



HP Software University Program Basic - 60hrs

Course outline for ALM, UFT and LR v11.5

This introductory course introduces students to the ALM line products - UFT 11.50, ALM 11.50, LR 11.50 and Vu-Gen 11.50. The idea is to share the knowhow to use the **Unified Functional Testing (UFT) 11.50** application as an automated functional testing tool. You are made familiar to use the point and click interface to record and play back tests, add synchronization points and verification steps, and create multiple action tests. **Application Lifecycle Management 11.50** on the other hand educate the students to manage quality information throughout the development cycle, from constructing requirements, designing and executing tests, through monitoring defects. **LoadRunner 11.50** is the tool used to test the performance of the application. The course covers topics about the **Virtual User Generator (VuGen), Controller, and Analysis tools**. You learn to work with the graphs to display data after a test is executed.

Software Versions: 11.50

Prerequisites

Working knowledge of:

- Windows
- Program concepts
- Websites and browsers
- Testing concepts

Course Objectives

At the end of the course, you should be able to:

Create basic scripts from a manual test case

Enhance basic tests with synchronization and verification

Parameterize tests to run with multiple sets of data.

Create and reuse modular actions

Use the Object Repository

Use debugging tools and Write custom checkpoints to create more precise

Verification points within a test and ready to write the *HP ExpertONE Qualification Certification*

Exam.



HP Software University Program – UFT 11.5

Module 1: Introduction

- Objectives
- Overview of the Course
- Contents of the Course
- Goals of the Course
- Your Instructor
- Class Logistics
- Discussion and exercise
- Sample Test Applications
- Unified Functional Test 11.5 Resources-
Help
- Summary

Module 2: Preparing To Record

- Objectives
- Understanding Functional Testing
- UFT Workflow
- When to Record Tests
- Prepare To Record
- Application under Test
- Use Case - Create a Flight Reservation
Order
- Prepare To Automate a Test
- Using UFT
- Add-in Manager
- Record and Run Settings - Window
Application
- Launch and Record on a Specified
Application
- Summary

Module 3: Creating a Basic Test

- Objectives
- UFT Workflow
- Building Blocks of a Step
- Recording A Test
- Record Toolbar
- Recording modes
- Running a Test and Saving Result
- View Test Run
- UFT Test Directory Structure
- Test Results Viewer
- Summary

Module 4: Working with Objects

- Objectives
- UFT Workflow
- An Overview of Object Recognition
- Defining UFT Objects and Classes
- UFT - Object Recognition
- Examining Object Property/Value Pairs
- Object Properties
- Using the Object Spy
- Object Identification
- Insight - New Feature
- Summary

Module 5: Add Synchronization

- Objectives
- UFT Workflow
- Synchronization
- Understanding Synchronization
- Identifying Visual Cue
- Examining Way of Synchronization
- Insert Synchronization Point
- Object Synchronization
- Summary

Module 6: Verifying with Standard Checkpoints

- Objectives
- Understand Checkpoints
- Using Checkpoints
- Checkpoint Types
- Standard checkpoint
- Inserting Standard Checkpoint during
Recording
- Standard Checkpoint Properties
- Inserting a checkpoint after Recording
- Using a Regular expression
- Summary



Module 7: Using Parameters

- Objectives
- Parameter types
- Automatically Parameterizing Steps
- Using Data table
- Using a global Sheet
- Replacing Static data with input Parameters
- Setting the Number of iterations
- Output Parameters
- Insert Output Parameters
- Inserting an Output Parameter While Recording
- Parameterizing a Checkpoint
- Parameterizing an Object
- Random Number Parameter
- Environment Parameter
- Summary

HP Software University Program – ALM 11.5

Module 1: Introduction

- Course Overview
- Objectives
- Overview of the Course
- Content of the Course
- Goal of the Course
- Class Logistics
- Discussions and exercises
- Classroom Virtual Machines
- Lab Environment Access Details
- Summary

Module 2: Introduction Application Lifecycle Management

- Objectives
- HP Application Lifecycle Management
- Feature of ALM QC
- ALM Road Map
- ALM Home Page
- ALM User Site
- ALM Toolbars
- An End to End Example
- Summary

Module 3: Working with Releases

- Objectives
- What a Release?
- Release Management
- Testing Cycles
- Application Lifecycle Management
- Roadmap
- Understanding Release and Cycle
- A Sample Release Tree
- Accessing Release Module
- Tools for Creating a Release Tree
- Creating A Release Folder
- Defining a Release

Module 4: Working with Requirements

- Objectives
- Requirements Management
- Requirement Type
- Requirements Tree
- Requirements Tree view
- Building a Requirements Tree
- Creating a Requirements
- Requirements Details
- Rich Text Editor and Requirement
- Template
- Requirement Grid View
- Assigning Requirements to Release



- Adding a Cycle
- Specifying Cycle Details
- Adding Attachments to a Cycle
- Type of Attachments
- Adding Attachments-an Example
- Summary

- Assigning Requirements to Cycles
- Summary

Module 5: Test Planning

- Objectives
- Test Plan Module Window
- Creating the Test Plan Tree
- Converting a requirements to a Test
- Adding a Test
- Test Type
- Calling a Test
- Test Parameters
- Defining a Parameter
- Calling a Test with Parameters
- Test Configurations
- Defining Test Configurations
- Test Automation
- Generating a Test Script
- Summary

Module 6: Test Execution

- Objectives
- ALM Road Map
- Test Execution Overview
- How to Run Test in ALM?
- Test Execution Workflow
- Test Sets Tree
- Creating a Test Set Folder
- Creating a Test Set
- Adding Test to Test set
- Test Configurations based on Requirements Coverage
- Test Run Schedules
- Defining Test Run Sequence and Conditions
- Running Tests
- Manual Test Execution Overview
- Summary

Module 7: Defect Tracking

- Objectives
- Defect or Not?
- What is a Defect?
- ALM Road Map
- Tracking Defects
- How to Track Defect in ALM?
- Defects Module Window
- Defect Status- who does what?
- Similar Defects
- How do you log a Defect?
- Associating Defect with other Entities
- How to Link Defect?
- Defect Requirement Relationship
- Defect-Test Relationship
- Defect-test Instance Relationship
- Summary

Module 8: Reporting and Analysis

- Reporting and Analysis
- Objectives
- ALM Road Map
- Reporting
- Dashboard Modules
- Additional Analysis Tools
- Pre-Define Reports and Graphs
- Launching Document Generator
- Selecting the Data
- Generating the Document
- Custom Reports and Graphs
- Adding Sub-Reports
- Graph Wizard
- Excel Reports
- Sharing Graphs without ALM Client
- Creating a Dashboard Page
- Summary



HP Software University Program – LR 11.5

Module 1: Fundamentals of LoadRunner 11.5

- Objectives
- What is Load Testing?
- Identifying Benefits of Load Testing
- Listing Examples of Objectives
- Defining Types of Performance Tests
- Understanding Why Manual Testing is Problematic
- Identifying the LoadRunner solutions
- Identifying LoadRunner's Components
- Defining a Vuser
- Obtaining License Information
- Identifying Supported Protocols
- Defining a Scenario
- Defining the Controller
- Isolating Performance Problems
- Monitoring Performance
- Identifying LoadRunner Performance Monitors
- Putting it all Together
- Defining the Load Testing Process
- Training Application for Web Protocol
- Identifying LoadRunner Resources

Module 2: Designing a Scenario

- Objectives
- Defining a Scenario
- LoadRunner Expert Workflow – Understanding Scenarios
- Understanding the LoadRunner Controller Tasks
- Scenario Outline – Examples
- Creating a New Scenario
- Defining Differences between Manual and Goal – Oriented Scenario
- Selecting Vuser Scripts
- Choosing a Scenario Type
- Vuser Groups
- Adding a New Vuser Group
- Modifying the Vuser Group settings
- Adding Vusers to an Existing Group
- Selecting Load Generators for your Scenario
- Adding a New Load Generator
- Modifying the Vuser Group Settings
- Adding Vusers to an Existing Group

Module 3: Scheduling Scenarios

- Objectives
- LoadRunner Expert Workflow
- Scheduling a Scenario
- Configure Schedule Names
- Configuring Scenario Start Time
- Scheduling by Scenario
- Scheduling by Group
- Scheduling by Real – World Schedule Mode
- Scheduling by Basic Schedule Mode
- Managing Schedules
- Initializing Vusers
- Using the interactive Schedule Graph
- Pressing the Stop Button
- Viewing the Schedule Progress during a run

Module 4: Performance Monitors

- Objectives
- Identifying Values of Performance Monitors
- LoadRunner Expert Workflow
- Using Performance Monitors
- Performance Monitors are configured from
- Available Performance Monitors in LR controller
- Viewing Performance Monitors
- Selecting Online Monitor
- Configuring Monitor Online
- Choosing Monitor Measurements
- Configuring a Monitor
- Tracking the Performance

Module 5: Scenario Execution

- Objectives



- LoadRunner Expert Workflow
- Running Scenarios
- What is Rendezvous Point?
- To Access Rendezvous Point Policy
- Adding Rendezvous Point in VuGen
- To Enable Rendezvous Point Option in Controller
- Defining Rendezvous
- Defining Results Directory
- Best Practices
- Understanding the Scenario Status Window
- Initializing Vuser Groups
- Viewing the Scenario Errors
- Understanding Common Run Time error

HP Software University Program – Vugen 11.5

Module 1: Introducing VuGen

Objectives
Invoking VuGen
VuGen Main Window – The New Look and Feel

VuGen – Recording a Script (Vuser)
Vuser
Vuser Types
Vuser Script
VuGen – Replay of a Script
VuGen – A General View
Using the Step Navigator
The Script Creation Phase
Capturing Business Processes with VuGen
VuGen and Internet Protocols
Training Application
LoadRunner Resources

Module 2: Recording for the Web

Script Workflow
Main VuGen User Interface
Accessing the Protocol Advisor
Using the Protocol Advisor
Protocol Advisor Report
Organizing Scripts Using the Solution Explorer

Creating a New Script
Preparing to Record – Set Recording Options
Recording Options
Viewing Differences in HTML and URL
Recording User Steps
Performing User Steps for Recording
UI Elements of the Recording Toolbar
Working with Thumbnails
Viewing the Recorded Script in Step Navigator View
Understanding Recording Snapshots
After Recording – the Snapshot View
The HTTP View of the Recorded Steps
Splitting into Page and HTTP View
Saving Scripts
Creating a Business Process

Module 3: Replaying Script

Script Workflow
Debugging Scripts
Breakpoints Pane

Module 4: Transactions

Why Add Transactions?
What is a Transaction?
Script Workflow



- Bookmarks Pane
- Defining Run-time Settings
- Setting General Options
- Running the Script
- Recording and Replay Comparison
- Debugging with the Replay Summary
- Debugging with the Replay Log

- Measuring Transactions
- Where to Add Transactions?
- Business Process with Transaction Applied
- Adding Transactions Manually
- Displaying Transactions
- Checking the Replay Log
- Adding a Transaction into a User Script
- Naming Transactions
- Applying Automatic Transactions
- Transaction Details in Output Log

Module 5: Parameterizing a Script

- Why Parameterize a VuGen Script?
- Script Workflow
- Defining Parameterization
- Determining when to Parameterize
- Defining Parameter Types
- Creating a New Parameter
- Creating Data Files in Notepad
- Creating Date/Time Parameters
- Creating Random Number Parameters
- Creating Unique Number Parameters
- Selecting the Data Access Method
- Enabling Extended Log
- Parameter Substitution in Output Log
- Viewing the Runtime Data

Module 6: Verifying Scripts

- Why Content Check is required?
- What Indicates Success?
- Viewing a Test Specification Example
- Confirming Success or Failure
- What is a Verification Point?
- Defining Steps for Verification
- Types of Verification Points
- Two Ways of Adding Text Check Point
- web_reg_find Function for Text Checkpoint
- Enabling Text Checks
- Checking for An Error Page
- Verifying Parameterization of a Checkpoint
- Using a Content Check
- Generating Checks for Page Titles
- Implementing Good Practices

Module 7: Auto Correlation after Recording

- Why Should You Correlate a Script?
- Recording the Hard-coded Dynamic Data
- Playing Back Dynamic Values
- Correlating the Script
- What is Correlation?
- Types of Correlation
- Correlation Studio
- Replaying a Script Indicates an Error
- Correlating Automatically After Recording
- Scanning the Script for Correlations
- Script after Correlation
- Verifying Correct Execution