







# **Outline**

- Soal
- Hasil
- Report
- Kesimpulan

## 1. Soal





## Task 5

```
- API Create
```

```
Base url: https://regres.in
Path url: /api/users
Method: POST
Header: application/json
Request body:
{
    "name": "morpheus",
    "job": "leader"
}
```

#### - API Update

```
Base url: https://regres.in
Path url: /api/users/2
Method: PUT
Header: application/json
Request body:
{
    "name": "morpheus",
    "job": "zion resident"
}
```

### Task yang akan dikerjakan:

- Buat scenario test untuk integration test dari 2 API tersebut dan implementasikan ke dalam k6 serta tambahkan assertion dari tiap test yang dilakukan dalam 1 file test
- Buat scenario test untuk menguji performance dari 2
   API tersebut dengan total 1000 virtual user, 3500
   iterasi dan batas maksimum toleransi response APInya
   2 second serta tambahkan assertion dari tiap test
   yang dilakukan dalam 1 file test
- Generate report dalam bentuk HTML dari soal no. 2 untuk mendapatkan visualisasi dari performance test yang dilakukan





# 2. Hasil

Berikut ini adalah hasil visualisasi k6 integration test dari 2 API, dengan

- Virtual User = 1.000
- > Iterasi = 3.500
- > Toleransi Maks = 2 second

### **Link Drive:**

https://drive.google.com/drive/folders/1Ds5498pjeLRf54aHl4h08GllYiaGXwmT?usp=sharing





kó

### K6 Load Test: 2023-12-04 13:57

Total Requests 2000

Failed Requests

Breached Thresholds

Failed Checks

C	Request Metric	s
---	----------------	---

Other Stats

**₹** Checks & Groups

	Count	Rate	Average	Maximum	Median	Minimum	90th Percentile	95th Percentile
http_req_duration	-	-	619.58	6346.20	473.02	410.54	777.02	1759.95
http_req_waiting	-	-	611.73	6345.39	472.37	408.72	765.57	1759.01
http_req_connecting	-	-	170.41	1241.81	128.27	-	374.31	377.30
http_req_tls_handshaking	-	-	3243.13	9185.58	100.19	-	8427.96	8713.85
http_req_sending	-	-	0.14	1.51	-	-	0.52	0.53
http_req_receiving	-	-	7.71	3397.91	0.08	-	1.11	2.36
http_req_blocked	-	-	3413.84	9561.89	246.37	-	8789.74	9077.25
iteration_duration	-	-	9073.27	11503.73	10225.98	3250.43	10991.42	11243.24

#### **Custom Metrics**

	Count	Rate	Average	Maximum	Median	Minimum	90th Percentile	95th Percentile
dropped_iterations	3499000.00	302485.39	-	-	-	-	-	-

Note. All times are in milli-seconds

K6 Reporter v2.3.0 - Ben Coleman 2021, [GitHub]





kó

K6 Load Test: 2023-12-04 13:57

Total Requests 2000

Failed Requests

Breached Thresholds

Failed Checks

① Request Metrics

Other Stats

**≅ Checks & Groups** 

Checks

Passed 1000 Failed 0

Requests

Total 2000 Rate 172.90/s Iterations

Total 1000 Rate 86.45/s

**Data Received** 

Total 4.09 MB Rate 0.35 mB/s **Virtual Users** 

Min 217 Max 1000

Data Sent

Total 0.74 MB Rate 0.06 mB/s

K6 Reporter v2.3.0 - Ben Coleman 2021, [GitHub]







K6 Load Test: 2023-12-04 13:57

Total Requests







**()** Request Metrics

Other Stats

**Æ Checks & Groups** 

#### Other Checks

Check Name	Passes	Failures
respons code was 200	1000	0

K6 Reporter v2.3.0 - Ben Coleman 2021, [GitHub]





# 3. Report

Waktu yang diperlukan untuk menyelesaikan perintah create dan update pada API dengan 1.000 virtual user adalah 11,6 seconds. Dengan tingkat keberhasilan 100% dan total request sebanyak 2.000.





```
m □ m œ –
File Edit Selection View Go Run ···
                                                                              P TASK 5
                                                                                                                                 powershell + ~ III 前 ··· ~ X
     execution: local
        script: task 5.js
        output: -
     scenarios: (100.00%) 1 scenario, 1000 max VUs, 32s max duration (incl. graceful stop):
             * contacts: 3500 iterations for each of 1000 VUs (maxDuration: 2s, gracefulStop: 30s)
    INFO[0012] [k6-reporter v2.3.0] Generating HTML summary report source=console
        √ respons code was 200
        checks...... 100.00% √ 1000
        data received...... 4.1 MB 354 kB/s
        data sent...... 742 kB 64 kB/s
        dropped iterations...... 3499000 302485.393409/s
        http req blocked..... avg=3.41s min=0s
                                                          med=246.37ms max=9.56s p(90)=8.78s p(95)=9.07s
        http req connecting.....: avg=170.4ms min=0s
                                                          med=128.27ms max=1.24s p(90)=374.31ms p(95)=377.3ms
        http req duration.....: avg=619.57ms min=410.54ms med=473.02ms max=6.34s p(90)=777.01ms p(95)=1.75s
         { expected response:true }...: avg=619.57ms min=410.54ms med=473.02ms max=6.34s p(90)=777.01ms p(95)=1.75s
        http reg failed..... 0.00% √ 0
                                                        X 2000
        http reg receiving..... avg=7.71ms min=0s
                                                          med=81.75µs max=3.39s p(90)=1.1ms p(95)=2.36ms
        http reg sending..... avg=136.56us min=0s
                                                                     max=1.5ms p(90)=518.4us p(95)=532.11us
        http_req_tls_handshaking.....: avg=3.245 min=0s
                                                          med=100.18ms max=9.18s p(90)=8.42s p(95)=8.71s
        http req waiting.....: avg=611.73ms min=408.71ms med=472.36ms max=6.34s p(90)=765.57ms p(95)=1.75s
        http reas...... 2000 172,898196/s
        iteration duration.....: avg=9.075 min=3.25s
                                                         med=10.22s max=11.5s p(90)=10.99s p(95)=11.24s
        min=217
                                                        max=1000
    running (11.6s), 0000/1000 VUs, 1000 complete and 0 interrupted iterations
    contacts / [-----] 1000 VUs 2s 0001000/3500000 iters, 3500 per VU
⊗0∆0 ₩0
                                                                                                               Ln 9, Col 36 Spaces: 2 UTF-8 CRLF {} JavaScript Prettier+ Q
```





# 4. Kesimpulan

Tingkat keberhasilan pada load testing dengan k6 pada 2 API perintah POST & PUT yang berjalan dengan 1.000 virtual user, 3.500 iterasi, dan 2 seconds waktu toleransi maks adalah 100% berhasil dengan waktu running 11,6 seconds.

Pada user windows disarankan melakukan konfigurasi pada DNS server address atau konfigurasi native sandbox pada java. Hal ini diperlukan agar saat run load testing menggunakan k6 tidak muncul error "Existing connection was forcibly closed by the remote host", atau jenis error yang lain.

