

## Relatório Técnico – Testes de Performance da API de Checkout

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### **Resumo Executivo:**

#### **Endpoint /health (Smoke Test):**

- Sucesso total: 100% requests OK
- Latência média: 193,62 µs
- p95: 580,7 µs
- Conclusão: API operacional, pronta para testes pesados

#### **Endpoint /checkout/simple (Load Test):**

- Usuários simultâneos: até 20 (ramp-up planejado para 50)
- Latência média: 207,46 ms
- p95: 298,16 ms
- SLA de p95 < 500ms atendido
- Erros HTTP: 0%
- Conclusão: Capacidade estimada de suportar pico de 50 usuários sem degradação significativa

#### **Endpoint /checkout/crypto (Stress Test):**

- Usuários simultâneos: até 50
- Latência média: 996,95 ms
- p95: 2,11 s
- Máx: 3,72 s
- Erros HTTP: 0%
- Conclusão: Início de degradação de desempenho a partir de ~50 usuários

- Ponto de ruptura estimado: 50-100 usuários, latências crescem rapidamente

## Análise de Estresse:

- Endpoint `/checkout/crypto` mostra aumento exponencial de latência com mais VUs
- Throughput manteve-se estável, mas latência alta indica sobrecarga

## Evidências:

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

scenarios: (100.00%) 1 scenario, 1 max VUs, 1m0s max duration (incl. graceful stop):
* default: 1 looping VUs for 30s (gracefulStop: 30s)

TOTAL RESULTS

checks_total.....: 144225 4806.981407/s
checks_succeeded...: 100.00% 144225 out of 144225
checks_failed.....: 0.00% 0 out of 144225

✓ status 200

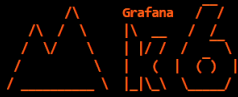
HTTP
http_req_duration.....: avg=193.62µs min=0s med=0s max=25.56ms p(90)=551.4µs p(95)=580.7µs
{ expected_response:true }...: avg=193.62µs min=0s med=0s max=25.56ms p(90)=551.4µs p(95)=580.7µs
http_req_failed.....: 0.00% 0 out of 144225
http_reqs.....: 144225 4806.981407/s

EXECUTION
iteration_duration.....: avg=206.62µs min=0s med=0s max=25.56ms p(90)=553.69µs p(95)=586.4µs
iterations.....: 144225 4806.981407/s
vus.....: 1 min=1 max=1
vus_max.....: 1 min=1 max=1

NETWORK
data_received.....: 42 MB 1.4 MB/s
data_sent.....: 11 MB 363 kB/s

running (0m30.0s), 0/1 VUs, 144225 complete and 0 interrupted iterations
default ✓ [=====] 1 VUs 30s
PS C:\Users\Amanda Bicalho\Desktop\Desempenho\teste-de-desempenho\atividade>
```

```
PS C:\Users\Amanda Bicalho\Desktop\Desempenho\teste-de-desempenho\atividade> k6 run load.js
```



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

```
scenarios: (100.00%) 1 scenario, 20 max VUs, 1m0s max duration (incl. graceful stop):
  * default: 20 looping VUs for 30s (gracefulStop: 30s)
```

#### TOTAL RESULTS

```
checks_total.....: 505      16.138458/s
checks_succeeded....: 0.00%    0 out of 505
checks_failed.....: 100.00%  505 out of 505
```

```
X status 200
  | 0% - ✓ 0 / X 505
```

#### HTTP

```
http_req_duration.....: avg=207.46ms min=100.71ms med=205.14ms max=315.25ms p(90)=284.52ms
p(95)=298.16ms
  { expected_response:true }...: avg=207.46ms min=100.71ms med=205.14ms max=315.25ms p(90)=284.52ms
p(95)=298.16ms
http_req_failed.....: 0.00%    0 out of 505
http_reqs.....: 505      16.138458/s
```

#### EXECUTION

```
iteration_duration.....: avg=1.2s      min=1.1s      med=1.2s      max=1.31s      p(90)=1.28s
p(95)=1.29s
iterations.....: 505      16.138458/s
vus.....: 4      min=4      max=20
vus_max.....: 20      min=20      max=20
```

```
http_req_failed.....: 0.00%    0 out of 505
http_reqs.....: 505      16.138458/s
```

#### EXECUTION

```
iteration_duration.....: avg=1.2s      min=1.1s      med=1.2s      max=1.31s      p(90)=1.28s
p(95)=1.29s
iterations.....: 505      16.138458/s
vus.....: 4      min=4      max=20
vus_max.....: 20      min=20      max=20
```

#### NETWORK

```
data_received.....: 149 kB  4.8 kB/s
data_sent.....: 53 kB  1.7 kB/s
```

```
running (0m31.3s), 00/20 VUs, 505 complete and 0 interrupted iterations
default ✓ [=====] 20 VUs 30s
```

```
PS C:\Users\Amanda Bicalho\Desktop\Desempenho\teste-de-desempenho\atividade> █
```

```
scenarios: (100.00%) 1 scenario, 50 max VUs, 1m10s max duration (incl. graceful stop):
```

## TOTAL RESULTS

```
http_req_duration.....: avg=996.95ms min=48.84ms med=949.47ms max=3.72s p(90)=2.03s p(95)=2.03s
```

```
http_req_failed.....: 0.00% 0 out of 474
http reqs.....: 474 11.705946/s
```

```
iteration_duration.....: avg=2s      min=1.05s  med=1.95s  max=4.73s  p(90)=3.03s  p(95)=3.5s
```

```

iterations.....: 474    11.705946/s
vus.....: 4    min=1    max=50
vus max.....: 50    min=50    max=50

```

```
http_req_failed.....: 0.00% 0 out of 474
http_reqs.....: 474 11.705946/s
```

```
iteration_duration.....: avg=2s      min=1.05s  med=1.95s  max=4.73s p(90)=3.03s p(95)=3
```

```

iterations.....: 474    11.705946/s
vus.....: 4    min=1    max=50
vus_max.....: 50    min=50    max=50

```

```
data_received.....: 149 kB 3.7 kB/s
data_sent.....: 50 kB 1.2 kB/s
```

```

Running (min:55s, 00/50 VUs, 4/4 complete and 0 interrupted feeds)
default ✓ [=====] 00/50 VUs 40s

```

```
PS C:\Users\Amanda Bicalho\Desktop\Desempenho\teste-de-desempenho\atividade>
```