

k6 Load Testing Results - Performance Report:

```
C:\Users\Lenovo\Desktop\Final Project - HTU\K6>k6 run FileName.js

Grafana
K6

execution: local
script: FileName.js
output: -

scenarios: (100.00%) 2 scenarios, 23 max VUs, 2m50s max duration (incl. graceful stop):
  * smoke: 5 looping VUs for 30s (gracefulStop: 10s)
  * load: 23 looping VUs for 2m0s (startTime: 40s, gracefulStop: 10s)

THRESHOLDS

checks
✓ 'rate>0.94' rate=100.00%

http_req_duration
✓ 'p(95)<1000' p(95)=264.07ms

http_req_failed
✓ 'rate<0.2' rate=0.00%
```

Total Checks:

- Total checks executed: 6688
- Passed: 6688 (100%)
- Failed: 0

All functional validations succeeded:

- Status code is 200
- Users array is not empty
- First user has ID
- Response time is acceptable

HTTP Performance:

Response Time Statistics

Metric	Value
Average	172.47 ms
Median	161.19 ms
Minimum	148.47 ms
Maximum	606.35 ms
p90	181.6 ms
p95	264.07 ms

95% of all requests completed in under 264.07 ms.

Requests Summary:

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- Total HTTP requests: 2608
- Failed requests: 0
- Request rate: ~15.34 requests/second

Execution Summary:

- Total iterations: 836
- Average iteration duration: 3.53 seconds
- Maximum iteration duration: 3.97 seconds
- Maximum VUs: 23

Network Usage:

- Data received: 32 MB
- Data sent: 331 KB

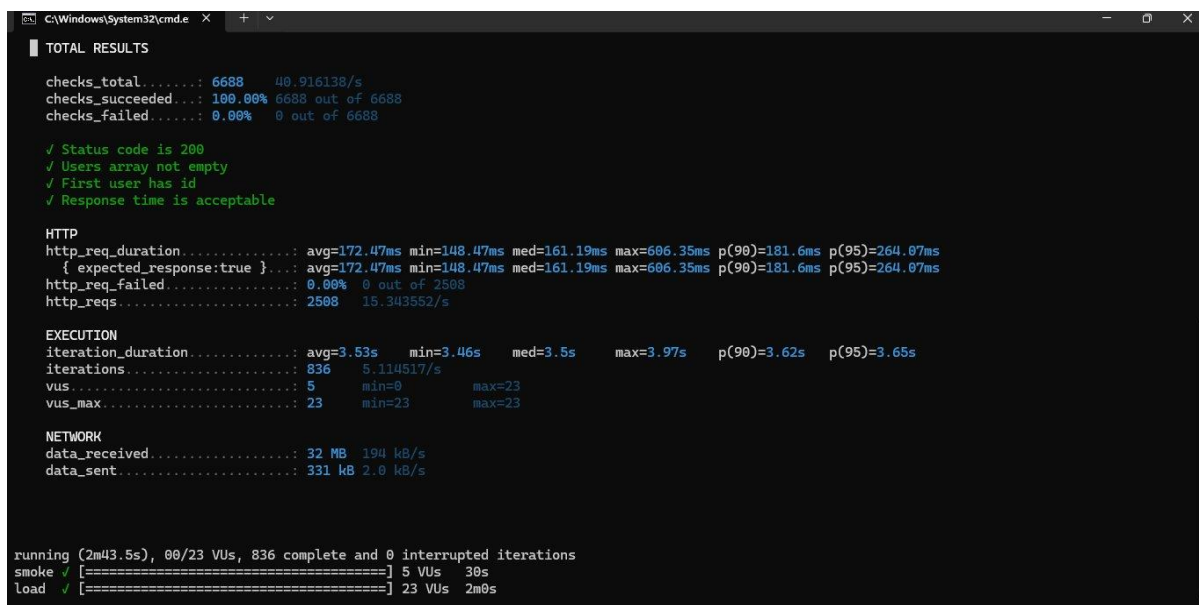
Conclusion (Screenshot 1):

The system demonstrated:

- Zero failed HTTP requests
- Stable performance under concurrent load
- Fast response times (264.07ms at p95)
- 100% successful checks

Final Result: PASS

The API is stable and performs efficiently under the tested load conditions.

A screenshot of a Windows command prompt window titled 'C:\Windows\System32\cmd.exe'. The terminal displays the output of a k6 load test. The output is organized into sections: 'TOTAL RESULTS', 'HTTP', 'EXECUTION', and 'NETWORK'. The 'TOTAL RESULTS' section shows 6688 checks, all of which succeeded (100.00%). The 'HTTP' section shows an average request duration of 172.47ms and a 0.00% failure rate for 2608 requests. The 'EXECUTION' section shows 836 iterations completed with an average duration of 3.53s. The 'NETWORK' section shows 32 MB of data received and 331 KB of data sent. At the bottom, a status line indicates the test is running for 2m43.5s with 0/23 VUs, 836 complete iterations, and 0 interrupted iterations. A 'smoke' check passed with 5 VUs in 30s, and a 'load' check passed with 23 VUs in 2m0s.

```
C:\Windows\System32\cmd.exe
TOTAL RESULTS
checks_total.....: 6688    40.916138/s
checks_succeeded....: 100.00% 6688 out of 6688
checks_failed.....: 0.00%   0 out of 6688

✓ Status code is 200
✓ Users array not empty
✓ First user has id
✓ Response time is acceptable

HTTP
http_req_duration.....: avg=172.47ms min=148.47ms med=161.19ms max=606.35ms p(90)=181.6ms p(95)=264.07ms
{ expected_response:true }...: avg=172.47ms min=148.47ms med=161.19ms max=606.35ms p(90)=181.6ms p(95)=264.07ms
http_req_failed.....: 0.00% 0 out of 2608
http_reqs.....: 2608    15.343552/s

EXECUTION
iteration_duration.....: avg=3.53s    min=3.46s    med=3.5s    max=3.97s    p(90)=3.62s    p(95)=3.65s
iterations.....: 836    5.114517/s
vus.....: 5    min=0    max=23
vus_max.....: 23    min=23    max=23

NETWORK
data_received.....: 32 MB    194 kB/s
data_sent.....: 331 kB    2.0 kB/s

running (2m43.5s), 00/23 VUs, 836 complete and 0 interrupted iterations
smoke ✓ [=====] 5 VUs 30s
load ✓ [=====] 23 VUs 2m0s
```

Test Configuration

k6 Load Testing Results - Performance Report:

Scenarios:

Smoke test (5 VUs, 30s) + Load test (23 VUs, 2m)

Duration:

2m50s total

Script:

FileName.js

Configured Scenarios

Two scenarios were executed:

Smoke Scenario

- Virtual Users: 5
- Duration: 30 seconds
- Graceful stop: 10 seconds

Purpose:

To validate basic API functionality under minimal load.

Load Scenario

- Virtual Users: 23
- Duration: 2 minutes
- Start Time: After 40 seconds
- Graceful stop: 10 seconds

Purpose:

To measure system performance under moderate concurrent load.

Maximum VUs reached: **23**

Threshold Evaluation

All configured thresholds passed successfully:

Metric	Threshold	Result	Status
Success Rate	> 94%	100.00%	✓ PASS
Response Time (p95)	< 1000ms	264.07ms	✓ PASS
Failure Rate	< 20%	0.00%	✓ PASS

Conclusion (Screenshot 2)

All thresholds were met:

- No failed requests

k6 Load Testing Results - Performance Report:

- Excellent response time
- All functional checks passed

This confirms that the API behaves correctly and efficiently during both smoke and load tests.