06-17-2022 Task 9

Test Purpose

* Perform load testing for 2000 pure text posts.
* Perform load testing for 2000 mixed posts (text and attached 1Mb photo).
* Compare results between the results of the testing
  + 2000 pure text posts and 2000 mixed posts

Test Summary

* We can observe a difference between those two test.Test with 2000 mixed posts (text and attached 1Mb photo) shows us that under this scenario used much more system resources, like CPU, also it has more response time and it has more failed transactions.

Test Setup

| Test type | Load 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 4770 MB  Cores: 1 |
| Load testing tool | Apache JMeter 5.4.3 |
| App | BlogEngine.NET 3.2.0.3 |
| Number of users | 16 |
| Ramp-up period | 350s |
| Test duration | 1200s |
| Test scenario | Main script, Anonymous script, Open post script algorithms |

Compare results between: 2000 text posts and 2000 mixed posts

|  | **2000 mixed posts** | **2000 text posts** |
| --- | --- | --- |
| avg TPS | 3.8 (Max: 7.2) | 3.49 (Max: 6.4) |
| avg Response time | 584 ms | 416 ms |
| Transaction count | 4561 | 4207 |
| Failed transaction | 31 (1%) | 26 (1%) |
| avg CPU | 44.3% | 33.1% |
| avg Memory | 371 mb | 381 mb |
| Response time  median | 305ms | 212ms |
| Response time  90 pct | 1.15s | 1.14s |

2000 text posts

| Active  threads |  |
| --- | --- |
| CPU |  |
| Memory Usage |  |
| Errors  count |  |

2000 mixed posts

| Active  threads |  |
| --- | --- |
| CPU |  |
| Memory Usage |  |
| Errors  count |  |

Test Purpose

* Perform capacity testing for 100, 1000, 2000 and 5000 text posts.
* Compare results between the results of the testing
* Define the threshold for degradation depending on the quantity of the posts

Test Summary

* 100 post: The Comfort zone is up to 5 users, the Degradation zone is starting from 5 users, the Saturation point is reached when the user count is 9. Also when the user count was 31 our app crashed.
* 1000 post: The Comfort zone is up to 7 users, the Degradation zone is starting from 7 users, the Saturation point is reached when the user count is 11
* 2000 post: The Comfort zone is up to 6 users, the Degradation zone is starting from 6 users, the Saturation point is reached when the user count is 10
* 5000 post: The Comfort zone is up to 6 users, the Degradation zone is starting from 6 users, the Saturation point is reached when the user count is 15

Test Setup

| Test type | Capacity 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 4770 MB  Cores: 1 |
| Load testing tool | Apache JMeter 5.4.3 |
| App | BlogEngine.NET 3.2.0.3 |
| Number of users | 100 |
| Ramp-up period | 1200s |
| Test duration | 1200s |
| Test scenario | Main script, Anonymous script, Open post script algorithms |

Compare results between: 100, 1000, 2000 and 5000 posts

|  | **100 posts** | **1000 posts** | **2000 posts** | **5000 posts** |
| --- | --- | --- | --- | --- |
| Active threads |  | Max: 71 | Max: 63 | Max: 80 |
| Throughput | 7.2 (Max: 14.6) | 7.95 (Max: 17.8) | 10.6 (Max: 27.8) | 6.95 (Max: 16.4) |
| avg Response time | 309 ms | 966 ms | 821 ms | 2.86 s |
| Failed transaction% | 4% | 9% | 36% | 29% |
| avg CPU | 17.2% | 18.8% | 50.1% | 64% |
| avg Memory | 497 mb | 389 mb | 424 mb | 420 mb |
| Response time  median | 119ms | 1.58s | 845ms | 11.75s |
| Response time  90 pct | 38s | 15.94s | 7.68s | 26.31 |

Throughputs for 100, 1000, 2000 and 5000 posts

| 100 post |  |
| --- | --- |
| 1000 post |  |
| 2000 post |  |
| 5000  post |  |