

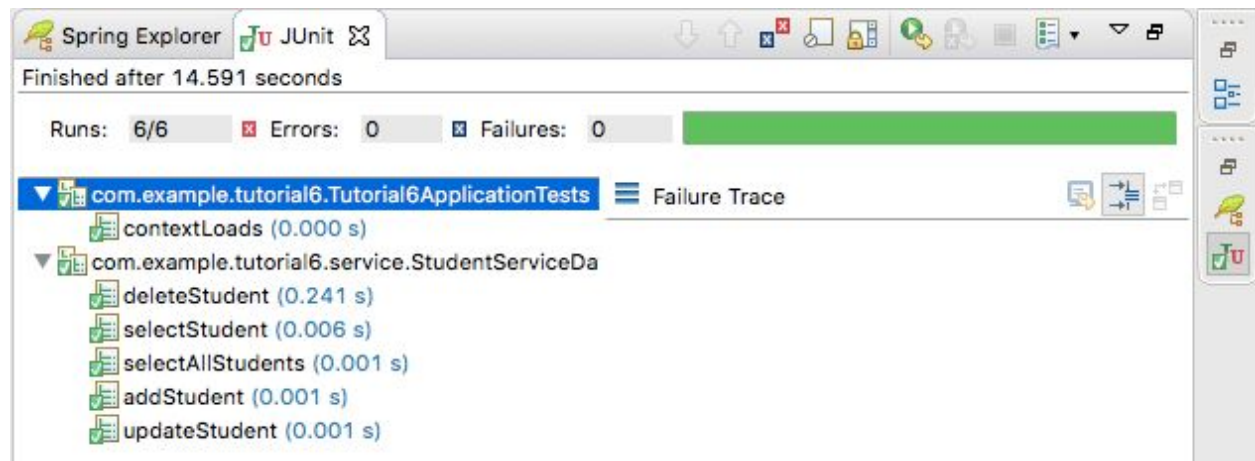
TUTORIAL 6

What do I get?

Pada tutorial ini, terdapat 2 hal yang dilakukan dalam melakukan pengujian terhadap aplikasi yang dibangun. Yaitu testing menggunakan JUnit dan JMeter. JUnit digunakan untuk melakukan unit testing pada method yang ada pada aplikasi sementara JMeter digunakan untuk melakukan testing terhadap kemampuan aplikasi dalam menghandle request dalam jumlah besar. Hal ini sangat berguna dalam dunia nyata karena pada kenyataanya aplikasi yang dibangun akan diakses oleh banyak orang. Sementara Unit Test akan mengurangi resiko munculnya bugs pada saat aplikasi go live.

Latihan Unit Testing

1. Pada selectAllStudents, diawal dilakukan pembuatan array of object StudentsModel, kemudian dibuat object StudentModel yang akan dimasukkan kedalam array tersebut. Hal yang sama dilakukan dengan tujuan sebagai pembanding saat melakukan test. Kemudian pada when, dilakukan pengambilan data allstudents dan dimasukkan dalam variable test. Pada then, dilakukan pengecekan apakah hasilnya tidak null, tidak kosong, kesamaan size, dan kesamaan value hasil.
2. Pada addStudents, diawal dilakukan pembuatan object StudentsModel dan hal yang sama dilakukan untuk disimpan ke variable lain. Pada when, dilakukan penambahan student dan balikan boolean disimpan dalam variable. Pada then dilakukan penambahan student menggunakan Mockito dan dilakukan pengecekan apakah hasilnya sama.
3. Screenshot hasil testing deleteStudent dan updateStudent



Latihan Load Testing

1. Select Student Berhasil

View Results in Table

Name: view student berhasil

Comments:

Write results to file / Read from file

Filename

Browse...

Log/Display Only: ☐ Errors ☒ Successes

Configure

Sample #	Start Time	Thread Name	Label	Sample Time(ms)	Status	Bytes	Sent Bytes	Latency	Connect Time(...)
2	22:40:01.887	Thread Grou...	HTTP Request	9		1630	136	9	1
3	22:40:01.990	Thread Grou...	HTTP Request	9		1630	136	9	1
4	22:40:02.093	Thread Grou...	HTTP Request	11		1630	136	11	1
5	22:40:02.193	Thread Grou...	HTTP Request	12		1630	136	12	1
6	22:40:02.293	Thread Grou...	HTTP Request	10		1630	136	9	1
7	22:40:02.397	Thread Grou...	HTTP Request	11		1630	136	11	1
8	22:40:02.497	Thread Grou...	HTTP Request	15		1630	136	15	1
9	22:40:02.594	Thread Grou...	HTTP Request	8		1630	136	8	0
10	22:40:02.696	Thread Grou...	HTTP Request	10		1630	136	10	1
11	22:40:02.797	Thread Grou...	HTTP Request	12		1630	136	12	0
12	22:40:02.900	Thread Grou...	HTTP Request	13		1630	136	13	1
13	22:40:02.999	Thread Grou...	HTTP Request	11		1630	136	11	1
14	22:40:03.100	Thread Grou...	HTTP Request	10		1630	136	10	0
15	22:40:03.201	Thread Grou...	HTTP Request	11		1630	136	11	1
16	22:40:03.302	Thread Grou...	HTTP Request	16		1630	136	16	1
17	22:40:03.407	Thread Grou...	HTTP Request	11		1630	136	11	1
18	22:40:03.512	Thread Grou...	HTTP Request	11		1630	136	11	1
19	22:40:03.611	Thread Grou...	HTTP Request	13		1630	136	13	1
20	22:40:03.713	Thread Grou...	HTTP Request	14		1630	136	14	1
21	22:40:03.812	Thread Grou...	HTTP Request	8		1630	136	8	1
22	22:40:03.915	Thread Grou...	HTTP Request	9		1630	136	9	1
23	22:40:04.013	Thread Grou...	HTTP Request	12		1630	136	12	2
24	22:40:04.116	Thread Grou...	HTTP Request	9		1630	136	9	1
25	22:40:04.217	Thread Grou...	HTTP Request	14		1630	136	14	1
26	22:40:04.316	Thread Grou...	HTTP Request	11		1630	136	11	1
27	22:40:04.416	Thread Grou...	HTTP Request	11		1630	136	11	1
28	22:40:04.522	Thread Grou...	HTTP Request	13		1630	136	13	5

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2. Select Student Gagal

View Results in Table

Name:

Comments:

Write results to file / Read from file

Filename Log/Display Only: ☐ Errors ☒ Successes

Sample #	Start Time	Thread Name	Label	Sample Time(ms)	Status	Bytes	Sent Bytes	Latency	Connect Time(...)
1	22:42:00.704	Thread Grou...	HTTP Request	25		1564	132	25	5
2	22:42:00.809	Thread Grou...	HTTP Request	16		1564	132	16	2
3	22:42:00.910	Thread Grou...	HTTP Request	8		1564	132	8	1
4	22:42:01.011	Thread Grou...	HTTP Request	12		1564	132	12	1
5	22:42:01.112	Thread Grou...	HTTP Request	19		1564	132	19	1
6	22:42:01.212	Thread Grou...	HTTP Request	32		1564	132	32	1
7	22:42:01.312	Thread Grou...	HTTP Request	22		1564	132	22	2
8	22:42:01.412	Thread Grou...	HTTP Request	8		1564	132	8	1
9	22:42:01.512	Thread Grou...	HTTP Request	7		1564	132	7	0
10	22:42:01.612	Thread Grou...	HTTP Request	13		1564	132	13	3
11	22:42:01.716	Thread Grou...	HTTP Request	15		1564	132	15	2
12	22:42:01.813	Thread Grou...	HTTP Request	12		1564	132	12	1
13	22:42:01.915	Thread Grou...	HTTP Request	9		1564	132	9	0
14	22:42:02.018	Thread Grou...	HTTP Request	33		1564	132	33	1
15	22:42:02.124	Thread Grou...	HTTP Request	10		1564	132	10	2
16	22:42:02.224	Thread Grou...	HTTP Request	13		1564	132	13	1
17	22:42:02.322	Thread Grou...	HTTP Request	13		1564	132	13	2
18	22:42:02.423	Thread Grou...	HTTP Request	10		1564	132	10	1
19	22:42:02.527	Thread Grou...	HTTP Request	8		1564	132	8	0
20	22:42:02.628	Thread Grou...	HTTP Request	6		1564	132	6	1
21	22:42:02.730	Thread Grou...	HTTP Request	8		1564	132	8	1
22	22:42:02.829	Thread Grou...	HTTP Request	10		1564	132	10	1
23	22:42:02.929	Thread Grou...	HTTP Request	7		1564	132	7	2
24	22:42:03.034	Thread Grou...	HTTP Request	11		1564	132	11	1
25	22:42:03.134	Thread Grou...	HTTP Request	10		1564	132	10	1
26	22:42:03.236	Thread Grou...	HTTP Request	7		1564	132	7	1
27	22:42:03.334	Thread Grou...	HTTP Request	10		1564	132	10	1

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3. SelectAllStudent

View Results in Table

Name:

Comments:

Write results to file / Read from file

Filename Log/Display Only: ☐ Errors ☒ Successes

Sample #	Start Time	Thread Name	Label	Sample Time(ms)	Status	Bytes	Sent Bytes	Latency	Connect Time(...)
1	22:43:14.220	Thread Grou...	HTTP Request	217641		2682	0	0	1
2	22:43:13.014	Thread Grou...	HTTP Request	218856		2682	0	0	1
3	22:43:17.428	Thread Grou...	HTTP Request	214433		2682	0	0	2
4	22:43:17.631	Thread Grou...	HTTP Request	214234		2682	0	0	1
5	22:43:14.322	Thread Grou...	HTTP Request	217543		2682	0	0	1
6	22:43:12.810	Thread Grou...	HTTP Request	219052		2682	0	0	1
7	22:43:17.228	Thread Grou...	HTTP Request	214645		2682	0	0	1
8	22:43:14.820	Thread Grou...	HTTP Request	217051		2682	0	0	0
9	22:43:20.234	Thread Grou...	HTTP Request	211645		2682	0	0	1
10	22:43:16.128	Thread Grou...	HTTP Request	215757		2682	0	0	0
11	22:43:19.338	Thread Grou...	HTTP Request	212546		2682	0	0	1
12	22:43:15.924	Thread Grou...	HTTP Request	215967		2682	0	0	3
13	22:43:21.237	Thread Grou...	HTTP Request	210655		2682	0	0	1
14	22:43:16.027	Thread Grou...	HTTP Request	215867		2682	0	0	0
15	22:43:13.819	Thread Grou...	HTTP Request	218075		2682	0	0	2
16	22:43:17.026	Thread Grou...	HTTP Request	214872		2682	0	0	1
17	22:43:13.118	Thread Grou...	HTTP Request	218780		2682	0	0	1
18	22:43:20.937	Thread Grou...	HTTP Request	210965		2682	0	0	1
19	22:43:15.522	Thread Grou...	HTTP Request	216392		2682	0	0	2
20	22:43:15.124	Thread Grou...	HTTP Request	216791		2682	0	0	0
21	22:43:19.031	Thread Grou...	HTTP Request	212890		2682	0	0	2
22	22:43:15.322	Thread Grou...	HTTP Request	216600		2682	0	0	1
23	22:43:16.728	Thread Grou...	HTTP Request	215197		2682	0	0	1
24	22:43:11.793	Thread Grou...	HTTP Request	220131		2682	0	0	0
25	22:43:20.742	Thread Grou...	HTTP Request	211185		2682	0	0	1
26	22:43:12.505	Thread Grou...	HTTP Request	219431		2682	0	0	1
27	22:43:19.936	Thread Grou...	HTTP Request	211999		2682	0	0	2

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4. Select Student Berhasil (setelah optimasi)

View Results in Table

Name: View Results in Table

Comments:

Write results to file / Read from file

Filename Browse... Log/Display Only: ☐ Errors ☒ Successes

Sample #	Start Time	Thread Name	Label	Sample Time(ms)	Status	Bytes	Sent Bytes	Latency	Connect Time(...)
1	23:19:39.758	Thread Grou...	HTTP Request	46		1630	136	44	6
2	23:19:39.861	Thread Grou...	HTTP Request	18		1630	136	18	1
3	23:19:39.962	Thread Grou...	HTTP Request	16		1630	136	16	1
4	23:19:40.065	Thread Grou...	HTTP Request	10		1630	136	10	1
5	23:19:40.165	Thread Grou...	HTTP Request	14		1630	136	14	3
6	23:19:40.267	Thread Grou...	HTTP Request	14		1630	136	14	2
7	23:19:40.367	Thread Grou...	HTTP Request	11		1630	136	11	1
8	23:19:40.468	Thread Grou...	HTTP Request	12		1630	136	12	1
9	23:19:40.568	Thread Grou...	HTTP Request	12		1630	136	12	2
10	23:19:40.668	Thread Grou...	HTTP Request	10		1630	136	10	1
11	23:19:40.769	Thread Grou...	HTTP Request	13		1630	136	13	1
12	23:19:40.869	Thread Grou...	HTTP Request	12		1630	136	12	1
13	23:19:40.973	Thread Grou...	HTTP Request	11		1630	136	11	1
14	23:19:41.079	Thread Grou...	HTTP Request	19		1630	136	17	2
15	23:19:41.179	Thread Grou...	HTTP Request	12		1630	136	12	2
16	23:19:41.279	Thread Grou...	HTTP Request	11		1630	136	11	1
17	23:19:41.379	Thread Grou...	HTTP Request	13		1630	136	13	1
18	23:19:41.482	Thread Grou...	HTTP Request	16		1630	136	15	1
19	23:19:41.582	Thread Grou...	HTTP Request	10		1630	136	10	2
20	23:19:41.681	Thread Grou...	HTTP Request	11		1630	136	11	3
21	23:19:41.785	Thread Grou...	HTTP Request	13		1630	136	13	1
22	23:19:41.887	Thread Grou...	HTTP Request	14		1630	136	14	1
23	23:19:41.988	Thread Grou...	HTTP Request	13		1630	136	13	1
24	23:19:42.091	Thread Grou...	HTTP Request	16		1630	136	16	2
25	23:19:42.192	Thread Grou...	HTTP Request	19		1630	136	19	2
26	23:19:42.293	Thread Grou...	HTTP Request	13		1630	136	13	3
27	23:19:42.391	Thread Grou...	HTTP Request	13		1630	136	13	1

☒ Scroll automatically? ☐ Child samples? No of Samples 100 Latest Sample 11 Average 13 Deviation 10

5. Select Student Gagal (setelah optimasi)

View Results in Table

Name:

Comments:

Write results to file / Read from file

Filename Log/Display Only: ☐ Errors ☒ Successes

Sample #	Start Time	Thread Name	Label	Sample Time(ms)	Status	Bytes	Sent Bytes	Latency	Connect Time(...)
74	23:20:52.964	Thread Grou...	HTTP Request	6		1564	132	6	1
75	23:20:53.062	Thread Grou...	HTTP Request	11		1564	132	11	1
76	23:20:53.163	Thread Grou...	HTTP Request	9		1564	132	9	2
77	23:20:53.263	Thread Grou...	HTTP Request	9		1564	132	8	1
78	23:20:53.362	Thread Grou...	HTTP Request	11		1564	132	11	1
79	23:20:53.462	Thread Grou...	HTTP Request	10		1564	132	10	3
80	23:20:53.562	Thread Grou...	HTTP Request	11		1564	132	11	2
81	23:20:53.662	Thread Grou...	HTTP Request	11		1564	132	11	2
82	23:20:53.762	Thread Grou...	HTTP Request	10		1564	132	10	2
83	23:20:53.863	Thread Grou...	HTTP Request	9		1564	132	9	2
84	23:20:53.966	Thread Grou...	HTTP Request	10		1564	132	10	1
85	23:20:54.062	Thread Grou...	HTTP Request	11		1564	132	11	2
86	23:20:54.162	Thread Grou...	HTTP Request	9		1564	132	9	2
87	23:20:54.266	Thread Grou...	HTTP Request	10		1564	132	10	2
88	23:20:54.363	Thread Grou...	HTTP Request	12		1564	132	11	1
89	23:20:54.465	Thread Grou...	HTTP Request	11		1564	132	11	1
90	23:20:54.565	Thread Grou...	HTTP Request	11		1564	132	11	2
91	23:20:54.669	Thread Grou...	HTTP Request	12		1564	132	12	1
92	23:20:54.769	Thread Grou...	HTTP Request	9		1564	132	9	1
93	23:20:54.869	Thread Grou...	HTTP Request	10		1564	132	10	1
94	23:20:54.975	Thread Grou...	HTTP Request	11		1564	132	11	2
95	23:20:55.076	Thread Grou...	HTTP Request	9		1564	132	8	3
96	23:20:55.180	Thread Grou...	HTTP Request	6		1564	132	6	1
97	23:20:55.279	Thread Grou...	HTTP Request	10		1564	132	9	2
98	23:20:55.380	Thread Grou...	HTTP Request	6		1564	132	6	1
99	23:20:55.480	Thread Grou...	HTTP Request	6		1564	132	6	2
100	23:20:55.580	Thread Grou...	HTTP Request	10		1564	132	9	2

☐ Scroll automatically? ☐ Child samples? No of Samples 100 Latest Sample 10 Average 9 Deviation 2

6. Select All Student (setelah optimasi)

View Results in Table

Name:

Comments:

Write results to file / Read from file

Filename Log/Display Only: ☐ Errors ☒ Successes

Sample #	Start Time	Thread Name	Label	Sample Time(ms)	Status	Bytes	Sent Bytes	Latency	Connect Time(...)
1	23:22:33.710	Thread Grou...	HTTP Request	46905		2682	0	0	2
2	23:22:34.111	Thread Grou...	HTTP Request	46504		2682	0	0	1
3	23:22:37.926	Thread Grou...	HTTP Request	42693		2682	0	0	1
4	23:22:42.189	Thread Grou...	HTTP Request	38432		2682	0	0	0
5	23:22:34.916	Thread Grou...	HTTP Request	45706		2682	0	0	2
6	23:22:37.625	Thread Grou...	HTTP Request	43000		2682	0	0	1
7	23:22:35.823	Thread Grou...	HTTP Request	44804		2682	0	0	1
8	23:22:39.134	Thread Grou...	HTTP Request	41497		2682	0	0	1
9	23:22:35.013	Thread Grou...	HTTP Request	45618		2682	0	0	1
10	23:22:43.193	Thread Grou...	HTTP Request	37442		2682	0	0	1
11	23:22:40.252	Thread Grou...	HTTP Request	40387		2682	0	0	1
12	23:22:34.613	Thread Grou...	HTTP Request	46025		2682	0	0	1
13	23:22:40.862	Thread Grou...	HTTP Request	39781		2682	0	0	1
14	23:22:34.211	Thread Grou...	HTTP Request	46435		2682	0	0	1
15	23:22:35.116	Thread Grou...	HTTP Request	45531		2682	0	0	1
16	23:22:39.652	Thread Grou...	HTTP Request	40999		2682	0	0	1
17	23:22:38.529	Thread Grou...	HTTP Request	42125		2682	0	0	1
18	23:22:41.362	Thread Grou...	HTTP Request	39296		2682	0	0	1
19	23:22:37.724	Thread Grou...	HTTP Request	42942		2682	0	0	1
20	23:22:38.932	Thread Grou...	HTTP Request	41744		2682	0	0	1
21	23:22:38.330	Thread Grou...	HTTP Request	42345		2682	0	0	0
22	23:22:34.713	Thread Grou...	HTTP Request	45962		2682	0	0	0
23	23:22:40.352	Thread Grou...	HTTP Request	40325		2682	0	0	2
24	23:22:38.229	Thread Grou...	HTTP Request	42446		2682	0	0	1
25	23:22:39.953	Thread Grou...	HTTP Request	40734		2682	0	0	1
26	23:22:42.893	Thread Grou...	HTTP Request	37794		2682	0	0	1
27	23:22:35.925	Thread Grou...	HTTP Request	44761		2682	0	0	1

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It seems like my PC can't make it. sorry