

PERFORMANCE TEST



PEMROGRAMAN JARINGAN - C

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A. Parameter Test

Jumlah Request: 1000

Konkurensi: 1,5,10

B. Hasil Performace Test**1. Server Async**

No test	Concurrency level	Time taken for test	Complete request	Failed request	Total transferred	Request per second	Time per request	Transfer rate
1	1	0.751 seconds	1000	0	226000 bytes	1330.92 [#/sec]	0.751 [ms]	293.74 [Kbytes/sec]
2	5	0.727 seconds	1000	0	226000 bytes	1375.85 [#/sec]	3.634 [ms]	303.65 [Kbytes/sec]
3	10	0.736 seconds	1000	0	226000 bytes	1357.97 [#/sec]	7.364 [ms]	299.71 [Kbytes/sec]

2. Server Thread

No test	Concurren cy level	Time taken for test	Complete request	Failed request	Total transferred	Request per second	Time per request	Transfer rate
1	1	1.919 seconds	1000	0	115000 bytes	521.12 [#/sec]	1.919 [ms]	58.52 [Kbytes/sec]
2	5	4.399 seconds	1000	0	115000 bytes	227.33 [#/sec]	21.994 [ms]	25.53 [Kbytes/sec]
3	10	1.884 seconds	1000	0	115000 bytes	530.77 [#/sec]	18.840 [ms]	59.61 [Kbytes/sec]

3. Server Async+LB

No test	Concurren cy level	Time taken for test	Complete request	Failed request	Total transferred	Request per second	Time per request	Transfer rate
1	1	1.348 seconds	1000	0	226000 bytes	741.92 [#/sec]	1.348 [ms]	163.74 [Kbytes/sec]
2	5	1.021 seconds	1000	0	226000 bytes	979.76 [#/sec]	5.103 [ms]	216.24 [Kbytes/sec]

3	10	1.060 seconds	1000	0	226000 bytes	943.62 [#/sec]	10.597 [ms]	208.26 [Kbytes /sec]
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C. Kesimpulan

Dari hasil diatas, dapat saya simpulkan bahwa:

1. Server thread merupakan proses yang paling lambat.
2. Server thread mengirimkan byte lebih sedikit ketimbang server async maupun server async + LB
3. Kecepatan server Async + LB dan server Async hampir sama, namun lebih cepat server Async.

D. Capture Performance Test

1. Server Async Concurrency 1

```
hisam@hisam-Linux: ~/progjar/PROGJAR_05111740000026/tugas10
File Edit View Search Terminal Help
hisam@hisam-Linux:~/progjar/PROGJAR_05111740000026/tugas10$ ab -n 1000 -c 1 http://localhost:45000/page.html
This is ApacheBench, Version 2.3 <$Revision: 1807734 $>
Copyright 1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.net/
Licensed to The Apache Software Foundation, http://www.apache.org/

Benchmarking localhost (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:      myserver/1.0
Server Hostname:      localhost
Server Port:          45000

Document Path:        /page.html
Document Length:      90 bytes

Concurrency Level:     1
Time taken for tests:  0.751 seconds
Complete requests:     1000
Failed requests:        0
Total transferred:     226000 bytes
HTML transferred:      90000 bytes
Requests per second:   1330.92 [#/sec] (mean)
Time per request:      0.751 [ms] (mean)
Time per request:      0.751 [ms] (mean, across all concurrent requests)
Transfer rate:         293.74 [Kbytes/sec] received

Connection Times (ms)
      min      mean[+/-sd] median   max
Connect:    0       0   0.1      0      4
Processing:  0       1   0.6      1      9
Waiting:    0       1   0.5      1      9
Total:       0       1   0.6      1     10

Percentage of the requests served within a certain time (ms)
 50%    1
 66%    1
```

2. Server Async Concurrency 5

```
hisam@hisam-Linux: ~/progjar/PROGJAR_05111740000026/tugas10
File Edit View Search Terminal Help
hisam@hisam-Linux:~/progjar/PROGJAR_05111740000026/tugas10$ ab -n 1000 -c 5 http://localhost:45000/page.html
This is ApacheBench, Version 2.3 <$Revision: 1807734 $>
Copyright 1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.net/
Licensed to The Apache Software Foundation, http://www.apache.org/

Benchmarking localhost (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:      myserver/1.0
Server Hostname:      localhost
Server Port:          45000

Document Path:        /page.html
Document Length:      90 bytes

Concurrency Level:     5
Time taken for tests:  0.727 seconds
Complete requests:     1000
Failed requests:        0
Total transferred:     226000 bytes
HTML transferred:      90000 bytes
Requests per second:   1375.85 [#/sec] (mean)
Time per request:      3.634 [ms] (mean)
Time per request:      0.727 [ms] (mean, across all concurrent requests)
Transfer rate:         303.65 [Kbytes/sec] received

Connection Times (ms)
      min      mean[+/-sd] median   max
Connect:    0       0   0.0      0      0
Processing:  1       4   1.2      3     16
Waiting:    1       4   1.1      3     16
Total:       1       4   1.2      3     16

Percentage of the requests served within a certain time (ms)
 50%    3
 66%    4
```

3. Server Async Concurrency 10

```
hisam@hisam-Linux: ~/progjar/PROGJAR_05111740000026/tugas10
File Edit View Search Terminal Help
hisam@hisam-Linux:~/progjar/PROGJAR_05111740000026/tugas10$ ab -n 1000 -c 10 http://localhost:45000/page.html
This is ApacheBench, Version 2.3 <$Revision: 1807734 $>
Copyright 1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.net/
Licensed to The Apache Software Foundation, http://www.apache.org/

Benchmarking localhost (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:      myserver/1.0
Server Hostname:      localhost
Server Port:          45000

Document Path:        /page.html
Document Length:      90 bytes

Concurrency Level:    10
Time taken for tests:  0.736 seconds
Complete requests:    1000
Failed requests:       0
Total transferred:    226000 bytes
HTML transferred:     90000 bytes
Requests per second:  1357.97 [#/sec] (mean)
Time per request:      7.364 [ms] (mean)
Time per request:      0.736 [ms] (mean, across all concurrent requests)
Transfer rate:         299.71 [Kbytes/sec] received

Connection Times (ms)
              min      mean[+/-sd] median   max
Connect:        0        0   0.2      0      2
Processing:      1        5   1.1      5     13
Waiting:         0        5   1.1      5     13
Total:           3        5   1.1      5     13

Percentage of the requests served within a certain time (ms)
 50%        5
 66%        5
```

4. Server Thread Concurrency 1

```
hisamwp@DESKTOP-CTJQJRO:~$ ab -n 1000 -c 1 http://127.0.0.1:46000/
This is ApacheBench, Version 2.3 <$Revision: 1807734 $>
Copyright 1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.net/
Licensed to The Apache Software Foundation, http://www.apache.org/

Benchmarking 127.0.0.1 (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:      myserver/1.0
Server Hostname:      127.0.0.1
Server Port:          46000

Document Path:        /
Document Length:      4 bytes

Concurrency Level:    1
Time taken for tests:  1.919 seconds
Complete requests:    1000
Failed requests:       0
Non-2xx responses:    1000
Total transferred:    115000 bytes
HTML transferred:     4000 bytes
Requests per second:  521.12 [#/sec] (mean)
Time per request:      1.919 [ms] (mean)
Time per request:      1.919 [ms] (mean, across all concurrent requests)
Transfer rate:         58.52 [Kbytes/sec] received

Connection Times (ms)
              min      mean[+/-sd] median   max
Connect:        0        0   0.2      0      3
Processing:      1        1   1.4      1     25
Waiting:         1        1   1.3      1     25
Total:           1        2   1.4      1     25
```

5. Server Thread Concurrency 5

```
hisamwp@DESKTOP-CTJQJRO:~$ ab -n 1000 -c 5 http://127.0.0.1:46000/
This is ApacheBench, Version 2.3 <$Revision: 1807734 $>
Copyright 1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.net/
Licensed to The Apache Software Foundation, http://www.apache.org/

Benchmarking 127.0.0.1 (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:      myserver/1.0
Server Hostname:      127.0.0.1
Server Port:          46000

Document Path:        /
Document Length:      4 bytes

Concurrency Level:    5
Time taken for tests:  4.399 seconds
Complete requests:    1000
Failed requests:      0
Non-2xx responses:    1000
Total transferred:    115000 bytes
HTML transferred:     4000 bytes
Requests per second:  227.33 [#/sec] (mean)
Time per request:     21.994 [ms] (mean)
Time per request:     4.399 [ms] (mean, across all concurrent requests)
Transfer rate:        25.53 [Kbytes/sec] received

Connection Times (ms)
              min  mean[+/-sd] median  max
Connect:        0   12  84.3      0  1077
Processing:      1    7  15.5      5   214
Waiting:         1    7  15.4      4   214
Total:          2   20  86.8      5  1080
```

6. Server Thread Concurrency 10

```
hisamwp@DESKTOP-CTJQJRO:~$ ab -n 1000 -c 10 http://127.0.0.1:46000/
This is ApacheBench, Version 2.3 <$Revision: 1807734 $>
Copyright 1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.net/
Licensed to The Apache Software Foundation, http://www.apache.org/

Benchmarking 127.0.0.1 (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:      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:  1.884 seconds
Complete requests:    1000
Failed requests:      0
Non-2xx responses:    1000
Total transferred:    115000 bytes
HTML transferred:     4000 bytes
Requests per second:  530.77 [#/sec] (mean)
Time per request:     18.840 [ms] (mean)
Time per request:     1.884 [ms] (mean, across all concurrent requests)
Transfer rate:        59.61 [Kbytes/sec] received

Connection Times (ms)
              min  mean[+/-sd] median  max
Connect:        0   12  91.5      0  1001
Processing:      1    3   2.2      3   42
Waiting:         1    3   2.0      2   42
Total:          2   16  91.7      3  1008
```

7. Server Async + LB Concurrency 1

```
hisam@hisam-Linux: ~/progjar/PROGJAR_0511174000026/tugas10
File Edit View Search Terminal Help
hisam@hisam-Linux:~/progjar/PROGJAR_0511174000026/tugas10$ ab -n 1000 -c 1 http://localhost:4444/page.html
This is ApacheBench, Version 2.3 <$Revision: 1807734 $>
Copyright 1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.net/
Licensed to The Apache Software Foundation, http://www.apache.org/

Benchmarking localhost (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:      myserver/1.0
Server Hostname:      localhost
Server Port:          44444

Document Path:        /page.html
Document Length:       90 bytes

Concurrency Level:     1
Time taken for tests:   1.348 seconds
Complete requests:     1000
Failed requests:        0
Total transferred:     226000 bytes
HTML transferred:      90000 bytes
Requests per second:    741.92 [#/sec] (mean)
Time per request:       1.348 [ms] (mean)
Time per request:       1.348 [ms] (mean, across all concurrent requests)
Transfer rate:          163.74 [Kbytes/sec] received

Connection Times (ms)
              min      mean[+/-sd] median   max
Connect:        0        0  0.2      0      6
Processing:      1        1  0.8      1     10
Waiting:         0        1  0.8      1     10
Total:          1        1  0.8      1     10

Percentage of the requests served within a certain time (ms)
 50%    1
 66%    1
```

8. Server Async + LB Concurrency 5

```
hisam@hisam-Linux: ~/progjar/PROGJAR_0511174000026/tugas10
File Edit View Search Terminal Help
hisam@hisam-Linux:~/progjar/PROGJAR_0511174000026/tugas10$ ab -n 1000 -c 5 http://localhost:4444/page.html
This is ApacheBench, Version 2.3 <$Revision: 1807734 $>
Copyright 1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.net/
Licensed to The Apache Software Foundation, http://www.apache.org/

Benchmarking localhost (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:      myserver/1.0
Server Hostname:      localhost
Server Port:          44444

Document Path:        /page.html
Document Length:       90 bytes

Concurrency Level:     5
Time taken for tests:   1.021 seconds
Complete requests:     1000
Failed requests:        0
Total transferred:     226000 bytes
HTML transferred:      90000 bytes
Requests per second:    979.76 [#/sec] (mean)
Time per request:       5.103 [ms] (mean)
Time per request:       1.021 [ms] (mean, across all concurrent requests)
Transfer rate:          216.24 [Kbytes/sec] received

Connection Times (ms)
              min      mean[+/-sd] median   max
Connect:        0        0  0.0      0      1
Processing:      1        5  2.4      5     22
Waiting:         1        4  2.3      4     22
Total:          1        5  2.4      5     22

Percentage of the requests served within a certain time (ms)
 50%    5
 66%    5
```

9. Server Async + LB Concurrency 10

```
hisam@hisam-Linux: ~/progjar/PROGJAR_05111740000026/tugas10
File Edit View Search Terminal Help
hisam@hisam-Linux:~/progjar/PROGJAR_05111740000026/tugas10$ ab -n 1000 -c 10 http://localhost:4444/page.html
This is ApacheBench, Version 2.3 <$Revision: 1807734 $>
Copyright 1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.net/
Licensed to The Apache Software Foundation, http://www.apache.org/

Benchmarking localhost (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:      myserver/1.0
Server Hostname:      localhost
Server Port:          44444

Document Path:        /page.html
Document Length:      90 bytes

Concurrency Level:     10
Time taken for tests:  1.060 seconds
Complete requests:     1000
Failed requests:        0
Total transferred:     226000 bytes
HTML transferred:      90000 bytes
Requests per second:   943.62 [#/sec] (mean)
Time per request:      10.597 [ms] (mean)
Time per request:      1.060 [ms] (mean, across all concurrent requests)
Transfer rate:         208.26 [Kbytes/sec] received

Connection Times (ms)
              min   mean[+/-sd] median   max
Connect:        0    4  64.6      0   1027
Processing:     1    6   3.1      6    20
Waiting:        1    6   3.0      5    20
Total:          1   11  64.9      6   1041

Percentage of the requests served within a certain time (ms)
 50%    6
 66%    7
```