

Playwright JS & TS with Agentic AI and Playwright MCP – Course Content

By QA India

MODULE 1 – UNDERSTANDING TESTING

- What is Testing
- What is Manual Testing
- What is Automation Testing

MODULE 2 – JAVASCRIPT FUNDAMENTALS

- Installation and Setting Up the Environment
- Variables
- Data Types
- Operators
- Conditional Statements
- Loops
- Functions
- Arrow Functions
- Arrays
- Strings
- Objects
- Class

MODULE 3 – TYPESCRIPT FUNDAMENTALS

- Introduction to TypeScript and Its Advantages
- Installing and Configuring TypeScript
- Compiling and Running TypeScript
- TypeScript Types
- Type Inference
- Explicit Types
- Functions with Type Annotations
- Recap

MODULE 7 – HANDLING BASIC APIs WITH PLAYWRIGHT

- Why APIs?
- Understanding Different API Methods
- API Request Context
- Handling API Requests with Playwright
- Managing API Responses with Playwright
- Network Interception

MODULE 8 – PLAYWRIGHT TEST RUNNER AND REPORTER

- Role of the Test Runner
- Test Management
- Test Annotations, Grouping, Filtering, Skipping & “Only” Keyword
- Test-Level Configuration
- Test Retry Mechanism
- Overriding Configurations – Test Level & Project Level
- Test Parameterization
- Building Test Suites
- Test Steps
- Cross-Browser Testing
- Generating HTML, Allure and Monocart Reports
- Global Setup / Tear Down

MODULE 9 – OOP CONCEPTS FOR PLAYWRIGHT

- Classes in TypeScript
- Constructors
- Access Modifiers
- OOP Principles
- Practical Implementation in Playwright (Inheritance, Polymorphism, etc.)

MODULE 4 – GETTING STARTED WITH PLAYWRIGHT

- Setting Up a New Project in Playwright
- Installation and Setting Up the Playwright Environment
- Understanding the Structure of Playwright Framework
- Parallel Test Execution / Parallel File Execution
- Understanding the Playwright Configuration File
- Understanding Playwright Architecture
- Key Concepts (Browser, Page, Async-Await)
- Writing a Basic First Test Script
- Selectors / Locators
- Learning Basic CSS Syntax, XPath
- Locating DOM Elements (by Title, Label, Role, etc.)
- Performing Actions (Clicking, Typing)
- Synchronization / Auto-Waiting
- Assertions Using the Expect Library

MODULE 5 – DIGGING DEEPER INTO PLAYWRIGHT

- Headless / Headed Modes
- Debugging Using Pause Mechanism
- Handling Lists of Elements
- Working with Iframes
- Handling Shadow DOM
- Dealing with Alerts
- Keyboard / Mouse Actions
- Click, Right-Click, Context Click
- Mouse Hover, Drag-and-Drop
- Enter, Copy Paste, Typing Using Keyboard
- Arrow Up, Arrow Down, etc.
- File Upload and Download
- Managing Multiple Tabs / Windows

MODULE 10 – FRAMEWORK GENERATION FOR PLAYWRIGHT AUTOMATION

- Introduction to Page Object Model (POM)
- Refactoring an Existing Script with POM
- Implementing Page Actions
- Creating a Page Layer, Test Layer, Test Data Layer, etc.
- Implementing Common Action Methods
- Refactoring Test Scripts with Best Practices
- Data Driven Testing Using JSON and Excel File

MODULE 11 – REPORT GENERATION

- Generating HTML, Line, List, Dot Reports
- Allure Reports for Playwright Automation
- Monocart Report for Playwright Automation

MODULE 12 – GIT AND CI INTEGRATION

- Understanding Git from Basic to Advanced Level
- Installing and Configuring CI/CD Using Jenkins
- Integrating the Playwright Framework with Jenkins

MODULE 13 – AGENTIC AI, GENAI, PROMPT ENGINEERING & PLAYWRIGHT MCP

- Understanding CodeGen, LLM, Prompt Engineering
- Understanding Agentic AI and How It Works
- Automatic Generation of Locators and Script for Playwright
- Understanding Playwright MCP
- Use of Playwright MCP to Generate POM Framework Automatically
- Integrate Different LLM Models (ChatGPT, Gemini, Claude, etc.)
- Generate Script and Framework Using Agentic AI
- Automate the Application Using Agentic AI
- Connect with Database Using Agentic AI
- Commit and Push the Code to GitHub Using Agentic AI

- Slider, Tooltip and Calendar Handling

MODULE 6 – PLAYWRIGHT ADVANCED APPLICATIONS

- Reading Data from Files (.xlsx, JSON)
- Test Suite Structure
- Reporters
- Trace Viewer
- Video Recording
- Device Emulation
- Code Generation (Record & Playback Tools)
- Playwright Inspector
- Visual Testing

- Automate Full Workflow of Test Automation Using Agentic AI

MODULE 14 – CAPSTONE PROJECTS

- Implementing Test Scripts Without POM
- Building a Framework for Your Project (POM, Test Runner, Reporter)
- Adding an End-to-End Suite to the CI Pipeline

BATCH DETAILS

Batch Timing

Monday to Thursday, 9:30 PM – 11:00 PM IST

Duration

2.5 Months

Fees

Rs 7,999/-

Contact

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This syllabus is indicative and may be enhanced during the course to reflect the latest industry practices.