**Report about conducted load test**

**Date:** 17.07.2022

**Author:** Shushanik Tonoyan

**Application:** BlogEngine.NET version 3.2

**Environment:** Test Environment

**Test Environment configuration(RAM, CPU etc.):**

|  |  |
| --- | --- |
| Processor | Intel(R) Core(TM) i7-10610U CPU 1.80 GHz 2.30 GHz |
| RAM | 3.95 GB |
| System type | 64-bit operating system |
| Operating System | Windows 10 Enterprise 21H1 |

1. **Why such testing was conducted:** To determine degradation point and capacity of the application
2. **Test script description:**

The following script should be run for

1. Anonymous script with probability usage is implemented according to the following table

|  |  |
| --- | --- |
| **Flow** | **Execution percentage %** |
| Home Page | 15 |
| Open Random Date | 10 |
| Open Predefined Date | 30 |
| Search by Name | 30 |
| Open Large Calendar | 10 |
| Open Contacts | 5 |
| Open Random page (yes/no) | 50/50 |
| Open post (yes/no) | 80/20 |
| Random or First | 65/35 |
| Comment (yes/no) | 20/80 |
|  |  |

1. Admin script
2. Editor script

**Anonymous script**

Diagram

Description automatically generatedDiagram

Description automatically generatedDiagram

Description automatically generated

**Admin Script**

Diagram

Description automatically generated

**Editor Script**

Diagram

Description automatically generated

1. **Tests:**   
     
   **Test run preconditions:** 2 admins, 2 editors should be created, and1000 posts created by different users.

**Load Model:** Capacity testing. Test was conducted overall for 212 users (2 admins, 10 editors and 200 anonymous users), duration 1200 sec, constant delay between requests 2 sec with deviation 0.10 sec.

1. **Short summary on conducted tests:**

According to capacity test results the comfort zone is before 70 users, and the saturation point is around 70 users for the combined tests scenario and 1000 posts. Test run was conducted 2 times, the results are reproducible.

1. **Detailed test results:**

According to test run result, application stays in the comfort zone while the users count is less than 70 users (at time 23:02).

Chart, histogram

Description automatically generated.

**A screenshot of a computer

Description automatically generated with medium confidence**

The transaction response time is stabile while users count is less than 70 users and no errors, and after that the response time starts to grow and errors occurs.

A screenshot of a computer

Description automatically generated with medium confidence

**Chart

Description automatically generated**

**Graphical user interface, application

Description automatically generated**

**Graphical user interface, chart

Description automatically generated**

As it follows from chart, the CPU usage stays less than 70% for comfort zone (except 2-3 spikes), after that increases and reaches 70%.

From analyze of all charts we can conclude, that the saturation point is about 70 users.

1. **Conclusion:** application reaches saturation point at *23:02,* when *50 virtual users* produced *90-100 requests per second*