

Perf test with 10 users

Summary:

The performance testing results indicate that the system shows both strengths and areas for improvement. The key areas for improvement include high error rates for specific requests, significant response time spikes, and potential memory leaks. The recommended actions are expected to enhance system stability, reduce error rates, and improve overall performance.

Analysis:

- 75%-tile response time for 'all' requests, stands at 401 ms.
- Average throughput for 'all' requests, stands at 2.65 r/s.
- The test results are satisfactory as only 83% of the Non-Functional Requirements (NFRs) are met.
- The throughput appears to be relatively stable overall, with the RPS line maintaining a general upward trend in line with the increase in Active Users.
- The median response time remains stable around 200 ms, while the 75th percentile response time fluctuates slightly around 300 ms. The 95th percentile response time shows significant fluctuations, with spikes reaching up to 2 seconds.
- CPU usage is consistently high, averaging around 89.2%, with a brief drop to 60-70% between 10:55:00 and 10:57:00, followed by stabilization above 85%.
- Memory usage shows an increasing trend with significant fluctuations and spikes, indicating a potential memory leak. The highest memory usage observed is around 576 MiB.

Top 5 slowest requests (Based on 75%-tile):

- R01_homepage: 75%-tile response time of 4232 ms.
- R06_add_to_card: 75%-tile response time of 303 ms.
- R05_product-page: 75%-tile response time of 305 ms.
- R02_users/login: 75%-tile response time of 270 ms.
- R03_users/profile: 75%-tile response time of 268 ms.

Requests with high error rate:

- R06_add_to_card: 20.09% error rate.

Requests that do not meet NFRs:

- R01_homepage transaction did not meet the NFR as its pct75 of 4232 ms is greater than 500 ms.

Recommendations:

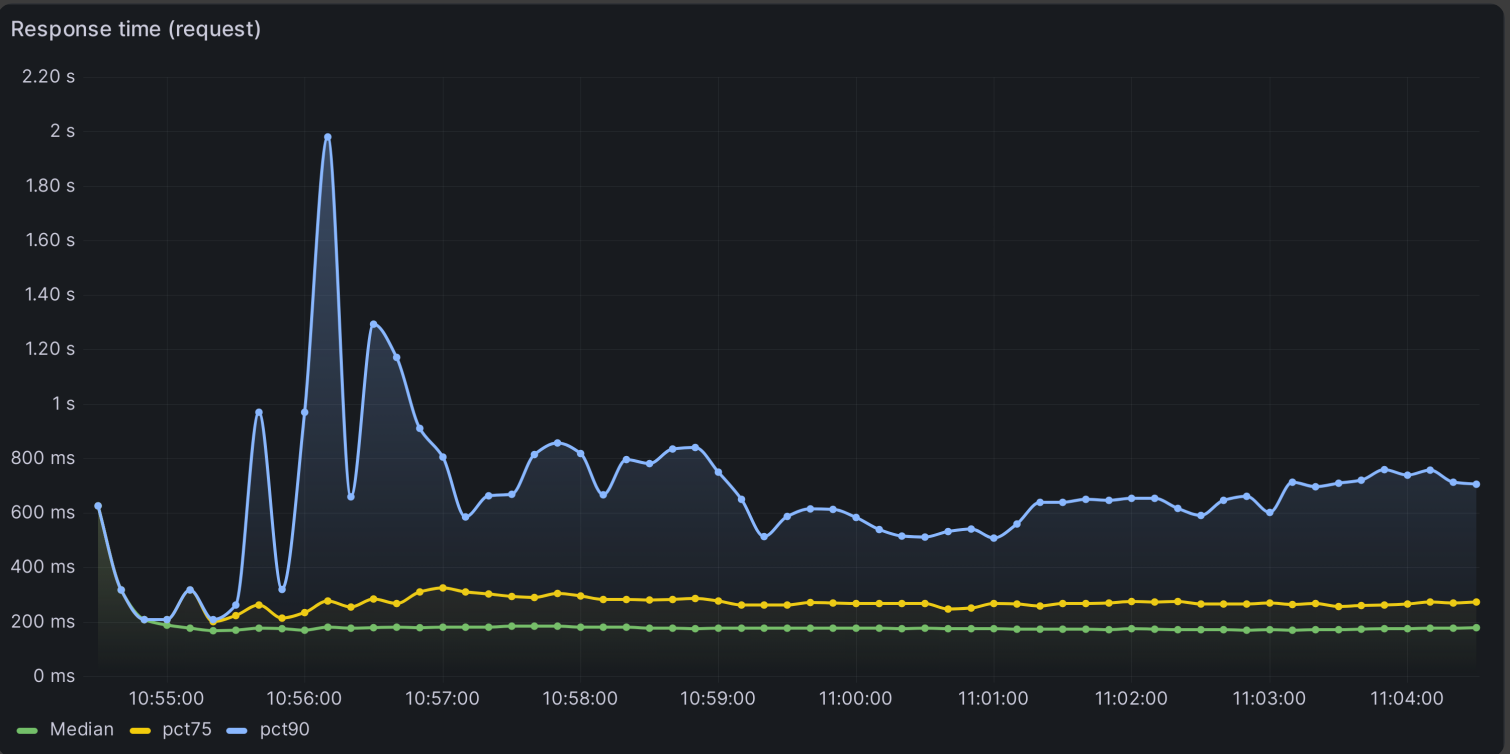
- Investigate and resolve the high error rate for the 'R06_add_to_card' request to improve reliability.
- Optimize the 'R01_homepage' request to reduce its response time and meet the NFR.
- Address the significant response time spikes observed in the 95th percentile to ensure more consistent performance.
- Monitor and resolve potential memory leaks indicated by the increasing memory usage trend and significant fluctuations.
- Ensure CPU usage is optimized to prevent consistently high usage, which could lead to performance degradation under higher loads.
- Conduct further testing to identify and mitigate any other potential bottlenecks or performance issues.

Execution summary:

Test name	Duration (sec)	Max threads	Start time	End time
DEMO	605	10	2024-05-28 10:54:26 AM	2024-05-28 11:04:31 AM



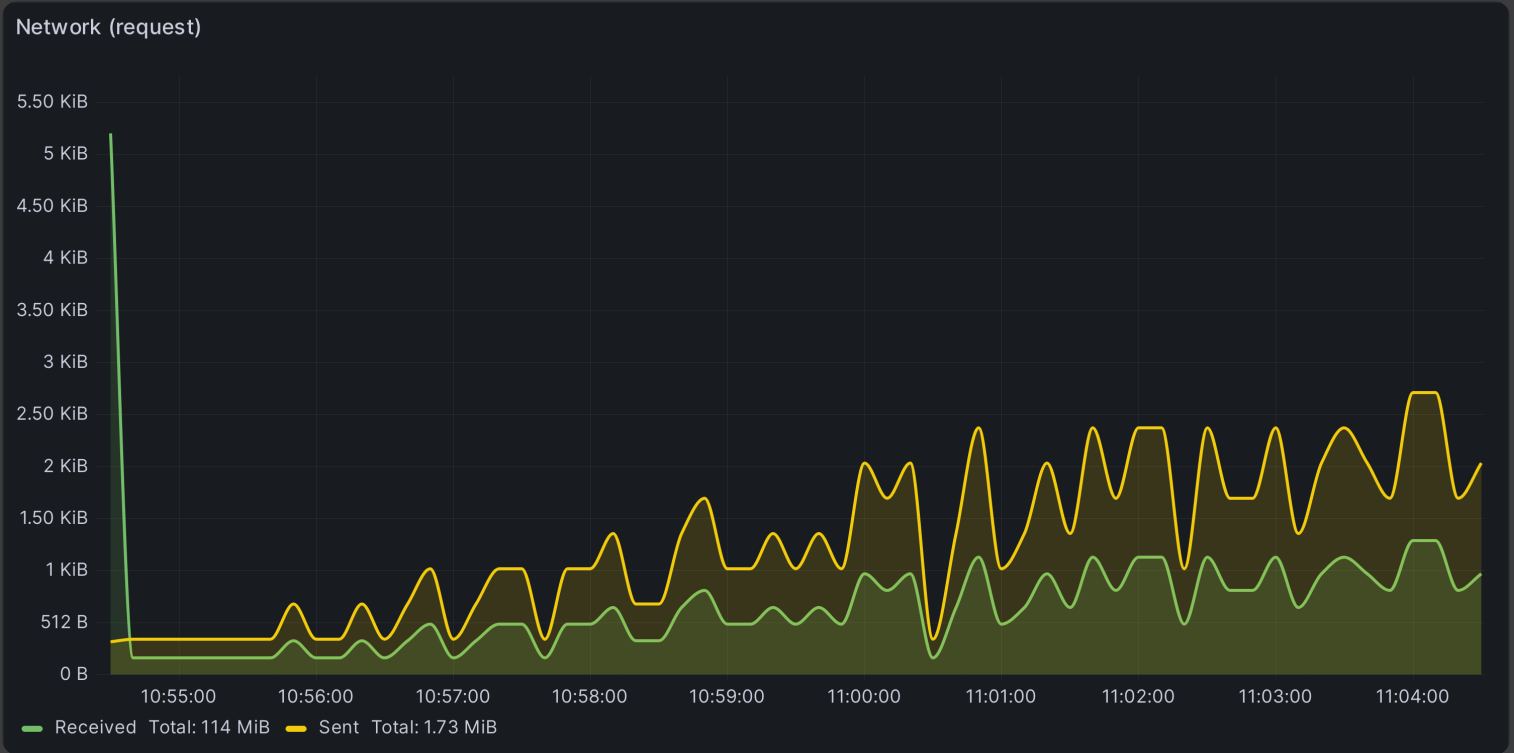
- The Requests Per Second (RPS) line generally follows the trend of the Active Users line, indicating a proportional relationship between the number of active users and the throughput.
- There are noticeable fluctuations in the RPS line, particularly around the 10:58:00 and 11:01:00 marks, despite the Active Users line being relatively stable during these periods.
- The RPS line shows a consistent upward trend as the number of active users increases, suggesting that the system scales well with the load.
- Significant spikes in the RPS line are observed around 10:57:00 and 11:03:00, which do not correspond to any sudden changes in the Active Users line.
- The throughput appears stable overall, with the RPS line maintaining a general alignment with the Active Users line, except for the noted fluctuations and spikes.



- The median response time (green line) remains stable throughout the test, consistently around 200 ms.
- The 75th percentile response time (yellow line) is generally stable, fluctuating slightly around 300 ms.
- The 95th percentile response time (blue line) shows significant fluctuations, with notable spikes reaching up to 2 seconds around 10:55:30 and 10:56:00.
- After the initial spikes, the 95th percentile response time stabilizes but remains higher than the median and

75th percentile, fluctuating between 600 ms and 800 ms.

- The overall trend for the median and 75th percentile lines is stable, while the 95th percentile line shows an initial increase followed by stabilization at a higher level.



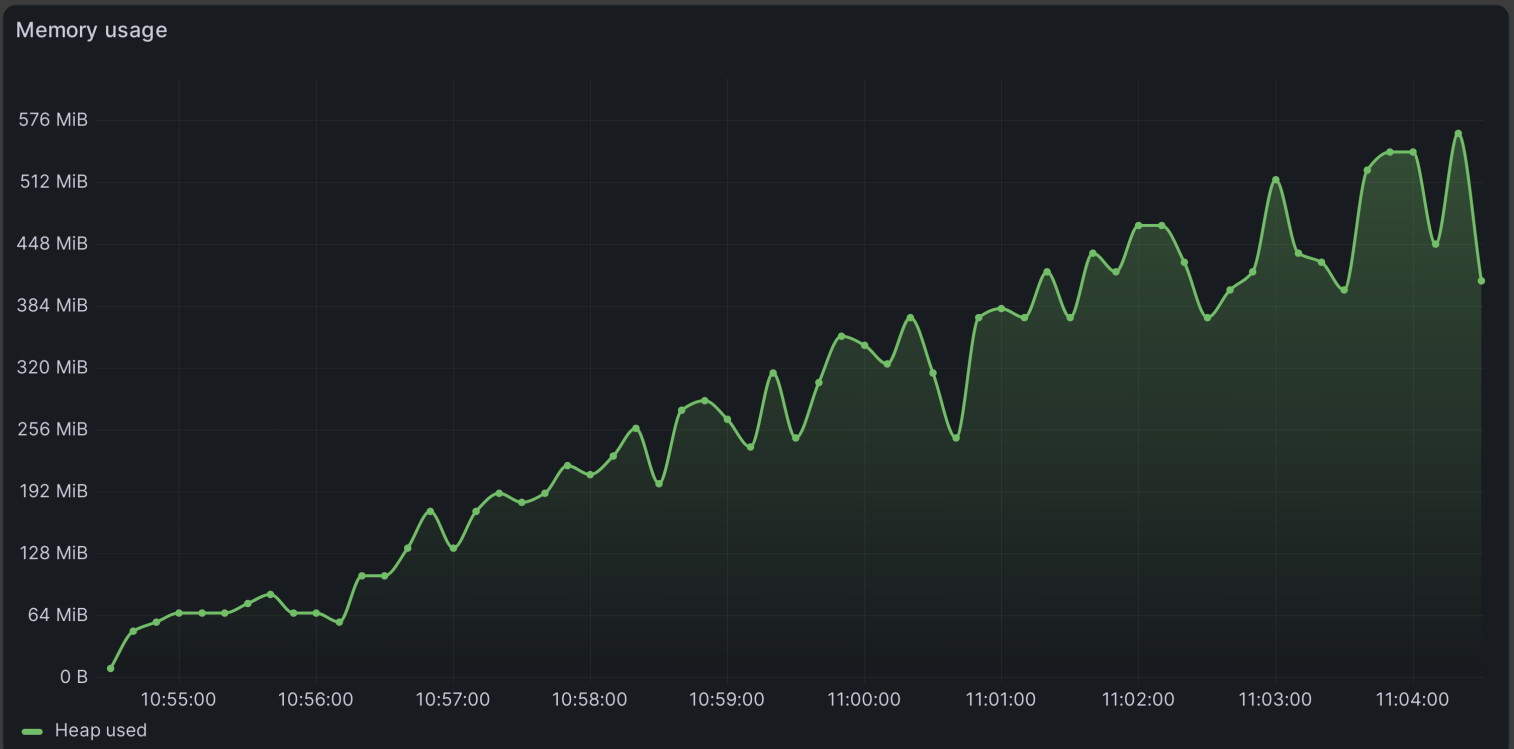
- Network throughput is not stable throughout the test, with noticeable fluctuations in both Network Bytes Sent and Network Bytes Received.

- The overall trend for Network Bytes Sent (yellow line) is increasing over the given time period.

- The overall trend for Network Bytes Received (green line) is also increasing, though at a slower rate compared to Network Bytes Sent.

- Significant spikes are observed in Network Bytes Sent around 10:59:00, 11:00:00, and 11:04:00.

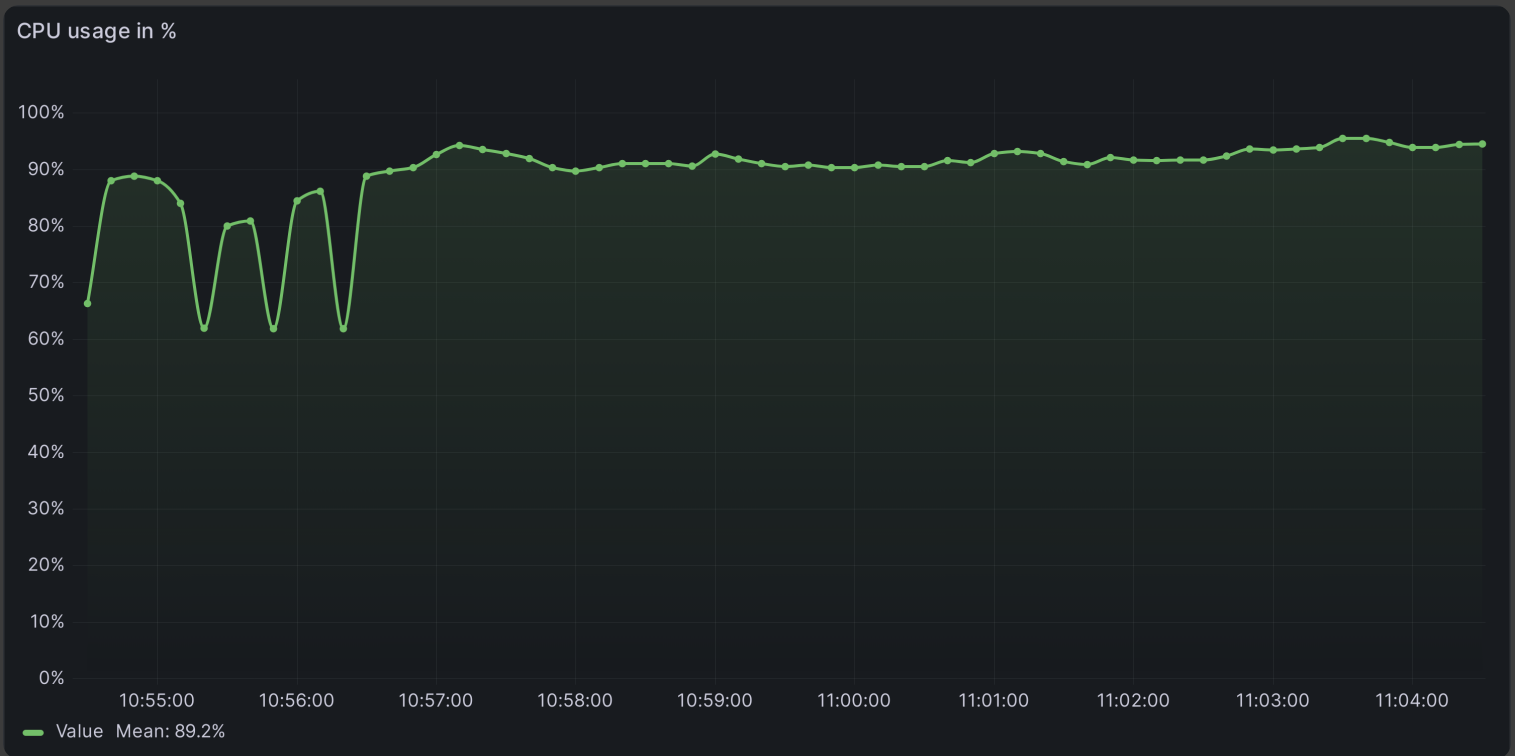
- Network Bytes Received shows smaller but consistent fluctuations, with notable increases around 11:00:00 and 11:04:00.



- The overall trend in memory heap usage is increasing over time.

- There are significant fluctuations and spikes in memory usage, particularly around the 11:00:00 and 11:03:00

- marks.
- The memory usage does not return to its initial lower levels, indicating a potential memory leak.
 - The memory usage increases in a step-like pattern, with each step higher than the previous one.
 - The highest memory usage observed is around 576 MiB, and the lowest is around 0 MiB at the beginning of the graph.



- The CPU usage is consistently high, averaging around 89.2%.
- There is a significant drop in CPU usage to around 60-70% between 10:55:00 and 10:57:00.
- After 10:57:00, the CPU usage stabilizes and remains consistently above 85%.
- There are minor fluctuations in CPU usage after 10:57:00, but they remain within a narrow range.
- The overall trend shows a brief period of instability followed by a stable high usage.