

# **Playwright Automation Testing**

**Track 2 – Automation Engineers / SDET**

**Duration: 10 days (4hrs/day)**

## **Day 1: Advanced JavaScript Concepts**

- Closures, arrow functions, this context
  - Callback vs Promise vs async/await
  - Error handling & custom error classes
  - ES6+ features (spread, destructuring, template literals)
  - **Labs:**
    - Implement complex JS functions using ES6+ patterns
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## **Day 2: TypeScript Essentials for Automation**

- Type aliases, enums, interfaces, generics
  - Type guards and assertion functions
  - Modularization using ES modules & namespaces
  - Using tsconfig.json for project optimization
  - **Labs:**
    - Create TypeScript modules for automation utilities
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## **Day 3: Playwright Project Initialization**

- Install Playwright with TypeScript
  - Customize playwright.config.ts
  - Multi-project setup (dev, staging, prod)
  - Organize test folders by domain/features
  - **Labs:**
    - Setup Playwright project with environment configs
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## **Day 4: Writing Tests and Locators Mastery**

- Test metadata: name, tags, retries
  - Test structure: Describe blocks, test modifiers
  - Locators: getByRole, getByTestId, shadow DOM, filter(), nth()
  - **Labs:**
    - Create modular test structure for login/registration
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## **Day 5: Assertions, Waits & Custom Fixtures**

- Conditional assertions (toHaveAttribute, toContainText)
  - Built-in retries and expect.poll
  - Test Hooks & Fixtures (scoped/shared)
  - Injecting browser/page/test data
  - **Labs:**
    - Shared fixture for auth tokens and poll-based retry
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#### **Day 6: POM & Advanced UI Interactions**

- Reusable Page Object Model (POM)
  - Modals, iFrames, nested frames
  - Dynamic elements, stale references
  - Keyboard, mouse, drag-and-drop automation
  - **Labs:**
    - Build reusable POM and drag-drop in iframe
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#### **Day 7: Media Tools and Screenshots**

- Conditional screenshots based on test state
  - Full/step-wise video recording
  - Attach videos to CI reports
  - **Labs:**
    - Capture screenshot/video only on failures
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#### **Day 8: API Integration and Auth**

- Send HTTP requests using request.newContext
  - Validate API + UI consistency
  - Token-based auth, session storage
  - Programmatic login and reuse of auth state
  - **Labs:**
    - Use API to login and validate UI with session
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#### **Day 9: Mocking, Network Control & CI Setup**

- Mocking via route.fulfill, route.abort, route.continue
- Blocking pixels and third-party APIs
- Parallel & distributed test execution (CI agents)
- **Labs:**
  - Intercept API and mock data, run parallel tests

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## Day 10: JIRA, Xray Integration, and Reporting

- JIRA Fundamentals and Agile boards
- Creating and managing epics, bugs, tasks
- Xray plugin for manual/automated test cases
- Push test result to Xray via API
- Generate Allure/HTML reports
- CI integration (GitHub, Jenkins, Docker)
- **Labs:**
  - Link automated Playwright test to Jira via Xray
  - Create dashboard for test summary