

# API Testing Training

Suresh IT's Training presents an insightful API Testing course tailored to equip participants with essential skills in testing Application Programming Interfaces (APIs). This comprehensive program delves into the intricacies of API testing methodologies, covering topics such as request and response validation, and performance testing. By mastering API testing techniques, graduates are proficient in ensuring the functionality, reliability, and security of APIs, thereby enhancing the quality of software products and enabling seamless integration between different software components.

**Course Duration** : 45 Days

**Course Language** : English/Hindi/Telugu

**Classroom** : Offline/Online Training/Hybrid Training

## Description

The API Testing course offers a comprehensive exploration into the world of testing Application Programming Interfaces (APIs), crucial components in modern software development. Geared towards software testers, quality assurance professionals, and developers, this course provides practical training in API testing methodologies, tools, and best practices.

Throughout the course, participants will delve into various aspects of API testing, including understanding API fundamentals, designing test cases, executing tests, and validating API responses. They will gain hands-on experience with popular API testing tools such as Postman, REST Assured, and SOAPUI, learning how to automate API tests to enhance efficiency and accuracy in the testing process.

Moreover, the API Testing course covers essential topics such as API security testing, performance testing, and versioning, equipping participants with the skills needed to ensure the reliability, security, and performance of APIs. Participants will also explore advanced techniques such as contract testing and mocking to facilitate seamless integration testing and collaboration between different components of the software ecosystem.

By the end of the course, participants will be proficient in designing and executing API tests effectively, enabling them to uncover bugs, validate functionality, and ensure interoperability in API-driven applications. With their newfound expertise in API Testing, participants will be well-equipped to contribute to the delivery of high-quality, reliable, and scalable software products in today's fast-paced development environment.

## Skills you get

- Understanding of REST and SOAP APIs
- API Test Case Design
- Proficiency in API Testing Tools (e.g., Postman, SoapUI)
- Automating API Tests
- Validating JSON and XML Responses
- API Security Testing

# Course Contents

## Introduction to API

- What is an API?
- Types of APIs (REST, SOAP, GraphQL, etc.)
- HTTP fundamentals (methods, status codes, headers, etc.)
- JSON vs. XML data formats

## API Documentation

- Importance of API documentation
- Reading and understanding API documentation
- Tools for API documentation (Swagger, Postman, etc.)

## Introduction to API Testing

- What is API testing?
- Differences between API testing and UI testing
- Types of API testing (functional, performance, security, etc.)

## Tools for API Testing

- Overview of popular API testing tools (Postman, SoapUI, JMeter, etc.)
- Setting up and configuring tools
- Basic API testing using Postman

## Functional API Testing

## Writing Test Cases

- Test case design for APIs
- Identifying test scenarios and writing test cases
- Using Postman for creating and running test cases

## **Assertions and Validations**

- Validating responses
- Using assertions in Postman
- Common validation techniques (status codes, response body, headers, etc.)

## **Automation with Postman**

- Introduction to Postman collections and environments
- Creating automated test scripts in Postman
- Running tests using Postman Runner and Newman

## **Mocking and Virtualization**

- Introduction to API mocking and virtualization
- Using tools like Postman Mock Server and WireMock
- Creating mock APIs for testing

## **Integrating API Testing with CI/CD**

- Overview of CI/CD
- Integrating API tests with CI/CD pipelines
- Using tools like Jenkins, Travis CI, and GitHub Actions

## **Reporting and Metrics**

- Generating and interpreting test reports
- Metrics for measuring API test effectiveness
- Continuous monitoring of APIs

## **Real-World API Testing Scenarios**

- Case studies of API testing in various industries
- Challenges and solutions in API testing

## **Best Practices in API Testing**

- Tips and best practices for effective API testing
- Common pitfalls to avoid
- Staying updated with the latest trends and tools

## **Final Project & Review**

- Designing and implementing a comprehensive API test plan
- Presenting the final project

## **Review and Q&A**

- Course review and key takeaways
- Q&A session
- Future learning paths and resources

This course content can be adjusted based on the audience's experience level and the specific APIs and tools they will be working with.