

Introduction to Software Testing Life Cycle

Learning Objectives - In this module, you will learn the fundamental testing concepts. You will also understand the typical Software Development Life Cycle (SDLC) and different types of models involved. The different types of activities required for implementing a SDLC will be covered in this module.

Topics - History of Testing, What is Testing, Why Testing is required, What is a Defect, Testing principles, Quality Assurance and Quality control, Scope of Testing, When Should Testing Occur, Testing Constraints, Roles of the Software Tester, Overview on SDLC, Different Life Cycle models, Overview on STLC, AGILE Testing, etc.

Test Planning

Learning Objectives - In this module, you will learn all about Test Management activities. You will also understand the roles and responsibilities of the SDLC developers and your involvement/Contribution in each activity.

Topics - Test Strategy, Test Planning, Customization of the Test Process, Overview on Budgeting, Scheduling, Configuration management, and Risk management.

Test Design

Learning Objectives - In this module, you will learn to create Test Scenarios, develop Test cases, Identify appropriate test data. At the end of this module, you will be able to write test cases on your own for sample apps. Traceability Matrix helps to bridge the Test coverage gaps.

Topics - Test Scenarios, Test cases, Test Data, Difference between Test Case and Test Scenario, Creating Test Cases for sample application, What is Traceability Matrix(TM), Sample TM.

Test Techniques

Learning Objectives - In this module, you will learn the importance of Reviews in Testing, Why to Review and How to Review? Writing effective test cases is a skill for a good tester. This module will give you an in depth study to understand Dynamic Test Case Writing Technique For Maximum Coverage with minimum Test Cases.

Topics - Static Techniques: Importance of reviews in STLC, Review Activities, Roles and Responsibilities during Review. Dynamic Techniques: Specification-based or black-box techniques, Boundary Value Analysis, Decision Table Testing, Equivalence Partitioning. Experience-based techniques: Error Guessing, Exploratory Testing.

Levels & Types Of Testing

In this module, you will understand the different Phases and types of Testing. Topics - Levels of Testing: Unit Testing, Integration Testing, System Testing, User Acceptance Testing. Types of Testing: Regression Testing, Smoke Testing, Database Testing, Load Testing, Performance Testing, Compatibility Testing, Security Testing, Volume Testing, Stress Testing, Usability testing, Internationalization Testing, Localization Testing.

Test Execution

Learning Objectives - In this module, you will understand the Entry & Exit Criteria for Test Execution and how to execute the developed test cases.

Topics - Overview on Build and Release, Release Notes, Pre QA Checklist, Entry and Exit criteria, Test Execution, Hands on.

Defect Management

Learning Objectives - In this module, you will learn the difference between Defect Prevention and Discovery. You will understand the Life cycle of Defect and how to report a defect with all sufficient details. This module will enable you to log defects and provide hands on.

Topics - Defect Prevention, Defect Discovery, Defect Life Cycle, Severity and Priority, Overview on RCA, Hands on Identify and log Defects..

Reporting & Team Collaboration

Learning Objectives - You are responsible to keep the stakeholders informed about the progress of your Test activities periodically. In this module, you will learn to prepare status reports on Test case development, Test case Execution, Defect Status report, Test Closure Reports. Real time examples will be showcased for better understanding. You will also learn how to interact with various teams and mitigate challenges.

Topics - Test Status Reports, Test Closure Reports, Tester and Developer, Team Collaboration, Client Interaction, Onshore/Offshore Model, Mitigate current challenges..

Metrics & Measurement

Learning Objectives - In software Testing, it is much important to measure the quality, cost and effectiveness of the project in line with testing. In this module, you will learn what is Metrics and how to collate Metrics and measure the quality of testing in various aspects.

Topics - Overview on Metrics & Measurements, Benefits of Test Metrics, Metrics Life Cycle, Types of Test Metrics.

Testing Tools & FAQs

Learning Objectives - In this module, you will learn the importance of Automation tools, overview of some tools like Selenium, benefits and usage of Quality center.

Topics - Why Automation, Overview of different Automation Tools - and Selenium, Overview on Quality Center, FAQs.

Project Management tools- (Agile, JIRA, Scrum, Kanban)

Java basics refresher

- › Why Java?
- › Need of Java (Cover Java Terminology—JDK, JVM, Byte Code, and JRE; How Java Works?)
- › How to Setup Java Path and Class Path?
- › Explain About IDE and Where We are Going to Write Our Java Program.
- › Platform Independence in Java
- › Explain Java Program Structure and Naming Convention
- › Java Data Types and Variables and Output Statement
- › Basic Operators in Java
- › Features of Java
- › Keywords and Syntax
- › Classes and Objects
- › Conditional Statements
- › Iterative Statements
- › Comments in Java
- › Access Specifiers
- › Java Methods
- › Constructors
- › What is Object Oriented Programming?
- › OOPs Concepts

Hands-On

- › Basic Applications on Java and OOPs Concepts

Skills You Will Learn

Introduction to automation testing selenium

- › Test Automation Fundamentals
- › Types of Applications (Web)
- › Software Testing Methods (Manual and Test Automation)
- › Test Automation Types (Unit Testing, API Testing, and GUI Testing)
- › Test Automation Frameworks
- › Test Automation Tools
- › Test Automation Process
- › Components of Selenium Suite
- › Types of Testing

- › Selenium vs. Other Testing Tools
- › Introduction to Selenium
- › Features of Selenium
- › Selenium IDE
- › Integration of Selenium with Other Tools
- › Basic Selenium Application Without Maven
- › Integration of Selenium with Other Tools (Maven)
- › Basics of Selenium
- › Maven Framework
- › Test Automation Frameworks
- › Implementing Selenium IDE

Selenium webdriver and locator

- › Introduction to Selenium WebDriver
- › Evolution of Selenium WebDriver
- › Advantages of Selenium WebDriver
- › Selenium WebDriver Architecture
- › Introduction to Web Elements
- › Locating Web Elements Using Various Locators
(ID, Name, Class Name, Tag Name, Link Text, Partial Link Text, CSS Selector, and XPath)
- › Introduction to XPath
- › Types of XPath
- › XPath Functions and Customizations
- › What are CSS Selectors?
- › Locating Web Elements Using CSS Selectors
- › Selenium Commands in WebDriver
- › Interacting with Web Elements
- › Selenium WebDriver and Architecture
- › Locating Web Elements Using Various Locators
- › Absolute and Relative XPath
- › XPath Functions
- › XPath Axes
- › Locating Web Elements Using CSS Selectors
- › Selenium Commands in WebDriver
- › Selenium Framework
- › Selenium WebDriver Handling
- › Web Elements Locating
- › Locating Web Elements Using CSS Selectors
- › Selenium Commands in WebDriver

Handling alerts and modal dialog box

- What are Alerts?
- Types of Alerts
- Handling Alerts in Selenium WebDriver
- What is a Modal Dialog Box?
- Handling Modal Dialog Box Using Selenium WebDriver
- Handling Multiple Windows and Multiple Tabs Using Selenium WebDriver
- Scrolling on a Web Page Using Selenium WebDriver
- Verifying Tooltip Using Selenium WebDriver
- Handling Web Page Alerts Using Selenium WebDriver
- Handling Modal Dialog Box Using Selenium WebDriver
- Scrolling on a Web Page Using JavaScriptExecutor
- Verifying a Tooltip Using Selenium WebDriver
- Handling Multiple Windows and Multiple Tabs Using Selenium WebDriver
- Handling Web Pages with Navigation Pop-Ups and Alerts
- Modal Dialog Box Handling
- Tooltip with Selenium WebDriver
- Handling Multiple Browser Windows and Webpage Scrolling

Iframe Actions

- What is an IFrame?
- Identifying an IFrame
- Switching to IFrames Using Selenium WebDriver
- Select Class in Selenium WebDriver
- Methods Under Select Class
- Handling Dropdowns and Multiple Select Operations Using Select Class
- Methods for Handling Keyboard and Mouse-Based Interactions
- Testing Drag and Drop and Mouse Hover Functionality Using Actions Class
- IFrames in Selenium
- Handling IFrames Using Selenium WebDriver
- Handling Select Class in WebDriver
- Handling Dropdowns and Multiple Select Operations
- Handling Keyboard and Mouse-Based Interactions Using Actions Class
- Testing Mouse Functionality on WebDriver

Selenium IDE and page object model

- › What is Selenium IDE?
- › Features of Selenium IDE
- › Selenium IDE Interface
- › Selenese in Selenium IDE
- › Why Page Object Model (POM)?
- › What is Page Factory?
- › Implementing POM Using Selenium WebDriver
- › Implementing POM with Page Factory
- › Test Case in Selenium IDE
- › Page Object Model Using Selenium WebDriver
- › Page Object Model with Page Factory
- › Implementing Selenium IDE
- › Selenese in Selenium

Interacting with selenium TestNG frame work

- › Types of Waits in Selenium
- › Introduction to TestNG
- › Installing TestNG Plug-In in Eclipse
- › Annotations
- › Grouping
- › Sequencing
- › Parameterization
- › Parallel/Cross Browser Testing
- › Introduction to Reports
- › Types of Waits in Selenium
- › Installing TestNG Plug-In
- › Executing a TestNG Script
- › TestNG Assertions
- › TestNG Parameters
- › Parallel Testing Using TestNG
- › TestNG Reporting
- › Skills You Will Learn
- › Waits in Selenium
- › TestNG Framework Annotations
- › TestNG Grouping
- › TestNG Sequencing
- › TestNG Parameterization

Bdd frame work with cucumber

- Agile Testing
- Behavior Driven Development (BDD)
- Advantages and Limitations of BDD
- Cucumber Fundamentals—About Cucumber
- Gherkin Syntax in Cucumber
- Step Definition for Cucumber Feature File
- Advantages of Cucumber
- Implementing BDD Framework Using Cucumber