

# Software Testing

Software testing is a process of executing a program or application with the intent of finding the software bugs. There are two type of software testing : Manual Testing and Automation Testing

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## MANUAL TESTING

### Introduction to Testing

1. Brief History of Testing
2. Testing Opportunities
3. Testing Principles

### Software Quality

### Software Testing Definition

1. Verification
2. Validation
3. Quality Assurance
4. Quality Control
5. Static Testing
6. Dynamic Testing
7. Software Quality Assurance
8. Differences Between Verification and Validation
9. Differences Between QA and QC
10. Differences Between Static Testing and Dynamic Testing
11. Software Development Life Cycle

### Different Life Cycle Models

#### Waterfall Model

1. V – Model
2. Fish Bone Model
3. A Agile Methodology
4. Spiral Model
5. RAD Model
6. Prototype Model
7. PET Model

### Testing Types

1. Black Box Testing
2. White Box Testing
3. Graybox Testing
4. Acceptance Testing

### Testing Techniques

1. Boundary Value Analysis
2. Equivalent Class Partition
3. Error Guessing
4. Partition Table

### Test Design

1. Test Methodology

2. Test Scenarios
3. Test Cases
4. Test Case Template
5. Types of Test Cases
6. Difference Between Test Scenario and Test Case
7. Creating Test Cases for Sample Application

### **Different Testing Definitions**

1. Build Acceptance Testing
2. Smoke Testing
3. Sanity Testing
4. Regression Testing
5. Re-Testing
6. Ad-Hoc Testing
7. Monkey Testing
8. Gorilla Testing
9. More Testing Definitions

### **Bug Reporting and Tracking**

1. Error, Defect, Bug and CR
2. Bug Reporting Approach
3. Bug Reporting Steps
4. Real Time Scenarios for Severity and Priority
5. Bug Life Cycle

### **Test Management**

1. Test Policy
2. Test Strategy
3. Test Methodology
4. Test Plan
5. Testing Process
6. Levels of Testing
7. Traceability Matrix

### **Test Responsibility Matrix**

### **Testing Metrics**

1. Test Management Metrics
2. Quality Assessment Metrics
3. Process Capability Metrics

### **Reviews**

1. Union
2. Reviews
3. Walk throws,
4. Inspections
5. Desk Checking

### **Testing Standards**

1. ISO
2. CMMI and PCMMI
3. Six Sigma

### **Introduction to Automation Testing**

1. Drawbacks of Manual Testing

2. Benefits of Automation Testing
3. Drawbacks of Automation Testing
4. Factors to go for Automation Testing
5. Factors to Choose Automation Tool

### **Types of Automation Tools**

1. Functionality Testing Tools
2. Performance Testing Tools
3. Test Manage Tools
4. Types of Licenses
5. Licensed Tools
6. Open Source Tools

### **Introduction to QTP**

#### **History of QTP**

#### **Benefits of QTP Over Other Automation Tools**

#### **Key Elements in QTP**

1. Keyword View
2. Expert View
3. Data Table
4. Active Screen
5. Debug Viewer
6. Information
7. Missing Resources
8. Function Library
9. Test Flow
10. Available Keywords
11. Resources
12. ToDo Pane

#### **Automation Process in QTP**

##### **Planning the Test**

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1. With Respect to Application
2. With Respect to Automation

##### **Recording the Test**

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##### **Enhancing the Test**

##### **Debugging the Test**

##### **Running the Test**

##### **Analyzing the Results and Reporting Defects**

##### **Recording Types/Modes**

1. Normal Recording
2. Analog Recording
3. Low Level Recording
4. Differences Between Recording Modes

##### **Object Identification**

1. Introduction to Objects and Classes
2. Introduction to Properties and Methods
3. Object Identification Mechanizm
4. Object Repository
5. Options Available for Object Repository
6. Test Objects
7. Run-Time Objects
8. Differences Between TO and RO Properties
9. Object Spy

### **Configuration for Object Identification**

1. Mandatory Properties
2. Assistive Properties
3. Ordinal Identifier
4. Index
5. Location
6. Creation Time
7. XPath [New in QTP 11]
8. CSS [New in QTP 11]
9. Visual Identification [New in QTP 11]

### **Repository Types**

1. Local Object Repository
2. Shared Object Repository
3. Differences Between Object Repositories
4. Advantages of Shared OR over Local OR
5. Object Repository Manager
6. Associate Object Repositories
7. Object Repository Comparison Tool
8. Object Repository Merge Tool

### **Smart Identification Mechanism**

1. Base Filter Properties
2. Optional Filter Properties
3. Differences Between Identification Methods
4. Custom Class
5. Standard Class
6. Differences Between Custom Class and Standard Class

### **Check Points**

1. Standard Check Point
2. Image Check Point
3. Bitmap Check Point
4. Differences Between Image and Bitmap Check Points
5. Text Check Point
6. Text Area Check Point
7. Differences Between Text and Text Area Check Points
8. Database Check Point
9. Accessibility Check Point
10. XML File Check Point
11. XML Page Check Point
12. Page Check Point
13. Table Check Point

14. User Defined Check Points
15. Ways of Creating Check Points
16. Modifying Check Points

### **Output Values**

1. Standard Output Value
2. Text Output Value
3. Text Area Output Value
4. Database Output Value
5. XML Output Value

### **Differences Between Check Points and Output Values**

#### **Synchronization Points**

1. Wait
2. Insert Synchronization Point
3. Object Exits
4. Object Property
5. Pop-Up Exist
6. Page Exists/Loads
7. .Sync
8. Default Synchronization for Windows and Web Applications
9. Through Scripting
10. Through Check Points

#### **Actions**

1. Types of Actions
2. Non-Reusable Actions
3. Reusable Actions
4. Internal Action
5. External Actions
6. Action Properties

#### **Parameterization**

1. Parameterization Types
2. Through Data Table
3. Environment Variables

#### **Built-In**

1. User Defined Internal
2. User Defined External

#### **Predefined**

1. Through Test/Action
2. Steps/Check Points
3. Flat Files [XLS Files]
4. Random Number Generator

#### **Virtual Objects**

1. Purpose
2. Creating Virtual Objects
3. Limitations of Virtual Objects

#### **Regular Expressions**

1. Purpose

2. Using in Repositories
3. Using in Check Points
4. Using In Descriptive Level Programming
5. Regular Expression Evaluator

### **Debugging**

1. Insert/Remove Break Points
2. Step In, Step Out and Step Over
3. Debug Viewer Pane

### **Watch Expressions**

#### **Variables**

#### **Command**

#### **Run Modes**

1. Update Run Mode
2. Maintenance Run Mode
3. Normal Mode
4. Fast Mode
5. Debug

### **Recovery Scenario**

1. Purpose
2. Types of Recovery Scenarios

### **Pop-Up**

#### **Object State**

#### **Test Run Error**

### **Application Crash**

1. Associate Recovery Scenarios
2. Through Scripting

### **Java Basics**