

Software Testing Tools

- ✓ Introduction
- ✓ Introduction to software Testing
- ✓ Software Development Process
- ✓ Project Vs Product
- ✓ Objectives of Testing
- ✓ Testing Principals

Software Development Life Cycle

- ✓ SDLC

SDLC Models

- ✓ Waterfall Model
- ✓ Spiral Model
- ✓ V Model
- ✓ Prototype Model
- ✓ Agile Model (Scrum)
- ✓ How to Choose Model for a Project

Software Testing-Methods

- ✓ White Box Testing
- ✓ Block Box Testing
- ✓ Gray Box Testing

Levels of Testing

- ✓ Unit Testing
- ✓ Structural Testing
- ✓ Statement Coverage Testing
- ✓ Condition Coverage Testing
- ✓ Branch Coverage Testing
- ✓ Path Coverage Testing
- ✓ Integration Testing
- ✓ Big Bang Integration
- ✓ Top Down Approach
- ✓ Bottom up approach
- ✓ Stubs and Drives

Functional Testing

System Testing

Non Functional Testing

- ✓ Compatibility Testing
- ✓ Performance Testing
- ✓ Load Testing
- ✓ Volume Testing
- ✓ Stress Testing
- ✓ Recovery Testing
- ✓ Installation Testing
- ✓ Globalization Testing
- ✓ I18N

- ✓ L10N
- ✓ Security Testing
- ✓ Usability Testing
- ✓ Accessibility Testing

User Acceptance Testing

- ✓ Alpha Testing
- ✓ Beta Testing

Testing Terminology

- ✓ Functional Testing
- ✓ End-End Testing
- ✓ Ad-hoc Testing
- ✓ Risk Based Testing
- ✓ Sanity/Smoke Testing
- ✓ Re-Testing
- ✓ Regression Testing
- ✓ Exploratory Testing
- ✓ Parallel Testing
- ✓ Concurrent Testing

Windows & Web Application

Testing

- ✓ Check List for Window App Testing
- ✓ Check List for Web Application Testing
- ✓ Web App Testing Terminology

Software Testing Life Cycle (STLC)

Test Strategy

Test Planning

Test Cases Design

- ✓ Error Guessing
- ✓ Equivalence Partition
- ✓ Boundary Value Analysis

Test Case Authoring

- ✓ Functional Test Case
- ✓ Review Test Case
- ✓ Walkthroughs
- ✓ Inspection
- ✓ Peer Review
- ✓ Traceability Matrix

Build Release Process

- ✓ SRN & DD

- ✓ Build Deployment
- ✓ Project Dev Env (Dev, Test, Prod)

Test Execution Process

Defect Reporting & Tracking

- ✓ Defect Reporting
- ✓ Defect Life Cycle
- ✓ Severity, Priority
- ✓ Defect Tracking Tools

Test Closure

- ✓ Criteria for Test Closure
- ✓ Test Summary Reports

Additional

- ✓ Introduction to VSS
- ✓ Project Metrics
- ✓ QA & QC
- ✓ ISO & CMM Standards
- ✓ Testing Certifications
- ✓ Interview Question
- ✓ Organization Hierarchy
- ✓ Role of Project Team Members

Test Management using

Quality Center

Overview on Test Management

Architecture of QC Tool

Site Administrator

- ✓ Create Project
- ✓ Create Users
- ✓ Assign User to Projects
- ✓ Monitor Connections & Licenses
SiteScope
- ✓ Backup, Restore Projects
- ✓ Version Control

Quality Center

- ✓ Managing Requirements
- ✓ Working with test Plan
- ✓ Developing Manual & Automation Tests
- ✓ Coverage Analysis/Traceability
- ✓ Create Test Cases
- ✓ Running Tests

- ✓ Record Results
- ✓ Defect Reporting & Tracking
- ✓ Integration with QTP
- ✓ Test Resources
- ✓ Test Linkage
- ✓ Defect Linkage

Test Management

- ✓ Developing Reports
- ✓ Developing Graphs
- ✓ Dash Board

Customization

- ✓ Creating Groups
- ✓ Module Access
- ✓ Managing Lists
- ✓ Mail Configuration

Selenium

Introduction

- ✓ What is automation testing
- ✓ When to go for Automation
- ✓ Different Automation Tools (vendor & open source tools)
- ✓ Advantages of Automation
- ✓ Criteria for Automation
- ✓ Difference between Manual Testing & Automation Testing Process

Introduction to Selenium

- ✓ What is selenium Tool
- ✓ Use of selenium tool in automation
- ✓ Features of Selenium tool
- ✓ Differences between Selenium and other Tools

Selenium Components

- ✓ Selenium IDE
- ✓ Selenium RC
- ✓ Selenium Grid

Configuration of Selenium IDE & Dev. Scripts

- ✓ Recording the scripts in IDE
- ✓ Running the scripts
- ✓ Saving the scripts and using again
- ✓ Understanding of the objects identification (id, name)
- ✓ Difference between Test case and test suit
- ✓ Languages supported while recording
- ✓ Synchronization in Selenium IDE (wait commands)
- ✓ Testing Vs Selenium IDE
- ✓ When to use Selenium IDE
- ✓ Learning commands in IDE
- ✓ How to put validations (assert, verify)
- ✓ How to read text / values from webpage (store commands)
- ✓ How to handle mouse, keyboard events
- ✓ Running java script from IDE (user extensions)
- ✓ Limitations of IDE

Configuring Eclipse IDE for Java & Selenium

- ✓ How to Create new java project
- ✓ How to create a new java class
- ✓ Running java class
- ✓ Viewing the results of java program

Learning Java

- ✓ Introduction to Java programming
- ✓ Data Types in Java
- ✓ Primitive Data types
- ✓ Wrapper Classes
- ✓ Declaring Variables
- ✓ Writing java program and running

Conditional Statements

- ✓ If condition
- ✓ If else condition
- ✓ If else if condition (nested if)

- ✓ Switch case statement
- ✓ Examples for all the above conditions

Loop Statements

- ✓ While loop
- ✓ Do while
- ✓ For loop
- ✓ For each loop
- ✓ Examples for all the above loops

Array

- ✓ How to declare array
- ✓ How to store values in array
- ✓ Reading values in array

Exception, error handling

- ✓ What are exceptions, errors
- ✓ How to handle exceptions in the program
- ✓ Using try and catch blocks
- ✓ Types of Exceptions
- ✓ Using of throws
- ✓ Throw
- ✓ Throwable

Object Oriented Programming

Class

- ✓ What is class
- ✓ What are fields and methods
- ✓ How to create object for the class
- ✓ How to access fields and methods in the class
- ✓ Constructors
- ✓ What is abstract, final class
- ✓ Variable Types (instance, local, static)

Polymorphism

- ✓ What is polymorphism
- ✓ Method overloading
- ✓ Constructor overloading
- ✓ Passing arguments to methods

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- ✓ Calling methods in the class
- ✓ Return values from method
- ✓ Return objects from method
- ✓ Method arguments callbyvalue,
- ✓ call by reference

- ✓ How to add, remove, and insert value / elements into collections
- ✓ Using the collections like List, Set, ArrayList, HashTable
- ✓ Linked List

Inheritance

- ✓ Why to do Inheritance
- ✓ How to reuse the fields and methods of parent class
- ✓ Overriding fields and methods of parent class
- ✓ Single Inheritance
- ✓ Multi level Inheritance
- ✓ Using super keyword
- ✓ Composition / Aggregation
- ✓ Difference between Inheritance and Composition

Interfaces

- ✓ What is Interface
- ✓ Difference between class and interface
- ✓ When to use Interfaces
- ✓ Abstract class

Encapsulation and abstraction

- ✓ What is hiding data
- ✓ Using access specifiers public, private, protected, default
- ✓ Accessing the public methods outside the class
- ✓ Difference in accessing in same package / different package

Package

- ✓ What is package
- ✓ How to create a package
- ✓ How to import package into a different class
- ✓ Collections
- ✓ Use of collections
- ✓ Advantage of collection using Array

Miscellenius

- ✓ Dynamic binding
- ✓ Upcasing, downcasing
- ✓ Autoboxing, unboxing

Using String, Date, Math classes and Examples

Web Driver

- ✓ Introduction to Web Driver
- ✓ Configure Eclipse IDE (Adding selenium Libraries)
- ✓ Using FirefoxDriver API
- ✓ Working with Different Elements and programming
- ✓ Edit boxes
- ✓ Checkbox, Radio Buttons
- ✓ Buttons
- ✓ Links
- ✓ Selecting values from a Dropdown list
- ✓ Understanding xpath to locate elements in webpage
- ✓ Working with Table Elements
- ✓ Reading data from Table
- ✓ Using Actions class
- ✓ Handing keyboard, mouse events

Data Driven Testing

- ✓ What is Data Driven Testing
- ✓ How to parameterize the data to the script using Excel
- ✓ Reading, writing data into Excel
- ✓ How to parameterize data to the script using Flat files

Debug Scripts in Eclipse

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- ✓ Understanding Debug
- ✓ Using Breakpoints
- ✓ Verify the values during debug
- ✓ Using step over, step into

- ✓ TestNG Annotations
- ✓ Tags in TestNG xml file
- ✓ Groups
- ✓ Reporting Results

Handling Windows

- ✓ How to handle multiple browser
- ✓ Handling alerts
- ✓ Handling windows alerts using (Auto it / sikuli)
- ✓ Handling Frames

Selenium Grid

- ✓ Introduction
- ✓ RemoteWebDriver
- ✓ Congiguring hub
- ✓ Configuring node
- ✓ Running scripts on remote computer

Recognizing elements in webpage

- ✓ Using xpath, DOM, CSS
- ✓ Running java scripts in WebDriver
- ✓ How to recognize duplicate elements
- ✓ How to recognize dynamically changing elements
- ✓ Using Regular expressions

Configuring other Browsers

- ✓ Configure IE browser
- ✓ Configure Chrome browser
- ✓ Running scripts on different browsers

Additional Configuration in Eclipse IDE for Selenium RC

- ✓ Configuring External tools
- ✓ Running selenium server
- ✓ Writing scripts in Selenium RC
- ✓ Execution of scripts on different browsers
- ✓ Comparision of Selenium RC & WebDriver

TestNG Framework

- ✓ What is TestNG
- ✓ Create TestNG.xml file
- ✓ Integrate the Selenium Scripts and Run from TestNG
- ✓ Reporting Results & Analyze
- ✓ Run Scripts from MultipleBrowsers

Automation Life Cycle

- ✓ What is a Framework
- ✓ Types of Frameworks
- ✓ Modular framework
- ✓ Data Driven framework
- ✓ Keyword driven framework
- ✓ Hybrid framework
- ✓ Use of Framework
- ✓ How develop the framework
- ✓ Integration of the framework
- ✓ How execute the scripts from framework

Page Object Model Framework

- ✓ Creating Repository class
- ✓ Using properties file
- ✓ Generating Log files (log4j)

ANT / MAVEN

- ✓ Creating Maven project
- ✓ Creating build file
- ✓ Running the build

SOAP UI

- ✓ What is webservice
- ✓ Webservice architecture
- ✓ What testing we have to do in webservice
- ✓ Introduction to SOAP UI
- ✓ Running project in SOAPUI and testing webservices

- ✓ Load Testing
- ✓ Data Driven for Services Testing

Running Web Driver Scripts on Mobile Devices (selendroid , Appium)

- ✓ Configure Android Device
- ✓ Running scripts on Android Device
- ✓

Mobile Apps Testing using Appium

- ✓ **Introduction**
- ✓ Introduction to Mobile automation testing
- ✓ Introduction to Appium
- ✓ Automation for IOS and Android devices
- ✓ Difference between Appium & Selendroid
- ✓ Various tools available for Mobile automation testing
- ✓ **Installation**
- ✓ Download & install Appium
- ✓ Installation of SDK for Android
- ✓ Installation of APIs for Android
- ✓ Configuration of Environment Variables
- ✓ Installing the Eclipse ADT Plugin
- ✓ Appium installation on Windows OS
- ✓ Configuring & Executing scripts on Emulator and Real Device
- ✓
- ✓ **Developing Scripts**
- ✓ Opening UIAutomator Viewer through SDK tools kit
- ✓ Understanding different locator strategies
- ✓ Understanding the different locator tags
- ✓ Understanding the UISelector Class

- ✓ What is Appium Inspector?
- ✓ How and when to run it?
- ✓ Record and Play using Appium Inspector

✓ WebDriver Scripts for Mobile Native Apps and Web apps Testing

- ✓ Running Native Apps
- ✓ Developing Scripts for Native Apps and execution
- ✓ Developing scripts for Web Apps and Execution
- ✓ Reporting Results