

Course 10: Testing in MERN/NestJS

■ Overview

Confidence at speed through testing.

■ Prerequisites

- MERN basics

■ Outcomes

Unit, integration, e2e; CI automation.

■ Benefits

This course equips learners with the ability to deliver reliable software rapidly by mastering testing strategies across the MERN and NestJS ecosystems. Students will gain hands-on experience with the testing pyramid, writing unit tests with Jest, API contract testing with Supertest, and end-to-end flows with Cypress. They will also learn effective mocking techniques, apply TDD/BDD workflows, and implement snapshot testing in React. Beyond functional correctness, the course emphasizes database testing with containers, CI/CD automation, coverage analysis, and quality gates. By the end, participants will be confident in building robust test suites that accelerate delivery while ensuring quality and stability.

■ Training Key Features

- Testing pyramid and tooling overview
- Unit testing with Jest (spies, timers, async flows)
- Integration testing APIs with Supertest
- End-to-end testing with Cypress (auth, routing, stubbing)
- Mocking strategies and contract testing
- TDD and BDD workflows with best practices
- Snapshot testing for React components
- Database testing with containers, seeding, teardown
- CI/CD setup with parallelization and artifact management
- Coverage metrics and quality gates enforcement

■ Module Breakdown

- Module 1 – Testing Pyramid ::: concepts & tooling overview
- Module 2 – Jest Unit Tests ::: spies & timers & async testing
- Module 3 – Supertest Integration ::: API contracts & REST validation
- Module 4 – Cypress E2E ::: authentication & routing & network stubbing
- Module 5 – Mocking ::: test doubles & contract testing strategies
- Module 6 – TDD/BDD ::: workflows & pitfalls & best practices
- Module 7 – Snapshot Testing ::: React components & when to use & when not

- Module 8 – Database Testing ::: test containers && seed && teardown
- Module 9 – CI Setup ::: parallelization && artifacts && flaky test management
- Module 10 – Coverage & Quality ::: coverage thresholds && quality gates