# **Test Plan (API)**

**[Test Plan (API)](#_Toc175248669)** [1](#_Toc175248669)

[Objective 2](#_Toc175248670)

[Scope 2](#_Toc175248671)

[Objectives 2](#_Toc175248672)

[Test Environment 2](#_Toc175248673)

[Tools 3](#_Toc175248674)

[API Endpoints to be Tested 3](#_Toc175248675)

[Test Schedule 3](#_Toc175248676)

[Test Deliverables. 4](#_Toc175248677)

[Entry and Exit Criteria 4](#_Toc175248678)

[Entry Criteria: 4](#_Toc175248679)

[Exit Criteria: 4](#_Toc175248680)

[Test Execution 4](#_Toc175248681)

[Entry Criteria: 5](#_Toc175248682)

[Exit Criteria: 5](#_Toc175248683)

[Test Closure 5](#_Toc175248684)

[Entry Criteria: 5](#_Toc175248685)

[Exit Criteria: 5](#_Toc175248686)

[Risks and Mitigations 5](#_Toc175248687)

[Approvals 5](#_Toc175248688)

#### 

## Objective

This document outlines the test plan for API testing of the RestfulBooker.com application. The objective of this testing is to ensure that all API endpoints of RestfulBooker.com function as expected, including correct data handling, appropriate error handling, and performance under load.

## Scope

 **In Scope**:

* Testing of all available REST API endpoints in RestfulBooker.com.
* Validation of HTTP status codes, response bodies, headers, and request payloads.
* Performance testing under different load conditions.
* Security testing, including authentication and authorization checks.

 **Out of Scope**:

* UI testing of the RestfulBooker.com web interface.
* Non-functional testing other than performance and security.

### Objectives

 To verify that all API endpoints function correctly and return the expected results.

 To ensure that the APIs handle error conditions gracefully and return appropriate error codes.

 To validate that the API handles valid and invalid inputs correctly.

 To assess the performance of the APIs under normal and peak loads.

 To ensure that the APIs are secure and protected against common vulnerabilities.Test Environments

### Test Environment

**Environment:**

* Base URL: https://restful-booker.herokuapp.com
* Tools: Postman, JMeter (for performance testing), OWASP ZAP (for security testing), Newman (for running Postman collections).
* Test Data: Predefined datasets for various test cases, including valid and invalid inputs.
* Authentication: Basic Authentication (where applicable).

#### **Tools**

* **Postman**: For manual and automated API testing.
* **JMeter**: For performance testing.
* **Newman**: For running Postman collections in CI/CD pipelines.
* **OWASP ZAP**: For security testing.

### API Endpoints to be Tested

 **Authentication**

* POST /auth - Create a new auth token.

 **Booking**

* GET /booking - Get a list of all bookings.
* POST /booking - Create a new booking.
* GET /booking/{id} - Get details of a specific booking.
* PUT /booking/{id} - Update a booking by ID.
* DELETE /booking/{id} - Delete a booking by ID.

 **Health Check**

* GET /ping - Check if the API is up and running.

### Test Schedule

Following is the test schedule planned for the project –

Task Time Duration

|  |  |
| --- | --- |
| **Task** | **Dates** |
| ▪ Creating Test Plan |  |
| ▪ Test Case Creation |  |
| ▪ Test Case Execution |  |
| ▪ Summary Reports Submission Date |  |

### Test Deliverables.

 Test Plan Document

 Test Cases (written in Postman or other applicable tools)

 Test Execution Report

 Performance Test Report

 Security Test Report

### Entry and Exit Criteria

The below are the entry and exit criteria for every phase of Software Testing Life

Cycle:

Requirement Analysis

#### Entry Criteria:

• Once the testing team receives the Requirements Documents or details

about the Project

#### Exit Criteria:

 All critical and high-priority test cases are executed and passed.

 No critical defects are open.

 The performance and security tests meet the acceptance criteria.

### Test Execution

 **Test Execution Timeline**: The testing will be conducted over a period of X weeks (Specify the timeline based on project requirements).

 **Test Execution Team**: QA engineers assigned to the project.

 **Reporting**:

* Daily progress reports to be shared with the project stakeholders.
* Detailed test execution report at the end of the testing phase.

#### Entry Criteria:

• Test Scenarios and Test Cases Documents are signed-off by the Client

• Application is ready for Testing

#### Exit Criteria:

• Test Case Reports, Defect Reports are ready

### Test Closure

#### Entry Criteria:

• Test Case Reports, Defect Reports are ready

#### Exit Criteria:

• Test Summary Reports

#### Risks and Mitigations

 **Risk**: Unavailability of the test environment.

* **Mitigation**: Ensure that the test environment is set up and verified before the test execution phase begins.

 **Risk**: Incomplete test data.

* **Mitigation**: Prepare and validate all test data before the start of testing.

#### Approvals

Team will send different types of documents for Client Approval like below:

• Test Plan

• Test Scenarios

• Test Cases

• Reports

Testing will only continue to the next steps once these approvals are done