Performance Testing Mentoring Program 2022-2023

Task 4

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1 Goal

Implement Admin user scenario, perform a Smoke test, and perform a load test with 2 admin users.

Prerequisites: generated 100 posts.

Testing scenario: Open home page, log in as Admin user, open Admin's page, check number of

Anonymous users and decide to add or delete user, finally Log out.

Test environment: test application and load generator are running on the same computer. Application

is executed on virtual machine and the load generator is executed on the hast.

2 Summary

A smoke test was performed prior to the load test. The behavior of the system during the load test did not cause any remarks and corresponds to the SLA for this loading scenario.

The number of errors Is less than 0.03%.

Error details: All 5 errors occurred on the POST request to create a user. In the test, a mechanism was developed to reduce the likelihood of attempts to create the same user. But it is impossible to completely eliminate such an error when the naming mask is given to the user by the specified mask (User_nn).

3 What was tested

BlogEngine.NET 3.2 (web) (Executed on the application server)

Parameters of the system under test:

VirtualBox Graphical User Interface Version 7.0.4 r154605 (Qt5.15.2), Windows Server 2016 Standard (64-bit)

OS Name: Microsoft Windows 10 Enterprise, (64-bit) Version 10.0.19044 Build 19044

Base memory: 2,0Gb

Processor: Intel(R) Core(TM) i7-10610U CPU @ 1.80GHz, 2304 Mhz, 1 Core(s), 1 Logical Processor(s)

Storage: Virtual size 60.00 GB

Network: Bridged adapter, Intel® Wi-Fi 6 AX201 160Mhz

Load generator tool: Apache JMeter 5.5 (Executed on Host)

OS Name: Microsoft Windows 10 Enterprise (64-bit) Version 10.0.19045 Build 19045

Base memory: 32,0 GB

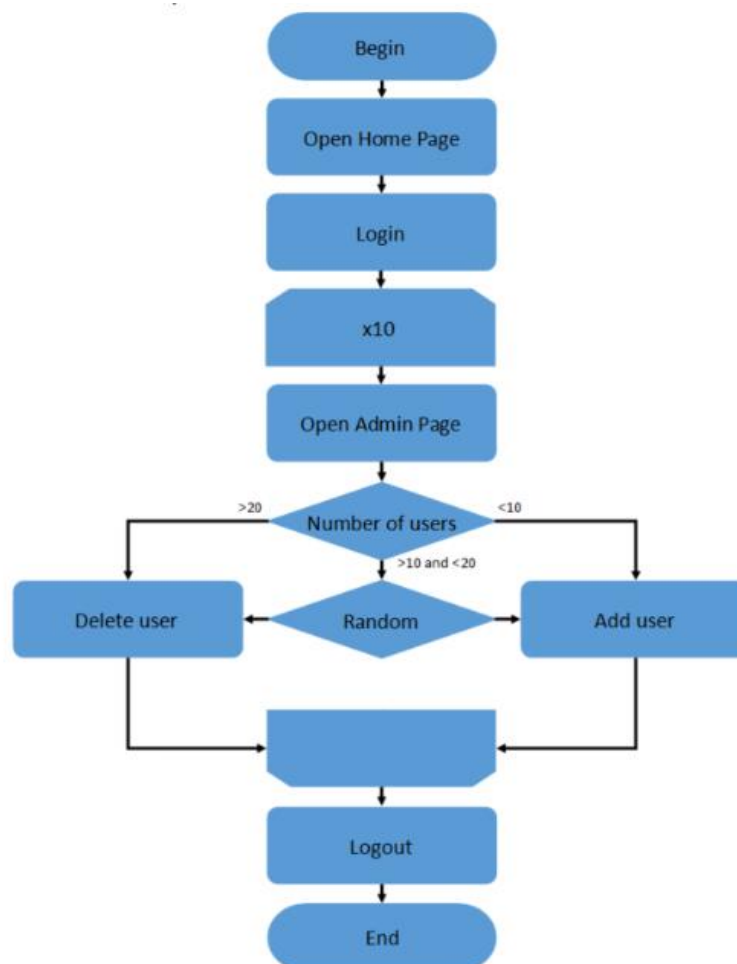Processor: Intel(R) Core(TM) i7-10610U CPU @ 1.80GHz, 2304 Mhz, 4 Core(s), 8 Logical Processor(s)

Storage: C: 248 Gb, D: Locked

Running Tests: Jenkins

Collection and visualization of metrics: InfluxDB, Telegraf, Grafana

5. Admin script

First, open the home page then log in as an Admin user, after that 10 times check number of Anonymous users and decide to add or delete users, and finally log out.

2 Admin users, think time - Gaussian distributed value (with CONSTANT_DELAY=500ms and DEVIATION_DELAY=250ms), duration 7200 s.

Aggregate report:

transaction ▲	NumberOfSamples	Average	pct90	pct95	pct99	Min	Max	Error Count
TC_Add user	2.07 K	16.51	42.90	84.90	399.20	6.00	402.00	5.00
TC_Delete user	2.07 K	23.91	27.90	60.80	23.93 K	0.00	24.17 K	-
TC_LogOff	413.00	13.82	27.90	38.70	254.51	6.00	256.00	-
TC_Login	415.00	16.00	29.60	45.80	144.32	8.00	145.00	-
TC_Open Admin Page	4.14 K	3.98	7.90	27.95	343.07	1.00	346.00	-
TC_Open Home page	415.00	9.51	37.50	82.85	132.55	4.00	133.00	-
TC_Open USERS menu	4.14 K	4.93	11.00	29.85	237.38	2.00	238.00	-
TC_Open Users page	4.14 K	18.57	36.80	70.10	1.03 K	8.00	1.03 K	-
TC_Open login page	415.00	64.82	90.70	140.25	1.08 K	42.00	1.09 K	-

Response time vs Active threads vs Throughput vs Error rate graph: