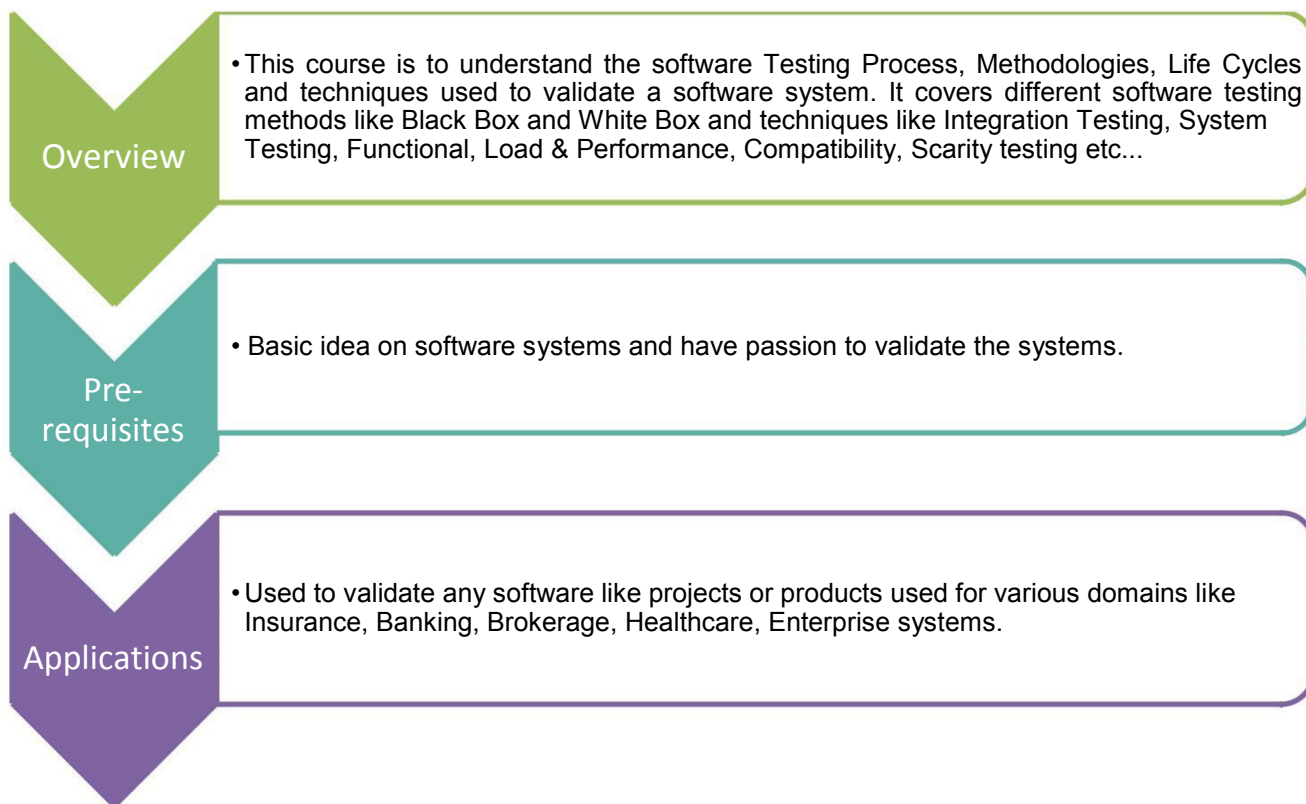


# Course Brochure

## TESTING TOOLS



## COURSE CONTENTS

### SOFTWARE TESTING TOOLS

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### QUALITY CONCEPTS

- ❖ Introduction to Software Testing
- ❖ Quality Assurance & Quality Control (Verification & Validation)
- ❖ Software Development Life Cycle, SDLC Models
  - Waterfall Model
  - Incremental Model
  - V-Model
  - Spiral Model
  - SCRUM/AGILE Model
- ❖ Software Testing Life Cycle(STLC) Test Planning,
  - Test Strategy Test Design/Test Development Test Execution
  - Result Analysis
  - Defect Tracking
  - Reporting
- ❖ Methods of Testing(Black Box, White Box, Grey Box)
- ❖ Static Testing (Reviews, Inspections, Audit, Walk through)
- ❖ Software Environments(Stand-Alone, Client/Server, Web Environment, Distributed Environment)
- ❖ Black Box Testing Techniques(BVA, ECP, State Transition, Error Guessing)
- ❖ White Box Testing (Basic Path, Cyclomatic Complexity, Condition, Branch, Loop Testing)
- ❖ Testing Types
- ❖ Test Execution & Result Analysis
- ❖ Defect Tracking
  - Defect Life Cycle
  - Defect Tracking System
  - Categorizing the defects
  - Severity & Priority

- ❖ Test closure Activity
- ❖ User Acceptance Testing (UAT)
- ❖ Quality standards (ISO CMM, CMMI, Six Sigma)

### Application Life Cycle Mangement with HP Quality Center

- ❖ Overview on Test Management
- ❖ Architecture of QC Tool

### Site Administrator

- Create domain & Projects
- Create users
- Assign user to project
- Monitor Connections & Licenses Sitescope
- Backup, Restore Project
- Version Control

### Quality Center

- Managing Requirements
- Working with Test Plan
- Developing Manual & Automation Tests
- Coverage analysis/ Traceability
- Create Test Sets
- Running Tests
- Record Results
- Defect Reporting & Tracking
- Integration with QTP
- Test Resources
- Linking Test Cases with Defects

## COURSE CONTENTS

### PERFORMANCE TEST AUTOMATION WITH LOAD RUNNER

#### Overview

- Performance Testing Concepts
- Performance Testing Types
- System Architecture info
- Objectives of the Performance Testing
- Phases of the Performance Testing
- Components of Load Runner
- LoadRunnerTesting Process

#### Recording

- Structure the Script based on planning
- Use VuGen to record a Vuser Script for Web environment
- Describe HTML & URL recording levels
- When to use HTML and/or URL recording levels

#### Playback

- Identify the appropriate Web Run-time settings to set
- Configure Web Run-time settings to run the script
- Verify Vuser script functionality in VuGen
- Solve Play back problems by parameterizing the script
- Different types of parameterizations

#### Correlation (Manual & Auto)

- Distinguish between available correlation methods
- Correlate a script manually using correlation functions
- Correlation during and After Recording
- Use the scan for correlation tool
- Correlate data during recording
- Define rules for correlation in Recording Options
- Enable Correlation during recording

#### Introduction to Scenarios

- Explain elements that make a Load Runner Scenario
- Identify different types of Scenarios
- How to Choose a Scenario
- Present the basic steps for creating a Scenario

#### Using Run-Time Setting

- Script and scenario Run-Time settings
- Configure Run-Time settings in the Controller

#### Scenario Execution

- Prepare for scenario run
- Identify techniques to efficiently run a scenario

#### Scheduling Scenarios

- Scheduling Group and By scenario Prepare
- VUGen user initialization Configure
- scenario ramp up and ramp down

#### Performance Monitors

- Value of Performance Monitors
- Select Performance Monitors
- Add measurements to Performance Monitors
- Performance Overlays to track down bottlenecks

#### Result Analysis

- Value of root cause analysis-resources bottleneck, code loops
- Diagnose errors with LoadRunner Application and Architecture

## COURSE CONTENTS

### QTP 11.5/UFT

#### INTRODUCTION TO AUTOMATION TESTING

- ❖ Understanding what is Automation Testing and Need of Automation
- ❖ Introducing different areas of automation (Functional, Load, Test Management)
- ❖ Difference between manual testing and Automation testing
- ❖ Prerequisites for QTP
- ❖ Introduction to QTP tool and discussion on various version of QTP

#### TESTING PROCESS OF QTP

- ❖ Understanding the Test Process of QTP
- ❖ Discussion on the various components of QTP window like test pane, Test details pane, Active screen, Data table, Information and missing Resources window
- ❖ Discussion on the keyword view and Expert view
- ❖ Understanding different toolbars and window themes (MS office 2000, XP, Office 2003, MS.Net 2005)

#### IMPLEMENTING GUI AND BITMAP REGRESSION TEST

- ❖ Understanding the Add-in manager
- ❖ Working with Automation Record and Run setting
- ❖ Working with File settings
- ❖ Working with Tools options

#### CREATING TEST SCENARIOS/ COMPONENTS

- ❖ Creating a basic script
- ❖ Understand diff recording modes of QTP (Normal, Analog, Low-Lever)
- ❖ Understanding Test Object, Run Object, Pre Learning and Auto Learning
- ❖ Understanding how QTP identifies the objects (Mandatory, Assistive properties & Ordinal Identifier)

- ❖ Working with Object Repository (Shared and Per-Action)
- ❖ Working with Object Repository Manager
- ❖ Associating Objects Repositories to Actions of QTP
- ❖ Working with Object SPY
- ❖ Understanding the basic structure of QTP script on different technologies like (VB, .Net, Java/J2EE, Web and Standard windows)

#### CHECKPOINTS AND OUTPUT VALUES

- ❖ Understanding the need of checkpoints in Automation
- ❖ Working on various checkpoints available in QTP
- ❖ Understanding the need of output values in Automation
- ❖ Working on various output values available in QTP
- ❖ Understanding the Environment Variables/Global Variables
- ❖ Working on both inbuilt and Userdefined Variables

#### ACTIONS IN QTP

- ❖ Introduction to Actions in QTP, advantages of Actions.
- ❖ Creating New actions, Split actions
- ❖ Working on reusability of Actions with call to existing and call to copy options

#### FUNCTIONS, PROCEDURES AND CLASSES (LIBRARY FILES)

- ❖ Understanding the need of reusability while Automation Testing
- ❖ Creating Local and Global functions in QTP
- ❖ Working with Library Files of QTP
- ❖ Creating user defined classes, methods and objects in QTP
- ❖ Understanding how a function returns the value in QTP

## COURSE CONTENTS

### PARAMETERIZATION / DATA DRIVEN TEST

- ❖ Introduction to parameterization
- ❖ Creating a Parameterized script(Data Driven Test)
- ❖ Working on different methods of Data Table object
- ❖ Working on different way of parameterizing an object in QTP
- ❖ Importing data from .xls, .txt files, CSV files & Database files

### FILE OPERATIONS IN QTP

- ❖ Working with file system object
- ❖ Reading from, Writing to external files like Text files, Excel files
- ❖ Working with XMLUTIL Object
- ❖ Performing various operations on XML files using QTP

### ADVANCED OPTIONS

- ❖ Descriptive programming & Description object, Static & dynamic desc programming
- ❖ Working with regular expressions
- ❖ Exception Handling/Recovery scenario Manager
- ❖ Smart Identifications, Configuration of object Identification
- ❖ Database connection using ADODB objects
- ❖ VB Scripting language

### WORKSHOP ON PROJECT AUTOMATION

#### FRAME WORK FOR THE QTP/UFT(KEYWORK, HYBRID ETC.)

#### INTEGRATION WITH QC/ALM & QTP/UFT

#### DISCUSSION ON RESUME PREPARATION FAQ'S AND TIPS AND GUIDLINES BY AN AUTOMATION LEAD

#### GUIDANCE FOR HP QTP & QC CERTIFICATION