

## Performance Test – Tugas 9

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### Pemrograman Jaringan C

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#### A. Parameter test

Jumlah request : 1000

Concurrency: 1,10,25,50,75,100

#### B. Hasil Performance Test

##### 1. Server Async ('127.0.0.1:45000')

No Test	Concurrency level	Time taken for test (s)	Complete request	Failed request	Total transferred (bytes)	Request per second (#/sec)	Time per request (ms)	Transfer rate (Kbytes/sec)
1	1	0.044	1000	0	122000	2729.56	0.366	325.2
2	10	0.333	1000	0	122000	3002.3	0.333	357.7
3	25	0.332	1000	0	122000	3015.25	0.332	359.24
4	50	0.331	1000	0	122000	3019.13	0.331	359.7
5	75	0.337	1000	0	122000	2969.5	0.337	353.79
6	100	0.335	1000	0	122000	2983.24	0.335	355.43

##### 2. Server Thread ('127.0.0.1:46000')

No Test	Concurrency level	Time taken for test (s)	Complete request	Failed request	Total transferred (bytes)	Request per second (#/sec)	Time per request (ms)	Transfer rate (Kbytes/sec)
1	1	0.624	1000	0	122000	1603.09	0.624	190.99
2	10	0.605	1000	0	122000	1652.19	0.605	196.84
3	25	0.599	1000	0	122000	1668.92	0.599	198.84
4	50	0.62	1000	0	122000	1613.63	0.62	192.25
5	75	0.618	1000	0	122000	1619.23	0.618	192.92
6	100	0.616	1000	0	122000	1624.22	0.616	193.51

#### C. Analisis dan Kesimpulan

Setelah pengujian performa, dapat dilihat bahwa server async memiliki performa yang **lebih cepat** dibandingkan server thread. Hal tersebut dapat dilihat dari time per request dan transfer per rate.

## D. Lampiran (Server Async)

```
pootreth@yemimasutanto: /media/pootreth/rahasianegara/KULIAH/Semester 6/Progjar C/PROGJAR_...
File Edit View Search Terminal Help

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:  0.366 seconds
Complete requests:    1000
Failed requests:      0
Non-2xx responses:    1000
Total transferred:    122000 bytes
HTML transferred:     4000 bytes
Requests per second:  2729.56 [#/sec] (mean)
Time per request:     0.366 [ms] (mean)
Time per request:     0.366 [ms] (mean, across all concurrent requests)
Transfer rate:        325.20 [Kbytes/sec] received

Connection Times (ms)
      min      mean[+/-sd] median   max
Connect:    0      0   0.0      0      0
Processing:  0      0   0.1      0      1
Waiting:    0      0   0.1      0      1
Total:      0      0   0.1      0      1

Percentage of the requests served within a certain time (ms)
 50%      0
 66%      0
 75%      0
 80%      0
 90%      0
 95%      0
 98%      1
 99%      1
100%      1 (longest request)

pootreth@yemimasutanto: /media/pootreth/rahasianegara/KULIAH/Semester 6/Progjar C/PROGJAR_...
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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:  0.333 seconds
Complete requests:    1000
Failed requests:      0
Non-2xx responses:    1000
Total transferred:    122000 bytes
HTML transferred:     4000 bytes
Requests per second:  3002.30 [#/sec] (mean)
Time per request:     3.331 [ms] (mean)
Time per request:     0.333 [ms] (mean, across all concurrent requests)
Transfer rate:        357.70 [Kbytes/sec] received

Connection Times (ms)
      min      mean[+/-sd] median   max
Connect:    0      0   0.0      0      0
Processing:  1      2   0.3      2      4
Waiting:    1      2   0.3      2      4
Total:      1      2   0.3      2      5

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

```
pootreth@yemimasutanto: /media/pootreth/rahasianegara/KULIAH/Semester 6/Progjar C/PROGJAR_...
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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:     25
Time taken for tests:   0.332 seconds
Complete requests:     1000
Failed requests:        0
Non-2xx responses:     1000
Total transferred:     122000 bytes
HTML transferred:      4000 bytes
Requests per second:   3015.25 [#/sec] (mean)
Time per request:       8.291 [ms] (mean)
Time per request:       0.332 [ms] (mean, across all concurrent requests)
Transfer rate:          359.24 [Kbytes/sec] received

Connection Times (ms)
      min    mean[+/-sd] median    max
Connect:    0      0   0.0      0      0
Processing:  1      2   0.4      2      4
Waiting:     1      2   0.4      2      4
Total:       1      2   0.4      2      4

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

```
pootreth@yemimasutanto: /media/pootreth/rahasianegara/KULIAH/Semester 6/Progjar C/PROGJAR_...
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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:     50
Time taken for tests:   0.331 seconds
Complete requests:     1000
Failed requests:        0
Non-2xx responses:     1000
Total transferred:     122000 bytes
HTML transferred:      4000 bytes
Requests per second:   3019.13 [#/sec] (mean)
Time per request:       16.561 [ms] (mean)
Time per request:       0.331 [ms] (mean, across all concurrent requests)
Transfer rate:          359.70 [Kbytes/sec] received

Connection Times (ms)
      min    mean[+/-sd] median    max
Connect:    0      0   0.1      0      1
Processing:  1      2   0.4      2      5
Waiting:     1      2   0.4      2      5
Total:       1      2   0.4      2      5

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

```
pootreth@yemimasutanto: /media/pootreth/rahasianegara/KULIAH/Semester 6/Progjar C/PROGJAR_...
File Edit View Search Terminal Help

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

Document Path:        /
Document Length:      4 bytes

Concurrency Level:    75
Time taken for tests:  0.337 seconds
Complete requests:    1000
Failed requests:      0
Non-2xx responses:    1000
Total transferred:    122000 bytes
HTML transferred:     4000 bytes
Requests per second:  2969.50 [#/sec] (mean)
Time per request:     25.257 [ms] (mean)
Time per request:     0.337 [ms] (mean, across all concurrent requests)
Transfer rate:        353.79 [Kbytes/sec] received

Connection Times (ms)
      min  mean[+/-sd] median  max
Connect:    0      0  0.1      0    1
Processing:  1      2  0.5      2    7
Waiting:    0      2  0.5      2    7
Total:      2      2  0.5      2    7

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

```
pootreth@yemimasutanto: /media/pootreth/rahasianegara/KULIAH/Semester 6/Progjar C/PROGJAR_...
File Edit View Search Terminal Help

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:  0.335 seconds
Complete requests:    1000
Failed requests:      0
Non-2xx responses:    1000
Total transferred:    122000 bytes
HTML transferred:     4000 bytes
Requests per second:  2983.24 [#/sec] (mean)
Time per request:     33.521 [ms] (mean)
Time per request:     0.335 [ms] (mean, across all concurrent requests)
Transfer rate:        355.43 [Kbytes/sec] received

Connection Times (ms)
      min  mean[+/-sd] median  max
Connect:    0      0  0.2      0    2
Processing:  1      2  0.6      2    8
Waiting:    1      2  0.6      2    8
Total:      1      2  0.7      2    8

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

## (Server Thread)

```
pootreth@yemimasutanto: /media/pootreth/rahasianegara/KULIAH/Semester 6/Progjar C/PROGJAR_...
File Edit View Search Terminal Help
Server Hostname: 127.0.0.1
Server Port: 46000

Document Path: /
Document Length: 4 bytes

Concurrency Level: 1
Time taken for tests: 0.624 seconds
Complete requests: 1000
Failed requests: 0
Non-2xx responses: 1000
Total transferred: 122000 bytes
HTML transferred: 4000 bytes
Requests per second: 1603.09 [#/sec] (mean)
Time per request: 0.624 [ms] (mean)
Time per request: 0.624 [ms] (mean, across all concurrent requests)
Transfer rate: 190.99 [Kbytes/sec] received

Connection Times (ms)
      min    mean[+/-sd] median   max
Connect:    0      0   0.0      0      0
Processing:  0      1   0.2      1      4
Waiting:    0      1   0.2      0      4
Total:      0      1   0.2      1      4
ERROR: The median and mean for the waiting time are more than twice the standard
deviation apart. These results are NOT reliable.

Percentage of the requests served within a certain time (ms)
 50%      1
 66%      1
 75%      1
 80%      1
 90%      1
 95%      1
 98%      1
 99%      2
100%      4 (longest request)
```

```
pootreth@yemimasutanto: /media/pootreth/rahasianegara/KULIAH/Semester 6/Progjar C/PROGJAR_...
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Server Software: myserver/1.0
Server Hostname: 127.0.0.1
Server Port: 46000

Document Path: /
Document Length: 4 bytes

Concurrency Level: 10
Time taken for tests: 0.605 seconds
Complete requests: 1000
Failed requests: 0
Non-2xx responses: 1000
Total transferred: 122000 bytes
HTML transferred: 4000 bytes
Requests per second: 1652.19 [#/sec] (mean)
Time per request: 6.053 [ms] (mean)
Time per request: 0.605 [ms] (mean, across all concurrent requests)
Transfer rate: 196.84 [Kbytes/sec] received

Connection Times (ms)
      min    mean[+/-sd] median   max
Connect:    0      0   0.0      0      0
Processing:  1      2   0.5      2      8
Waiting:    1      2   0.5      2      8
Total:      1      2   0.5      2      8

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

```

pootreth@yemimasutanto: /media/pootreth/rahasianegara/KULIAH/Semester 6/Progjar C/PROGJAR_...
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Server Software:      myserver/1.0
Server Hostname:      127.0.0.1
Server Port:          46000

Document Path:        /
Document Length:      4 bytes

Concurrency Level:    25
Time taken for tests:  0.599 seconds
Complete requests:    1000
Failed requests:      0
Non-2xx responses:    1000
Total transferred:    122000 bytes
HTML transferred:     4000 bytes
Requests per second:  1668.92 [#/sec] (mean)
Time per request:     14.980 [ms] (mean)
Time per request:     0.599 [ms] (mean, across all concurrent requests)
Transfer rate:        198.84 [Kbytes/sec] received

Connection Times (ms)
              min    mean[+/-sd] median    max
Connect:      0      0    0.0      0      0
Processing:    1      1    0.6      1      5
Waiting:       1      1    0.6      1      5
Total:         1      1    0.6      1      5

Percentage of the requests served within a certain time (ms)
 50%      1
 66%      1
 75%      2
 80%      2
 90%      2
 95%      2
 98%      4
 99%      4
100%      5 (longest request)

```

```

pootreth@yemimasutanto: /media/pootreth/rahasianegara/KULIAH/Semester 6/Progjar C/PROGJAR_...
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:  0.620 seconds
Complete requests:    1000
Failed requests:      0
Non-2xx responses:    1000
Total transferred:    122000 bytes
HTML transferred:     4000 bytes
Requests per second:  1613.63 [#/sec] (mean)
Time per request:     30.986 [ms] (mean)
Time per request:     0.620 [ms] (mean, across all concurrent requests)
Transfer rate:        192.25 [Kbytes/sec] received

Connection Times (ms)
              min    mean[+/-sd] median    max
Connect:      0      0    0.1      0      1
Processing:    1      2    0.7      2      8
Waiting:       1      2    0.7      2      8
Total:         1      2    0.7      2      8

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

```

```
pootreth@yemimasutanto: /media/pootreth/rahasianegara/KULIAH/Semester 6/Progjar C/PROGJAR_...
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:     75
Time taken for tests:  0.618 seconds
Complete requests:     1000
Failed requests:       0
Non-2xx responses:    1000
Total transferred:     122000 bytes
HTML transferred:      4000 bytes
Requests per second:   1619.23 [#/sec] (mean)
Time per request:      46.318 [ms] (mean)
Time per request:      0.618 [ms] (mean, across all concurrent requests)
Transfer rate:         192.92 [Kbytes/sec] received

Connection Times (ms)
      min  mean[+/-sd] median  max
Connect:    0      0   0.1      0    1
Processing:  1      1   0.8      1   14
Waiting:    1      1   0.8      1   14
Total:      1      1   0.9      1   14

Percentage of the requests served within a certain time (ms)
 50%      1
 66%      1
 75%      2
 80%      2
 90%      2
 95%      3
 98%      4
 99%      5
100%     14 (longest request)

pootreth@yemimasutanto: /media/pootreth/rahasianegara/KULIAH/Semester 6/Progjar C/PROGJAR_...
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:  0.616 seconds
Complete requests:     1000
Failed requests:       0
Non-2xx responses:    1000
Total transferred:     122000 bytes
HTML transferred:      4000 bytes
Requests per second:   1624.22 [#/sec] (mean)
Time per request:      61.568 [ms] (mean)
Time per request:      0.616 [ms] (mean, across all concurrent requests)
Transfer rate:         193.51 [Kbytes/sec] received

Connection Times (ms)
      min  mean[+/-sd] median  max
Connect:    0      0   0.1      0    2
Processing:  1      2   0.7      2    8
Waiting:    1      2   0.7      2    8
Total:      1      2   0.7      2    8

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