

COMPLETE QA TESTING

MANUAL TESTING + AI + SELENIUM + PLAYWRIGHT

Manual Testing + AI + Jira + Postman + Selenium with Java + Playwright with JavaScript

LEVEL	FOCUS	PROJECTS	TOOLS
Beginner → Job Ready	Manual + AI + Automation	Banking + E-Commerce / LMS	ChatGPT + Jira + Postman + Selenium + Playwright

WHAT YOU WILL LEARN

- Build strong Manual Testing fundamentals from scratch.
- Analyze requirements and create practical test scenarios and test cases.
- Apply Black Box testing techniques and complete real-world testing workflows.
- Work with Agile/Scrum teams, Jira and API testing using Postman.
- Use ChatGPT/AI to improve requirement analysis, test-case design, bug reporting and tester productivity.
- Learn Selenium WebDriver automation using Java from beginner level.
- Learn Playwright automation using JavaScript from beginner level.
- Work on Banking, E-Commerce/LMS and end-to-end automation projects.
- Prepare for real-world QA interviews and project discussions.

COURSE CURRICULUM

MODULE 01 • INTRODUCTION TO SOFTWARE TESTING

Software Testing, QA vs QC, Verification vs Validation, Error/Defect/Bug/Failure, Manual vs Automation, tester role, testing career and real-world testing terminology.

MODULE 02 • SDLC — SOFTWARE DEVELOPMENT LIFE CYCLE

SDLC fundamentals, Waterfall, V-Model, Iterative, Spiral, Agile development, QA role across the development life cycle.

MODULE 03 • STLC — SOFTWARE TESTING LIFE CYCLE

Requirement Analysis, Test Planning, Test Case Design, Environment Setup, Test Execution, Defect Reporting, Test Closure and deliverables.

MODULE 04 • TESTING FUNDAMENTALS

Test Scenario, Test Case, Test Data, Positive/Negative Testing, Functional/Non-Functional, Smoke, Sanity, Regression, Retesting, Exploratory, Ad-hoc, Compatibility and Usability Testing.

MODULE 05 • BLACK BOX TESTING TECHNIQUES

Equivalence Partitioning, Boundary Value Analysis, Decision Tables, State Transition, Use Case Testing, Error Guessing and practical test-case design.

MODULE 06 • REQUIREMENT ANALYSIS & TEST SCENARIOS

Functional/non-functional requirements, BRD/FRD basics, traceability, scenario identification, positive/negative/edge cases, missing and ambiguous requirements. **AI PRACTICE:** analyze requirements, identify gaps and generate questions.

MODULE 07 • TEST CASE DESIGN & DOCUMENTATION

Test Case ID, title, preconditions, steps, test data, expected/actual results, Pass/Fail, Priority/Severity, positive, negative, end-to-end and regression cases. **AI PRACTICE:** generate, review, improve and expand test cases.

MODULE 08 • REAL-TIME PROJECT 1 — BANKING APPLICATION

Login, registration, accounts, balance, fund transfer, beneficiaries, transactions, payments and logout. Requirement analysis, scenarios, test cases, execution, defects, retesting and regression.

MODULE 09 • DEFECT / BUG REPORTING

Defect life cycle, Severity vs Priority, professional bug reports, summary, description, reproduction steps, expected/actual result, environment, attachments and common mistakes. **AI PRACTICE:** improve bug descriptions and create professional defect reports.

MODULE 10 • AGILE & SCRUM FOR TESTERS

Agile, Agile Manifesto, Scrum roles, Sprint, Product Backlog, Sprint Backlog, User Story, Acceptance Criteria, Daily Stand-up, Planning, Review, Retrospective, QA role and Definition of Done.

MODULE 11 • JIRA FOR MANUAL TESTERS

Projects, issues, epics, stories, tasks and bugs; creating defects, priority/severity, workflow, comments, attachments, search, filters, sprint basics and Agile board. **AI PRACTICE:** assist with Jira stories, test content and defect descriptions.

MODULE 12 • API TESTING BASICS WITH POSTMAN

API fundamentals, UI vs API testing, request/response, GET/POST/PUT/PATCH/DELETE, status codes, headers, parameters, JSON, authentication, Postman collections and response validation. **AI PRACTICE:** analyze API requirements, generate scenarios and assist with response validation.

MODULE 13 • REAL-TIME PROJECT 2 — E-COMMERCE / LMS

E-Commerce: registration, login, search, product, cart, checkout, payment and orders. LMS: registration, courses, enrollment, lessons, progress, quiz and certificate. Complete manual testing workflow with Jira. **AI PRACTICE:** generate scenarios, edge cases and review test coverage.

MODULE 14 • AI PRODUCTIVITY FOR SOFTWARE TESTERS

ChatGPT basics, prompt engineering for testers, requirement analysis, scenario/test-case generation, test-data creation, bug reporting, edge cases, regression suggestions, API/Jira assistance and interview preparation. **AI PRACTICE:** practice prompt engineering, test-data creation, edge cases, regression suggestions and interview assistance.

MODULE 15 • END-TO-END MANUAL TESTING PROJECT

Requirement → Analysis → Planning → Scenarios → Test Cases → Execution → Bugs → Retesting → Regression → Closure. Prepare test execution reports and use Jira, Postman and AI throughout the workflow. **AI PRACTICE:** use AI across the complete manual testing workflow.

MODULE 16 • CORE JAVA FOR TEST AUTOMATION

Java basics for beginners, variables, data types, operators, conditions, loops, arrays, strings, methods, classes and objects, constructors, inheritance, polymorphism, abstraction, interfaces, exception handling and collections.

MODULE 17 • SELENIUM WEBDRIVER WITH JAVA — FUNDAMENTALS

Introduction to Selenium, WebDriver architecture, browser setup, locators, XPath, CSS selectors, WebElement methods, browser commands, waits, alerts, frames, windows/tabs, dropdowns, screenshots and handling common web elements.

MODULE 18 • SELENIUM WITH JAVA — FRAMEWORK & PRACTICAL AUTOMATION

Test automation structure, TestNG basics, annotations, assertions, parameterization, data-driven testing basics, Page Object Model, reusable methods, Maven basics, configuration, reporting and running tests.

MODULE 19 • SELENIUM REAL-TIME AUTOMATION PROJECT

Automate key workflows from an E-Commerce or LMS application: login, search, navigation, forms, product/course actions, validation and logout. Create maintainable test scripts and execute regression scenarios.

MODULE 20 • JAVASCRIPT BASICS FOR TEST AUTOMATION

JavaScript fundamentals for beginners, variables, data types, operators, conditions, loops, arrays, objects, functions, strings, modules, async/await and concepts required for Playwright automation.

MODULE 21 • PLAYWRIGHT WITH JAVASCRIPT — FUNDAMENTALS

Introduction to Playwright, installation and setup, browser/page/context concepts, locators, actions, assertions, navigation, forms, dropdowns, checkboxes, radio buttons, dialogs, frames, tabs/windows and screenshots.

MODULE 22 • PLAYWRIGHT — PRACTICAL AUTOMATION & FRAMEWORK

Test organization, Playwright Test Runner, fixtures, hooks, assertions, reusable functions, configuration, projects, browser execution, test data, trace/viewer basics and parallel execution basics.

MODULE 23 • PLAYWRIGHT REAL-TIME AUTOMATION PROJECT

Automate practical E-Commerce or LMS workflows using Playwright with JavaScript, including login, search, forms, business workflows, validations and regression scenarios.

MODULE 24 • AUTOMATION BEST PRACTICES & CI BASICS

Automation test strategy, what to automate, stable locators, synchronization, reusable code, maintainability, debugging failed tests, test execution and introduction to CI concepts for automated tests.

MODULE 25 • INTERVIEW PREPARATION & JOB READINESS

Manual Testing, scenario-based, SDLC/STLC, Agile/Scrum, defects, test cases, Black Box, Jira, API/Postman, Selenium Java, Playwright JavaScript and project questions. AI-assisted mock interview, self-introduction and project explanation. **AI PRACTICE:** AI-assisted mock interview, self-introduction and project explanation.

AUTOMATION LEARNING PATH

FOUNDATION	SELENIUM + JAVA	PLAYWRIGHT + JAVASCRIPT
Core Java → Web testing concepts → Test design	Selenium WebDriver → Locators → Waits → TestNG → POM → Maven → Real project	JavaScript → Playwright → Locators → Assertions → Fixtures → Framework → Real project

TOOLS COVERED

Manual • Jira • Postman • Java • Selenium WebDriver • TestNG • Maven • JavaScript • Playwright

HANDS-ON PROJECTS

- Project 1 — Banking Application: Manual test-case design, execution and defect reporting.
- Project 2 — E-Commerce / LMS: End-to-end Manual Testing with Jira and AI.
- Project 3 — Selenium + Java: Web automation and regression workflow.
- Project 4 — Playwright + JavaScript: Modern browser automation and regression workflow.

COURSE OUTCOME

UNDERSTAND → ANALYZE → DESIGN → EXECUTE → REPORT → TRACK → AUTOMATE → IMPROVE

AI-POWERED TESTING • REAL PROJECTS • PRACTICAL SKILLS

Learn. Practice. Perform.