**Test Plan for Contact List API (Performance Testing)**

**TP-PN02**

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# Introduction

This document provides the performance testing strategy and approach required to ensure that the Contact List API meets the expected non-functional requirements for scalability, response time, and reliability. The goal is to validate that the system can handle expected and peak loads for user operations (user creation, login, profile management, etc.).

# Scope

## In Scope

* Performance testing will cover the following API endpoints:  
  1. POST Add User – create a new user.  
  2. GET User Profile – retrieve user information.  
  3. PATCH Update User – update user details.  
  4. POST Log In User – authenticate user.  
  5. POST Log Out User – terminate user session.  
  6. DELETE User – remove a user account.  
    
  Types of performance testing:
* Load Testing: Assess system under expected load.
* Stress Testing: Evaluate behavior under extreme load.
* Endurance Testing: Verify stability over long durations.
* Spike Testing: Test sudden increase/decrease in user traffic.

## Out of Scope

* UI Testing (API-level only).
* Security Penetration Testing.
* Database performance tuning.

# Test Schedule

|  |  |  |
| --- | --- | --- |
| Feature / Endpoint | Duration | Assigned To |
| Add User / Delete User | 1 Day | QA Team |
| Log In / Log Out User | 1 Day | QA Team |
| Get User Profile | 1 Day | QA Team |
| Update User | 1 Day | QA Team |

# Test Approach

The project follows an Agile approach, with daily iterations. At the end of each day, specific performance scenarios for that iteration will be delivered to the team for validation. The testing process will include Load, Stress, Endurance, and Spike testing to ensure that the Contact List API endpoints can handle expected and peak workloads from start to finish. The testing will focus on response time, throughput, error rate, and resource utilization under realistic user conditions.

# Suspension Criteria and Resumption Requirements

Testing will be suspended if the test environment is unavailable, or if major defects block API access. Testing will resume once blocking issues are resolved and environment stability is confirmed.

# Milestones / Deliverables

Before Testing: Test Plan, Performance Test Scenarios, Test Data.  
 During Testing: JMeter Scripts, Test Execution Reports, Bug Reports.  
 After Testing: Performance Summary Report.

# Responsibilities

|  |  |  |
| --- | --- | --- |
| Role | Staff Member(s) | Responsibilities |
| Project Manager | Mamoun | Overall project success, monitoring |
| QA Lead | Hazem | Planning, coordination, monitoring execution |
| QA Team | Mohammad Foqahaa, Lina Shaqoura, Yousef Sabet, Hazem Lababidi | Script design, test execution, defect reporting |

# Test Environment

* OS: Windows
* API Server: Contact List API
* Tools: Apache JMeter