# **Test Plan for Restful Booker API**

## **1. Objective**

This document outlines the test plan for the Restful Booker API application. The objective is to ensure that all features and functionalities work as expected for users interacting with the API for hotel booking operations.

## **2. Scope**

### **Features to be tested:**

* Create Booking
* Update Booking
* Partial Update Booking
* Delete Booking
* Get Booking
* Get Booking IDs
* Authentication (Create Token)
* Ping (Health Check)

### **Types of testing:**

* Manual Testing
* Automated Testing
* Performance Testing
* Security Testing
* API Contract Testing

### **Environments:**

* Different operating systems (Windows, macOS, Linux)
* Browsers (Chrome, Firefox, Edge)
* Devices (Desktops, Laptops, Mobile Emulators)

### **Evaluation Criteria:**

* Number of defects found
* API response time
* Data consistency and integrity

### **Team Roles and Responsibilities:**

* Test Lead
* API Testers
* Automation Testers
* Developers

## **3. Inclusions**

* **Introduction**: Overview of the test plan, including purpose, scope, and goals.
* **Test Objectives**: Identify defects, improve API reliability, ensure correct responses and security.

## **4. Exclusions**

* UI Testing (since this is an API-based application)
* Non-functional aspects not related to API performance/security

## **5. Test Environments**

### **Operating Systems:**

* Windows 10/11
* macOS
* Linux

### **Browsers:**

* Google Chrome (latest)
* Mozilla Firefox (latest)
* Microsoft Edge (latest)

### **Network Connectivity:**

* Wi-Fi
* Cellular
* Wired Connections

### **Security Protocols:**

* Basic Authentication
* Token-based Authentication

## **6. Defect Reporting Procedure**

### **Criteria for identifying defects:**

* Deviation from API response specifications
* Incorrect status codes or messages
* Authentication/Authorization failures

### **Steps for reporting defects:**

* Use JIRA or similar bug-tracking tools
* Provide detailed reproduction steps
* Attach API request and response logs

### **Triage and prioritization:**

* Critical: API completely non-functional
* High: Major issue affecting core functionality
* Medium: Non-blocking but incorrect behavior
* Low: Minor UI or response formatting issues

## **7. Test Strategy**

### **Step 1: Test Scenario and Test Case Creation**

* **Techniques**: Equivalence Partitioning, Boundary Value Analysis
* **Additional Methods**: Exploratory Testing, Error Guessing

### **Step 2: Testing Procedure**

* **Smoke Testing**: Validate core endpoints
* **Regression Testing**: Ensure no breakage due to updates
* **Security Testing**: Verify authentication and data protection

### **Step 3: Best Practices**

* **Context-Driven Testing**: Adapt testing based on API use cases
* **Shift Left Testing**: Start testing early in development
* **End-to-End Flow Testing**: Simulate real-world API usage

## **8. Test Schedule**

### **Tasks and Time Duration:**

* Test Plan Creation: 2 days
* Test Case Development: 4 days
* Test Execution: Ongoing during development
* Report Submission: Weekly

## **9. Test Deliverables**

* Test Scenarios
* Test Cases
* API Test Scripts
* Defect Reports
* Test Summary Reports

## **10. Entry and Exit Criteria**

### **Requirement Analysis**

**Entry:** API documentation available **Exit:** Clear understanding of requirements

### **Test Execution**

**Entry:** API endpoints implemented and accessible **Exit:** All planned test cases executed, defects logged

### **Test Closure**

**Entry:** Completion of test execution cycle **Exit:** Test Summary Report finalized

## **11. Tools**

* **Postman**: API Testing
* **JIRA**: Bug Tracking
* **Newman**: API Automation
* **JMeter**: Performance Testing

## **12. Risks and Mitigations**

### **Possible Risks:**

* Unstable API environment
* Changes in API endpoints without notice
* Authentication failures

### **Mitigations:**

* Frequent communication with developers
* Continuous monitoring of API changes
* Robust test data setup

## **13. Approvals**

### **Documents for Approval:**

* Test Plan
* Test Scenarios
* Test Cases
* Test Summary Report