PERFORMANCE TESTING REPORT

1. Test Execution Summary

A load test was executed on the Gmail homepage using Apache JMeter with 50 concurrent users. Each user accessed the homepage three times, resulting in a total of 150 requests.

2. Test Configuration

- Tool: Apache JMeter 5.6.3
- Target URL: gmail.com
- Virtual Users: 50
- Ramp-up Time: 3 seconds
- Loop Count: 3
- Total Test Duration: ~93 seconds

3. Test Results Summary

Metric	Value
Total Requests	150
Successful Requests	150
Failed Requests	0
Error Rate	0%
Average Response Time	23,382 ms
Minimum Response Time	2,505 ms
Maximum Response Time	55,319 ms
Throughput	1.6 requests/sec
Standard Deviation	9,999 ms

4. Graph Analysis

- Graph Results and Response Time Graph show high fluctuation in response times
- Response time peaked at ~55 seconds in the middle of the test
- Performance improved slightly toward the end, possibly due to caching

5. Observations

- All requests were successfully processed (0% error rate)
- Average response time was extremely high (23+ seconds)
- Large variation in response times indicates instability
- Throughput was low, suggesting limited handling capacity

6. Performance Issues Identified

- Response times exceeded acceptable limits
- High standard deviation indicates inconsistent performance
- Peak load caused severe delays
- Low throughput under concurrent access

7. Recommendations

- Optimize server-side performance
- Reduce response time to under 3 seconds
- Improve handling of concurrent users
- Implement caching mechanisms
- Monitor CPU, memory, and network usage during load testing
- Test with lower user loads to determine baseline capacity

8. Conclusion

The Gmail homepage handled all requests without errors, demonstrating excellent stability. However, performance was significantly below acceptable standards due to extremely high response times and low throughput. The system requires optimization before being considered suitable for high concurrent user traffic.