

Write-up Tugas 1

Dalam pengembangan aplikasi ini, saya membuat masing-masing model, service dan mapper pada setiap tabel yang ada pada database, namun saya hanya membuat satu controller untuk memudahkan mapping.

Untuk membuat fitur 1 dan 2 saya membuatnya dengan cara yang sama yaitu pertama-tama dengan mencari objek yang ingin dilihat menggunakan NIK maupun NKK, lalu untuk menampilkan data-data agar lebih lengkap saya menggunakan service dari kelas-kelas lain untuk mengambil data dari model lain.

Untuk membuat fitur 3 dan 4 saya juga membuatnya dengan cara yang mirip yaitu pertama-tama menerima input dari view yang dibuat lalu akan dicek apakah input sudah sesuai apa belum, dilanjutkan dengan proses generate NIK maupun NKK yaitu perlu mengambil data yang ada pada model lain yang berkaitan, lalu akan disesuaikan dengan tanggal lahir, jenis kelamin dan urutan untuk NIK dan tanggal saat ini untuk NKK. Dan kemudian akan dimasukkan ke dalam database.

Untuk membuat fitur 5 dan 6 saya membuat dengan cara yang mirip yaitu dengan menampilkan form yang telah berisi data saat ini, kemudian pengguna dapat mengubah data-data tersebut. Apabila data yang diubah berkaitan dengan NIK atau NKK maka akan di generate ulang kemudian di masukkan ke dalam database.

Untuk membuat fitur 7 saya membuat form hidden pada halaman view penduduk, yang terlihat hanya tombol submit untuk mengubah status kematian dari penduduk. Apabila tombol itu di klik maka akan dilakukan method post yang akan mengubah status kematian penduduk tersebut. Setelah itu akan di redirect kembali ke halaman view penduduk tersebut.

Untuk membuat fitur 8 saya membuat 4 view untuk setiap tahapannya view pertama untuk memilih kota, view kedua untuk memilih kecamatan, view ketiga untuk memilih kelurahan dan apabila pengguna menekan tombol cari maka akan redirect ke view keempat yaitu untuk melihat hasil pencariannya.

Untuk bonus fitur 9, sudah saya lakukan validasi pada setiap method post yaitu dengan memberikan anotasi @valid dan melakukan binding result, dan saya juga memberikan validasi seperti panjang RT dan RW yang max 3 angka.

Untuk bonus fitur 10, saya perlu melakukan loop untuk hasil pencarian penduduk lalu melakukan strig compare untuk setiap tanggal lahir penduduk satu dengan penduduk lain untuk menentukan siapa yang paling muda dan paling tua.

Untuk bonus fitur 11, saya sudah membuat error.html dimana view tersebut akan menghandle setiap error yang terjadi pada aplikasi.

Untuk bonus fitur 12, saya membuat tombol pada view penduduk agar dapat meredirect ke view keluarganya. Dan juga saya memberikan link pada nik penduduk di view keluarga agar dapat meredirect ke anggota keluarga.

Optimasi Database

Untuk mengoptimasi database saya menjadikan id di setiap tabel sebagai primary key. Dan saya juga membuat indexing pada setiap id maupun id tabel lain yang ada di tabel tersebut, dan juga membuat indexing pada NIK dan NKK.

Stress Testing

Untuk melakukan stress testing saya melakukan eksperimen dengan 2 kali percobaan untuk view yang berfungsi untuk menampilkan data(fitur 1,2 dan 8).

Pada percobaan pertama saya melakukan testing dengan thread 1000 dan ramp-up 10.

1. View penduduk

Sample #	Start Time	Thread Name	Label	Sample Time(ms)	Status	Bytes	Sent Bytes	Latency	Connect Time(ms)
1	20:52:07.387	Thread Group 1-1	HTTP Request	10	✓	3448	147	10	1
2	20:52:07.400	Thread Group 1-2	HTTP Request	6	✓	3448	147	6	1
3	20:52:07.409	Thread Group 1-3	HTTP Request	8	✓	3448	147	8	1
4	20:52:07.418	Thread Group 1-4	HTTP Request	7	✓	3448	147	7	1
5	20:52:07.427	Thread Group 1-5	HTTP Request	8	✓	3448	147	7	1
6	20:52:07.441	Thread Group 1-6	HTTP Request	8	✓	3448	147	8	0
7	20:52:07.450	Thread Group 1-7	HTTP Request	5	✓	3448	147	5	0
8	20:52:07.459	Thread Group 1-8	HTTP Request	6	✓	3448	147	6	0
9	20:52:07.468	Thread Group 1-9	HTTP Request	5	✓	3448	147	5	0
10	20:52:07.477	Thread Group 1-10	HTTP Request	7	✓	3448	147	7	1
11	20:52:07.491	Thread Group 1-11	HTTP Request	7	✓	3448	147	7	0
12	20:52:07.500	Thread Group 1-12	HTTP Request	7	✓	3448	147	7	0
13	20:52:07.509	Thread Group 1-13	HTTP Request	8	✓	3448	147	8	1
14	20:52:07.518	Thread Group 1-14	HTTP Request	6	✓	3448	147	6	0
15	20:52:07.527	Thread Group 1-15	HTTP Request	6	✓	3448	147	6	1
16	20:52:07.541	Thread Group 1-16	HTTP Request	6	✓	3448	147	6	0
17	20:52:07.550	Thread Group 1-17	HTTP Request	6	✓	3448	147	6	1
18	20:52:07.559	Thread Group 1-18	HTTP Request	6	✓	3448	147	6	1
19	20:52:07.568	Thread Group 1-19	HTTP Request	6	✓	3448	147	6	1
20	20:52:07.578	Thread Group 1-20	HTTP Request	5	✓	3448	147	5	0
21	20:52:07.592	Thread Group 1-21	HTTP Request	6	✓	3448	147	6	1
22	20:52:07.601	Thread Group 1-22	HTTP Request	6	✓	3448	147	6	1
23	20:52:07.611	Thread Group 1-23	HTTP Request	6	✓	3448	147	6	1
24	20:52:07.618	Thread Group 1-24	HTTP Request	6	✓	3448	147	6	0
25	20:52:07.629	Thread Group 1-25	HTTP Request	5	✓	3448	147	5	0
26	20:52:07.638	Thread Group 1-26	HTTP Request	6	✓	3448	147	6	1
27	20:52:07.648	Thread Group 1-27	HTTP Request	6	✓	3448	147	6	1
28	20:52:07.662	Thread Group 1-28	HTTP Request	6	✓	3448	147	6	0
29	20:52:07.671	Thread Group 1-29	HTTP Request	6	✓	3448	147	6	1
30	20:52:07.680	Thread Group 1-30	HTTP Request	6	✓	3448	147	6	1
31	20:52:07.689	Thread Group 1-31	HTTP Request	7	✓	3448	147	6	1
32	20:52:07.699	Thread Group 1-32	HTTP Request	5	✓	3448	147	5	0
33	20:52:07.713	Thread Group 1-33	HTTP Request	5	✓	3448	147	5	0
34	20:52:07.722	Thread Group 1-34	HTTP Request	7	✓	3448	147	7	1
35	20:52:07.732	Thread Group 1-35	HTTP Request	6	✓	3448	147	6	1
36	20:52:07.741	Thread Group 1-36	HTTP Request	7	✓	3448	147	7	1
37	20:52:07.751	Thread Group 1-37	HTTP Request	9	✓	3448	147	9	1
38	20:52:07.761	Thread Group 1-38	HTTP Request	5	✓	3448	147	5	0
39	20:52:07.770	Thread Group 1-39	HTTP Request	6	✓	3448	147	6	0
40	20:52:07.783	Thread Group 1-40	HTTP Request	6	✓	3448	147	6	1
41	20:52:07.793	Thread Group 1-41	HTTP Request	6	✓	3448	147	6	1
42	20:52:07.802	Thread Group 1-42	HTTP Request	6	✓	3448	147	6	0
43	20:52:07.811	Thread Group 1-43	HTTP Request	6	✓	3448	147	6	1
44	20:52:07.820	Thread Group 1-44	HTTP Request	6	✓	3448	147	6	1
45	20:52:07.830	Thread Group 1-45	HTTP Request	5	✓	3448	147	5	0

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 ☐ Child samples?
 No of Samples 1000
 Latest Sample 7
 Average 5
 Deviation 0

2. View keluarga

Sample #	Start Time	Thread Name	Label	Sample Time(ms)	Status	Bytes	Sent Bytes	Latency	Connect Time(ms)
1	20:57:29.987	Thread Group 1-1	HTTP Request	8	✓	4765	147	8	0
2	20:57:29.999	Thread Group 1-2	HTTP Request	9	✓	4765	147	9	0
3	20:57:30.007	Thread Group 1-3	HTTP Request	9	✓	4765	147	9	1
4	20:57:30.021	Thread Group 1-4	HTTP Request	8	✓	4765	147	8	0
5	20:57:30.030	Thread Group 1-5	HTTP Request	9	✓	4765	147	9	0
6	20:57:30.039	Thread Group 1-6	HTTP Request	9	✓	4765	147	9	1
7	20:57:30.049	Thread Group 1-7	HTTP Request	7	✓	4765	147	7	1
8	20:57:30.057	Thread Group 1-8	HTTP Request	7	✓	4765	147	7	1
9	20:57:30.071	Thread Group 1-9	HTTP Request	6	✓	4765	147	6	0
10	20:57:30.080	Thread Group 1-10	HTTP Request	7	✓	4765	147	7	0
11	20:57:30.089	Thread Group 1-11	HTTP Request	6	✓	4765	147	6	0
12	20:57:30.098	Thread Group 1-12	HTTP Request	7	✓	4765	147	7	0
13	20:57:30.111	Thread Group 1-13	HTTP Request	8	✓	4765	147	8	1
14	20:57:30.121	Thread Group 1-14	HTTP Request	6	✓	4765	147	6	0
15	20:57:30.130	Thread Group 1-15	HTTP Request	7	✓	4765	147	7	1
16	20:57:30.140	Thread Group 1-16	HTTP Request	6	✓	4765	147	6	0
17	20:57:30.150	Thread Group 1-17	HTTP Request	6	✓	4765	147	6	0
18	20:57:30.158	Thread Group 1-18	HTTP Request	6	✓	4765	147	6	0
19	20:57:30.168	Thread Group 1-19	HTTP Request	6	✓	4765	147	6	0
20	20:57:30.180	Thread Group 1-20	HTTP Request	7	✓	4765	147	7	0
21	20:57:30.189	Thread Group 1-21	HTTP Request	7	✓	4765	147	7	1
22	20:57:30.200	Thread Group 1-22	HTTP Request	7	✓	4765	147	7	0
23	20:57:30.208	Thread Group 1-23	HTTP Request	7	✓	4765	147	7	1
24	20:57:30.222	Thread Group 1-24	HTTP Request	7	✓	4765	147	7	1
25	20:57:30.232	Thread Group 1-25	HTTP Request	8	✓	4765	147	8	0
26	20:57:30.241	Thread Group 1-26	HTTP Request	7	✓	4765	147	7	0
27	20:57:30.250	Thread Group 1-27	HTTP Request	10	✓	4765	147	10	1
28	20:57:30.260	Thread Group 1-28	HTTP Request	7	✓	4765	147	7	0
29	20:57:30.273	Thread Group 1-29	HTTP Request	7	✓	4765	147	7	0
30	20:57:30.282	Thread Group 1-30	HTTP Request	7	✓	4765	147	7	1
31	20:57:30.291	Thread Group 1-31	HTTP Request	8	✓	4765	147	8	1
32	20:57:30.300	Thread Group 1-32	HTTP Request	8	✓	4765	147	8	1
33	20:57:30.309	Thread Group 1-33	HTTP Request	8	✓	4765	147	8	1
34	20:57:30.319	Thread Group 1-34	HTTP Request	7	✓	4765	147	7	0
35	20:57:30.333	Thread Group 1-35	HTTP Request	7	✓	4765	147	7	1
36	20:57:30.341	Thread Group 1-36	HTTP Request	7	✓	4765	147	7	1
37	20:57:30.350	Thread Group 1-37	HTTP Request	7	✓	4765	147	7	1
38	20:57:30.360	Thread Group 1-38	HTTP Request	7	✓	4765	147	7	0
39	20:57:30.373	Thread Group 1-39	HTTP Request	8	✓	4765	147	8	0
40	20:57:30.383	Thread Group 1-40	HTTP Request	7	✓	4765	147	7	0
41	20:57:30.392	Thread Group 1-41	HTTP Request	7	✓	4765	147	7	0
42	20:57:30.401	Thread Group 1-42	HTTP Request	7	✓	4765	147	7	0
43	20:57:30.411	Thread Group 1-43	HTTP Request	7	✓	4765	147	7	0
44	20:57:30.420	Thread Group 1-44	HTTP Request	7	✓	4765	147	7	0
45	20:57:30.434	Thread Group 1-45	HTTP Request	7	✓	4765	147	7	0

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 No of Samples 1000
 Latest Sample 7
 Average 7
 Deviation 0

3. Cari penduduk

Sample #	Start Time	Thread Name	Label	Sample Time(ms)	Status	Bytes	Sent Bytes	Latency	Connect Time(ms)
1	21.02.15.512	Thread Group 1-1	HTTP Request	94	✓	140471	147	85	1
2	21.02.15.534	Thread Group 1-3	HTTP Request	97	✓	140471	147	89	1
3	21.02.15.525	Thread Group 1-2	HTTP Request	107	✓	140471	147	102	1
4	21.02.15.543	Thread Group 1-4	HTTP Request	115	✓	140471	147	107	1
5	21.02.15.553	Thread Group 1-5	HTTP Request	122	✓	140471	147	115	1
6	21.02.15.584	Thread Group 1-8	HTTP Request	102	✓	140471	147	97	1
7	21.02.15.566	Thread Group 1-6	HTTP Request	124	✓	140471	147	116	1
8	21.02.15.575	Thread Group 1-7	HTTP Request	137	✓	140471	147	117	0
9	21.02.15.593	Thread Group 1-9	HTTP Request	129	✓	140471	147	124	0
10	21.02.15.606	Thread Group 1-10	HTTP Request	117	✓	140471	147	110	1
11	21.02.15.624	Thread Group 1-12	HTTP Request	148	✓	140471	147	140	1
12	21.02.15.633	Thread Group 1-13	HTTP Request	141	✓	140471	147	135	1
13	21.02.15.615	Thread Group 1-11	HTTP Request	159	✓	140471	147	153	1
14	21.02.15.674	Thread Group 1-17	HTTP Request	143	✓	140471	147	136	0
15	21.02.15.656	Thread Group 1-15	HTTP Request	170	✓	140471	147	161	0
16	21.02.15.665	Thread Group 1-16	HTTP Request	166	✓	140471	147	160	0
17	21.02.15.647	Thread Group 1-14	HTTP Request	184	✓	140471	147	178	0
18	21.02.15.687	Thread Group 1-18	HTTP Request	145	✓	140471	147	135	1
19	21.02.15.695	Thread Group 1-19	HTTP Request	176	✓	140471	147	158	1
20	21.02.15.726	Thread Group 1-22	HTTP Request	162	✓	140471	147	152	1
21	21.02.15.776	Thread Group 1-27	HTTP Request	135	✓	140471	147	129	0
22	21.02.15.744	Thread Group 1-24	HTTP Request	202	✓	140471	147	197	1
23	21.02.15.785	Thread Group 1-28	HTTP Request	183	✓	140471	147	158	1
24	21.02.15.842	Thread Group 1-32	HTTP Request	423	✓	140471	147	419	1
25	21.02.15.704	Thread Group 1-20	HTTP Request	598	✓	140471	147	593	0
26	21.02.15.758	Thread Group 1-25	HTTP Request	603	✓	140471	147	585	1
27	21.02.15.286	Thread Group 1-77	HTTP Request	107	✓	140471	147	101	0
28	21.02.15.795	Thread Group 1-29	HTTP Request	627	✓	140471	147	622	1
29	21.02.15.233	Thread Group 1-72	HTTP Request	196	✓	140471	147	190	2
30	21.02.15.862	Thread Group 1-35	HTTP Request	580	✓	140471	147	573	1
31	21.02.15.717	Thread Group 1-21	HTTP Request	730	✓	140471	147	610	1
32	21.02.15.138	Thread Group 1-63	HTTP Request	316	✓	140471	147	304	0
33	21.02.15.847	Thread Group 1-33	HTTP Request	613	✓	140471	147	479	2
34	21.02.15.840	Thread Group 1-31	HTTP Request	623	✓	140471	147	618	1
35	21.02.15.736	Thread Group 1-23	HTTP Request	752	✓	140471	147	746	1
36	21.02.16.249	Thread Group 1-74	HTTP Request	241	✓	140471	147	235	0
37	21.02.16.328	Thread Group 1-82	HTTP Request	164	✓	140471	147	157	0
38	21.02.15.900	Thread Group 1-39	HTTP Request	593	✓	140471	147	587	1
39	21.02.16.342	Thread Group 1-83	HTTP Request	206	✓	140471	147	202	2
40	21.02.16.285	Thread Group 1-76	HTTP Request	275	✓	140471	147	273	1
41	21.02.16.098	Thread Group 1-59	HTTP Request	482	✓	140471	147	477	1
42	21.02.16.017	Thread Group 1-51	HTTP Request	584	✓	140471	147	580	1
43	21.02.15.955	Thread Group 1-42	HTTP Request	649	✓	140471	147	644	0
44	21.02.15.767	Thread Group 1-26	HTTP Request	856	✓	140471	147	850	1
45	21.02.15.894	Thread Group 1-36	HTTP Request	749	✓	140471	147	744	1

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 No of Samples 1000
 Latest Sample 4880
 Average 2877
 Deviation 1549

Pada percobaan kedua saya melakukan testing dengan thread 3000 dan ramp-up 10..

1. View penduduk

Sample #	Start Time	Thread Name	Label	Sample Time(ms)	Status	Bytes	Sent Bytes	Latency	Connect Time(ms)
1	20.55.45.556	Thread Group 1-1	HTTP Request	12	✓	3448	147	11	1
2	20.55.45.560	Thread Group 1-2	HTTP Request	8	✓	3448	147	7	0
3	20.55.45.565	Thread Group 1-3	HTTP Request	11	✓	3448	147	11	1
4	20.55.45.569	Thread Group 1-4	HTTP Request	9	✓	3448	147	9	1
5	20.55.45.569	Thread Group 1-5	HTTP Request	10	✓	3448	147	10	1
6	20.55.45.573	Thread Group 1-6	HTTP Request	12	✓	3448	147	12	0
7	20.55.45.579	Thread Group 1-7	HTTP Request	10	✓	3448	147	10	0
8	20.55.45.582	Thread Group 1-8	HTTP Request	19	✓	3448	147	19	1
9	20.55.45.588	Thread Group 1-10	HTTP Request	14	✓	3448	147	14	0
10	20.55.45.583	Thread Group 1-9	HTTP Request	22	✓	3448	147	22	0
11	20.55.45.592	Thread Group 1-11	HTTP Request	21	✓	3448	147	21	1
12	20.55.45.592	Thread Group 1-12	HTTP Request	24	✓	3448	147	24	1
13	20.55.45.597	Thread Group 1-13	HTTP Request	20	✓	3448	147	20	0
14	20.55.45.606	Thread Group 1-15	HTTP Request	12	✓	3448	147	12	0
15	20.55.45.601	Thread Group 1-14	HTTP Request	17	✓	3448	147	17	1
16	20.55.45.607	Thread Group 1-16	HTTP Request	21	✓	3448	147	21	0
17	20.55.45.614	Thread Group 1-18	HTTP Request	15	✓	3448	147	15	1
18	20.55.45.620	Thread Group 1-19	HTTP Request	15	✓	3448	147	15	1
19	20.55.45.611	Thread Group 1-17	HTTP Request	25	✓	3448	147	25	1
20	20.55.45.622	Thread Group 1-20	HTTP Request	15	✓	3448	147	15	1
21	20.55.45.631	Thread Group 1-23	HTTP Request	15	✓	3448	147	15	0
22	20.55.45.624	Thread Group 1-21	HTTP Request	23	✓	3448	147	23	0
23	20.55.45.635	Thread Group 1-24	HTTP Request	13	✓	3448	147	13	1
24	20.55.45.629	Thread Group 1-22	HTTP Request	21	✓	3448	147	21	1
25	20.55.45.641	Thread Group 1-26	HTTP Request	12	✓	3448	147	12	0
26	20.55.45.640	Thread Group 1-25	HTTP Request	13	✓	3448	147	13	0
27	20.55.45.651	Thread Group 1-29	HTTP Request	10	✓	3448	147	10	1
28	20.55.45.645	Thread Group 1-27	HTTP Request	16	✓	3448	147	16	1
29	20.55.45.655	Thread Group 1-30	HTTP Request	9	✓	3448	147	9	0
30	20.55.45.649	Thread Group 1-28	HTTP Request	16	✓	3448	147	15	1
31	20.55.45.660	Thread Group 1-31	HTTP Request	11	✓	3448	147	11	0
32	20.55.45.661	Thread Group 1-32	HTTP Request	10	✓	3448	147	10	1
33	20.55.45.665	Thread Group 1-33	HTTP Request	8	✓	3448	147	8	0
34	20.55.45.669	Thread Group 1-34	HTTP Request	9	✓	3448	147	9	1
35	20.55.45.672	Thread Group 1-35	HTTP Request	7	✓	3448	147	7	0
36	20.55.45.676	Thread Group 1-36	HTTP Request	8	✓	3448	147	8	0
37	20.55.45.679	Thread Group 1-37	HTTP Request	10	✓	3448	147	10	0
38	20.55.45.682	Thread Group 1-38	HTTP Request	10	✓	3448	147	10	0
39	20.55.45.685	Thread Group 1-39	HTTP Request	10	✓	3448	147	10	0
40	20.55.45.690	Thread Group 1-40	HTTP Request	9	✓	3448	147	9	0
41	20.55.45.692	Thread Group 1-41	HTTP Request	8	✓	3448	147	8	1
42	20.55.45.695	Thread Group 1-42	HTTP Request	9	✓	3448	147	9	1
43	20.55.45.700	Thread Group 1-43	HTTP Request	8	✓	3448	147	8	0
44	20.55.45.702	Thread Group 1-44	HTTP Request	9	✓	3448	147	9	0
45	20.55.45.705	Thread Group 1-45	HTTP Request	9	✓	3448	147	9	1

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 ☐ Child samples?
 No of Samples 3000
 Latest Sample 7
 Average 6
 Deviation 1

2. View keluarga

Sample #	Start Time	Thread Name	Label	Sample Time(ms)	Status	Bytes	Sent Bytes	Latency	Connect Time(ms)
1	20:58:23.026	Thread Group 1-1	HTTP Request	12	✓	4765	147	12	1
2	20:58:23.029	Thread Group 1-2	HTTP Request	15	✓	4765	147	15	0
3	20:58:23.033	Thread Group 1-3	HTTP Request	15	✓	4765	147	15	0
4	20:58:23.037	Thread Group 1-4	HTTP Request	18	✓	4765	147	18	0
5	20:58:23.039	Thread Group 1-5	HTTP Request	16	✓	4765	147	16	1
6	20:58:23.043	Thread Group 1-6	HTTP Request	15	✓	4765	147	15	0
7	20:58:23.047	Thread Group 1-7	HTTP Request	17	✓	4765	147	17	0
8	20:58:23.050	Thread Group 1-8	HTTP Request	18	✓	4765	147	18	1
9	20:58:23.053	Thread Group 1-9	HTTP Request	19	✓	4765	147	19	0
10	20:58:23.056	Thread Group 1-10	HTTP Request	18	✓	4765	147	18	1
11	20:58:23.063	Thread Group 1-12	HTTP Request	21	✓	4765	147	21	0
12	20:58:23.067	Thread Group 1-13	HTTP Request	17	✓	4765	147	17	1
13	20:58:23.070	Thread Group 1-14	HTTP Request	16	✓	4765	147	16	1
14	20:58:23.059	Thread Group 1-11	HTTP Request	32	✓	4765	147	32	1
15	20:58:23.073	Thread Group 1-15	HTTP Request	19	✓	4765	147	19	1
16	20:58:23.077	Thread Group 1-16	HTTP Request	20	✓	4765	147	20	1
17	20:58:23.080	Thread Group 1-17	HTTP Request	19	✓	4765	147	19	1
18	20:58:23.084	Thread Group 1-18	HTTP Request	16	✓	4765	147	16	1
19	20:58:23.088	Thread Group 1-19	HTTP Request	15	✓	4765	147	15	0
20	20:58:23.091	Thread Group 1-20	HTTP Request	22	✓	4765	147	22	1
21	20:58:23.094	Thread Group 1-21	HTTP Request	21	✓	4765	147	21	0
22	20:58:23.101	Thread Group 1-23	HTTP Request	15	✓	4765	147	15	1
23	20:58:23.098	Thread Group 1-22	HTTP Request	22	✓	4765	147	22	0
24	20:58:23.104	Thread Group 1-24	HTTP Request	19	✓	4765	147	19	0
25	20:58:23.108	Thread Group 1-25	HTTP Request	19	✓	4765	147	19	0
26	20:58:23.111	Thread Group 1-26	HTTP Request	18	✓	4765	147	18	0
27	20:58:23.114	Thread Group 1-27	HTTP Request	20	✓	4765	147	20	1
28	20:58:23.118	Thread Group 1-28	HTTP Request	20	✓	4765	147	20	0
29	20:58:23.121	Thread Group 1-29	HTTP Request	23	✓	4765	147	23	1
30	20:58:23.124	Thread Group 1-30	HTTP Request	22	✓	4765	147	22	1
31	20:58:23.128	Thread Group 1-31	HTTP Request	24	✓	4765	147	24	1
32	20:58:23.131	Thread Group 1-32	HTTP Request	25	✓	4765	147	25	1
33	20:58:23.134	Thread Group 1-33	HTTP Request	24	✓	4765	147	24	1
34	20:58:23.149	Thread Group 1-37	HTTP Request	18	✓	4765	147	18	1
35	20:58:23.155	Thread Group 1-39	HTTP Request	19	✓	4765	147	19	0
36	20:58:23.152	Thread Group 1-38	HTTP Request	22	✓	4765	147	22	0
37	20:58:23.159	Thread Group 1-40	HTTP Request	17	✓	4765	147	17	0
38	20:58:23.144	Thread Group 1-36	HTTP Request	35	✓	4765	147	35	1
39	20:58:23.138	Thread Group 1-34	HTTP Request	43	✓	4765	147	43	1
40	20:58:23.165	Thread Group 1-42	HTTP Request	37	✓	4765	147	37	1
41	20:58:23.142	Thread Group 1-35	HTTP Request	61	✓	4765	147	60	0
42	20:58:23.162	Thread Group 1-41	HTTP Request	41	✓	4765	147	41	0
43	20:58:23.179	Thread Group 1-46	HTTP Request	27	✓	4765	147	27	1
44	20:58:23.179	Thread Group 1-44	HTTP Request	35	✓	4765	147	35	0
45	20:58:23.183	Thread Group 1-47	HTTP Request	31	✓	4765	147	30	0
<input type="checkbox"/> Scroll automatically? <input type="checkbox"/> Child samples? No of Samples 3000 Latest Sample 91 Average 14 Deviation 22									

3. Cari penduduk

Sample #	Start Time	Thread Name	Label	Sample Time(ms)	Status	Bytes	Sent Bytes	Latency	Connect Time(ms)
1	21:04:06.074	Thread Group 1-3	HTTP Request	115	✓	140471	147	108	0
2	21:04:06.078	Thread Group 1-4	HTTP Request	167	✓	140471	147	140	0
3	21:04:06.067	Thread Group 1-1	HTTP Request	215	✓	140471	147	203	1
4	21:04:06.104	Thread Group 1-12	HTTP Request	194	✓	140471	147	183	0
5	21:04:06.129	Thread Group 1-19	HTTP Request	179	✓	140471	147	171	0
6	21:04:06.132	Thread Group 1-20	HTTP Request	176	✓	140471	147	170	1
7	21:04:06.081	Thread Group 1-5	HTTP Request	231	✓	140471	147	226	1
8	21:04:06.142	Thread Group 1-23	HTTP Request	199	✓	140471	147	195	0
9	21:04:06.084	Thread Group 1-6	HTTP Request	322	✓	140471	147	233	0
10	21:04:06.094	Thread Group 1-9	HTTP Request	340	✓	140471	147	335	0
11	21:04:06.071	Thread Group 1-2	HTTP Request	369	✓	140471	147	365	0
12	21:04:06.333	Thread Group 1-79	HTTP Request	109	✓	140471	147	104	1
13	21:04:06.145	Thread Group 1-24	HTTP Request	297	✓	140471	147	293	0
14	21:04:06.115	Thread Group 1-15	HTTP Request	329	✓	140471	147	322	1
15	21:04:06.318	Thread Group 1-75	HTTP Request	126	✓	140471	147	122	1
16	21:04:06.091	Thread Group 1-8	HTTP Request	367	✓	140471	147	362	0
17	21:04:06.124	Thread Group 1-18	HTTP Request	361	✓	140471	147	333	1
18	21:04:06.121	Thread Group 1-17	HTTP Request	369	✓	140471	147	340	1
19	21:04:06.162	Thread Group 1-29	HTTP Request	332	✓	140471	147	328	1
20	21:04:06.186	Thread Group 1-36	HTTP Request	394	✓	140471	147	387	0
21	21:04:06.098	Thread Group 1-10	HTTP Request	463	✓	140471	147	471	2
22	21:04:06.139	Thread Group 1-22	HTTP Request	476	✓	140471	147	469	0
23	21:04:06.149	Thread Group 1-25	HTTP Request	479	✓	140471	147	471	1
24	21:04:06.101	Thread Group 1-11	HTTP Request	560	✓	140471	147	554	0
25	21:04:06.170	Thread Group 1-31	HTTP Request	494	✓	140471	147	489	0
26	21:04:06.203	Thread Group 1-41	HTTP Request	454	✓	140471	147	455	1
27	21:04:06.159	Thread Group 1-28	HTTP Request	521	✓	140471	147	514	1
28	21:04:06.155	Thread Group 1-27	HTTP Request	525	✓	140471	147	520	1
29	21:04:06.261	Thread Group 1-58	HTTP Request	422	✓	140471	147	415	1
30	21:04:06.431	Thread Group 1-108	HTTP Request	253	✓	140471	147	245	1
31	21:04:06.275	Thread Group 1-62	HTTP Request	440	✓	140471	147	435	0
32	21:04:06.118	Thread Group 1-16	HTTP Request	602	✓	140471	147	598	1
33	21:04:06.088	Thread Group 1-7	HTTP Request	715	✓	140471	147	601	0
34	21:04:06.166	Thread Group 1-30	HTTP Request	644	✓	140471	147	638	0
35	21:04:06.190	Thread Group 1-37	HTTP Request	627	✓	140471	147	622	0
36	21:04:06.646	Thread Group 1-171	HTTP Request	174	✓	140471	147	169	0
37	21:04:06.183	Thread Group 1-35	HTTP Request	678	✓	140471	147	673	0
38	21:04:06.282	Thread Group 1-64	HTTP Request	589	✓	140471	147	585	1
39	21:04:06.180	Thread Group 1-34	HTTP Request	698	✓	140471	147	694	1
40	21:04:06.398	Thread Group 1-98	HTTP Request	496	✓	140471	147	491	1
41	21:04:06.217	Thread Group 1-45	HTTP Request	682	✓	140471	147	677	0
42	21:04:06.711	Thread Group 1-190	HTTP Request	194	✓	140471	147	190	1
43	21:04:06.210	Thread Group 1-43	HTTP Request	701	✓	140471	147	696	1
44	21:04:06.323	Thread Group 1-76	HTTP Request	591	✓	140471	147	585	1
45	21:04:06.213	Thread Group 1-44	HTTP Request	758	✓	140471	147	749	1
<input type="checkbox"/> Scroll automatically? <input type="checkbox"/> Child samples? No of Samples 3000 Latest Sample 36297 Average 18598 Deviation 10419									

Analisa saya terhadap hasil percobaan diatas adalah ketika mencoba dengan jumlah thread 1000 maka ketiga fitur tersebut berjalan dengan cepat, jadi tidak terdapat masalah untuk itu. Untuk percobaan kedua yakni dengan 3000 thread, fitur 1 dan 2 masih berjalan dengan baik dan cepat, namun untuk fitur 8 yakni mencari penduduk terjadi sample time yang besar, yang menunjukkan bahwa aplikasi akan lemot apabila diakses sebanyak itu, bahkan sample terakhir mencapai 36 detik.