



Manual + Selenium



About Course

Manual testing is a software testing process in which test cases are executed manually without using any automated tool. All test cases executed by the tester manually according to the end user's perspective. It ensures whether the application is working, as mentioned in the requirement document or not.

MANUAL + SELENIUM

CURRICULUM

1

Introduction to Software Application and Fundamental of Testing

Overview of Software Application Testing

Why is testing necessary

Software testing Principles

Psychology of software testing

Causes of Software Defects

Terms used in Software Testing [Defect, Error, Bug, Failure etc..]

Overview of SDLC [Software Development Life Cycle]

Overview of Project Execution Lifecycle

Overview of Project Lifecycle

2

Models of Software Engineering

Waterfall Model

Prototype model

Spiral Model

Incremental Model

Iterative Model

③ **Quality Management System**

What is Quality Management System and It's need

What is Quality Assurance

What is Quality Control

Review process and Types of Review Process

Different Roles and Responsibilities of reviewers

Walkthrough

Inspection

Code Review

Peer Review

Verification Vs Validation

Static & Dynamic Testing techniques

Quality Standard CMM, ISO, 6Sigma

④ **Software Testing methodology**

White Box

Black Box

Grey Box

⑤ **Levels of Software Testing**

Unit Testing

Integration Testing

System testing

UAT

Testing Types/Approaches

Smoke Testing

Sanity Testing

Re-Testing

Regression Testing

Ad-hoc and Exploratory testing

Monkey & Gorilla Testing

Alpha Testing

Beta Testing

Validation Testing

Web Application Testing

Accessibility Testing

Recovery Testing

System Compatibility

Browser Compatibility Testing

Cross Browser Testing

Multiple Browser Testing

Forward and backward compatibility

Performance Testing

Load Testing

Stress Testing

Volume Testing

Usability Testing

Accessibility testing

Security Testing

Multilingual testing

Introduction of different Test Estimation techniques and Reporting techniques

Test plans estimates and strategies

Different test approaches

Test progress, monitoring and control

Configuration management

Risk and testing

Identifying test condition and design test cases

Categories test design techniques

Specification based or black box techniques

BVA

ECP

Decision table testing

State transition testing

Orthogonal array

Structure based or white box testing techniques

Cyclomatic complexity

Basis path testing

CFG

Statement coverage

Branch coverage

Path coverage

Experience based techniques

Risk based Testing

Choosing a test techniques

Bug/defect lifecycle
Defect Severity & Priority

8 Software Testing Life Cycle (STLC)

9 Practical session on Live/Inbuilt and real time Projects (Lab Session)

Creation Of Test Plan

Creation Of Test Scenarios, Test Cases

Test case execution

Bug tracking and reporting

Implementation of testing optimization

Techniques (ECP, BVA, Decision Table...)

Overview of Test Metrics, creation and its importance

Types of Test Metrics

Traceability Metrics

Test report preparation

Test closure Report preparation

10 Real Time Process testing terminologies

Test bed, Test Hardnesses, Test Suit, Test basis, Test artifacts, Different Environment(DEV, Test, Production), Requirements Volatility, Staggering process, Build Process, Test Cycle, Re-spin, Test

Efficiency, Hot fix, Patch, Base Line, Change request, Defect age, Defect clustering, Defect slippage, Impact Analysis, Defect root cause, Escalation process and more....

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Agile Methodology

Introduction to Agile Methodology & Agile Manifesto

Overview of Different Agile methods

When to Use Scrum vs. When to Use Traditional Methods

Scrum Process

Scrum Roles

Scrum Team

Time-Box Concept

Event 1: The Sprint

Event 2: Sprint Planning

Event 3: Daily Scrum

Event 4: Sprint Review

Event 5: Sprint Retrospective

Product Backlog Grooming

Scrum Artifacts

Artifact 1: Product Backlog

Artifact 2: Sprint Backlog

Artifact 3: Increment

Artifact 4: Definition of "Done"

Artifact 5: Monitoring Progress toward a Goal
Artifact 6: Monitoring Sprint Progress
Agile Tracking, Scrum Meeting and Daily Stand-ups
Product Backlog Grooming

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Agile Test Management and Bug tracking/Reporting with JIRA

Introduction about Jira tool

What is an Issue?

What is a Project?

What is a Workflow

Exploring the JIRA workspace

Managing your user profile

Navigating JIRA

Creating an Issue

Viewing Issues

Editing Issues

Transitions and Screens

The Workflow Viewer

Collaboration

Search

Detail View

Configuring Filters

Email Filter Results

Standard & Custom Reports

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Database Testing Introduction

What is Database Application?

Overview about database structure

Introduction about deferent database types

Understanding data storage

Back end & front end Testing

General Database Basics

Essential elements needed for database testing

writing test plan for database testing

Organizing DB Testing approach

writing test cases for database testing

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Basic SQL

Why should Test professionals know Structured Query Language?

Writing the statement in SQL Plus

Overview of DML , DDL, TCL,DCL

DML : Insert , update , Delete , merge

DDL : Create, Drop, Alter, Rename, Modify, Truncate

TCL : Commit, Roleback, SavePoint

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SQL Functions:

Single Row Function / Multiple Row Function

String Function , Number Function , Date and

Time Function, General Function

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Joining Tables

Obtaining data from multiple tables

Types of joins : Inner joins , Non-equi Join,
Natural Join, Right outer join, Full outer Join

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Operators: (data using Group Function)

Arithmetic Operator

Relational/Logical

Like Operator

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Constraints & View

Not Null

Unique

Primary key

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Aggregating data using group functions

GROUP BY

HAVING

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Overview and concept Sub queries

Single Row sub queries

Multiple row Sub queries



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Introduction to Java

Introduction to Java Programming Language, Uses of Java language, Java Syntax Rules & Coding Standards, Java Environment Setup, Write & Execute first Java Program And Write Java Programs using Eclipse IDE

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Java Programming for Selenium

Overview of Java Programming, Java Modifiers, Data Types, Variables, Operators, Flow Control, Arrays, String Handling, File Handling, Exception Handling, and Methods.

Java OOPS: Inheritance, Polymorphism, Abstraction, and Encapsulation

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Java Program Structure and Syntax

Java Programming Structure, Writing Comments, Declaring Methods, Declaring Variables.

Declaring Constants, Print Statements, usage of Operators, Writing Conditional Statements, Writing Loop Statements and Calling methods Java Conditional.

Java Conditional and Loop Statements

Java Conditional and Loop Statements ,explains

Types of Conditional statements in Java

Types of Conditions and usage of conditional statements.

If statement and switch statements in Java with examples.

Java loop structures, for loop, while loop, do while loop and enhanced for loop with examples.

Strings and Arrays in Java, explains String handling in Java,

Creating Strings, String Concatenation and String Comparison.

Array declaration, types of Arrays, print Array, copy Array, Array methods and Advantages & Disadvantages of Arrays.

Input Output Operations and File Handling

Input and Output operations and File handling in Java, Explains reading different types of input and displaying output on the console.

Collections Framework

Introductions of Collections

Types of collections

Generic -List, Dictionary, Stack and Queue

Non Generic- ArrayList, HashTable, Stack and Queue

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SELENIUM

Introduction of Selenium:

What is Automation Testing

Use of automation Testing

Tools for Automation Testing

Why automation is important for you career?

What is Selenium.

Advantage of Selenium.

History of Selenium.

Component of Selenium.

Architecture of Remote Control.

Architecture of WebDriver.

Architecture of GRID.

Differences between API's Vs GUI's.

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Selenium IDE

Selenium IDE Introduction

Record and Playback with Firefox and Chrome

Debugging in Selenium IDE Script

Introduction Katalone Studio

Record and Playback through Katalone Studio

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Set up Eclipse

Download and install java

- Download and start Eclipse
- Download and configure WebDriver java client
- Set up a project
- Create packages
- Create a First Java test case
- Import WebDriver Source file

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WebDriver:

- WebDriver Interface
- WebElement Interface
- Launching Firefox browser

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Browser & Navigation Commands

- How to Open a URL
- Verify Page title
- Strategy to get the Page Source
- Difference between Close & Quit
- Ways to Navigate Back & Forward
- How to Refresh Page
- Another way of Navigating to specific Page

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Locators

- What are locators.
- HTML Basics.

- HTML language tags and attributes.
- ID, Name, Xpath, CSS etc.
- Difference between Absolute & Complete Xpath.
- Finding your first element.
- WebElement Commands.

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Element Identification

- Element Inspector in Mozilla, Chrome and IE
- Element locator tool for Firefox Locator
- Firebug&Fire Path Add-Ons in Mozilla
- Various HTML locator strategies
- XPath Helper Plug-in for Chrome
- Selection of Effective Xpath
- Handling Dynamic objects/ids on the page

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Tables, Checkboxes & Radio buttons

- Identify table rows and columns
- Extracting values from a cell
- Dynamically Identify Tables Data
- Select class in Selenium
- Drop Down Handle.
- Select multiple values from the list
- Select & Deselect operations by Index, Value & Visible Text.

Selenium Waits, Alert & Switch Windows

Implicit and Explicit waits

How to use Expected Conditions with Waits

PageLoadTimeout & SetScriptTimeout property

Simple use of Thread Sleep

Concept of Fluent Wait in Selenium

WebDriverWait and its uses

Different WaitUntil Conditions

Ways to handle Simple, Confirmation & Prompt Alert

Concepts of Set Interface in Java

Difference between Window Handle & Handles

Switching & Closing Windows, Tabs & Popup's

Concept of window ID

Extracting window IDs with Selenium Object reference

JavaScriptExecutor Interface

Captured Screenshot

Cookies Handles

Action Class

What is Action Class & What can we do with Action Class

Mouse Hover & Mouse Movement with Action

Finding Coordinates of a Web Object

Drag and Drop Action

TestNG Framework

What is TestNG

Benefits and Features of TestNG

How to download TestNG

Annotations in TestNG

How to run Test Suite in TestNG

Groups in TestNG

Depend on in TestNG

Test Case sequencing in TestNG

TestNG Asserts

TestNG Parameters

Multi Browser testing in TestNG

Parallel testing in TestNG

Extent Report API

Cucumber :

Introduction Cucumber

Using Cucumber

Gherkins Language

Creation of feature files and Step Definition

Introduction TDD and BDD

TDD Vs BDD

Version Control (GitHub Introduction)

Maven

Maven Introduction

Install Maven in Eclipse IDE

Install Maven on Windows

Install Maven on Mac

How to Create a New Maven Project

How to Create a New Maven Project in Eclipse

Configuration of POM & set multiple builds

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Log4j Logging

Log4j Introduction

Download Log4J

Add Log4j Jar

Test Case with Log4j

Log4j Log Manager

Log4j Appenders

Log4j Loggers

Database Connections:

Database connection

Database Testing in Selenium using MySql Server

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Automation Framework

What is Automation Framework

Features of Automation Framework

Benefits of using Automation Framework

Different types of Automation Framework

What is Data Driven Framework

- What is Modular Driven Framework
- What is Keyword Driven Framework
- Apache POI API
- POI Setup and Configuration
- Read and Write Excel file with Apache POI
- POM (Page Object Model)
- Page Factory

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Jenkins

- Jenkins Introduction.
- Installation & configuration of complete Jenkins setup.
- Scheduling of Maven build & set multiple builds in Jenkins.
- Overview of integration between Jenkins & GitHub.
- Overview of integration between Jenkins & AWS
- Selenium Integration with Jenkins.

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GitHub

- Introduction of GitHub and Selenium integration.
- Installation of git binaries
- Github set up in eclipse IDE
- Building repository on git
- Test prepare in selenium using Github

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Automation Test Script Development (Project Based)

Analyzing Manual Test Script
Automation Test Script Development strategy
Development Test Script according to manual script

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Interview Preparation

Technical Interview Preparation
Mock interview Preparation
HR Session
GitHub



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