



Selenium

Automation Testing



Introduction of Selenium in Automation Testing

- Understanding the basics of Selenium for automation testing
- Importance and objectives of Selenium for automation testing
- Advantages and challenges of Selenium for automation testing
- Role of automation testers in the development process

Test Automation Fundamentals using Selenium

- Introduction to test automation frameworks (keyword-driven, data-driven, hybrid, and behavior-driven)
- Overview of popular automation testing tools (Selenium WebDriver)
- Setting up the automation testing environment (IDE, browsers, drivers)

Selenium WebDriver Basics

- Introduction to Selenium WebDriver
- Installing and configuring Selenium WebDriver
- Locating elements using different locators in Selenium (ID, name, class name, xpath, css selector)
- Handling different web elements (input fields, buttons, links, checkboxes, dropdowns)

Selenium WebDriver Advanced Features

- Working with different types of waits (implicit, explicit, fluent)
- Handling multiple browser windows and tabs
- Handling frames and iframes
- Handling alerts, prompts, and pop-ups

Data-Driven Testing using Selenium

- Understanding data-driven testing concepts via Selenium
- Reading test data from external sources (Excel, CSV, databases)
- Parameterizing test scripts using test data
- Implementing data-driven testing using Selenium WebDriver and test automation frameworks

Advanced Test Automation Techniques using Selenium

- Implementing page object model (POM) design pattern
- Implementing page factory pattern for object repository
- Handling dynamic elements and synchronization issues
- Implementing test data management strategies


TestNG using Selenium

- Introduction to TestNG using Selenium
- Understanding the basics of TestNG using Selenium
- Importance and advantages of using TestNG for software testing
- Comparison of TestNG with other testing frameworks (JUnit)
- Installing and configuring TestNG in a Java development environment

TestNG Annotations

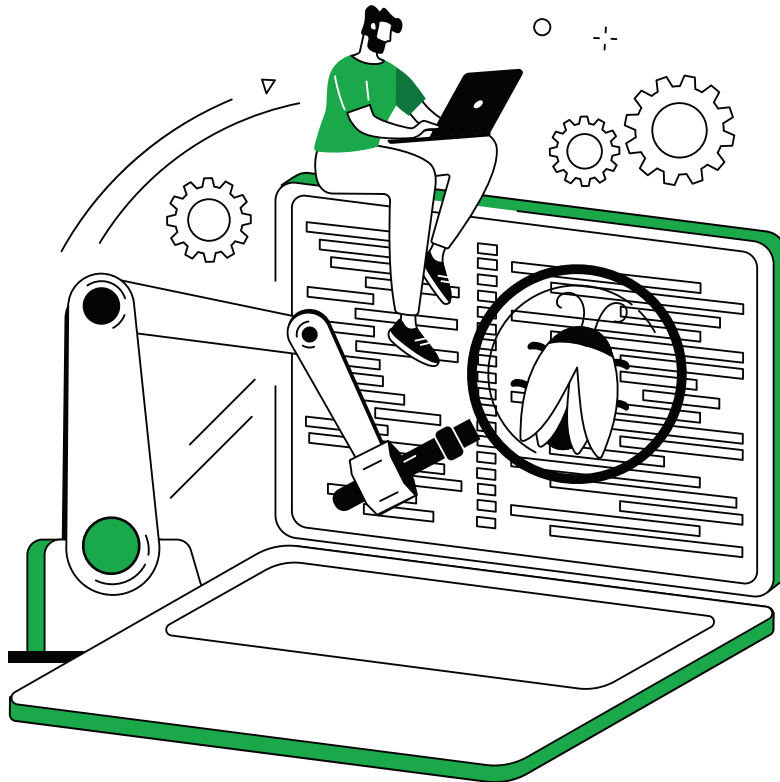
- Introduction to TestNG assertions
- Using assertions to validate expected outcomes in test cases
- Types of assertions supported by TestNG (assertEquals, assertTrue, assertFalse, assertNull, assertNotNull, etc.)
- Handling exceptions and error conditions using TestNG assertions

TestNG Parameterization

- Understanding parameterization in TestNG
 - Using data providers to supply test data to test methods
 - Implementing parameterized tests using TestNG's @DataProvider annotation
 - Running parameterized tests with multiple sets of test data
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TestNG Parameterization

- Understanding parallel execution in TestNG
- Configuring TestNG for parallel test execution (parallel attribute, thread count, parallel methods)
- Running tests in parallel across multiple threads or processes
- Handling synchronization and thread safety issues in parallel test execution



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