



**Final Report
On
Performance Testing**

Software Testing and Quality Assurance

Submitted By ,

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Section	: A

Performance testing is a crucial aspect of software development aimed at evaluating the speed, responsiveness, and stability of a system under varying workload conditions. It helps identify performance bottlenecks, scalability issues, and areas for optimization. Here's a brief overview:

Performance Testing:

Load Testing: Evaluates the system's behavior under normal and peak load conditions to ensure it can handle the expected number of users and transactions without degradation.

Stress Testing: Pushes the system beyond its limits to identify breaking points and measure how it recovers from failure.

Spike Testing: Spike testing is a type of performance testing that evaluates how a system responds to sudden and extreme increases in workload or traffic. The goal is to assess the system's stability, resilience, and performance under unexpected spikes in user activity.

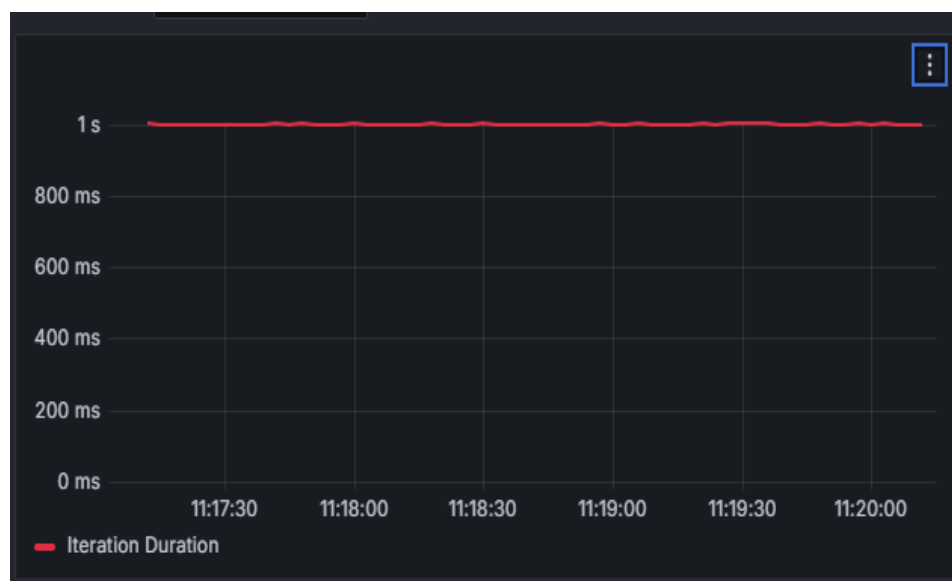
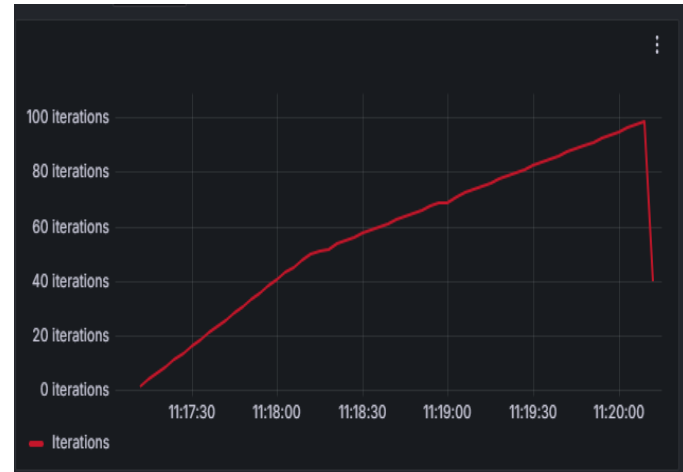
Concurrency testing: Concurrency testing, also known as simultaneous user testing, evaluates how well a system performs when multiple users access it concurrently. The objective is to assess the system's ability to handle simultaneous requests and maintain performance, integrity, and data consistency under load.

`http.get('http://127.0.0.1:8000/orders/pending')`

Load Test

scenarios: (100.00%) 1 scenario, 100 max VUs, 3m30s max duration (incl. graceful stop):
* default: Up to 100 looping VUs for 3m0s over 3 stages (gracefulRampDown: 30s, gracefulStop: 30s)

```
data_received.....: 0 B    0 B/s
data_sent.....: 21 kB   99 B/s
http_req_blocked.....: avg=662.22µs min=0s    med=509.2µs max=3.51ms p(90)=1.15ms p(95)=1.76ms
http_req_waiting.....: avg=1m0s    min=59.99s med=1m0s    max=1m0s    p(90)=1m0s    p(95)=1m0s
http_reqs.....: 172    0.819036/s
iteration_duration.....: avg=1m1s    min=1m1s    med=1m1s    max=1m1s    p(90)=1m1s    p(95)=1m1s
iterations.....: 170    0.809512/s
vus.....: 51      min=1      max=99
vus_max.....: 100    min=100    max=100
```

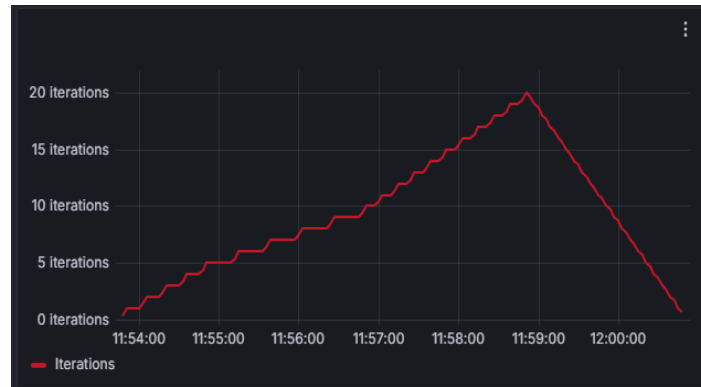
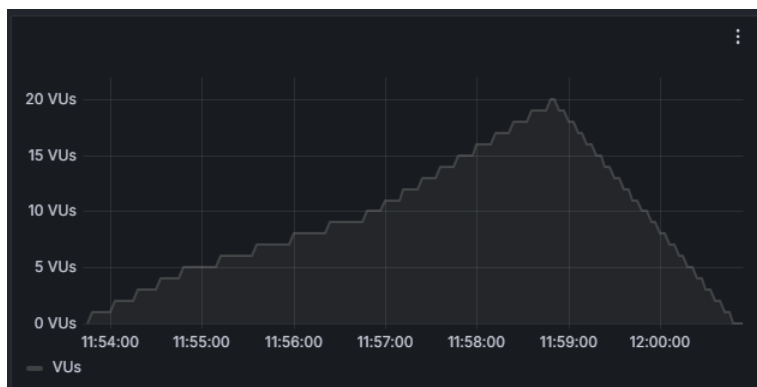


Stress Testing

scenarios: (100.00%) 1 scenario, 20 max VUs, 7m30s max duration (incl. graceful stop):

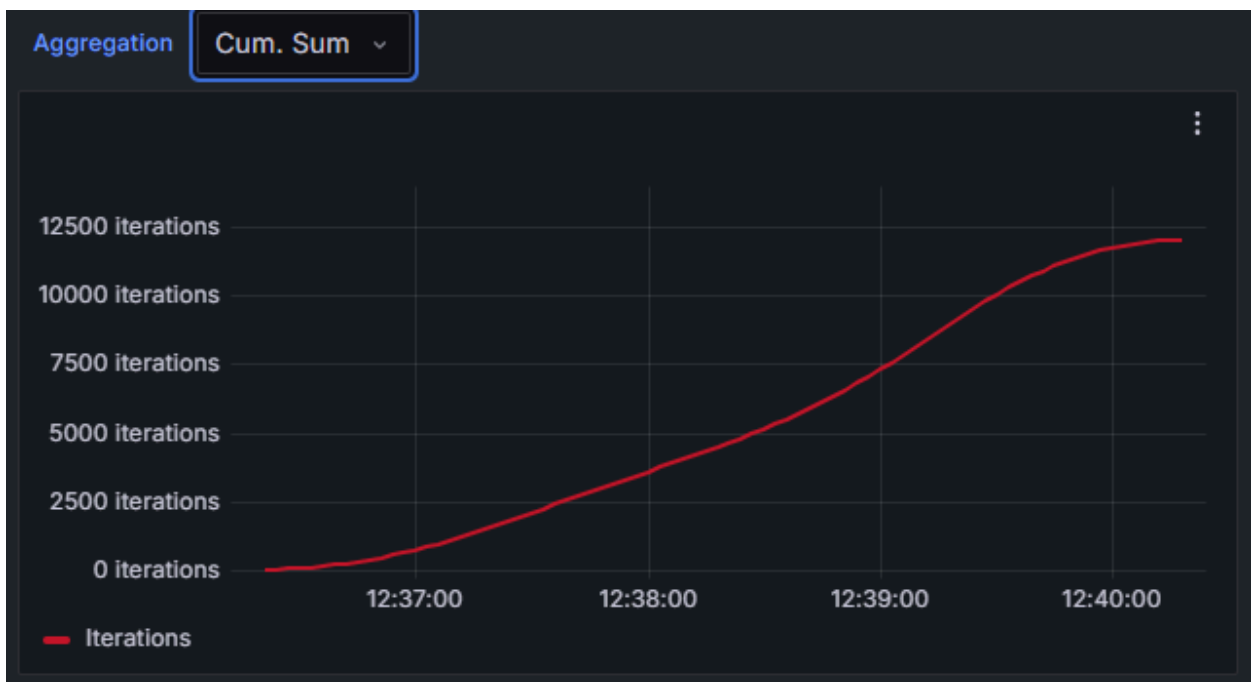
default: Up to 20 looping VUs for 7m0s over 5 stages (gracefulRampDown: 30s, gracefulStop: 30s)

```
data_received.....: 5.3 MB 12 kB/s
data_sent.....: 122 kB 275 B/s
http_req_blocked.....: avg=610.88µs min=0s      med=508.8µs max=6.95ms p(90)=1.16ms p(95)=1.52ms
http_req_connecting.....: avg=506.03µs min=0s      med=506.2µs max=6.95ms p(90)=1.05ms p(95)=1.17ms
http_req_duration.....: avg=16.56s min=2.35s    med=15.48s max=28.95s p(90)=25.25s p(95)=26.26s
  { expected_response:true }...: avg=16.56s min=2.35s    med=15.48s max=28.95s p(90)=25.25s p(95)=26.26s
http_req_failed.....: 0.00% ✓ 0      ✗ 251
http_req_receiving.....: avg=3.27ms min=989.8µs med=2.85ms max=33.09ms p(90)=4.6ms p(95)=5.44ms
http_req_sending.....: avg=143.06µs min=0s      med=0s max=999.9µs p(90)=513.59µs p(95)=554.5µs
http_req_tls_handshaking.....: avg=0s min=0s      med=0s max=0s p(90)=0s p(95)=0s
http_req_waiting.....: avg=16.55s min=2.35s    med=15.47s max=28.95s p(90)=25.24s p(95)=26.26s
http_reqs.....: 251 0.563777/s
iteration_duration.....: avg=33.77s min=6.72s    med=31.6s max=51.43s p(90)=50.26s p(95)=50.77s
iterations.....: 122 0.274027/s
vus.....: 1 min=1 max=20
vus_max.....: 20 min=20 max=20
```



Spike Testing

```
data_received.....: 1.9 MB 7.0 kB/s
data_sent.....: 134 kB 498 B/s
http_req_blocked.....: avg=44.12µs min=0s med=0s max=6.28ms p(90)=0s p(95)=505.4µs
http_req_connecting.....: avg=39.13µs min=0s med=0s max=6.28ms p(90)=0s p(95)=504.7µs
http_req_duration.....: avg=3.87s min=0s med=0s max=1m0s p(90)=0s p(95)=45.65s
  { expected_response:true }...: avg=26.37s min=624.5ms med=25.92s max=59.19s p(90)=50.54s p(95)=55.42s
  ✓ { type:GET }.....: avg=0s min=0s med=0s max=0s p(90)=0s p(95)=0s
http_req_failed.....: 96.87% ✓ 4768 X 154
http_req_receiving.....: avg=84.06µs min=0s med=0s max=8.54ms p(90)=0s p(95)=0s
http_req_sending.....: avg=9.8µs min=0s med=0s max=1ms p(90)=0s p(95)=0s
http_req_tls_handshaking.....: avg=0s min=0s med=0s max=0s p(90)=0s p(95)=0s
http_req_waiting.....: avg=3.87s min=0s med=0s max=1m0s p(90)=0s p(95)=45.65s
X http_reqs.....: 4922 18.270007/s
iteration_duration.....: avg=4.96s min=1s med=1.01s max=1m1s p(90)=1.01s p(95)=1m1s
iterations.....: 4808 17.84685/s
vus.....: 2 min=2 max=200
vus_max.....: 200 min=200 max=200
```

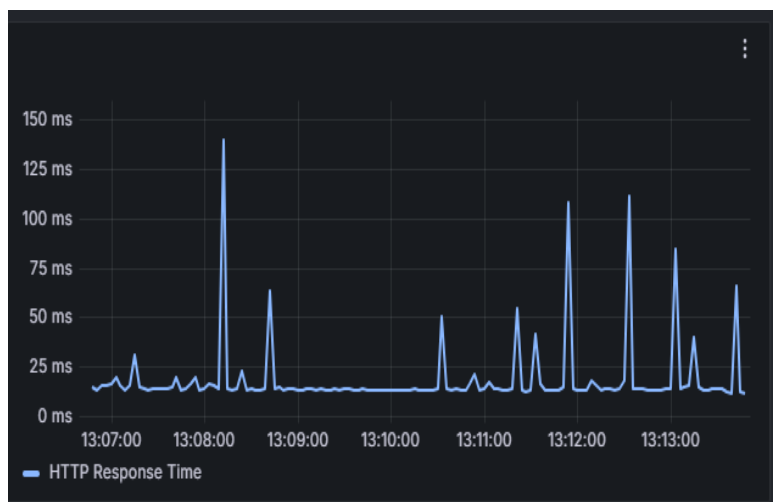


Concurrency Test

```
scenarios: (100.00%) 1 scenario, 50 max VUs, 7m30s max duration (incl. graceful stop):
  * default: Up to 50 looping VUs for 7m0s over 3 stages (gracefulRampDown: 30s, gracefulStop: 30s)
```

✓ status is 200

```
checks.....: 100.00% ✓ 13652    ✗ 0
data_received.....: 20 MB    47 kB/s
data_sent.....: 652 kB    1.6 kB/s
http_req_blocked.....: avg=3.03ms    min=0s      med=0s      max=1.94s    p(90)=0s     p(95)=0s
http_req_connecting.....: avg=1.04ms    min=0s      med=0s      max=1.39s    p(90)=0s     p(95)=0s
http_req_duration.....: avg=312.55ms  min=226.04ms med=282.45ms max=2.67s    p(90)=371.11ms p(95)=466.8ms
  { expected_response:true }...: avg=312.55ms  min=226.04ms med=282.45ms max=2.67s    p(90)=371.11ms p(95)=466.8ms
http_req_failed.....: 0.00%    ✓ 0      ✗ 13652
http_req_receiving.....: avg=269.88µs  min=0s      med=70.2µs  max=5.98ms   p(90)=807.3µs p(95)=957.74µs
http_req_sending.....: avg=142.61µs  min=0s      med=0s      max=7.89ms   p(90)=522.99µs p(95)=613.5µs
http_req_tls_handshaking.....: avg=1.97ms    min=0s      med=0s      max=771.69ms p(90)=0s     p(95)=0s
http_req_waiting.....: avg=312.14ms  min=225.54ms med=282.03ms max=2.67s    p(90)=370.72ms p(95)=466.11ms
http_reqs.....: 13652    32.48969/s
iteration_duration.....: avg=1.32s     min=1.22s   med=1.29s   max=3.68s    p(90)=1.38s   p(95)=1.48s
iterations.....: 13652    32.48969/s
vus.....: 1      min=1      max=50
vus_max.....: 50     min=50     max=50
```



<http://127.0.0.1:8000/customers/>

Load Testing

```

      ▲      █      ○
     ▲▲      ███    ███
    ▲▲▲      ████  ████
   ▲▲▲▲      ████  ████
  ▲▲▲▲▲      ████  ████
 ▲▲▲▲▲      ████  ████
▲▲▲▲▲      ████  ████
.         .io

execution: local
script: loadtest.js
output: -

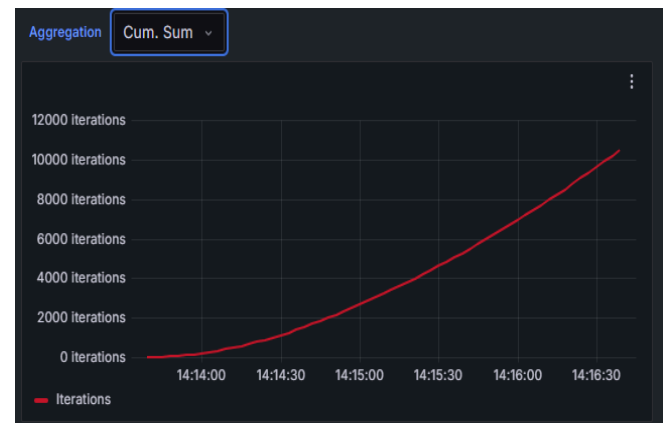
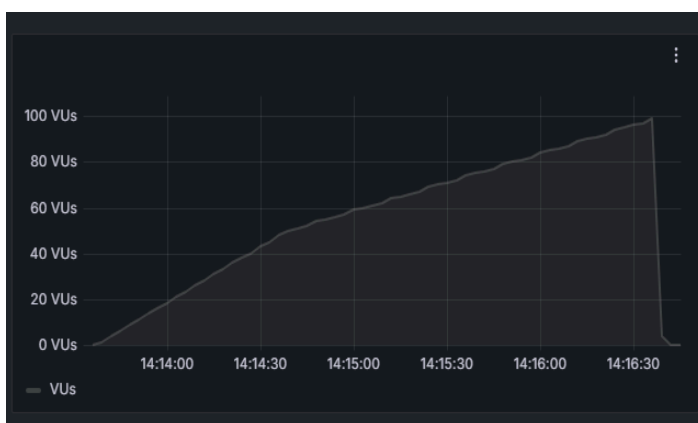
scenarios: (100.00%) 1 scenario, 100 max VUs, 3m30s max duration (incl. graceful stop):
    * default: Up to 100 looping VUs for 3m0s over 3 stages (gracefulRampDown: 30s, gracefulStop: 30s)

```

```

data_received.....: 250 kB 1.2 kB/s
data_sent.....: 42 kB 202 B/s
http_req_blocked.....: avg=1.45ms min=0s med=1.18ms max=8.11ms p(90)=2.48ms p(95)=3.24ms
http_req_connecting.....: avg=1.24ms min=0s med=1.08ms max=8.11ms p(90)=2.13ms p(95)=2.53ms
http_req_duration.....: avg=51.49s min=918.87ms med=1m0s max=1m0s p(90)=1m0s p(95)=1m0s
{ expected_response:true }...: avg=30.36s min=2.99s med=29.57s max=59.08s p(90)=51.25s p(95)=56.51s
http_req_failed.....: 84.50% ✓ 169 ✗ 31
http_req_receiving.....: avg=1.44ms min=0s med=0s max=39.31ms p(90)=7.74ms p(95)=8.77ms
http_req_sending.....: avg=118.56µs min=0s med=0s max=1.06ms p(90)=541.5µs p(95)=577.31µs
http_req_tls_handshaking.....: avg=0s min=0s med=0s max=0s p(90)=0s p(95)=0s
http_req_waiting.....: avg=51.49s min=918.87ms med=1m0s max=1m0s p(90)=1m0s p(95)=1m0s
http_reqs.....: 200 0.952313/s
iteration_duration.....: avg=1m0s min=12.95s med=1m1s max=1m1s p(90)=1m1s p(95)=1m1s
iterations.....: 173 0.82375/s
vus.....: 53 min=1 max=99
vus_max.....: 100 min=100 max=100

```



Stress Test



```
execution: local
  script: StressTest.js
  output: -
```

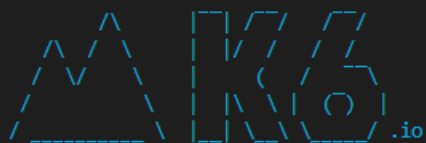
```
scenarios: (100.00%) 1 scenario, 20 max VUs, 4m0s max duration (incl. graceful stop):
  * default: Up to 20 looping VUs for 3m30s over 3 stages (gracefulRampDown: 30s, gracefulStop: 30s)
```

```
http_req_duration.....: avg=27.1s    min=10.72s    med=25.46s max=1m0s    p(90)=42.95s    p(95)=44.36s
  { expected_response:true }...: avg=26.78s    min=10.72s    med=24.27s max=47.36s    p(90)=43.59s    p(95)=44.33s
http_req_failed.....: 25.33% ✓ 19    ✗ 56
http_req_receiving.....: avg=5.83ms    min=0s        med=6.62ms max=25.3ms    p(90)=10.37ms    p(95)=11.44ms
http_req_sending.....: avg=119.98µs  min=0s        med=0s      max=767.9µs   p(90)=552.62µs   p(95)=587.89µs
http_req_tls_handshaking.....: avg=0s        min=0s        med=0s      max=0s        p(90)=0s        p(95)=0s
http_req_waiting.....: avg=27.09s    min=10.71s    med=25.45s max=1m0s    p(90)=42.94s    p(95)=44.35s
http_reqs.....: 75    0.3125/s
iteration_duration.....: avg=52.02s    min=26.93s    med=59.16s max=1m1s    p(90)=1m1s    p(95)=1m1s
iterations.....: 34    0.141666/s
vus.....: 1    min=1    max=20
vus_max.....: 20    min=20    max=20
```



```
execution: cloud
  script: StressTest.js
  output: https://jacherjay193021.grafana.net/a/k6-app/runs/2739170
```

```
scenarios: (100.00%) 1 scenario, 20 max VUs, 4m0s max duration (incl. graceful stop):
  * default: Up to 20 looping VUs for 3m30s over 3 stages (gracefulRampDown: 30s, gracefulStop: 30s)
```

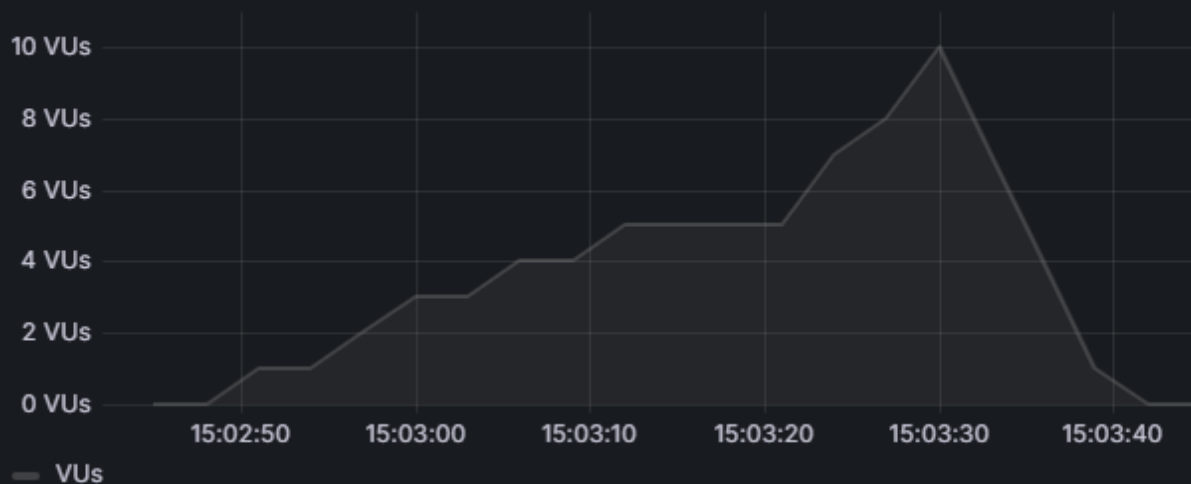
execution: cloud

script: spike.js

output: <https://jacherjay193021.grafana.net/a/k6-app/runs/2739229>

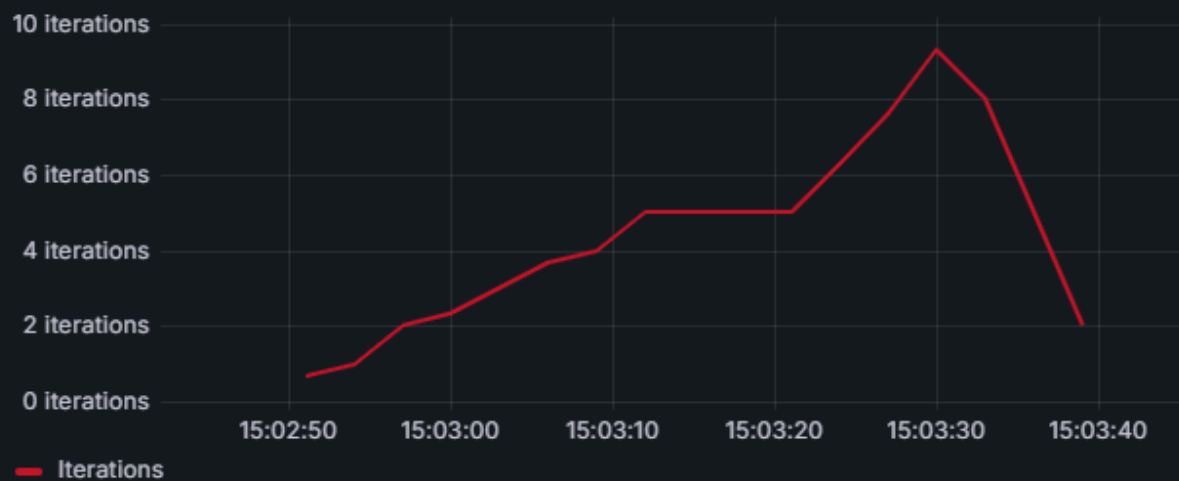
scenarios: (100.00%) 1 scenario, 10 max VUs, 1m20s max duration (incl. graceful stop):

* default: Up to 10 looping VUs for 50s over 4 stages (gracefulRampDown: 30s, gracefulStop: 30s)



Aggregation

Rate



Concurrency Test

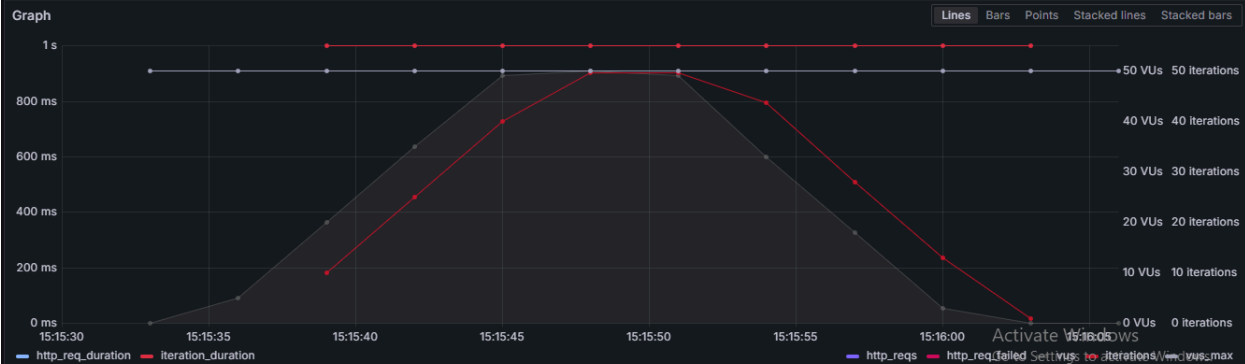
✓ status is 200

```
checks.....: 100.00% ✓ 1      ✗ 0
data_received.....: 74 kB   1.4 kB/s
data_sent.....: 22 kB   408 B/s
http_req_blocked.....: avg=1.81ms  min=507.9µs med=1.23ms max=13.45ms p(90)=2.02ms p(95)=2.3ms
http_req_connecting.....: avg=1.44ms  min=0s      med=1.04ms max=11.11ms p(90)=1.9ms p(95)=2ms
http_req_duration.....: avg=24.93s  min=3.87s  med=24.3s  max=46.71s p(90)=42.43s p(95)=44.97s
  { expected_response:true }...: avg=24.93s  min=3.87s  med=24.3s  max=46.71s p(90)=42.43s p(95)=44.97s
http_req_failed.....: 0.00% ✓ 0      ✗ 22
http_req_receiving.....: avg=6.35ms  min=993.1µs med=5.91ms max=11.22ms p(90)=9.27ms p(95)=10.79ms
http_req_sending.....: avg=517.99µs min=0s      med=0s     max=8.34ms p(90)=619.52µs p(95)=990.72µs
http_req_tls_handshaking.....: avg=0s      min=0s      med=0s     max=0s     p(90)=0s p(95)=0s
http_req_waiting.....: avg=24.92s  min=3.85s  med=24.29s max=46.7s  p(90)=42.42s p(95)=44.97s
http_reqs.....: 22      0.401394/s
iteration_duration.....: avg=50s     min=50s     med=50s    max=50s    p(90)=50s p(95)=50s
iterations.....: 1      0.018245/s
vus.....: 5      min=5      max=50
vus_max.....: 50     min=50     max=50
```



execution: cloud
script: contest.js
output: <https://jacherjay193021.grafana.net/a/k6-app/runs/2739269>

scenarios: (100.00%) 1 scenario, 50 max VUs, 55s max duration (incl. graceful stop):
* default: Up to 50 looping VUs for 25s over 3 stages (gracefulRampDown: 30s, gracefulStop: 30s)



<http://127.0.0.1:8000/units/centimeters>

LoadTest



execution: local
script: load.js
output: -

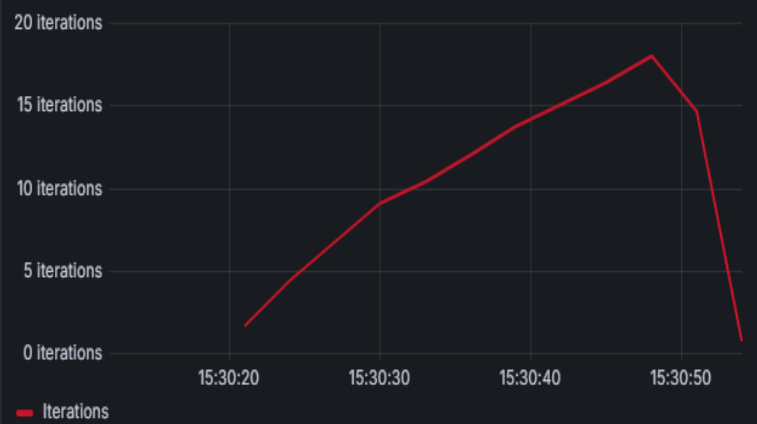
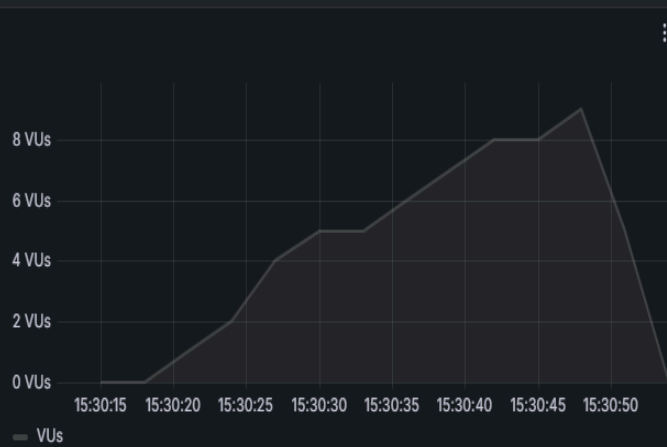
scenarios: (100.00%) 1 scenario, 10 max VUs, 1m3s max duration (incl. graceful stop):
* default: Up to 10 looping VUs for 33s over 3 stages (gracefulRampDown: 30s, gracefulStop: 30s)

```
data_received.....: 358 kB 5.7 kB/s
data_sent.....: 13 kB 212 B/s
http_req_blocked.....: avg=1.25ms min=508.9µs med=1.09ms max=2.46ms p(90)=1.7ms p(95)=1.86ms
http_req_connecting.....: avg=1.05ms min=507.29µs med=1.02ms max=2.39ms p(90)=1.55ms p(95)=1.61ms
http_req_duration.....: avg=15.4s min=2s med=15.72s max=27.8s p(90)=26.86s p(95)=27.52s
  { expected_response:true }...: avg=15.4s min=2s med=15.72s max=27.8s p(90)=26.86s p(95)=27.52s
http_req_failed.....: 0.00% ✓ 0 ✗ 22
http_req_receiving.....: avg=7.84ms min=4.35ms med=7.56ms max=14.31ms p(90)=9.35ms p(95)=11.9ms
http_req_sending.....: avg=233.91µs min=0s med=0s max=1.51ms p(90)=623.49µs p(95)=670.8µs
http_req_tls_handshaking.....: avg=0s min=0s med=0s max=0s p(90)=0s p(95)=0s
http_req_waiting.....: avg=15.39s min=2s med=15.71s max=27.79s p(90)=26.85s p(95)=27.51s
http_reqs.....: 22 0.349131/s
iteration_duration.....: avg=25.65s min=4.88s med=24.48s max=44.79s p(90)=42.88s p(95)=43.84s
iterations.....: 8 0.126957/s
vus.....: 1 min=1 max=10
vus_max.....: 10 min=10 max=10
```



execution: cloud
script: load.js
output: <https://jacherjay193021.grafana.net/a/k6-app/runs/2739329>

scenarios: (100.00%) 1 scenario, 10 max VUs, 1m3s max duration (incl. graceful stop):
* default: Up to 10 looping VUs for 33s over 3 stages (gracefulRampDown: 30s, gracefulStop: 30s)



Stress Test

```
execution: local
  script: stress.js
  output: -
```

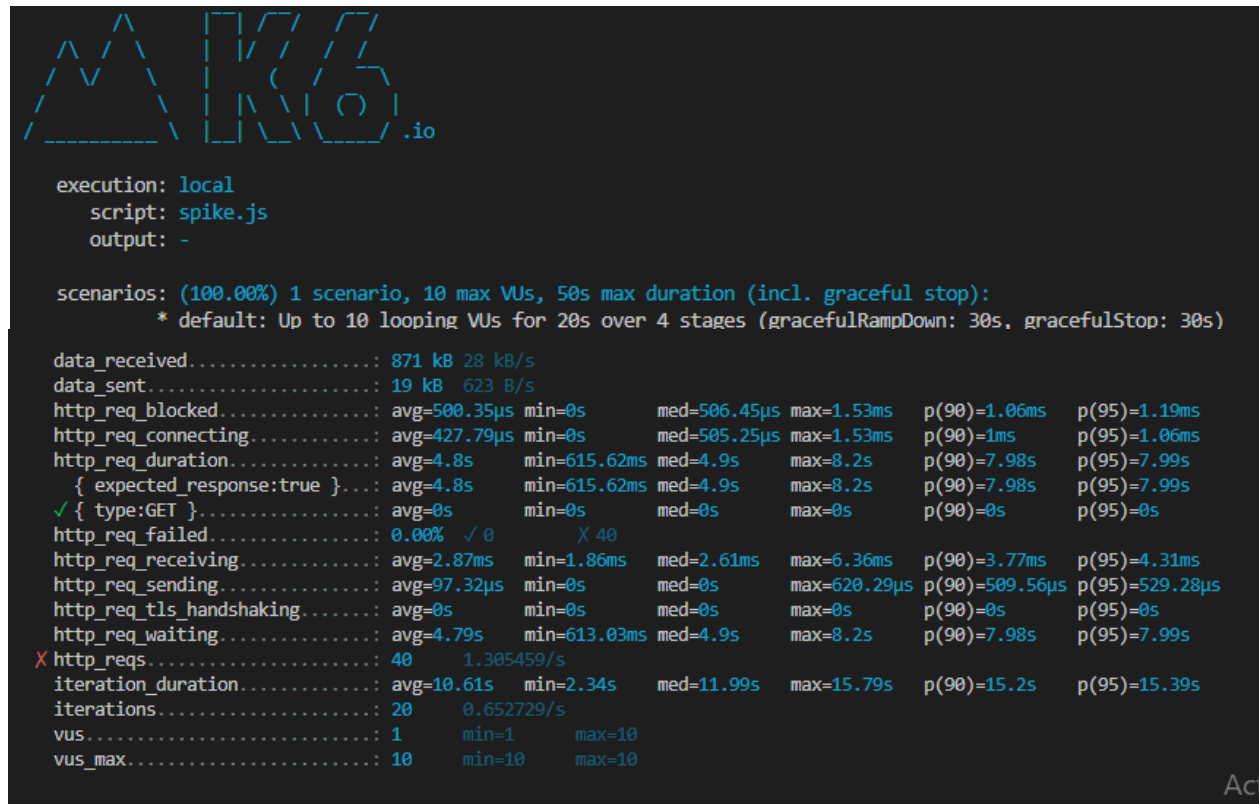
```
scenarios: (100.00%) 1 scenario, 10 max VUs, 1m0s max duration (incl. graceful stop):
    * default: Up to 10 looping VUs for 30s over 3 stages (gracefulRampDown: 30s, gracefulStop: 30s)
```

```
data_received.....: 398 kB 6.6 kB/s
data_sent.....: 12 kB 207 B/s
http_req_blocked.....: avg=1.46ms min=506.29µs med=1.08ms max=9.17ms p(90)=2.11ms p(95)=3.31ms
http_req_connecting.....: avg=964.98µs min=506µs med=1.02ms max=1.98ms p(90)=1.4ms p(95)=1.61ms
http_req_duration.....: avg=16.35s min=3.91s med=18.48s max=23.95s p(90)=22.79s p(95)=23.23s
  { expected_response:true }...: avg=16.35s min=3.91s med=18.48s max=23.95s p(90)=22.79s p(95)=23.23s
http_req_failed.....: 0.00% ✓ 0 ✗ 22
http_req_receiving.....: avg=7.17ms min=2.93ms med=7.06ms max=14.1ms p(90)=9.28ms p(95)=11.15ms
http_req_sending.....: avg=116.76µs min=0s med=0s max=864.3µs p(90)=553.5µs p(95)=599.22µs
http_req_tls_handshaking.....: avg=0s min=0s med=0s max=0s p(90)=0s p(95)=0s
http_req_waiting.....: avg=16.34s min=3.89s med=18.47s max=23.94s p(90)=22.78s p(95)=23.22s
http_reqs.....: 22 0.366622/s
iteration_duration.....: avg=31.46s min=14.03s med=35.51s max=44.1s p(90)=42.23s p(95)=43.16s
iterations.....: 9 0.149982/s
vus.....: 2 min=1 max=10
vus_max.....: 10 min=10 max=10
```

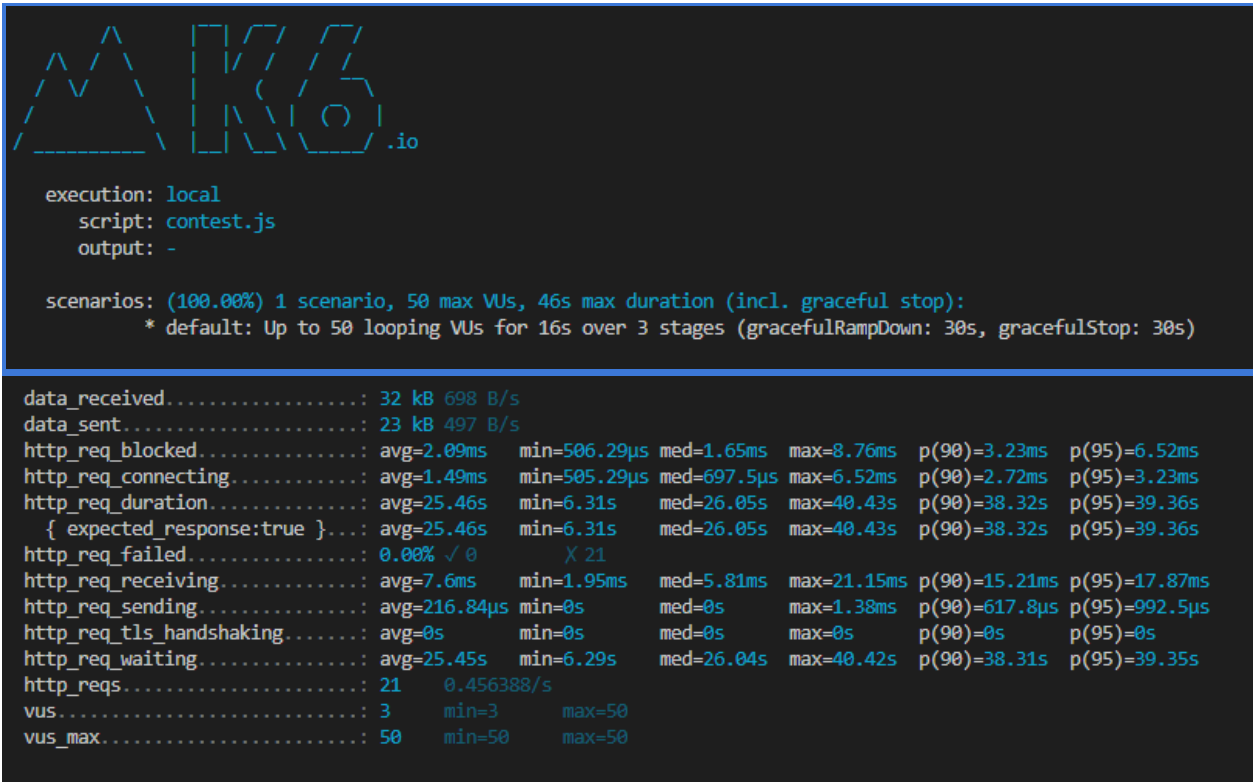
```
execution: cloud
script: stress.js
output: https://jacherjay193021.grafana.net/a/k6-app/runs/2739523
```

```
scenarios: (100.00%) 1 scenario, 10 max VUs, 1m0s max duration (incl. graceful stop):
    * default: Up to 10 looping VUs for 30s over 3 stages (gracefulRampDown: 30s, gracefulStop: 30s)
```

Spike Test

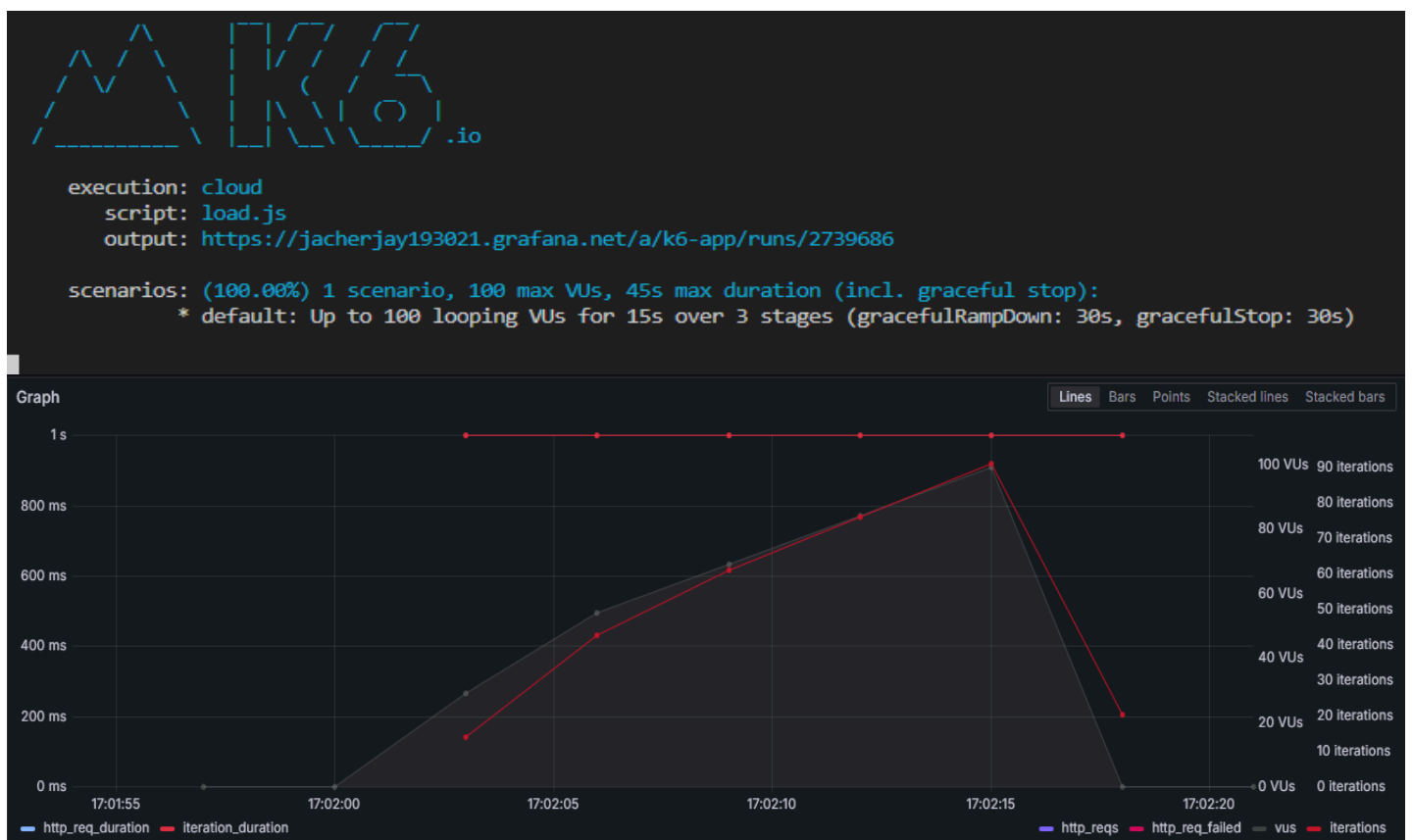
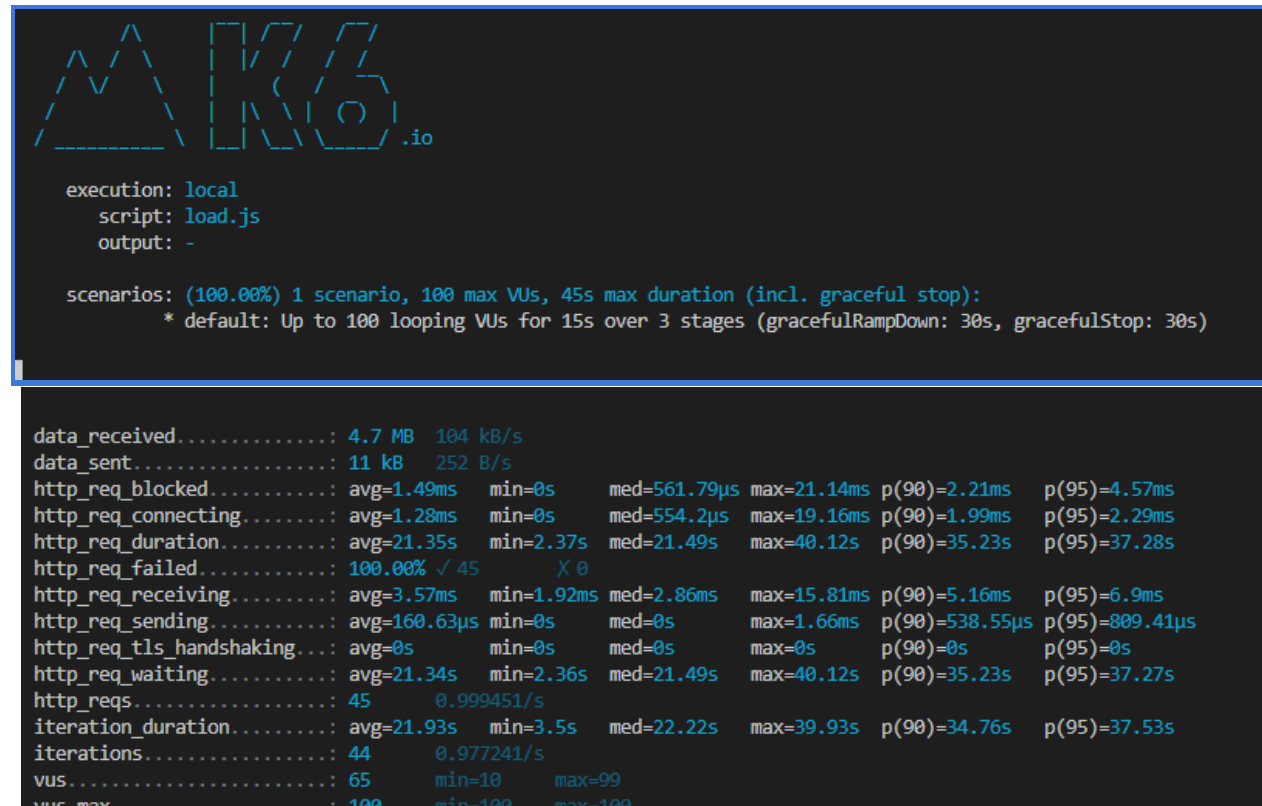


Concurrency Test



<http://127.0.0.1:8000/units/centimeters/edit-1>

Load Test



Stress Test

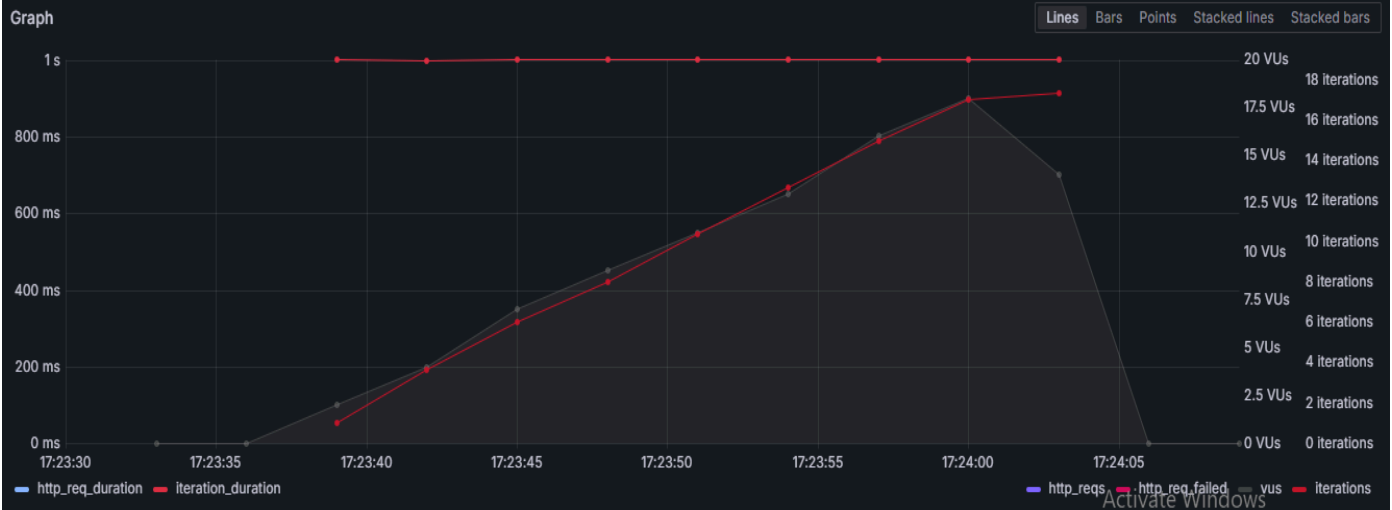
```
execution: local
  script: stress.js
  output: -
```

```
scenarios: (100.00%) 1 scenario, 20 max VUs, 56s max duration (incl. graceful stop):
    * default: Up to 20 looping VUs for 26s over 3 stages (gracefulRampDown: 30s, gracefulStop: 30s)
```

```
data_received..... 4.5 MB 110 kB/s
data_sent..... 4.5 kB 110 B/s
http_req_blocked..... avg=1.3ms min=0s med=585.3µs max=14.68ms p(90)=1.92ms p(95)=3.25ms
http_req_connecting..... avg=1.13ms min=0s med=578µs max=14.68ms p(90)=1.51ms p(95)=1.94ms
http_req_duration..... avg=8.92s min=1.36s med=9.65s max=14.61s p(90)=13.94s p(95)=14.14s
http_req_failed..... 100.00% ✓ 43 ✗ 0
http_req_receiving..... avg=3.22ms min=998.2µs med=2.7ms max=9.74ms p(90)=5.02ms p(95)=5.49ms
http_req_sending..... avg=121.36µs min=0s med=0s max=1.04ms p(90)=516.28µs p(95)=610.58µs
http_req_tls_handshaking... avg=0s min=0s med=0s max=0s p(90)=0s p(95)=0s
http_req_waiting..... avg=8.91s min=1.35s med=9.65s max=14.61s p(90)=13.93s p(95)=14.14s
http_reqs..... 43 1.057978/s
iteration_duration..... avg=9.93s min=2.37s med=10.66s max=15.62s p(90)=14.94s p(95)=15.15s
iterations..... 43 1.057978/s
vus..... 1 min=1 max=19
vus_max..... 20 min=20 max=20
```

```
execution: cloud
script: stress.js
output: https://jacher-jay193021.grafana.net/a/k6-app/runs/2739751
```

```
scenarios: (100.00%) 1 scenario, 20 max VUs, 56s max duration (incl. graceful stop):
    * default: Up to 20 looping VUs for 26s over 3 stages (gracefulRampDown: 30s, gracefulStop: 30s)
```



Concurrency test

```

      /\_/\   | \ / |  .io
     /  _  \  |  V  |
    /_____\  |___/_|

execution: local
script: contest.js
output: -

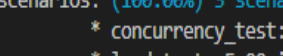
scenarios: (100.00%) 1 scenario, 50 max VUs, 55s max duration (incl. graceful stop):
 * default: Up to 50 looping VUs for 25s over 3 stages (gracefulRampDown: 30s, gracefulStop: 30s)


X status is 200
↳ 0% — ✓ 0 / X 18


checks.....: 0.00%   ✓ 0           X 18
data_received.....: 1.9 MB   34 kB/s
data_sent.....: 5.2 kB   95 B/s
http_req_blocked.....: avg=2.23ms   min=509.8µs med=1.2ms   max=13.68ms p(90)=4.48ms p(95)=7.23ms
http_req_connecting.....: avg=1.39ms   min=110.5µs med=686.09µs max=6.01ms p(90)=3.3ms p(95)=4.66ms
http_req_duration.....: avg=26.57s   min=7.39s   med=25.89s   max=47.74s p(90)=44.11s p(95)=46.05s
http_req_failed.....: 100.00% ✓ 18          X 0
http_req_receiving.....: avg=7.84ms   min=3.86ms   med=6.83ms   max=14.48ms p(90)=12.65ms p(95)=13.72ms
http_req_sending.....: avg=439.22µs min=0s       med=95.85µs  max=2.74ms p(90)=1.01ms p(95)=2.11ms
http_req_tls_handshaking...: avg=0s       min=0s       med=0s        max=0s p(90)=0s p(95)=0s
http_req_waiting.....: avg=26.56s   min=7.37s   med=25.88s   max=47.73s p(90)=44.1s p(95)=46.04s
http_reqs.....: 18         0.327174/s
iteration_duration.....: avg=26.34s   min=8.45s   med=25.86s   max=46.75s p(90)=42.69s p(95)=44.89s
iterations.....: 17         0.308998/s
vus.....: 1         min=1         max=50
vus_max.....: 50         min=50         max=50
```

<http://127.0.0.1:8000/purchases-0>

Load, stress, concurrency

```
 .io  
execution: local  
script: Alltest.js  
output: -  
  
scenarios: (100.00%) 3 scenarios, 70 max VUs, 50s max duration (incl. graceful stop):  
    * concurrency_test: 10.00 iterations/s for 10s (maxVUs: 5-50, exec: concurrencyTest, gracefulStop: 30s)  
    * load_test: 5.00 iterations/s for 20s (maxVUs: 3-10, exec: loadTest, gracefulStop: 30s)  
    * stress_test: 5.00 iterations/s for 15s (maxVUs: 2-10, exec: stressTest, gracefulStop: 30s)
```

X status is 200
L 0% - ✓ 0 / X 7

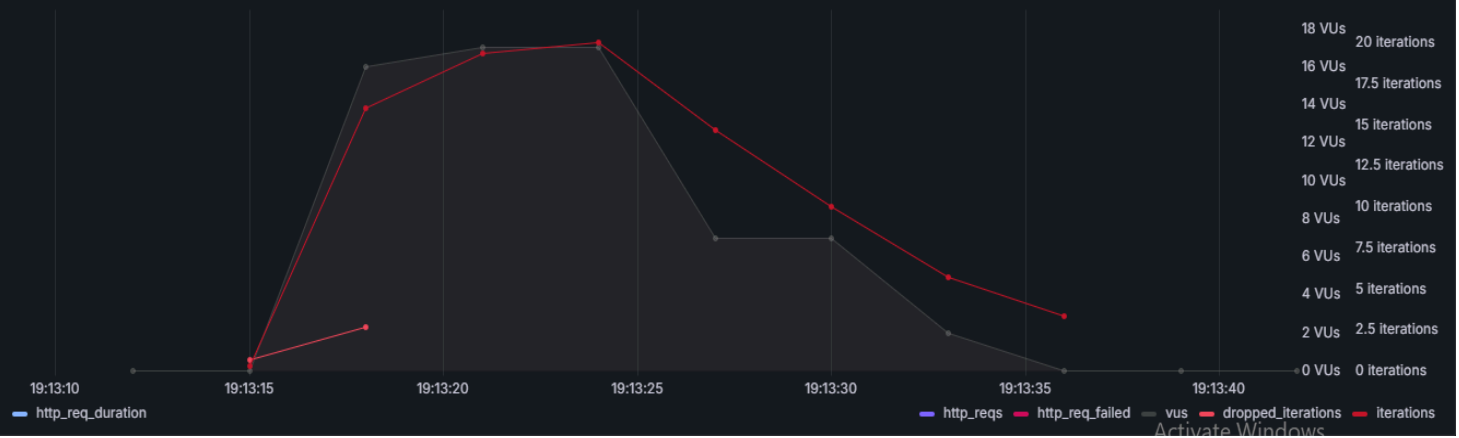
```
checks.....: 0.00% ✓ 0 X 7
data_received.....: 1.7 MB 33 kB/s
data_sent.....: 6.7 kB 135 B/s
dropped_iterations.....: 204 4.078353/s
group_duration.....: avg=26.1s min=7.96s med=25.34s max=43.03s p(90)=39.98s p(95)=42.25s
http_req_blocked.....: avg=2.55ms min=576.2µs med=1.42ms max=8.13ms p(90)=7.86ms p(95)=7.96ms
http_req_connecting.....: avg=1.2ms min=576.2µs med=1.17ms max=2.3ms p(90)=1.84ms p(95)=2.04ms
http_req_duration.....: avg=25.24s min=6.93s med=24.57s max=42.52s p(90)=39.21s p(95)=41.36s
http_req_failed.....: 100.00% ✓ 16 X 0
http_req_receiving.....: avg=10.92ms min=3.36ms med=7.85ms max=47.51ms p(90)=20.13ms p(95)=34.46ms
http_req_sending.....: avg=189.27µs min=0s med=0s max=878.6µs p(90)=878.6µs p(95)=878.6µs
http_req_tls_handshaking...: avg=0s min=0s med=0s max=0s p(90)=0s p(95)=0s
http_req_waiting.....: avg=25.23s min=6.89s med=24.57s max=42.47s p(90)=39.21s p(95)=41.35s
http_reqs.....: 16 0.319871/s
iteration_duration.....: avg=26.1s min=7.97s med=25.34s max=43.03s p(90)=39.98s p(95)=42.25s
iterations.....: 16 0.319871/s
vus.....: 7 min=7 max=70
vus_max.....: 70 min=16 max=70
```

running (50.0s), 00/70 VUs, 16 complete and 58 interrupted iterations

```
concurrency_test ✓ [=====] 44/50 VUs 10s 10.00 iters/s
load_test ✓ [=====] 07/10 VUs 20s 5.00 iters/s
stress_test ✓ [=====] 07/10 VUs 15s 5.00 iters/s
```

Graph

Lines Bars Points Stacked lines Stacked bars



<http://127.0.0.1:8000/suppliers-1>

```

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 / ___|| | | |
| |___| |_| |
 \___|_____|_|

.io

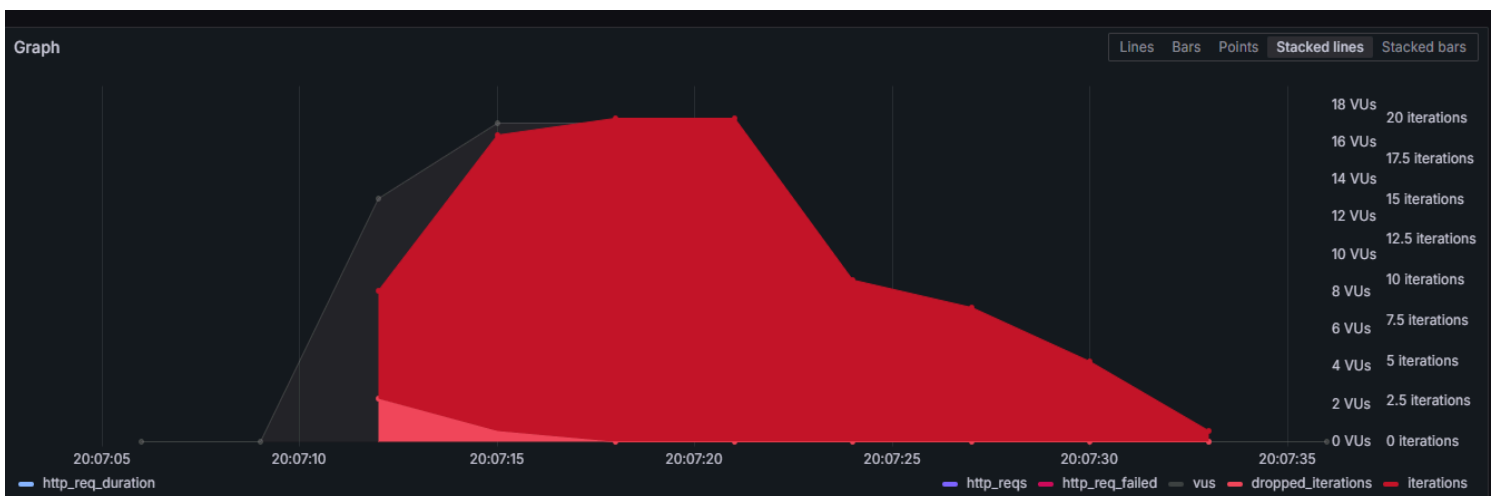
execution: local
script: All.js
output: -

scenarios: (100.00%) 3 scenarios, 70 max VUs, 50s max duration (incl. graceful stop):
  * concurrency_test: 10.00 iterations/s for 10s (maxVUs: 5-50, exec: concurrencyTest, gracefulStop: 30s)
  * load_test: 5.00 iterations/s for 20s (maxVUs: 3-10, exec: loadTest, gracefulStop: 30s)
  * stress_test: 5.00 iterations/s for 15s (maxVUs: 2-10, exec: stressTest, gracefulStop: 30s)

X status is 200
  ↳ 0% - ✓ 0 / X 34

checks.....: 0.00% ✓ 0 X 34
data_received.....: 5.8 MB 117 kB/s
data_sent.....: 7.4 kB 147 B/s
dropped_iterations.....: 196 3.919743/s
group_duration.....: avg=21.42s min=6.88s med=21.79s max=38.54s p(90)=31.77s p(95)=32.82s
http_req_blocked.....: avg=839.32µs min=0s med=791.3µs max=4.09ms p(90)=1.49ms p(95)=1.76ms
http_req_connecting.....: avg=735.02µs min=0s med=571.29µs max=3.46ms p(90)=1.12ms p(95)=1.59ms
http_req_duration.....: avg=21.26s min=5.87s med=21.62s max=38.04s p(90)=31.86s p(95)=33.17s
http_req_failed.....: 100.00% ✓ 56 X 0
http_req_receiving.....: avg=2.76ms min=1.72ms med=2.61ms max=6.44ms p(90)=3.67ms p(95)=3.83ms
http_req_sending.....: avg=27.01µs min=0s med=0s max=1ms p(90)=0s p(95)=0s
http_req_tls_handshaking...: avg=0s min=0s med=0s max=0s p(90)=0s p(95)=0s
http_req_waiting.....: avg=21.26s min=5.87s med=21.61s max=38.04s p(90)=31.85s p(95)=33.17s
http_reqs.....: 56 1.119926/s
iteration_duration.....: avg=21.42s min=6.88s med=21.79s max=38.54s p(90)=31.77s p(95)=32.82s
iterations.....: 53 1.05993/s
vus.....: 5 min=5 max=70
vus_max.....: 70 min=16 max=70

running (50.0s), 00/70 VUs, 53 complete and 28 interrupted iterations
concurrency_test ✓ [=====] 20/50 VUs 10s 10.00 iters/s
load_test ✓ [=====] 05/10 VUs 20s 5.00 iters/s
stress_test ✓ [=====] 03/10 VUs 15s 5.00 iters/s
```



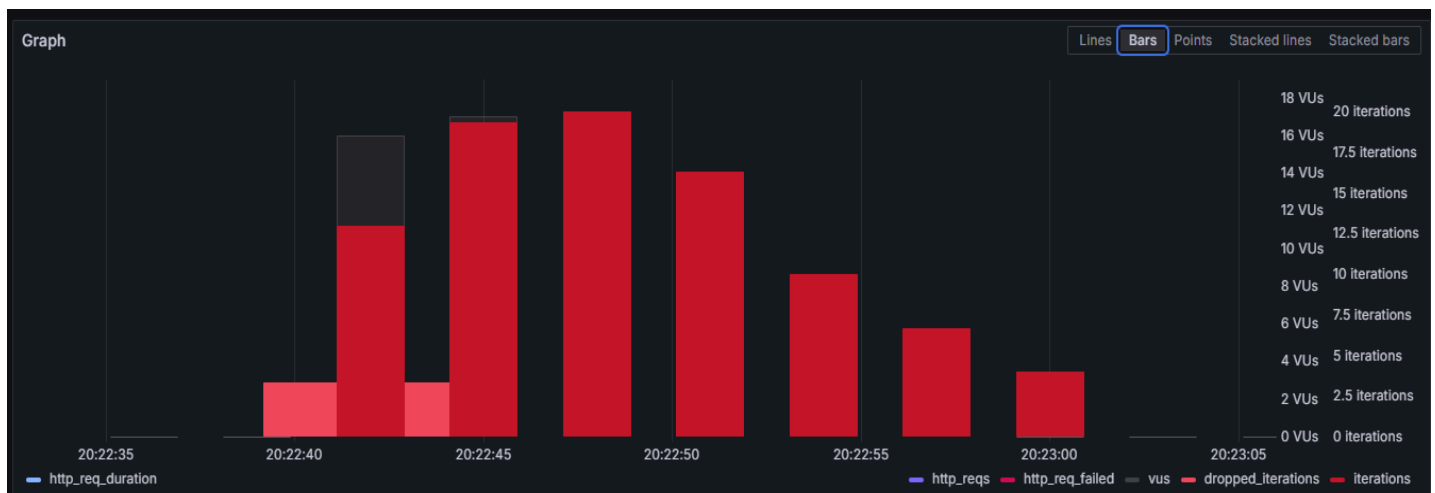
<http://127.0.0.1:8000/profile-1>

```
└ 0% - ✓ 0 / ✗ 25

load test

checks.....: 0.00%  ✓ 0      ✗ 25
data_received.....: 5.0 MB  100 kB/s
data_sent.....: 7.3 kB   146 B/s
dropped_iterations.....: 195    3.899968/s
group_duration.....: avg=21.84s min=2.49s med=24.57s max=42.94s p(90)=33.92s p(95)=34.8s
http_req_blocked.....: avg=1.16ms min=0s    med=772.7µs max=3.84ms p(90)=2.6ms p(95)=2.84ms
http_req_connecting.....: avg=1.02ms min=0s    med=560.2µs max=3.84ms p(90)=2.54ms p(95)=2.84ms
http_req_duration.....: avg=21.55s min=1.98s med=24.1s   max=42.44s p(90)=33.61s p(95)=34.73s
http_req_failed.....: 100.00% ✓ 48      ✗ 0
http_req_receiving.....: avg=9.43ms min=1.09ms med=2.61ms max=313.02ms p(90)=4.32ms p(95)=6.56ms
http_req_sending.....: avg=74.3µs min=0s    med=0s     max=998.7µs p(90)=152.91µs p(95)=535.16µs
http_req_tls_handshaking...: avg=0s    min=0s    med=0s     max=0s     p(90)=0s p(95)=0s
http_req_waiting.....: avg=21.54s min=1.96s med=24.09s max=42.44s p(90)=33.61s p(95)=34.72s
http_reqs.....: 48    0.959992/s
iteration_duration.....: avg=21.84s min=2.49s med=24.57s max=42.94s p(90)=33.92s p(95)=34.8s
iterations.....: 46    0.919992/s
vus.....: 2    min=2    max=69
vus_max.....: 70    min=16    max=70

running (50.0s), 00/70 VUs, 46 complete and 36 interrupted iterations
concurrency_test ✓ [=====] 32/50 VUs 10s 10.00 iters/s
load_test       ✓ [=====] 02/10 VUs 20s 5.00 iters/s
stress_test     ✓ [=====] 02/10 VUs 15s 5.00 iters/s
```



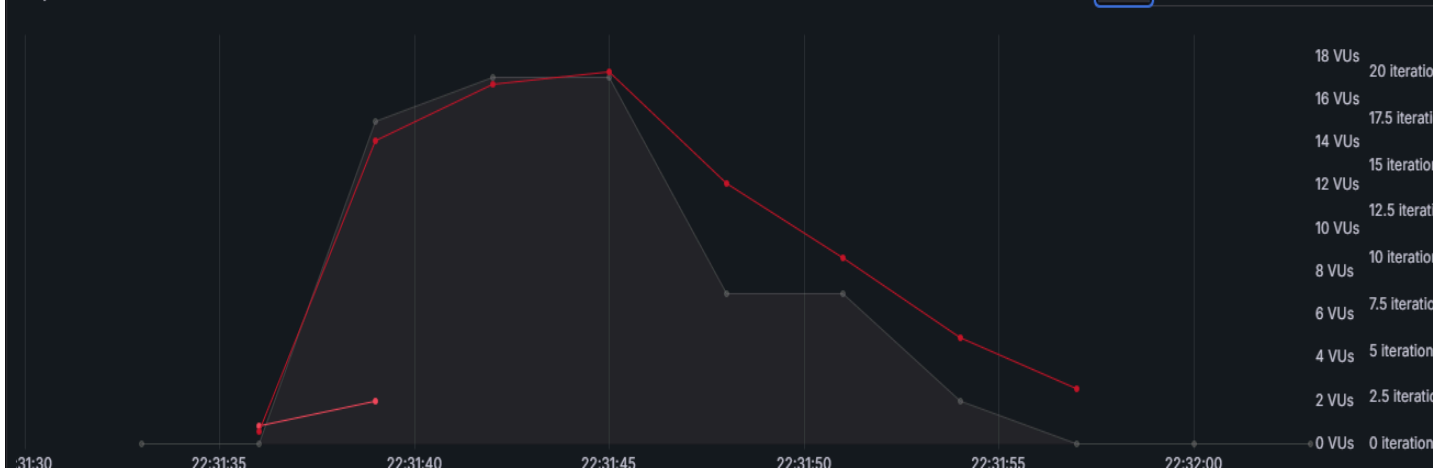
<http://127.0.0.1:8000/orders/complete-1>

```
checks.....: 100.00% ✓ 1 X 0
data_received.....: 249 kB 5.0 kB/s
data_sent.....: 52 kB 1.0 kB/s
dropped_iterations.....: 207 4.139753/s
group_duration.....: avg=38.02s min=33.06s med=37.7s max=43.64s p(90)=42.42s p(95)=43.03s
http_req_blocked.....: avg=802.4µs min=0s med=565µs max=6.49ms p(90)=1.23ms p(95)=1.64ms
http_req_connecting.....: avg=737.66µs min=0s med=554.69µs max=6.49ms p(90)=1.13ms p(95)=1.27ms
http_req_duration.....: avg=19.67s min=4.16s med=19.39s max=36.38s p(90)=31.62s p(95)=33.02s
{ expected_response:true }...: avg=19.67s min=4.16s med=19.39s max=36.38s p(90)=31.62s p(95)=33.02s
http_req_failed.....: 0.00% ✓ 0 X 57
http_req_receiving.....: avg=3.11ms min=1.24ms med=2.63ms max=12.61ms p(90)=4.58ms p(95)=5.22ms
http_req_sending.....: avg=49.19µs min=0s med=0s max=1.07ms p(90)=0s p(95)=205.65µs
http_req_tls_handshaking.....: avg=0s min=0s med=0s max=0s p(90)=0s p(95)=0s
http_req_waiting.....: avg=19.67s min=4.14s med=19.38s max=36.37s p(90)=31.62s p(95)=33.01s
http_reqs.....: 57 1.139932/s
iteration_duration.....: avg=38.02s min=33.06s med=37.7s max=43.64s p(90)=42.42s p(95)=43.03s
iterations.....: 4 0.079995/s
vus.....: 8 min=8 max=70
vus_max.....: 70 min=16 max=70
```

running (50.0s), 00/70 VUs, 4 complete and 66 interrupted iterations

```
concurrency_test ✓ [=====] 49/50 VUs 10s 10.00 iters/s
load_test ✓ [=====] 08/10 VUs 20s 5.00 iters/s
stress_test ✓ [=====] 09/10 VUs 15s 5.00 iters/s
```

Graph

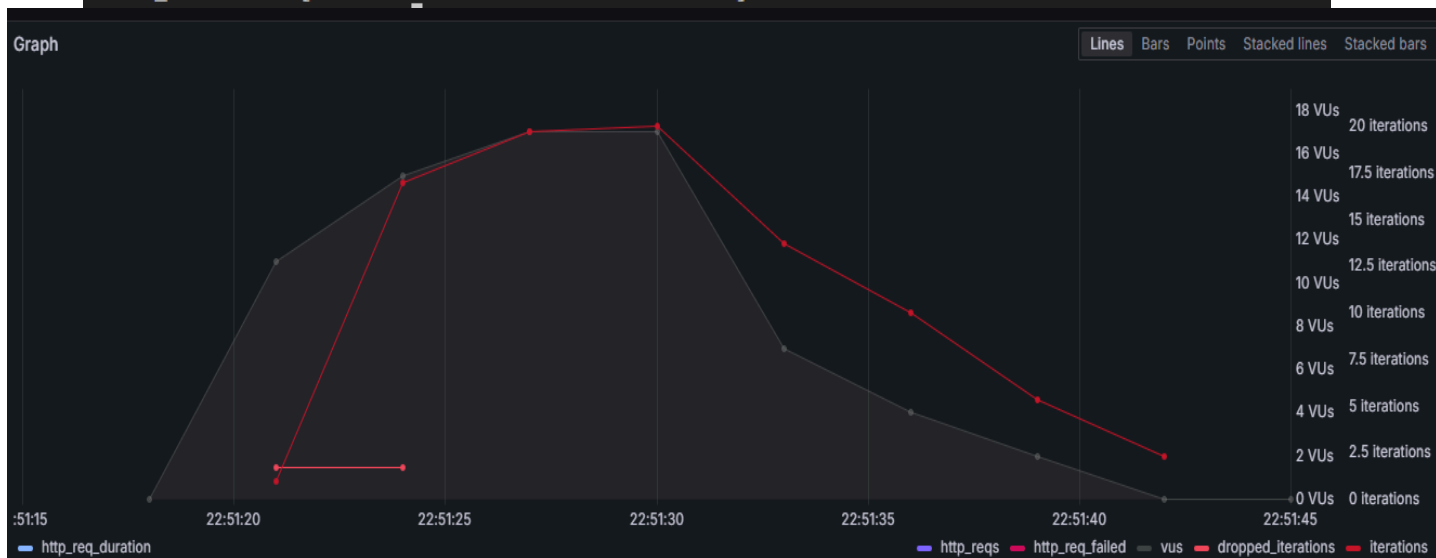


<http://127.0.0.1:8000/quotations-1>

```
l, 0% - ✓ 0 / ✗ 34

checks.....: 0.00% ✓ 0 ✗ 34
data_received.....: 5.9 MB 119 kB/s
data_sent.....: 7.5 kB 151 B/s
dropped_iterations.....: 194 3.878915/s
group_duration.....: avg=19.67s min=2.6s med=20.08s max=35.42s p(90)=30.67s p(95)=31.83s
http_req_blocked.....: avg=1.05ms min=0s med=536.2µs max=8.37ms p(90)=2.09ms p(95)=2.84ms
http_req_connecting.....: avg=728.79µs min=0s med=506.4µs max=3.6ms p(90)=1.51ms p(95)=2.53ms
http_req_duration.....: avg=19.01s min=1.58s med=19.52s max=34.42s p(90)=30.02s p(95)=31.41s
http_req_failed.....: 100.00% ✓ 57 ✗ 0
http_req_receiving.....: avg=14.11ms min=1.7ms med=2.62ms max=557.91ms p(90)=4.91ms p(95)=5.46ms
http_req_sending.....: avg=144.66µs min=0s med=0s max=1.51ms p(90)=533.91µs p(95)=976.61µs
http_req_tls_handshaking...: avg=0s min=0s med=0s max=0s p(90)=0s p(95)=0s
http_req_waiting.....: avg=19s min=1.58s med=19.52s max=33.86s p(90)=30.02s p(95)=31.41s
http_reqs.....: 57 1.139681/s
iteration_duration.....: avg=19.67s min=2.6s med=20.08s max=35.42s p(90)=30.67s p(95)=31.83s
iterations.....: 56 1.119687/s
vus.....: 5 min=5 max=68
vus_max.....: 68 min=16 max=68

running (50.0s), 00/68 VUs, 56 complete and 26 interrupted iterations
concurrency_test ✓ [=====] 19/48 VUs 10s 10.00 iters/s
load_test ✓ [=====] 05/10 VUs 20s 5.00 iters/s
stress_test ✓ [=====] 02/10 VUs 15s 5.00 iters/s
```



Test Analysis Result

Request	Expected Load	Max Response Time	Min Throughput	Max Jitter	Min Bandwidth
http://127.0.0.1:8000/products/e596eee4-e9c2-428d-aae6-ae77952d3ec7/edit-2	50	47.74s	33.06s	47.51ms	95 B/s
http://127.0.0.1:8000/products/e596eee4-e9c2-428d-aae6-ae77952d3ec7/edit-3	50	42.52s	20.08s	313.02ms	147 B/s
http://127.0.0.1:8000/orders/pending-2	70	36.38s	42.44s	2.61ms	135 B/s
http://127.0.0.1:8000/orders/pending-3	70	19.67s	30.67s	14.11ms	151 B/s
http://127.0.0.1:8000/purchases/report-2	70	42.44s	20.08s	4.91ms	95 B/s
http://127.0.0.1:8000/purchases/report-3	70	38.04s	33.92s	2.63ms	147 B/s

http://127.0.0.1:8000/du/orders-2	50	38.54s	21.84s	10.92 ms	878.6 μs
http://127.0.0.1:8000/du/orders-3	50	43.03s	25.34s	6.83ms	1.51 ms
http://127.0.0.1:8000/unit s/centimeters-2	70	36.38s	20.08s	4.58ms	95 B/s
http://127.0.0.1:8000/unit s/centimeters-3	70	42.94s	25.34s	3.67ms	151 B/s
http://127.0.0.1:8000/purc has/approved-2	50	33.01s	31.85s	1.07ms	878.6 μs
http://127.0.0.1:8000/purc has/approved-3	50	30.02s	24.57s	557.91 ms	147 B/s
http://127.0.0.1:8000/cust omers-2	50	36.37s	19.39s	3.83ms	95 B/s
http://127.0.0.1:8000/cust omers-3	50	31.62s	25.23s	5.46ms	95 B/s
http://127.0.0.1:8000/orde rs-2	70	38.04s	21.26s	6.44ms	135 B/s

http://127.0.0.1:8000/orders-3	70	42.42s	21.55s	2.76ms	151 B/s
http://127.0.0.1:8000/products-2	50	31.62s	24.09s	2.11ms	878.6 μs
http://127.0.0.1:8000/products-3	50	36.37s	19.38s	878.6μs	878.6 μs
http://127.0.0.1:8000/quotations-2	70	36.38s	20.08s	4.32ms	135 B/s
http://127.0.0.1:8000/quotations-3	70	43.03s	20.08s	5.22ms	135 B/s
http://127.0.0.1:8000/suppliers-2	70	42.52s	21.26s	3.67ms	1.51 ms
http://127.0.0.1:8000/suppliers-3	50	38.54s	19.67s	6.44ms	95 B/s
http://127.0.0.1:8000/categories-2	70	43.03s	19.67s	12.65ms	151 B/s
http://127.0.0.1:8000/categories-3	50	42.42s	33.61s	20.13ms	95 B/s

http://127.0.0.1:8000/profile-2	70	47.73s	24.57s	3.36ms	151 B/s
http://127.0.0.1:8000/profile-3	50	41.36s	19.67s	7.85ms	147 B/s
http://127.0.0.1:8000/orders/complete-2	50	42.44s	38.02s	12.61 ms	878.6 μs
http://127.0.0.1:8000/orders/complete-3	70	43.64s	37.7s	12.61 ms	1.07 ms