

## Laporan Hasil Benchmark Load Balancer

### 1. Apache

- Algoritma: Round Robin (byrequest)
- Report hasil testing apache benchmark

```
root@GatkaRadio:~# ab -n 1000 -c 100 http://192.237.2.5/  
This is ApacheBench, Version 2.3 <$Revision: 1706008 $>  
Copyright 1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.net/  
Licensed to The Apache Software Foundation, http://www.apache.org/
```

```
Benchmarking 192.237.2.5 (be patient)
```

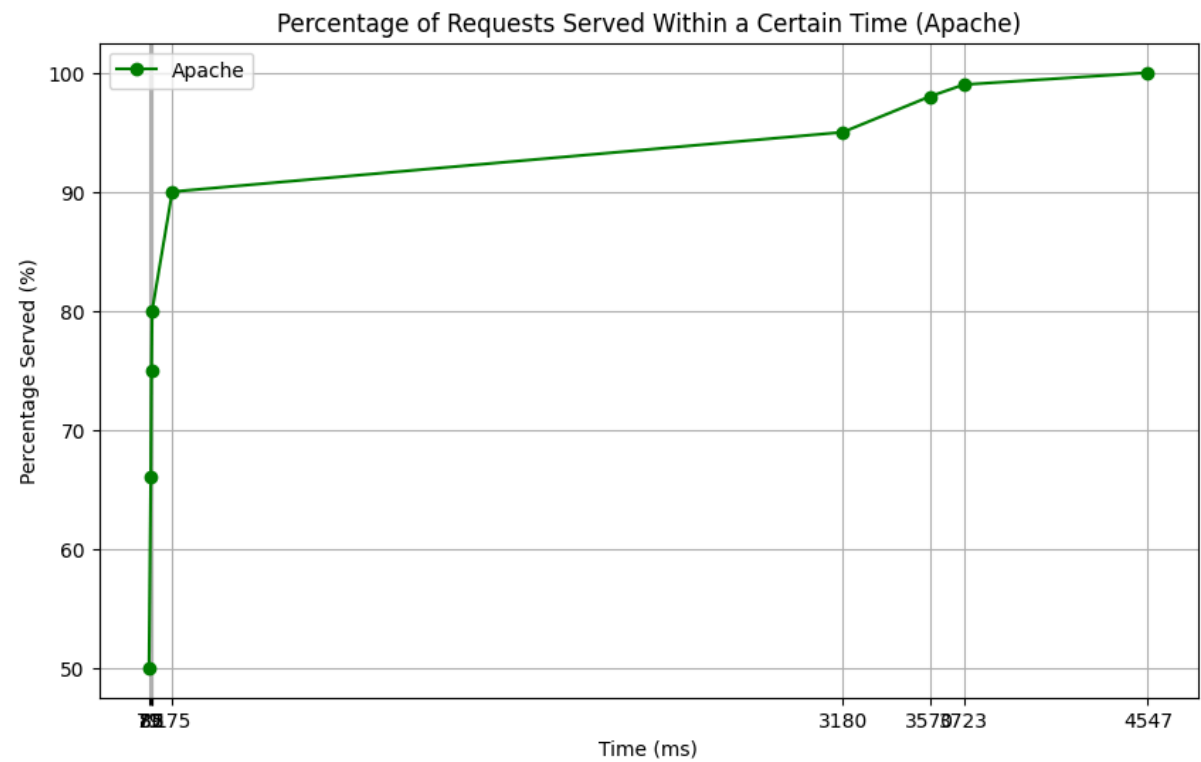
```
Completed 100 requests  
Completed 200 requests  
Completed 300 requests  
Completed 400 requests  
Completed 500 requests  
Completed 600 requests  
Completed 700 requests  
Completed 800 requests  
Completed 900 requests  
Completed 1000 requests  
Finished 1000 requests
```

```
Server Software:      Apache/2.4.18  
Server Hostname:      192.237.2.5  
Server Port:          80  
  
Document Path:        /  
Document Length:      173 bytes  
  
Concurrency Level:    100  
Time taken for tests:  4.720 seconds  
Complete requests:    1000  
Failed requests:      0  
Total transferred:    364000 bytes  
HTML transferred:     173000 bytes  
Requests per second:  211.85 [#/sec] (mean)  
Time per request:     472.023 [ms] (mean)  
Time per request:     4.720 [ms] (mean, across all concurrent requests)  
Transfer rate:        75.31 [Kbytes/sec] received
```

```
Connection Times (ms)
      min  mean[+/-sd] median   max
Connect:    0      1   3.0      0    15
Processing: 23    301 819.8     70  4547
Waiting:    22    300 819.9     70  4547
Total:      24    302 820.8     71  4547

Percentage of the requests served within a certain time (ms)
 50%    71
 66%    79
 75%    82
 80%    85
 90%   175
 95%  3180
 98%  3570
 99%  3723
100%  4547 (longest request)
root@GatkaRadio:~#
```

- Grafik request per second



## 2. Nginx

- Algoritma: Round Robin
- Report hasil testing apache benchmark

```
root@GatkaRadio:~# ab -n 1000 -c 100 http://192.237.2.5/  
This is ApacheBench, Version 2.3 <$Revision: 1706008 $>  
Copyright 1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.net/  
Licensed to The Apache Software Foundation, http://www.apache.org/
```

```
Benchmarking 192.237.2.5 (be patient)  
Completed 100 requests  
Completed 200 requests  
Completed 300 requests  
Completed 400 requests  
Completed 500 requests  
Completed 600 requests  
Completed 700 requests  
Completed 800 requests  
Completed 900 requests  
Completed 1000 requests  
Finished 1000 requests
```

```
Server Software:      nginx/1.10.3  
Server Hostname:      192.237.2.5  
Server Port:          80  
  
Document Path:        /  
Document Length:      173 bytes  
  
Concurrency Level:    100  
Time taken for tests:  1.938 seconds  
Complete requests:    1000  
Failed requests:      0  
Total transferred:    319000 bytes  
HTML transferred:     173000 bytes  
Requests per second:  515.99 [#/sec] (mean)  
Time per request:     193.801 [ms] (mean)  
Time per request:     1.938 [ms] (mean, across all concurrent requests)  
Transfer rate:        160.74 [Kbytes/sec] received
```

## Connection Times (ms)

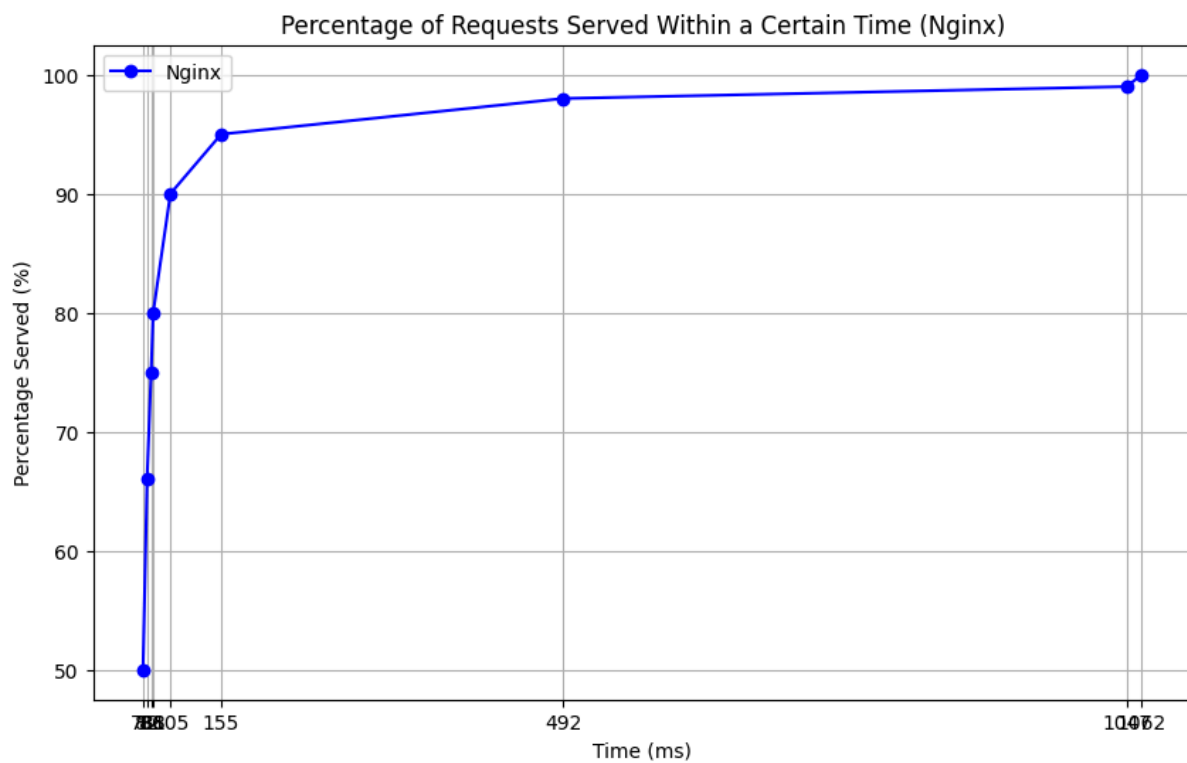
	min	mean[+/-sd]	median	max
Connect:	0	17 6.9	17	41
Processing:	35	82 118.7	60	1042
Waiting:	35	82 118.7	60	1042
Total:	54	99 118.7	78	1062

## Percentage of the requests served within a certain time (ms)

50%	78
66%	82
75%	86
80%	88
90%	105
95%	155
98%	492
99%	1047
100%	1062 (longest request)

root@GatkaRadio:~#

- Grafik request per second



### **3. Hasil Analisis**

Berdasarkan analisis RPS (Requests per Second) dari hasil pengujian yang telah dilakukan:

- Server Nginx memiliki RPS yang lebih tinggi dibandingkan dengan server Apache.
- RPS server Nginx sekitar 515.99, sedangkan RPS server Apache sekitar 211.85.
- Semakin tinggi nilai RPS, semakin baik kinerja server dalam menangani sejumlah request dalam satu detik.

Dari hasil ini, dapat disimpulkan bahwa dalam kondisi pengujian ini, server Nginx menunjukkan kinerja yang lebih baik dalam menangani beban kerja dibandingkan dengan server Apache.