

Overview

A leading technology solutions provider in the Insurance & Banking industry, the client specializes in delivering innovative digital solutions to streamline operations and enhance customer experiences. They needed a robust automated REST API testing framework to ensure efficiency, accuracy, and scalability in their testing processes.



Objective

The main objective was to develop a scalable automated REST API testing framework capable of handling 700+ APIs, ensuring accurate CRUD operations, seamless database validation, and CI/CD pipeline integration. The client aimed to reduce testing time by 60%, cut costs by 40%, and achieve a 40% higher defect detection rate through data-driven testing and comprehensive JSON schema validation.

Business Challenges

The client faced multiple challenges in ensuring efficient and accurate API testing for their large-scale operations:

- **High Volume of APIs:** Automating 700+ REST APIs required a highly scalable testing solution.
- **Complex Testing Needs:** Validating CRUD operations across multiple APIs posed significant complexity.
- **Database Integration:** Ensuring consistency between API responses and backend database records was critical.
- **Dynamic Data-Driven Testing:** Managing and executing tests with diverse datasets was a growing challenge.

The Solution

The client was provided with a custom-built REST API automation framework using RestAssured and Java, tailored to handle CRUD operations and dynamic data-driven testing. The solution included seamless database validation using JDBC, integration with Jenkins for CI/CD pipelines, and structured JSON schema validation. Java-based POJOs were utilized for managing request and response payloads, ensuring effective API representation. Additionally, the framework supported integration with tools like Git and Docker, enabling streamlined automation workflows and structured reporting in formats such as HTML and PDF.

Value Delivered

The implementation of the REST API automation framework transformed the client's testing process, delivering significant operational and financial benefits. By automating complex and time-consuming tasks, the client achieved higher accuracy, efficiency, and scalability in their API testing, leading to improved development cycles and reduced manual efforts.

60%

Reduction in testing time, accelerating project delivery and enhancing operational efficiency

40%

cost savings by eliminating the dependency on manual testing and optimizing resource utilization

40%

higher defect detection rate, ensuring better quality and reliability of APIs before deployment

Business Benefits



Faster Testing Cycles



Cost Efficiency



Scalable Automation Framework



Seamless CI/CD Integration