06-15-2022 Task 8

Test Purpose

* Perform load testing for different numbers of CPUs: 1, 2, 4.
* Perform load testing for different sizes of RAM: 2Gb, 5Gb, 8Gb.

Test Summary

We can observe a significant difference between different sizes of RAM and different numbers of CPUs.

For cases when we added cores, it shows us that under this scenario Response time is decreased.

For cases when we added memory, it shows us that under this scenario Throughput is increased.

Test Setup

| Test type | Scalability testing |
| --- | --- |
| Software/hardware configuration | Windows 10 64bit  Memory 32 GB  Processor I7 3.0 GHz  Disk 96.3 GB |
| Load generator configuration | Windows 10 64bit  Memory: 2Gb, 5Gb, 8Gb  Cores: 1,2,4 |
| Load testing tool | Apache JMeter 5.4.3 |
| App | BlogEngine.NET 3.2.0.3 |
| Number of users | 18 |
| Ramp-up period | 150s |
| Test duration | 800s |
| Test scenario | Task 4 (admin), Task 5 (editor), Task 6 (anonymous) |

Compare results between: Cores: 1, 2, 4(Memory: 24GB)

|  | Cores: 1 | Cores: 2 | Cores: 4 |
| --- | --- | --- | --- |
| CPU Usage | 51,9% | 20.8% | 10,4% |
| Memory Usage | 709 mb | 712 mb | 717 mb |
| Response time  median | 401ms | 382ms | 336ms |
| Response time  90 pct | 7.66s | 1.24s | 7.05s |
| Throughput | 4.91 | 4.39 | 4.59 |
| Error | 2% | 8% | 2% |

Compare results between: Memory: 2Gb, 5Gb, 8Gb (Cores: 2)

|  | Memory: 2Gb | Memory: 5Gb | Memory: 8Gb |
| --- | --- | --- | --- |
| Memory Usage | 443 mb | 354 mb | 382 mb |
| CPU Usage | 9.96% | 20.5% | 9.89% |
| Response time  median | 310ms | 430ms | 289ms |
| Response time  90 pct | 4.33s | 1.42s | 1.16s |
| Throughput | 4.50 | 6.45 | 7.40 |
| Error | 2% | 5% | 2% |

Core: 1

| Application |  |
| --- | --- |
| CPU |  |
| Memory |  |

Cores: 2

| Application |  |
| --- | --- |
| CPU |  |
| Memory |  |

Cores: 4

| Application |  |
| --- | --- |
| CPU |  |
| Memory |  |

Memory: 2Gb

| Application |  |
| --- | --- |
| CPU |  |
| Memory |  |

Memory: 5Gb

| Application |  |
| --- | --- |
| CPU |  |
| Memory |  |

Memory: 8Gb

| Application |  |
| --- | --- |
| CPU |  |
| Memory |  |