



Automation Testing with Playwright

Course ID #: 7000-1126-ZZ-Z

Hours: 35

Delivery Method: Group Internet Based

Course Content

Description:

This course is designed to equip you with essential skills in automated testing frameworks, enabling you to efficiently test modern web applications. You'll learn core principles such as test script creation, cross-browser testing, and assertions. By the end of the course, you'll be proficient in writing and executing tests using Playwright, allowing you to enhance your development process and boost application quality. You'll gain hands-on experience that can be directly applied to real-world projects, making you a highly valuable asset to any team. Join us and elevate your testing capabilities today!

Objectives:

Upon successful completion of this course, students will:

- Understand the fundamentals of Playwright and its architecture.
- Set up and configure Playwright for automated testing.
- Write automated tests for web applications using Playwright.
- Use Playwright's powerful selectors for element interaction.
- Implement parallel test execution to optimize test performance.
- Integrate Playwright with Continuous Integration/Continuous Deployment (CI/CD) tools.
- Handle asynchronous operations in testing scenarios.
- Manage browser contexts and sessions effectively.
- Utilize Playwright's functionalities for capturing screenshots and videos.
- Debug and troubleshoot automated tests to improve reliability.

Prerequisites:

To successfully undertake the Automation Testing with Playwright course, learners should ideally have the following minimum knowledge and skills:

- Basic understanding of programming concepts, preferably in JavaScript or TypeScript.
- Familiarity with web technologies, including HTML, CSS, and the structure of web applications.
- Basic knowledge of software testing principles and methodologies.
- Experience using browsers and understanding of their developer tools can be beneficial.



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Target Audience:

Automation Testing with Playwright is a specialized course designed to equip IT professionals with the skills to automate browser testing effectively using the Playwright framework.

- Software Testers
- Quality Assurance Engineers
- Automation Engineers
- Software Developers
- DevOps Engineers
- IT Consultants
- Technical Leads
- Project Managers
- Graduate Trainees in IT
- Freelance Test Automation Specialists
- Technology Enthusiasts

Topics:

Lesson 1: JavaScript, TypeScript, and Playwright Setup

- Introduction to JavaScript for testers
 - Variables, arrays, objects, and loops
 - Conditional statements (if, switch)
 - Functions: declaration, parameters, return types
- Introduction to async/await and Promises
- Introduction to TypeScript
 - Static typing, enums, interfaces, type inference
 - TypeScript vs JavaScript: key differences
- Introduction to Node.js & npm
 - Installing Node.js
 - npm init, package.json
 - Installing dependencies
- Installing and configuring Playwright CLI
 - Setting up VS Code for Playwright development

Lesson 1 Labs:

- Write JS/TS functions using variables, arrays, loops
- Set up a TypeScript-based Playwright test project
- Install required dependencies and run the first test



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Lesson 2: Writing Tests and Element Interactions

- Writing Basic Tests in Playwright
 - Launching browser
 - Navigating to URL
 - Locating elements using:
 - Text selectors
 - Role selectors
 - CSS/XPath selectors
 - Performing user actions:
 - Click
 - Fill input fields
 - Press keyboard keys
 - Select dropdown options
- Writing basic assertions
 - `toBeVisible`, `toHaveText`, `toBeEnabled`
- Handling dynamic elements (waits, retries)
- Working with frames and iframes

Lesson 2 Labs:

- Write tests for login or signup page
- Automate clicking buttons and filling forms
- Validate element visibility and state

Lesson 3: Page Object Model, Screenshots, and Test Hooks

- Implementing Page Object Model (POM)
 - Structuring project with POM pattern
 - Creating reusable classes for pages
- Managing selectors using locators file
- Capturing screenshots on test failure
- Recording videos of test runs
- Using Hooks and Fixtures
 - `beforeEach`, `afterEach`
 - Setup and teardown for tests
- Test data management
 - Using JSON or static data files

Lesson 3 Labs:

- Create POM for a sample application (e.g., login page)
- Implement tests using POM structure
- Add screenshot and videocapture logic
- Setup hooks for repeated setup/cleanup

Lesson 4: Test Flows, Debugging, and Authentication

- Test Organization and Grouping
 - Organizing tests by feature
 - Using test tags, filenames, and folders
- Handling Forms, Popups, Alerts
 - Interacting with modals, alerts, confirm boxes
 - Uploading and downloading files
- Debugging Techniques
 - Console logs and browser logs
 - Debug mode and trace viewer
- Authentication Scenarios
 - Login flows with and without UI
 - Token/cookie-based authentication
 - Preserving session state

Lesson 4 Labs:

- Automate a complex form with validations
- Use console and trace viewer to debug test
- Implement authentication script with session storage



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Lesson 5: Cross-Browser, Parallel Execution, Reporting, CI/CD

- CI/CD & Headless Execution
 - GitHub Actions / Jenkins / Azure pipelines setup
 - Containerized test execution (Dockerfile, Playwright Docker image)
 - Run Playwright in Kubernetes or cloud agents
- Advanced Reporting & Automation Governance
 - Allure Testops report with Jira, HTML report, CI test artifacts
 - Creating dashboards using custom JSON output
 - Code reviews, linting, pull request automation
 - Branch strategy and test coverage integration
- CI/CD Integration Concepts
 - Overview of GitHub Actions, GitLab CI, Jenkins
 - Running Playwright tests in CI pipeline
- Reporting using Allure TestOps with Jira
- Automation Governance
 - Folder structure, code reviews
 - Naming conventions and documentation

Lesson 5 Labs:

- Execute tests in different browsers
- Run tests in parallel using CLI config
- Generate and interpret HTML and trace reports
- Simulate tests on mobile viewport
- Review CI logs and test execution results (in sandbox/demo)

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NASBA CPE details are provided on the following pages.



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NASBA Information

Level: Intermediate

Advanced Preparation:

Attendance Requirement: To be awarded the full credit hours, you must sign in and attend the entire course.

Recommended Field(s) of Study: Computer Software & Applications

Recommended CPEs: 39.00

Policies: Course Registration, Cancellation, Refund, and Complaint Resolution

For more information regarding administrative policies such as complaint and program cancellation policies, please contact our offices at 800-639-3535 or visit us at: www.tcworkshop.com

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