**ab -n 500 -c 1 -p ap.json http://192.168.1.5/ap?info=wifi**

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Benchmarking 192.168.1.5 (be patient)

Completed 100 requests

Completed 200 requests

Completed 300 requests

Completed 400 requests

Completed 500 requests

Finished 500 requests

Server Software: lwIP/1.4.0

Server Hostname: 192.168.1.5

Server Port: 80

Document Path: /ap?info=wifi

Document Length: 0 bytes

Concurrency Level: 1

Time taken for tests: 13.359 seconds

Complete requests: 500

Failed requests: 0

Total transferred: 28500 bytes

Total body sent: 96000

HTML transferred: 0 bytes

Requests per second: 37.43 [#/sec] (mean)

Time per request: 26.719 [ms] (mean)

Time per request: 26.719 [ms] (mean, across all concurrent requests)

Transfer rate: 2.08 [Kbytes/sec] received

7.02 kb/s sent

9.10 kb/s total

Connection Times (ms)

min mean[+/-sd] median max

Connect: 4 10 10.1 7 115

Processing: 9 16 7.8 14 113

Waiting: 5 10 5.0 8 50

Total: 14 26 13.7 22 145

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

50% 22

66% 25

75% 27

80% 30

90% 37

95% 49

98% 72

99% 94

100% 145 (longest request)

//////////////////////////////////////////////////////////////////////////////////////////////

**ab -n 500 -c 2 -p ap.json http://192.168.1.5/ap?info=wifi**

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Benchmarking 192.168.1.5 (be patient)

Completed 100 requests

Completed 200 requests

Completed 300 requests

Completed 400 requests

Completed 500 requests

Finished 500 requests

Server Software: lwIP/1.4.0

Server Hostname: 192.168.1.5

Server Port: 80

Document Path: /ap?info=wifi

Document Length: 0 bytes

Concurrency Level: 2

Time taken for tests: 8.469 seconds

Complete requests: 500

Failed requests: 0

Total transferred: 28500 bytes

Total body sent: 96000

HTML transferred: 0 bytes

Requests per second: 59.04 [#/sec] (mean)

Time per request: 33.876 [ms] (mean)

Time per request: 16.938 [ms] (mean, across all concurrent requests)

Transfer rate: 3.29 [Kbytes/sec] received

11.07 kb/s sent

14.36 kb/s total

Connection Times (ms)

min mean[+/-sd] median max

Connect: 5 12 8.2 11 121

Processing: 11 21 8.3 19 78

Waiting: 8 16 7.5 14 63

Total: 18 33 11.8 31 133

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

50% 31

66% 33

75% 35

80% 37

90% 42

95% 55

98% 72

99% 78

100% 133 (longest request)

///////////////////////////////////////////////////////////

**ab -n 500 -c 4 -p ap.json http://192.168.1.5/ap?info=wifi**

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Benchmarking 192.168.1.5 (be patient)

Completed 100 requests

Completed 200 requests

Completed 300 requests

Completed 400 requests

Completed 500 requests

Finished 500 requests

Server Software: lwIP/1.4.0

Server Hostname: 192.168.1.5

Server Port: 80

Document Path: /ap?info=wifi

Document Length: 0 bytes

Concurrency Level: 4

Time taken for tests: 38.634 seconds

Complete requests: 500

Failed requests: 1

(Connect: 1, Receive: 0, Length: 0, Exceptions: 0)

Total transferred: 28500 bytes

Total body sent: 96000

HTML transferred: 0 bytes

Requests per second: 12.94 [#/sec] (mean)

Time per request: 309.075 [ms] (mean)

Time per request: 77.269 [ms] (mean, across all concurrent requests)

Transfer rate: 0.72 [Kbytes/sec] received

2.43 kb/s sent

3.15 kb/s total

Connection Times (ms)

min mean[+/-sd] median max

Connect: 5 34 29.7 24 228

Processing: 28 232 1620.7 85 21057

Waiting: 20 227 1620.0 82 21057

Total: 40 266 1620.8 117 21089

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

50% 117

66% 144

75% 173

80% 204

90% 271

95% 327

98% 374

99% 448

100% 21089 (longest request)

//////////////////////////////////////////////////////////

**ab -n 100 -c 5 –p 5 ap.json http://192.168.1.5/ap?info=wifi**

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Benchmarking 192.168.1.5 (be patient)...

Test aborted after 10 failures

apr\_socket\_connect(): Connection timed out (730060)

Total of 44 requests completed

این تست در شرایطی بوده است که کد نوشته شده به صورت native وبه زبان C بوده است

در حالتی که تعداد کانکشن های همزمان به 5 رسید تست با اپاچی خطا داد ولی با برنامه ای دیگر همزمان درخواست دادیم که با تاخیر بعضی اوقات جواب داد.

در مرحله بعد یک سرور UDP بر روی کامپیوتر راه اندازی نمودیم و با esp8266 به ان متصل شدیم و پشت سر هم شروع به ارسال داده نمودیم که در حالتی که کد به زبان C نوشته شده بود تعداد 8 بسته در هر ثانیه دریافت نمودیم و با بزرگ شدن بسته تاثیری در زمان و تعداد بسته های دریافتی نداشت.

همین تست را با فریمور NodeMCU انجام دادیم که نتایج یکسان بود.

در حالت nodemcu یک کانکشن TCP به یک سرور JSON برقرار نموده و در خواست داده نمودیم و داده را نمایش دادیم که در این حالت از زمان برقراری ارتباط تا دریافت داده حدود 900ms طول کشید و زمان ارسال داده تا دریافت داده در ان حدود 27ms به طول انجامید که می توان نتیجه گرفت سرعت کاری ان در حالت nodemcu با زمان ان در حالت کد native C یکسان است.