

LAPORAN HASIL PERFORMANCE TESTING PADA WEBSITE CONTACT LIST APP HEROKUAPP

Performance Testing Fitur Contact pada Contact List App

Source url : <https://thinking-tester-contact-list.herokuapp.com/>

Endpoint yang akan dites :	Kebutuhan Endpoint :
• POST <code>/users/login</code>	• Token • Contact ID
• POST <code>/contacts</code>	
• GET <code>/contacts</code>	
• GET <code>/contacts/{{contactId}}</code>	
• PUT <code>/contacts/{{contactId}}</code>	
• PATCH <code>/contacts/{{contactId}}</code>	
• DELETE <code>/contacts/{{contactId}}</code>	

1. Test Plan Scenario - Load Testing

- Tujuan :

Mengukur sejauh mana website tersebut dapat menangani beban user yang tinggi selama periode waktu tertentu.

- Langkah-langkah :

Simulasi dengan request dimulai dari 5 user, setting ramp-up period diawali dengan 10 detik dan mengatur durasi selama 60 detik.

- Specification :

HOST_URL : <https://thinking-tester-contact-list.herokuapp.com/>

PATH :

- ☒ Path 1 : [POST] `/users/login`
- ☒ Path 2 : [POST] `/contacts`
- ☒ Path 3 : [GET] `/contacts`
- ☒ Path 4 : [GET] `/contacts/{{contactId}}`
- ☒ Path 5 : [PUT] `/contacts/{{contactId}}`
- ☒ Path 6 : [PATCH] `/contacts/{{contactId}}`
- ☒ Path 7 : [DELETE] `/contacts/{{contactId}}`

Quiz 4 - Malia Elisiana

THREAD GROUP PROPERTIES :

1. Number of Thread (user) : 5
2. Ramp-Up Period (seconds) : 10
3. Duration (seconds) : 60

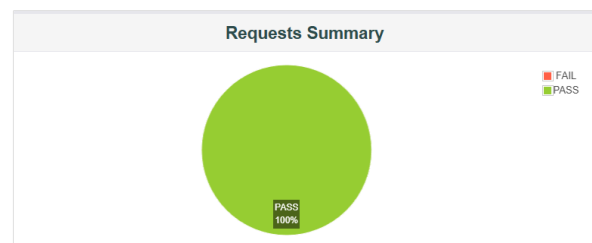
PENJELASAN :

Dengan skenario diatas, maka thread akan dilakukan sebanyak 5 kali, dimana tiap thread dilakukan selama 2 detik (10 detik / 5 user) sebelum berganti ke thread berikutnya dengan durasi total 60 detik (1 menit)

● Result :

Application Performance Index & Requests Summary

APDEX (Application Performance Index)			
Apdex	T (Toleration threshold)	F (Frustration threshold)	Label
0.408	500 ms	1 sec 500 ms	Total
0.000	500 ms	1 sec 500 ms	POST Login User
0.000	500 ms	1 sec 500 ms	GET Contact - 2
0.000	500 ms	1 sec 500 ms	GET Contact - 1
0.000	500 ms	1 sec 500 ms	GET Contact - 4
0.000	500 ms	1 sec 500 ms	GET Contact - 3
0.000	500 ms	1 sec 500 ms	GET Contact - 5
0.000	500 ms	1 sec 500 ms	GET CONTACT LIST
0.472	500 ms	1 sec 500 ms	UPDATE CONTACTS
0.500	500 ms	1 sec 500 ms	GET Contact by ID - 2
0.500	500 ms	1 sec 500 ms	GET Contact by ID - 1
0.500	500 ms	1 sec 500 ms	GET Contact by ID - 4
0.500	500 ms	1 sec 500 ms	GET Contact by ID - 3
0.500	500 ms	1 sec 500 ms	DELETE CONTACT
0.500	500 ms	1 sec 500 ms	GET Contact by ID - 5
0.500	500 ms	1 sec 500 ms	PATCH Update Contact - 1
0.500	500 ms	1 sec 500 ms	POST Add Contacts - 2
0.500	500 ms	1 sec 500 ms	POST Add Contacts - 1
0.500	500 ms	1 sec 500 ms	POST Add Contacts - 4
0.500	500 ms	1 sec 500 ms	POST Add Contacts - 3
0.500	500 ms	1 sec 500 ms	POST Add Contacts - 5
0.500	500 ms	1 sec 500 ms	DELETE Contact - 4
0.500	500 ms	1 sec 500 ms	DELETE Contact - 5
0.500	500 ms	1 sec 500 ms	DELETE Contact - 2
0.500	500 ms	1 sec 500 ms	DELETE Contact - 3
0.500	500 ms	1 sec 500 ms	DELETE Contact - 1
0.500	500 ms	1 sec 500 ms	PATCH Update Contact - 2
0.500	500 ms	1 sec 500 ms	PATCH Update Contact - 3
0.500	500 ms	1 sec 500 ms	PATCH Update Contact - 4
0.500	500 ms	1 sec 500 ms	PATCH Update Contact - 5
0.500	500 ms	1 sec 500 ms	PUT Update Contact - 1
0.500	500 ms	1 sec 500 ms	PUT Update Contact - 2
0.500	500 ms	1 sec 500 ms	PUT Update Contact - 3
0.500	500 ms	1 sec 500 ms	PUT Update Contact - 4
0.500	500 ms	1 sec 500 ms	PUT Update Contact - 5



Quiz 4 - Malia Elisiana

Statistic

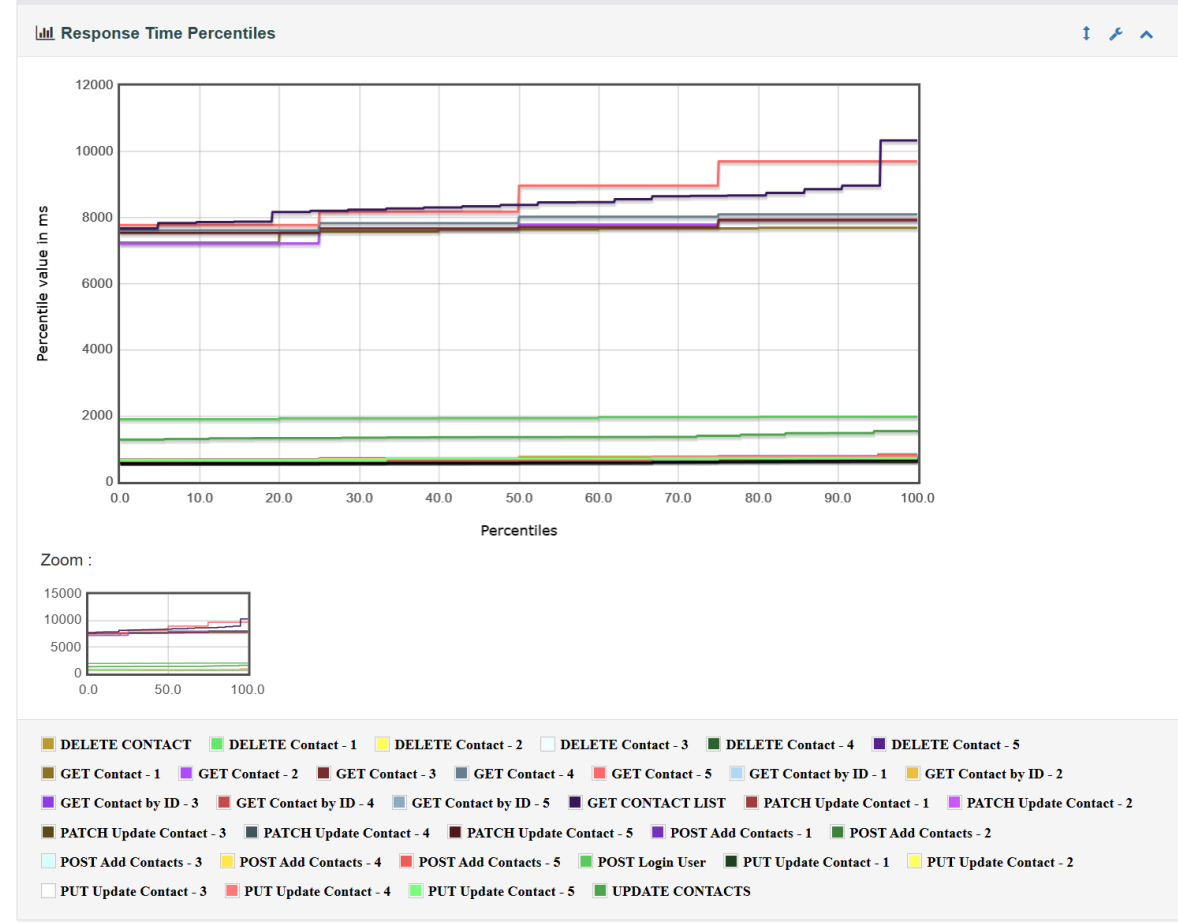
Statistics														
Requests		Executions			Response Times (ms)							Throughput	Network (KB/sec)	
Label	#Samples	FAIL	Error %	Average	Min	Max	Median	90th pct	95th pct	99th pct	Transactions/s	Received	Sent	
Total	209	0	0.00%	1537.42	624	9708	666.00	7583.00	7814.50	8974.00		187.84	2.06	
DELETE CONTACT	17	0	0.00%	668.00	631	725	653.00	717.80	725.00	725.00	0.39	0.29	0.19	
DELETE Contact - 1	4	0	0.00%	683.50	653	702	689.50	702.00	702.00	702.00	0.10	0.07	0.05	
DELETE Contact - 2	4	0	0.00%	637.50	631	646	636.50	646.00	646.00	646.00	0.10	0.07	0.05	
DELETE Contact - 3	3	0	0.00%	654.67	635	692	637.00	692.00	692.00	692.00	0.11	0.08	0.05	
DELETE Contact - 4	3	0	0.00%	684.00	637	716	699.00	716.00	716.00	716.00	0.10	0.08	0.05	
DELETE Contact - 5	3	0	0.00%	685.33	652	725	679.00	725.00	725.00	725.00	0.10	0.07	0.05	
GET Contact - 1	5	0	0.00%	7570.20	7247	7695	7649.00	7695.00	7695.00	7695.00	0.08	41.65	0.03	
GET Contact - 2	4	0	0.00%	7650.25	7222	7910	7734.50	7910.00	7910.00	7910.00	0.08	42.21	0.03	
GET Contact - 3	4	0	0.00%	7717.50	7540	7941	7694.50	7941.00	7941.00	7941.00	0.08	41.87	0.03	
GET Contact - 4	4	0	0.00%	7895.25	7614	8101	7933.00	8101.00	8101.00	8101.00	0.08	41.58	0.03	
GET Contact - 5	4	0	0.00%	8661.00	7778	9708	8579.00	9708.00	9708.00	9708.00	0.08	39.03	0.03	
GET Contact by ID - 1	4	0	0.00%	636.00	628	653	631.50	653.00	653.00	653.00	0.10	0.10	0.08	
GET Contact by ID - 2	4	0	0.00%	702.25	632	767	705.00	767.00	767.00	767.00	0.10	0.10	0.08	
GET Contact by ID - 3	4	0	0.00%	701.25	633	744	714.00	744.00	744.00	744.00	0.09	0.10	0.08	
GET Contact by ID - 4	3	0	0.00%	640.00	633	653	634.00	653.00	653.00	653.00	0.11	0.11	0.09	
GET Contact by ID - 5	3	0	0.00%	669.33	633	691	684.00	691.00	691.00	691.00	0.10	0.10	0.08	
GET CONTACT LIST	21	0	0.00%	8458.71	7677	10341	8388.00	8952.80	10204.30	10341.00	0.34	175.21	0.37	
PATCH Update Contact - 1	4	0	0.00%	664.50	639	690	664.50	690.00	690.00	690.00	0.10	0.10	0.05	
PATCH Update Contact - 2	4	0	0.00%	705.75	654	782	693.50	782.00	782.00	782.00	0.10	0.10	0.05	
PATCH Update Contact - 3	4	0	0.00%	710.50	673	756	706.50	756.00	756.00	756.00	0.09	0.10	0.05	
PATCH Update Contact - 4	3	0	0.00%	669.67	643	717	649.00	717.00	717.00	717.00	0.10	0.11	0.06	
PATCH Update Contact - 5	3	0	0.00%	674.00	649	714	658.00	714.00	714.00	714.00	0.10	0.11	0.05	
POST Add Contacts - 1	25	0	0.00%	666.48	624	766	643.00	749.20	763.30	766.00	0.43	0.46	0.32	
POST Add Contacts - 2	23	0	0.00%	651.91	624	733	637.00	714.20	731.40	733.00	0.41	0.43	0.30	
POST Add Contacts - 3	20	0	0.00%	674.15	634	869	660.00	724.50	861.80	869.00	0.45	0.47	0.33	
POST Add Contacts - 4	20	0	0.00%	671.70	632	799	651.50	741.50	796.30	799.00	0.44	0.47	0.33	
POST Add Contacts - 5	20	0	0.00%	676.55	629	830	664.00	758.60	826.60	830.00	0.42	0.45	0.31	
POST Login User	5	0	0.00%	1937.60	1899	1972	1932.00	1972.00	1972.00	1972.00	0.51	0.63	0.14	
PUT Update Contact - 1	4	0	0.00%	684.00	636	758	671.00	758.00	758.00	758.00	0.10	0.10	0.08	
PUT Update Contact - 2	4	0	0.00%	691.00	639	757	684.00	757.00	757.00	757.00	0.10	0.10	0.08	
PUT Update Contact - 3	4	0	0.00%	675.75	646	718	669.50	718.00	718.00	718.00	0.09	0.10	0.08	
PUT Update Contact - 4	3	0	0.00%	683.00	632	762	655.00	762.00	762.00	762.00	0.11	0.11	0.09	
PUT Update Contact - 5	3	0	0.00%	695.00	660	716	709.00	716.00	716.00	716.00	0.10	0.11	0.08	
UPDATE CONTACTS	18	0	0.00%	1371.72	1281	1539	1354.50	1485.00	1539.00	1539.00	0.38	0.82	0.52	

Errors

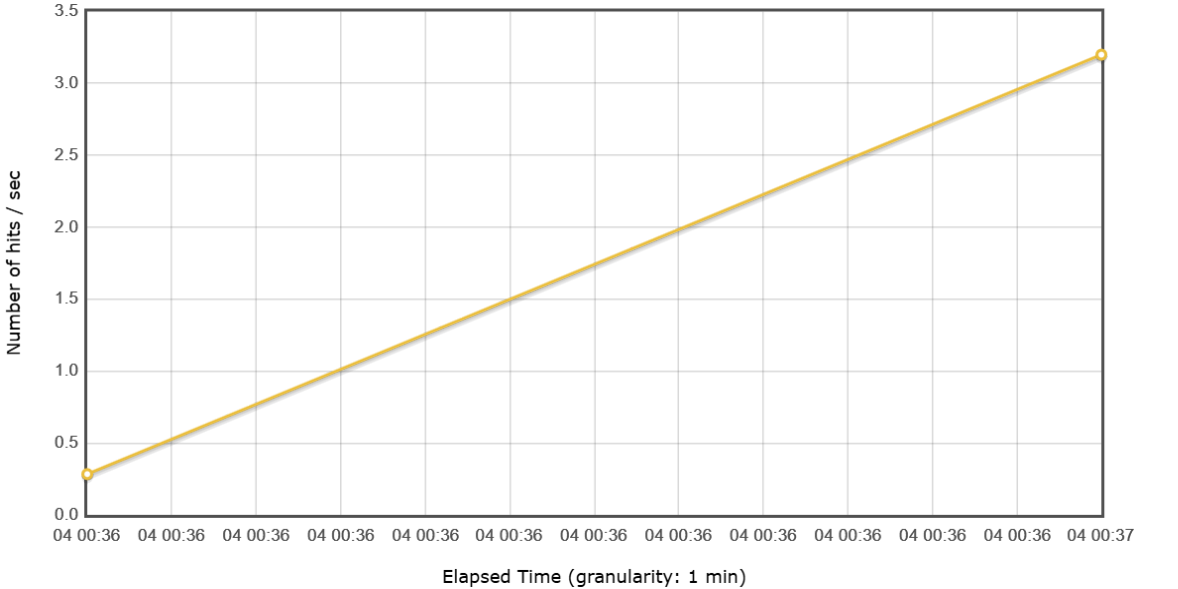
Errors			
Type of error	Number of errors	% in errors	% in all samples

[illegible]

Response Time Percentiles



Throughput Hits Per Seconds



- **Kesimpulan**

Berdasarkan hasil pengujian load testing diatas dapat diidentifikasi bahwa dari semua thread mengirimkan total 209 sample yang dijalankan dalam waktu 10 detik (ramp-up) selama 60 detik dibutuhkan waktu rata-rata 1537.42 ms (1.54(detik. POST Login User dan GET Contact memiliki waktu respons lebih tinggi daripada yang lainnya. Waktu respon minimum sebesar 624 ms (0.62 detik) maksimal sebesar 9708 ms (9.7 detik) dan dari throughput dapat melihat server mampu menguji 3.11 thread per detik. Tidak ada error (0%) dalam pengujian ini, yang menunjukkan sistem menangani semua request dengan baik. Dapat disimpulkan bahwa sistem berjalan dengan stabil tanpa error dan memiliki performa yang baik.

2. Test Plan Scenario - Endurance Testing

- **Tujuan :**

Mengukur kinerja sistem selama periode waktu yang lama untuk menilai daya tahan dan stabilitasnya

- **Langkah-langkah :**

Simulasi dengan request dimulai dari 10 user, setting ramp-up period diawali dengan 120 detik dan mengatur durasi selama 600 detik.

- **Specification :**

HOST_URL : <https://thinking-tester-contact-list.herokuapp.com/>

PATH :

- ☒ Path 1 : [POST] /users/login
- ☒ Path 2 : [POST] /contacts
- ☒ Path 3 : [GET] /contacts
- ☒ Path 4 : [GET] /contacts/{contactId}
- ☒ Path 5 : [PUT] /contacts/{contactId}
- ☒ Path 6 : [PATCH] /contacts/{contactId}
- ☒ Path 7 : [DELETE] /contacts/{contactId}

THREAD GROUP PROPERTIES :

1. Number of Thread (user) : 10
2. Ramp-Up Period (seconds) : 120
3. Duration (seconds) : 600

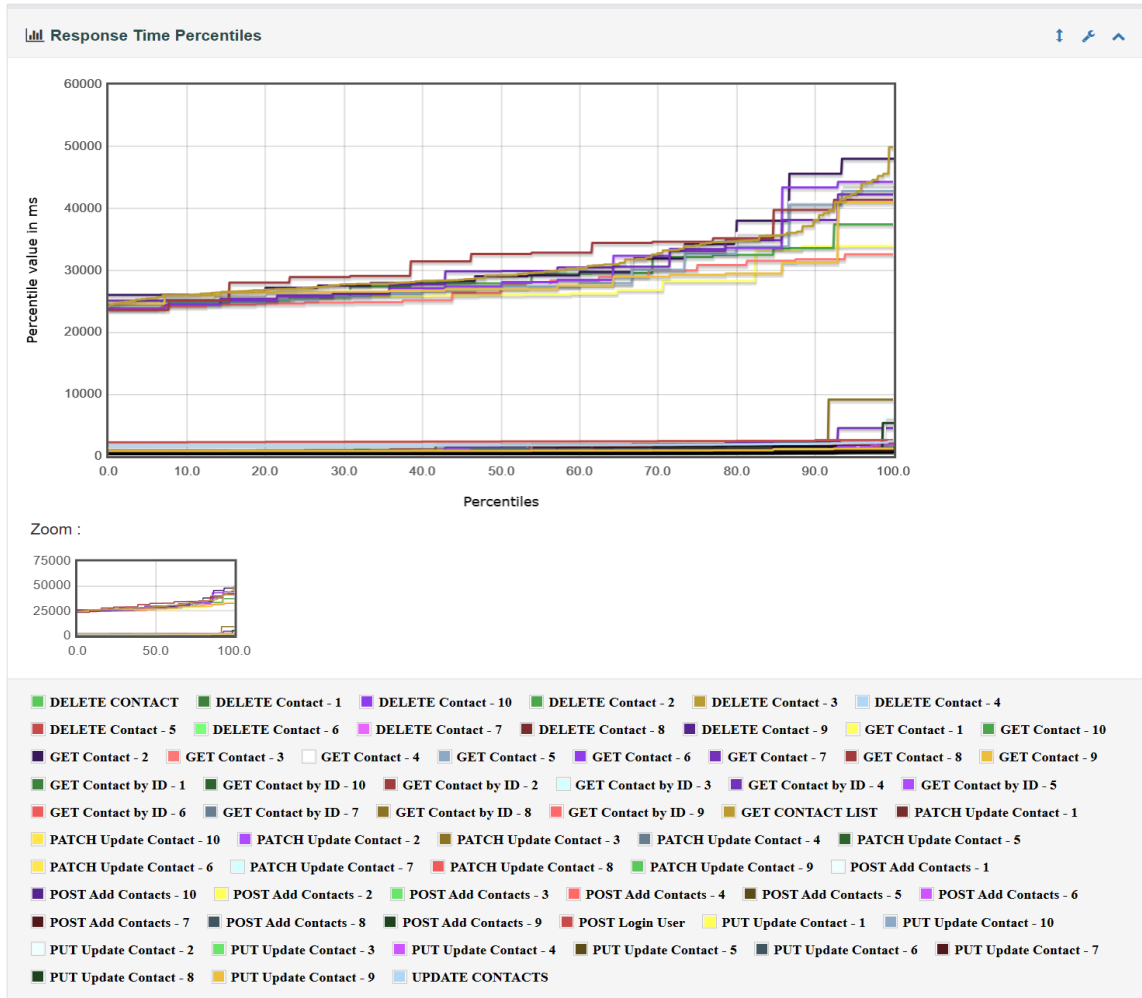
Quiz 4 - Malia Elisiana

PENJELASAN :

Dengan skenario diatas, maka thread akan dilakukan sebanyak 10 kali, dimana tiap thread dilakukan selama 12 detik (120 detik / 10 user) sebelum berganti ke thread berikutnya dengan durasi total 600 detik (10 menit)

- **Result :**

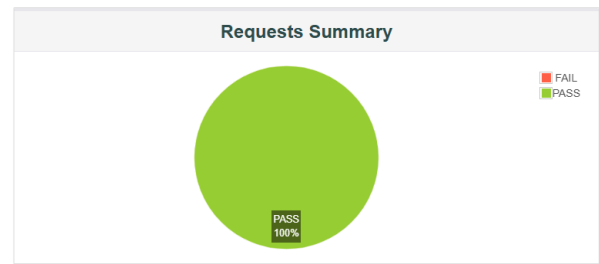
Response Time Percentiles



Quiz 4 - Malia Elisiana

Application Performance Index & Request Summary

Apdex	T (Toleration threshold)	F (Frustration threshold)	Label
0.361	500 ms	1 sec 500 ms	Total
0.000	500 ms	1 sec 500 ms	UPDATE CONTACTS
0.000	500 ms	1 sec 500 ms	POST Login User
0.000	500 ms	1 sec 500 ms	GET Contact - 10
0.000	500 ms	1 sec 500 ms	GET CONTACT LIST
0.000	500 ms	1 sec 500 ms	GET Contact - 2
0.000	500 ms	1 sec 500 ms	GET Contact - 1
0.000	500 ms	1 sec 500 ms	GET Contact - 4
0.000	500 ms	1 sec 500 ms	GET Contact - 3
0.000	500 ms	1 sec 500 ms	GET Contact - 9
0.000	500 ms	1 sec 500 ms	GET Contact - 6
0.000	500 ms	1 sec 500 ms	GET Contact - 5
0.000	500 ms	1 sec 500 ms	GET Contact - 8
0.000	500 ms	1 sec 500 ms	GET Contact - 7
0.208	500 ms	1 sec 500 ms	GET Contact by ID - 8
0.250	500 ms	1 sec 500 ms	GET Contact by ID - 2
0.250	500 ms	1 sec 500 ms	GET Contact by ID - 1
0.250	500 ms	1 sec 500 ms	GET Contact by ID - 5
0.267	500 ms	1 sec 500 ms	GET Contact by ID - 3
0.269	500 ms	1 sec 500 ms	GET Contact by ID - 7
0.269	500 ms	1 sec 500 ms	GET Contact by ID - 10
0.269	500 ms	1 sec 500 ms	GET Contact by ID - 9
0.286	500 ms	1 sec 500 ms	GET Contact by ID - 4
0.308	500 ms	1 sec 500 ms	GET Contact by ID - 6
0.423	500 ms	1 sec 500 ms	DELETE Contact - 9
0.464	500 ms	1 sec 500 ms	PATCH Update Contact - 2
0.486	500 ms	1 sec 500 ms	POST Add Contacts - 6
0.488	500 ms	1 sec 500 ms	POST Add Contacts - 1
0.493	500 ms	1 sec 500 ms	DELETE CONTACT



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0.493	500 ms	1 sec 500 ms	POST Add Contacts - 4
0.493	500 ms	1 sec 500 ms	POST Add Contacts - 9
0.494	500 ms	1 sec 500 ms	POST Add Contacts - 3
0.500	500 ms	1 sec 500 ms	PUT Update Contact - 9
0.500	500 ms	1 sec 500 ms	DELETE Contact - 10
0.500	500 ms	1 sec 500 ms	PUT Update Contact - 10
0.500	500 ms	1 sec 500 ms	PATCH Update Contact - 10
0.500	500 ms	1 sec 500 ms	PATCH Update Contact - 1
0.500	500 ms	1 sec 500 ms	POST Add Contacts - 10
0.500	500 ms	1 sec 500 ms	POST Add Contacts - 2
0.500	500 ms	1 sec 500 ms	POST Add Contacts - 5
0.500	500 ms	1 sec 500 ms	POST Add Contacts - 8
0.500	500 ms	1 sec 500 ms	POST Add Contacts - 7
0.500	500 ms	1 sec 500 ms	DELETE Contact - 6
0.500	500 ms	1 sec 500 ms	DELETE Contact - 7
0.500	500 ms	1 sec 500 ms	DELETE Contact - 4
0.500	500 ms	1 sec 500 ms	DELETE Contact - 5
0.500	500 ms	1 sec 500 ms	DELETE Contact - 2
0.500	500 ms	1 sec 500 ms	DELETE Contact - 3
0.500	500 ms	1 sec 500 ms	DELETE Contact - 1
0.500	500 ms	1 sec 500 ms	PATCH Update Contact - 6
0.500	500 ms	1 sec 500 ms	PATCH Update Contact - 7
0.500	500 ms	1 sec 500 ms	PATCH Update Contact - 8
0.500	500 ms	1 sec 500 ms	PATCH Update Contact - 9
0.500	500 ms	1 sec 500 ms	PATCH Update Contact - 3
0.500	500 ms	1 sec 500 ms	PATCH Update Contact - 4
0.500	500 ms	1 sec 500 ms	DELETE Contact - 8
0.500	500 ms	1 sec 500 ms	PATCH Update Contact - 5
0.500	500 ms	1 sec 500 ms	PUT Update Contact - 1
0.500	500 ms	1 sec 500 ms	PUT Update Contact - 2
0.500	500 ms	1 sec 500 ms	PUT Update Contact - 3
0.500	500 ms	1 sec 500 ms	PUT Update Contact - 4
0.500	500 ms	1 sec 500 ms	PUT Update Contact - 5
0.500	500 ms	1 sec 500 ms	PUT Update Contact - 6
0.500	500 ms	1 sec 500 ms	PUT Update Contact - 7
0.500	500 ms	1 sec 500 ms	PUT Update Contact - 8

Quiz 4 - Malia Elisiana

Statistic

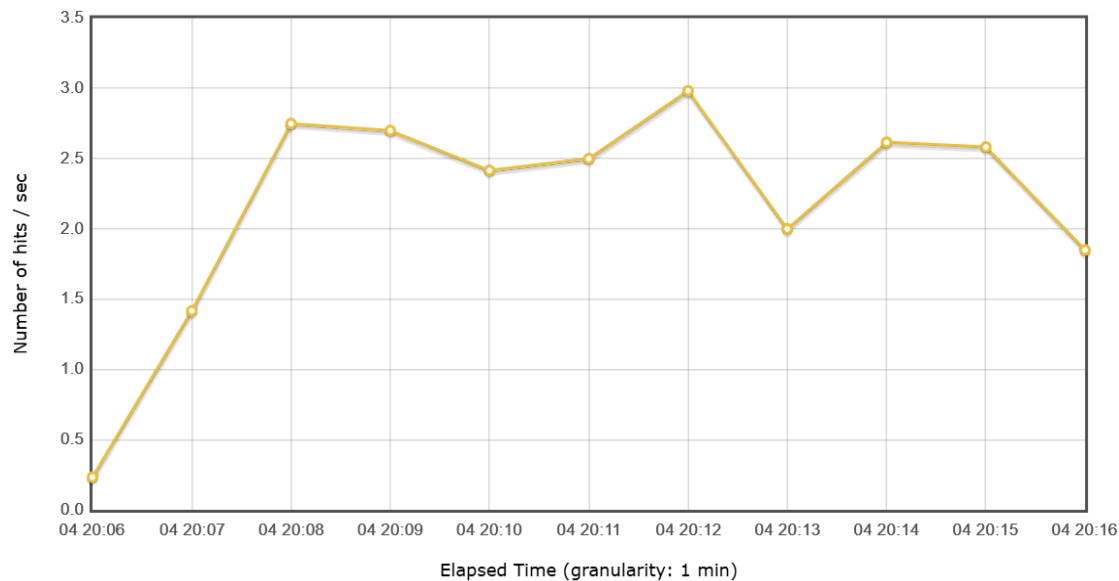
Statistics																			
Requests		Executions				Response Times (ms)								Throughput		Network (KB/sec)			
Label	*	#Samples	# FAIL	Error %	Average	Min	Max	Median	90th pct	99th pct	99th pct	99th pct	99th pct	Transactions/s	*	Received	*	Sent	*
Total		1443	0	0.00%	4998.78	820	48020	873.00	24623.80	28257.80	40238.60	2.31				519.45		1.48	
DELETE Contact - 1		136	0	0.00%	904.28	820	2314	856.50	988.50	1154.15	2033.91	0.25				0.18		0.11	
DELETE Contact - 2		16	0	0.00%	921.69	826	1459	859.00	1252.90	1459.00	1459.00	0.03				0.02		0.01	
DELETE Contact - 3		14	0	0.00%	872.79	828	1039	844.00	980.50	1039.00	1039.00	0.03				0.02		0.01	
DELETE Contact - 4		15	0	0.00%	910.27	835	1199	857.00	1170.20	1199.00	1199.00	0.03				0.02		0.01	
DELETE Contact - 5		14	0	0.00%	865.50	829	992	853.00	952.00	992.00	992.00	0.03				0.02		0.01	
DELETE Contact - 6		14	0	0.00%	868.21	831	933	850.50	925.50	933.00	933.00	0.03				0.02		0.01	
DELETE Contact - 7		13	0	0.00%	857.38	833	901	847.00	895.40	901.00	901.00	0.03				0.02		0.01	
DELETE Contact - 8		13	0	0.00%	885.23	820	1069	869.00	1016.20	1069.00	1069.00	0.03				0.02		0.01	
DELETE Contact - 9		12	0	0.00%	879.17	833	987	860.50	974.70	987.00	987.00	0.03				0.02		0.01	
DELETE Contact - 10		13	0	0.00%	1087.08	843	2314	891.00	2011.20	2314.00	2314.00	0.03				0.02		0.01	
GET Contact by ID - 1		12	0	0.00%	898.17	828	1387	844.00	1256.80	1387.00	1387.00	0.03				0.02		0.01	
GET Contact - 1		17	0	0.00%	27419.29	24502	33940	26044.00	33920.80	33940.00	33940.00	0.03				57.29		0.01	
GET Contact - 2		15	0	0.00%	31677.87	26919	48020	29032.00	46578.20	48020.00	48020.00	0.02				51.77		0.01	
GET Contact - 3		16	0	0.00%	27496.13	23853	32606	26923.50	32940.40	32606.00	32606.00	0.03				57.76		0.01	
GET Contact - 4		15	0	0.00%	30170.20	24242	43799	27193.00	42157.40	43799.00	43799.00	0.03				53.78		0.01	
GET Contact - 5		15	0	0.00%	29498.20	24444	42796	27344.00	41462.00	42796.00	42796.00	0.03				55.10		0.01	
GET Contact - 6		14	0	0.00%	30246.71	23764	44305	27783.00	43854.50	44305.00	44305.00	0.03				54.09		0.01	
GET Contact - 7		14	0	0.00%	30375.21	25117	42281	29886.00	40215.00	42281.00	42281.00	0.03				53.94		0.01	
GET Contact - 8		13	0	0.00%	32096.85	23618	41409	32069.00	40753.40	41409.00	41409.00	0.02				50.99		0.01	
GET Contact - 9		14	0	0.00%	28148.36	24620	40987	26956.50	36114.50	40987.00	40987.00	0.03				56.07		0.01	
GET Contact - 10		13	0	0.00%	29045.62	24073	37438	27899.00	35910.00	37438.00	37438.00	0.03				56.20		0.01	
GET Contact by ID - 2		14	0	0.00%	1410.07	864	2052	1463.50	2046.00	2052.00	2052.00	0.03				0.03		0.02	
GET Contact by ID - 3		15	0	0.00%	1102.27	837	2381	1087.00	2218.40	2381.00	2381.00	0.03				0.03		0.02	
GET Contact by ID - 4		14	0	0.00%	1520.93	826	4517	902.00	3389.00	4517.00	4517.00	0.03				0.03		0.02	
GET Contact by ID - 5		14	0	0.00%	1393.21	838	2007	1521.00	1962.50	2007.00	2007.00	0.03				0.03		0.02	
GET Contact by ID - 6		13	0	0.00%	1259.23	839	2119	887.00	2054.20	2119.00	2119.00	0.03				0.03		0.02	
GET Contact by ID - 7		13	0	0.00%	1360.77	826	2072	1145.00	2070.00	2072.00	2072.00	0.03				0.03		0.02	
GET Contact by ID - 8		12	0	0.00%	2066.83	834	9139	1785.50	6983.20	9139.00	9139.00	0.03				0.03		0.02	
GET Contact by ID - 9		13	0	0.00%	1328.15	836	2032	894.00	1996.00	2032.00	2032.00	0.03				0.03		0.02	
GET Contact by ID - 10		13	0	0.00%	1314.69	836	1919	913.00	1903.60	1919.00	1919.00	0.03				0.03		0.02	
GET CONTACT LIST		148	0	0.00%	30910.43	24481	49009	29190.50	38379.50	42647.95	47891.78	0.24				491.77		0.26	
PATCH Update Contact - 1		16	0	0.00%	907.38	836	1121	869.00	1067.20	1121.00	1121.00	0.03				0.03		0.01	
PATCH Update Contact - 2		14	0	0.00%	947.86	849	1526	876.50	1275.00	1526.00	1526.00	0.03				0.03		0.01	
PATCH Update Contact - 3		15	0	0.00%	879.13	845	938	869.00	930.80	938.00	938.00	0.03				0.03		0.01	
PATCH Update Contact - 4		14	0	0.00%	883.86	842	1001	862.50	980.00	1001.00	1001.00	0.03				0.03		0.01	
PATCH Update Contact - 5		14	0	0.00%	899.43	847	1060	884.00	1007.00	1060.00	1060.00	0.03				0.03		0.01	
PATCH Update Contact - 6		13	0	0.00%	878.31	849	953	870.00	934.20	953.00	953.00	0.03				0.03		0.01	
PATCH Update Contact - 7		13	0	0.00%	875.38	810	1017	868.00	962.60	1017.00	1017.00	0.03				0.03		0.01	
PATCH Update Contact - 8		12	0	0.00%	827.92	854	1120	868.50	1096.00	1120.00	1120.00	0.03				0.03		0.01	
PATCH Update Contact - 9		13	0	0.00%	905.77	842	1245	875.00	1130.60	1245.00	1245.00	0.03				0.03		0.01	
PATCH Update Contact - 10		13	0	0.00%	913.62	837	1223	859.00	1189.80	1223.00	1223.00	0.03				0.03		0.01	
POST Add Contacts - 1		85	0	0.00%	978.39	824	6730	867.00	1085.20	1327.40	8730.00	0.15				0.15		0.10	
POST Add Contacts - 2		75	0	0.00%	894.48	831	1195	866.00	1006.40	1114.20	1195.00	0.13				0.14		0.10	
POST Add Contacts - 3		80	0	0.00%	889.65	828	1542	859.50	955.10	1069.55	1542.00	0.15				0.15		0.10	
POST Add Contacts - 4		75	0	0.00%	909.27	826	1809	860.00	1023.20	1165.00	1809.00	0.14				0.15		0.10	
POST Add Contacts - 5		75	0	0.00%	892.52	823	1211	866.00	975.00	1111.00	1211.00	0.14				0.15		0.10	
POST Add Contacts - 6		70	0	0.00%	809.86	829	1766	857.00	1012.90	1303.55	1766.00	0.14				0.14		0.10	
POST Add Contacts - 7		70	0	0.00%	888.33	826	1222	860.00	997.00	1093.00	1222.00	0.14				0.15		0.10	
POST Add Contacts - 8		65	0	0.00%	884.32	830	1250	860.00	969.00	1039.80	1250.00	0.13				0.14		0.09	
POST Add Contacts - 9		70	0	0.00%	957.81	825	5349	869.00	1040.30	1095.85	5349.00	0.14				0.15		0.10	
POST Add Contacts - 10		65	0	0.00%	905.35	827	1284	875.00	1012.20	1169.60	1284.00	0.14				0.15		0.10	
POST Login User		10	0	0.00%	2369.00	2228	2583	2366.00	2571.10	2583.00	2583.00	0.09				0.11		0.02	
PUT Update Contact - 1		16	0	0.00%	911.19	837	1168	864.00	1087.60	1168.00	1168.00	0.03				0.03		0.02	
PUT Update Contact - 2		14	0	0.00%	897.00	837	983	883.50	981.50	983.00	983.00	0.03				0.03		0.02	
PUT Update Contact - 3		15	0	0.00%	926.67	849	1182	888.00	1156.20	1182.00	1182.00	0.03				0.03		0.02	
PUT Update Contact - 4		14	0	0.00%	878.86	835	1048	857.00	984.00	1048.00	1048.00	0.03				0.03		0.02	
PUT Update Contact - 5		14	0	0.00%	822.61	841	1118	865.50	1109.50	1118.00	1118.00	0.03				0.03		0.02	
PUT Update Contact - 6		13	0	0.00%	930.54	835	1231	857.00	1197.40	1231.00	1231.00	0.03				0.03		0.02	
PUT Update Contact - 7		13	0	0.00%	859.15	843	902	855.00	893.60	902.00	902.00	0.03				0.03		0.02	
PUT Update Contact - 8		12	0	0.00%	924.92	839	1138	908.50	1109.30	1138.00	1138.00	0.03				0.03		0.02	
PUT Update Contact - 9		13	0	0.00%	915.54	838	1206	863.00	1170.40	1206.00	1206.00	0.03				0.03		0.02	
PUT Update Contact - 10		13	0	0.00%	899.54	839	1247	861.00	1131.80	1247.00	1247.00	0.03				0.03		0.02	
UPDATE CONTACTS		137	0	0.00%	1807.92	1682	2382	1757.00	1998.40	2118.00	2386.38	0.24				0.52		0.31	

Errors

Errors			
Type of error	Number of errors	% in errors	% in all samples

Top 5 Errors by sampler													
Sample	#Samples	#Errors	Error	#Errors	Error	#Errors	Error	#Errors	Error	#Errors	Error	#Errors	Error
Total	1443	0											

Throughput Hits Per Seconds



- Kesimpulan

Berdasarkan hasil pengujian endurance testing diatas dapat diidentifikasi bahwa dari semua thread mengirimkan total 1443 sample yang dijalankan dalam waktu 120 detik (ramp-up) selama 600 detik dibutuhkan waktu rata-rata 4095.75 ms (4.09 detik). POST Login User dan GET Contact memiliki waktu respons lebih tinggi daripada yang lainnya. Waktu respon minimum sebesar 820 ms (0.82 detik) maksimal sebesar 48020 ms (48.02 detik) dan dari throughput dapat melihat server mampu menguji 2.31 thread per detik. Tidak ada error (0%) dalam pengujian ini, yang menunjukkan sistem menangani semua request dengan baik. Dapat disimpulkan bahwa sistem berjalan dengan stabil tanpa error dan tidak ada penurunan kinerja dalam menghadapi beban yang berkelanjutan.