

Selenium Course Syllabus

1. Introduction to Automation Testing

- Why do we need automation testing?
- Types of testing
- Introduction to Selenium

2. Java Basics for Selenium

- Introduction to Java
- Variables, data types, and operators
- Control statements (if-else, switch-case, loops)
- Arrays
- Methods and functions

3. Object-Oriented Programming Concepts

- Introduction to OOPs concepts
- Classes and objects
- Inheritance
- Polymorphism
- Abstraction
- Encapsulation

4. Selenium WebDriver Setup

- Installation and configuration of Selenium WebDriver
- Installing web browsers and drivers
- Basic WebDriver commands

5. Locators in Selenium

- Finding elements using ID, name, class name, tag name, link text, and CSS selector
- Understanding XPath
- Handling dynamic web elements

6. Working with Web Elements

- Interacting with web elements such as text boxes, radio buttons, checkboxes, dropdowns, and buttons

- Handling alerts and pop-ups
- Taking screenshots

7. Testing Frameworks

- Introduction to testing frameworks such as TestNG and JUnit
- Configuring testing frameworks
- Writing test cases using testing frameworks

8. Data Driven Testing

- Understanding data-driven testing
- Reading data from external files
- Parameterizing test cases

9. Page Object Model

- Introduction to Page Object Model (POM)
- Creating and implementing POM
- Advantages of using POM

16. Introduction to BDD framework

- Understanding BDD (Behavior Driven Development)
- Introduction to Cucumber framework
- Writing feature files in Gherkin language

17. Implementing BDD with Selenium

- Configuring Cucumber with Selenium
- Writing step definitions in Java
- Running and debugging tests using Cucumber

10. Handling Multiple Windows and Frames

- Working with multiple windows and frames
- Switching between windows and frames
- Working with IFrames and index

11. Handling Cookies

- Introduction to cookies
- Handling cookies using Selenium WebDriver

12. Advanced Selenium WebDriver Techniques

- Handling mouse and keyboard events
- Actions class
- Handling AJAX calls

13. Selenium Grid

- Introduction to Selenium Grid
- Configuring and running tests on Selenium Grid

14. MySQL Database

- Introduction to MySQL database
- Installing and configuring MySQL
- MySQL commands and queries
- Connecting MySQL with Java

15. Selenium with MySQL

- Understanding database testing
- Writing test cases for database testing using Selenium and Java
- Creating data-driven tests with MySQL

18. Continuous Integration

- Introduction to Continuous Integration
- Integrating Selenium with Continuous Integration tools like Jenkins and Maven

19. Best Practices

- Best practices for writing maintainable and scalable automation scripts
- Debugging techniques
- Error handling and reporting

20. Project

- Developing an end-to-end Selenium project using Java, MySQL and BDD framework from scratch.