1. Document profile

   Date 5/03/19
   Recipients - product owner, project manager, business owner
   System Name - basic e-commerce portal
   Version of SUT – 1.0
   Author - Maziar Victoria
   Contacts - maziar.victoria@ab-soft.net

2. Test purpose
   Determine the behavior of the system under normal (regular load according operation profile), slow and high load.

3. Test setup
   Used 3 types test setup.

   Regular run:
   - test type – load test with middle load
   - configuration system:
     - SLOWDOWN_SERVICE_MS_MIN – 50
     - SLOWDOWN_SERVICE_MS_MAX – 500
   - users – 50
   - durations – 3 mins
   - operations profile:
     - Open Home Page - 50
     - View All products - 70
     - View Product Details - 90
     - Add Product to cart - 20
     - View Cart - 12
     - Checkout - 4

   Fast service:
   - test type – load test with fast service configuration
   - configuration system:
     - SLOWDOWN_SERVICE_MS_MIN – 10
     - SLOWDOWN_SERVICE_MS_MAX – 200
   - users – 50
   - durations – 3 mins
   - operations profile:
     - Open Home Page - 50
     - View All products - 70
     - View Product Details - 90
     - Add Product to cart - 20
     - View Cart - 12
     - Checkout - 4

Slow service:

- test type – load test with slow service configuration
- configuration system:
  - SLOWDOWN_SERVICE_MS_MIN – 100
  - SLOWDOWN_SERVICE_MS_MAX – 1000
- users – 50
- durations – 3 mins
- operations profile:
  - Open Home Page - 50
  - View All products - 70
  - View Product Details - 90
  - Add Product to cart - 20
  - View Cart - 12
  - Checkout - 4

4. Test status (brief summary)

Regular run:

- the test ran without errors
- standard deviation does not exceed half arithmetic mean
- 91 % requests: t < 800 ms
- 7 % requests: 800ms < t < 1200ms
- 2 % requests: t > 1200ms

Fast service:

- the test ran without errors
- standard deviation does not exceed half arithmetic mean
- 100 % requests: t < 800 ms

Slow service:

- the test ran without errors
- standard deviation does not exceed half arithmetic mean
- 40 % requests: t < 800 ms
- 33 % requests: 800ms < t < 1200ms
- 27 % requests: t > 1200ms

5. Summary

We use the response time as the main metric. The main indicators - 50th percentile and 95th percentile.

Regular run

Requests	50th percentile	95th percentile
Global Information	453	875
Get token	255	981
Check Token	255	458
Get product by id	517	857
Get all products	564	831
Get product from cart	516	818
Add product to cart	1461	1784
Checkout	458	769

Fast service

Requests	50th percentile	95th percentile
Global Information	139	329
Get token	113	199
Check Token	67	167
Get product by id	179	327
Get all products	184	334
Get product from cart	179	329
Add product to cart	442	574
Checkout	105	212

Slow service

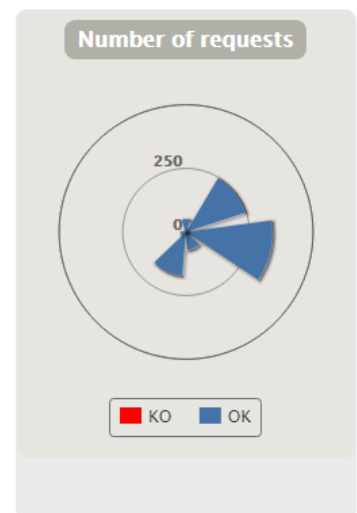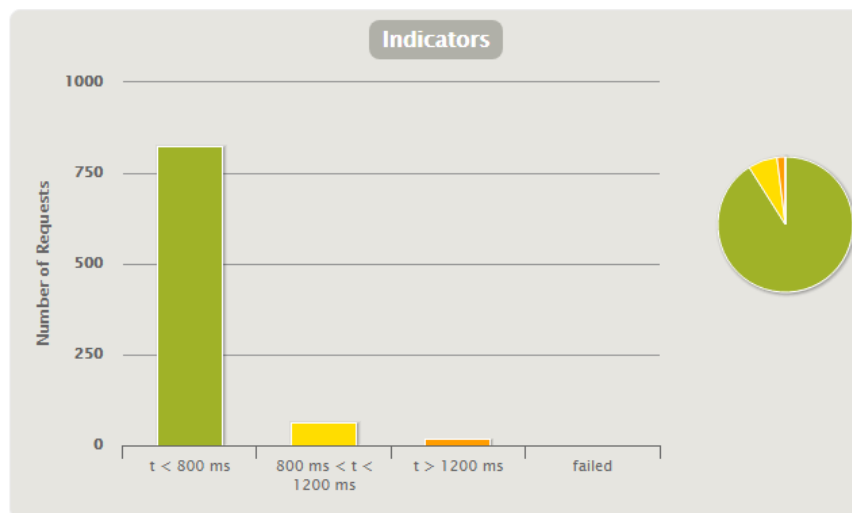| Requests	50th percentile	95th percentile
Global Information	904	1673
Get token	555	955
Check Token	504	953
Get product by id	1060	1670
Get all products	1070	1625
Get product from cart	1111	1657
Add product to cart	2523	3382
Checkout	1083	1287

Issues:

- Request "Add this item to cart" has the longest response time. The response time is 2 or more times longer than the others.
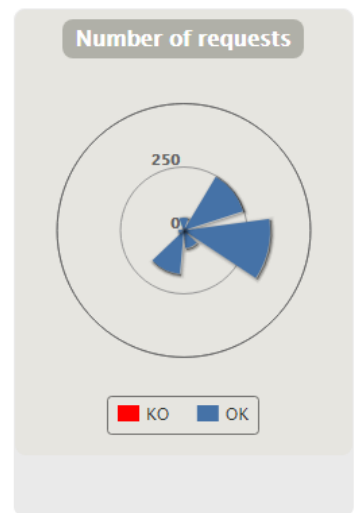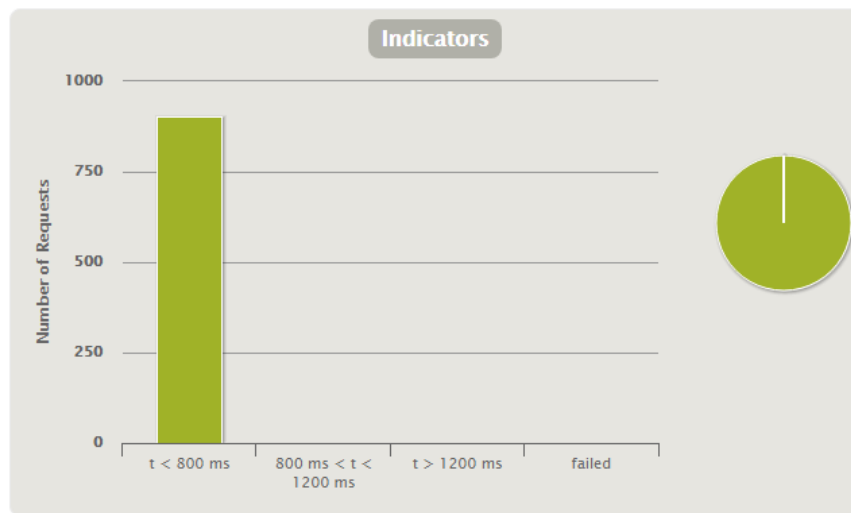- System don't stability with slow service configuration.

6. Test results

Regular run

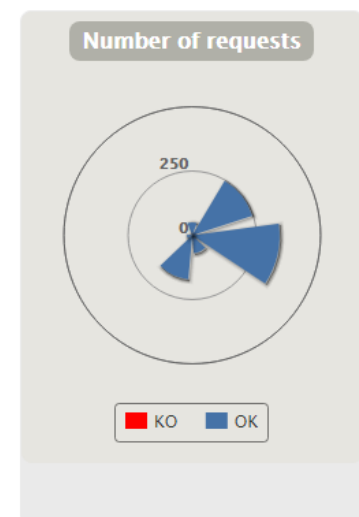| ▶ STATISTICS												Expand all groups | Collapse all groups
Requests ▲	**Executions**					**Response Time (ms)**						
	Total ⬍	OK ⬍	KO ⬍	% KO ⬍	Req/s ⬍	Min ⬍	50th pct ⬍	75th pct ⬍	95th pct ⬍	99th pct ⬍	Max ⬍	Mean ⬍	Std Dev ⬍
Global Information	902	902	0	0%	5.067	52	453	613	875	1485	1967	464	266
Get token	50	50	0	0%	0.281	53	255	391	981	1047	1083	338	296
Check Token	246	246	0	0%	1.382	52	255	364	458	487	619	261	133
Get product by id	340	340	0	0%	1.91	109	517	661	857	926	1055	526	192
Get all products	70	70	0	0%	0.393	113	564	716	831	949	1132	534	215
Get prod...rom cart	172	172	0	0%	0.966	122	516	659	818	922	1264	528	191
Add product to cart	20	20	0	0%	0.112	740	1461	1596	1784	1930	1967	1412	300
Checkout	4	4	0	0%	0.022	358	458	588	769	805	814	522	178

Fast service

▶ STATISTICS												Expand all groups | Collapse all groups
Requests ▲	**Executions**					**Response Time (ms)**						
	Total ⬍	OK ⬍	KO ⬍	% KO ⬍	Req/s ⬍	Min ⬍	50th pct ⬍	75th pct ⬍	95th pct ⬍	99th pct ⬍	Max ⬍	Mean ⬍	Std Dev ⬍
Global Information	902	902	0	0%	5.184	12	139	227	329	466	624	155	96
Get token	50	50	0	0%	0.287	12	113	163	199	288	318	103	69
Check Token	246	246	0	0%	1.414	12	67	119	167	175	323	86	59
Get product by id	340	340	0	0%	1.954	27	179	232	327	335	350	179	80
Get all products	70	70	0	0%	0.402	32	184	235	334	336	336	186	81
Get prod...rom cart	172	172	0	0%	0.989	28	179	230	329	333	339	179	78
Add product to cart	20	20	0	0%	0.115	226	442	534	574	614	624	439	116
Checkout	4	4	0	0%	0.023	41	105	154	212	224	227	119	70

Slow service

Requests ▲	Executions					Response Time (ms)							
	Total ⬍	OK ⬍	KO ⬍	% KO ⬍	Req/s ⬍	Min ⬍	50th pct ⬍	75th pct ⬍	95th pct ⬍	99th pct ⬍	Max ⬍	Mean ⬍	Std Dev ⬍
Global Information	902	902	0	0%	4.772	103	904	1210	1673	2572	3570	926	489
Get token	50	50	0	0%	0.265	109	555	753	955	980	1002	540	256
Check Token	246	246	0	0%	1.302	103	504	754	953	958	960	518	260
Get product by id	340	340	0	0%	1.799	208	1060	1308	1670	1809	1914	1067	361
Get all products	70	70	0	0%	0.37	214	1070	1307	1625	1817	1823	1046	365
Get prod...rom cart	172	172	0	0%	0.91	307	1111	1314	1657	1811	1865	1092	341
Add product to cart	20	20	0	0%	0.106	1918	2523	2869	3382	3532	3570	2608	458
Checkout	4	4	0	0%	0.021	957	1083	1197	1287	1305	1309	1108	138

7. Related artifacts

Gatling reports see in folders: Regular run, Fast service, Slow service