

MACO BI

并发测试报告

名 称 并发测试报告 版 号 V1.0

拟 制 杨东风 日 期 2019/10/16

一、测试环境

(1) Tomcat 8.0

(2) Nginx 关闭 Session 绑定

(3) JDK 1.8

(4) Redis 5.1

(5) MongoDB 3.0

服务器	配置
Tomcat 节点 1	CPU : 8 核心 x1 , 内存 : 32G , 硬盘 : 300G
Tomcat 节点 2	CPU : 8 核心 x1 , 内存 : 32G , 硬盘 : 300G
Tomcat 节点 3	CPU : 8 核心 x1 , 内存 : 32G , 硬盘 : 300G
Tomcat 节点 4	CPU : 8 核心 x1 , 内存 : 32G , 硬盘 : 300G
Nginx+Redis+MongoDB	CPU : 8 核心 x1 , 内存 : 32G , 硬盘 : 300G

二、测试工具

测试工具 : JMeter 5.1.1

测试机器 : 4 台

测试机器	配置
JMeter 节点 1	CPU : 8 核心 x1 , 内存 : 16G
JMeter 节点 2	CPU : 8 核心 x1 , 内存 : 16G
JMeter 节点 3	CPU : 8 核心 x1 , 内存 : 16G
JMeter 节点 4	CPU : 8 核心 x1 , 内存 : 16G

三、测试数据与策略

3.1 测试数据

- (1) 用户数：20 万
- (2) 报表数：1 张
- (3) 权限数据：1 万
- (4) JMeter 开启线程数量：250/节点

3.2 测试策略

每个 JMeter 线程执行步骤：

- (1) 无 Cookie 请求报表
- (2) 用户认证
- (3) 权限判断
- (4) 响应报表

四、测试结果

	JMeter 节点 1	JMeter 节点 2	JMeter 节点 3	JMeter 节点 4
请求数量	10 万	10 万	10 万	10 万
平均响应时间	1.2 秒	1.2 秒	1.3 秒	1.2 秒
最小响应时间	0.03 秒	0.06 秒	0.004 秒	0.03 秒
最大响应时间	260 秒	260 秒	260 秒	260 秒
错误率	0.33%	0.29%	0.59%	0.33%
TPS	193/秒	196/秒	170/秒	193/秒

吞吐	146M/秒	146M/秒	145M/秒	146M/秒
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View Report Request.jmx (C:\soft\maco\View Report Request.jmx) - Apache JMeter (5.1.1 r1855137)

Summary Report

Name: Summary Report

Comments:

-Write results to file / Read from file

Filename: Browse... Log/Display Only: Errors Successes Configure

Label	# Samples	Average	Min	Max	Std. Dev.	Error %	Throughput	Received K...	Sent KB/sec	Avg. Bytes
View Repo...	105276	1291	32	280361	2162.81	0.33%	193.3/sec	27612.32	39.74	146279.9
TOTAL	105276	1291	32	280361	2162.81	0.33%	193.3/sec	27612.32	39.74	146279.9

Include group name in label? Save Table Header

Thread Group.jmx (D:\soft\maco\Thread Group.jmx) - Apache JMeter (5.1.1 r1855137)

Summary Report

Name: Summary Report

Comments:

-Write results to file / Read from file

Filename: Browse... Log/Display Only: Errors Successes Configure

Label	# Samples	Average	Min	Max	Std. Dev.	Error %	Throughput	Received KB/...	Sent KB/sec	Avg. Bytes
View Report ...	101800	1392	4	178412	2409.76	0.59%	170.2/sec	24244.19	34.40	145893.8
TOTAL	101800	1392	4	178412	2409.76	0.59%	170.2/sec	24244.19	34.40	145893.8

激活 Windows
转到“控制面板”中的“系统”以激活 Windows

Thread Group.jmx (C:\maco\Thread Group.jmx) - Apache JMeter (5.1.1 r1855137)

File Edit Search Run Options Tools Help

Test Plan
 Thread Group
 View Report Request
 Summary Report
 View Results in Table
 View Results Tree
 Graph Results
 Aggregate Report

Summary Report

Name: Summary Report

Comments:

- Write results to file / Read from file -

Filename Browse... LogDisplay Only: Errors Successes Configure

Label	# Samples	Average	Min	Max	Std. Dev.	Error %	Throughput	Received K...	Sent KB/sec	Avg. Bytes
View Repo...	107507	1270	68	106794	1988.82	0.29%	196.6/sec	28101.18	39.84	146357.7
TOTAL	107507	1270	68	106794	1988.82	0.29%	196.6/sec	28101.18	39.84	146357.7

Include group name in label? Save Table Header

View Report Request.jmx (C:\son\maco\view Report Request.jmx) - Apache JMeter (5.1.1 r1855137)

File Edit Search Run Options Tools Help

Test Plan
 Thread Group
 View Report Request
 View Results in Table
 Summary Report
 View Results in Table
 View Results Tree

Summary Report

Name: Summary Report

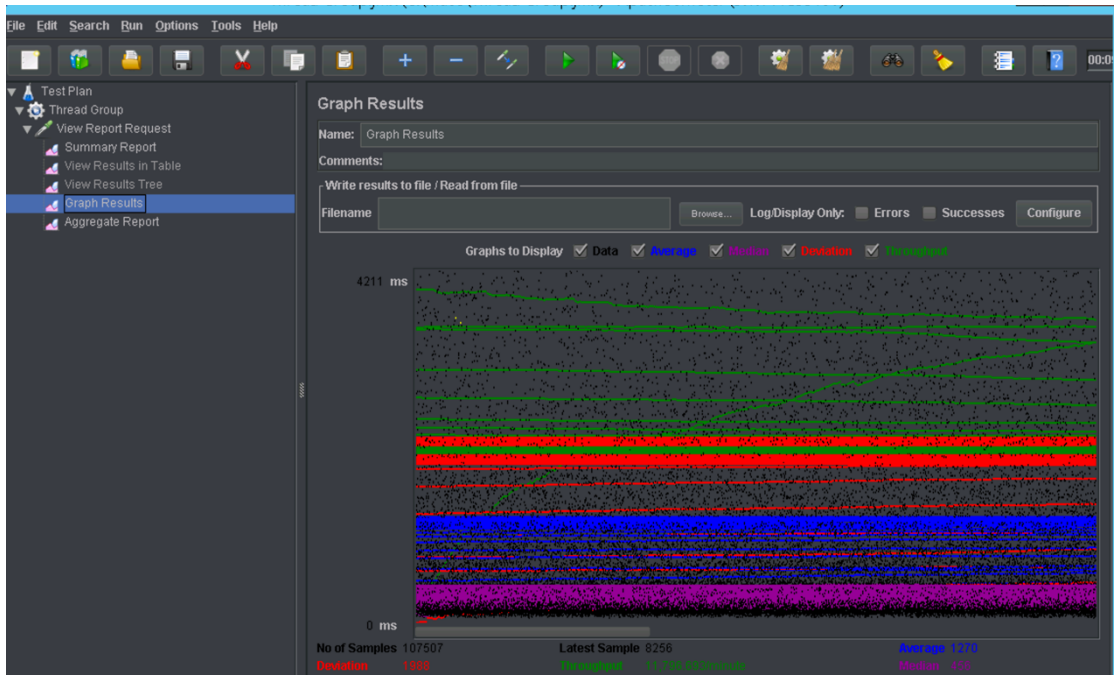
Comments:

- Write results to file / Read from file -

Filename Browse... LogDisplay Only: Errors Successes Configure

Label	# Samples	Average	Min	Max	Std. Dev.	Error %	Throughput	Received K...	Sent KB/sec	Avg. Bytes
View Repo...	105276	1291	32	260361	2162.81	0.33%	193.3/sec	27612.32	39.74	146279.9
TOTAL	105276	1291	32	260361	2162.81	0.33%	193.3/sec	27612.32	39.74	146279.9

Include group name in label? Save Table Header



```

top - 15:53:36 up 1 day, 23:39, 3 users, load average: 0.31, 0.41, 0.49
Tasks: 324 total, 1 running, 323 sleeping, 0 stopped, 0 zombie
%CPU(s): 1.2 us, 3.5 sy, 0.0 ni, 89.1 id, 0.0 wa, 0.0 hi, 6.2 si, 0.0 st
KiB Mem : 32781552 total, 26947284 free, 1067028 used, 4767240 buff/cache
KiB Swap: 8257532 total, 8257532 free, 0 used, 31116396 avail Mem

```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
17084	nobody	20	0	98676	9040	1128	S	6.0	0.0	11:07.03	nginx
17085	nobody	20	0	94624	10648	1132	S	5.6	0.0	11:05.62	nginx
17083	nobody	20	0	94752	9056	1128	S	5.3	0.0	10:24.14	nginx
17078	nobody	20	0	88300	8648	1132	S	5.0	0.0	9:17.08	nginx
17086	nobody	20	0	87956	9760	1128	S	4.7	0.0	9:29.18	nginx
17082	nobody	20	0	80388	7692	1128	S	3.7	0.0	7:43.92	nginx
17081	nobody	20	0	71032	7852	1128	S	3.3	0.0	6:06.79	nginx
17080	nobody	20	0	60964	6556	1128	S	2.3	0.0	4:26.58	nginx
1612	root	20	0	676164	24900	12712	S	1.3	0.1	4:28.72	sdsrvd
17077	nobody	20	0	38356	5796	1128	S	1.3	0.0	2:17.80	nginx
17079	nobody	20	0	45800	6380	1128	S	1.3	0.0	3:12.59	nginx
909	avahi	20	0	30492	2068	1500	S	0.7	0.0	8:42.75	avahi-daemon
913	root	20	0	6516	668	556	S	0.7	0.0	1:55.24	rngd
17076	nobody	20	0	32584	4076	1128	S	0.7	0.0	1:37.75	nginx
23	root	20	0	0	0	0	S	0.3	0.0	0:06.58	ksoftirqd/3
1518	root	20	0	514524	5052	1844	S	0.3	0.0	9:46.80	sdmonitor
17071	nobody	20	0	25744	2184	1080	S	0.3	0.0	0:37.41	nginx
17073	nobody	20	0	26268	2456	1128	S	0.3	0.0	0:47.31	nginx
17074	nobody	20	0	25816	2816	1128	S	0.3	0.0	0:55.14	nginx
17075	nobody	20	0	28956	3600	1128	S	0.3	0.0	1:10.51	nginx
1	root	20	0	191328	4372	2528	S	0.0	0.0	0:04.00	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:00.02	kthreadd
3	root	20	0	0	0	0	S	0.0	0.0	0:06.26	ksoftirqd/0
5	root	0	-20	0	0	0	S	0.0	0.0	0:00.00	kworker/0:0:0H
7	root	0	0	0	0	0	S	0.0	0.0	0:00.00	migration/0

```

Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
CPU(s): 8
On-line CPU(s) list: 0-7
Thread(s) per core: 1
Core(s) per socket: 4
Socket(s): 2
NUMA node(s): 1
Vendor ID: GenuineIntel
CPU family: 6
Model: 85
Model name: Intel(R) Xeon(R) Gold 6142 CPU @ 2.60GHz
Stepping: 4
CPU MHz: 2592.767
BogoMIPS: 5187.81
Hypervisor vendor: VMware
Virtualization type: full
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 22528K
NUMA node0 CPU(s): 0-7
Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse3
2 ss ht syscall nx pdpe1gb rdtscp lm constant_tsc arch_perfmon pebs bts nopl xtopology tsc_re
i pclmulqdq ssse3 fma cx16 pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsav
ahf_lm abm 3dnowprefetch fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 invpcid rtm mpx avx512f

```

```

CONTRIBUTING      dump.py      MANIFESTO     Fun.sh      Funtest-sentinel  stop.sh      utils
[root@ss1dcmq-redis01 redis]# lscpu
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
CPU(s): 8
On-line CPU(s) list: 0-7
Thread(s) per core: 1
Core(s) per socket: 4
Socket(s): 2
NUMA node(s): 1
Vendor ID: GenuineIntel
CPU family: 6
Model: 85
Model name: Intel(R) Xeon(R) Gold 6142 CPU @ 2.60GHz
Stepping: 4
CPU MHz: 2592.767
BogoMIPS: 5187.81
Hypervisor vendor: VMware
Virtualization type: full
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 22528K
NUMA node0 CPU(s): 0-7
Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush d
2 ss ht syscall nx pdpe1gb rdtscp lm constant_tsc arch_perfmon pebs bts nopl xtopology tsc_reliable nons
i pclmulqdq ssse3 fma cx16 pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c
ahf_lm abm 3dnowprefetch fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 invpcid rtm mpx avx512f avx512dq rd
shopt clwb avx512cd avx512bw avx512vl xsaveopt xsavec arat
[root@ss1dcmq-redis01 redis]# 15792:M 29 Aug 2019 15:11:53.672 * DB loaded from disk: 83.586 seconds
15792:M 29 Aug 2019 15:11:53.672 * Ready to accept connections

```

```
9-Aug-2019 15:11:57.830 INFO [main] org.apache.coyote.AbstractProtocol.start Starting ProtocolHandler ["ajp-nio-
9-Aug-2019 15:11:57.830 INFO [main] org.apache.catalina.startup.Catalina.start Server startup in 74384 ms
```

```
CYou have mail in /var/spool/mail/root
root@localhost maco]# lscpus
ash: lscpus: command not found...
imilar command is: 'lscpu'
root@localhost maco]# lscpu
architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Byte Order:            Little Endian
CPU(s):                8
on-line CPU(s) list:   0-7
Thread(s) per core:    1
Core(s) per socket:    4
Socket(s):             2
NUMA node(s):         1
Vendor ID:             GenuineIntel
CPU family:            6
Model:                85
Model name:            Intel(R) Xeon(R) Gold 6142 CPU @ 2.60GHz
Stepping:              4
CPU MHz:               2592.449
LogoMIPS:              5187.81
Hypervisor vendor:    VMware
Virtualization type:   full
L1d cache:            32K
L1i cache:            32K
L2 cache:             1024K
L3 cache:             22528K
NUMA node0 CPU(s):    0-7
Flags:                 fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts mmx fx
ss ht syscall nx pdpe1gb rdtscp lm constant_tsc arch_perfmon pebs bts nopl xtopology tsc_reliable nonstop_tsc e
pplmulqdq sse3 fma cx16 pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand hy
bf_lm abm 3dnowprefetch fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 invpcid rtm mpx avx512f avx512dq rdseed adx
hopt clwb avx512cd avx512bw avx512vl xsaveopt xsavec arat
```

```
Tasks: 311 total, 2 running, 309 sleeping, 0 stopped, 0 zombie
%Cpu(s): 73.4 us, 2.6 sy, 0.0 ni, 22.0 id, 0.0 wa, 0.0 hi, 1.9 si, 0.0 st
KiB Mem : 32781552 total, 16490604 free, 2558168 used, 13732780 buff/cache
KiB Swap: 8257532 total, 8257532 free, 0 used. 29583056 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
2348	root	20	0	33.462g	1.481g	14044	S	614.6	4.7	17:14.55	java
3	root	20	0	0	0	0	S	0.3	0.0	0:03.78	ksoftirqd/0
911	root	20	0	6516	668	556	S	0.3	0.0	0:49.22	rngd
914	avahi	20	0	21280	2088	1520	S	0.3	0.0	10:50.55	avahi-daemon

```
top - 15:52:57 up 22:39, 2 users, load average: 4.19, 11.45, 23.13
Tasks: 274 total, 2 running, 271 sleeping, 0 stopped, 1 zombie
%Cpu(s): 33.6 us, 7.8 sy, 0.0 ni, 51.9 id, 3.8 wa, 0.0 hi, 2.8 si, 0.0 st
KiB Mem : 32781552 total, 226916 free, 31853468 used, 701168 buff/cache
KiB Swap: 8257532 total, 2580596 free, 5676936 used. 498552 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
13245	root	20	0	11.335g	5.322g	3032	S	260.5	17.0	688:49.85	mongod
22823	root	20	0	26.047g	0.023t	368	D	59.1	76.0	2:02.68	redis-server
22187	root	20	0	26.047g	0.023t	868	R	21.6	76.7	2:05.64	redis-server
62	root	20	0	0	0	0	D	11.0	0.0	9:20.10	kswapd0
19861	root	20	0	0	0	0	S	0.7	0.0	0:01.05	kworker/2:16
10	root	20	0	0	0	0	S	0.0	0.0	0:00.70	ksoftirqd/0