keywords from the Excel.Read/Write from Excel using Apache POI
- ❖ Powerful Script
- ❖ Free Framework
- ❖ Manual Test Scenario & sample Test Data.

### Hybrid Framework

- ❖ Create Manual Test Scenario & Sample Test Data
- ❖ Powerful Driver Script- Read Test Cases
- ❖ Test Steps and Test Data from Excel- Export Test Results into an Excel.

### Selenium Grid

- ❖ Installing Grid on your local machine
- ❖ Configuring Grid Build.xml for your Tests through Grid in sequence on local machine. Run Tests through grid in parallel on local machine.

### TestNGDataProvider

- ❖ Move IDE code to Test NG code in Eclipse Basis of Test NG Annotations Run test NG Test with Ant-A simple Data Provider through TestNG. Understanding TestNG Results and Ant Results.

### Maven and Jenkins with Selenium

- ❖ Why Jenkins and Selenium?-Why Maven & Jenkins -Steps to use install Maven and use it with TestNG Selenium- Steps to Install Jenkins and Configure it to Run Maven with TestNg Selenium.

### AJAX and Dynamic web Apps:

- ❖ Handling pop-ups, multi-browsers Handling AJAX Drop -Downs Handling Calender pop-ups-Customizing our XPath to recognize Dynamic Elements.

### Pom(page object model),Page Factory in Selenium

- ❖ What is POM?
- ❖ How to implement POM?
- ❖ What is Page Factory?

### Log4j and Logexpert with Selenium

- ❖ How log4j is configured?
- ❖ Steps to use Log4j with Selenium -How LogExpert tool can be used to analyze logs

## APPLICATION LIFE CYCLE MANAGEMENT (ALM)

### ALM

- ❖ Introduction
- ❖ Defining Test Requirements
- ❖ Analyze Requirement Risks
- ❖ Test Planning
- ❖ Test Execution
- ❖ Defect Tracking
- ❖ Reporting and Analysis

### ALM Project Planning and Customization

- ❖ IPlanning the ALM Implementation
- ❖ Introduction to Site Administrator
- ❖ Customizing Projects at a Global Level
- ❖ Maintaining ALM Projects
- ❖ Customizing Users at a Global Level
- ❖ Customizing other ALM Modules at a Global Level
- ❖ Customizing Project
- ❖ Specific Entities
- ❖ Customizing Lookup Lists
- ❖ Managing Projects
- ❖ Specific Users and User Groups
- ❖ Customizing Projects
- ❖ Specific Mailing Options
- ❖ Customizing Alert Rules
- ❖ Customizing Workflow

### Using the ALM Dashboard

- ❖ Introduction - Dashboard Overview
- ❖ Configuring User Groups for the Dashboard
- ❖ Normalizing Projects
- ❖ Working with Portlets
- ❖ Creating and Publishing a Module
- ❖ Creating KPIs with SQL
- ❖ Dashboard Solutions

## UNFIED FUNCTIONAL TESTING TOOLS(UFT)

### Introduction to UFT

- ❖ overview of UFT
- ❖ starting quick Test
- ❖ UFT Window Layout
- ❖ Using UFT commands

### Record and playback

- ❖ Creating and executing a basic test
- ❖ recording
- ❖ understanding your Recorded test
- ❖ Executing a test
- ❖ different Recording levels
- ❖ standard Recording analog Recording
- ❖ Low level Recording
- ❖ Analyzing the Quick Test Result

### Working with test object and object repositories

- ❖ working with test objects
- ❖ objects repository introduction
- ❖ identifying the repositories
- ❖ Merging shared object repository Association
- ❖ Associating shared object Repositories to a test
- ❖ managing shared Object Repository Association
- ❖ Associating object repositories with action

### Synchronization

- ❖ Synchronizing your test
- ❖ inserting synchronization point
- ❖ Adding Exist statement,wait statement
- ❖ Inserting and ending Transactions

### Checkpoint

- ❖ Adding checkpoint to a test Adding Checkpoint While recording
- ❖ Adding Checking While Editing Types of Checking
- ❖ Standard,image,bitmap,table,text, Text Area,Accessibility,page,Database,environment supported check Point

### OutputValues

- ❖ Output Values Introduction
- ❖ Categories of Output Values
- ❖ Creating Output Values
- ❖ Storing Output Values
- ❖ Viewing and Editing Output Values

### Working with Action

- ❖ Benefits of Action
- ❖ Creating Tests with Multiple Action
- ❖ Guidelines for working with Action
- ❖ Creating a new Action
- ❖ Inserting Actions
- ❖ Inserting Copy of Action
- ❖ Splitting Action
- ❖ Action Parameters
- ❖ Test Modularity Implementation
- ❖ Creating an Action Template

### Parameterizing Tests and Data Driven Test

- ❖ Introduction to Parameterizing Tests
- ❖ Parameterizing Tests
- ❖ Parameterize a Test Manually
- ❖ Parameterizing a Test using Data Table
- ❖ Parameterizing a Test Using
- ❖ Environment Variables
- ❖ Data Driven Test
- ❖ Create Data driven Tests
- ❖ Local and Global Data Tables



### Working with Data Tables

- ❖ Introduction to Data Tables
- ❖ Working with Global and Action Tables
- ❖ Working with Global and Action Tables
- ❖ Editing and Saving Tables
- ❖ Importing and Exporting Data
- ❖ Importing Data from a Web Sheet
- ❖ Importing Data from a Text Files
- ❖ Importing Data from a Database
- ❖ Exporting Data to a Spread Sheet
- ❖ Using Formulas in the Data Table
- ❖ Using Data Tables Methods

### Regular Expression

- ❖ Introduction to Regular Expressions
- ❖ Defining Regular Expressions
- ❖ Running and Analyzing a Test with Regular Expressions
- ❖ Functions
- ❖ Creating User Defined Functions
- ❖ Advantages of Using Functions
- ❖ Creating Generic functions
- ❖ Preparing Regression Teest Automatic suites
- ❖ Function Decomposition Implementation

### Recovery Scenarios

- ❖ Introduction to Recivery Scenarios
- ❖ When to Use Recovery Scenarios
- ❖ Defining Recovery Scenarios
- ❖ Recovery Scenarios Manager
- ❖ Managing Recovery Scenarios
- ❖ Associating Recovery Scenarios to your Test Programmatically controlling the recovery mechanism

### Working with ALM

- ❖ Connecting to Quality Center
- ❖ Disconnecting from ALM
- ❖ Integrating UFT with ALM
- ❖ Saving Test into ALM
- ❖ Opening Tests from ALM

### VB Script

- ❖ VB Script
- ❖ VB Script Variables
- ❖ VB Script Constants Language Overview
- ❖ VB Script Data Types
- ❖ Conditional Statement
- ❖ Loops
- ❖ Procedures and Functions

### Descriptive Programming

- ❖ Introduction to Descriptive Programming
- ❖ When to Use descriptive Programming
- ❖ Interacting with Test Objects not Stored in the Object Repository
- ❖ Access Dynamic Objects During Run-time
- ❖ Retrieving Run-time Objects Properties
- ❖ Activating Run-time Objects Methods

### Automation Frameworks

- ❖ Modularity Framework
- ❖ Library Architecture Framework
- ❖ Keyword - driven Framework
- ❖ Data driven Framework

## Load Runner

### Client Server Archetype

- ❖ VuGen & Vusers
- ❖ Analyzing number of Virtual Users
- ❖ Determining the Hardware Configuration
- ❖ User Script Generation

### Rendezvous Points

- ❖ Inserting & Using Rendezvous Points
- ❖ Controlling Load Peaks in Server
- ❖ Setting Rendezvous Attributes
- ❖ Load Runner Controller
- ❖ Creating Scenario
- ❖ User Groups
- ❖ Execution of Scenario
- ❖ Test Result

### Analysis

- ❖ Starting the Analysis
- ❖ Collating Execution Result
- ❖ Using Scenario Graphs and Reports
- ❖ What - If Analysis with Cross Result Graphs
- ❖ load Performance Problems
- ❖ Database Users

### Vugen

- ❖ Recording with Vuser
- ❖ Generator
- ❖ Parameters
- ❖ Correlated Queries
- ❖ Advanced Technique

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