

**PEMROGRAMAN JARINGAN**  
**TUGAS 9 : PERFORMANCE TEST**



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## TUGAS 9

1. Pull update terakhir
2. Jalankan kedua model tersebut
  - a. Server\_async\_http.py di port 45000
  - b. Server\_thread\_http.py di port 46000
3. Ujicobalah dengan apache benchmark untuk 1000 request dan konkurensi yang bervariasi
4. Buatlah tabel untuk melaporkan hasilnya

**Jawaban:**

## 1. Server\_async\_http.py Port 45000

Jumlah Request : 1000


Konkurensi Level : 1, 5, 10, 15, 50, 100

No test	Concurrency Level	Time taken for test (second)	Complete request	Failed request	Total transferred (bytes)	Request per second [#/sec]	Time per request [ms]	Transfer rate [Kbytes/sec]
1	1	2.216	1000	0	122000	451.32	2.216	53.77
2	5	2.482	1000	0	122000	402.95	2.482	48.01
3	10	2.646	1000	0	122000	377.99	2.646	45.03
4	15	1.904	1000	0	122000	525.09	1.904	62.56
5	50	14.307	1000	0	122000	69.89	14.307	8.33
6	100	55.941	1000	0	122000	17.88	55.941	2.13

Screenshot:

## Konkurensi Level 1

```

ses   Terminal sen 22: celiachintara@celiachin
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Server Software:      myserver/1.0
Server Hostname:      127.0.0.1
Server Port:          45000

Document Path:        /
Document Length:      4 bytes

Concurrency Level:    1
Time taken for tests:  2.216 seconds
Complete requests:    1000
Failed requests:      0
Non-xx responses:     1000
Total transferred:    122000 bytes
HTML transferred:     4000 bytes
Requests per second:  451.32 [#/sec] (mean)
Time per request:     2.216 [ms] (mean)
Time per request:     2.216 [ms] (mean, across all concurrent requests)
Transfer rate:        53.77 [Kbytes/sec] received

Connection Times (ms)
      min      mean[+/-sd]    median    max
Connect:    0      0  0.0      0      0
Processing: 0      2  1.3      2      9
Waiting:    0      2  1.3      2      9
Total:      0      2  1.3      2      9

Percentage of the requests served within a certain time (ms)
 50%    2
 66%    2
 75%    3
 80%    3
 90%    4
 95%    5
 98%    6
 99%    7
100%    9 (longest request)

```

## Konkurensi Level 5

```
cellachintara@cellachintara
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Server Software:      myserver/1.0
Server Hostname:      127.0.0.1
Server Port:          45000

Document Path:        /
Document Length:      4 bytes

Concurrency Level:    5
Time taken for tests:  2.482 seconds
Complete requests:    1000
Failed requests:      0
Non-2xx responses:    1000
Total transferred:    122000 bytes
HTML transferred:     4000 bytes
Requests per second:  402.95 [#/sec] (mean)
Time per request:     12.409 [ms] (mean)
Time per request:     2.482 [ms] (mean, across all concurrent requests)
Transfer rate:        48.01 [Kbytes/sec] received

Connection Times (ms)
  min  mean[+/-sd] median  max
Connect:    0    0  0.3    0    4
Processing:  1   12  2.6   12   22
Waiting:    0   12  2.6   12   22
Total:      4   12  2.5   12   22

Percentage of the requests served within a certain time (ms)
 50%    12
 66%    13
 75%    14
 80%    14
 90%    15
 95%    16
 98%    18
 99%    19
100%    22 (longest request)
```

## Konkurensi Level 10

```
cellachintara@cellachintara
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Server Software:      myserver/1.0
Server Hostname:      127.0.0.1
Server Port:          45000

Document Path:        /
Document Length:      4 bytes

Concurrency Level:    10
Time taken for tests:  2.646 seconds
Complete requests:    1000
Failed requests:      0
Non-2xx responses:    1000
Total transferred:    122000 bytes
HTML transferred:     4000 bytes
Requests per second:  377.99 [#/sec] (mean)
Time per request:     26.456 [ms] (mean)
Time per request:     2.646 [ms] (mean, across all concurrent requests)
Transfer rate:        45.03 [Kbytes/sec] received

Connection Times (ms)
  min  mean[+/-sd] median  max
Connect:    0    6  78.3    0  1030
Processing:  1   19  14.9   18   426
Waiting:    0   19  14.9   18   425
Total:      4   25  87.2   18  1432

Percentage of the requests served within a certain time (ms)
 50%    18
 66%    20
 75%    21
 80%    21
 90%    23
 95%    25
 98%    30
 99%    32
100%   1432 (longest request)
```

## Konkurensi Level 15

ca3f2ach4ntaa9ca3f2ach4ntaa 3f4ntaa3Bov. C

## Konkurensi Level 50

2000-2002 (ongoing request)

## Konkurensi Level 100

```

cellachintara@cellachintara
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Server Software:      myserver/1.0
Server Hostname:      127.0.0.1
Server Port:          45000

Document Path:        /
Document Length:      4 bytes

Concurrency Level:    100
Time taken for tests:  55.941 seconds
Complete requests:    1000
Failed requests:      0
Non-2xx responses:    1000
Total transferred:    122000 bytes
HTML transferred:     4000 bytes
Requests per second:  17.88 [#/sec] (mean)
Time per request:     5594.054 [ms] (mean)
Time per request:     55.941 [ms] (mean, across all concurrent requests)
Transfer rate:        2.13 [Kbytes/sec] received

Connection Times (ms)
      min      mean[+/-sd] median    max
Connect:    0   106 311.0      0   1039
Processing:  3   748 4847.4     19  54908
Waiting:    3   748 4847.4     19  54908
Total:       3   854 4993.2     19  55933

Percentage of the requests served within a certain time (ms)
 50%    19
 66%    21
 75%    23
 80%    25
 90%   1028
 95%   2767
 98%   7886
 99%  27773
100%  55933 (longest request)

```

## 2. Server\_thread\_http.py Port 46000

Jumlah Request : 1000

Konkurensi Level : 1, 5, 10, 15, 50, 100

No test	Concurrency Level	Time taken for test (second)	Complete request	Failed request	Total transferred (bytes)	Request per second [#/sec]	Time per request [ms]	Transfer rate [Kbytes/sec]
1	1	2.278	1000	0	122000	439.02	2.278	52.31
2	5	3.476	1000	0	122000	287.71	3.476	34.28
3	10	3.486	1000	0	122000	286.88	3.486	34.18
4	15	3.865	1000	0	122000	258.76	3.865	30.83
5	50	7.806	1000	0	122000	128.11	7.806	15.26
6	100	4.372	1000	0	122000	228.74	4.372	27.25

### Konkurensi Level 1

```

cellachintara@cellachintara
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Server Software:      ngyserver/1.0
Server Hostname:     127.0.0.1
Server Port:         46000

Document Path:       /
Document Length:     4 bytes

Concurrency Level:    1
Time taken for tests: 2.278 seconds
Complete requests:    1000
Failed requests:      0
Non-2xx responses:    1000
Total transferred:    122000 bytes
HTML transferred:     4000 bytes
Requests per second:  439.02 [#/sec] (mean)
Time per request:     2.278 [ms] (mean)
Time per request:     2.278 [ms] (mean, across all concurrent requests)
Transfer rate:        52.31 [Kbytes/sec] received

Connection Times (ms)
      min   mean[+/-sd] median   max
Connect:    0      0  0.1      0      2
Processing:  1      2  1.6      2     25
Waiting:    1      2  1.6      2     24
Total:      1      2  1.6      2     25

Percentage of the requests served within a certain time (ms)
 50%      2
 66%      2
 75%      2
 80%      3
 90%      4
 95%      5
 98%      7
 99%      8
100%     25 (longest request)

```

## Konkurensi Level 5

```

cellachintara@cellachintara
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Server Software:      ngyserver/1.0
Server Hostname:     127.0.0.1
Server Port:         46000

Document Path:       /
Document Length:     4 bytes

Concurrency Level:    5
Time taken for tests: 3.476 seconds
Complete requests:    1000
Failed requests:      0
Non-2xx responses:    1000
Total transferred:    122000 bytes
HTML transferred:     4000 bytes
Requests per second:  287.71 [#/sec] (mean)
Time per request:     17.378 [ms] (mean)
Time per request:     3.476 [ms] (mean, across all concurrent requests)
Transfer rate:        34.28 [Kbytes/sec] received

Connection Times (ms)
      min   mean[+/-sd] median   max
Connect:    0      5  72.1      0    1024
Processing:  2     11  26.7     10     847
Waiting:    0     11  26.7     10     847
Total:      3     16  87.4     10    1871

Percentage of the requests served within a certain time (ms)
 50%     10
 66%     11
 75%     12
 80%     12
 90%     14
 95%     15
 98%     18
 99%     27
100%    1871 (longest request)

```

## Konkurensi Level 10

```

cellachintara@cellachintara:~$ curl -x 127.0.0.1 -k https://127.0.0.1:4000/
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100  4000    100  4000    0     0    4000      0 --:--:-- --:--:-- --:--:--

```

```

File Edit View Search Terminal Help

Server Software:      nysrver/1.0
Server Hostname:      127.0.0.1
Server Port:          40000

Document Path:        /
Document Length:      4 bytes

Concurrency Level:    10
Time taken for tests:  3.486 seconds
Complete requests:    1000
Failed requests:      0
Non-2xx responses:    1000
Total transferred:    122000 bytes
HTML transferred:     4000 bytes
Requests per second:  286.88 [#/sec] (mean)
Time per request:     34.858 [ms] (mean)
Time per request:     3.486 [ms] (mean, across all concurrent requests)
Transfer rate:        34.18 [Kbytes/sec] received

Connection Times (ms)
  min   mean[+/-sd] median   max
Connect:  0    17 204.9     0    3048
Processing: 2    11  22.4     9     438
Waiting:  0    11  22.3     9     437
Total:     2    28 220.5     9    3456

Percentage of the requests served within a certain time (ms)
 50%    9
 66%   10
 75%   11
 80%   12
 90%   14
 95%   19
 98%   26
 99%  103
100% 3456 (longest request)

```

## Konkurensi Level 15

```

cellachintara@cellachintara:~$ curl -x 127.0.0.1 -k https://127.0.0.1:4000/
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100  4000    100  4000    0     0    4000      0 --:--:-- --:--:-- --:--:--

```

```

File Edit View Search Terminal Help

Server Software:      nysrver/1.0
Server Hostname:      127.0.0.1
Server Port:          40000

Document Path:        /
Document Length:      4 bytes

Concurrency Level:    15
Time taken for tests:  3.865 seconds
Complete requests:    1000
Failed requests:      0
Non-2xx responses:    1000
Total transferred:    122000 bytes
HTML transferred:     4000 bytes
Requests per second:  258.76 [#/sec] (mean)
Time per request:     57.968 [ms] (mean)
Time per request:     3.865 [ms] (mean, across all concurrent requests)
Transfer rate:        30.83 [Kbytes/sec] received

Connection Times (ms)
  min   mean[+/-sd] median   max
Connect:  0    12 191.2     0    3027
Processing: 2    12  31.7    10     834
Waiting:  2    12  31.7    10     834
Total:     2    24 217.6    10    3861

Percentage of the requests served within a certain time (ms)
 50%   10
 66%   11
 75%   12
 80%   12
 90%   13
 95%   14
 98%   18
 99%   23
100% 3861 (longest request)

```

## Konkurensi Level 50

```
File Edit View Search Terminal Help
Server Software:      myserver/1.0
Server Hostname:      127.0.0.1
Server Port:          46000

Document Path:        /
Document Length:       4 bytes

Concurrency Level:     50
Time taken for tests:   7.806 seconds
Complete requests:     1000
Failed requests:        0
Non-2xx responses:     1000
Total transferred:     122000 bytes
HTML transferred:      4000 bytes
Requests per second:    128.11 [#/sec] (mean)
Time per request:       390.301 [ms] (mean)
Time per request:       7.806 [ms] (mean, across all concurrent requests)
Transfer rate:          15.26 [Kbytes/sec] received

Connection Times (ms)
      min  mean[+/-sd] median   max
Connect:    0   11 106.6     0   1030
Processing:  2   31 336.4     9   6753
Waiting:    0   31 336.4     9   6753
Total:       2   42 410.0     9   7776

Percentage of the requests served within a certain time (ms)
 50%    9
 66%   10
 75%   11
 80%   11
 90%   13
 95%   15
 98%   24
 99%  1022
100%  7776 (longest request)
```

### Konkurensi Level 100

```
File Edit View Search Terminal Help
Server Software:      myserver/1.0
Server Hostname:      127.0.0.1
Server Port:          46000

Document Path:        /
Document Length:       4 bytes

Concurrency Level:     100
Time taken for tests:   4.372 seconds
Complete requests:     1000
Failed requests:        0
Non-2xx responses:     1000
Total transferred:     122000 bytes
HTML transferred:      4000 bytes
Requests per second:    228.74 [#/sec] (mean)
Time per request:       437.174 [ms] (mean)
Time per request:       4.372 [ms] (mean, across all concurrent requests)
Transfer rate:          27.25 [Kbytes/sec] received

Connection Times (ms)
      min  mean[+/-sd] median   max
Connect:    0   11 107.0     0   1031
Processing:  2   16 117.4    10   3297
Waiting:    2   16 117.4    10   3297
Total:       2   28 191.3    10   4328

Percentage of the requests served within a certain time (ms)
 50%   10
 66%   12
 75%   12
 80%   13
 90%   15
 95%   17
 98%   36
 99%  1030
100%  4328 (longest request)
```

### 3. Kesimpulan

Dari hasil performance test pada server async dan server thread, dapat dilihat dari hasil yang tertera di kedua table diatas bahwa server async memiliki performa yang lebih baik dari pada server thread sehingga server async dapat bekerja lebih cepat dibandingkan server thread.



