Universidade de Fortaleza

T335-18 Computação distribuída
AV2

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Metodologia **2**
Ruby sem cache **3**
10 usuarios 3
100 usuarios 4
1000 usuarios 5
Ruby com cache **6**
10 usuarios: 6
100 usuarios: 7
1000 usuarios: 8
Python sem cache **9**
10 usuarios 9
100 usuarios 10
1000 usuarios 11
Python com cache **12**
10 usuarios 12
100 usuarios 13
1000 usuarios 14

Metodologia

Para executar os testes, foi usado um arquivo de configuração do locust para todos os casos de teste onde, dado uma lista de 100 URLs, elas eram inseridas de forma aleatória, reduzindo a consistência do teste de carga em si, posto que a quantidade de checagens na cache não é determinístico porém aumentando a entropia, aproximando o sistema do real.

O docker-compose contém a api requisitada, python do passo 5 e ruby do passo 6, onde a região que usa redis como cache foi comentada onde era relevante.

Os testes foram executados no Ubuntu 22.04.4, com o Docker versão 24.0.5, build ced0996, Docker Compose versão v2.20.3, num Intel i5-8500T (6) @ 3.500GHz com 32 GB de RAM.

Ruby sem cache

10 usuarios

Locust

HOST http://api:4567 | STATUS RUNNING | USERS 10 | RPS 6.1 | FAILURES 25% | EDIT | STOP | RESET

STATISTICS | CHARTS | FAILURES | EXCEPTIONS | CURRENT RATIO | DOWNLOAD DATA | LOGS

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)	Max (ms)	Average size (bytes)	Current RPS	Current Failures/s
GET	/api/https://www.163.com	13	0	11	590	590	53.87	3	587	208596	0	0
GET	/api/https://www.360.cn	10	0	7	1200	1200	127.19	3	1212	44833	0	0
GET	/api/https://www.aliexpress.com	11	0	7	1100	1100	103.23	2	1070	9782	0.4	0
GET	/api/https://www.amazon.co.jp	13	0	8	1500	1500	123.15	3	1514	61712	0.2	0
GET	/api/https://www.amazon.com	9	9	270	730	730	446.97	225	733	142786	0.2	0.2
GET	/api/https://www.apple.com	9	0	7	85	85	15.34	3	85	10982	0.2	0
GET	/api/https://www.baidu.com	12	0	7	1700	1700	146.78	3	1690	5561	0.2	0
GET	/api/https://www.bing.com	8	0	7	200	200	29.9	2	197	3736	0.1	0
GET	/api/https://www.blogger.com	10	0	7	1600	1600	170.12	6	1626	1492	0	0
GET	/api/https://www.blogspot.com	9	0	7	2100	2100	236.23	2	2077	1508	0	0
GET	/api/https://www.chinadaily.com.cn	13	0	7	2200	2200	180.91	3	2241	46798	0	0
GET	/api/https://www.ebay.com	17	0	7	520	520	36.1	2	520	29657	0	0
GET	/api/https://www.facebook.com	9	0	7	270	270	34.84	4	265	4506	0.1	0

100 usuarios

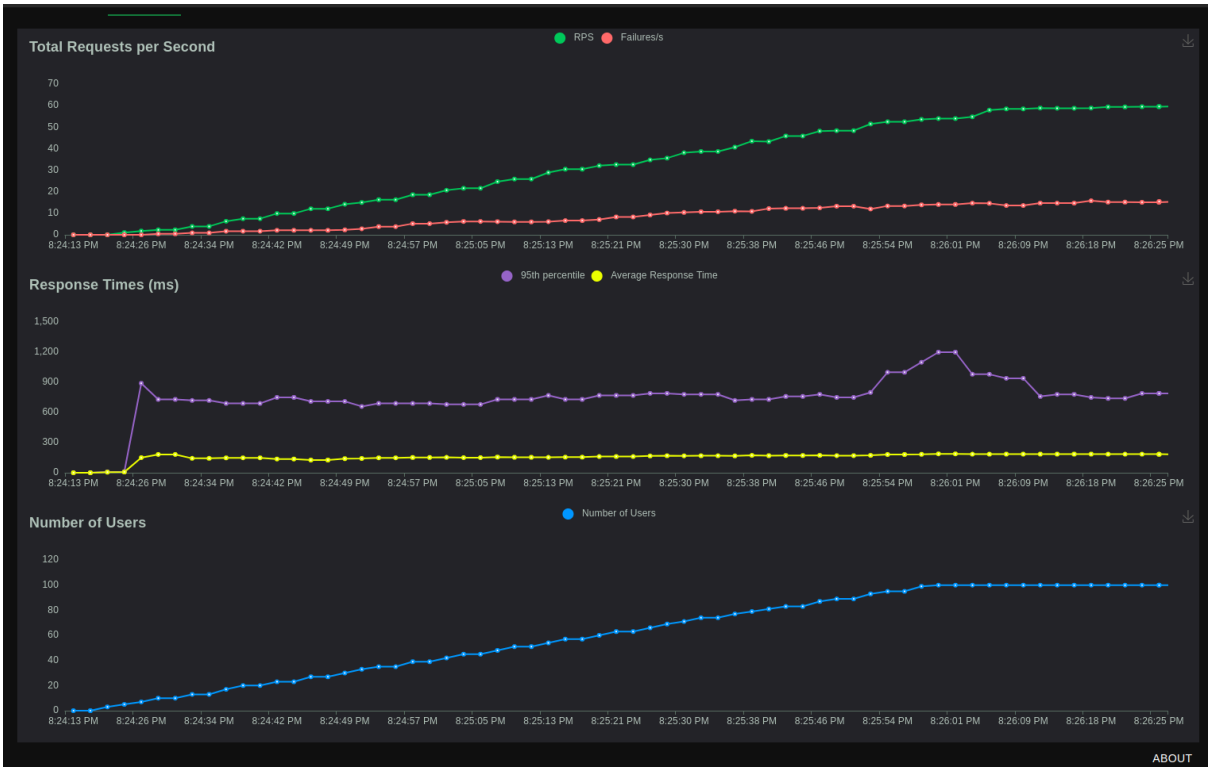
Locust

HOST	STATUS	USERS	RPS	FAILURES
http://api:4567	RUNNING	100	58.5	25%

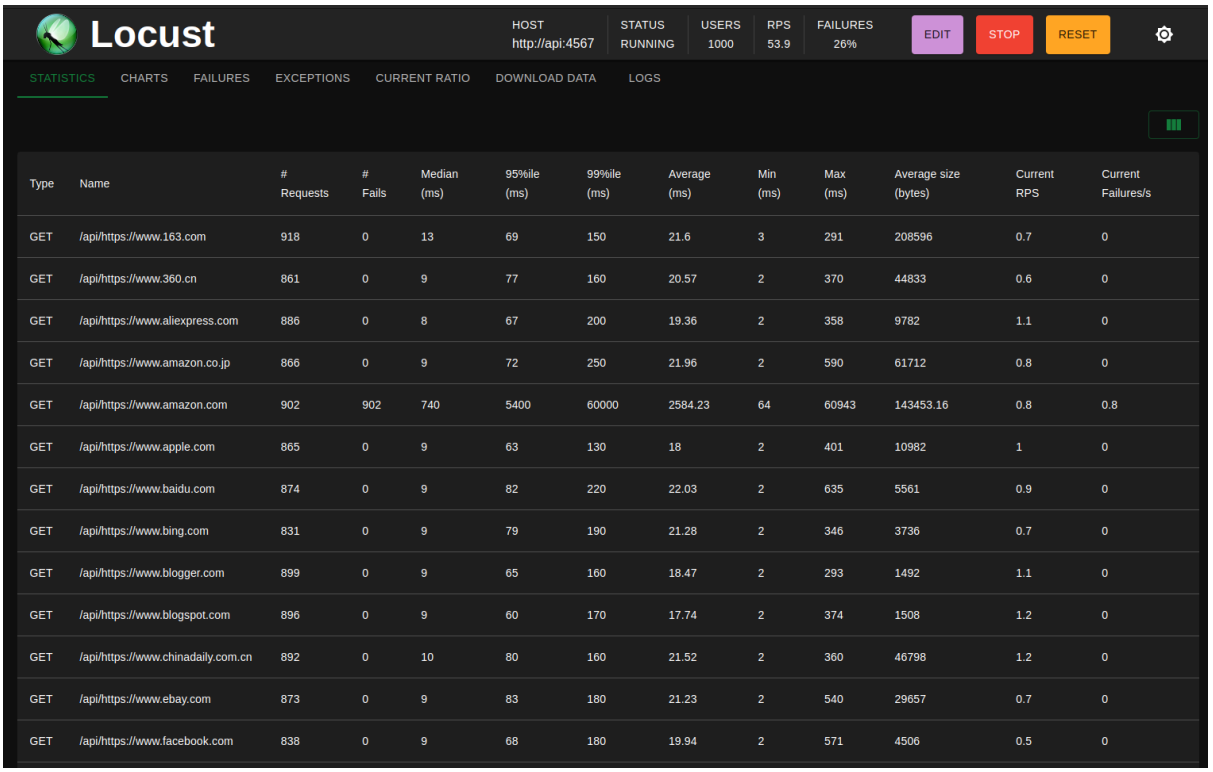
EDIT STOP RESET

STATISTICS CHARTS FAILURES EXCEPTIONS CURRENT RATIO DOWNLOAD DATA LOGS

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)	Max (ms)	Average size (bytes)	Current RPS	Current Failures/s
GET	/api/https://www.163.com	39	0	12	76	83	20.03	4	83	208596	0.6	0
GET	/api/https://www.360.cn	64	0	9	34	130	14.02	2	131	44833	1	0
GET	/api/https://www.aliexpress.com	70	0	7	67	100	15.3	2	103	9782	1.3	0
GET	/api/https://www.amazon.co.jp	61	0	10	40	93	16.07	2	93	61712	1.2	0
GET	/api/https://www.amazon.com	55	55	690	950	1000	574.24	198	1016	142786	0.9	0.9
GET	/api/https://www.apple.com	69	0	8	33	63	12.08	2	63	10982	0.9	0
GET	/api/https://www.baidu.com	65	0	9	51	67	13.98	2	67	5561	1.3	0
GET	/api/https://www.bing.com	70	0	7	55	130	16.21	2	128	3736	1.7	0
GET	/api/https://www.blogger.com	48	0	9	48	64	13.86	2	64	1492	1	0
GET	/api/https://www.blogspot.com	71	0	7	68	180	16.34	2	176	1508	1.3	0
GET	/api/https://www.chinadaily.com.cn	60	0	7	37	100	12.55	2	104	46798	0.7	0
GET	/api/https://www.ebay.com	58	0	7	92	200	15.06	2	202	29657	0.9	0
GET	/api/https://www.facebook.com	64	0	8	47	130	15.38	2	132	4506	1	0



1000 usuarios



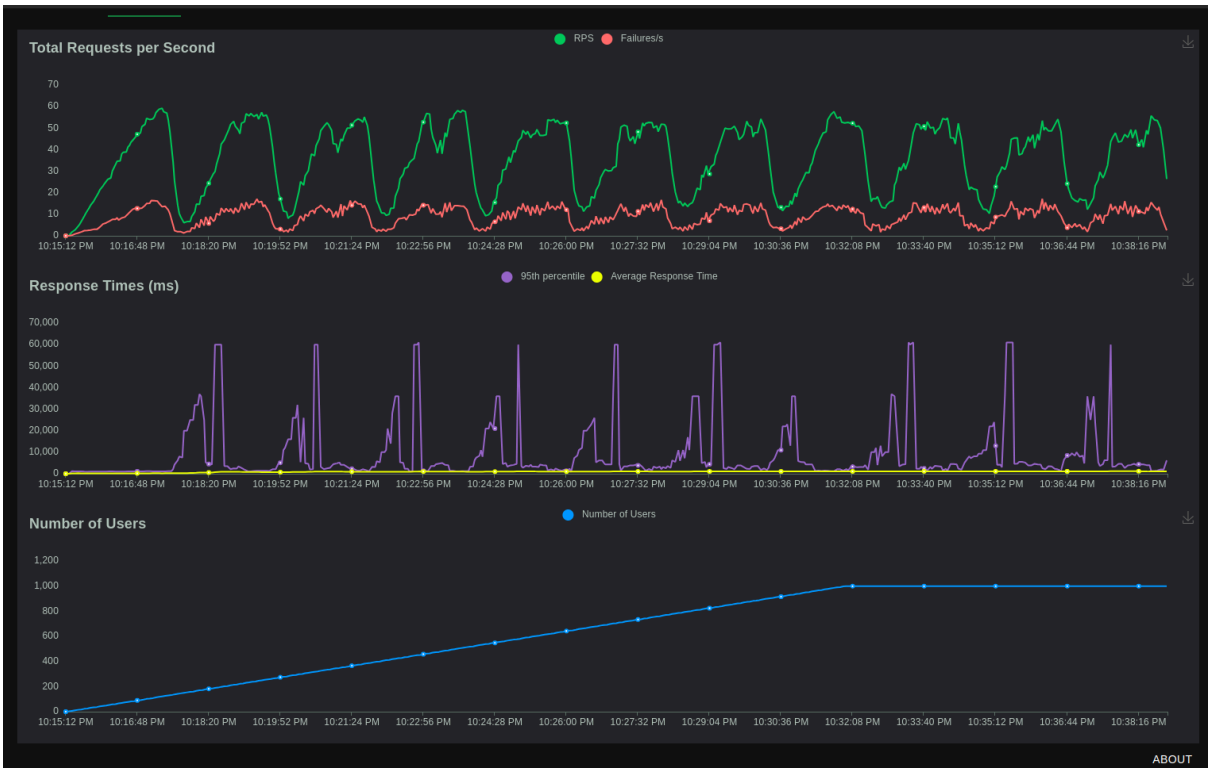
Locust

HOST	STATUS	USERS	RPS	FAILURES
http://api:4567	RUNNING	1000	53.9	26%

EDIT STOP RESET

STATISTICS CHARTS FAILURES EXCEPTIONS CURRENT RATIO DOWNLOAD DATA LOGS

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)	Max (ms)	Average size (bytes)	Current RPS	Current Failures/s
GET	/api/https://www.163.com	918	0	13	69	150	21.6	3	291	208596	0.7	0
GET	/api/https://www.360.cn	861	0	9	77	160	20.57	2	370	44833	0.6	0
GET	/api/https://www.aliexpress.com	886	0	8	67	200	19.36	2	358	9782	1.1	0
GET	/api/https://www.amazon.co.jp	866	0	9	72	250	21.96	2	590	61712	0.8	0
GET	/api/https://www.amazon.com	902	902	740	5400	60000	2584.23	64	60943	143453.16	0.8	0.8
GET	/api/https://www.apple.com	865	0	9	63	130	18	2	401	10982	1	0
GET	/api/https://www.baidu.com	874	0	9	82	220	22.03	2	635	5561	0.9	0
GET	/api/https://www.bing.com	831	0	9	79	190	21.28	2	346	3736	0.7	0
GET	/api/https://www.blogger.com	899	0	9	65	160	18.47	2	293	1492	1.1	0
GET	/api/https://www.blogspot.com	896	0	9	60	170	17.74	2	374	1508	1.2	0
GET	/api/https://www.chinadaily.com.cn	892	0	10	80	160	21.52	2	360	46798	1.2	0
GET	/api/https://www.ebay.com	873	0	9	83	180	21.23	2	540	29657	0.7	0
GET	/api/https://www.facebook.com	838	0	9	68	180	19.94	2	571	4506	0.5	0



Ruby com cache

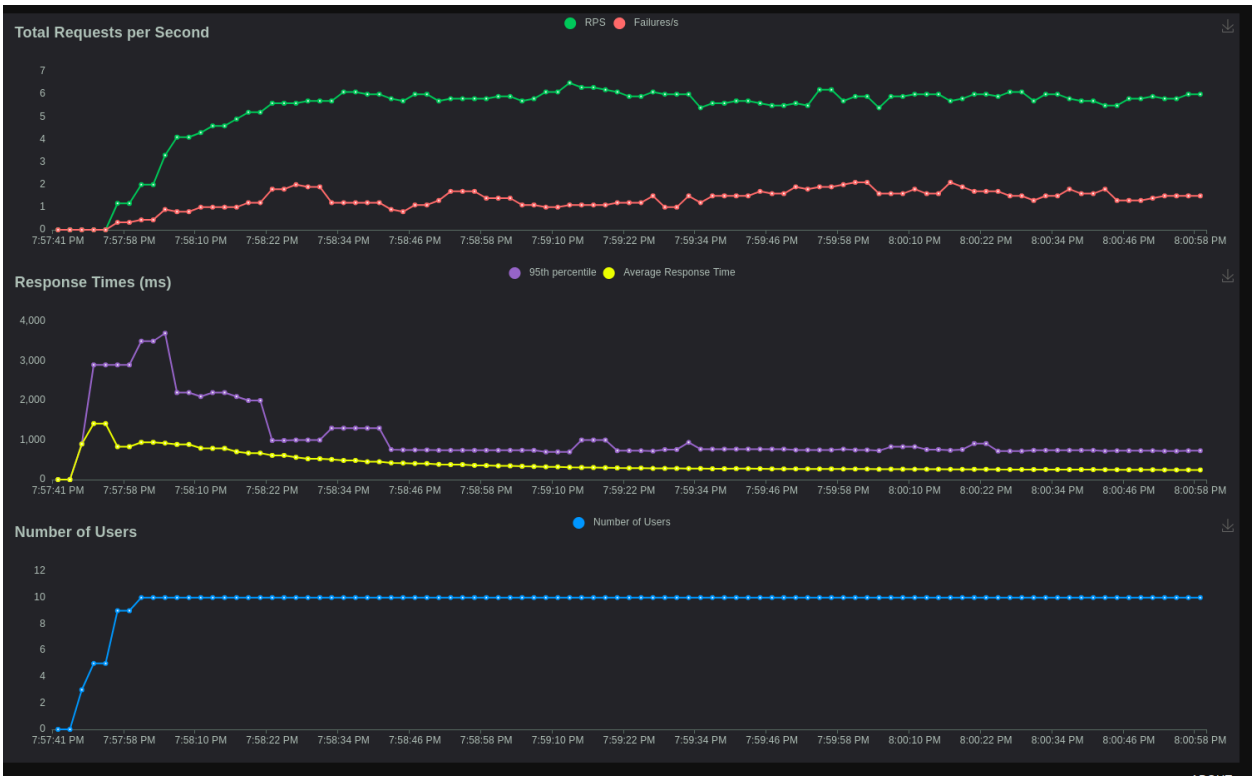
10 usuarios:

Locust

HOST http://api:4567 | STATUS RUNNING | USERS 10 | RPS 6.2 | FAILURES 24% | EDIT | STOP | RESET

STATISTICS | CHARTS | FAILURES | EXCEPTIONS | CURRENT RATIO | DOWNLOAD DATA | LOGS

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)	Max (ms)	Average size (bytes)	Current RPS	Current Failures/s
GET	/api/https://www.163.com	12	0	12	1500	1500	133.27	3	1467	208891	0	0
GET	/api/https://www.360.cn	9	0	7	1300	1300	146.12	3	1263	44833	0	0
GET	/api/https://www.aliexpress.com	8	0	6	2900	2900	360.61	2	2852	9782	0.1	0
GET	/api/https://www.amazon.co.jp	11	1	9	1700	1700	346.75	7	1724	70635.27	0.2	0
GET	/api/https://www.amazon.com	11	11	330	1100	1100	445.77	210	1072	142786	0.4	0.4
GET	/api/https://www.apple.com	9	0	7	560	560	68.2	3	564	10982	0	0
GET	/api/https://www.baidu.com	8	0	3	1800	1800	234.78	2	1846	5561	0.1	0
GET	/api/https://www.bing.com	18	0	7	710	710	45.83	2	714	3736	0	0
GET	/api/https://www.blogger.com	13	0	7	1900	1900	154.33	2	1920	1492	0.3	0
GET	/api/https://www.blogspot.com	19	0	7	3700	3700	200.09	3	3682	1508	0.2	0
GET	/api/https://www.chinadaily.com.cn	15	0	7	2400	2400	165.14	2	2379	46798	0.3	0
GET	/api/https://www.ebay.com	14	0	7	1100	1100	85.83	2	1105	29657	0.1	0
GET	/api/https://www.facebook.com	9	0	8	350	350	45.69	2	352	4506	0	0



100 usuarios:

Locust

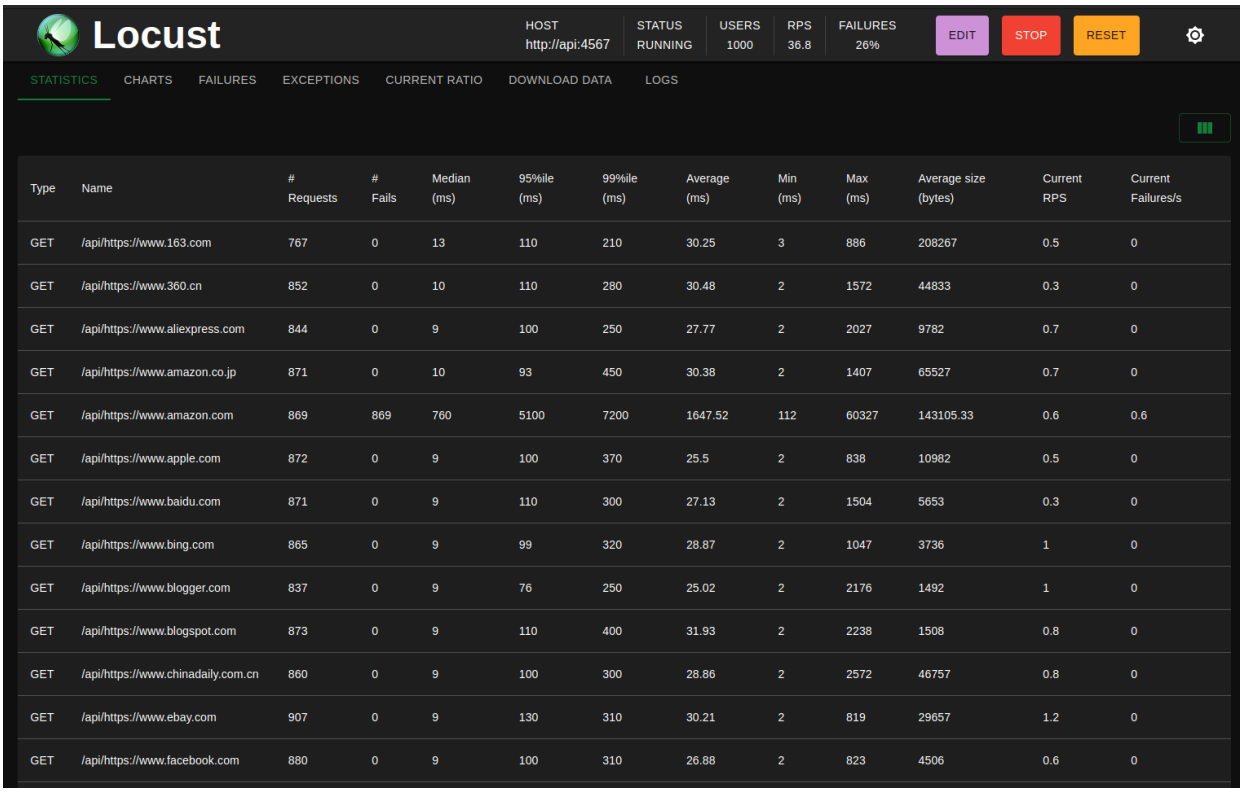
HOST	STATUS	USERS	RPS	FAILURES
http://api:4567	RUNNING	100	58.1	25%

EDIT STOP RESET

STATISTICS CHARTS FAILURES EXCEPTIONS CURRENT RATIO DOWNLOAD DATA LOGS

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)	Max (ms)	Average size (bytes)	Current RPS	Current Failures/s
GET	/api/https://www.163.com	67	0	15	56	72	17.42	3	72	208891	1.3	0
GET	/api/https://www.360.cn	70	0	9	42	72	12.87	2	72	44833	1.9	0
GET	/api/https://www.aliexpress.com	60	0	8	32	70	12.11	2	70	9782	0.8	0
GET	/api/https://www.amazon.co.jp	45	0	9	42	47	14.21	2	47	63350	1.1	0
GET	/api/https://www.amazon.com	68	68	670	920	1100	594.44	206	1066	142786	1.1	1.1
GET	/api/https://www.apple.com	58	0	8	38	40	10.06	2	40	10982	1.1	0
GET	/api/https://www.baidu.com	57	0	9	25	43	9.85	2	43	5561	0.9	0
GET	/api/https://www.bing.com	63	0	7	29	60	9.83	2	60	3736	1	0
GET	/api/https://www.blogger.com	65	0	8	32	49	11.1	2	49	1492	1.5	0
GET	/api/https://www.blogspot.com	48	0	8	26	27	9.4	2	27	1508	0.8	0
GET	/api/https://www.chinadaily.com.cn	67	0	8	29	52	11.87	2	52	46798	0.9	0
GET	/api/https://www.ebay.com	48	0	7	22	66	11.02	2	66	29657	0.8	0
GET	/api/https://www.facebook.com	58	0	7	49	68	13.37	2	68	4506	1.2	0

1000 usuarios:



Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)	Max (ms)	Average size (bytes)	Current RPS	Current Failures/s
GET	/api/https://www.163.com	767	0	13	110	210	30.25	3	886	208267	0.5	0
GET	/api/https://www.360.cn	852	0	10	110	280	30.48	2	1572	44833	0.3	0
GET	/api/https://www.aliexpress.com	844	0	9	100	250	27.77	2	2027	9782	0.7	0
GET	/api/https://www.amazon.co.jp	871	0	10	93	450	30.38	2	1407	65527	0.7	0
GET	/api/https://www.amazon.com	869	869	760	5100	7200	1647.52	112	60327	143105.33	0.6	0.6
GET	/api/https://www.apple.com	872	0	9	100	370	25.5	2	838	10982	0.5	0
GET	/api/https://www.baidu.com	871	0	9	110	300	27.13	2	1504	5653	0.3	0
GET	/api/https://www.bing.com	865	0	9	99	320	28.87	2	1047	3736	1	0
GET	/api/https://www.blogger.com	837	0	9	76	250	25.02	2	2176	1492	1	0
GET	/api/https://www.blogspot.com	873	0	9	110	400	31.93	2	2238	1508	0.8	0
GET	/api/https://www.chinadaily.com.cn	860	0	9	100	300	28.86	2	2572	46757	0.8	0
GET	/api/https://www.ebay.com	907	0	9	130	310	30.21	2	819	29657	1.2	0
GET	/api/https://www.facebook.com	880	0	9	100	310	26.88	2	823	4506	0.6	0

Python sem cache

10 usuarios

Locust

HOST http://api:5000 | STATUS RUNNING | USERS 10 | RPS 5.8 | FAILURES 0%

EDIT STOP RESET

STATISTICS CHARTS FAILURES EXCEPTIONS CURRENT RATIO DOWNLOAD DATA LOGS

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)	Max (ms)	Average size (bytes)	Current RPS	Current Failures/s
GET	/api/https://www.163.com	1	0	235.12	240	240	235.12	235	235	2	0	0
GET	/api/https://www.360.cn	2	0	8.31	1600	1600	803.29	8	1598	76445	0.1	0
GET	/api/https://www.aliexpress.com	1	0	967.45	970	970	967.45	967	967	10289	0	0
GET	/api/https://www.amazon.co.jp	5	0	7	1100	1100	221.24	3	1086	608	0.2	0
GET	/api/https://www.amazon.com	2	0	3	280	280	142.94	3	283	261	0.2	0
GET	/api/https://www.apple.com	1	0	282.73	280	280	282.73	283	283	10994	0	0
GET	/api/https://www.baidu.com	1	0	1234.72	1200	1200	1234.72	1235	1235	1289	0	0
GET	/api/https://www.bing.com	1	0	251.37	250	250	251.37	251	251	279	0	0
GET	/api/https://www.blogger.com	1	0	1267.45	1300	1300	1267.45	1267	1267	1406	0.1	0
GET	/api/https://www.blogspot.com	3	0	7	1700	1700	571.92	6	1703	1422	0.2	0
GET	/api/https://www.chinadaily.com.cn	4	0	8	1600	1600	408.63	5	1588	46757	0.2	0
GET	/api/https://www.ebay.com	3	0	8	510	510	172.55	3	507	30105	0	0
GET	/api/https://www.facebook.com	2	0	5	420	420	213.62	5	422	4646	0.1	0

100 usuarios

Locust

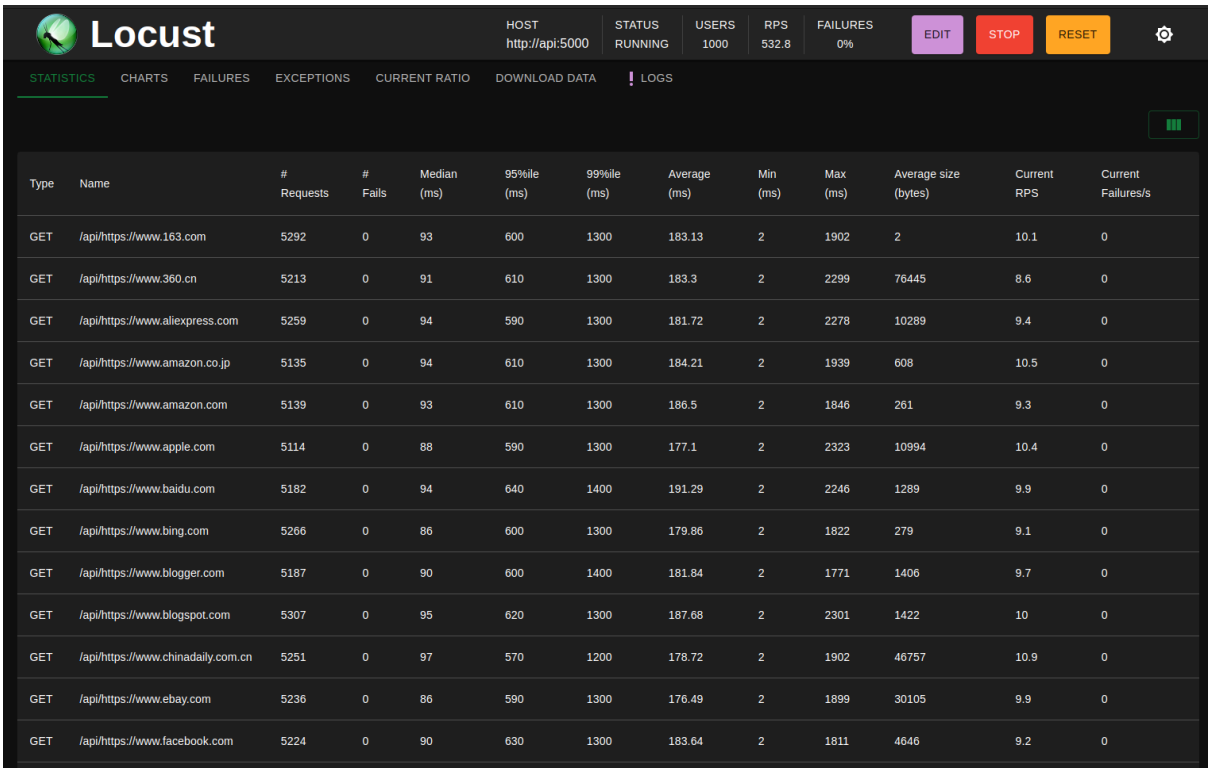
HOST	STATUS	USERS	RPS	FAILURES
http://api:5000	RUNNING	100	65.9	0%

EDIT STOP RESET

STATISTICS CHARTS FAILURES EXCEPTIONS CURRENT RATIO DOWNLOAD DATA LOGS

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)	Max (ms)	Average size (bytes)	Current RPS	Current Failures/s
GET	/api/https://www.163.com	83	0	8	13	16	8.15	2	16	2	1.1	0
GET	/api/https://www.360.cn	82	0	9	15	31	9.42	3	31	76445	1.3	0
GET	/api/https://www.aliexpress.com	66	0	8	15	26	8.86	2	26	10289	1.1	0
GET	/api/https://www.amazon.co.jp	75	0	8	15	19	8.53	2	19	608	1.8	0
GET	/api/https://www.amazon.com	73	0	8	15	21	8.51	3	21	261	0.8	0
GET	/api/https://www.apple.com	75	0	8	14	34	8.92	2	34	10994	0.7	0
GET	/api/https://www.baidu.com	66	0	8	13	17	7.57	2	17	1289	1.1	0
GET	/api/https://www.bing.com	63	0	8	14	21	8.44	2	21	279	0.8	0
GET	/api/https://www.blogger.com	74	0	8	14	20	8.84	2	20	1406	1	0
GET	/api/https://www.blogspot.com	65	0	8	13	17	7.89	2	17	1422	1.1	0
GET	/api/https://www.chinadaily.com.cn	84	0	8	15	18	8.73	3	18	46757	1.2	0
GET	/api/https://www.ebay.com	75	0	8	15	24	9.12	3	24	30105	1.2	0
GET	/api/https://www.facebook.com	64	0	8	13	20	8.5	2	20	4646	0.8	0

1000 usuarios



Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)	Max (ms)	Average size (bytes)	Current RPS	Current Failures/s
GET	/api/https://www.163.com	5292	0	93	600	1300	183.13	2	1902	2	10.1	0
GET	/api/https://www.360.cn	5213	0	91	610	1300	183.3	2	2299	76445	8.6	0
GET	/api/https://www.aliexpress.com	5259	0	94	590	1300	181.72	2	2278	10289	9.4	0
GET	/api/https://www.amazon.co.jp	5135	0	94	610	1300	184.21	2	1939	608	10.5	0
GET	/api/https://www.amazon.com	5139	0	93	610	1300	186.5	2	1846	261	9.3	0
GET	/api/https://www.apple.com	5114	0	88	590	1300	177.1	2	2323	10994	10.4	0
GET	/api/https://www.baidu.com	5182	0	94	640	1400	191.29	2	2246	1289	9.9	0
GET	/api/https://www.bing.com	5266	0	86	600	1300	179.86	2	1822	279	9.1	0
GET	/api/https://www.blogger.com	5187	0	90	600	1400	181.84	2	1771	1406	9.7	0
GET	/api/https://www.blogspot.com	5307	0	95	620	1300	187.68	2	2301	1422	10	0
GET	/api/https://www.chinadaily.com.cn	5251	0	97	570	1200	178.72	2	1902	46757	10.9	0
GET	/api/https://www.ebay.com	5236	0	86	590	1300	176.49	2	1899	30105	9.9	0
GET	/api/https://www.facebook.com	5224	0	90	630	1300	183.64	2	1811	4646	9.2	0

Python com cache

10 usuarios

Locust

HOST http://api:5000 | STATUS RUNNING | USERS 10 | RPS 6.9 | FAILURES 0%

EDIT STOP RESET

STATISTICS CHARTS FAILURES EXCEPTIONS CURRENT RATIO DOWNLOAD DATA LOGS

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)	Max (ms)	Average size (bytes)	Current RPS	Current Failures/s
GET	/api/https://www.163.com	2	0	3.02	7	7	5.23	3	7	2	0	0
GET	/api/https://www.360.cn	5	0	9	12	12	9.17	8	12	76445	0.3	0
GET	/api/https://www.amazon.co.jp	3	0	8	8	8	7.69	7	8	608	0.1	0
GET	/api/https://www.apple.com	6	0	7	8	8	7.06	4	8	10994	0.2	0
GET	/api/https://www.baidu.com	4	0	8	9	9	7.92	7	9	1289	0.3	0
GET	/api/https://www.bing.com	3	0	8	8	8	7.76	8	8	279	0.1	0
GET	/api/https://www.blogger.com	2	0	7.56	8	8	7.53	8	8	1406	0	0
GET	/api/https://www.blogspot.com	5	0	8	12	12	8.49	7	12	1422	0.3	0
GET	/api/https://www.ebay.com	4	0	8	14	14	8.42	4	14	30105	0.1	0
GET	/api/https://www.facebook.com	3	0	7.85	8	8	7.66	8	8	4646	0.1	0
GET	/api/https://www.fc2.com	2	0	7.37	7	7	7.43	7	7	3608	0.1	0
GET	/api/https://www.github.com	3	0	8	9	9	7.94	7	9	10794	0.2	0
GET	/api/https://www.google.ca	2	0	3	10	10	6.48	3	10	1985	0.1	0

100 usuarios

Locust

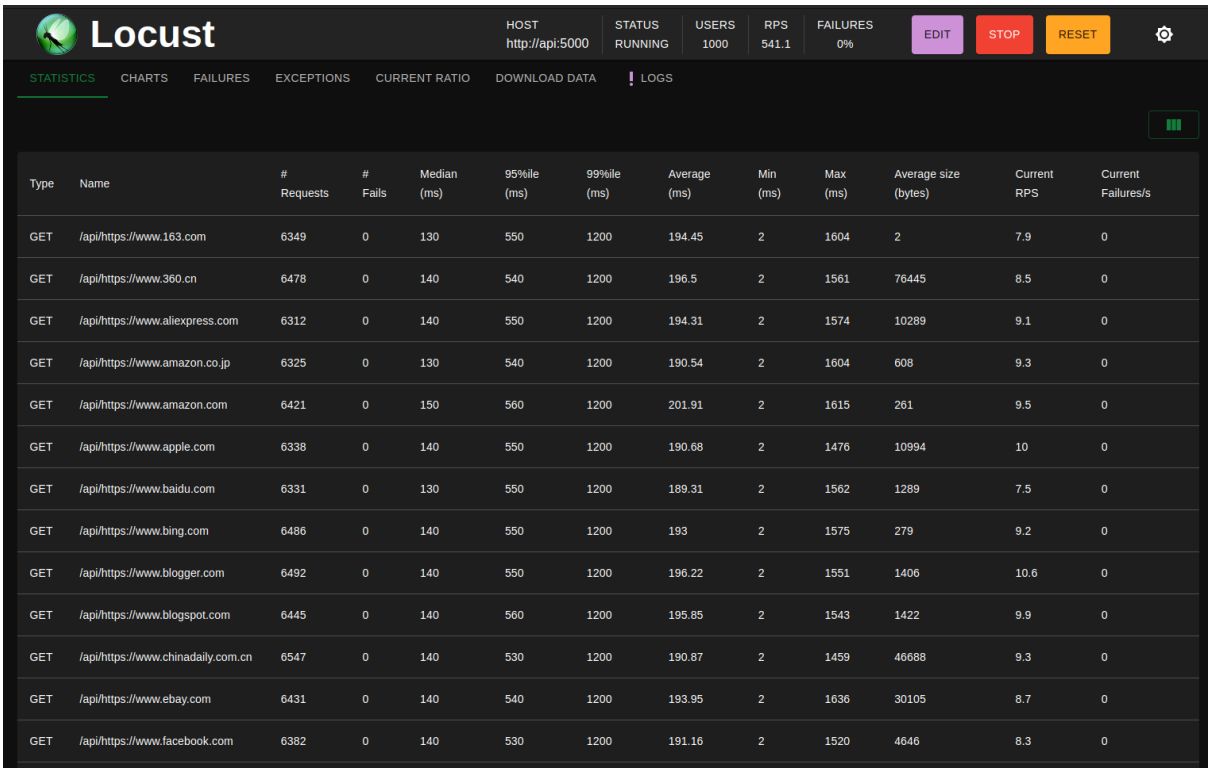
HOST	STATUS	USERS	RPS	FAILURES
http://api:5000	RUNNING	100	63	0%

EDIT STOP RESET

STATISTICS CHARTS FAILURES EXCEPTIONS CURRENT RATIO DOWNLOAD DATA LOGS

Type	Name	# Requests	# Fails	Median (ms)	95%ile (ms)	99%ile (ms)	Average (ms)	Min (ms)	Max (ms)	Average size (bytes)	Current RPS	Current Failures/s
GET	/api/https://www.163.com	76	0	8	14	17	8.09	3	17	2	0.7	0
GET	/api/https://www.360.cn	72	0	9	14	17	8.85	3	17	76445	1.3	0
GET	/api/https://www.aliexpress.com	59	0	8	12	16	7.73	2	16	10289	0.9	0
GET	/api/https://www.amazon.co.jp	61	0	8	12	18	7.94	2	18	608	0.9	0
GET	/api/https://www.amazon.com	61	0	8	14	17	8.25	3	17	261	1	0
GET	/api/https://www.apple.com	63	0	8	13	13	7.63	3	13	10994	0.6	0
GET	/api/https://www.baidu.com	50	0	8	13	39	7.8	2	39	1289	1.4	0
GET	/api/https://www.bing.com	67	0	7	13	38	7.76	2	38	279	1.6	0
GET	/api/https://www.blogger.com	63	0	8	14	16	8.01	3	16	1406	1.3	0
GET	/api/https://www.blogspot.com	56	0	7	16	37	8.3	2	37	1422	1.1	0
GET	/api/https://www.chinadaily.com.cn	51	0	8	18	42	9.53	3	42	46688	0.9	0
GET	/api/https://www.ebay.com	65	0	8	14	20	8.47	3	20	30105	1.5	0
GET	/api/https://www.facebook.com	58	0	8	12	14	7.72	2	14	4646	1	0

1000 usuarios



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GET	/api/https://www.163.com	6349	0	130	550	1200	194.45	2	1604	2	7.9	0
GET	/api/https://www.360.cn	6478	0	140	540	1200	196.5	2	1561	76445	8.5	0
GET	/api/https://www.aliexpress.com	6312	0	140	550	1200	194.31	2	1574	10289	9.1	0
GET	/api/https://www.amazon.co.jp	6325	0	130	540	1200	190.54	2	1604	608	9.3	0
GET	/api/https://www.amazon.com	6421	0	150	560	1200	201.91	2	1615	261	9.5	0
GET	/api/https://www.apple.com	6338	0	140	550	1200	190.68	2	1476	10994	10	0
GET	/api/https://www.baidu.com	6331	0	130	550	1200	189.31	2	1562	1289	7.5	0
GET	/api/https://www.bing.com	6486	0	140	550	1200	193	2	1575	279	9.2	0
GET	/api/https://www.blogger.com	6492	0	140	550	1200	196.22	2	1551	1406	10.6	0
GET	/api/https://www.blogspot.com	6445	0	140	560	1200	195.85	2	1543	1422	9.9	0
GET	/api/https://www.chinadaily.com.cn	6547	0	140	530	1200	190.87	2	1459	46688	9.3	0
GET	/api/https://www.ebay.com	6431	0	140	540	1200	193.95	2	1636	30105	8.7	0
GET	/api/https://www.facebook.com	6382	0	140	530	1200	191.16	2	1520	4646	8.3	0