Environment: Analysis was performed on TEST environment.

General info:

	Host	Type	IP	Hosted Applications	Ports
STAGING	EPUAKYIW1686T1	VM	10.17.172.226	EPUAKYIW1686T1.kyiv.epam.com	8080, 4444

System resources (TEST env):

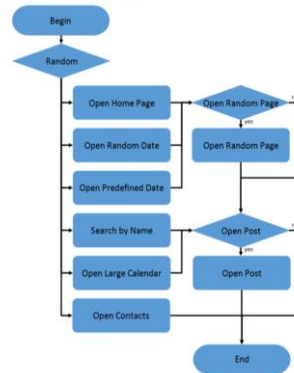| CPU, GHz	Memory, Gb	Disk size, Gb
2	8	100

Test scenario

There are considered Main script for Anonymous user scenario for two type of probability usage where

Test conditions
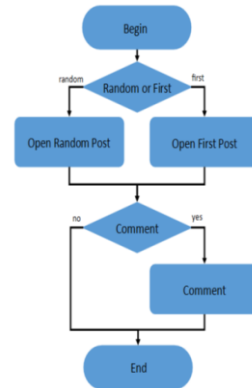
Transaction	First Condition	Second Condition
open home page	random	15%
open random date	random	10%
open predefined date	random	30%
search by name	random	30%
open large calendar	random	10%
open contacts	random	5%
open random page	50%	50%
open post	50%	80%
open random post	50%	65%
open first post	50%	35%
add comment	50%	20%

Test Setup

	First Condition	Second Condition
number of virtual users	Up to 150	
ramp-up period(sec)	750	
duration(sec)	900	
think time (sec)	3-5	

Test Summary(1000 posts 1-st and 2-nd conditions)

1 The maximum capacity of the application usage by Anonymous clients is found. For both scenarios it is restricted by the 100% CPU usage and and a significant increase in the use of network resources. Adding more load leads to the application becomes unresponsive.

2 Saturation point is 138 users for the 1st scenario. Saturation point is 86 for the 2nd scenario.

3 A memory leak was possible.

Recommendation

 1 Possibility to increasing CPU power.

2 Increase Network I/O.

3 After reaching the point of saturation, the application doesn't respond and no recovery is provided for. Perhaps we should add a recovery step or at least a stub which produced 500 errors.

4 Due to the use of probable percentages in the second case the load was greater and more real. A memory leak was possible, needed to set a limit on the number of requests for an open predefined date, search by name, open post and increase network resources.

Results: graphs and tables(1000 posts 1-st and 2-nd conditions, for more details open dashboard HTMLReport > index)

1 Statistics

1-st condition

Statistics												
Requests	Executions			Response Times (ms)							Network (KB/sec)	
Label ▲	#Samples ⇕	KO ⇕	Error % ⇕	Average ⇕	Min ⇕	Max ⇕	90th pct ⇕	95th pct ⇕	99th pct ⇕	Throughput ⇕	Received ⇕	Sent ⇕
Total	**11833**	**726**	**6.14%**	**3777.61**	**7**	**64999**	**196.00**	**60002.00**	**63471.22**	**12.39**	**332.24**	**15.31**
Comment transaction	1939	88	4.54%	2826.48	16	64859	176.00	401.00	63458.00	2.14	6.31	6.67
Go To Contact transaction	778	38	4.88%	3044.29	20	64979	85.10	4203.70	64162.49	0.83	14.51	0.73
Go to log in page transaction	150	13	8.67%	5220.90	7	60003	146.10	60002.00	60003.00	0.19	0.82	0.03
Go To Main Blog page transaction	150	15	10.00%	6264.80	34	64633	54021.20	63359.05	64483.57	0.16	4.48	0.13
Log in transaction	150	14	9.33%	5663.95	39	60003	453.80	60002.45	60003.00	0.17	4.91	0.18
Open First or Random Post transaction	3980	187	4.70%	2905.37	26	64999	217.00	411.00	63295.49	4.32	131.12	3.86
Open Home Page transaction	826	36	4.36%	2698.66	32	64666	99.30	179.95	60002.00	0.89	26.09	0.79
Open Large Calendar transaction	823	31	3.77%	2398.97	66	64600	166.00	233.00	62377.40	0.89	66.99	0.81
Open Predefined Date transaction	830	52	6.27%	3820.91	26	64951	105.70	60002.00	64330.35	0.90	25.61	0.80
Open Random Date transaction	783	40	5.11%	3165.18	25	64791	103.60	60001.00	63397.28	0.84	24.38	0.75
Open Random Page transaction	494	32	6.48%	4010.51	26	64247	113.50	60002.00	63716.55	0.54	15.56	0.48
Search by Name transaction	780	30	3.85%	2411.52	31	64999	147.00	238.85	63044.84	0.87	23.57	0.78

2-nd condition

Statistics

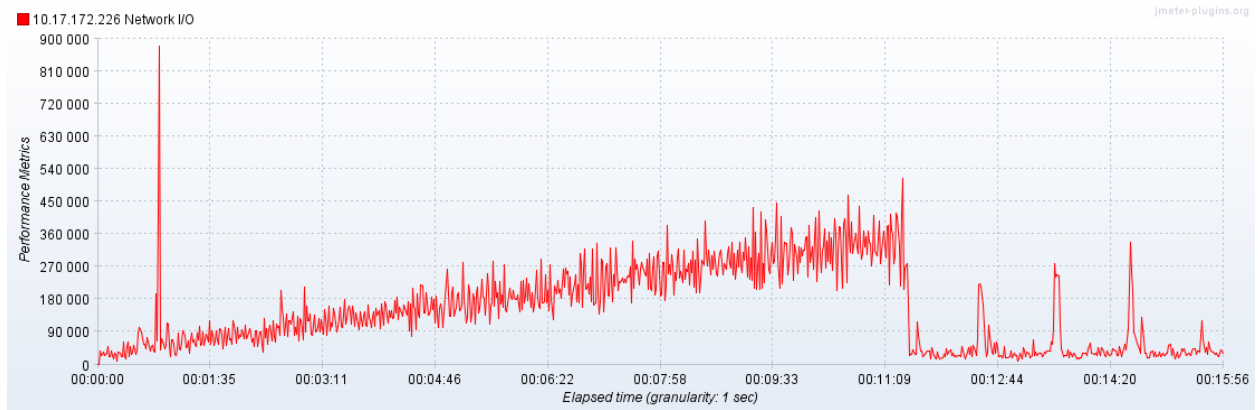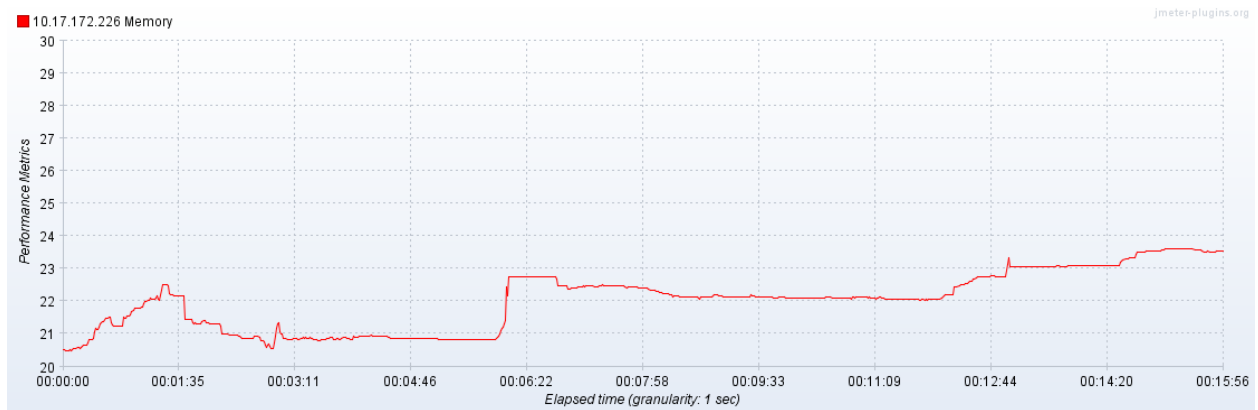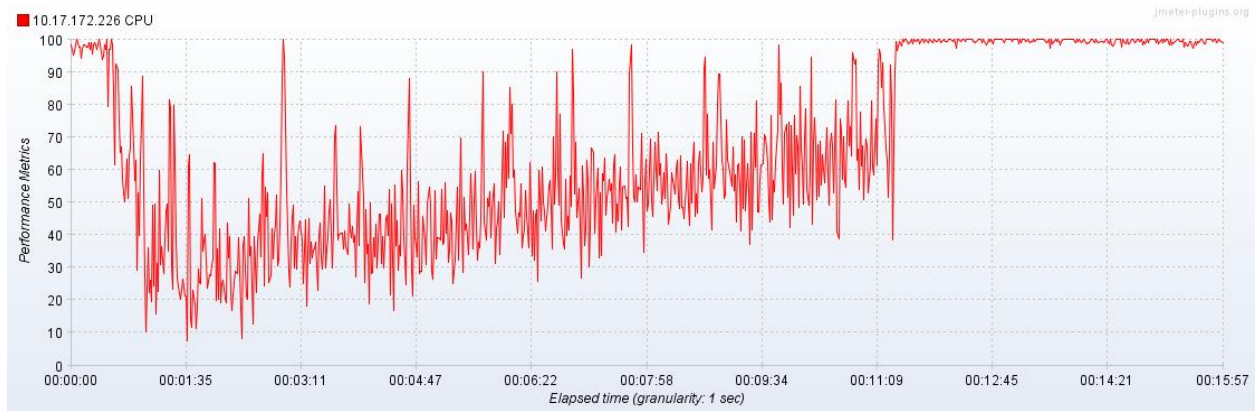| Requests | Executions | | | Response Times (ms) | | | | | | | Network (KB/sec) | |
Label	#Samples	KO	Error %	Average	Min	Max	90th pct	95th pct	99th pct	Throughput	Received	Sent
Total	**5713**	**1230**	**21.53%**	**12099.48**	**6**	**64996**	**60002.00**	**60003.00**	**63837.62**	**6.09**	**140.83**	**5.03**
Comment transaction	314	46	14.65%	8728.13	16	64828	60003.00	60003.00	64518.55	0.38	1.10	1.06
Go To Contact transaction	126	19	15.08%	9150.50	22	63798	60002.00	60002.00	63784.77	0.15	2.31	0.11
Go to log in page transaction	150	65	43.33%	26010.13	6	60005	60003.00	60003.00	60005.00	0.19	0.68	0.02
Go To Main Blog page transaction	150	67	44.67%	27031.48	35	64562	60002.00	63033.35	64492.13	0.16	2.93	0.08
Log in transaction	150	66	44.00%	26437.28	41	60003	60003.00	60003.00	60003.00	0.17	3.21	0.11
Open First Post transaction	659	91	13.81%	8431.97	30	64874	60002.00	60002.00	63960.80	0.75	18.42	0.60
Open Home Page transaction	361	59	16.34%	7937.00	33	64779	60001.00	60002.00	63228.74	0.40	10.28	0.30
Open Large Calendar transaction	238	35	14.71%	8273.84	66	64555	60002.00	60002.00	63993.73	0.27	17.85	0.21
Open Predefined Date transaction	749	146	19.49%	11501.16	26	64996	60002.00	60002.00	63563.50	0.81	20.54	0.60
Open Random Date transaction	250	39	15.60%	8054.68	25	64956	60002.00	60002.00	64818.52	0.28	7.24	0.22
Open Random Page transaction	570	88	15.44%	9300.63	27	64875	60002.00	60003.00	64115.57	0.65	16.76	0.51
Open Random Post transaction	1145	228	19.91%	10419.18	27	64949	60002.00	60002.00	64157.60	1.24	26.80	0.92
Search by Name transaction	701	131	18.69%	10514.56	29	64457	60002.00	60003.00	64079.00	0.76	17.67	0.57

2 Number of active threads graph

1-st condition
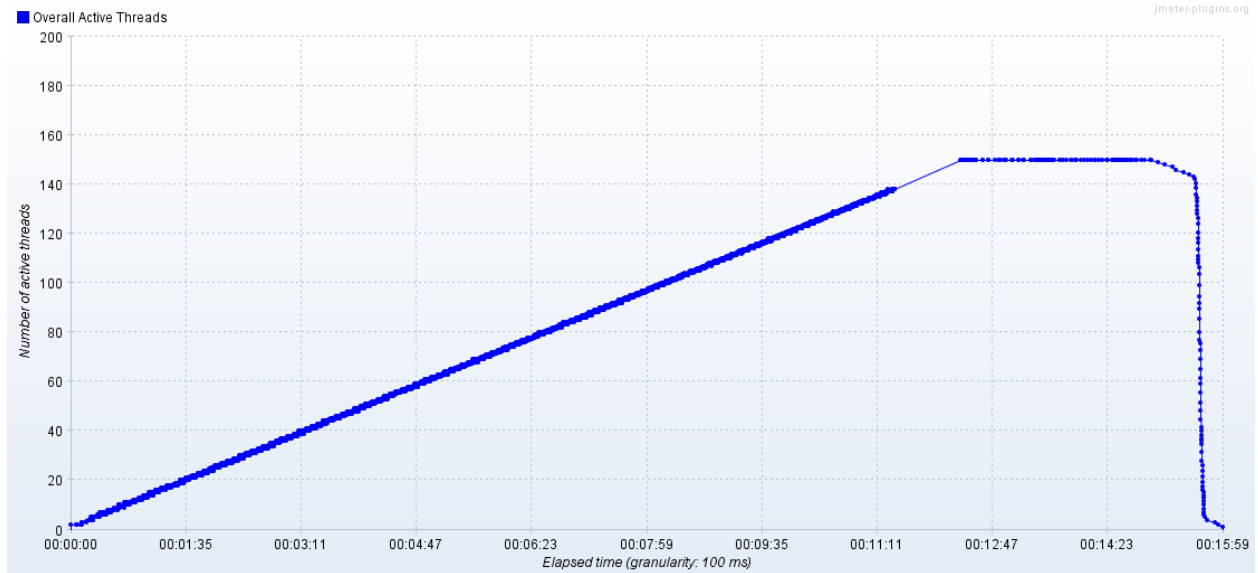
2-nd condition
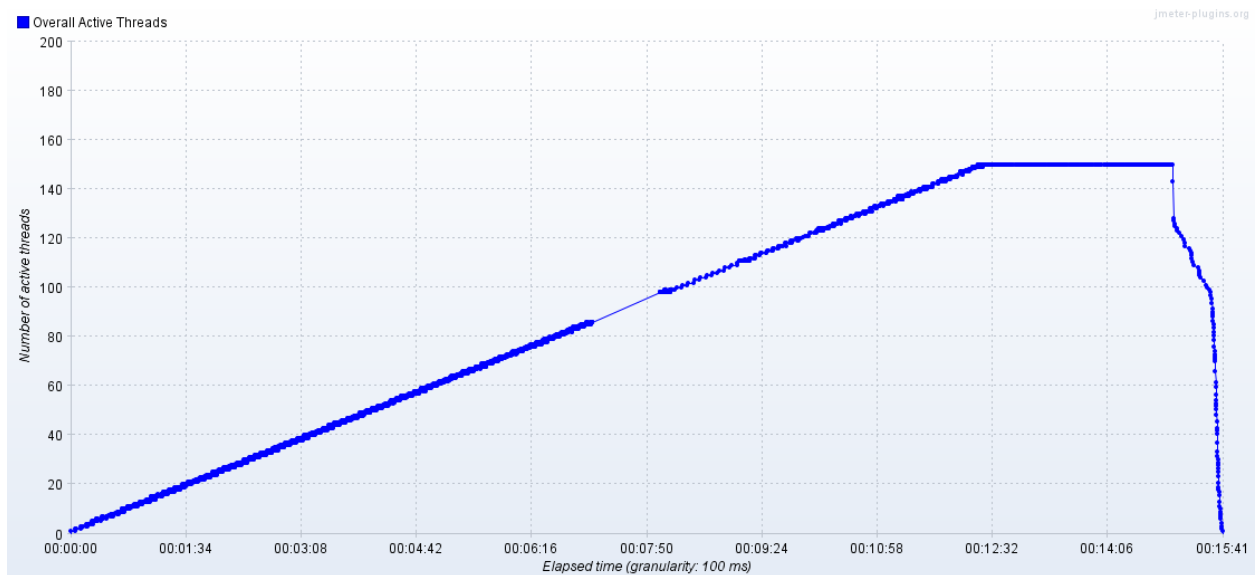
3 PerfMon Metrics (CPU,Memory,Network) graphs

1-st condition

2-nd condition