



The University of the West Indies,

Mona Campus

Artillery Testing Overview

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Course: Software Testing.

Course Code: SWEN3165.

1.0. Testing Evaluation

Test Overview:

The test ran for 3 minutes with 1,800 virtual users. It tested 3 scenarios: valid auth flow (31.5%), invalid credentials (33.4%), invalid tokens (35.1%). With a total requests number of requests being 2,368 (200: 1,136, 401: 1,232).

Key Metrics:

1. Performance:

- Average response time: 2.3ms (both 200/401 responses).
- 95% of responses under 5ms.
- Peak throughput: 25 requests/sec.

2. Success Rates:

- 100% success for valid auth flows (200 status).
- Correct 401 responses for all invalid cases.
- 0 failed virtual users.

3. System Behaviour:

- Consistent performance during 120s stress phase.
- Maximum response time spike: 130ms (likely GC pause).
- Memory usage grew linearly with sessions.

Findings:

1. The auth service handles ~20 requests/sec with sub-5ms latency.
2. Session token validation is as performant as authentication.
3. No errors detected under sustained load.

Recommendations:

1. Add rate limiting to prevent brute force attacks.
2. Implement session expiration (current tokens persist indefinitely).
3. Monitor memory growth during extended operation.

Conclusion: The service meets performance requirements for the tested load level, demonstrating both correctness and stability. Scaling tests to higher loads would be the next logical step.