-- haproxy实现mysql 负载均衡 搭建配置详解

M:188.188.23.220:3307

S1:188.188.23.221:3307

S2:188.188.23.222:3307

haproxy:188.188.23.223

-- 188.188.23.220:

mkdir -p /database/capp/{data,binlog,relaylog,redolog,undolog,tmp,backup}

cd /usr/local/mysql57

chown -R mysql.mysql /database/capp/

./bin/mysqld --defaults-file=/etc/my\_capp.cnf --initialize

./bin/mysqld\_safe --defaults-file=/etc/my\_capp.cnf --user=mysql &

mysql> alter user root@localhost identified by 'mychebao';

Query OK, 0 rows affected (0.02 sec)

mysql> GRANT REPLICATION SLAVE ON \*.\* TO 'replicuser'@'188.188.23.%' IDENTIFIED BY  'replic@che';

-- 221,222 上分别配置主从同步关系

mysql> CHANGE MASTER TO MASTER\_HOST='188.188.23.220',MASTER\_USER='replicuser',

    -> MASTER\_PASSWORD='replic@che',MASTER\_PORT=3307,

    -> MASTER\_LOG\_FILE='capp-bin.000002',MASTER\_LOG\_POS=398;

Query OK, 0 rows affected, 2 warnings (0.03 sec)

mysql> start slave ;

Query OK, 0 rows affected (0.01 sec)

-- 四台机器均添加如下配置

vi /etc/hosts

188.188.23.220 master

188.188.23.221 slave01

188.188.23.222 slave02

188.188.23.223 haproxy

-- 188.188.23.223:

yum -y install haproxy

yum -y install rsyslog

vi /etc/rsyslog.conf  -- 在末尾添加如下内容

local2.\*        /var/log/haproxy.log

$Modload imudp

$UDPServerRun 514

-- 重启rsyslog服务

/etc/init.d/rsyslog restart

vi /etc/security/limits.conf  -- 添加如下内容

\*        soft        nofile        65535

\*        hard        nofile        65535

vi /etc/sysctl.conf  -- 添加如下内容

fs.file-max=1000000

net.ipv4.ip\_local\_port\_range = 1025 65000

net.ipv4.tcp\_tw\_reuse = 1

vi /etc/haproxy/haproxy.cfg -- 添加如下内容

global

    log         127.0.0.1 local2

    chroot      /var/lib/haproxy

    pidfile     /var/run/haproxy.pid

    maxconn     65535

    user        haproxy

    group       haproxy

    daemon

    nbproc 1

    stats socket /var/lib/haproxy/stats

defaults

    mode                    http

    log                     global

    option                  tcplog

    option                  dontlognull

    option                  abortonclose

    option                  redispatch

    retries                 3

    timeout http-request    15s

    timeout queue           1m

    timeout connect         15s

    timeout client          3m

    timeout server          3m

    timeout http-keep-alive 10s

    timeout check           10s

    maxconn                 6000

frontend mysqlcluster-front

    bind \*:3320

    mode tcp

    default\_backend             mysqlcluster-back

frontend stats-front

    bind \*:80

    mode http

    default\_backend stats-back

backend mysqlcluster-back

    mode tcp

    balance     roundrobin

    option httpchk

    server 188.188.23.220 188.188.23.220:3307 check port 9200 inter 2000 rise 3 fall 3 backup

    server 188.188.23.221 188.188.23.221:3307 check port 9200 inter 2000 rise 3 fall 3 weight 10

    server 188.188.23.222 188.188.23.222:3307 check port 9200 inter 2000 rise 3 fall 3 weight 10

backend stats-back

    mode http

    stats uri /haproxy/stats

    stats auth admin:che123456

    stats refresh 3

 /etc/init.d/haproxy restart -- 输出如下信息

[root@DB223 ~]# /etc/init.d/haproxy restart

Stopping haproxy:                                          [  OK  ]

Starting haproxy:                                          [  OK  ]

访问 http://188.188.23.223/haproxy/stats

-- 188.188.23.220 :

mysql> grant all on \*.\* to root@localhost identified by 'mychebao';

Query OK, 0 rows affected, 2 warnings (0.01 sec)

-- 主库开启守护进程检测延时。

pt-heartbeat -S /tmp/mysql\_capp.sock --user root --password mychebao --database monitor --update --create-table --interval=1 --daemonize

-- 188.188.23.221/222从库执行,  延时检测异常，原因是主从系统同步时间有误

[root@DB221 data]# pt-heartbeat -S /tmp/mysql\_capp.sock --user root --password mychebao --database monitor --monitor --master-server-id=220

# A software update is available:

#   \* The current version for Percona::Toolkit is 3.0.5

389.00s [  6.48s,  1.30s,  0.43s ]

389.00s [ 12.97s,  2.59s,  0.86s ]

389.00s [ 19.45s,  3.89s,  1.30s ]

389.00s [ 25.93s,  5.19s,  1.73s ]

389.00s [ 32.42s,  6.48s,  2.16s ]

389.00s [ 38.90s,  7.78s,  2.59s ]

389.00s [ 45.38s,  9.08s,  3.03s ]

389.00s [ 51.87s, 10.37s,  3.46s ]

-- 同步时钟后恢复

[root@DB221 data]# /usr/sbin/ntpdate pool.ntp.orgpool.npt.org

 1 Jun 14:49:23 ntpdate[2429]: step time server 69.163.171.181 offset -388.757832 sec

[root@DB221 data]# pt-heartbeat -S /tmp/mysql\_capp.sock --user root --password mychebao --database monitor --monitor --master-server-id=220

0.00s [  0.00s,  0.00s,  0.00s ]

0.00s [  0.00s,  0.00s,  0.00s ]

0.00s [  0.00s,  0.00s,  0.00s ]

-- 三台机器均需如下配置服务

yum -y install xinetd

vi /etc/services  -- 末尾添加如下

mysqlchk        9200/tcp                # mysqlchk

vi /etc/xinetd.d/mysqlchk  -- 添加如下内容,注意必须有空格

service mysqlchk

{

disable = no

flags = REUSE

socket\_type = stream

port = 9200

wait = no

user = nobody

server = /usr/bin/replication\_check

log\_on\_failure += USERID

only\_from = 0.0.0.0/0

per\_source = UNLIMITED

}

vi /usr/bin/replication\_check

#!/bin/bash

master\_server\_id=220

seconds\_behind\_master=$(/usr/bin/pt-heartbeat -S /tmp/mysql\_capp.sock --user root --password mychebao --database monitor --check --master-server-id=$master\_server\_id)

result=`echo ${seconds\_behind\_master%.\*}`

if [ $result -lt 10 ]

then

echo -e "HTTP/1.1 200 OK\r\n"

echo -e "MySQL is running\r\n"

else

echo -e "HTTP/1.1 503 Service Unavailable\r\n"

echo -e "MySQL is Down\r\n"

fi

chmod +x /usr/bin/replication\_check

-- 测试复制延时状态

[root@DB221 data]# /usr/bin/replication\_check

HTTP/1.1 200 OK

MySQL is running

-- 查看xinetd服务是否正常

[root@DB221 data]# /etc/init.d/xinetd start

Starting xinetd:                                           [  OK  ]

[root@master data]# netstat -nplt|grep 9200

tcp        0      0 :::9200                     :::\*                        LISTEN      14168/xinetd

-- 188.188.23.220／221/222 上分别授权

mysql> grant all on \*.\* to haproxyuser@'188.188.23.223' identified by '123456';

Query OK, 0 rows affected, 1 warning (0.01 sec)

-- 188.188.23.223 ：

[root@DB223 ~]# mysql -h188.188.23.223 -uhaproxyuser -p123456 -P3320

mysql: [Warning] Using a password on the command line interface can be insecure.

Welcome to the MySQL monitor.  Commands end with ; or \g.

Your MySQL connection id is 180

Server version: 5.7.20-log MySQL Community Server (GPL)

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

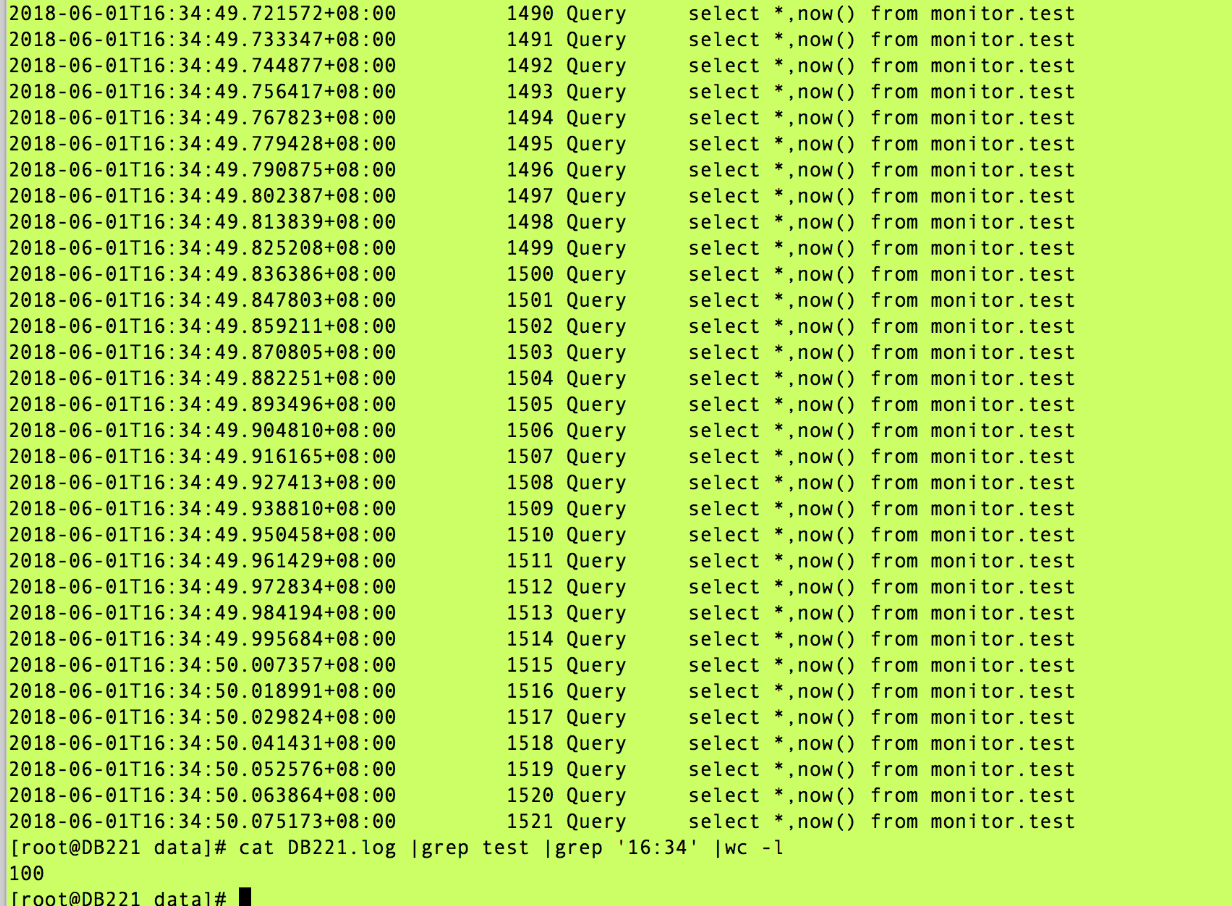
mysql>

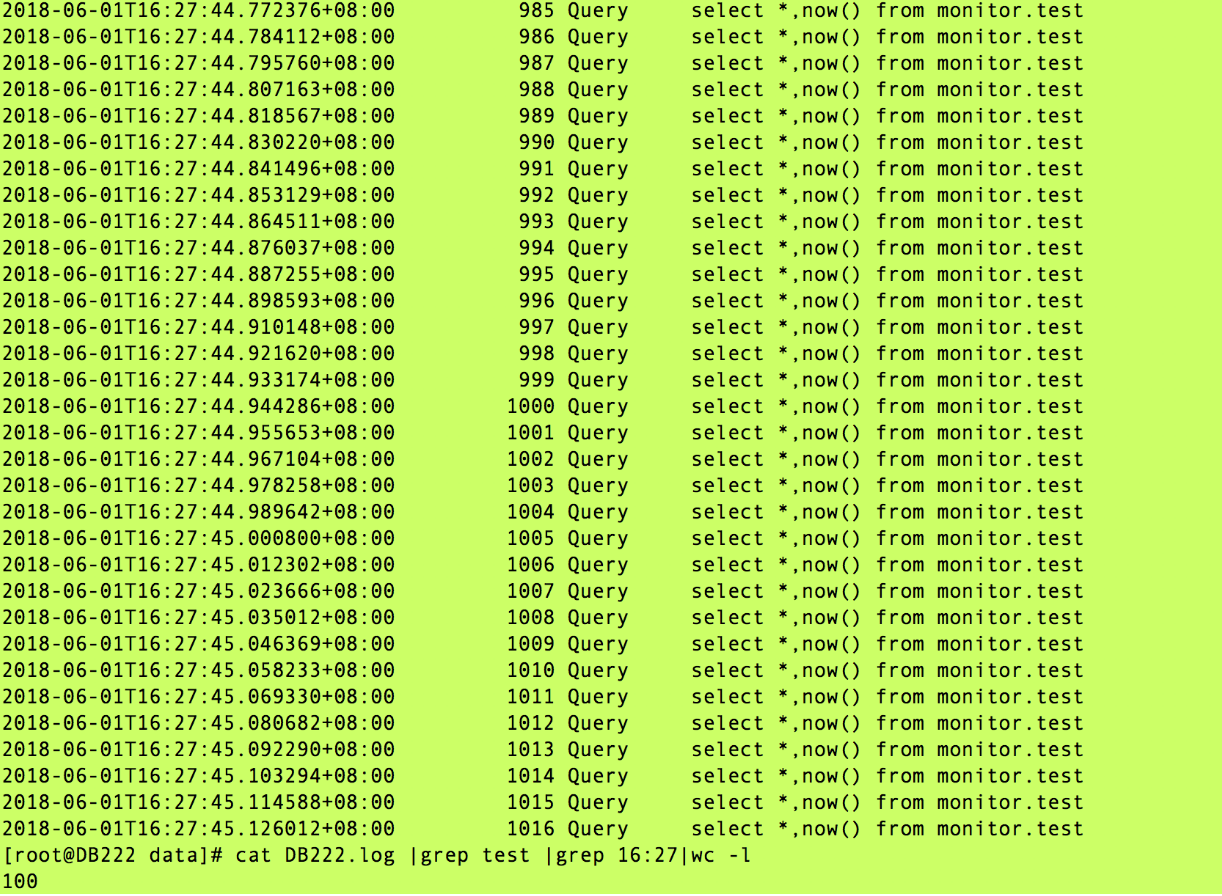
-- 188.188.23.223 上，遍历查询负载均衡情况

for i  in {1..200};do

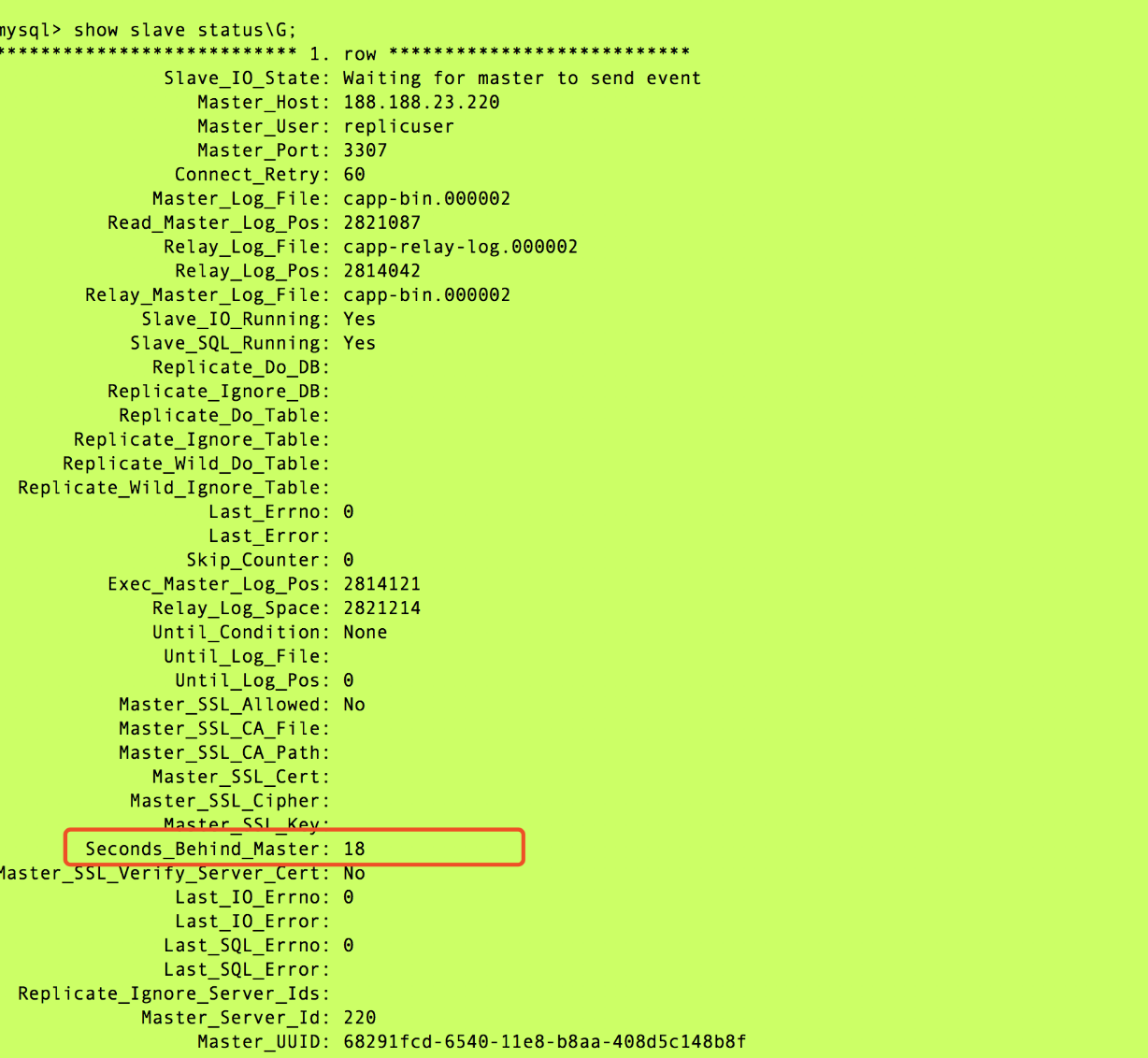
mysql -h188.188.23.223 -uhaproxyuser -p123456 -P3320 -e "select \*,now() from monitor.test;"

done

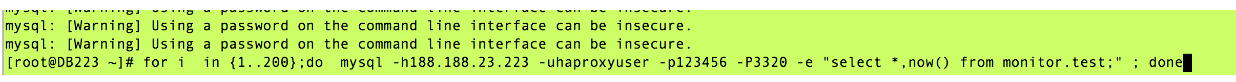




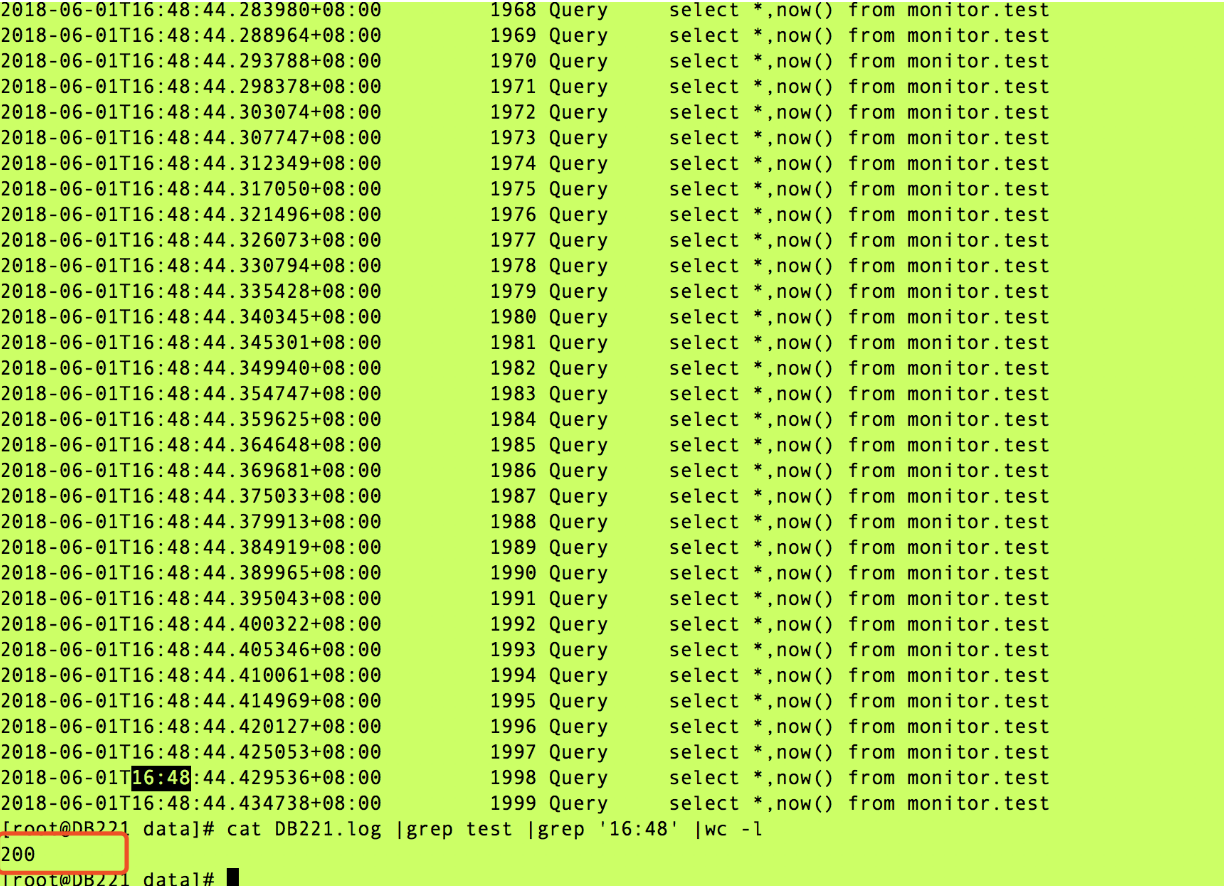
-- 188.188.23.222 slave 上制造延时。查看同步状态(可通过修改系统时间或flush table with read lock)



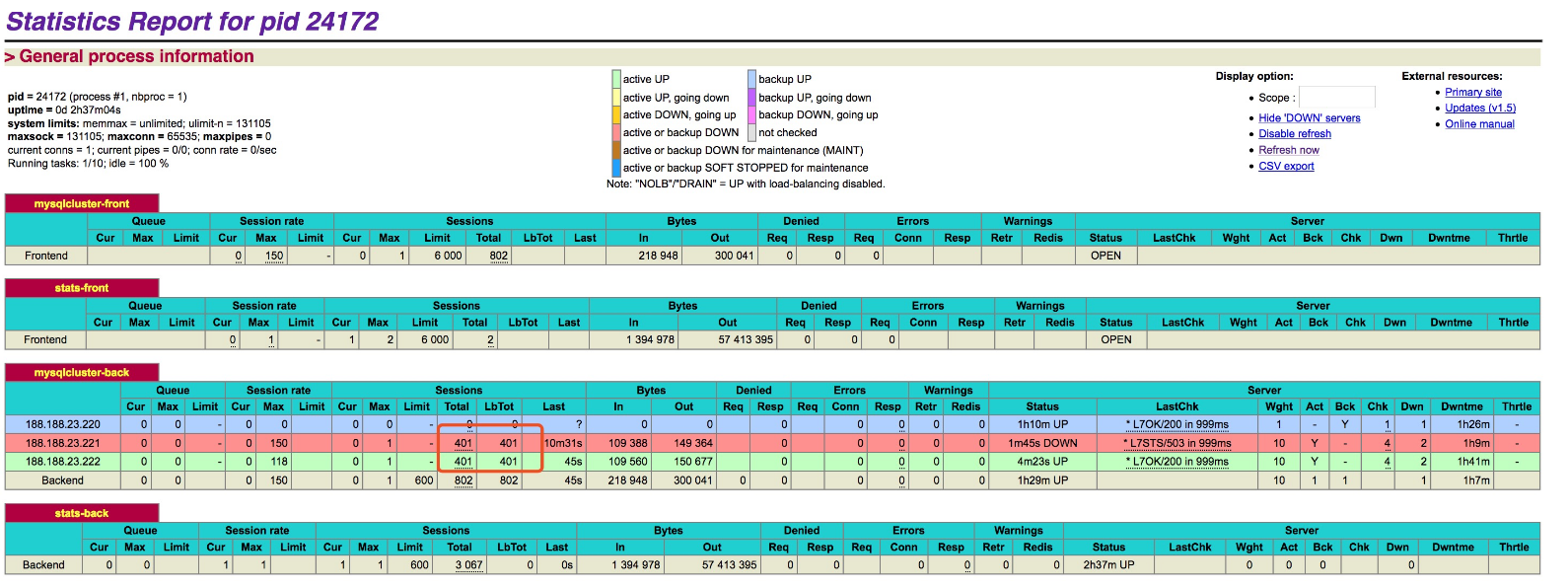
-- 188.188.23.223:再次执行如下查询



-- 188.188.23.221:此时发现请求已全部load 进来。 （成功测试验证配置延时超过10秒请求不转发至延时服务器）



-- 188.188.23.221模拟stop slave，后请求不转发至此服务器



-- 模拟从库全部当机，读请求会转发至主库：

-- 188.188.23.221:stop slave;

-- 188.188.23.222:stop slave;

  -- 此时通过管理界面可知，请求已全部转发至主库

