

Diploma in Software Testing

Duration: 3 Months (90-100 Hours)

Prerequisites

- Basic Knowledge of Computer.

Module I: Basic Software Testing

Manual Testing

1. Fundamentals of Testing

- What is Software Testing?
- What is Software Bug
- Testing Principles
- When to Start/Stop Testing?

2. Application Architecture

- Desktop/Stand-alone Environment
- Client Server Environment
- Web Based Environment

3. SDLC and STLC

- SDLC Phases
- Various SDLC Models
- Waterfall Model
- Iterative and Incremental model
- STLC Phases
- Types of Testing
- Methods of Testing
- Static and Dynamic Testing

4. Verification and Validation

- Verification
- Methods of Verification
- Validation
- Levels of Testing
- V Model

5. Functional and Non Functional testing

- Functional Testing
 - Unit Testing
 - Integration Testing
 - System Testing
 - User Acceptance Testing
 - Regression Testing
 - Retesting

- Non Functional Testing
 - Performance Testing
 - Load Testing
 - Stress Testing
 - UI and Usability Testing
 - Security Testing
 - Portability Testing
 - Compatibility Testing
- Other Special Testing Types

6. Test Management

- Test Plan Template
- Usecase Testing
- Scenario Testing
- Testcases & Test Data
- Testcases Template
- Test Design Technique

7. Defect Management

- What is Defect/Bug?
- Reason for Defects in Software
- Defect Tracking System
- Defect Life Cycle
- Attributes of Defect

8. Bugzilla Defect Tracking Tool

- How to Report a Bugs
- Priority of Bugs
- Report Generation

9. Quality Center (QC-Overview)

- Opening QC
- Requirements tab
- Test Plan tab
- Test lab tab
- Defects tab
- Report and analysis of result

Database Concepts (Oracle SQL)

1. Introduction to Database

2. DBMS, RDBMS, ORDBMS

3. DDL, DML, DCL, TCL

4. Data types

5. SELECT Statement

6. Restricting and Sorting Data

7. Aggregating Data using Group Functions

8. Manipulating Data

9. Sub queries

10. Important Functions

11. Joins and different types

Module II: Automation Testing Tool (SELENIUM)

Core Java

1. Overview of Java

- OOP's , Data Types and Variables
- Operators, Control Structures
- Strings, Arrays

2. Objects and Classes

- Object, Classes and Methods
- Method Overloading
- Constructors

3. Inheritance

- Types of Inheritance
- Method Overriding
- Dynamic method dispatch

4. Packages and Interfaces

- Defining Packages
- Extending Interfaces

5. Exception Handling

- Fundamentals of Exception Handling
- Exception types
- Try and Catch and finally
- Multiple Catch

6. Input and Output in Java

- File handling
- Fetching data from Property File
- How to use excel data with Apache POI Jars
- Working with Excel

7. Collections Framework •

- Collection Interfaces and Classes
- List, Set, HashSet, Iterator, other Classes

Basic Selenium

1. Introduction to Automation Testing

- What is Automation Testing?
- Which Test Cases to Automate?
- Different Automation tools
- Automation challenges & Mitigations

2. Introduction to selenium

- What is selenium?
- History and various versions of selenium
- Advantages of using Selenium over other tools.
- Selenium components

3. Selenium-IDE

- Introduction
- IDE Features
- Building & Running Test Cases
- Building and Running Test Suites

4. Selenium Web Driver 3.0

- Why Selenium Web Driver
- What is a Driver
- Automation Setup for Selenium Web Driver
- Configuration of Selenium Jar using Eclipse

5. Identification of Locators

- Tools to identify elements/objects
- Setup for Firebug, Firepath
- Different methods of finding element
 - By ID, By name, class
 - By Xpath, By Tag name
 - By Link text
 - By CSS
 - Using Effective X-path

6. Selenium Commands

- Various types of operation that can be performed on any elements and how to use them.
 - Browser Commands, Navigation Commands
 - Working with different browser
 - Handling Checkbox, RadioButton
 - Dropdown and Select Operations
 - Handling Keyboard Event and Mouse Event
 - Alert & Pop Up Handling
 - Handling iFrame/Frame
 - Multiple Window Handling
 - Capturing Screen shots
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7. Handling WebTables

- What is WebTables
- Extracting values from WebTables
- Static and Dynamic WebTables

8. Wait Commands in Selenium

- Implicit Wait
- Explicit Waits,Expected Conditions

Advanced Selenium

1. Framework Designing

- What is Framework
- What is a Framework?
- Different Types of Framework.
- How to Design a framework?
- Data Driven Framework using Excel
 - Downloading and configuration of Apache POI
 - Executing Testcases from Excel

2. TestNG Framework

- Test NG & TestNG features
- How to use TestNG and Junit in Selenium
- Advantages of TestNG over Junit
- How to integrate TestNG with Eclipse
- Test NG Annotations
- TestNG Reporting

3. POM Framework

- Advantages of POM
- How to implement
- Using Page Object and Page Factory

4. Selenium Integration with Maven

- How to create a maven project in Eclipse
- Maven Build Cycles.
- How to compile and Run tests using Maven

5. Cucumber Framework

- What is BDD
- Cucumber implements BDD
- Preparing Features File
- Writing a step definition
- Writing Runner Class
- Given, When, Then, And, But annotations and usage in features class
- Passing parameters in Step Functions
- Using regular expression in step
- Parameterize complete scenario using features class
- Datatable in Cucumber and its implementation
- Using Assertions to report failure
- Running simple feature/Step scenario
- Building a simple test case
- Executing project from eclipse
- Generating Cucumber reports
- Background and Pending Exception
- Parameterizing/repeating test cases from feature classes

6. Continuous Build Integration tools- Jenkins

- What is Jenkins and how to use it
- How to integrate Jenkins with Eclipse

Hands on Experience on Industry Project, Mock Tests & Interview Tips
