

CS 550 Programming Assignment #2 – Performance Evaluation

Distributed Hash Table System Performance Test Cases

- 1) Operation count : 100000 Key – value pair (put , get , delete) = 300000
- 2) String Length = 1024

Test case 1: Single Client and 8 Servers

Client	Total Time Elapsed in milliseconds	Average Response time in milliseconds
Client 1	45972	0.153

	Operations	Total time elapsed	Avg time for response
Server1	37221	5042	0.135
Server2	37473	5117	0.137
Server3	38106	5090	0.134
Server4	37929	5212	0.137
Server5	37548	5204	0.139
Server6	37008	6752	0.182
Server7	37296	6696	0.180
Server8	37419	6859	0.183
TOTALS	300000	45972	0.153

Test case 2: 2 Clients and 8 Servers

Client	Time Elapsed in milliseconds	Average Response time in milliseconds
Client 1	36487	0.122
Client 2	43253	0.144

Client 1 : Distribution

<u>Client1</u>	Operations	Total time elapsed in mili seconds	Avg time for response in milliseconds
Server1	37269	4127	0.111
Server2	37467	4290	0.115
Server3	38028	4284	0.113
Server4	37416	4255	0.114
Server5	37428	4326	0.116
Server6	37221	5057	0.136
Server7	37368	5056	0.135
Server8	37803	5092	0.135
TOTALS	300000	36487	0.122

<u>Client2</u>	Operations	Total time elapsed in mili seconds	Avg time for response in milliseconds
Server1	37026	4712	0.127
Server2	37518	4741	0.126
Server3	37512	4773	0.127
Server4	37641	4785	0.127
Server5	37437	4767	0.127
Server6	37155	6446	0.173
Server7	37536	6473	0.172
Server8	38175	6556	0.172
TOTALS	300000	43253	0.144

Test case 3: 4 Clients and 8 Servers

Client	Time Elapsed in milliseconds	Average Response time in milliseconds
Client 1	37878	0.126
Client 2	40055	0.134
Client 3	40819	0.136
Client 4	33972	0.113

<u>Client1</u>	Operations	Total time elapsed in miili seconds	Avg time for response in milliseconds
Server1	37173	4607	0.124
Server2	37374	4612	0.123
Server3	37650	4578	0.122
Server4	37611	4648	0.124
Server5	36852	4705	0.128
Server6	37740	4899	0.130
Server7	37845	4915	0.130
Server8	37755	4914	0.130
TOTALS	300000	37878	0.126

<u>Client2</u>	Operations	Total time elapsed in miili seconds	Avg time for response in milliseconds
Server1	37347	4799	0.128
Server2	37260	4792	0.129
Server3	37623	4746	0.126
Server4	37707	4820	0.128
Server5	37617	4938	0.131
Server6	36810	5340	0.145
Server7	37617	5274	0.140
Server8	38019	5346	0.141
TOTALS	300000	40055	0.134

<u>Client3</u>	Operations	Total time elapsed in miili seconds	Avg time for response in milliseconds
Server1	37254	4831	0.130
Server2	37506	4820	0.129
Server3	37509	4806	0.128
Server4	37698	4864	0.129
Server5	37461	4876	0.130
Server6	37029	5484	0.148
Server7	38010	5568	0.146
Server8	37533	5570	0.148
TOTALS	300000	40819	0.136

<u>Client4</u>	Operations	Total time elapsed in miili seconds	Avg time for response in milliseconds
Server1	36912	4058	0.110
Server2	37461	4175	0.111
Server3	37320	4180	0.112
Server4	37635	4193	0.111
Server5	37344	4275	0.114
Server6	37740	4344	0.115
Server7	37776	4354	0.115
Server8	37812	4393	0.116
TOTALS	300000	33972	0.113

Test case 4: 8 Clients and 8 Servers

Client vs Time elapsed

Client	Time Elapsed in milliseconds	Average Response time in milliseconds
Client 1	42871	0.143
Client 2	43972	0.147
Client 3	39920	0.133
Client 4	42928	0.143
Client 5	64145	0.214
Client 6	47425	0.158
Client 7	53745	0.179
Client 8	49316	0.164

<u>Client1</u>	Operations	Total time elapsed in miili seconds	Avg time for response in milliseconds
Server1	37494	734	0.020
Server2	38118	4896	0.128
Server3	37275	5034	0.135
Server4	37542	5059	0.135
Server5	37533	5270	0.140
Server6	37254	5438	0.146
Server7	37578	5532	0.147
Server8	37206	10908	0.293
TOTALS	300000	42871	0.143

<u>Client2</u>	Operations	Total time elapsed in miili seconds	Avg time for response in milliseconds
Server1	37101	713	0.019
Server2	37206	4960	0.133
Server3	37686	5131	0.136
Server4	37605	5243	0.139
Server5	37620	5459	0.145
Server6	38019	5557	0.146
Server7	37614	5699	0.152
Server8	37149	11210	0.302
TOTALS	300000	43972	0.147

<u>Client3</u>	Operations	Total time elapsed in miili seconds	Avg time for response in milliseconds
Server1	37698	1001	0.027
Server2	37182	4390	0.118
Server3	37215	4588	0.123
Server4	37869	4624	0.122
Server5	37932	4701	0.124
Server6	37377	4857	0.130
Server7	37605	4883	0.130
Server8	37122	10876	0.293
TOTALS	300000	39920	0.133

<u>Client4</u>	Operations	Total time elapsed in miili seconds	Avg time for response in milliseconds
Server1	37596	1195	0.032
Server2	37731	4930	0.131
Server3	37041	5042	0.136
Server4	37572	5176	0.138
Server5	37776	5138	0.136
Server6	37200	5415	0.146
Server7	37644	5399	0.143
Server8	37440	10633	0.284
TOTALS	300000	42928	0.143

<u>Client5</u>	Operations	Total time elapsed in miili seconds	Avg time for response in milliseconds
Server1	37599	5400	0.144
Server2	37605	7462	0.198
Server3	37398	8221	0.220
Server4	37572	7942	0.211
Server5	37173	8242	0.222
Server6	37497	8736	0.233
Server7	37422	8821	0.236
Server8	37734	9321	0.247
TOTALS	300000	64145	0.214

<u>Client6</u>	Operations	Total time elapsed in miili seconds	Avg time for response in milliseconds
Server1	36810	1136	0.031
Server2	37539	5424	0.144
Server3	37071	5516	0.149
Server4	38124	5587	0.147
Server5	38025	5771	0.152
Server6	37254	5846	0.157
Server7	37542	5912	0.157
Server8	37635	12233	0.325
TOTALS	300000	47425	0.158

<u>Client7</u>	Operations	Total time elapsed in miili seconds	Avg time for response in milliseconds
Server1	37371	971	0.026
Server2	37695	5848	0.155
Server3	37377	5904	0.158
Server4	37602	6411	0.170
Server5	36837	6551	0.178
Server6	37965	7635	0.201
Server7	37995	7782	0.205
Server8	37158	12643	0.340
TOTALS	300000	53745	0.179

Client8	Operations	Total time elapsed in miili seconds	Avg time for response in milliseconds
Server1	37704	1047	0.028
Server2	36909	5198	0.141
Server3	37146	5283	0.142
Server4	37893	5425	0.143
Server5	37554	5801	0.154
Server6	37842	6588	0.174
Server7	37548	6807	0.181
Server8	37404	13167	0.352
TOTALS	300000	49316	0.164

Configuration	1 client, 8 servers	2 clients, 8 servers	4 clients, 8 servers	8 clients, 8 servers
Avg response time (milliseconds)	0.153	0.133	0.127	0.161

