



# Manual Testing + Automation Testing (JavaScript + Playwright)

## Shiva Concept Solution Complete Industry-Level QA Testing Program

### PART 1: INTRODUCTION TO SOFTWARE TESTING

- Software Testing Basics
  - SDLC & STLC
  - Software Testing Principles
  - Verification vs Validation
  - Agile, Waterfall & V-Model
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### PART 2: TYPES OF TESTING

- Manual vs Automation Testing
  - Functional & Non-Functional Testing
  - Smoke & Sanity Testing
  - Regression Testing
  - Security & Compatibility Testing
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### PART 3: TEST MANAGEMENT

- RTM Creation
- Test Scenario & Test Case Design
- Bug Reporting

- Defect Lifecycle
  - JIRA & Scrum
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## **PART 4: API & DATABASE TESTING**

- Postman API Testing
  - Authentication & Authorization
  - GET, POST, PUT, PATCH, DELETE
  - SQL Commands
  - Database Validation
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## **PART 5: DETAILED PLAYWRIGHT AUTOMATION TESTING SYLLABUS**

### ***1. JavaScript Fundamentals for Automation***

- Variables, Data Types & Operators
- Conditional Statements & Loops
- Functions & Arrow Functions
- Arrays & Objects
- Promises & Async/Await
- ES6 Features
- Modules & Imports

### ***2. Node.js & NPM***

- Introduction to Node.js
- Installing Node.js
- NPM Package Manager
- Initialize Playwright Project
- Package.json Understanding

### ***3. Introduction to Playwright***

- What is Playwright?
- Advantages of Playwright
- Playwright Architecture

- Supported Browsers
- Cross Browser Testing

#### ***4. Playwright Installation & Setup***

- Install Playwright
- Create Automation Project
- VS Code Setup
- Folder Structure
- Running First Test

#### ***5. Locators & Selectors***

- ID Locator
- CSS Selector
- XPath Selector
- Text Locator
- Role Locator
- Chained Locators
- Best Locator Practices

#### ***6. Handling Web Elements***

- Textbox Handling
- Buttons Handling
- Dropdown Handling
- Checkbox & Radio Button
- Tables Handling
- Links Validation

#### ***7. User Actions in Playwright***

- Click Actions
- Double Click
- Right Click
- Hover Action
- Keyboard Actions
- Mouse Actions
- Drag & Drop

## **8. Assertions & Validations**

- Text Validation
- URL Validation
- Element Visibility
- Title Validation
- Attribute Validation
- Soft Assertions

## **9. Waits in Playwright**

- Auto Wait
- Explicit Wait
- Conditional Wait
- Handling Synchronization

## **10. Handling Advanced Components**

- Frames Handling
- Alerts & Popups
- Multiple Windows
- File Upload
- File Download
- Calendar Handling

## **11. API Testing with Playwright**

- APIRequestContext
- GET API Testing
- POST API Testing
- PUT & DELETE API
- Validate API Response

## **12. Test Framework Development**

- Page Object Model (POM)
- Reusable Functions
- Utility Files
- Config Management
- Environment Handling

### **13. Playwright Test Features**

- Hooks (BeforeEach, AfterEach)
- Fixtures
- Grouping Tests
- Tags & Filters
- Retry Failed Tests
- Parallel Execution

### **14. Reporting & Screenshots**

- HTML Reports
- Allure Reports
- Capturing Screenshots
- Video Recording
- Trace Viewer

### **15. CI/CD Integration**

- Git & GitHub
- GitHub Actions
- Jenkins Basics
- Automation Execution in CI/CD

### **16. Real-Time Projects**

- Login Automation Project
- E-Commerce Automation
- Form Validation Project
- API + UI Automation Project
- Framework Creation

### **17. Interview Preparation**

- Playwright Interview Questions
- JavaScript Interview Questions
- Framework Design Questions
- Mock Interviews

## **COURSE OUTCOMES**

- Understand complete software testing lifecycle
- Perform Manual, API & Database Testing
- Write automation scripts using JavaScript & Playwright
- Develop automation framework using POM
- Generate reports and integrate with CI/CD
- Execute cross-browser automation testing
- Prepare for QA Automation Interviews

**Shiva Concept Solution**

Phone: 7805063968