

Non - Functional Testing

Group -27

Project Name - Connect-Sphere

Software Used - Apache Jmeter

Performance Testing Comparison: GET Method

Test Scenarios:

- **Low Load:** 50 Users
- **High Load:** 100 Users

Metric	Load (50 Users)	Load (100 Users)	Observation
Total Samples (Requests)	3,600 ¹	7,200 ²	The total requests exactly doubled, confirming the user load was doubled for the second test.
Average Response Time	373.63 ms ³	357.46 ms ⁴	Improved. The response time decreased by ~16ms under higher load, suggesting the system benefits from caching or

			that the first test included "warm-up" latency.
Error %	8.33% 5	8.33% 6	Static. The error rate is identical. This indicates a functional configuration error (Auth) rather than a load-induced failure.
90th Percentile Response	627.90 ms ⁷	618.00 ms ⁸	Stable/Improved. 90% of requests finished slightly faster under the higher load, showing excellent stability.
Apdex Score	0.787 ⁹	0.789 ¹⁰	Consistent. The user satisfaction score remained steady at "Fair" (approx 0.79) despite doubling the traffic.
Median Response Time	312.00 ms ¹¹	302.00 ms ¹²	Improved. The median time dropped by 10ms, confirming that the majority of users experienced faster speeds during the larger test.

Detailed Analysis by Component

1. Stability and Error Rates

- **Observation:** The error rate remained exactly **8.33%** in both tests.
- **Root Cause:** This failure is not due to server overload. In both tests, three specific API endpoints failed **100%** of the time with **401 /Unauthorized** errors:
 - **API: Bans**
 - **API: Conversations**
 - **API: Reports**
- **Impact:** If these configuration errors were resolved, the system would likely achieve a **0.00% Error Rate** and a much higher Apdex score

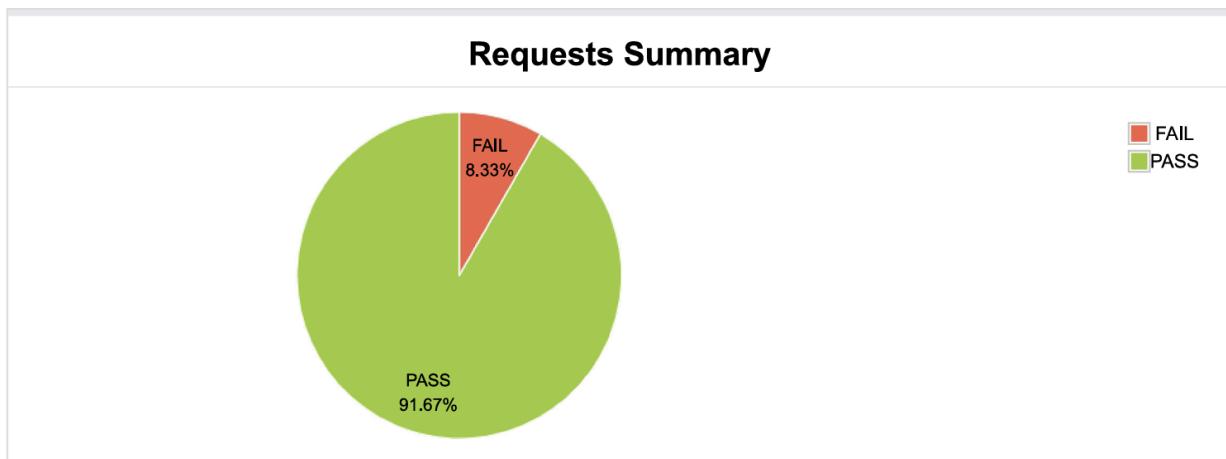
2. Page-Specific Performance

The application showed varied performance across different pages. The "Home Page" was the heaviest resource, while the "Signup" and "Password" pages were highly optimized.

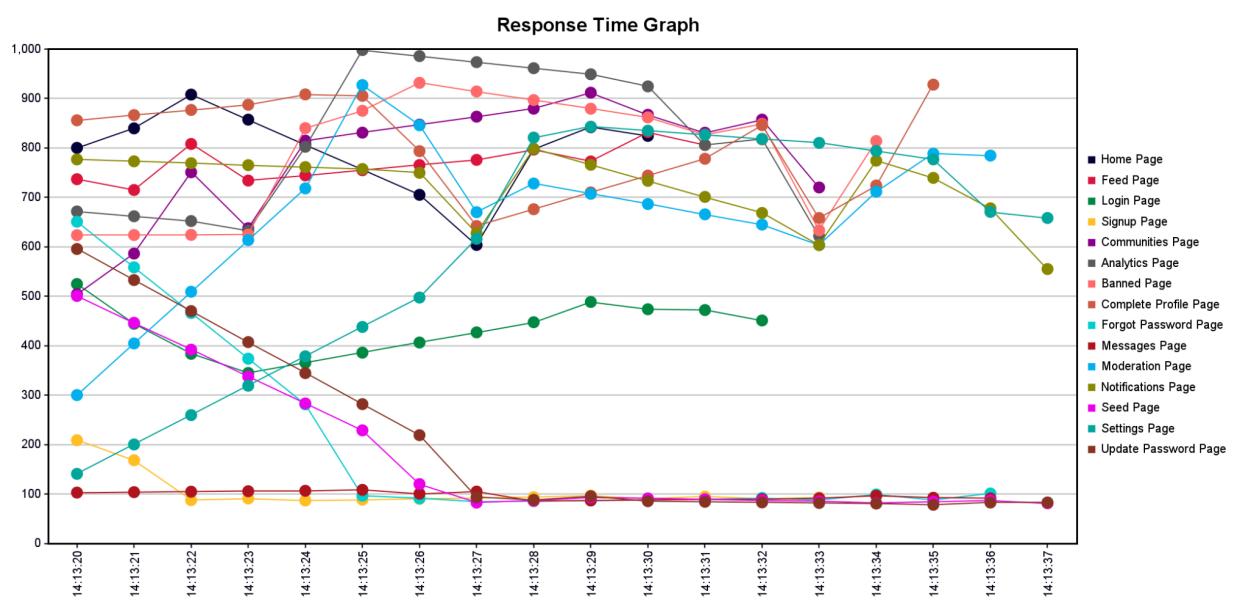
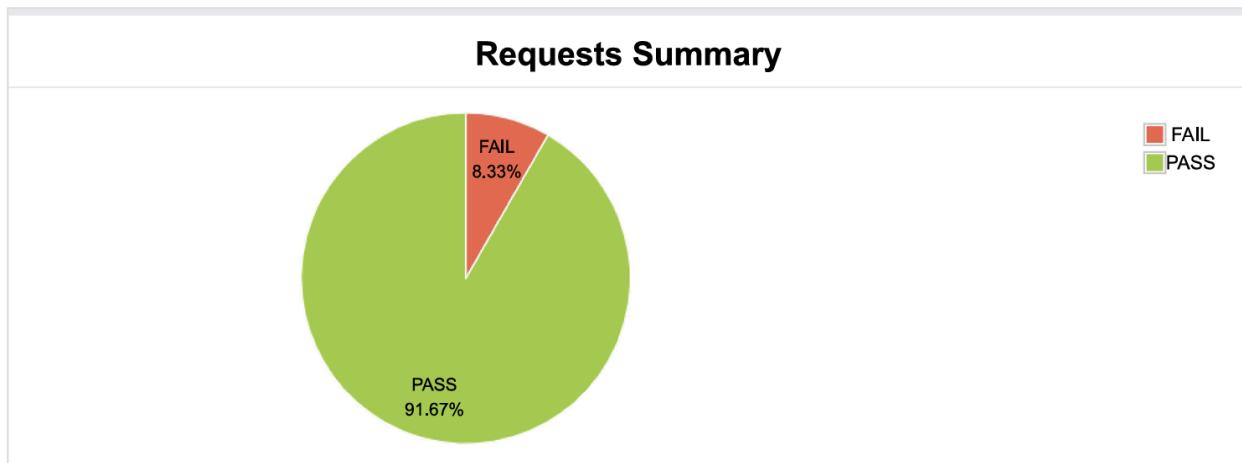
Page Label	Avg Time (50 Users)	Avg Time (100 Users)	Change
Home Page	754.44 ms ¹⁷	660.48 ms ¹⁸	Improved (-94ms)
Analytics Page	648.29 ms ¹⁹	628.60 ms ²⁰	Improved (-20ms)

Feed Page	662.23 ms ²¹	603.34 ms ²²	Improved (-59ms)
Signup Page	122.53 ms ²³	95.24 ms ²⁴	Improved (-27ms)
Forgot Password	95.71 ms ²⁵	104.72 ms ²⁶	Slight Increase (+9ms)

Users 50:

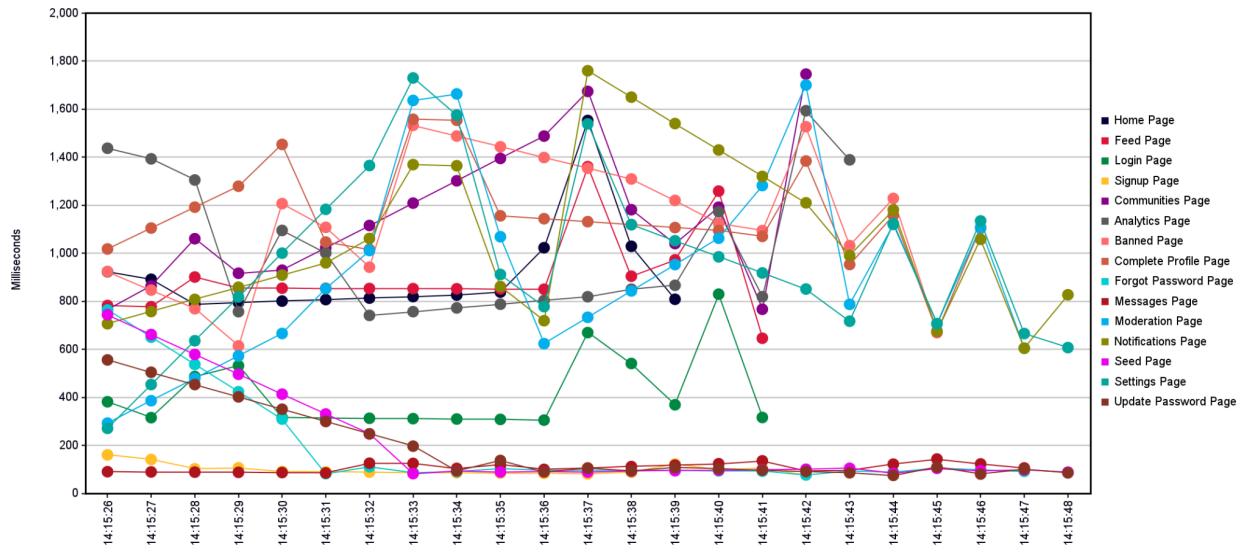


Users 100:



For 50 users

Response Time Graph



For 100 users