**Analysis Report**

Introduction

This performance testing script focuses on simulating user interactions with the Petstore API, with an emphasis on pet-related endpoints. Tasks are weighted using the @task(x) decorator, where higher weights indicate more frequent execution. Specifically:

* add\_pet (weight: 4) is the most frequent task.
* get\_pet\_by\_id (weight: 2) is tested less frequently.
* delete\_pet (weight: 1) is the least frequent.

Currently, the testing covers only the pet-related endpoints, but future plans include expanding the coverage to include store and user endpoints for a more comprehensive performance evaluation.

Load Testing Scenarios

To evaluate the performance of the Petstore API under different conditions, we define three distinct testing scenarios. Each scenario represents a different load profile, varying the number of users and the ramp-up time to simulate different levels of traffic.

**Scenario 1: Low Load (Baseline)**

* **Number of users**: 25 users
* **Ramp-up**: 1 users/sec
* **Time duration**: 50 sec

Simulates 20 users ramping up at 1 users/sec, maintained for 50 seconds. Evaluates API performance under moderate load.

**Scenario 2: Moderate Load**

* **Number of users**: 50 users
* **Ramp-up time**: 5 users/sec
* **Time duration**: 50 sec

Simulates 50 users ramping up at 5 users/sec, maintained for 50 seconds. Evaluates API performance under high load.

**Scenario 3: High Load (Stress Test)**

* **Number of users**: 500 users
* **Ramp-up time**: 10 users/sec
* **Time duration**: 50 sec

Simulates 500 users ramping up at 10 users/sec, maintained for 50 seconds. Evaluates API performance under very high load with gradual scaling.