

ITEM 5: PERFORMANCE REPORT

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DELIVERABLE 11 ITEM 5: PERFORMANCE REPORT

1. INTRODUCTION

The aim of this report is to show the information related to our project performance attained through the performance tests that our group has carried out. Tests have been run in five different computers, the features of each machine will be detailed when showing their corresponding tests. We will use the test that stresses the most our system in order to determine the maximum workload our system can take

2. TESTS RAN IN MACHINE 1

This computer has the following features:

Processor: Intel(R) Core(TM) i7-7700HQ CPU @2.80GHz 2.81GHz

RAM memory: 12GB

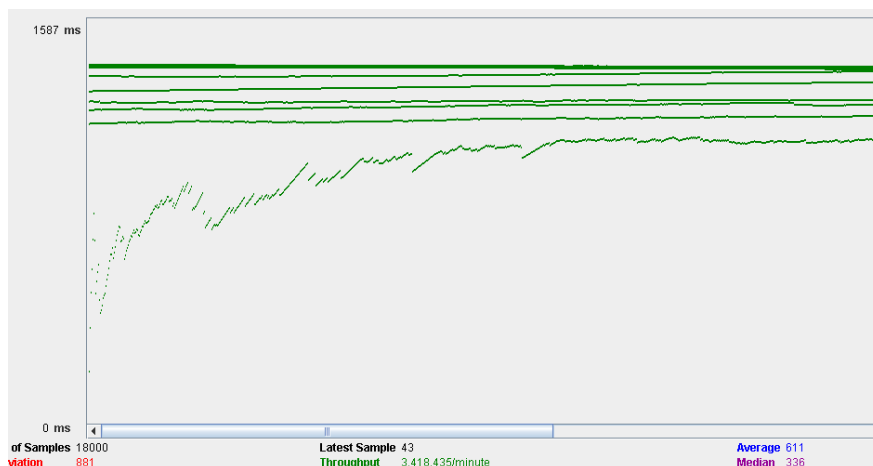
Hard Disk: 765GB HDD

Wireless adapter: Intel (R) Dual Band Wireless-AC 7260.

Test1: List and search repair shops

With 60 users and 100 loops:

Filename		Browse...		Log/Display Only: <input type="checkbox"/> Errors <input type="checkbox"/> Successes		Configure			
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/repairShop/list.do	6000	952	637	2067	36	12350	0.00%	19.0/sec	217.8
/images/arrow_off...	6000	24	19	45	2	331	0.00%	19.0/sec	9.7
/repairShop/list-s...	6000	855	567	1802	34	10398	0.00%	19.0/sec	190.7
TOTAL	18000	611	336	1547	2	12350	0.00%	57.0/sec	418.1



Test 2: Create repair shops

With 60 users and 100 loops:

Aggregate Report

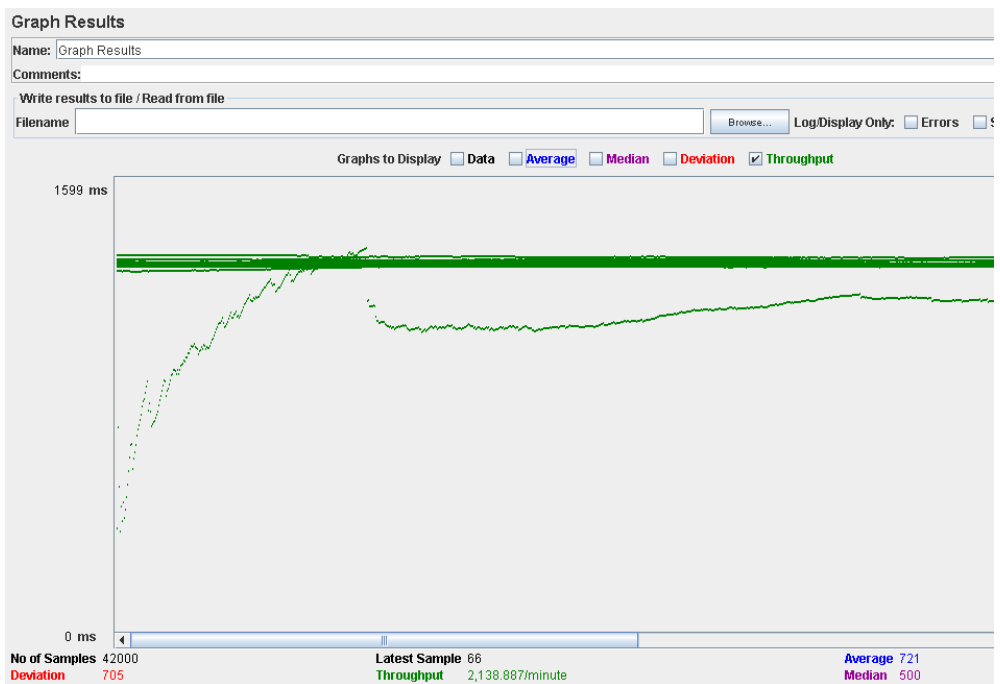
Name: Aggregate Report

Comments:

Write results to file / Read from file

Filename: Log/Display Only: ☐ Errors ☐ Successes

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	12000	523	363	1071	28	10181	0.00%	10.2/sec	93.8
/security/login.do	6000	518	342	1097	25	6453	0.00%	5.1/sec	48.5
/j_spring_security...	6000	903	670	1792	46	11391	0.00%	5.1/sec	48.5
/repairShop/mech...	6000	587	416	1206	36	5771	0.00%	5.1/sec	58.4
/repairShop/mech...	6000	1339	1133	2356	103	9115	0.00%	5.1/sec	85.6
/repairShop/mech...	6000	655	495	1259	51	7685	0.00%	5.1/sec	84.2
TOTAL	42000	721	500	1544	25	11391	0.00%	35.6/sec	416.7



Test 3: A mechanic lists the reservations made to his repair shops.

With 60 users and 100 loops:

Aggregate Report

Name: Aggregate Report

Comments:

Write results to file / Read from file

Filename

Browse...

 Log/Display Only: ☐ Errors ☐ Successes

Configure

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	12000	856	547	1969	28	10871	0.00%	17.8/sec	163.1
/security/login.do	6000	918	602	2136	29	11118	0.00%	8.9/sec	84.3
/j_spring_security...	6000	1683	1328	3475	48	13244	0.00%	8.9/sec	84.4
/reservation/mech...	6000	1004	710	2171	53	9624	0.00%	8.9/sec	104.1
TOTAL	30000	1064	710	2409	28	13244	0.00%	44.5/sec	435.5



Test 4: Register as a mechanic

With 60 users and 100 loops:

Aggregate Report

Name: Aggregate Report

Comments:

Write results to file / Read from file

Filename

Browse...

Log/Display Only:

☐ Errors

☐ Successes

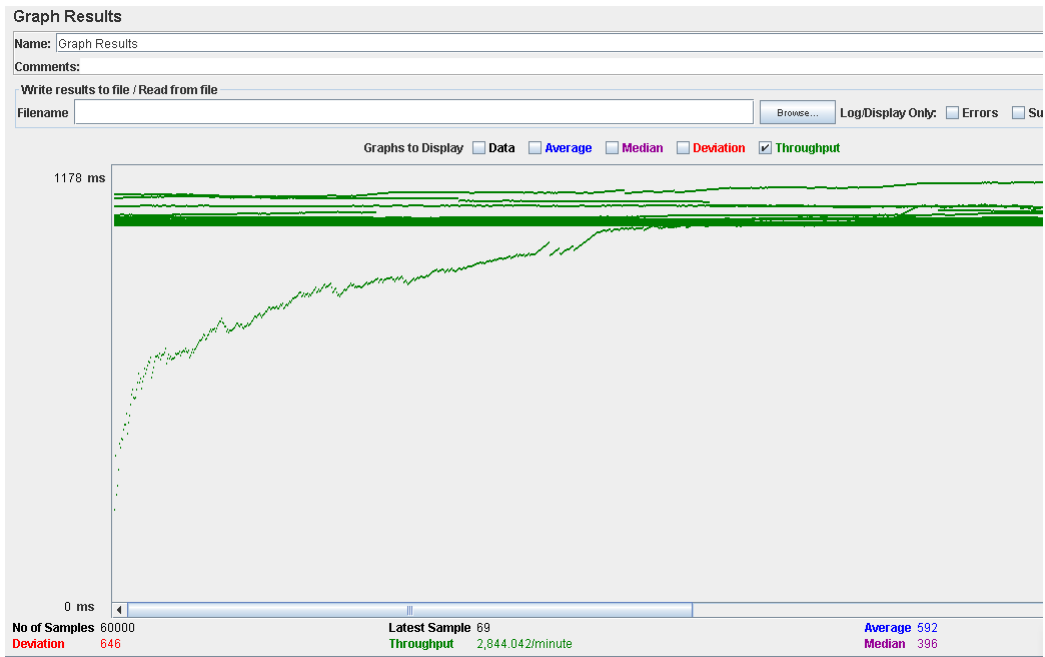
Configure

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	6000	713	465	1493	3	7676	0.00%	3.9/sec	36.6
/styles/menu.css	6000	55	32	114	3	1803	0.00%	3.9/sec	8.0
/styles/common.c...	6000	52	30	106	3	3654	0.00%	3.9/sec	3.7
/styles/rating.css	6000	50	29	102	3	1707	0.00%	3.9/sec	6.5
/styles/displaytag...	6000	53	30	109	3	2062	0.00%	3.9/sec	12.1
/scripts/query.js	6000	231	152	468	16	3295	0.00%	3.9/sec	1090.4
/scripts/menu.js	6000	55	32	111	4	1349	0.00%	3.9/sec	42.0
/scripts/query-ui.js	6000	332	223	687	22	4652	0.00%	3.9/sec	1794.2
/pictures/post/247...	6000	277	213	331	166	5009	0.00%	3.9/sec	73.2
/favicon.ico	6000	85	52	178	6	2626	0.00%	3.9/sec	128.4
/mechanic/create...	6000	720	460	1497	32	8745	0.00%	3.9/sec	50.4
/mechanic/save.do	6000	1128	803	2364	60	9545	0.00%	3.9/sec	50.9
/welcome/index.do	6000	650	420	1386	30	11815	0.00%	3.9/sec	35.5
TOTAL	78000	339	134	883	3	11815	0.00%	50.9/sec	3302.8



Test 5: Create a service

With 60 users and 100 loops:



Test 6: Reserve a service

With 60 users and 100 loops:

Aggregate Report

Name: Aggregate Report

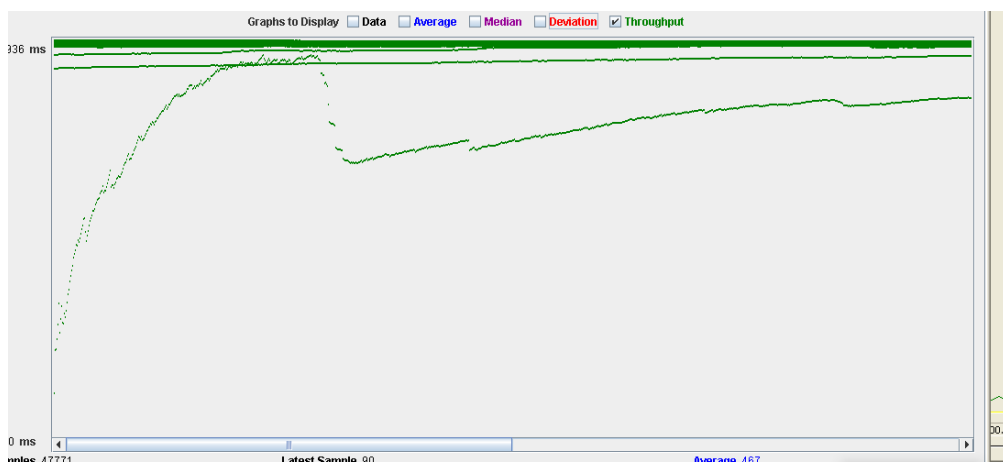
Comments:

Write results to file / Read from file

Filename: Browse...

Log/Display Only: ☐ Errors ☐ Successes

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	6000	361	257	686	25	6543	0.00%	5.9/sec	53.4
/securitylogin.do	6000	330	231	642	23	7794	0.00%	5.9/sec	55.6
/j_spring_security...	6000	613	462	1186	37	6103	0.00%	5.9/sec	61.5
/repairShoplist.do	6000	417	315	775	35	4197	0.00%	5.9/sec	72.9
/repairShop/userf...	12000	542	430	945	53	5919	0.00%	11.7/sec	166.4
/reservation/userf...	6000	438	331	813	35	6233	0.00%	5.9/sec	108.9
/reservation/userf...	6000	479	373	843	46	6422	0.00%	5.9/sec	67.1
TOTAL	48000	465	351	877	23	7794	0.00%	46.7/sec	582.4



Test 7: Cancel a reservation

With 60 users and 100 loops:

Aggregate Report

Name: Aggregate Report

Comments:

Write results to file / Read from file

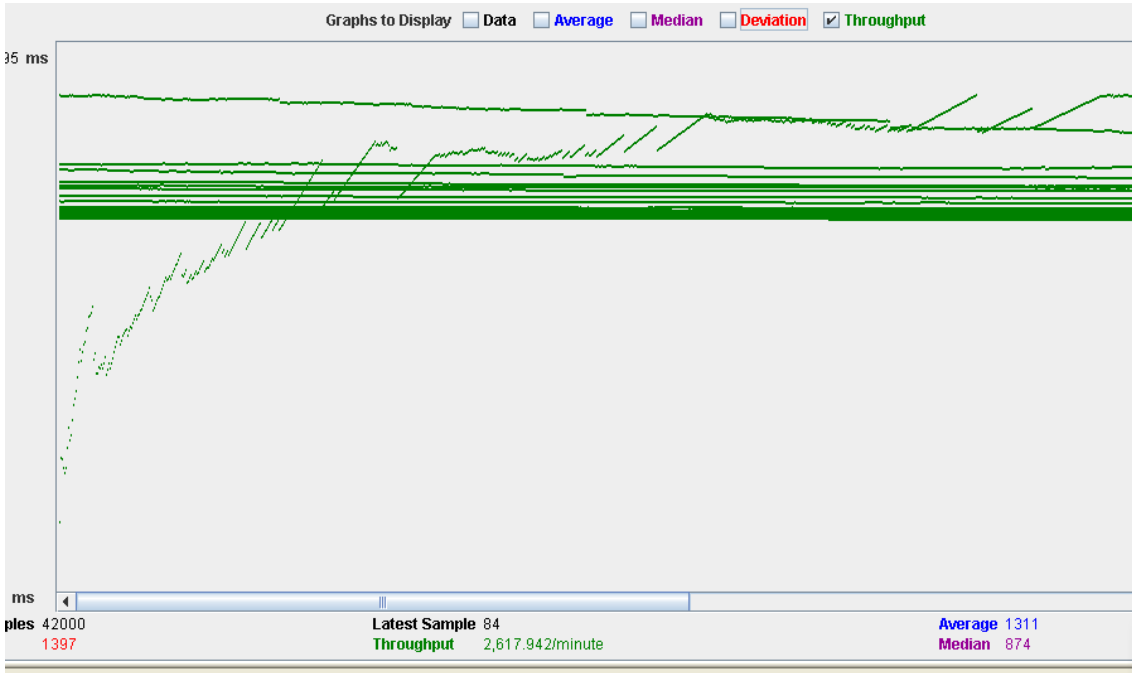
Filename

Browse...

Log/Display Only: ☐ Errors ☐ Successes

Configure

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	12000	989	606	2247	28	18789	0.00%	12.5/sec	120.5
/security/login.do	6000	961	563	2241	18	15775	0.00%	6.2/sec	59.0
/j_spring_security...	6000	1879	1438	3905	53	20100	0.00%	6.2/sec	65.3
/reservation/user/...	12000	1094	736	2390	50	15928	0.00%	12.5/sec	148.4
/reservation/user/...	6000	2170	1715	4180	138	20735	0.00%	6.2/sec	78.3
TOTAL	42000	1311	874	2965	18	20735	0.00%	43.6/sec	471.1



Because this test already stresses our system a bit, we will repeat this test with 100 concurrent users:

Aggregate Report

Name: Aggregate Report

Comments:

Write results to file / Read from file

Filename

Browse...

Log/Display Only: ☐ Errors ☐ Successes

Configure

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	20000	2277	1283	5565	31	37971	0.00%	8.9/sec	86.5
/security/login.do	10000	2299	1230	5733	27	45524	0.00%	4.5/sec	42.4
/j_spring_security...	10000	4635	3441	9986	68	37771	0.00%	4.5/sec	46.8
/reservation/user/lis...	20000	2419	1404	5873	47	33787	0.00%	8.9/sec	106.4
/reservation/user/ca...	10000	5017	3765	10381	161	42585	0.00%	4.5/sec	56.1
TOTAL	70000	3049	1865	7338	27	45524	0.00%	31.3/sec	338.1

This test could be repeated with 100 concurrent users, but because it is something only an administrator can do, this use case will not have a huge impact in the performance of our system. The same logic applies to any use case that involves being an administrator.

Test 9: Creating a car

With 60 users and 100 loops:

Aggregate Report

Name:Aggregate Report

Comments:

Write results to file / Read from file

Filename

Browse...

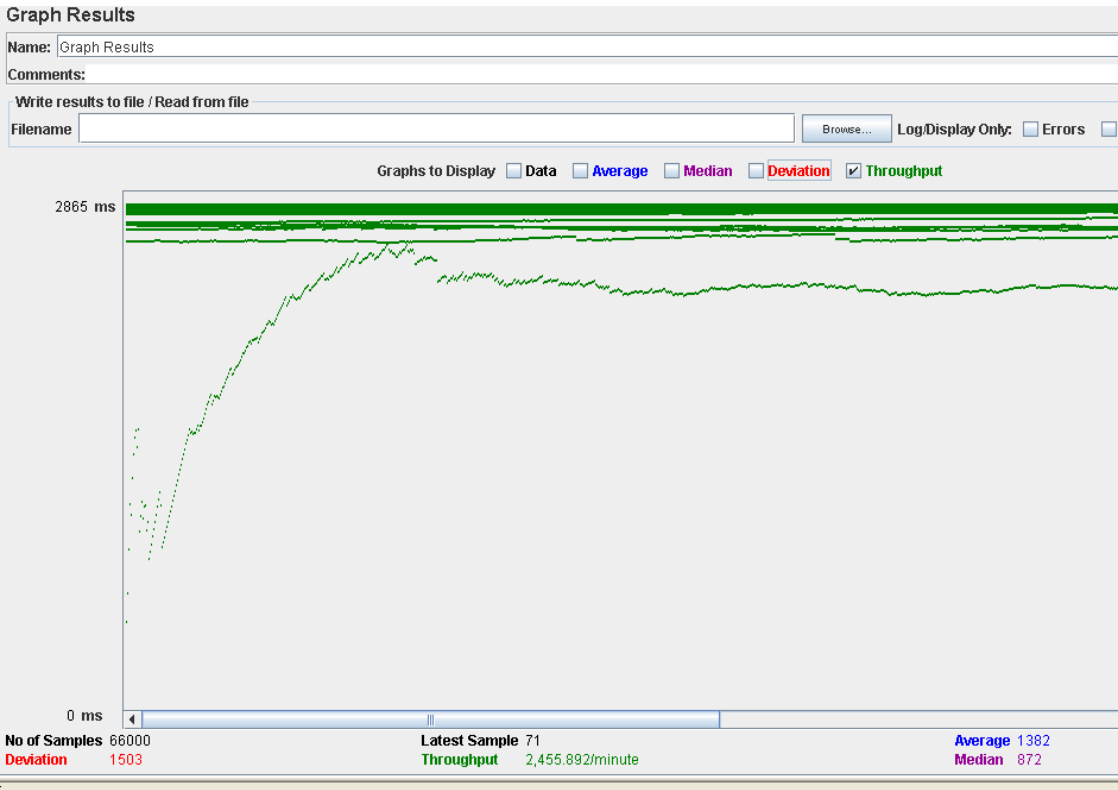
Log/Display Only:

Errors

Successes

Configure

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	12000	1068	580	2505	35	21737	0.00%	10.6/sec	96.9
/security/login.do	6000	1025	560	2444	39	21320	0.00%	5.3/sec	50.0
/j_spring_security...	6000	2150	1567	4594	57	30534	0.00%	5.3/sec	50.1
/driver/driver/displ...	6000	1100	606	2539	39	26351	0.00%	5.3/sec	53.0
/car/driver/create.do	6000	1094	602	2552	42	25401	0.00%	5.3/sec	92.3
/car/driver/edit.do	6000	1928	1332	4075	98	25405	0.00%	5.3/sec	60.2
/car/driver/display....	6000	1154	696	2565	44	19984	0.00%	5.3/sec	61.5
TOTAL	48000	1323	782	3074	35	30534	0.00%	42.2/sec	463.8



With 100 users and 100 loops:

Aggregate Report

Name:Aggregate Report

Comments:

Write results to file / Read from file

Filename

Browse...

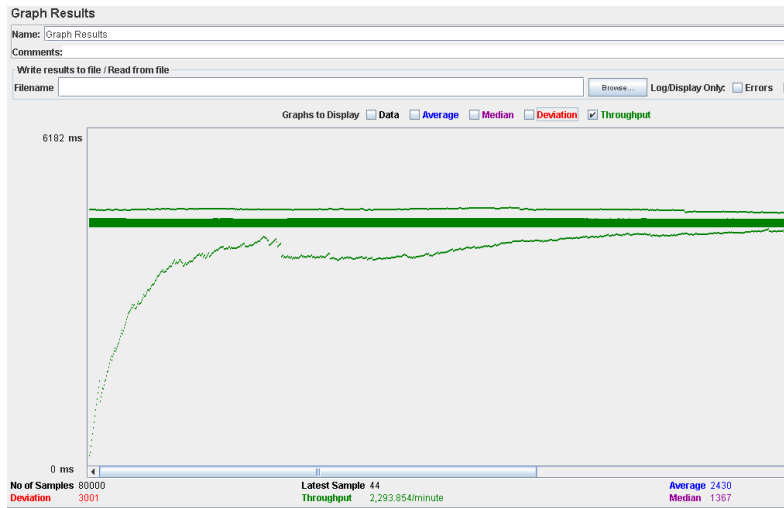
Log/Display Only:

Errors

Successes

Configure

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	20000	1934	1020	4891	30	40312	0.00%	9.6/sec	87.7
/security/login.do	10000	1965	1027	5031	22	34986	0.00%	4.8/sec	45.3
/j_spring_security...	10000	4105	2995	9024	47	36127	0.00%	4.8/sec	45.4
/driver/driver/displ...	10000	1996	1085	4917	35	33122	0.00%	4.8/sec	48.0
/car/driver/create.do	10000	1982	1065	4906	34	35320	0.00%	4.8/sec	83.7
/car/driver/edit.do	10000	3493	2349	8028	86	36390	0.00%	4.8/sec	54.5
/car/driver/display.do	10000	2034	1117	5004	44	36671	0.00%	4.8/sec	54.8
TOTAL	80000	2430	1367	6024	22	40312	0.00%	38.2/sec	419.0



3. TESTS RAN IN MACHINE 2

This computer has the following features:

Processor: Intel(R)Core(TM) i5-7200U 2.5GHz with Turbo Boost up to 3.1GHz

RAM memory: 8GB DDR4

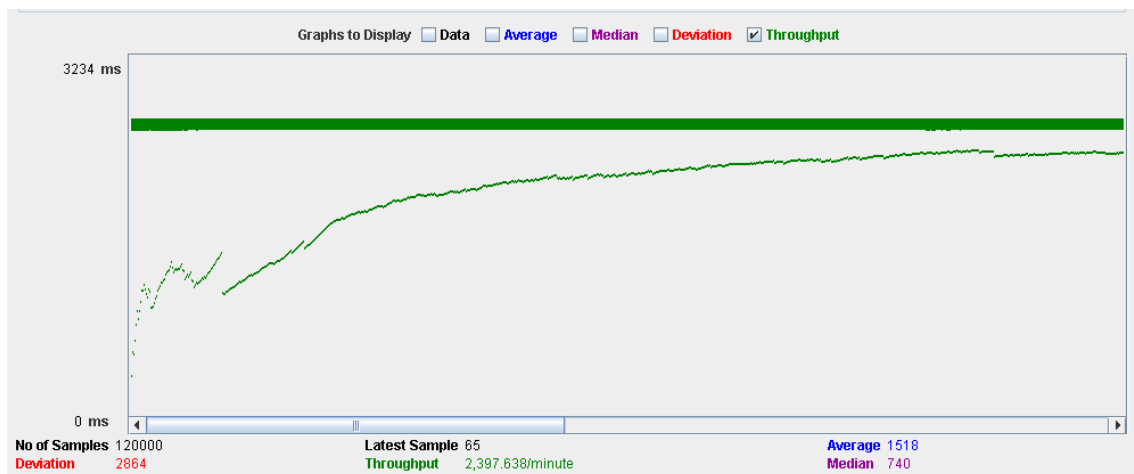
Hard Disk: 1000 GB HDD

Wireless adapter: Intel(R) Dual Band Wireless-AC 3168.

Test 10: Managing spamwords

With 80 users and 100 loops

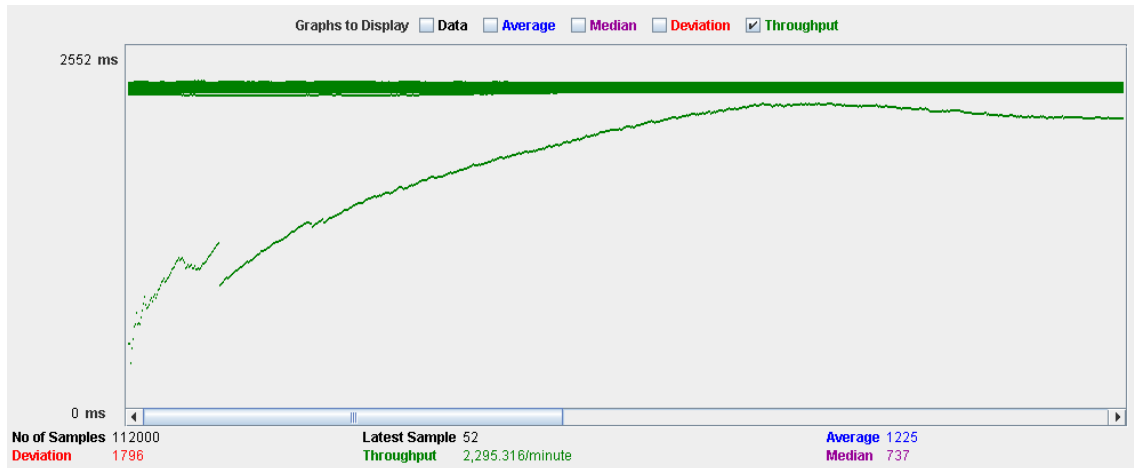
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	16000	1314	620	2685	32	64342	0.00%	5.3/sec	52.7
/security/login.do	8000	1311	558	2821	35	59550	0.00%	2.7/sec	25.3
/j_spring_security_check	8000	2484	1285	5481	49	85032	0.00%	2.7/sec	29.1
/spamWord/list.do	24000	1377	703	2800	39	76809	0.00%	8.0/sec	110.9
/spamWord/create.do	8000	1334	654	2890	37	56218	0.00%	2.7/sec	30.4
/spamWord/save.do	16000	2004	1090	4226	47	79765	0.00%	5.3/sec	68.4
/spamWord/%20list.do	24000	1367	701	2848	42	64750	0.00%	8.0/sec	110.9
/spamWord/edit.do	8000	1377	649	2911	36	81167	0.00%	2.7/sec	50.6
/spamWord/delete.do	8000	1396	656	2894	37	61109	0.00%	2.7/sec	50.7
TOTAL	120000	1518	740	3213	32	85032	0.00%	40.0/sec	527.9



Test 11: Managing IdNumberPatterns

With 80 users and 100 loops:

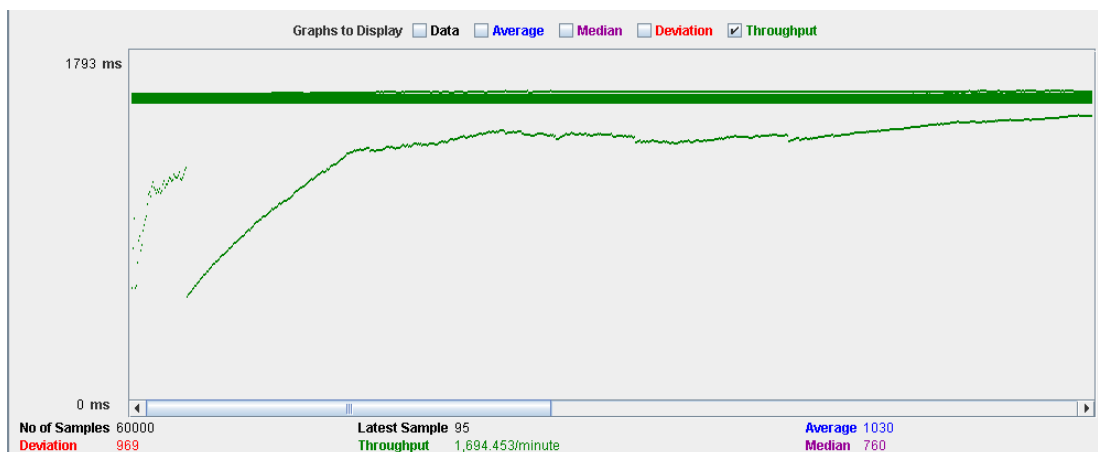
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	16000	1014	593	2009	23	33234	0.00%	5.5/sec	54.1
/security/login.do	8000	958	522	1984	24	28412	0.00%	2.7/sec	26.0
/j_spring_security_check	8000	1856	1126	3894	49	41287	0.00%	2.7/sec	29.9
/idNumberPattern/list.do	8000	1110	726	2139	39	34291	0.00%	2.7/sec	34.8
/images/arrow_off.png	8000	26	22	49	3	254	0.00%	2.7/sec	1.4
/idNumberPattern/create.do	8000	1048	629	2064	40	26171	0.00%	2.7/sec	31.9
/idNumberPattern/save.do	16000	1118	710	2162	28	36036	0.00%	5.5/sec	64.0
/idNumberPattern/%20list.do	24000	1155	744	2240	41	35610	0.00%	8.2/sec	106.7
/idNumberPattern/edit.do	8000	2209	1541	4296	82	31109	0.00%	2.7/sec	37.0
/idNumberPattern/delete.do	8000	2213	1530	4402	77	27279	0.00%	2.7/sec	37.1
TOTAL	112000	1225	737	2605	3	41287	0.00%	38.3/sec	421.2



Test 12: Managing requests as a user.

With 50 users and 100 loops.

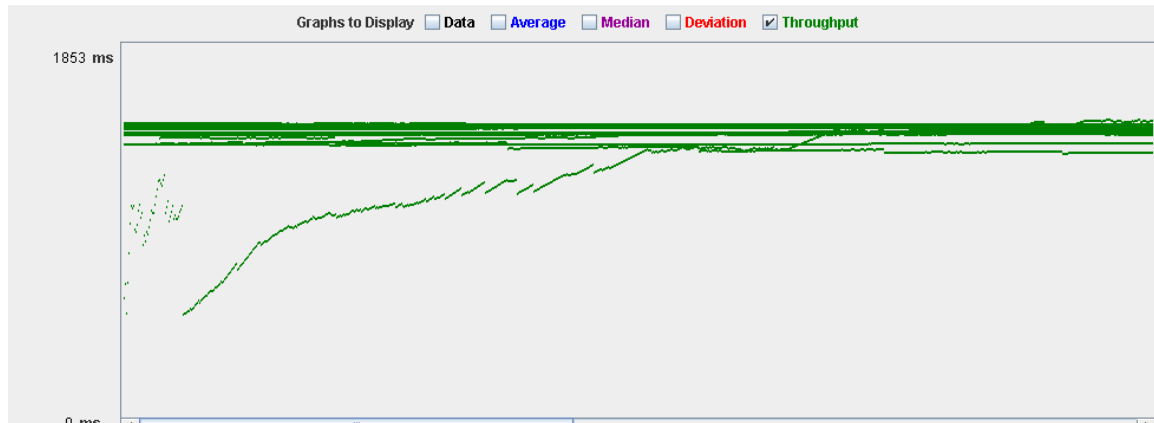
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	10000	698	497	1397	33	13705	0.00%	4.7/sec	45.6
/security/login.do	5000	648	438	1299	27	9178	0.00%	2.4/sec	22.4
/j_spring_security_check	5000	1202	892	2326	42	13583	0.00%	2.4/sec	24.7
/request/user/create.do	5000	708	507	1454	40	9923	0.00%	2.4/sec	29.8
/request/user/confirm.do	5000	838	635	1679	54	9205	0.00%	2.4/sec	26.3
/request/user/save.do	5000	1666	1401	2932	103	13993	0.00%	2.4/sec	26.0
/request/user/display.do	5000	1422	1154	2600	72	12492	0.00%	2.4/sec	25.4
/request/user/list.do	15000	947	740	1879	67	13119	0.00%	7.1/sec	101.5
/request/user/delete.do	5000	1635	1386	2882	100	13222	0.00%	2.4/sec	39.2
TOTAL	60000	1030	760	2108	27	13993	0.00%	28.2/sec	339.5



Test 13: Accepting requests

With 50 users and 100 loops:

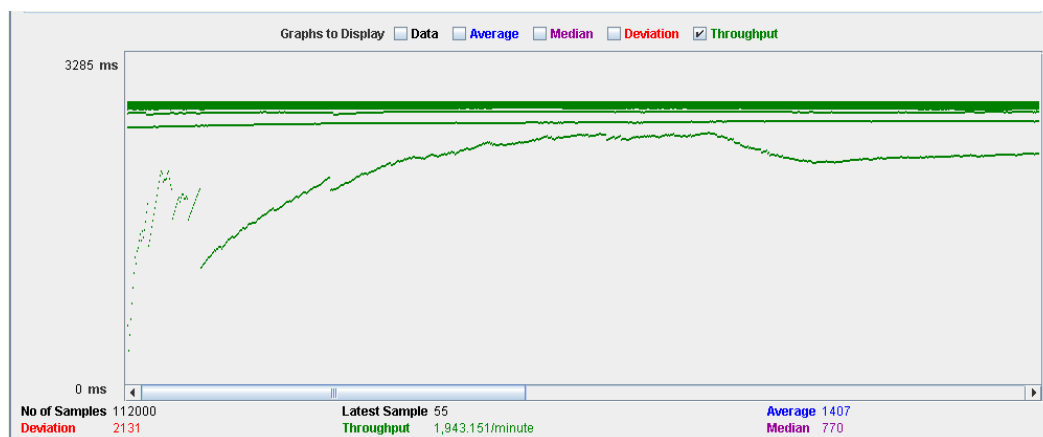
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	10000	616	490	1207	30	7813	0.00%	8.6/sec	79.3
/securitylogin.do	5000	573	448	1144	26	8863	0.00%	4.3/sec	41.1
/j_spring_secu...	5000	1048	893	1931	52	7684	0.00%	4.3/sec	41.2
/request/driver/li...	5000	877	738	1603	73	8013	0.00%	4.3/sec	51.6
/request/driver/...	5000	1536	1372	2611	98	9279	0.00%	4.3/sec	66.3
/request/driver/li...	5000	773	635	1446	50	5683	0.00%	4.3/sec	44.1
TOTAL	35000	863	682	1728	26	9279	0.00%	30.2/sec	322.5



Test 14: Reporting a user

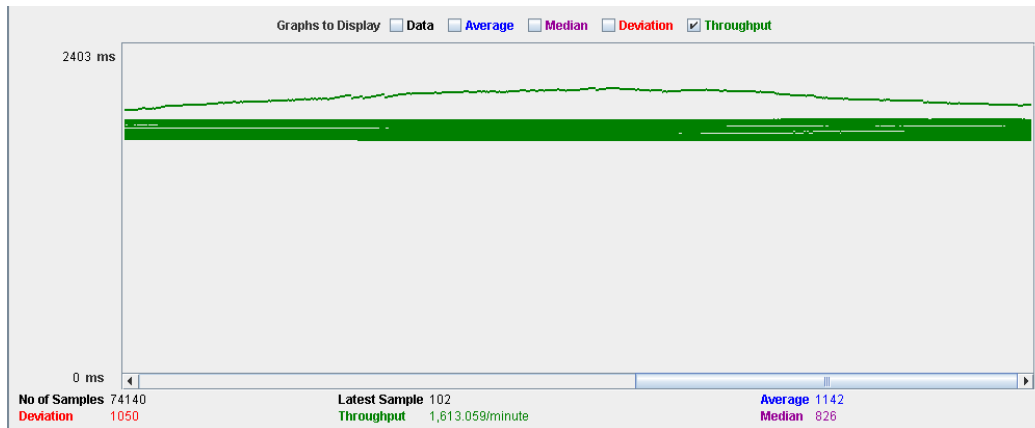
With 70 users and 100 loops

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	14000	1102	569	2217	29	38972	0.00%	4.1/sec	39.2
/securitylogin.do	7000	1032	495	2138	29	26254	0.00%	2.0/sec	19.2
/j_spring_secu...	7000	2048	1075	4686	51	37635	0.00%	2.0/sec	21.2
/actorlist.do	7000	1098	550	2241	34	22653	0.00%	2.0/sec	21.9
/actor/ajaxsearc...	35000	1191	856	2384	34	37041	0.00%	10.2/sec	6.5
/actor/display.do	14000	2419	1554	5073	84	43294	0.00%	4.1/sec	54.4
/user/display.do	14000	1279	751	2482	46	26603	0.00%	4.1/sec	52.4
/report/actor/cre...	7000	1199	680	2450	53	38490	0.00%	2.0/sec	24.0
/report/actor/sav...	7000	1574	1026	2974	83	35077	0.00%	2.0/sec	24.1
TOTAL	112000	1407	770	3002	29	43294	0.00%	32.4/sec	262.1



Test 15: Blocking and unblocking a user

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	8000	712	526	1462	38	7477	0.00%	3.0/sec	28.9
/securitylogin.do	4000	690	485	1490	36	5975	0.00%	1.5/sec	14.2
/j_spring_security...	4000	1270	1012	2453	46	12521	0.00%	1.5/sec	15.7
/actorlist.do	4000	707	499	1471	38	9669	0.00%	1.5/sec	16.2
/actor/ajaxsearchco...	20000	799	604	1609	38	8996	0.00%	7.5/sec	4.8
/actor/display.do	12000	1635	1385	2942	89	12324	0.00%	4.5/sec	60.2
/user/display.do	12000	870	682	1701	64	9909	0.00%	4.5/sec	57.9
/actor/actor/block.do	4000	2381	2100	4018	210	11708	0.00%	1.5/sec	20.5
/actor/actor/unblock...	4000	2361	2080	4014	204	13251	0.00%	1.5/sec	20.5
TOTAL	72000	1130	823	2413	36	13251	0.00%	26.9/sec	238.1



4. TESTS RAN IN MACHINE 3

This computer has the following features:

Processor: Intel Core i5-7300HQ (2,5 GHz-3,5 GHz, 6 MB cache, 4 cores)

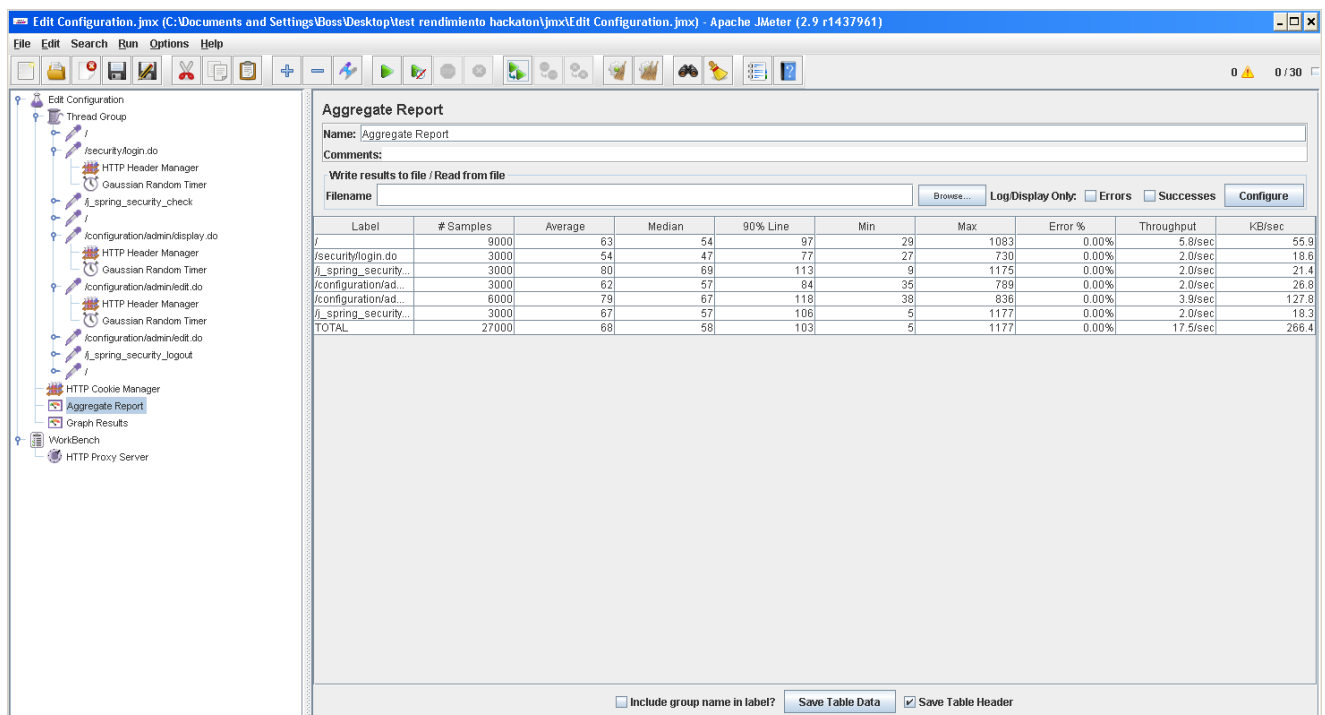
RAM memory: SDRAM 8 GB DDR4-2400 (1 x 8 GB)

Hard Disk: SATA 1 TB 7200 rpm

Wireless adapter: Intel(R) Dual Band Wireless-AC 7265

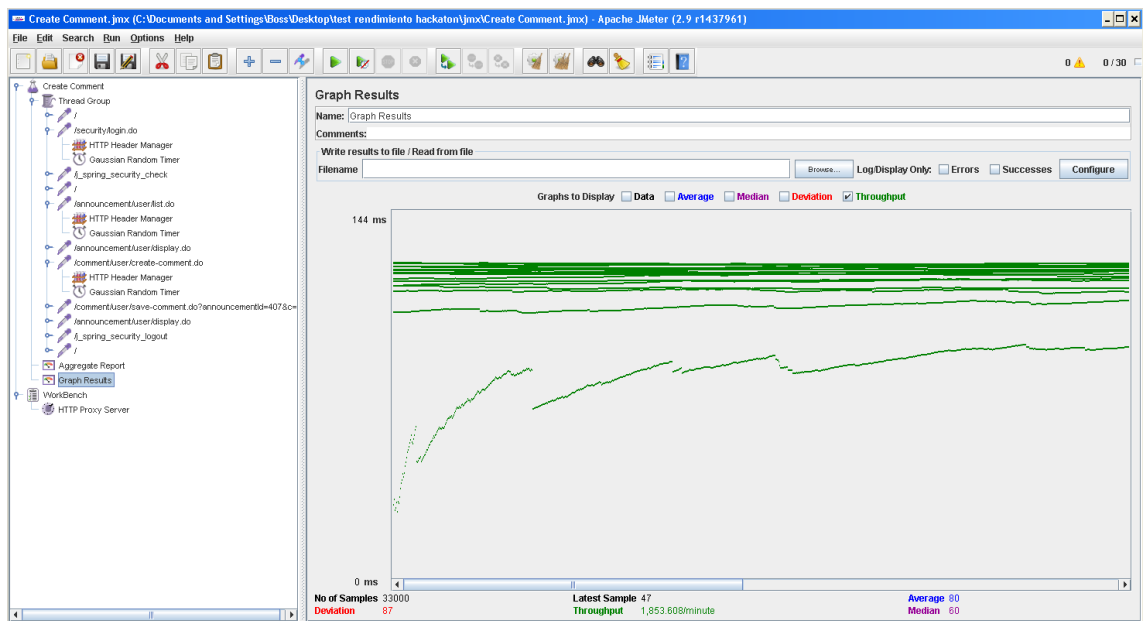
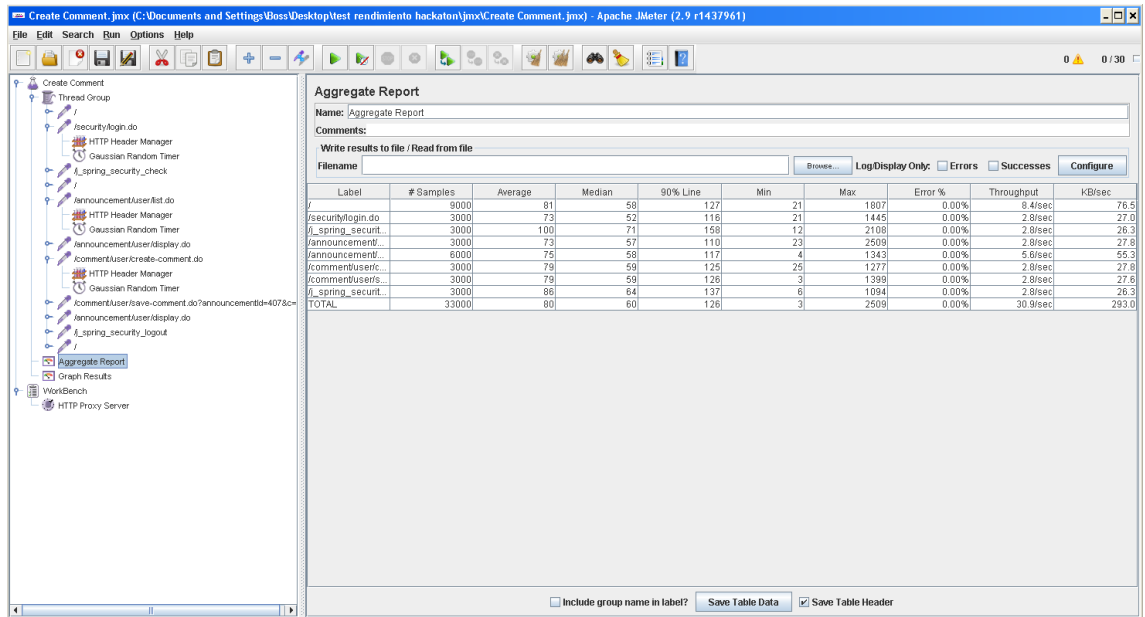
Test 16: Edit configurations.

With 30 users and 100 loops

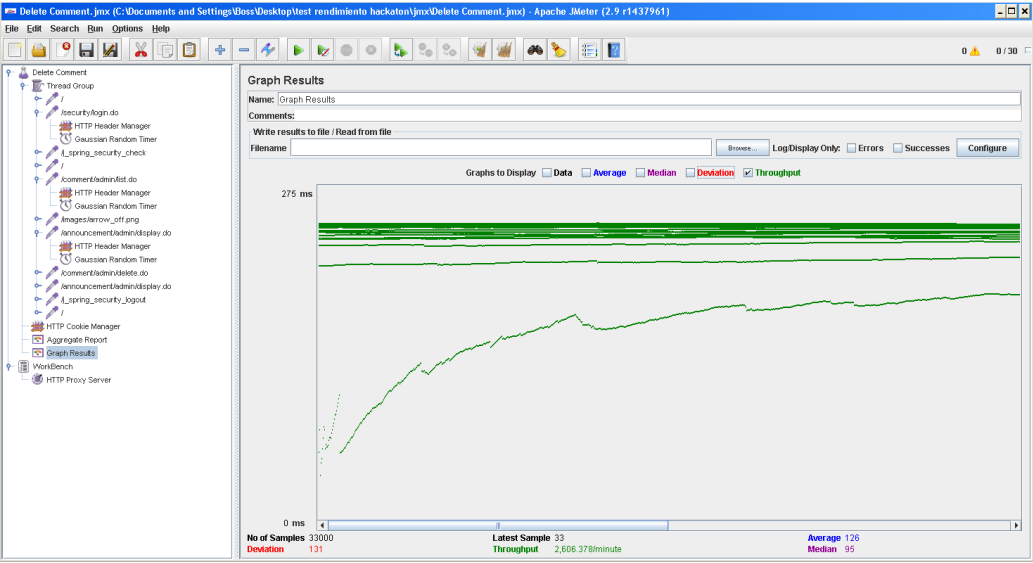
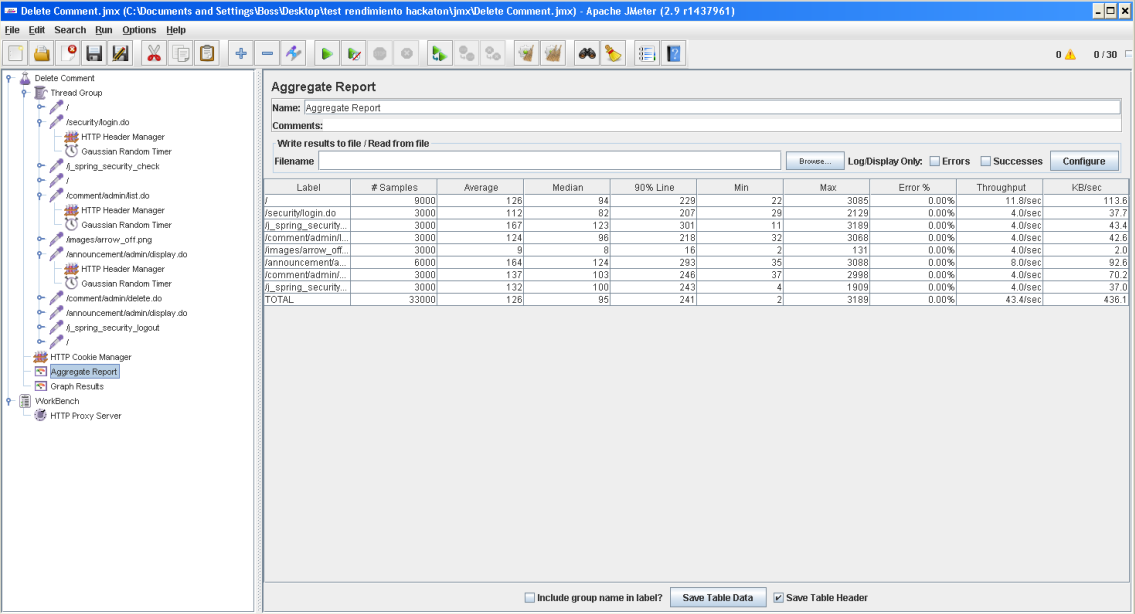


Test 17: Create comment.

With 30 users and 100 loops:



Test 18: Delete comment

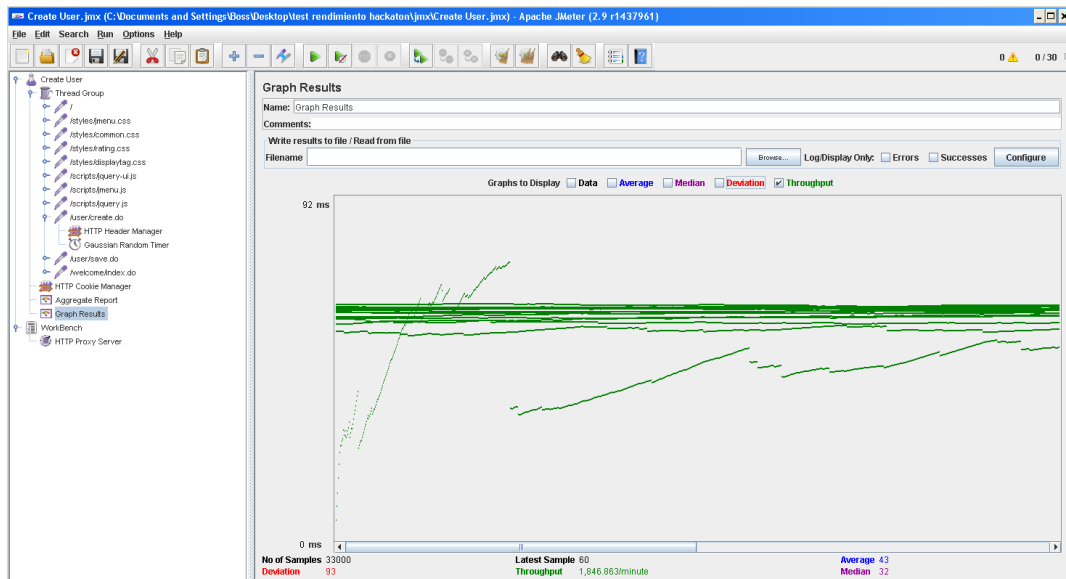


With 30 users and 100 loops:

The screenshot shows the Apache JMeter interface. On the left is the Test Plan tree, which includes a Thread Group containing several samplers like HTTP Request, HTTP Cookie Manager, and Aggregate Report. The main window displays the 'Aggregate Report' for the selected 'Aggregate Report' sampler. The report has a title bar and a menu bar. Below the menu bar are fields for Name, Comments, and Write results to file. A table follows, listing various test elements and their performance metrics.

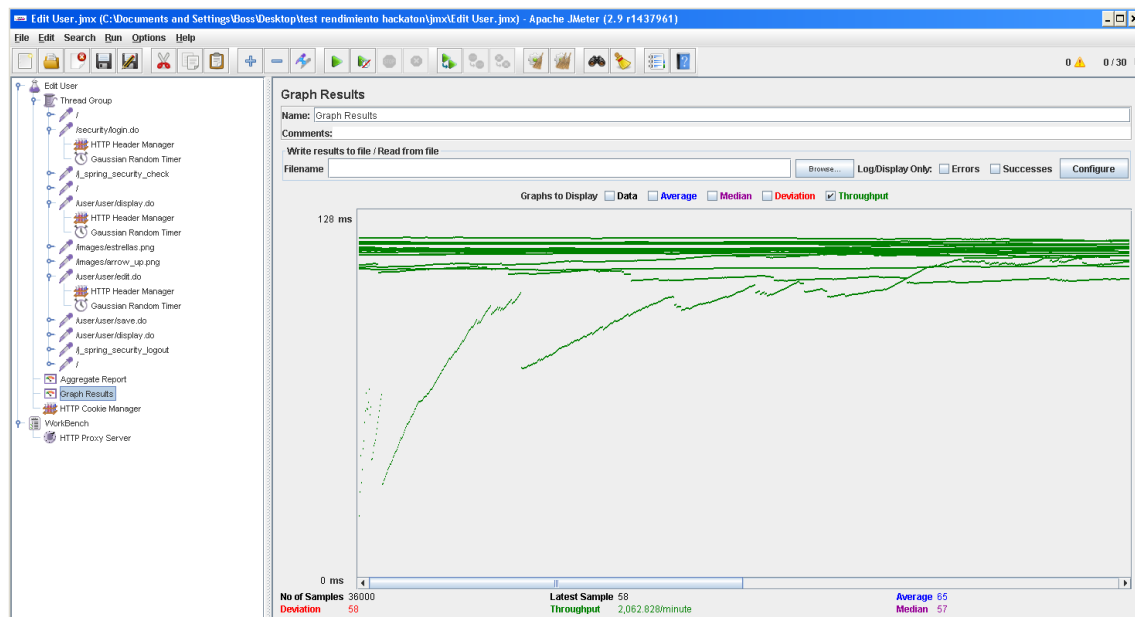
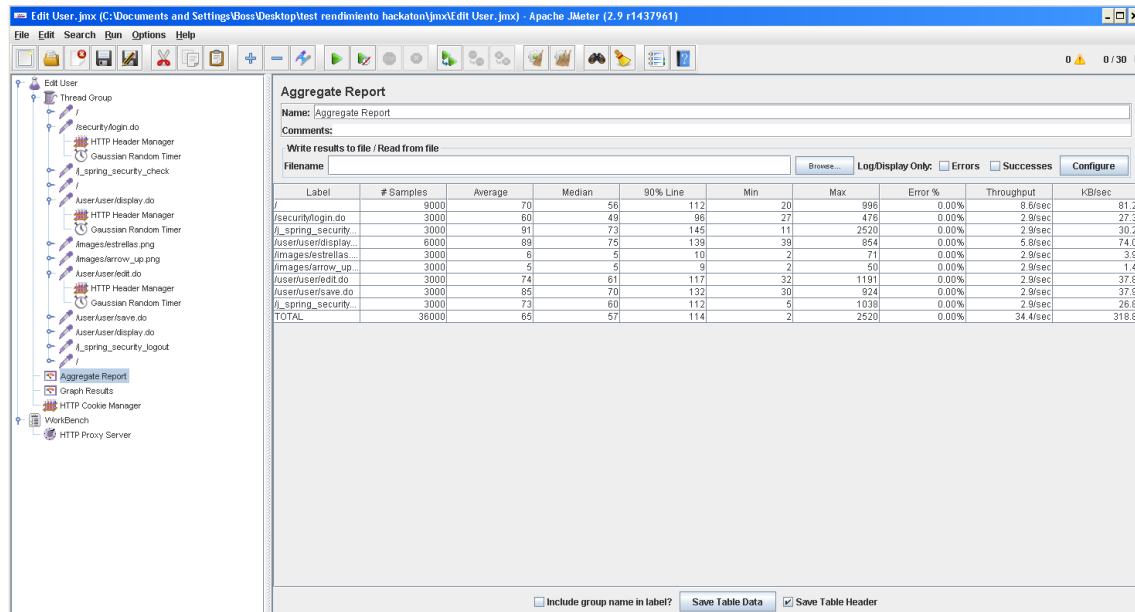
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	3000	79	53	94	31	3049	0.00%	2.8/sec	25.6
/styles/menu.css	3000	8	5	10	2	475	0.00%	2.8/sec	5.7
/styles/common.css	3000	9	5	9	2	2556	0.00%	2.8/sec	2.6
/styles/rating.css	3000	7	5	10	2	545	0.00%	2.8/sec	4.6
/styles/displaytag.css	3000	8	5	9	2	651	0.00%	2.8/sec	8.6
/scripts/jquery-ui.js	3000	68	50	95	16	2697	0.00%	2.8/sec	128.3
/scripts/menu.js	3000	8	6	12	3	348	0.00%	2.8/sec	30.1
/scripts/jquery.js	3000	44	33	66	11	1927	0.00%	2.8/sec	79.1
/userfirelate.do	3000	65	51	89	29	1874	0.00%	2.8/sec	35.4
/user/save.do	3000	106	81	134	47	2340	0.00%	2.8/sec	35.5
/welcome/index.do	3000	69	52	91	31	1741	0.00%	2.8/sec	25.4
TOTAL	33000	43	32	62	2	3049	0.00%	30.8/sec	2216.5

At the bottom of the window, there are three checkboxes: 'Include group name in label?' (unchecked), 'Save Table Data' (button), and 'Save Table Header' (checked).



Test 20: Edit user

With 30 users and 100 loops:



5. TESTS RAN IN MACHINE 4

This computer has the following features:

Processor: Intel Core i7-6500U (2-core, 2.50-3.10 GHz, 4MB cache)

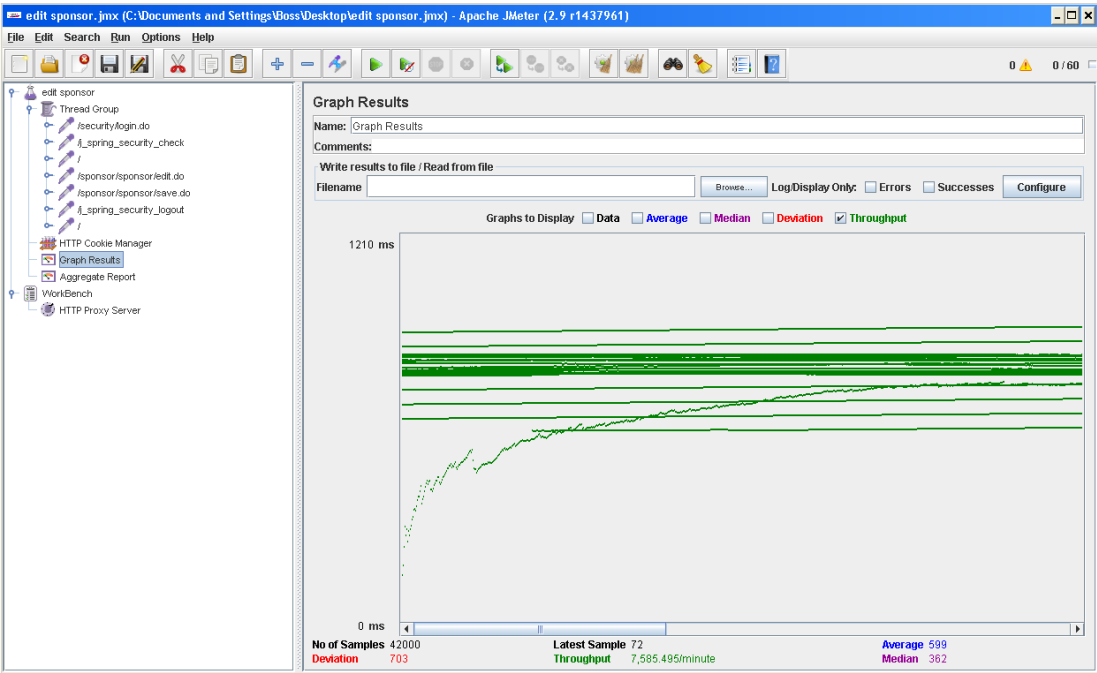
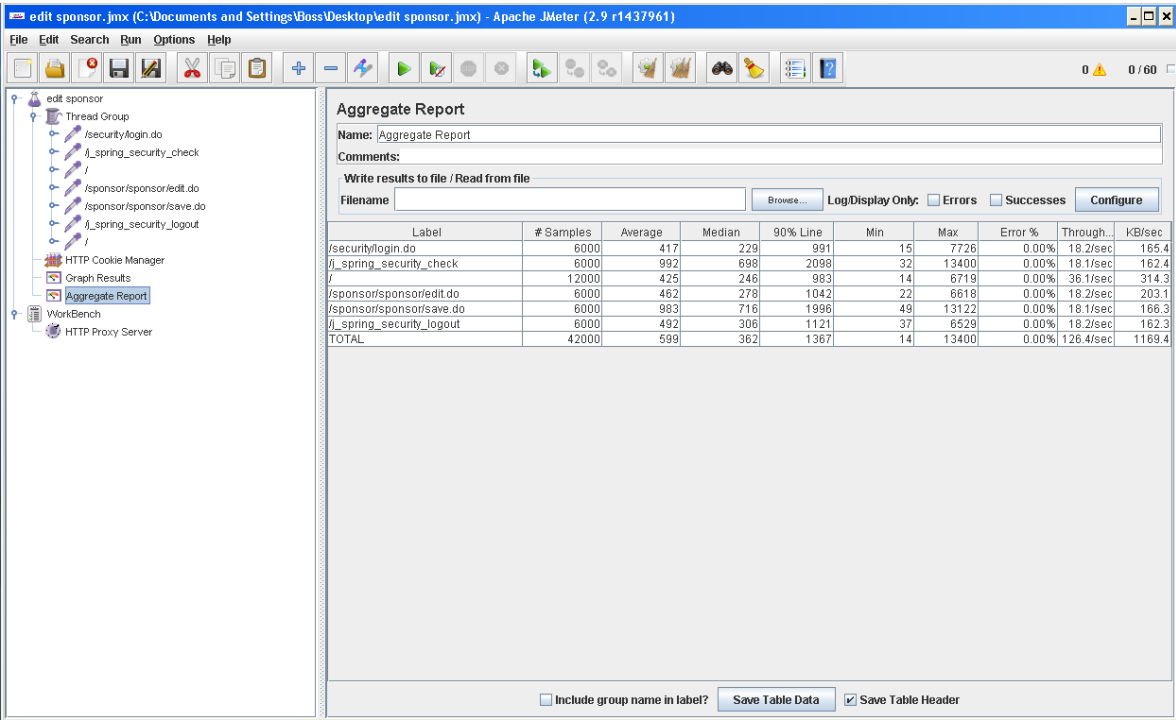
RAM memory: 8GB DDR3.

Hard Disk: 1000 GB HDD.

Wireless adapter: Qualcomm Atheros QCA61x4A Wireless Network Adapter.

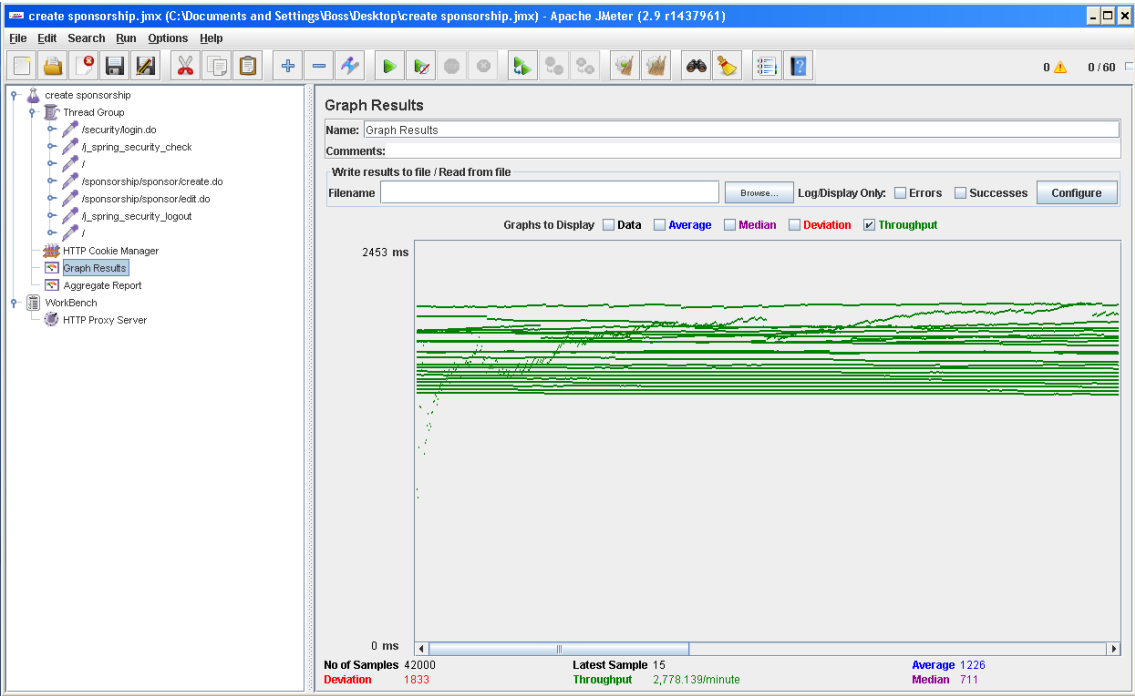
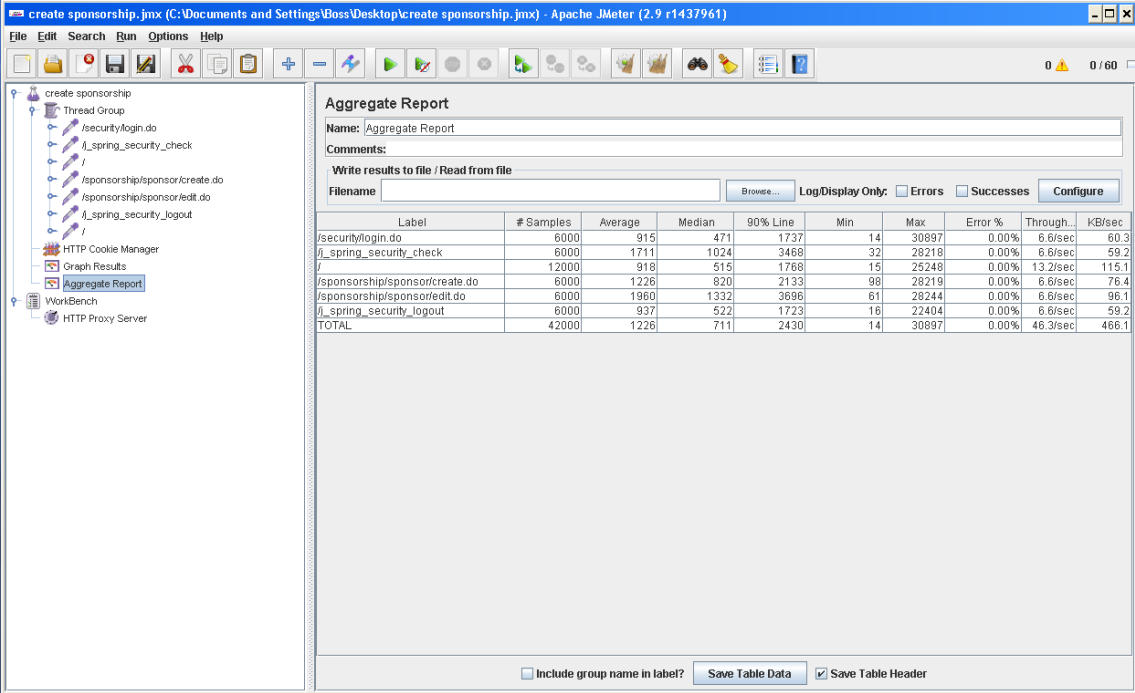
Test 21: Edit a sponsor's profile

With 60 users and 100 loops:

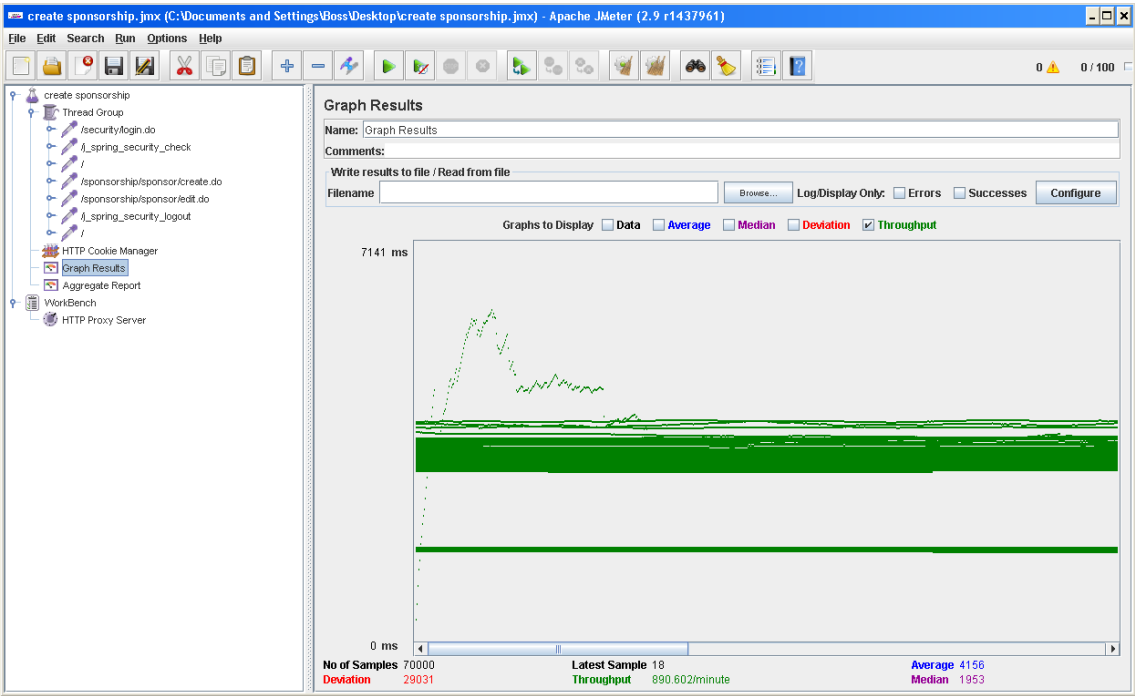
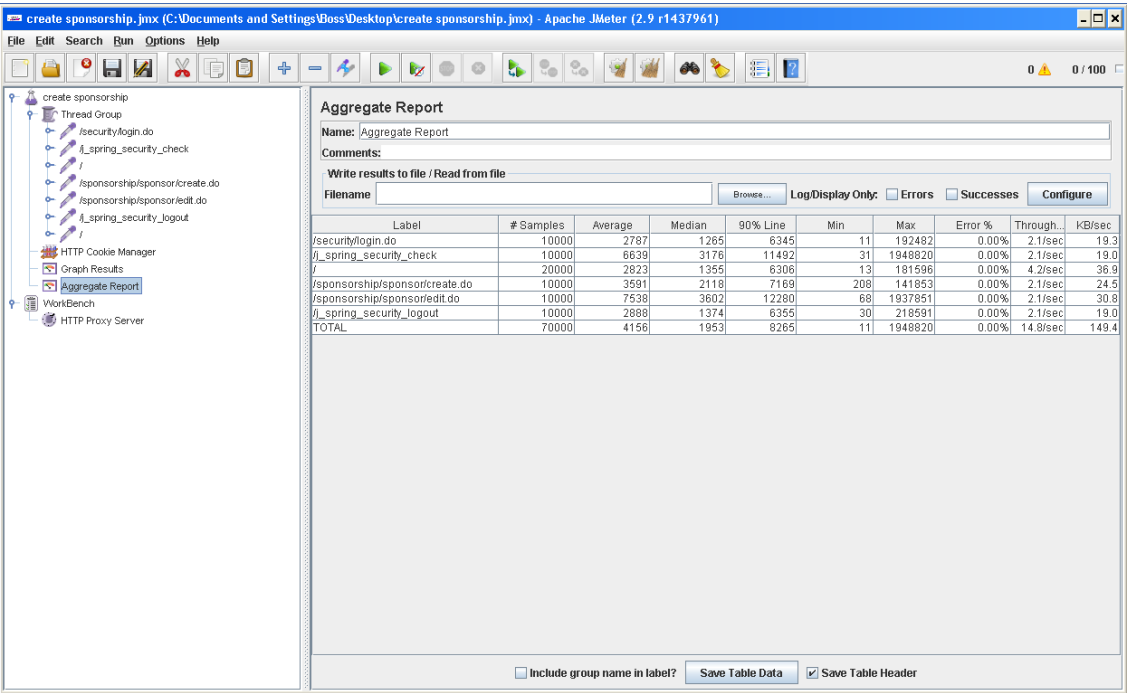


Test 22: Create a sponsorship

With 60 users and 100 loops:

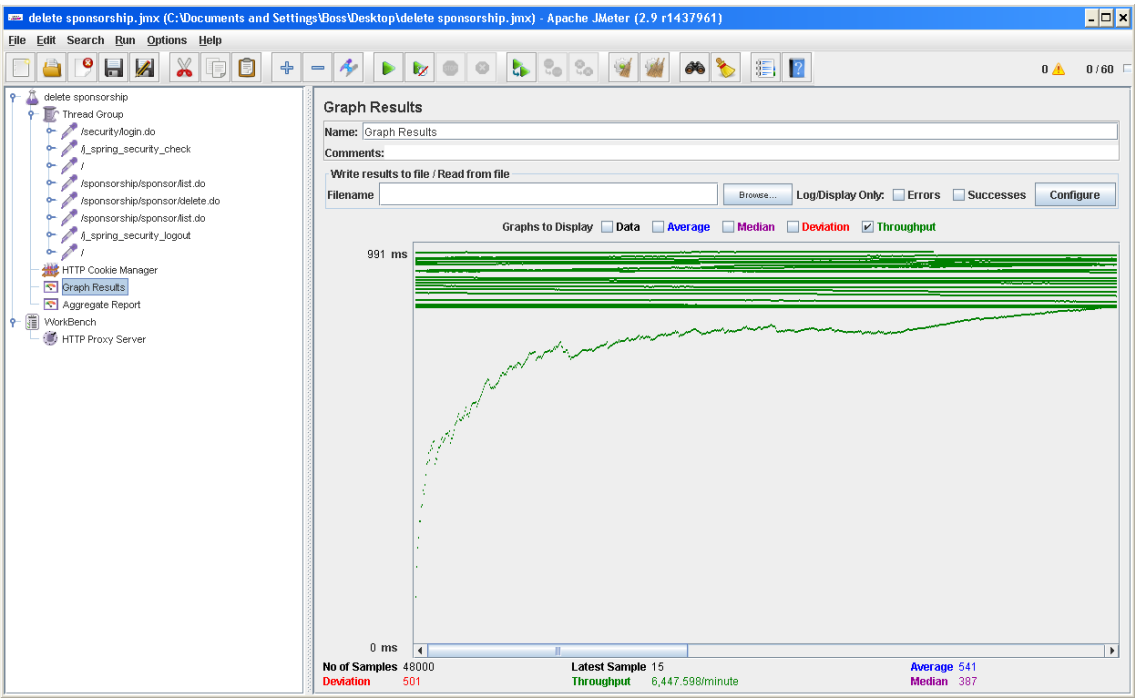
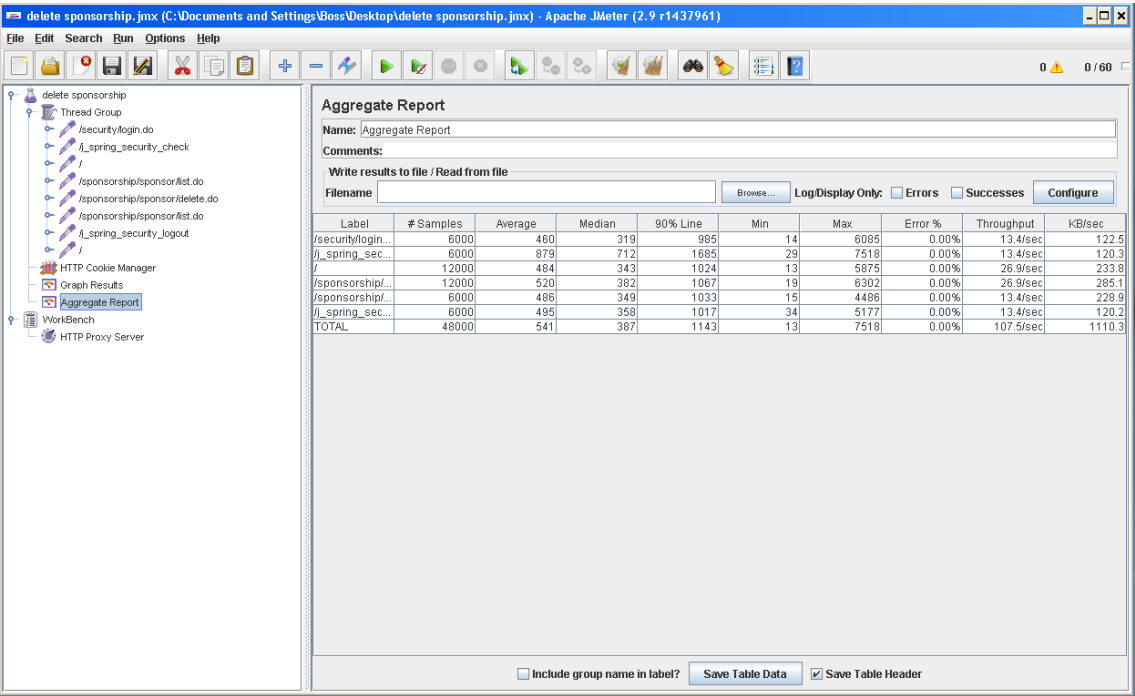


With 100 users and 100 loops.



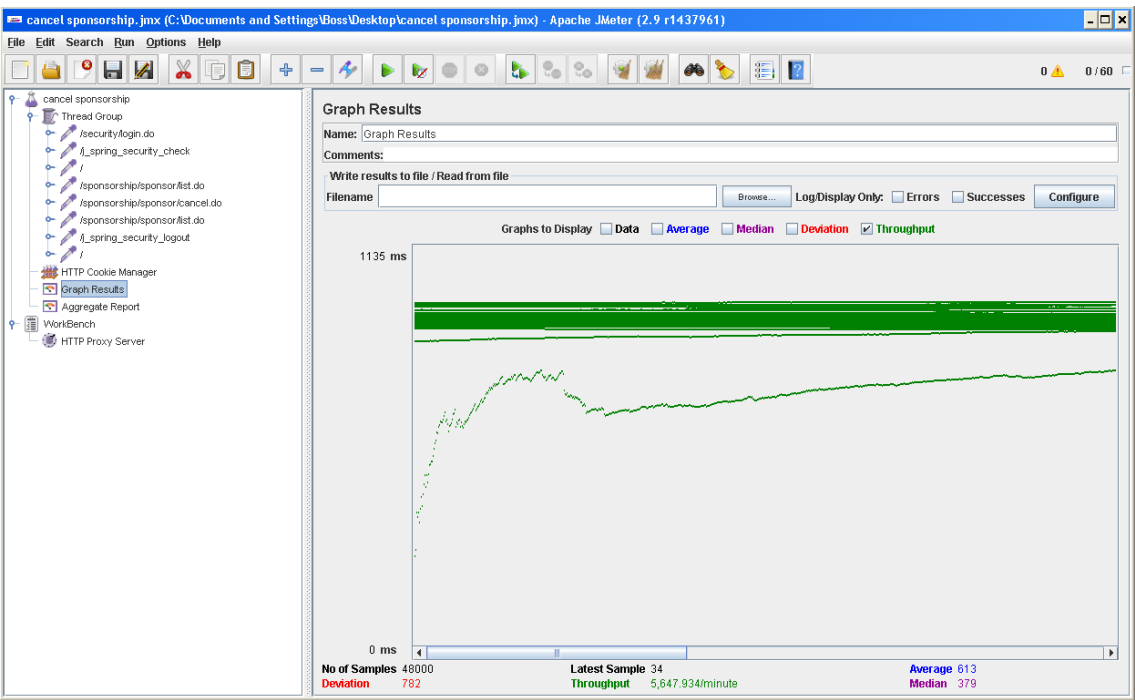
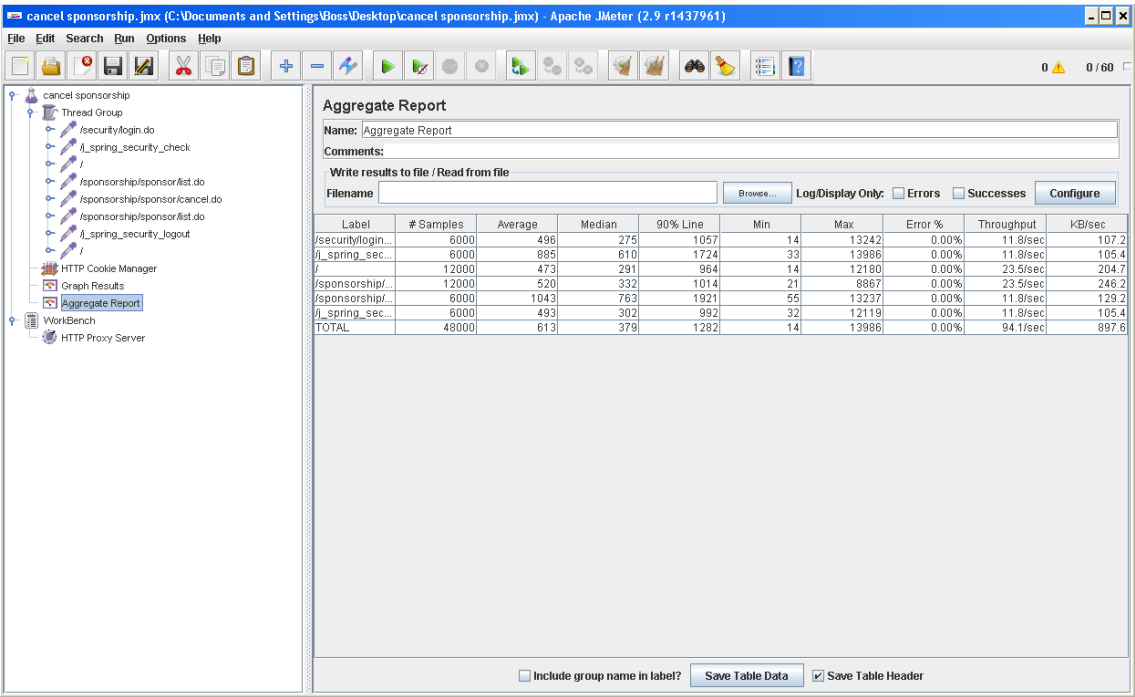
Test 23: Delete a sponsorship

With 60 users and 100 loops:



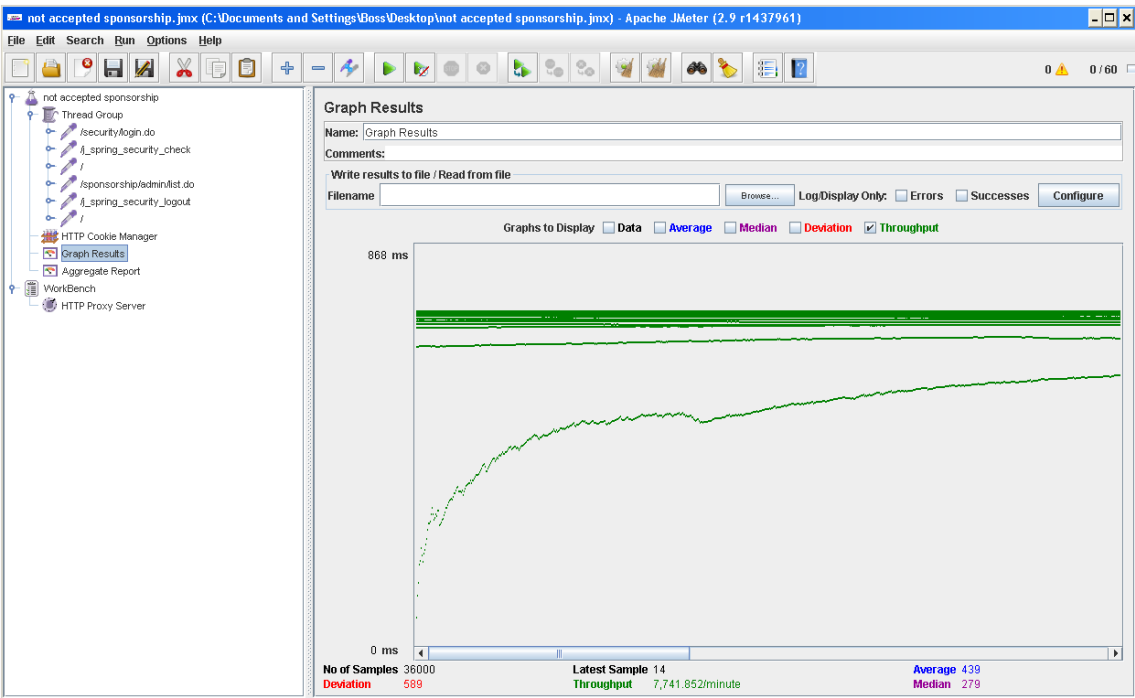
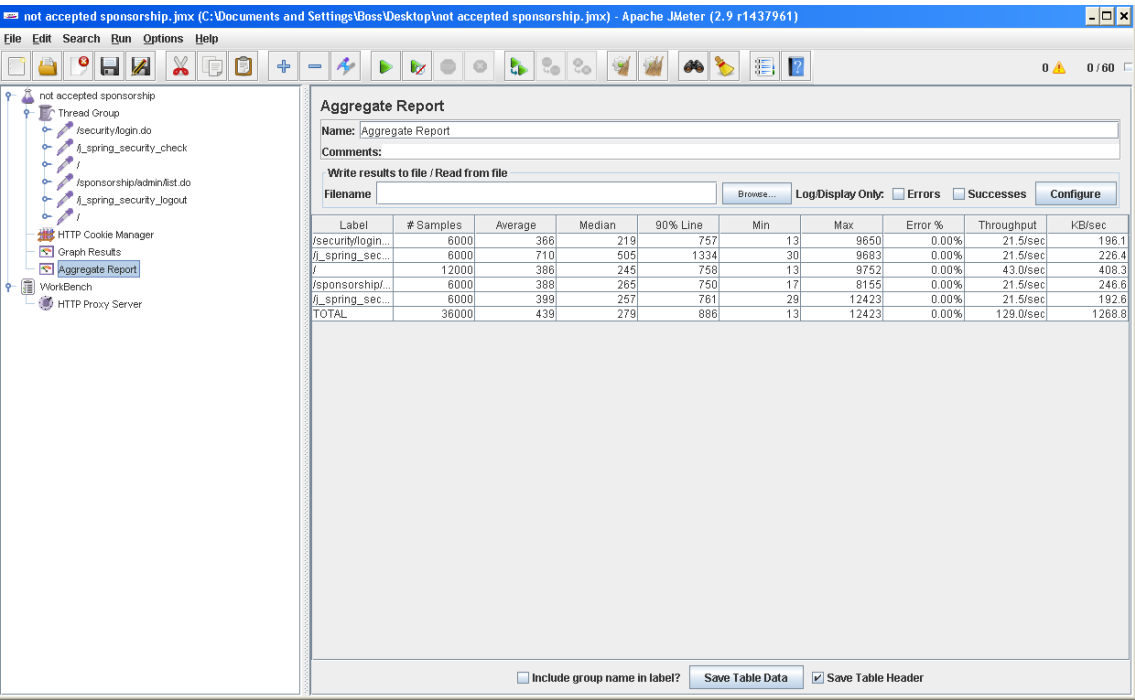
Test 24: Cancel a sponsorship

With 60 users and 100 loops:



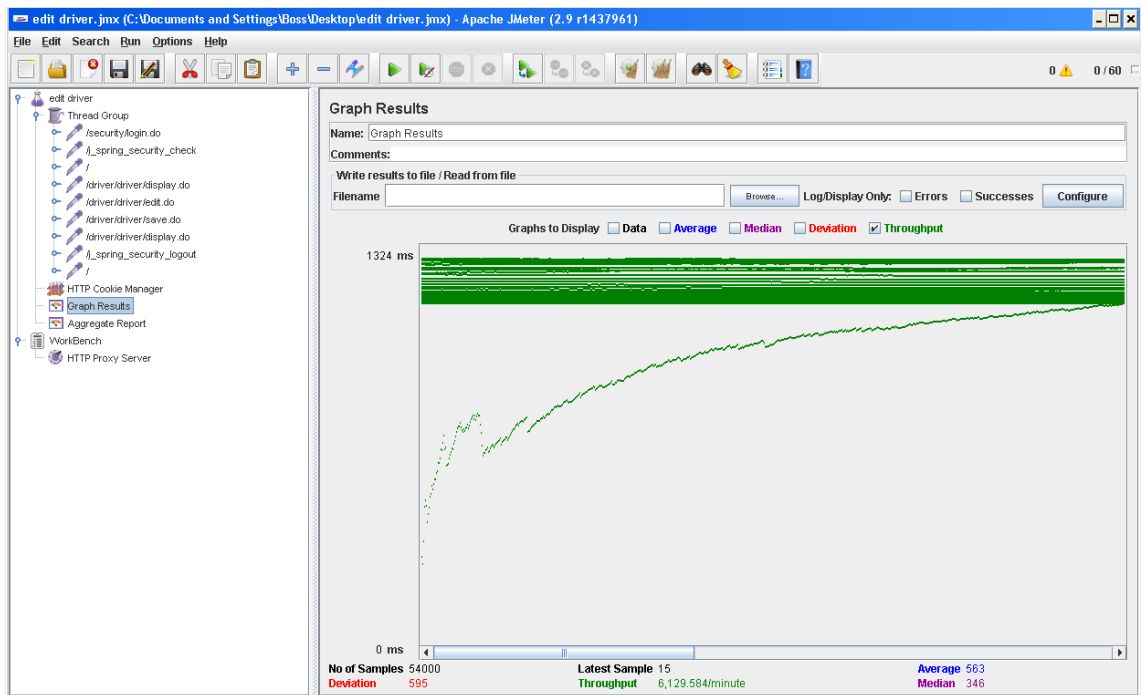
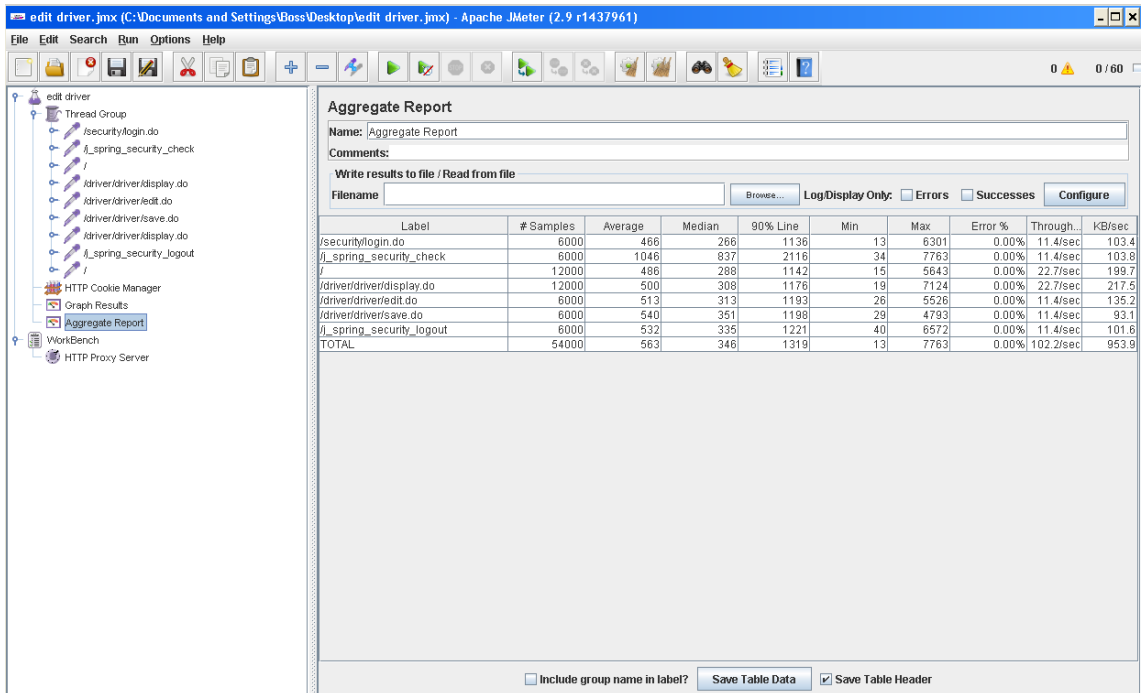
Test 25: List sponsorships that have not been accepted

With 60 users and 100 loops:



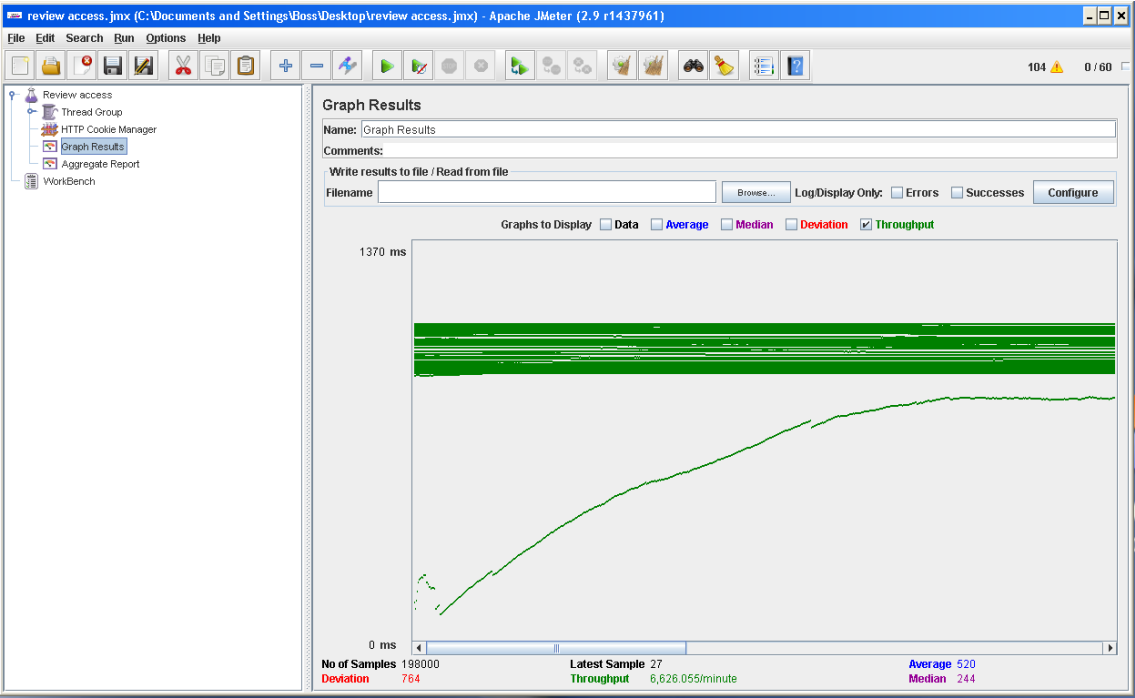
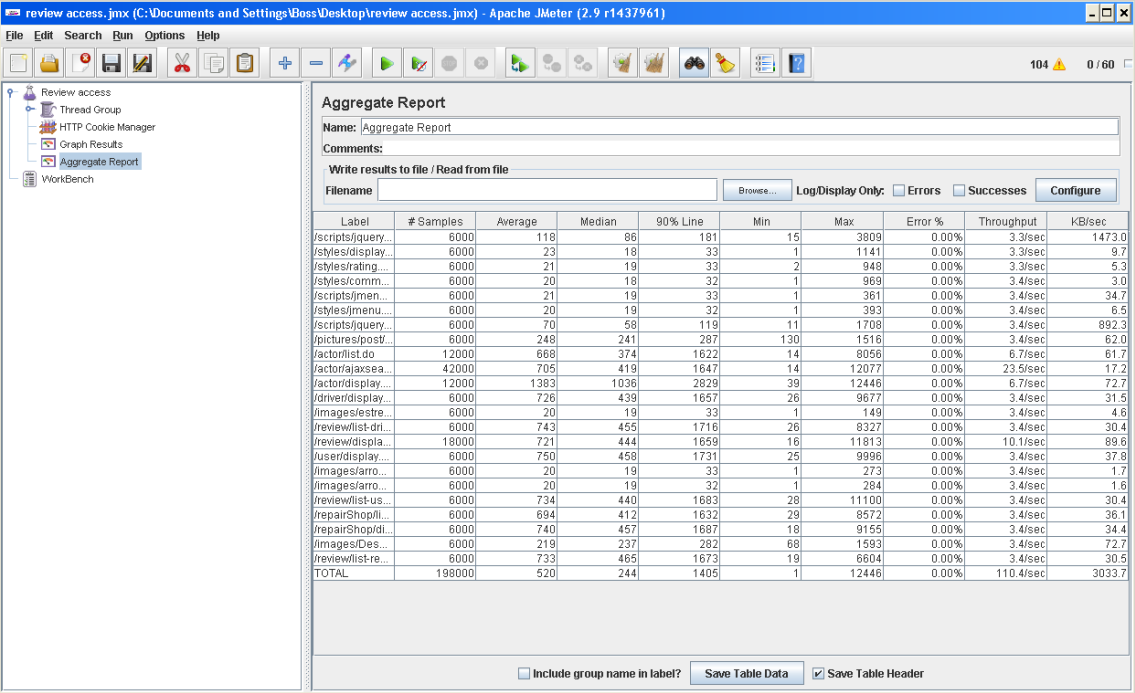
Test 26: Edit a driver's profile

With 60 users and 100 loops:



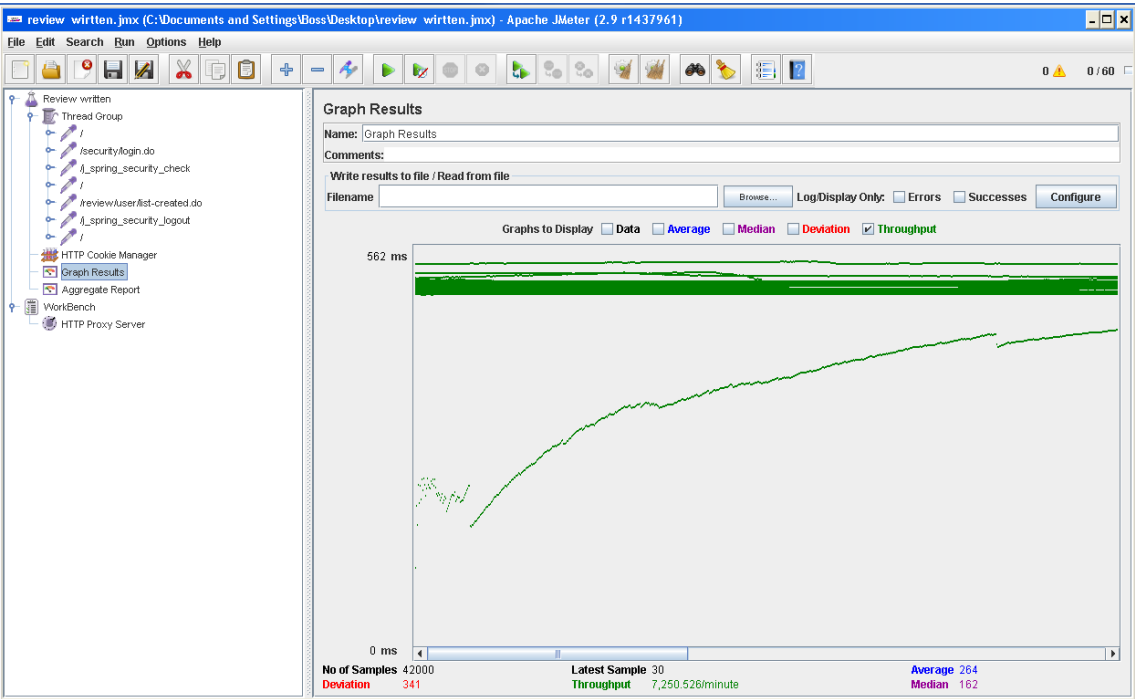
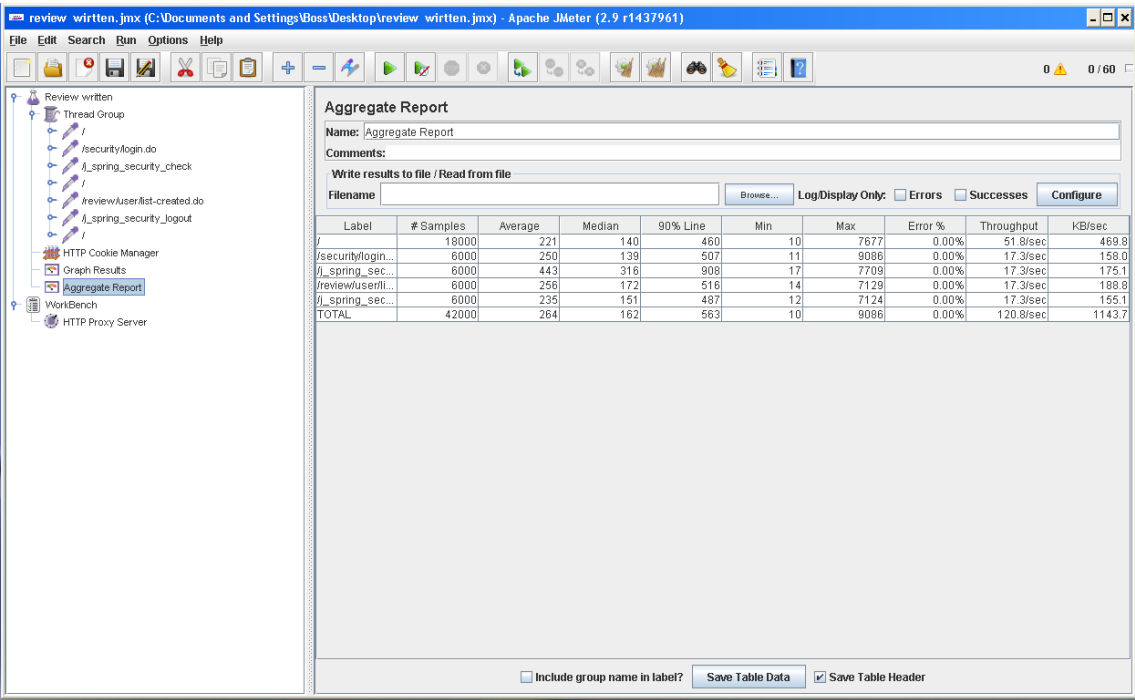
Test 27: Access to the system’s reviews

With 60 users and 100 loops:



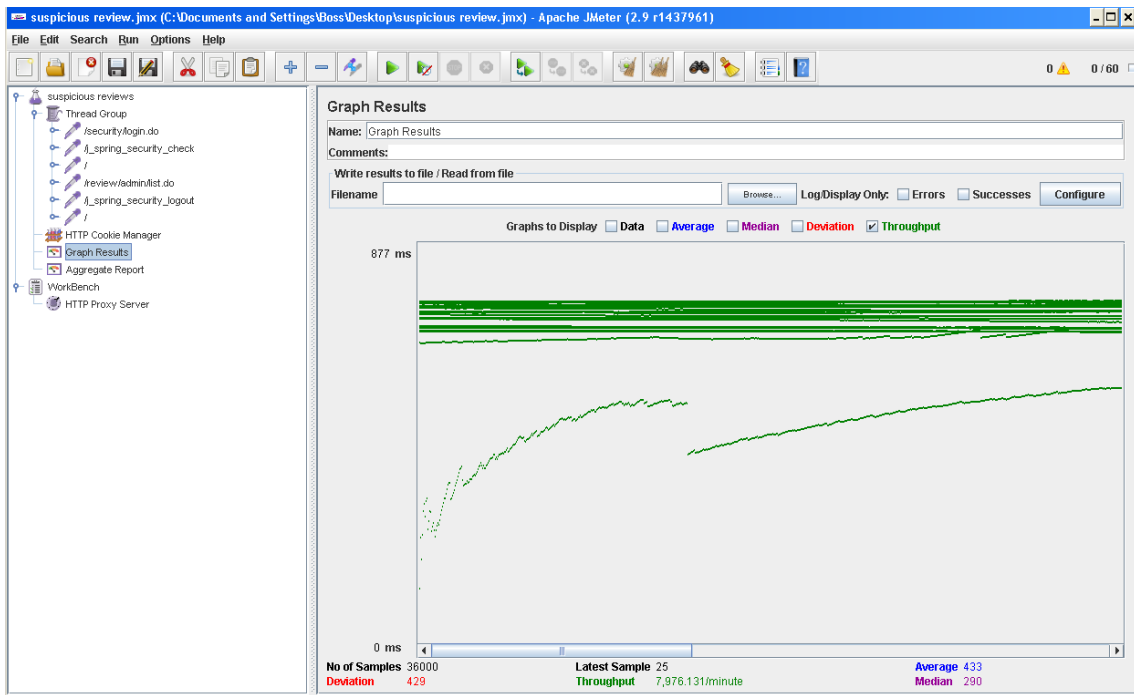
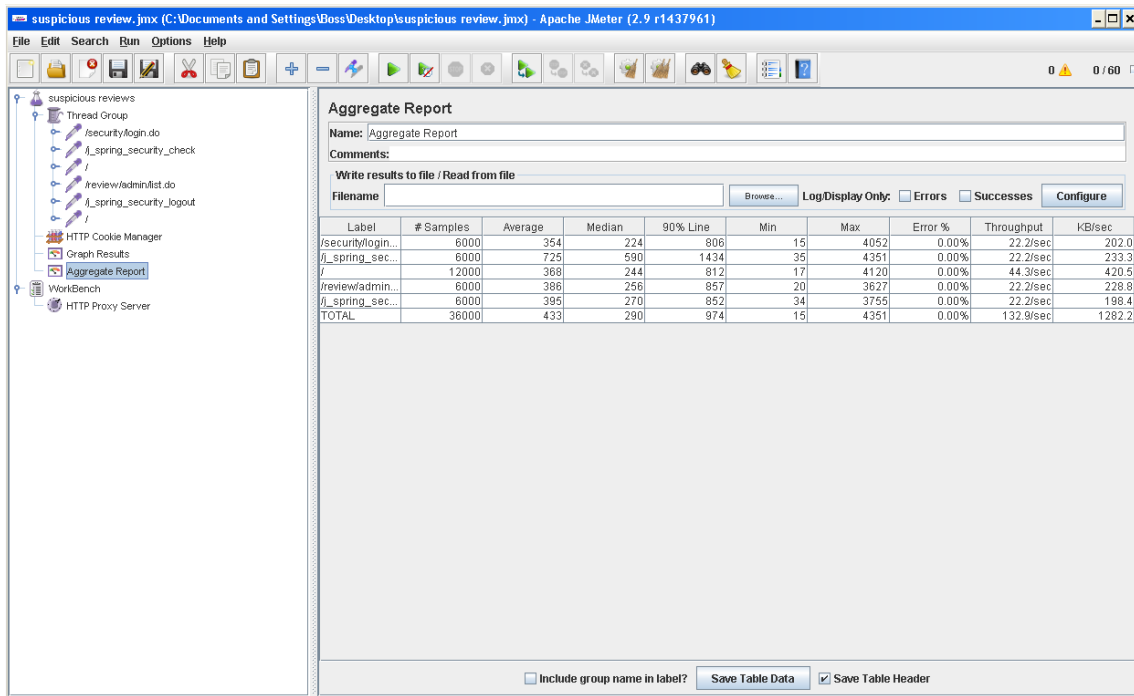
Test 28: Access to the reviews written by a user

With 60 users and 100 loops:



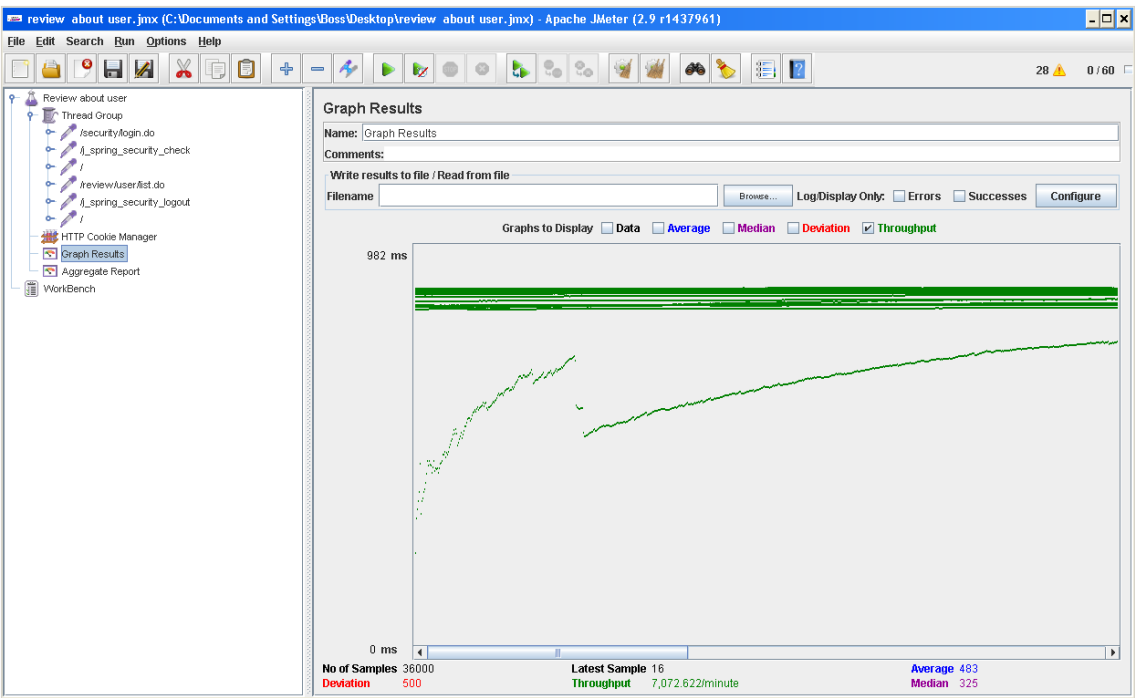
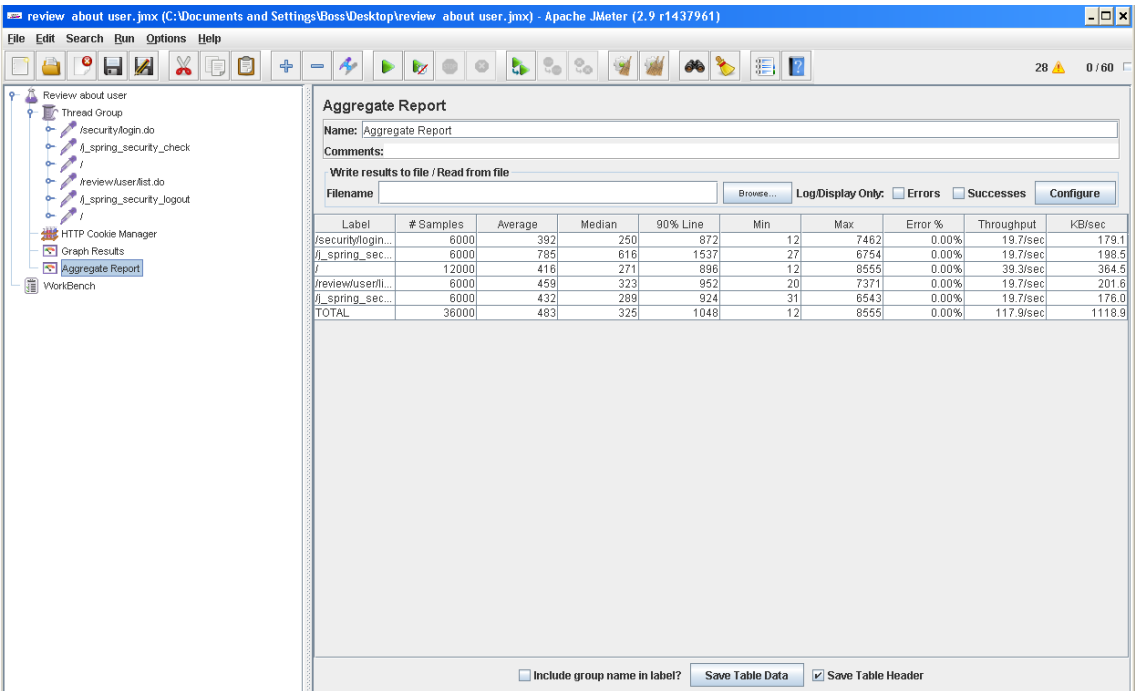
Test 29: List suspicious reviews.

With 60 users and 100 loops:



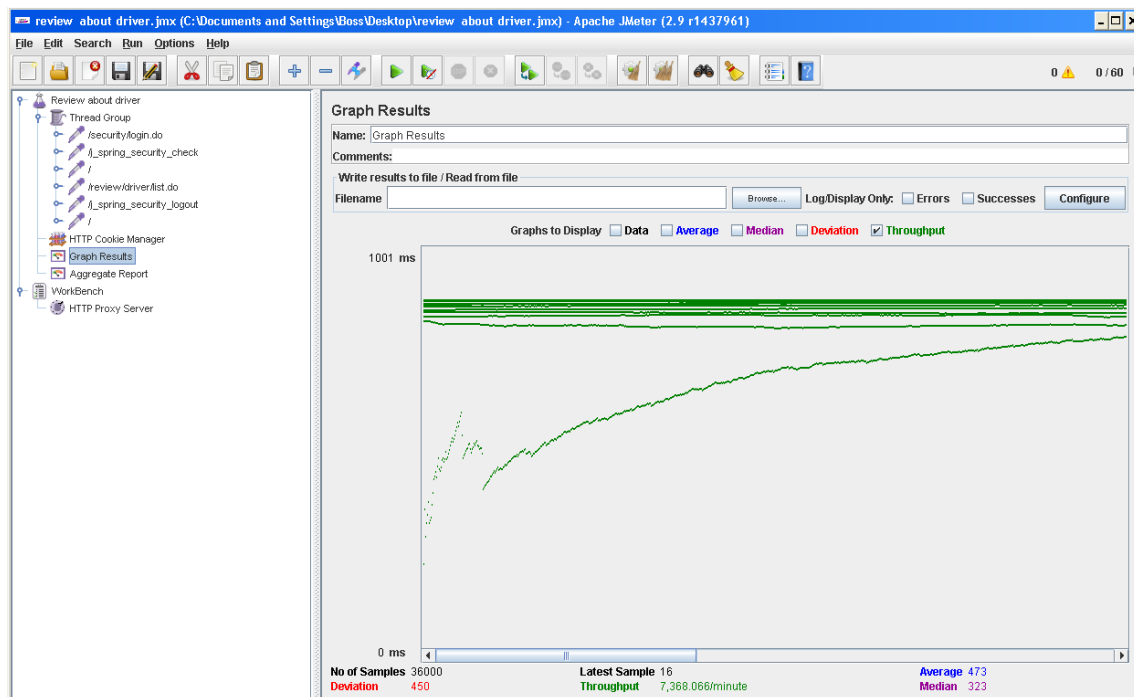
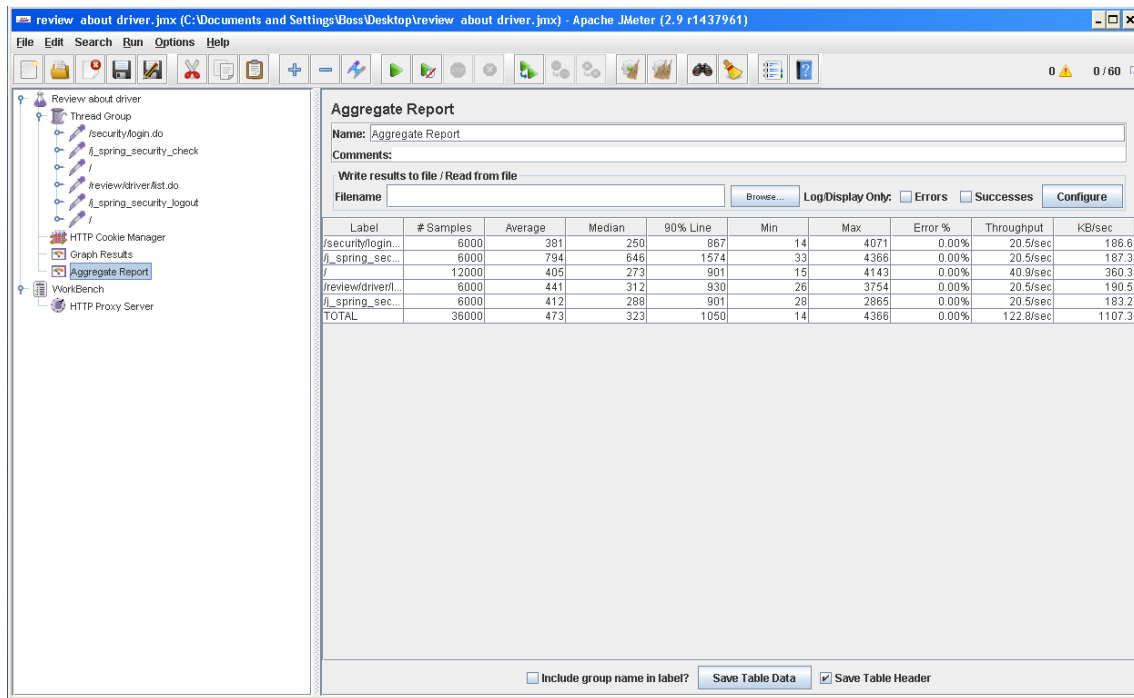
Test 30: List reviews related to a user:

With 60 users and 100 loops:



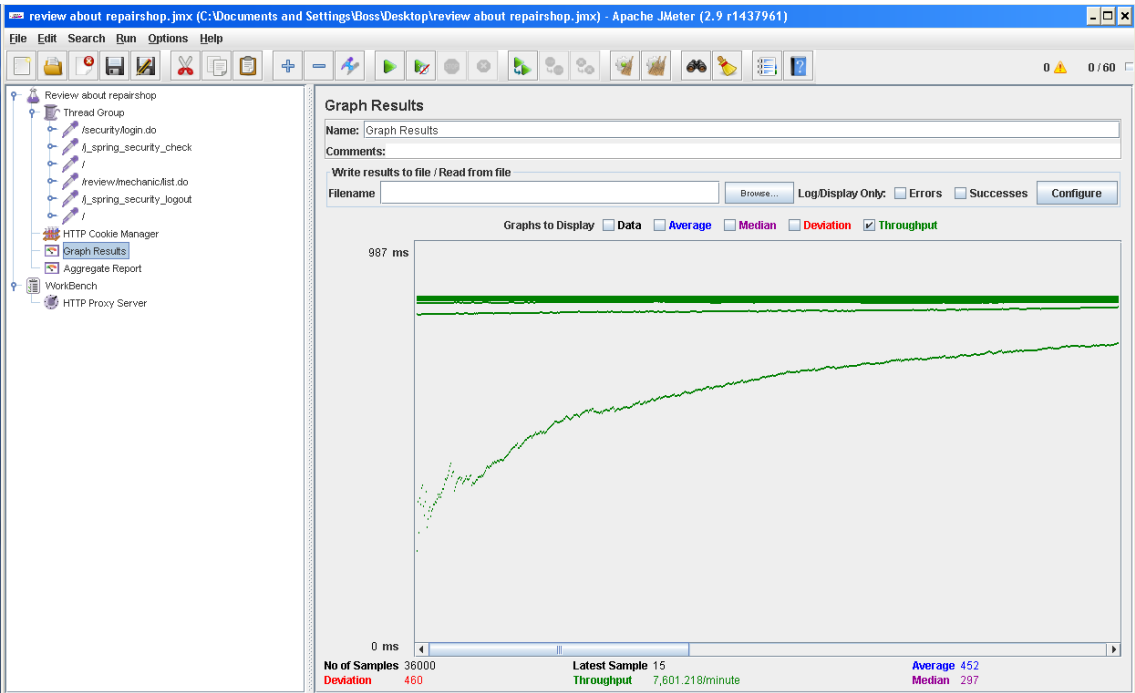
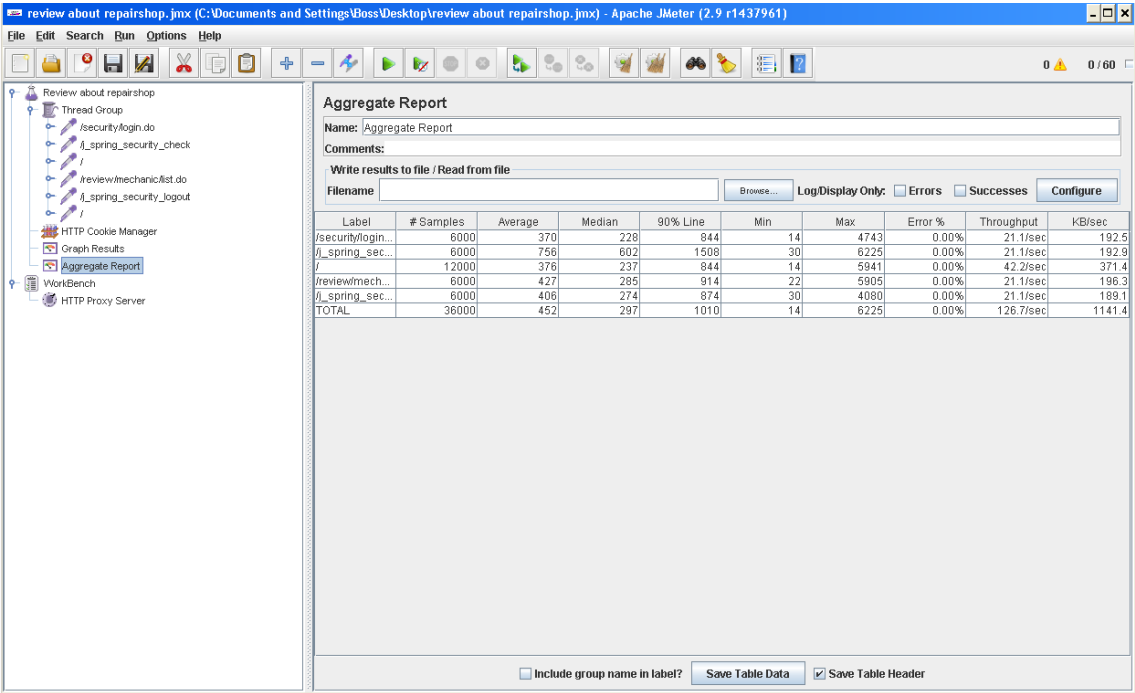
Test 31: List reviews related to a driver:

With 60 users and 100 loops:



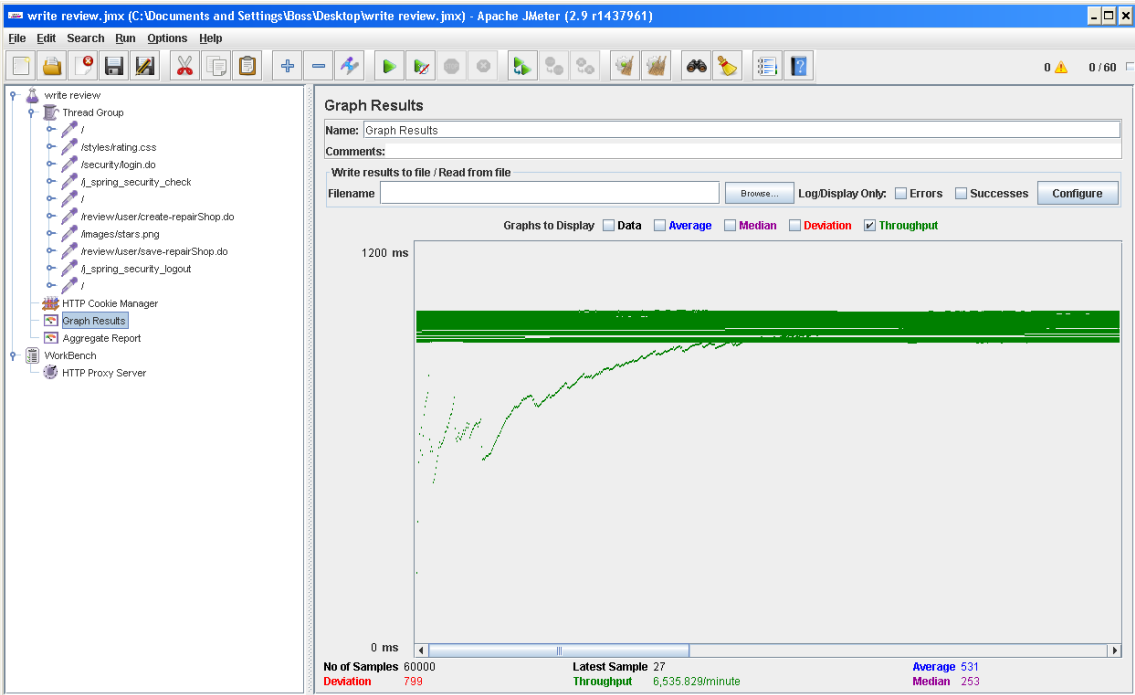
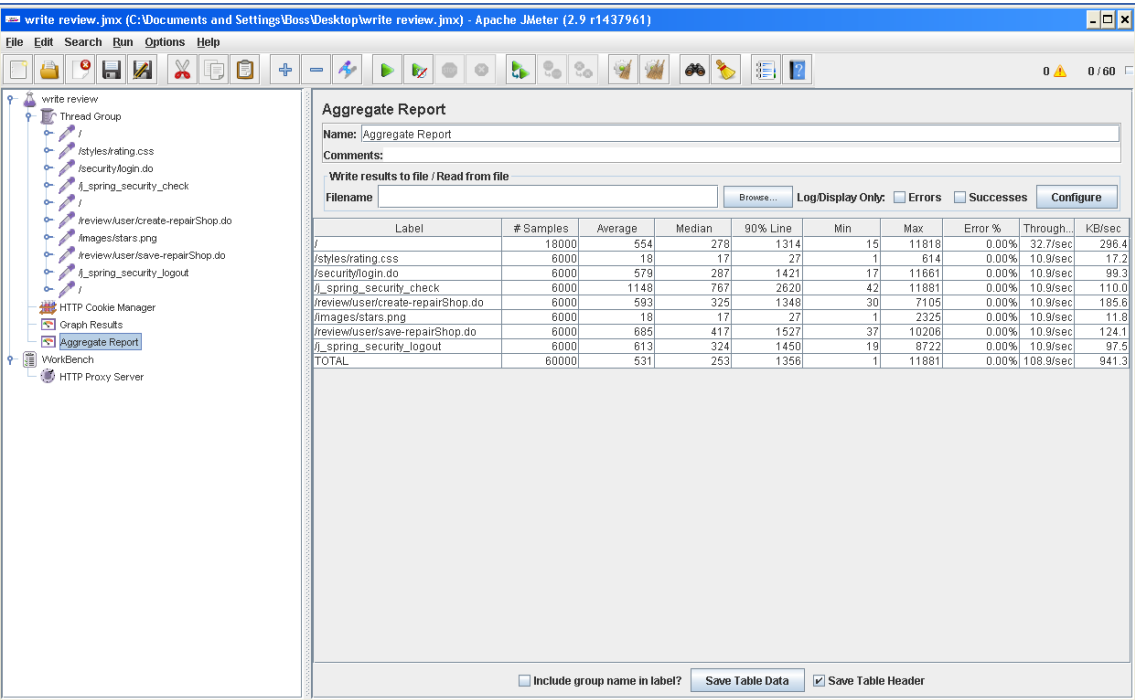
Test 32: List reviews related to a repair shop

With 60 users and 100 loops:



Test 33: Write a review:

With 60 users and 100 loops:



6. TESTS RAN IN MACHINE 5

This computer has the following features:

Processor: Intel(R) Core(TM) i7-7700HQ (2.8 GHz, Turbo Boost up to 3.8 GHz, 6 MB cache, 4 cores)

RAM: SDRAM 8 GB DDR4-2400 (2x4 GB)

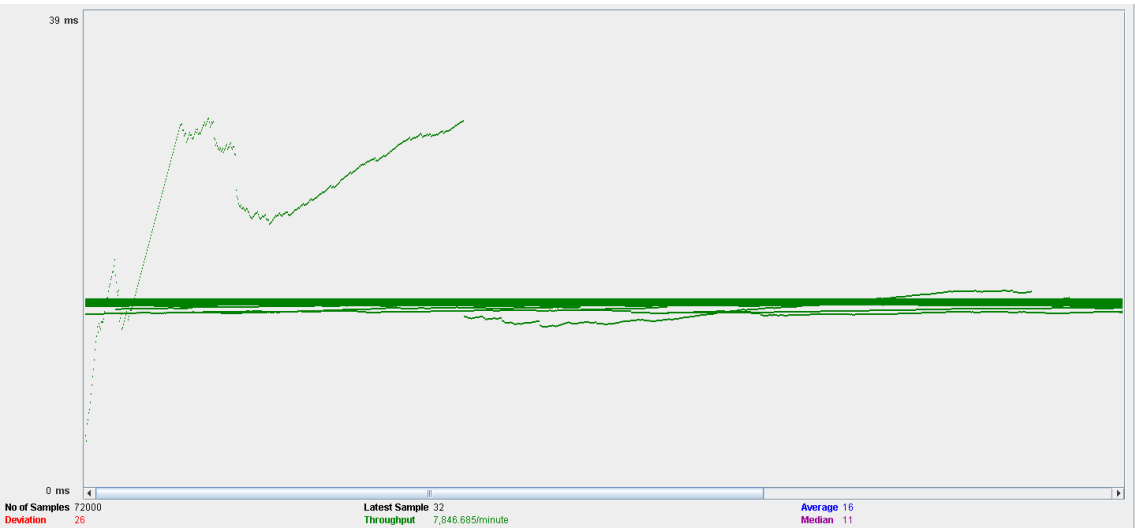
HDD: 1 TB SATA 7200 rpm

Network Adapter: Intel(R) Dual Band Wireless-AC 7265

Test 34: Displaying the admin dashboard.

With 60 users and 100 loops:

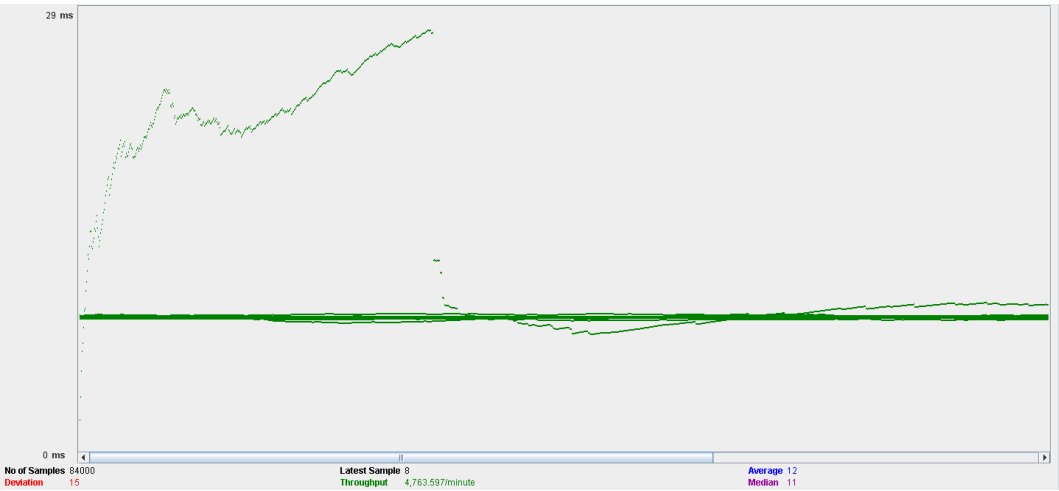
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	12000	20	15	34	7	881	0.00%	21.8/sec	215.3
/scripts/query.js	6000	13	11	20	5	887	0.00%	11.0/sec	3034.1
/scripts/query-us.js	6000	19	16	30	7	892	0.00%	11.0/sec	4992.2
/scripts/menu.js	6000	3	3	5	1	123	0.00%	11.0/sec	116.9
/styles/common.css	6000	3	3	5	1	210	0.00%	11.0/sec	10.2
/styles/menu.css	6000	3	3	5	1	343	0.00%	11.0/sec	22.2
/styles/displaytag.css	6000	3	3	5	1	348	0.00%	11.0/sec	33.6
/styles/rating.css	6000	3	3	5	1	862	0.00%	11.0/sec	18.0
/security/login.do	6000	20	17	30	8	339	0.00%	11.0/sec	103.9
/j_spring_security_check	6000	27	22	46	4	693	0.00%	11.0/sec	119.5
/admin/admin/dashboard	6000	59	45	106	23	690	0.00%	11.0/sec	165.5
TOTAL	72000	16	11	36	1	892	0.00%	130.8/sec	8763.3



Test 35: Announcement finder.

With 60 users and 100 loops:

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	12000	17	14	24	8	859	0.00%	11.4/sec	110.2
/styles/common.css	6000	3	3	4	1	503	0.00%	5.7/sec	5.3
/scripts/query.js	6000	12	10	16	6	531	0.00%	5.7/sec	1578.2
/styles/rating.css	6000	3	3	4	1	300	0.00%	5.7/sec	9.4
/scripts/menu.js	6000	3	3	4	1	710	0.00%	5.7/sec	11.6
/styles/displaytag.css	6000	3	3	4	1	222	0.00%	5.7/sec	17.5
/scripts/menu.js	6000	3	3	4	1	193	0.00%	5.7/sec	60.8
/scripts/query-us.js	6000	16	14	23	8	759	0.00%	5.7/sec	2596.8
/security/login.do	6000	20	18	32	8	114	0.00%	5.7/sec	54.2
/j_spring_security_check	6000	25	23	38	4	156	0.00%	5.7/sec	59.9
/announcement/userinfo	6000	25	22	40	10	273	0.00%	5.7/sec	88.9
/announcement/userinfo	6000	23	21	34	11	246	0.00%	5.7/sec	67.4
/images/arrow_off.png	6000	2	3	4	1	13	0.00%	5.7/sec	2.9
TOTAL	84000	12	11	27	1	859	0.00%	79.4/sec	4607.7



Test 36: Search announcement.

With 60 users and 100 loops:

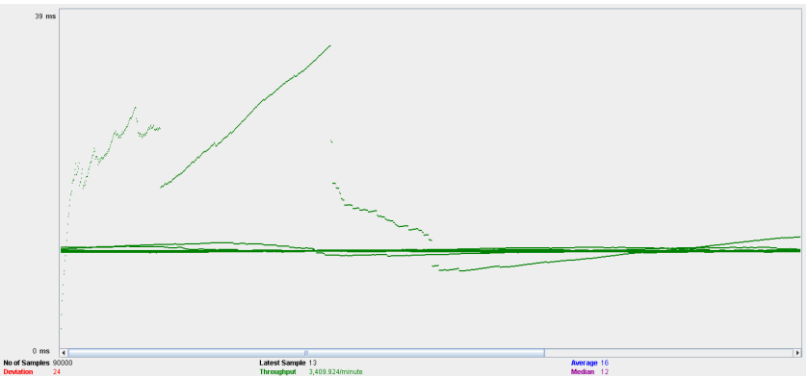
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	6000	17	12	24	7	842	0.00%	9.1/sec	82.8
/scripts/query.js	6000	12	9	16	5	1230	0.00%	9.1/sec	2517.4
/scripts/query-ui.js	6000	19	14	24	8	1228	0.00%	9.1/sec	4142.0
/scripts/menu.js	6000	4	3	4	1	552	0.00%	9.1/sec	97.0
/styles/common.css	6000	3	3	4	1	502	0.00%	9.1/sec	8.4
/styles/menu.css	6000	3	3	4	1	483	0.00%	9.1/sec	18.4
/styles/displaytag.css	6000	3	3	4	1	502	0.00%	9.1/sec	27.9
/styles/rating.css	6000	3	3	4	1	501	0.00%	9.1/sec	15.0
/announcement/search...	6000	17	15	27	6	336	0.00%	9.1/sec	89.9
/announcement/search...	18000	27	23	42	11	251	0.00%	27.3/sec	45.1
TOTAL	72000	13	10	29	1	1230	0.00%	108.8/sec	7005.7



Test 37: Create announcement.

With 60 users and 100 loops:

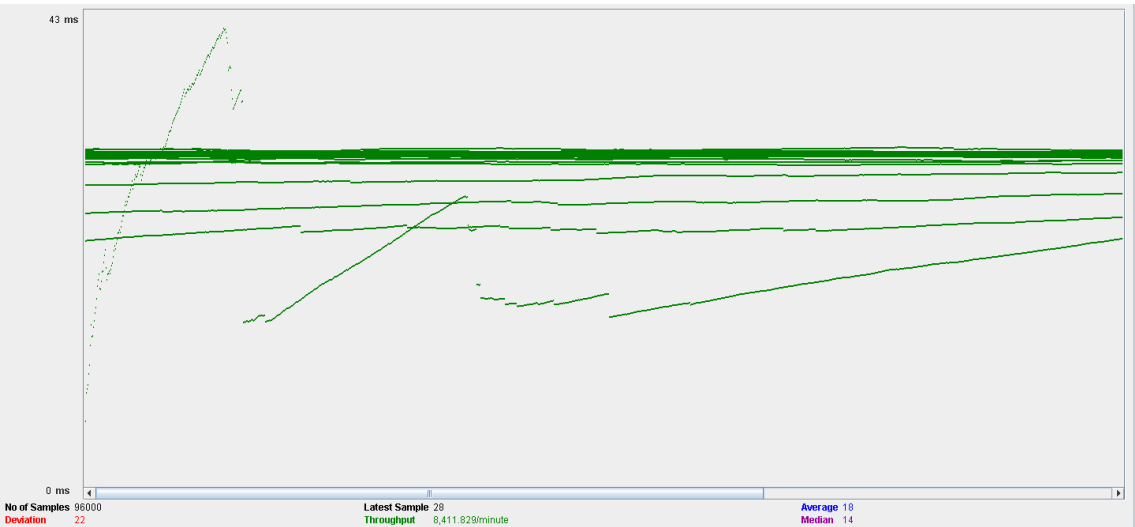
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	12000	17	14	23	8	1220	0.00%	7.6/sec	73.8
/scripts/query.js	6000	12	9	15	6	735	0.00%	3.8/sec	1058.5
/scripts/query-ui.js	6000	17	14	22	9	1277	0.00%	3.8/sec	1741.6
/scripts/menu.js	6000	3	3	4	1	340	0.00%	3.8/sec	40.8
/styles/common.css	6000	3	3	4	1	148	0.00%	3.8/sec	3.6
/styles/menu.css	6000	3	3	4	1	94	0.00%	3.8/sec	7.7
/styles/displaytag.css	6000	3	3	4	1	384	0.00%	3.8/sec	11.7
/styles/rating.css	6000	3	3	4	1	136	0.00%	3.8/sec	6.3
/security/login.do	6000	21	19	32	8	693	0.00%	3.8/sec	36.2
/j_spring_security_check	6000	26	23	40	5	928	0.00%	3.8/sec	40.0
/announcement/user/r...	6000	28	25	44	12	257	0.00%	3.8/sec	49.2
/announcement/user/red...	6000	55	49	77	18	970	0.00%	3.8/sec	71.4
/announcement/user/ris...	6000	26	23	36	15	261	0.00%	3.8/sec	68.6
/images/arrow_off.png	6000	2	3	4	1	21	0.00%	3.8/sec	2.0
TOTAL	90000	16	12	38	1	1277	0.00%	56.8/sec	3175.8



Test 38: Edit announcement.

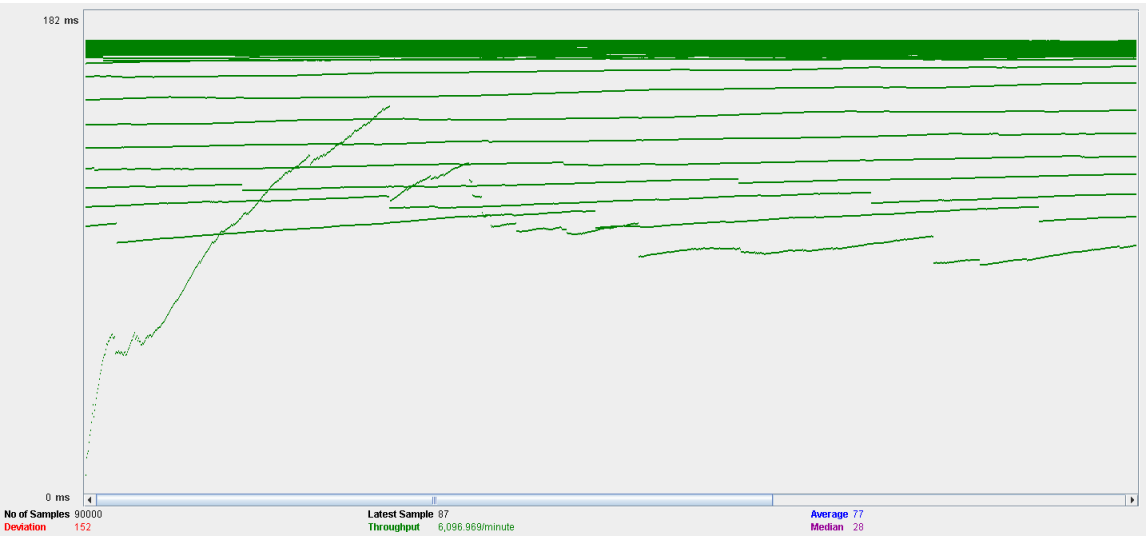
With 60 users and 100 loops:

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	12000	23	17	41	7	1013	0.00%	17.6/sec	169.6
/scripts/query-ui.js	6000	21	17	34	8	916	0.00%	8.9/sec	4022.2
/scripts/query.js	6000	14	12	23	5	624	0.00%	8.9/sec	2444.7
/scripts/menu.js	6000	3	3	6	1	249	0.00%	8.9/sec	94.2
/styles/common.css	6000	3	3	6	1	244	0.00%	8.9/sec	8.2
/styles/menu.css	6000	3	3	6	1	213	0.00%	8.9/sec	17.9
/styles/displaytag.css	6000	3	3	6	1	141	0.00%	8.9/sec	27.1
/styles/rating.css	6000	3	3	6	1	159	0.00%	8.9/sec	14.5
/securitylogin.do	6000	21	17	34	7	164	0.00%	8.8/sec	83.5
/j_spring_security_check	6000	30	24	54	5	361	0.00%	8.8/sec	92.3
/announcement/userlis...	12000	36	28	65	13	367	0.00%	17.6/sec	280.2
/images/arrow_off.png	6000	3	3	5	1	32	0.00%	8.8/sec	4.5
/announcement/userred...	12000	29	24	50	10	326	0.00%	17.6/sec	230.5
TOTAL	96000	18	14	38	1	1013	0.00%	140.2/sec	7418.4



Test 39: Cancel announcement.

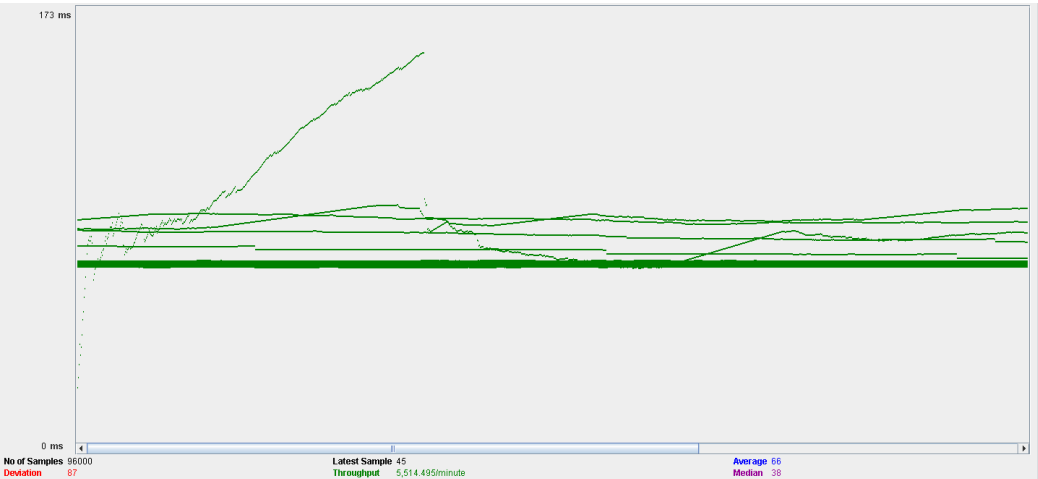
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	12000	99	57	215	8	3838	0.00%	13.6/sec	131.4
/styles/common.css	6000	9	5	20	1	472	0.00%	6.9/sec	6.3
/styles/displaytag.css	6000	9	5	21	1	556	0.00%	6.9/sec	21.0
/styles/rating.css	6000	9	5	21	1	450	0.00%	6.9/sec	11.2
/styles/menu.css	6000	9	5	21	1	534	0.00%	6.9/sec	13.8
/scripts/menu.js	6000	9	6	20	1	351	0.00%	6.9/sec	72.9
/scripts/query.js	6000	38	25	85	6	584	0.00%	6.9/sec	1892.4
/scripts/query-ui.js	6000	57	39	124	9	1219	0.00%	6.9/sec	3113.7
/securitylogin.do	6000	67	40	159	9	1066	0.00%	6.8/sec	64.8
/j_spring_security_check	6000	130	86	289	5	2566	0.00%	6.8/sec	71.7
/images/arrow_off.png	6000	8	5	19	1	160	0.00%	6.8/sec	3.5
/announcement/userlis...	12000	148	97	343	17	2118	0.00%	13.7/sec	202.6
/announcement/userica...	6000	324	227	695	38	5534	0.00%	6.8/sec	112.4
TOTAL	90000	77	28	201	1	5534	0.00%	101.6/sec	5655.3



Test 40: Join announcement

With 60 users and 100 loops:

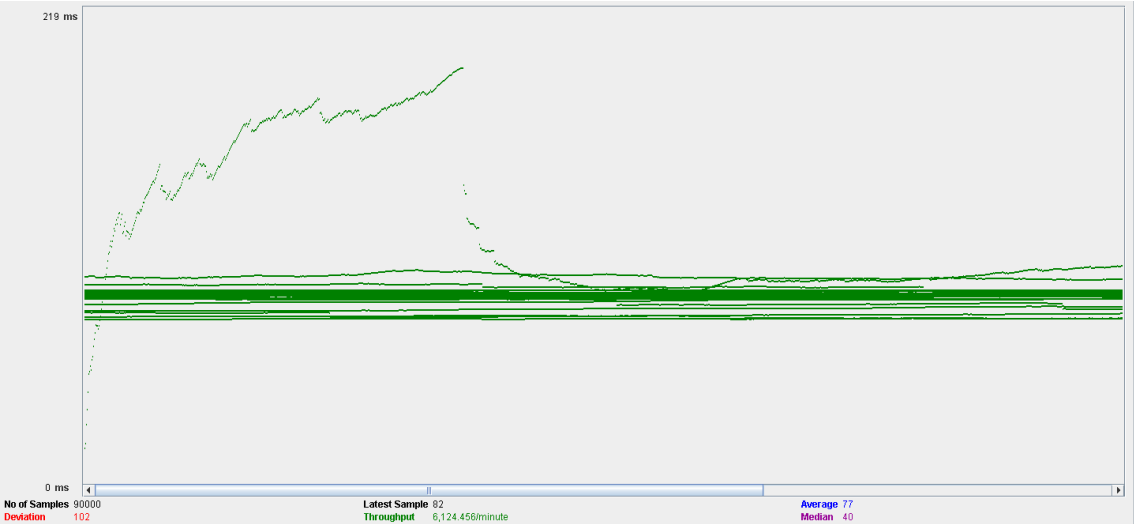
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	kB/sec
/	12000	91	67	197	8	1409	0.00%	11.5/sec	111.5
/scripts/query.js	6000	36	25	74	6	1263	0.00%	5.9/sec	1600.2
/scripts/query-ui.js	6000	53	38	111	9	1051	0.00%	5.9/sec	2632.9
/scripts/menu.js	6000	9	5	27	1	151	0.00%	5.8/sec	61.7
/styles/common.css	6000	9	5	25	1	219	0.00%	5.8/sec	5.4
/styles/menu.css	6000	9	5	25	1	552	0.00%	5.8/sec	11.7
/styles/displaytag.css	6000	9	5	24	1	89	0.00%	5.8/sec	17.7
/styles/rating.css	6000	8	5	24	1	314	0.00%	5.8/sec	9.5
/security/login.do	6000	62	41	144	8	1168	0.00%	5.8/sec	54.8
/j_spring_security_check	6000	129	100	256	7	1707	0.00%	5.8/sec	60.6
/images/arrow_off.png	6000	8	5	22	1	110	0.00%	5.8/sec	3.0
/announcement/user/ris...	6000	135	99	279	38	1152	0.00%	5.9/sec	67.9
/announcement/user/di...	6000	148	105	323	37	1311	0.00%	5.9/sec	64.6
/announcement/user/foi...	6000	117	89	238	35	751	0.00%	5.8/sec	107.0
/announcement/user/ris...	6000	137	102	291	36	977	0.00%	5.8/sec	76.3
TOTAL	96000	66	38	166	1	1707	0.00%	91.9/sec	4844.1



Test 41: Drop out from an announcement

With 60 users and 100 loops:

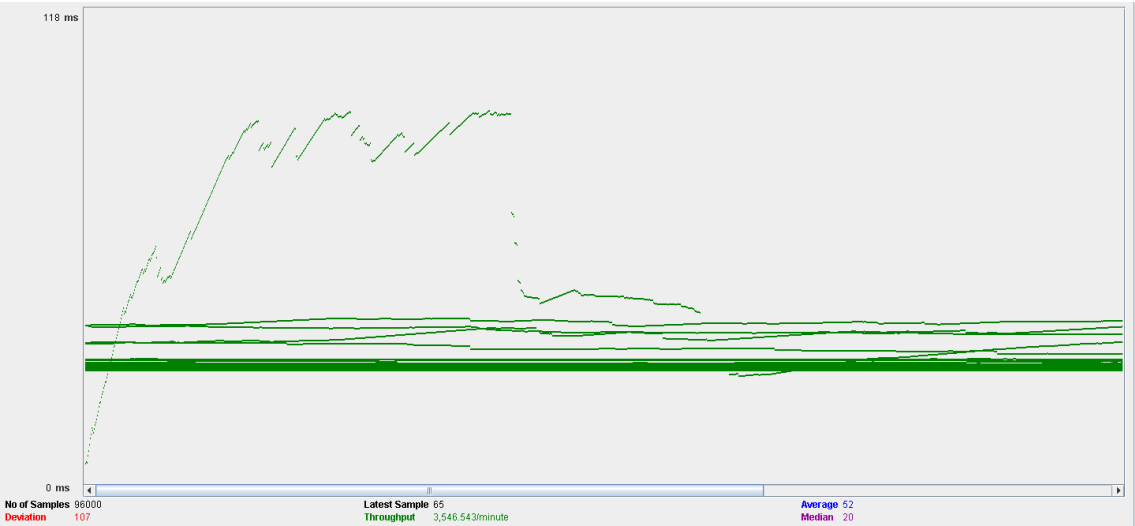
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	kB/sec
/	12000	116	88	247	8	1949	0.00%	13.6/sec	131.7
/styles/common.css	6000	10	6	29	1	105	0.00%	6.9/sec	6.4
/scripts/query.js	6000	47	34	99	6	791	0.00%	6.9/sec	1894.8
/scripts/query-ui.js	6000	70	52	150	9	552	0.00%	6.9/sec	3117.7
/scripts/menu.js	6000	11	6	31	1	261	0.00%	6.9/sec	73.0
/styles/menu.css	6000	10	6	30	1	220	0.00%	6.9/sec	13.9
/styles/displaytag.css	6000	10	6	30	1	118	0.00%	6.9/sec	21.0
/styles/rating.css	6000	10	6	29	1	127	0.00%	6.9/sec	11.3
/security/login.do	6000	83	56	190	9	1192	0.00%	6.8/sec	64.7
/j_spring_security_check	6000	167	132	324	7	2722	0.00%	6.8/sec	71.5
/images/arrow_off.png	6000	10	6	29	1	199	0.00%	6.9/sec	3.5
/announcement/user/ris...	12000	171	125	351	37	2301	0.00%	13.7/sec	178.8
/announcement/user/di...	6000	146	112	296	35	1336	0.00%	6.8/sec	126.5
TOTAL	90000	77	40	201	1	2722	0.00%	102.1/sec	5671.1



Test 42: Sending a message:

With 60 users and 100 loops:

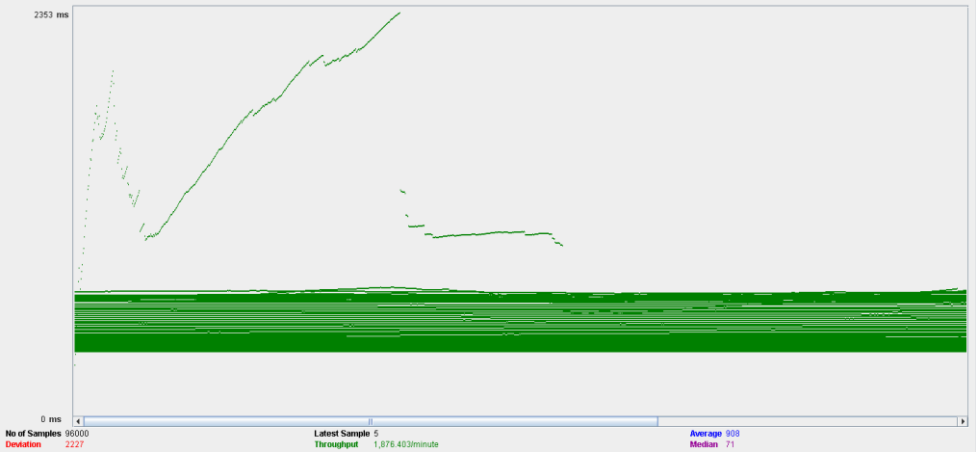
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	12000	47	27	97	0	1672	0.00%	7.4/sec	71.9
/styles/menu.css	6000	6	3	10	1	307	0.00%	3.7/sec	7.5
/styles/common.css	6000	6	3	11	1	441	0.00%	3.7/sec	3.5
/styles/displaytag.css	6000	6	3	11	1	333	0.00%	3.7/sec	11.4
/styles/rating.css	6000	6	3	11	1	341	0.00%	3.7/sec	6.1
/scripts/query.js	6000	26	15	50	6	864	0.00%	3.7/sec	1031.7
/scripts/menu.js	6000	6	4	11	2	252	0.00%	3.7/sec	39.8
/scripts/query-ui.js	6000	35	21	69	9	916	0.00%	3.7/sec	1697.5
/favicon.ico	6000	8	5	16	2	355	0.00%	3.7/sec	121.5
/security/login.do	6000	39	25	76	9	815	0.00%	3.7/sec	35.3
/j_spring_security_check	6000	69	44	139	4	1130	0.00%	3.7/sec	39.0
/folder/factorlist.do	6000	205	143	407	27	2582	0.00%	3.7/sec	47.2
/message/factor/create.do	6000	59	42	110	12	1032	0.00%	3.7/sec	42.8
/message/factor/edit.do	6000	192	115	398	36	2576	0.00%	3.7/sec	63.5
/message/factor/list.do	6000	75	44	154	14	993	0.00%	3.7/sec	62.4
TOTAL	96000	52	20	126	1	2582	0.00%	59.1/sec	3246.0



Test 43: Broadcasting a message:

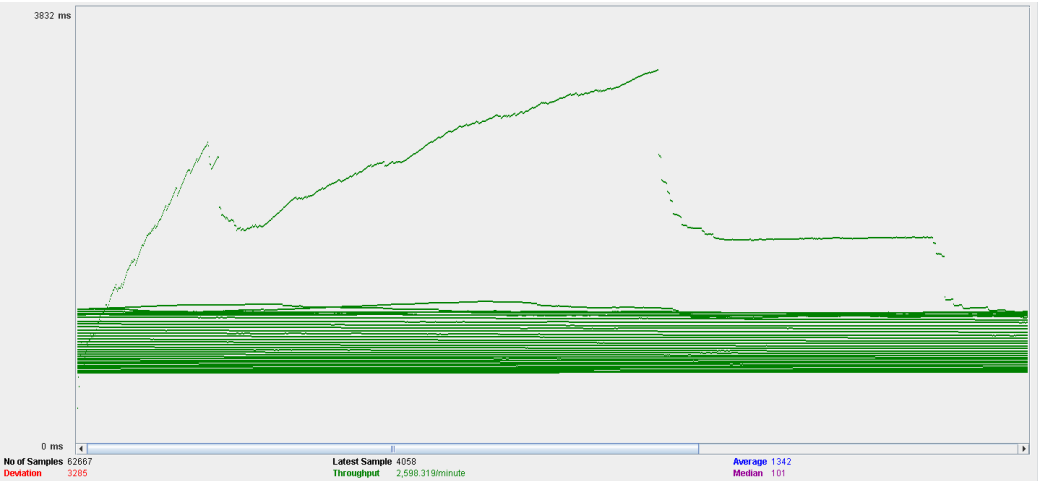
With 60 users and 100 loops:

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	12000	1083	355	2861	7	27520	0.00%	3.9/sec	38.7
/scripts/query.js	6000	96	32	256	5	2345	0.00%	2.0/sec	542.7
/scripts/query-ui.js	6000	126	46	340	9	2078	0.00%	2.0/sec	892.9
/scripts/menu.js	6000	21	5	61	1	653	0.00%	2.0/sec	20.9
/styles/common.css	6000	21	5	61	1	1087	0.00%	2.0/sec	1.8
/styles/menu.css	6000	20	5	61	1	618	0.00%	2.0/sec	4.0
/styles/displaytag.css	6000	21	5	60	1	940	0.00%	2.0/sec	6.0
/styles/rating.css	6000	19	5	53	1	557	0.00%	2.0/sec	3.2
/security/login.do	6000	963	230	2615	8	20876	0.00%	2.0/sec	18.6
/j_spring_security_check	6000	2168	896	5945	5	37868	0.00%	2.0/sec	21.4
/folder/factorlist.do	6000	1884	1112	4553	18	30560	0.00%	2.0/sec	25.2
/message/admin/create.do	6000	1244	524	3061	14	31095	0.00%	2.0/sec	23.1
/message/admin/edit.do	6000	4374	3120	10055	102	41081	0.00%	2.0/sec	33.4
/message/factorlist.do	6000	1379	627	3434	14	35287	0.00%	2.0/sec	33.3
/images/arrow_off.png	6000	22	6	66	1	942	0.00%	2.0/sec	1.0
TOTAL	96000	908	71	2656	1	41081	0.00%	31.3/sec	1657.7



With 100 users and 100 loops:

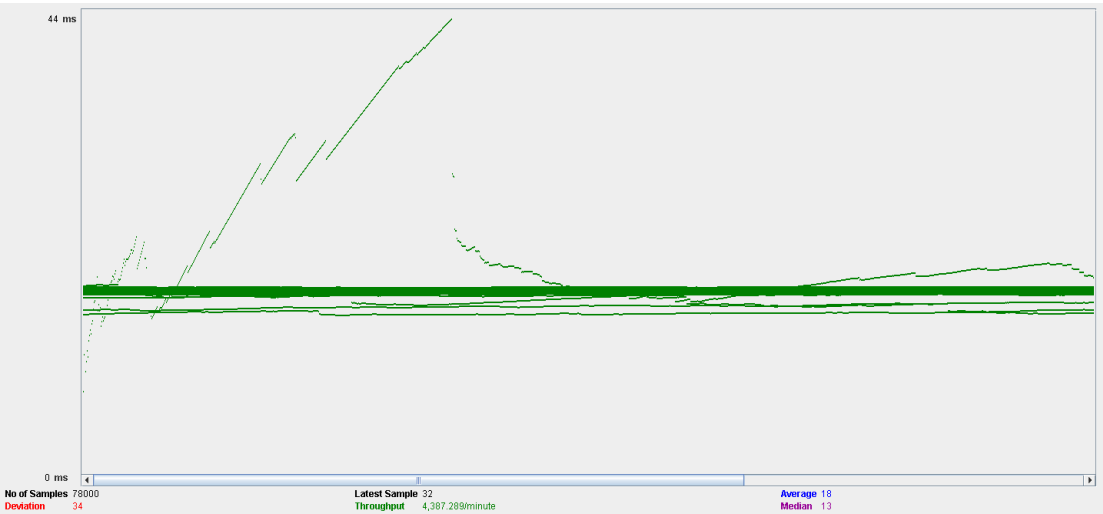
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	7859	1857	631	4993	8	47303	0.20%	5.4/sec	53.7
/scripts/query.js	3937	76	44	193	6	879	0.00%	2.7/sec	754.6
/scripts/query-ui.js	3937	102	62	238	9	1040	0.00%	2.7/sec	1241.2
/scripts/menu.js	3937	17	7	48	1	398	0.00%	2.7/sec	29.1
/styles/common.css	3937	18	7	47	1	524	0.00%	2.7/sec	2.5
/styles/menu.css	3937	17	7	46	1	343	0.00%	2.7/sec	5.5
/styles/displaytag.css	3937	18	7	49	1	410	0.00%	2.7/sec	8.4
/styles/rating.css	3937	16	7	42	1	340	0.00%	2.7/sec	4.5
/security/login.do	3937	1639	437	4457	9	38159	0.10%	2.7/sec	25.8
/j_spring_security_check	3925	3730	1779	9845	8	55522	0.28%	2.7/sec	29.6
/folderfactor/list.do	3906	2399	1197	5847	20	51459	0.18%	2.7/sec	34.7
/message/admin/create	3899	1913	680	4832	13	44311	0.15%	2.7/sec	31.9
/message/admin/edit.do	3878	5825	4152	12361	111	86577	0.49%	2.7/sec	46.7
/message/actor/list.do	3859	2048	888	4874	13	45192	0.36%	2.7/sec	45.7
/images/arrow_off.png	3845	18	8	48	1	315	0.00%	2.7/sec	1.4
TOTAL	62667	1342	101	3976	1	86577	0.12%	43.3/sec	2305.1



Test 44: Create a folder.

With 60 users and 100 loops:

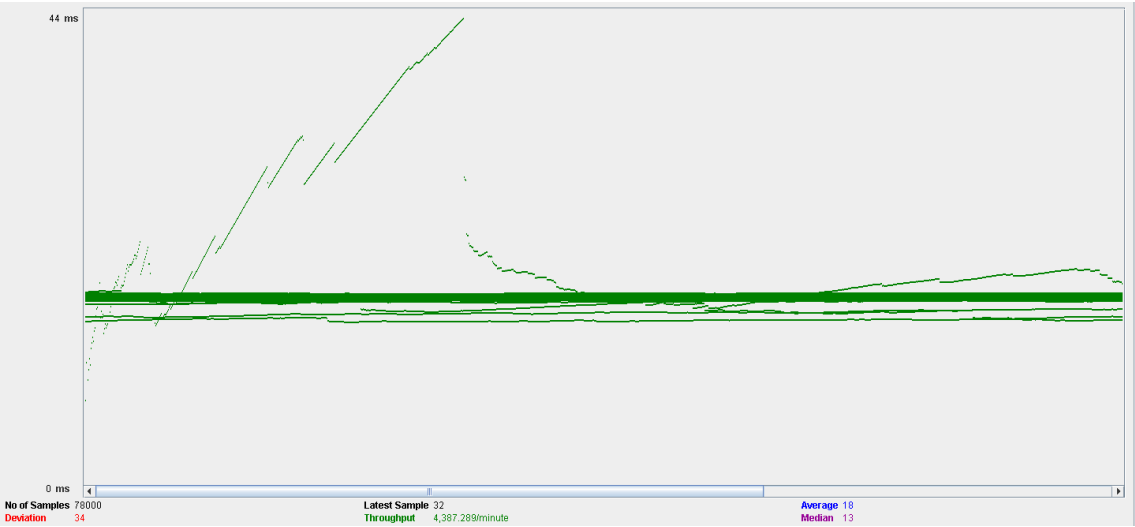
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	12000	21	15	26	8	2044	0.00%	11.3/sec	109.1
/scripts/query.js	6000	13	11	18	6	828	0.00%	5.7/sec	1564.0
/styles/common.css	6000	3	3	4	1	163	0.00%	5.7/sec	5.2
/scripts/query-ui.js	6000	19	16	27	9	904	0.00%	5.7/sec	2573.4
/scripts/menu.js	6000	3	3	5	1	810	0.00%	5.7/sec	60.3
/styles/menu.css	6000	3	3	4	1	251	0.00%	5.7/sec	11.4
/styles/displaytag.css	6000	3	3	5	1	190	0.00%	5.7/sec	17.3
/styles/rating.css	6000	3	3	4	1	292	0.00%	5.7/sec	9.3
/security/login.do	6000	21	19	33	8	323	0.00%	5.7/sec	53.6
/j_spring_security_check	6000	26	23	39	4	1061	0.00%	5.7/sec	59.3
/folderfactor/list.do	6000	54	50	78	23	445	0.00%	5.7/sec	73.3
/folderfactor/save.do	6000	44	38	66	23	1193	0.00%	5.7/sec	73.3
TOTAL	78000	18	13	41	1	2044	0.00%	73.1/sec	4578.7



Test 45: Delete folder

With 60 users and 100 loops:

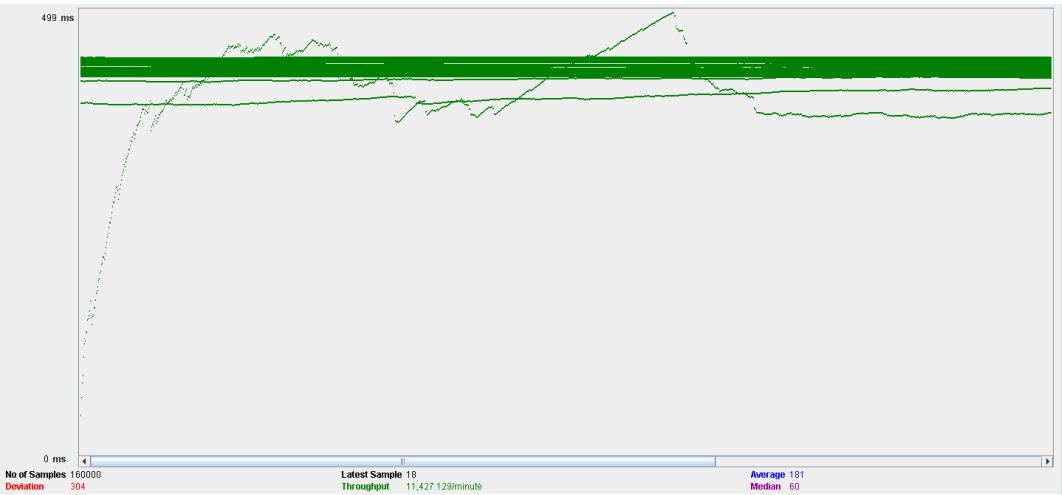
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	12000	21	15	26	8	2044	0.00%	11.3/sec	109.1
/scripts/jquery.js	6000	13	11	18	6	828	0.00%	5.7/sec	1564.0
/styles/common.css	6000	3	3	4	1	163	0.00%	5.7/sec	5.2
/scripts/jquery-ui.js	6000	19	16	27	9	904	0.00%	5.7/sec	2573.4
/scripts/menu.js	6000	3	3	5	1	810	0.00%	5.7/sec	60.3
/styles/menu.css	6000	3	3	4	1	251	0.00%	5.7/sec	11.4
/styles/displaytag.css	6000	3	3	5	1	190	0.00%	5.7/sec	17.9
/styles/rating.css	6000	3	3	4	1	292	0.00%	5.7/sec	9.3
/security/login.do	6000	21	19	33	8	323	0.00%	5.7/sec	53.6
/j_spring_security_check	6000	26	23	39	4	1061	0.00%	5.7/sec	59.3
/folderactor/list.do	6000	54	50	78	23	445	0.00%	5.7/sec	73.3
/folderactor/save.do	6000	44	38	66	23	1193	0.00%	5.7/sec	73.3
TOTAL	78000	18	13	41	1	2044	0.00%	73.1/sec	4578.7



Test 46: Delete message

With 60 users and 100 loops.

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	20000	279	158	658	8	4248	0.00%	23.8/sec	230.1
/scripts/jquery.js	10000	41	38	66	7	808	0.00%	12.0/sec	3313.3
/scripts/jquery-ui.js	10000	59	55	96	9	944	0.00%	12.0/sec	5451.6
/scripts/menu.js	10000	9	8	16	2	259	0.00%	12.0/sec	127.7
/styles/common.css	10000	9	8	15	1	408	0.00%	12.0/sec	11.1
/styles/menu.css	10000	9	8	15	1	429	0.00%	12.0/sec	24.2
/styles/displaytag.css	10000	9	8	15	1	718	0.00%	12.0/sec	36.7
/styles/rating.css	10000	9	8	15	1	422	0.00%	12.0/sec	19.7
/security/login.do	10000	279	151	677	9	5354	0.00%	12.0/sec	113.1
/j_spring_security_check	10000	587	442	1221	13	5226	0.00%	12.0/sec	125.0
/folderactor/list.do	10000	389	305	764	20	3576	0.00%	12.0/sec	151.3
/message/actor/list.do	20000	321	213	693	13	4612	0.00%	23.9/sec	303.0
/images/arrow_off.png	10000	9	8	15	1	132	0.00%	12.0/sec	6.1
/message/actor/delete.do	10000	289	171	674	10	3256	0.00%	12.0/sec	221.4
TOTAL	160000	181	60	510	1	5354	0.00%	190.5/sec	10060.8



Test 47: Move folder

With 60 users and 100 loops:

Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	12000	26	15	28	8	2959	0.00%	11.0/sec	106.0
/styles/displaytag.css	6000	4	3	4	1	621	0.00%	5.5/sec	16.9
/styles/common.css	6000	4	3	4	1	568	0.00%	5.5/sec	5.1
/styles/menu.css	6000	4	3	4	1	531	0.00%	5.5/sec	11.2
/styles/rating.css	6000	4	3	5	1	674	0.00%	5.5/sec	9.1
/scripts/menu.js	6000	4	3	5	1	641	0.00%	5.5/sec	58.9
/scripts/query.js	6000	13	11	18	6	721	0.00%	5.5/sec	1529.0
/scripts/query-ui.js	6000	18	16	26	9	510	0.00%	5.5/sec	2516.3
/securitylogin.do	6000	22	19	34	8	739	0.00%	5.5/sec	52.3
/j_spring_security_check	6000	28	24	42	6	1084	0.00%	5.5/sec	57.8
/folderactorlist.do	6000	42	35	65	20	438	0.00%	5.5/sec	69.5
/folderactormove.do	6000	34	30	53	13	1129	0.00%	5.5/sec	61.7
/folderactormoveSave.do	6000	34	28	49	15	1117	0.00%	5.5/sec	63.1
TOTAL	84000	19	14	37	1	2959	0.00%	76.2/sec	4483.4



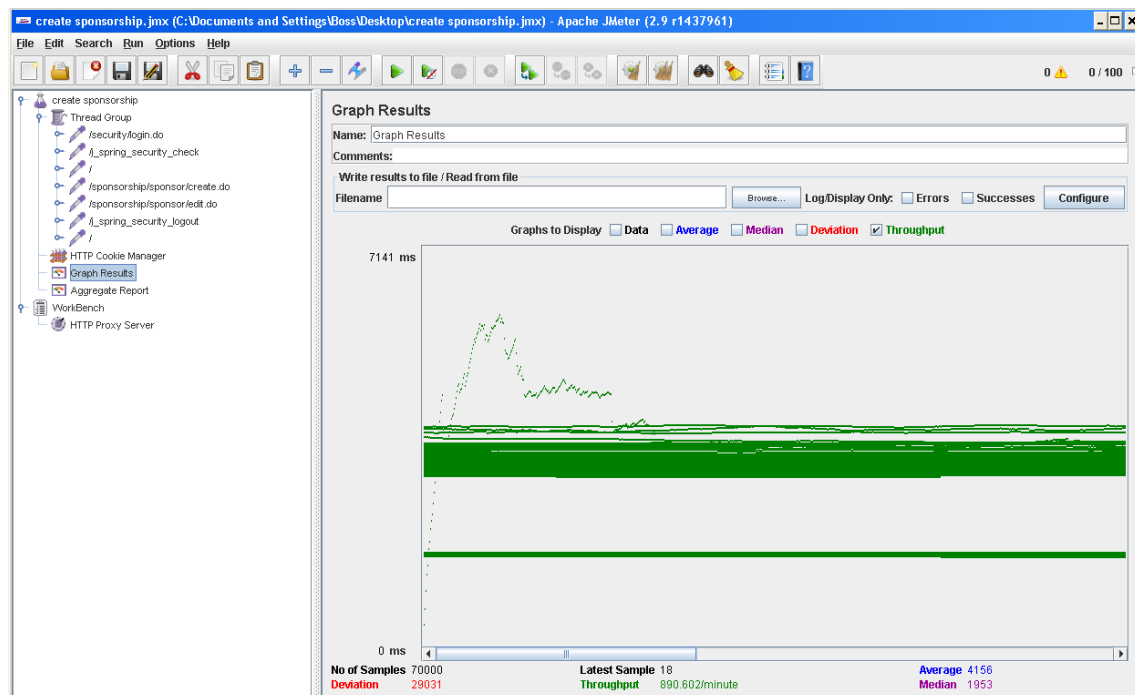
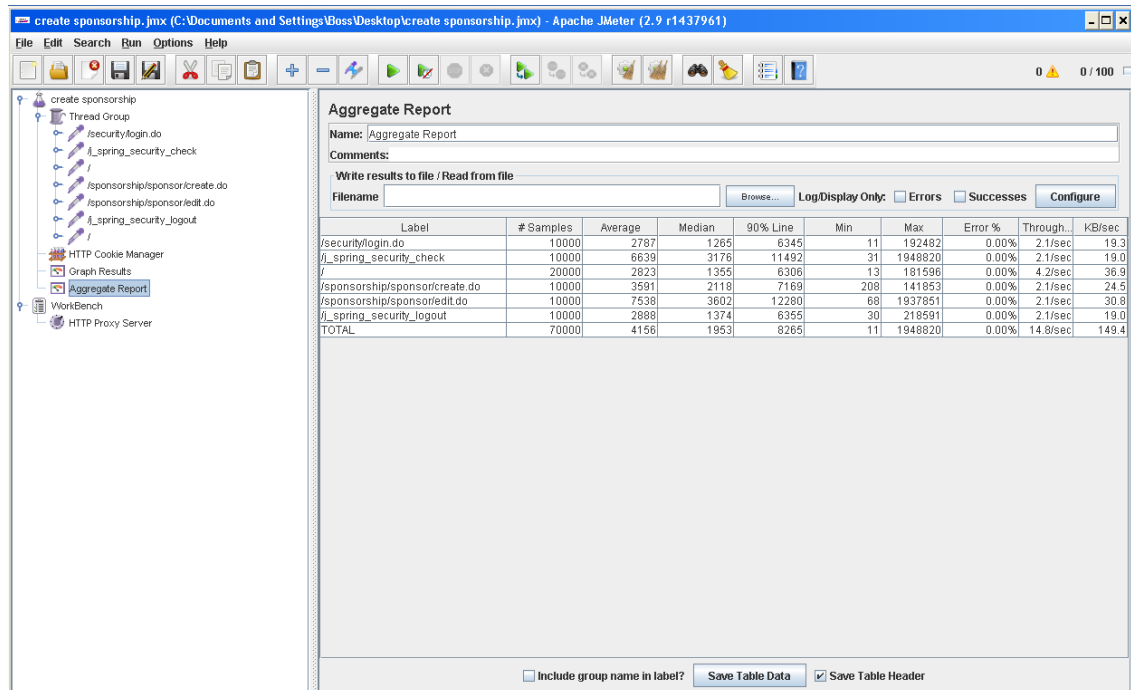
Test 48: Move message

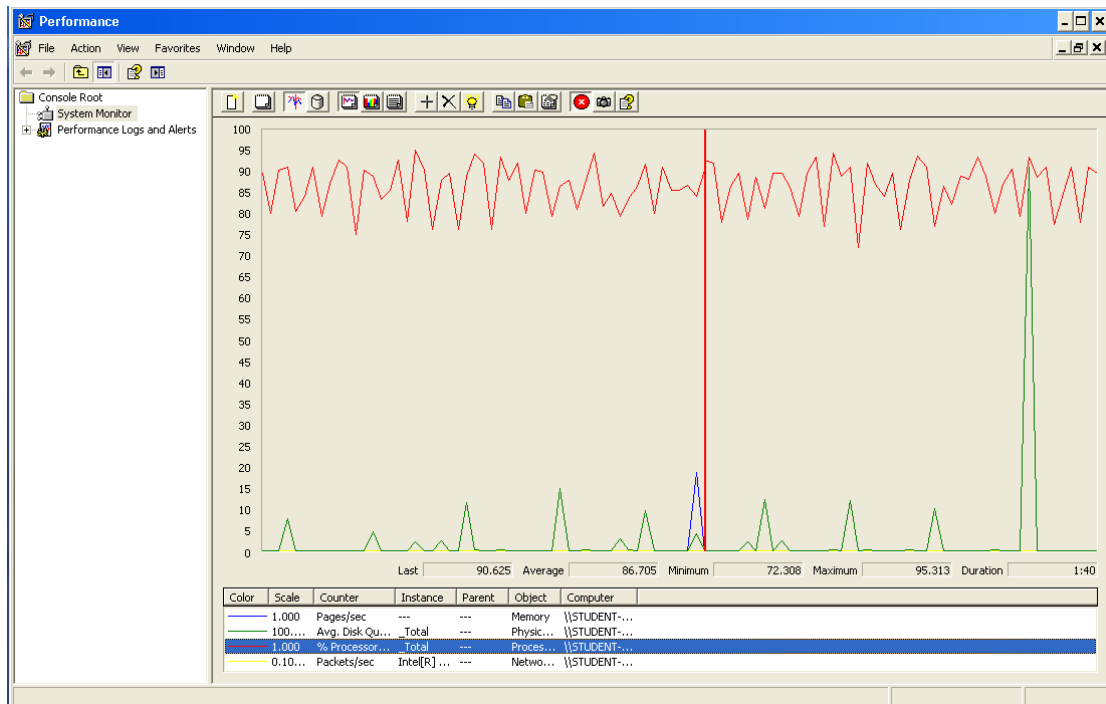
Label	# Samples	Average	Median	90% Line	Min	Max	Error %	Throughput	KB/sec
/	20000	52	33	109	7	2242	0.00%	17.9/sec	173.0
/scripts/query-ui.js	10000	35	28	65	8	1060	0.00%	9.0/sec	4084.7
/scripts/query.js	10000	24	19	44	5	806	0.00%	9.0/sec	2482.6
/styles/rating.css	10000	6	5	10	1	669	0.00%	9.0/sec	14.8
/styles/menu.css	10000	5	4	10	1	624	0.00%	9.0/sec	18.2
/styles/displaytag.css	10000	5	5	10	1	364	0.00%	9.0/sec	27.5
/scripts/menu.js	10000	6	5	10	1	411	0.00%	9.0/sec	95.7
/securitylogin.do	10000	44	29	92	7	1154	0.00%	9.0/sec	85.2
/j_spring_security_check	10000	71	47	149	9	1776	0.00%	9.0/sec	94.1
/folderactorlist.do	10000	110	82	232	19	1232	0.00%	9.0/sec	113.9
/messageactorlist.do	20000	73	52	156	12	1106	0.00%	17.9/sec	226.3
/messageactormove.do	10000	78	56	161	14	1349	0.00%	9.0/sec	97.2
/messageactormoveT...	10000	145	109	297	15	1934	0.00%	9.0/sec	115.8
TOTAL	150000	52	28	129	1	2242	0.00%	133.6/sec	7563.2



7. TESTING THE MAXIMUM PERFORMANCE OF THE SYSTEM

Out of the tests that have been ran with 100 concurrent users because they put the system in a stress situation, creating a sponsorship is the one that seems to stress the system the most:





In this case, the processor will be the system's bottleneck. Because with 100 users the time it takes to create a sponsor is already too long, we can consider that our system can handle less than 100 concurrent users. With 60 users it already takes near 4 seconds, which is still acceptable but noticeable. Our estimation is that the maximum workload our system can handle is around 70 concurrent users