

# **API Test Plan**

## **Objective**

To validate the functionality, reliability, performance, and security of APIs to ensure they meet business requirements and handle expected and edge-case scenarios effectively.

## **Scope**

- APIs for Swagger Petstore.
- Includes CRUD operations: Create (POST), Read (GET), Update (PUT/PATCH), Delete (DELETE).
- Covers functional, performance, security, and error handling aspects.

## **Test Environment**

**API Endpoint:** <https://petstore.swagger.io>

**Tools:** Postman for execution and debugging, IntelliJ IDEA for automation and JMeter for performance testing with Newman Report.

## **Testing Types**

- 1. Functional Testing**
  - Validate that the API endpoints return the expected responses.
  - Check data integrity.
- 2. Error Handling**
  - Test API behaviour for invalid requests, missing fields, and incorrect parameters.
- 3. Performance Testing**
  - Verify response times under load conditions.
  - Validate API limits (rate limiting).
- 4. Security Testing**
  - Ensure proper authentication and authorization.
  - Test for vulnerabilities like SQL injection, XSS, or data leaks.
- 5. Boundary and Edge Case Testing**
  - Test with maximum/minimum inputs, empty fields, and unexpected data.

**Responsibilities**

Tester (Vincent Dlamini): Execute test cases and log results/defects.

Developer: Fix reported issues and provide support during testing.

**Deliverables**

- Test Plan Document
- Test Cases with Expected Results
- Test Logs/Reports
- Bug Reports