

QA

ADVANCED

4 DAYS

UI Automation Testing with Selenium (JavaScript)

Build a strong foundation in UI automation testing using Selenium with JavaScript by mastering WebDriver features and modern testing frameworks. Learn how to design, execute, optimize, and integrate end to end automated UI tests with CI/CD pipelines for scalable and reliable web application testing.

Why Selenium (JavaScript)?

Increased Efficiency

UI automation testing can help your team save time and effort by automating repetitive and time-consuming tasks, allowing them to focus on more critical aspects of your business.

Faster Time-to-Market

With UI automation testing, you can reduce the time it takes to release new products or updates, ensuring a faster time-to-market and a competitive edge.

Improved Quality

By automating UI testing, you can eliminate human errors and achieve consistent and accurate results, leading to improved product quality and customer satisfaction.

What you'll be able to do

- ✓ Understanding the basics of UI automation testing and the role of Selenium in it
- ✓ Getting familiar with the Selenium WebDriver and its various features
- ✓ Learning to write and execute automated test scripts using Selenium WebDriver and JavaScript
- ✓ Understanding how to create and manage test suites and test cases using Selenium and JavaScript
- ✓ Getting familiar with the various testing frameworks and tools used in UI automation testing with Selenium (such as Mocha, Chai, and Jest)
- ✓ Learning to use advanced features of Selenium such as handling alerts, pop-ups, and multiple windows
- ✓ Understanding how to use Selenium Grid for parallel testing and managing test environments
- ✓ Getting familiar with best practices for UI automation testing and code optimization techniques for Selenium (JavaScript)
- ✓ Understanding how to integrate Selenium with other tools and technologies such as Jenkins, Docker, and Git for continuous integration and delivery
- ✓ Hands-on practice in designing and executing end-to-end automated testing scenarios using Selenium (JavaScript).

Who this is for

- QA engineers
- Test automation engineers
- Software developers
- Technical leads
- Managers

Curriculum

01 Introduction to UI Automation Testing

- This module will provide a brief overview of UI automation testing and its benefits.
- Hands-on practice for introduction to ui automation testing
- Validate results and handle common failures
- Capture reusable patterns for the framework

02 Setting up Selenium with JavaScript

- This module will cover the process of installing and configuring Selenium WebDriver in a JavaScript environment.
- Hands-on practice for setting up selenium with javascript
- Validate results and handle common failures
- Capture reusable patterns for the framework

03 Working with Selenium WebDriver

- This module will cover the basic syntax and functions of Selenium WebDriver, including how to locate elements, interact with them, and navigate between web pages.
- Hands-on practice for working with selenium webdriver
- Validate results and handle common failures
- Capture reusable patterns for the framework

04 Designing Automated Test Cases

- This module will cover the principles of designing effective automated test cases, including how to write test cases that are reliable, maintainable, and scalable.
- Hands-on practice for designing automated test cases
- Validate results and handle common failures
- Capture reusable patterns for the framework

05 Debugging and Troubleshooting

- This module will cover common issues that can arise during UI automation testing and how to troubleshoot and debug them.
- Hands-on practice for debugging and troubleshooting
- Validate results and handle common failures
- Capture reusable patterns for the framework

06 Advanced Selenium Concepts

- This module will cover more advanced concepts in Selenium, such as working with multiple windows, handling alerts and pop-ups, and interacting with iframes.
- Hands-on practice for advanced selenium concepts
- Validate results and handle common failures
- Capture reusable patterns for the framework

07 Integration with Continuous Integration Tools

- This module will cover how to integrate UI automation tests with continuous integration tools such as Jenkins, CircleCI, or Travis CI, to automate the testing and deployment process.
- Hands-on practice for integration with continuous integration tools
- Validate results and handle common failures
- Capture reusable patterns for the framework

08 Best Practices for UI Automation Testing

- This module will cover best practices for UI automation testing, including how to write maintainable and scalable test suites, how to perform cross-browser testing, and how to write tests that are resilient to changes in the UI.
- Hands-on practice for best practices for ui automation testing
- Validate results and handle common failures
- Capture reusable patterns for the framework

09 Test Reporting and Metrics

- This module will cover how to generate reports and metrics from UI automation tests, including how to use tools like Allure, TestNG, or JUnit.
- Hands-on practice for test reporting and metrics
- Validate results and handle common failures
- Capture reusable patterns for the framework

10 Advanced JavaScript Concepts for Selenium

- This module will cover more advanced JavaScript concepts that can be useful for UI automation testing, such as how to use JavaScript frameworks like Node.js, TypeScript, or Angular to write more sophisticated test scripts.
- Hands-on practice for advanced javascript concepts for selenium
- Validate results and handle common failures
- Capture reusable patterns for the framework

11 Best Practices for Test Data Management

- This module will cover best practices for managing test data, including how to use mock data, stubs, and fixtures to generate test data that is consistent and repeatable.
- Hands-on practice for best practices for test data management
- Validate results and handle common failures
- Capture reusable patterns for the framework