APIs Testing

Zetlan Technologies

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e-Learning Course

Master the art of API testing and ensure seamless integrations!!

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COURSE MODULES

Module 1: Introduction to APIs and API Testing

- What is an API?
- Types of APIs (REST, SOAP, GraphQL)
- Importance of API Testing
- Differences between API Testing and UI Testing
- HTTP Methods: GET, POST, PUT, DELETE, PATCH

Module 2: API Architecture and Components

- RESTful APIs and Principles
- Request & Response Structure
- HTTP Status Codes and Their Meaning
- Headers, Query Parameters, and Request Body
- Authentication & Authorization (API Keys, OAuth, JWT, Basic Auth)

Module 3: API Testing Basics

- What is API Testing?
- Types of API Testing (Functional, Load, Security, Automation)
- Common API Testing Tools (Postman, Swagger, SoapUI, JMeter)
- Setting Up Postman for API Testing

Module 4: Manual API Testing with Postman

- Sending API Requests
- Understanding JSON & XML Responses
- Working with Query Params, Path Params, and Headers
- Writing Tests in Postman using JavaScript
- Using Postman Collections and Environments

Module 5: API Automation with Postman

- Writing Automated Test Scripts
- Running Tests in Collections
- Newman CLI for Test Automation
- Generating API Test Reports

Module 6: API Automation with RestAssured (Java)

- Introduction to RestAssured
- Setting Up RestAssured in a Java Project
- Writing Basic API Tests
- Handling Authentication in Tests
- Validating JSON Responses with JSONPath
- Running Tests with TestNG/JUnit

Module 7: Performance & Security Testing of APIs

- Load Testing with JMeter
- API Security Testing (OWASP API Security Top 10)
- Penetration Testing Basics
- Identifying API Vulnerabilities

Module 8: CI/CD Integration and Best Practices

- Integrating API Tests with Jenkins/GitHub Actions
- Mocking APIs for Testing (WireMock, Mockoon)
- API Test Strategy and Best Practices
- Versioning & Documentation (Swagger, OpenAPI)