OS LAB 8

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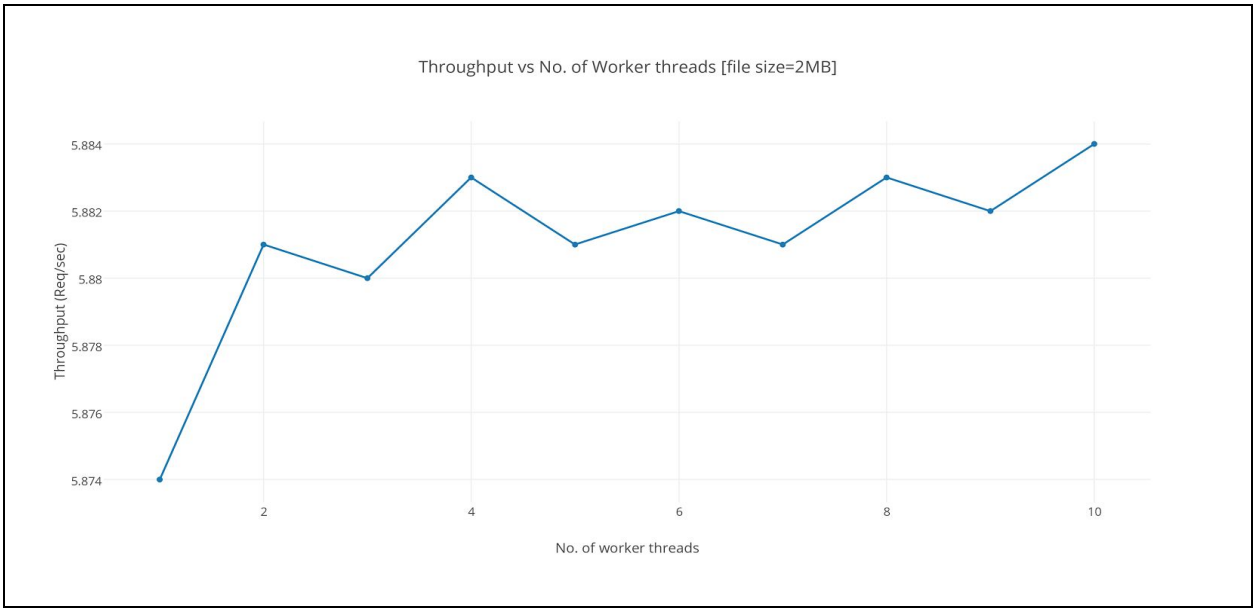
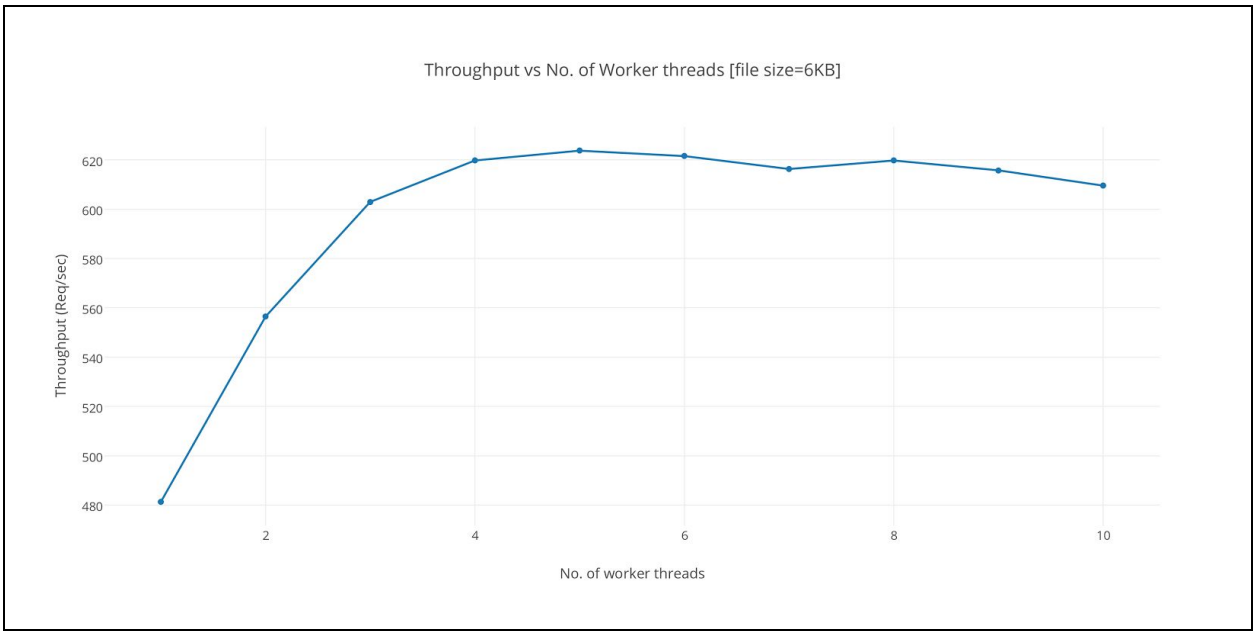
Q1. With file size 2MB

No. of Worker Threads	Avg Throughput (Req/sec)	Avg Response Time (Sec)
1	5.874	3.360
2	5.881	3.358
3	5.880	3.363
4	5.883	3.362
5	5.881	3.363
6	5.882	3.359
7	5.881	3.363
8	5.883	3.362
9	5.882	3.360
10	5.884	3.361



With file size 6KB

No. of Worker Threads	Avg Throughput (Req/sec)	Avg Response Time (Sec)
1	481.3	0.03172
2	556.5	0.03019
3	602.9	0.2977
4	619.8	0.02924
5	623.8	0.02891
6	621.6	0.02913
7	616.3	0.02884
8	619.8	0.02907
9	615.7	0.02989
10	609.6	0.02872



Throughput saturates at **4 worker threads** because there are 4 CPU cores.
This is better observed when the file size is small. In case of large file, the most of the time is spent in sending/receiving files.

Q2.

Yes, the requests start dropping when the number of concurrent users increase. A “connection timeout” error is received at the client side, because the server is unable to accept the connect() request due to limited queue size.

As n increased the timeout error started occurring after larger and larger time.

Experiment specifications :

Server H/W specifications:

- CPU: 2.50GHz, 4 Processors
- Memory: 1.92 GB

Client H/W specifications:

- CPU: 1.70GHz, 4 Processors
- Memory: 3.95 GB

Server and Client are connected over 100Mbps ethernet, with a switch in between.