



QUICKSTEP COMPUTER CENTER

National Accreditation Board of Education Training.
(NABET)- Quality council of India) An ISO 9001:2008

Testing Tools Training Course Content Overview Manual Testing Life Cycle Implementation

- Introduction
- Importance of software systems
- Common problems in software development
- Why software has bugs?
- What is quality?
- Testing objectives
- What are error, bug, defect, mistake, false and flaw?

✚ SDLC Implementation

- Feasibility study/Requirement Gathering
- Analysis, Designing, Coding, Testing
- Delivery and Maintenance

✚ Software Development Models

- Waterfall Model
- Incremental Model
- Prototype Model/Use and Through Model
- Spiral Model
- V-Model
- W-Model
- Agile Testing Implementation
- Agile-SCRUM

✚ Kinds of Testing

- Un-Conventional Testing
- Conventional Testing

✚ Methods of Testing

- Black Box Testing
- White Box Testing
- Gray Box Testing

✚ Static Testing

- Reviews
- Inspections
- Audit
- Walkthrough

✚ Dynamic Testing

- Unit Testing
- Module Testing
- Integration Testing
- System Testing
- User Acceptance Testing

✚ **Software Project Environments**

- Stand-alone Environment
- Client/Server Environment
- Web Environment
- Distributed Environment

✚ **Software Testing Life Cycle and Implementation with Real Time Project**

- Requirement Reviews
- Test Plan Preparation
- Test strategy Preparation
- Test case Identification

✚ **Black Box Test Design Techniques**

- ECP
- BVA
- Error Guessing
- Decision tables

✚ **White Box Testing Techniques**

- Basis Path Testing
- Cyclomatic Testing
- Condition Testing
- Code Coverage

✚ **What is Use Case?**

- UCD
- Identify Use Case Based Test cases

✚ **Test Case Design**

- Introduction
- Test Case Design Template
- Types of Test Cases
- Test Case Design Reviews
- Requirement Traceability Matrix

✚ **Test Data Setup**

- Importance of Test Data in Testing
- Approach for gathering Test Data

- Benefits of Test Data Gathering

✚ **Test Execution**

- Test Execution Life Cycle Process
- Re-Testing
- Regression Testing
- Database Testing

✚ **Result Analysis**

- Comparing Expected and Actual Values
- Status of the Result

✚ **Defect Tracking**

- What is defect?
- Categories of Defects
- Preparation of DPD (Defect Profile Document)
- Defect Metrics

✚ **Defect Reporting**

- Defect Life Cycle Process
- Defect Removal Efficiency

✚ **Test Measurement Techniques and Metric Collection**

- Importance of Test Metrics
- Testing Data used for Metrics
- Different Types Metrics

✚ **Test Closure Activity**

- Test Execution Stop Criteria
- Test Summary Report Preparation

✚ **User Acceptance Testing**

- Importance of UAT
- Scope of UAT
- Alpha Testing
- Beta Testing

✚ **Different Testing Techniques in Live Environments**

- Smoke Testing, Sanity Testing
- Re-Testing
- Regression Testing
- Static Testing, Dynamic Testing
- Installation (Deployment) testing/ System Testing

- Portability Testing/Compatibility testing
- Usability testing
- Monkey/Gorilla/Chimpangi testing
- Exploration testing
- Mutation testing (White Box)
- Forced Error testing
- Inter Systems Testing/ End-to-End testing
- Security testing/Penetration Testing
- Scalability testing, Reliability testing
- Accessibility testing
- Adhoc testing
- Intelligent Testing/Agile testing/Context Driven testing
- Big-bang testing/ Informal Testing
- Incremental Testing/Formal Testing
- Be-Bugging
- Defect density
- Inspection
- Localization Testing
- Test lab /Test batch/Test suite /Test Bed
- Test Harness/Test Driver/Test Execution
- Performance Testing
- Load Testing
- Stress Testing
- Recovery Testing
- Differences of Alpha and Beta
- Test Management with

✚ **Overview on Test Management Quality Center – Introduction**

- Need of Test-Management Tool
- Module (TestDirector Project, Site Administration, Customization)
- Domain/Project Fundamentals
- How to Get Started

✚ **Architecture of TD/QC Tool**

- Site Administrator
- Create Domain, Create Project, Create Users
- Assign Users to Project
- Monitor Connections

✚ **Main Objectives of QC**

- Test Management Process
- Requirements
- Business Components
- Test Plan
- Test Lab
- Defects

✚ **Site Administration**

- Creating Domain/project
- Adding users to project
- Creating Groups

✚ **Customization of Quality Center Release and Cycle creation Test Requirements**

- Example of a test requirement
- Importance of tracing and tracking Requirements
- Reviewing and building a Requirements structure
- Entering requirements manually

Test Cases Creation and management

- Review of an existing test case
- Parameters
- Building a test case structure
- Creating manual test cases
- Requirements coverage

✚ **Test Sets and Test Execution**

- Creating folders and test sets
- Defining test execution flow
- Setting test set properties
- Manual test execution
- Logging defects during manual testing
- Automated test execution
- Adding test hosts
- Running a test set
- Setting run times

✚ **Defect Tracking**

- Reporting defects
- Searching for similar defects
- Using grid filters
- Deleting defects

✚ **Reporting and Analysis**

- Analysis menu graphs and reports
- Creating editable reports with the advanced Reporting

✚ **Bug Tracking Tools**

- BugZilla

- Mantis
- PRTracker
- VSS



Introduction to Automation Testing

- What is Automation Testing?
- Benefits of Automation Testing?
- Manual Testing vs. Automation Testing
- Types of Automation Testing Tools
- Tool selection Criteria
- Automation Testing Process
- When should Test Automation be used?
- When should Test Automation be avoided?



Introduction to QuickTest

- Overview of Add-In Manager and QuickTest
- QuickTest Window and Tools
- QuickTest Commands
- Tools in QuickTest



Record and Playback

- Recording a Test
- Understanding your recorded Test
- Executing a Test
- Different Recording Levels
- Default Recording
- Analog Recording
- Low Level Recording
- Analyzing the Results



Introduction to VB Script

Introduction to VBScript

- Difference between Languages and Scripts
- VB script Language Overview
- History of VBScript
- VBScript and Versions
- Difference between Languages and Scripting



Comments

- Purpose of comments:
- Types of Comments
- Comments and Shortcut keys



VB Script Variables

- Declaring Variables
- Option Explicit

- Naming Restrictions for Variables
- Scope of Variables
- Life Time of Variables
- Assigning Values to Variables
- Scalar Variables and Array Variables
- Dynamic Arrays

✚ **VB Script Data Types**

- Variant Subtypes

✚ **VB Script Operators**

- Operator Precedence
- Arithmetic Operators
- Comparison Operators
- Logical Operators
- String Manipulation

✚ **Input/Output Operations**

- InputBox Function
- MsgBox Function

✚ **Constants**

- Creating Constants

✚ **Conditional Statements**

- If Statement
- If...Then....Else Statement
- If...Then....ElseIf Statement
- Select...Case Statement

✚ **Loop through Code**

- Do...Loop
- Do Until
- While...Wend
- For...Next
- For Each...Next

✚ **Other Statements** **Procedures**

- Sub Procedures
- Function Procedures

✚ **Error Handling**

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- Handling Syntax & Runtime Errors
- Coding to Avoid Errors
- Coding to Handle Errors
- The Error Object
- The Raise Method

✚ **Built-In Functions**

- String Functions
- Math Functions
- Date and Time Functions

✚ **Debugging**

- Why Debug
- Types of Bugs
- Stepping Through Code
- Watching Variable Values

✚ **Regular Expressions**

Methods

Objects

Introduction to Objects

- What are Objects?
- Properties Defined
- Methods Defined
- Events Defined
- Referencing Objects

✚ **Properties**

Classes

Keywords

✚ **Working with Test Objects and Object Repositories**

- Object Repository Introduction
- How Objects are added into OR
- Identifying the Objects
- Viewing the Object Properties
- Object Repository Modes
- Per-Action vs. Shared Object Repository
- Object SPY
- OI Introduction

- User Defined Objects
- Smart Identification
- Managing Object Repositories
- Merging Shared Object Repositories
- Associating Shared Object Repositories to a Test
- Merging Object Repositories

✚ **Synchronization**

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- What is Synchronization?
- Synchronizing Your Tests
- Synchronization Methods
- Adding Wait Property Method
- Adding Wait Method, Adding Exist method
- Adding Sync Method
- Global Synchronization Settings
- Browser vs. Page Sync()
- Web Event Recording Configuration

✚ Checkpoints

- Introduction
- Adding Checkpoints while recording
- Types of Checkpoints
- Standard Checkpoint
- Text Checkpoint, Text area Checkpoint
- Bitmap Checkpoint
- Database Checkpoint
- Accessibility Checkpoint
- XML from Resource Checkpoint
- XML from Application Checkpoint
- Page Checkpoint, Table Checkpoint
- Image Checkpoint
- Updating Checkpoints at run time

✚ Output values

- Introduction
- Types of Output Values
- Creating Output values
- Storing output values

✚ Actions

- Introduction to Actions
- Types of Actions, Creating Actions
- Inserting Call to Actions
- Insert Call to Copy of Action
- Insert Call to Existing Action
- Splitting Actions
- Input and Output Parameters
- Action Template

✚ Parameterization Tests and Data Driven Tests

- What is Parameterization?
- Parameterizing a Test Manually
- Parameterizing Using Actions
- Parameterizing Using DataTables
- Parameterizing Using Environment Variables
- Built-in Environment Variables
- Internal Environment variables

- External Environment Variables
- Parameterizing Using Random Number

✚ **Working with DataTables**

- Introduction
- Working with global and Action Sheets
- Editing and Saving DataTables
- DataTable Methods
- DataTables and Database
- Importing and Exporting Data to/ from Spread Sheet

✚ **Regular Expressions**

- Introduction to Regular Expressions
- Defining Regular Expressions
- Running and Analyzing Regular Expressions
- Regular Expression Characters
- When to use Regular Expressions in QuickTest

✚ **Functions**

- Introduction
- Creating User Defined Functions
- Advantages if Using functions
- Creating generic Functions
- Function Decomposition
- Read from Excel
- Write to Excel
- Step Generator

✚ **Recovery Scenarios**

- Introduction to Trigger Events
- When to use Recovery Scenarios?
- Default Recovery Scenarios
- Recovery Function call
- Recovery Scenario Manager
- Error Handling
- Creating Recovery files
- Associating Recovery files

✚ **Virtual Objects**

- Introduction
- What is Virtual Object?
- Creating Virtual Object
- Virtual Object Manager
- Entire Parent hierarchy
- Parent only

✚ **Mapping User-Defined Test Object Classes**

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- Introduction
- Object Mapping
- Standard Classes

✚ **Debugging in QuickTest**

- Establishing our Debugging Configuration
- Using Break Points
- Step Into, Step Out and Step Over
- Debug viewer Pane
- Working with Watch Expressions Tab
- Working with the Variables Tab
- Working with the Command Tab

✚ **Library Files**

- Associating a Library globally with a test
- Dynamically Loading libraries locally at run-time
- Dynamically Loading libraries globally at run-time
- Applicability of Option Explicit

✚ **Working with Databases**

- Introduction
- Checking the state of Connection or Recordset
- Database Connectivity
- MS Access, SQL Server and Oracle
- Exporting the results of a query to DataTable

✚ **Working with Flat Files**

- Introduction
- Types Flat Files, Modes of Flat Files
- Advantages FSO

✚ **Utility Objects**

- The Crypt Object
- The OptionalStep Object, The PathFinder Object
- The SystemUtil Object, The RegisterUserFunc Object
- The Services Object, With— End with
- Transactional Statements

✚ **QTP Automation Object Model**

- Introduction
- Automation QuickTest Operations
- When to use AOM Scripts
- How can we use AOM to launch QuickTest on Remote Machine

✚ **HTML DOM**

- What is HTML?

- When to use HTML DOM?
- When not to use HTML DOM?
- HTML DOM Objects
- JavaScript Events and Actions
- Converting a DOM object QTP Test Object

Working with Web Tables

- Introduction
- Accessing the web tables
- Clicking inside the web table
- Row count
- Column Count
- GetCellData
- ChildItemsCount

Working with MS Excel and MS Word

- Introduction
- The Excel Automation Object Model
- The Word Automation Object Model

Descriptive Programming

- Introduction
- Advantages of Descriptive Programming
- When to use Descriptive Programming
- Descriptive Programming syntax
- Using description objects
- The micclass Identifier
- Converting OR based script to a DP-based script
- Types DP/PD Methods

Implementing Test Automation Frame Works in Real Time Project

- Introduction
- Design Guide lines
- Advantages of Frame Work
- Types of Automation frameworks
- Support different application versions
- Implementing in Real Time Environment
- Disadvantages of frameworks

Performance Test Automation with LOADRUNNER 11.00

Introduction

- Overview of LoadRunner
- The need of performance testing
- When load testing comes into process
- Performance Testing
- Stress Testing
- LoadRunner Architecture

- Loads Test Process

✚ **Performance Test Process**

- Manual Load Testing
- Automation Load Testing
- Performance Test Approach
- Study system under test
- Create Vuser Script
- Execute Tests
- Analyze Test Results

✚ **Load Runner Components**

- Virtual user generator
- Controller , Analysis

✚ **Load testing process**

- Building Tests
- Running Load Tests
- Analyze the results
- Load Runner Controller
- Publish Reports

✚ **Browser Automation Testing Tool**

✚ **SELENIUM-1.10.0**

✚ **Introduction**

- What is Automation Testing
- When it comes into the picture
- What are the uses of automation Testing

✚ **Introduction to Selenium**

- What is Selenium
- Use of Selenium
- When Selenium can be useful in testing
- Features of Selenium
- Differences between Selenium and QTP

✚ **Selenium Components**

- Selenium IDE
- Selenium RC
- Selenium Grid

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