

Playwright SDET: TypeScript, POM & CI/CD

Track 2 – Automation Engineers / SDET

10 Days

4 HOURS A DAY

10

MODULES

39

TOPICS

11

HANDS-ON LABS

COURSE OVERVIEW

This course covers advanced JavaScript concepts and TypeScript essentials used to build Playwright automation projects. It progresses through Playwright project setup, writing tests with locators, assertions, waits and custom fixtures, and applying the Page Object Model with advanced UI interactions such as modals, iframes and drag-and-drop. It then addresses capturing screenshots and videos, integrating with APIs and authentication, mocking network calls, and configuring parallel execution in continuous integration. The final module covers JIRA and Xray integration together with test reporting and CI tools such as GitHub, Jenkins and Docker.

WHO THIS COURSE IS FOR

Automation Engineers

SDETs

QA Engineers

Test Automation Developers

LEARNING OBJECTIVES

- Apply closures, async/await and ES6+ features in JavaScript
- Use TypeScript generics, type guards and modules for automation
- Configure a Playwright project with multi-project environments
- Build test structures using locators such as getByRole and getByTestId
- Implement assertions, waits and custom fixtures for tests
- Develop reusable Page Object Model classes for UI interactions
- Capture conditional screenshots and video recordings during test runs
- Implement API authentication and mock network requests with routes

10 Modules, 39 Topics

DAY 1 Advanced JavaScript Concepts

01

Lab

TOPICS

- Closures, arrow functions, this context
- Callback vs Promise vs async/await
- Error handling & custom error classes
- ES6+ features (spread, destructuring, template literals)

DAY 2 TypeScript Essentials for Automation

02

Lab

TOPICS

Type aliases, enums, interfaces, generics · Type guards and assertion functions · Modularization using ES modules & namespaces · Using tsconfig.json for project optimization

DAY 3 Playwright Project Initialization

03

Lab

TOPICS

Install Playwright with TypeScript · Customize playwright.config.ts · Multi-project setup (dev, staging, prod) · Organize test folders by domain/features

DAY 4 Writing Tests and Locators Mastery

04

Lab

TOPICS

- **Test metadata:** name, tags, retries
- **Test structure:** Describe blocks, test modifiers
- **Locators:** getByRole, getByTestId, shadow DOM, filter(), nth()

DAY 5 Assertions, Waits & Custom Fixtures

05

Lab

TOPICS

- Conditional assertions (toHaveAttribute, toContainText)
- Built-in retries and expect.poll
- Test Hooks & Fixtures (scoped/shared)
- Injecting browser/page/test data

DAY 6 POM & Advanced UI Interactions

06

Lab

TOPICS

Reusable Page Object Model (POM) · Modals, iFrames, nested frames · Dynamic elements, stale references · Keyboard, mouse, drag-and-drop automation

DAY 7 Media Tools and Screenshots

07

Lab

TOPICS

Conditional screenshots based on test state · Full/step-wise video recording · Attach videos to CI reports

DAY 8 API Integration and Auth

08

Lab

TOPICS

Send HTTP requests using request.newContext · Validate API + UI consistency · Token-based auth, session storage · Programmatic login and reuse of auth state

DAY 9 Mocking, Network Control & CI Setup

09

Lab

TOPICS

- Mocking via route.fulfill, route.abort, route.continue
- Blocking pixels and third-party APIs
- Parallel & distributed test execution (CI agents)

10

2 Labs

TOPICS

- 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)

HANDS-ON LABS

Practise What You Learn

#	MODULE	ACTIVITY
01	Advanced JavaScript Concepts	Implement complex JS functions using ES6+ patterns
02	TypeScript Essentials for Automation	Create TypeScript modules for automation utilities
03	Playwright Project Initialization	Setup Playwright project with environment configs
04	Writing Tests and Locators Mastery	Create modular test structure for login/registration
05	Assertions, Waits & Custom Fixtures	Shared fixture for auth tokens and poll-based retry
06	POM & Advanced UI Interactions	Build reusable POM and drag-drop in iframe
07	Media Tools and Screenshots	Capture screenshot/video only on failures
08	API Integration and Auth	Use API to login and validate UI with session
09	Mocking, Network Control & CI Setup	Intercept API and mock data, run parallel tests
10	JIRA, Xray Integration, and Reporting	■ Link automated Playwright test to Jira via Xray ■ Create dashboard for test summary

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

Visit koenig-solutions.com

✉ info@koenig-solutions.com