



Course Brochure

TESTING TOOLS

Overview

•This course is to understand the software Testing Process, Methodologies, Life Cycles and techniques used to validate a software system. It covers different software testing methods like Black Box and White Box and techniques like Integration Testing, System Testing, Functional, Load & Performance, Compatibility, Scarity testing etc...

Pre-requisites

•Basic idea on software systems and have passion to validate the systems.

Applications

•Used to validate any software like projects or products used for various domains like Insurance, Banking, Brokerage, Healthcare, Enterprise systems.

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