



MANUAL & AUTOMATION TESTING TOOLS

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MANUAL TESTING

◆ Introduction

- What is Software Quality?
- Why Testing is necessary?
- Importance of Software Testing.
- Common Problems in Software Development.
- Testing Objectives.

◆ SDLC Process

- Requirement phase
- Analysis phase
- Design phase
- Coding phase
- Testing phase
- Delivery and maintenance phase

◆ SDLC Models

- Water falls model
- Increment model
- Spiral model
- Agile model
- V model
- Prototype model

◆ Testing methodology

- Black box testing
- White box testing
- Gray box testing
- Hybrid testing

◆ Levels of Testing

- Unit testing
- Integration testing
- System level testing
- UAT testing

◆ Types of Testing

- Functional testing
- Usability testing
- Performance testing
- Security testing
- Alpha Testing
- Beta testing
- Regression testing
- Installation testing
- Recovery testing
- Compatibility Testing
- End-to-End testing
- Port testing Adhoc testing
- Smoke testing

◆ Software Testing Life Cycle

- Test Strategy preparation
- Use case preparation
- Test plan preparation
- Test case design
- Types of test cases
- Review test case
- Test design techniques
- RTM reviews
- Testing process
- Test logs

◆ Test execution

- Test execution life cycle
- Levels of test execution
- Test suit preparation and execution
- Regression testing

◆ Defect Reporting

- Defect template
- Defect life cycle
- Defect status life cycle
- Bug life cycle types of bugs
- Defect metrics
- Defect removal efficiency
- Categories of defects
- Error, defect, bug

◆ **Metrics collection**

- Importance of test metrics
- Testing data used for metrics
- Different types of metrics

◆ **Test closure**

- Test execution stop criteria
- Test summary reports

◆ **UAT(User Acceptance Testing)**

- Importance of UA testing
- Scope of UAT
- Alpha testing Beta testing
- Management configuration
- Purpose of configuration management

◆ **Real time terminologies**

- QC
- QA
- Inspection
- Build release process
- Audit
- SDN
- Reviews
- Peer Review
- Test bed
- Slippage
- PPM
- MRM
- Change request
- Walk through
- Defect age
- Latent defect
- Defective product
- Code walk through
- Work around
- Patch
- Test data

◆ **Ways OF Testing**

- Manual testing
- Automation testing
- Drawbacks of manual testing

◆ **Automation Testing Using QTP Introduction**

- Benefits of automation testing
- Manual vs automation testing
- Types of autr mated tools
- History of OTP

◆ **Basics of QTP**

- Overview of qtp
- Anatomy of qtp
- Record and run settings
- Recording modes
- Using qtp commands

◆ **Records play back**

- Creating and execution test
- Recording a test
- Understanding your recorded test
- Executing a test

◆ **Types of recording modes**

- Standard/normal recording mode
- Analog recording mode
- Low level recording

WORKING WITH OBJECT REPOSITORY

◆ **Types of object repositories**

- Local and shared repository
- Operations on object repository
- Object repository manager
- Dynamically adding objects
- Smart identification
- Object spy

◆ **Types of object**

- Run time objects
- Test objects

◆ **VB Script**

- Introduction to VB script
- VB script language

- VB script data types
- VB script variables
- VB script constants

◆ **Functions**

- Date and time functions
- String functions
- Numeric of functions
- Conversion functions
- Built in functions
- Used defined functions

◆ **Arrays**

- Define array
- Dynamic array
- Dictionary objects

◆ **VB Script Statements**

- Conditional statements
- If...then statements
- Select case statements

◆ **Looping statements**

- For...next
- Do...While
- Do...until
- While...wend

◆ **Other Statements**

- Call statements
- Dim statements
- Set statements
- With statements
- Option explicit statements
- Selenium IDE
- JAVA
- WebDriver
- GRID
- Testing
- Database Testing
- ApachiPOI
- GIT
- Maven
- Log4J
- Javascript Executor

- AutoIT, Robot, Sikuli
- Page Object Model
- Cucumber
- JDBC
- Jenkins
- Frameworks
- Data driven
- Keyword driven
- Modular
- Hybrid Frameworks
- Live Projects
- On Job Training

◆ **Introduction**

- Introduction to Selenium
- Comparison with other tools
- Components of Selenium

◆ **Selenium IDE**

- What is selenium IDE
- Installing IDE
- Record and playback
- Converting selenium script into other languages
- Selenese Commands
- Limitations of IDE Debugging in IDE
- Batch testing in IDE
- Default Timeout
- User Extensions

◆ **JAVA**

- Introduction to JAVA
- Installing JDK
- Configuring Eclipse IDE
- Creating Java Project
- Sample Java program

- Classes and objects
- Downloading Selenium server jar
- Configuring Selenium into the Java Project
- Conditional Statements in Java
- Loops in Java
- Arrays in Java
- Array List in Java
- Methods in Java
- Utility Functions in Java
- Local and Global Variables in Java
- Static and instance variables in Java
- Hash Set In Java
- Method Overloading in Java
- Constructors in Java
- Inheritance in Java
- Interfaces in Java
- Packages in Java

◆ **Web Driver Introduction**

- Browser Launching Automation
- Working on
- Firefox
- Safari
- Chrome
- Opera
- IE

◆ **Add On and Methods**

- Firebug and Fire path
- Login functionality test
- Locators in Webdriver
- Methods in Webdriver

◆ **Profiles**

- Firefox Profiles
- Making webdriver launch a customized instance of Firefox
- Basic HTML notations

◆ **Automating Links**

- Links Testing
- Clicking on a link and validating
- Capturing all links in a page
- Capturing links from a section of the page

- Capturing links from a section of the page and validating them
- Links Testing
- Visible links and Hidden links
- Validating all the links based on href property'
- Checking for broken links

◆ **Automating Dropdowns**

- Dropdown Testing
- Selection an option from the dropdown
- Select class to automate dropdown
- Capturing all element in a dropdown
- Checking if all options in dropdown are working correctly
- Validating multiple dropdowns

◆ **Headless Testing**

- Running tests in background
- Headless Testing
- HtmlUnitDriver, PhantomJs
- Rhino, Ghost driver

◆ **Xpaths**

- Types of Xpaths
- Relative and Absolute
- Creation of relative Xpaths
- Creation of absolute Xpaths
- Customizing Xpaths
- Handling Dynamic Xpaths
- Xpath Axes

◆ **Using CSS Selectors**

- CSS Selectors
- Creation of CSS Selectors
- Comparison between Xpath and CSS Selectors
- Relative and Absolute CSS
- Handling Dynamic CSS Selectors

◆ **Testing**

- Introduction to TestNG
- Configuring TestNG into Eclipse
- Annotations in TestNG

- Prioritizing test cases
- Ignoring Test Cases
- Advantages of TestNg
- Using testing.xml
- TestNG priority
- TestNG Listeners
- TestNG Reports

◆ **Tab and Popup Automation**

- Automating Tabs
- Automating multiple windows
- Handling popup

◆ **Synchronization**

- Introduction to Synchronization
- Thread. Sleep()
- Implicit wait
- Wait for an element
- Wait for entire page to load
- Explicit Wait
- Webdriverwait
- Fluent wait
- Visibility and Invisibility Conditions

◆ **AjaxTesting**

- What are Ajax Components
- Handling Ajax Autosuggestions
- Cookies Testing
- Capturing the cookies info
- Deleting all the cookies

◆ **Miscellaneous**

- Captcha Automation
- Radio Buttons Testing
- Checkboxes Testing
- Automating input fields

◆ **Actions Class**

- Advanced User Interfacing
- Mouse Hovering
- Right Clicking
- Double Clicking
- Chain Actions
- Drag and drop and element
- Automating Slider bar

◆ **Automating Webtable**

- Introduction to Webtable Testing
- Handling static webtable
- Handling dynamic webtable
- Automating Datepicker(calendar)

◆ **Excel Read/Write**

- Apache POI
- Configuring POI into the projects
- Interacting with Excel
- Read operations on excel
- Write operations on excel
- Dropdown Testing and storing the results
- Webtable testing and storing the results in Excel

◆ **Frameworks I**

- Creating the folder structure
- Definitions of Data driven, key word driven, Modular driven and Hybrid frameworks.
- Creating Data Driven Framework
- Creating Test data excel files
- Using the test data to test the web application

◆ **Frameworks II**

- Creating a Data Engine to control the automation test suite
- Keyword Driven Testing
- Creation of Properties File
- Object repository
- Creating Actions keywords Excel file
- Reflections in Java to handle keywords

◆ **Frameworks III**

- Creating Modular Driven Framework
- Creating reusable functions
- Hybrid Framework

◆ **Automating Window Components**

- Auto IT, Robot, Sikuli
- Handling Window Components

- Installing Auto it
- Notepad Automation
- Integrating Auto IT and Selenium
- File download using Auto IT
- File upload using Auto IT
- Understanding Robot Class
- File download using Robot
- File upload using Robot
- Configuring Sikuli
- File download using Sikuli
- File upload using Sikuli

◆ **Version Controlling**

- SVN and GIT
- Version Controlling
- Creating a free SVN account
- Usage of Tortoise SVN
- Check in and checkout in SVN
- Installing Git
- GIT bash and Git HUB
- Creating a Git local repository
- Creating Git Hub account
- Uploading into Git hub(push)
- Downloading from Git Hub(pull)

◆ **Maven**

- Introduction to Maven
- Maven local and Global repositories
- Creating a maven artifact from command prompt
- Configuring maven project into Eclipse
- Creating a Maven local repository
- Adding Jars into Maven local repository
- Stages in Maven
- Configuring Maven from Eclipse plug-in
- Maven as a build tool

◆ **Grid II**

- Selenium Grid
- What is Grid
- Configuring Hub and Nodes
- Serial and parallel testing
- Configuring browser Testing
- Serial and parallel testing
- Cross browser Testing
- Cross platform Testing
- Customizing the nodes
- Using JSON to configure Hub and odes
- End to End Testing in Grid

◆ **Data Base Automation**

- DB Testing
- Installing MySql Database
- Creating sample tables
- Understanding JDBC
- Connecting Java Code with DB
- Executing SQL queries
- Integrating JDBC with Selenium

◆ **Continuous Integration(Jenkins)**

- Different tools for implementing CI
- Jenkins
- Continuous Integration
- Downloading Jenkins
- Dashboard of Jenkins
- Scheduling the automation build
- Sending automated mails when the build executes
- Integrating Jenkins with Git
- Parallel testing of Selenium programs on multiple browsers and OS using Jenkins

◆ **Cucumber**

- Introduction to BDD
- Gherkin
- Installing Eclipse Cucumber Plug-in
- Downloading Cucumber and Configuring in Eclipse
- Feature File
- Gherkin keywords
- Cucumber Options
- Data driven Testing in Cucumber
- Examples Keyword
- Data tables in Cucumber
- End to End Testing using Cucumber
- Programs on multiple browsers and OS using Dockers



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