**SLURM-ACCOUNTING COMMANDS**

[root@master ~]# cat /etc/slurm/slurmdbd.conf

#

# Example slurmdbd.conf file.

#

# See the slurmdbd.conf man page for more information.

#

# Archive info

#ArchiveJobs=yes

#ArchiveDir="/tmp"

#ArchiveSteps=yes

#ArchiveScript=

#JobPurge=12

#StepPurge=1

#

# Authentication info

AuthType=auth/munge

#AuthInfo=/var/run/munge/munge.socket.2

#

# slurmDBD info

DbdAddr=localhost

DbdHost=master

#DbdPort=7031

SlurmUser=slurm

#MessageTimeout=300

DebugLevel=verbose

#DefaultQOS=normal,standby

LogFile=/var/log/slurmdbd.log

PidFile=/var/run/slurmdbd.pid

#PluginDir=/usr/lib/slurm

#PrivateData=accounts,users,usage,jobs

#TrackWCKey=yes

#

# Database info

StorageType=accounting\_storage/mysql

#StorageHost=localhost

StoragePort=6819

StoragePass=1234

StorageUser=slurm

StorageLoc=slurm\_acct\_db

[root@master ~]# vim /etc/slurm/slurmdbd.conf

[root@master ~]# chown slurm:slurm /etc/slurm/slurmdbd.conf

[root@master ~]# mkdir -p /var/log/slurm

[root@master ~]# touch /var/log/slurm/slurmdbd.log

[root@master ~]# systemctl status slurmdbd

● slurmdbd.service - Slurm DBD accounting daemon

Loaded: loaded (/usr/lib/systemd/system/slurmdbd.service; enabled; vendor preset: disabled)

Active: active (running) since Tue 2023-07-18 14:29:54 IST; 59min ago

Main PID: 14237 (slurmdbd)

Tasks: 5

CGroup: /system.slice/slurmdbd.service

└─14237 /usr/sbin/slurmdbd -D

Jul 18 14:29:54 master systemd[1]: Started Slurm DBD accounting daemon.

[root@master ~]# systemctl restart slurmdbd

[root@master ~]# systemctl enable slurmdbd

[root@master ~]# vim /etc/slurm/slurm.conf

#

# Example slurm.conf file. Please run configurator.html

# (in doc/html) to build a configuration file customized

# for your environment.

#

#

# slurm.conf file generated by configurator.html.

#

# See the slurm.conf man page for more information.

#

ClusterName=hpcsa

ControlMachine=master

#ControlAddr=

#BackupController=

#BackupAddr=

#

SlurmUser=slurm

#SlurmdUser=root

SlurmctldPort=6817

SlurmdPort=6818

AuthType=auth/munge

#JobCredentialPrivateKey=

#JobCredentialPublicCertificate=

StateSaveLocation=/var/spool/slurm/ctld

SlurmdSpoolDir=/var/spool/slurm/d

SwitchType=switch/none

MpiDefault=none

SlurmctldPidFile=/var/run/slurmctld.pid

SlurmdPidFile=/var/run/slurmd.pid

ProctrackType=proctrack/pgid

#PluginDir=

#FirstJobId=

ReturnToService=0

#MaxJobCount=

#PlugStackConfig=

#PropagatePrioProcess=

#PropagateResourceLimits=

#PropagateResourceLimitsExcept=

#Prolog=

#Epilog=

#SrunProlog=

#SrunEpilog=

#TaskProlog=

#TaskEpilog=

#TaskPlugin=

#TrackWCKey=no

#TreeWidth=50

#TmpFS=

#UsePAM=

#

# TIMERS

SlurmctldTimeout=300

SlurmdTimeout=300

InactiveLimit=0

MinJobAge=300

KillWait=30

Waittime=0

#

# SCHEDULING

SchedulerType=sched/backfill

#SchedulerAuth=

SelectType=select/cons\_tres

SelectTypeParameters=CR\_Core

#PriorityType=priority/multifactor

#PriorityDecayHalfLife=14-0

#PriorityUsageResetPeriod=14-0

#PriorityWeightFairshare=100000

#PriorityWeightAge=1000

#PriorityWeightPartition=10000

#PriorityWeightJobSize=1000

#PriorityMaxAge=1-0

#

# LOGGING

SlurmctldDebug=info

SlurmctldLogFile=/var/log/slurmctld.log

SlurmdDebug=info

SlurmdLogFile=/var/log/slurmd.log

JobCompType=jobcomp/none

#JobCompLoc=

#

# ACCOUNTING

#JobAcctGatherType=jobacct\_gather/linux

#JobAcctGatherFrequency=30

#

AccountingStorageType=accounting\_storage/slurmdbd

AccountingStorageHost=localhost

#AccountingStorageLoc=

#AccountingStoragePass=

AccountingStorageUser=slurm

#

# COMPUTE NODES

#NodeName=linux[1-32] Procs=1 State=UNKNOWN

NodeName=node1 CPUs=2 Boards=1 SocketsPerBoard=2 CoresPerSocket=1 ThreadsPerCore=1 RealMemory=3770 State=UNKNOWN

NodeName=node2 CPUs=2 Boards=1 SocketsPerBoard=2 CoresPerSocket=1 ThreadsPerCore=1 RealMemory=1819 State=UNKNOWN

PartitionName=standard Nodes=ALL Default=YES MaxTime=INFINITE State=UP

[root@master ~]# systemctl restart slurmdbd

[root@master ~]# systemctl restart slurmctld

[root@master ~]# systemctl start mariadb

[root@master ~]# systemctl status mariadb

● mariadb.service - MariaDB database server

Loaded: loaded (/usr/lib/systemd/system/mariadb.service; enabled; vendor preset: disabled)

Active: active (running) since Tue 2023-07-18 14:23:32 IST; 1h 8min ago

Main PID: 13384 (mysqld\_safe)

Tasks: 20

CGroup: /system.slice/mariadb.service

├─13384 /bin/sh /usr/bin/mysqld\_safe --basedir=/usr

└─13586 /usr/libexec/mysqld --basedir=/usr --datadir=/var/lib/mysql --plu...

Jul 18 14:23:30 master systemd[1]: Starting MariaDB database server...

Jul 18 14:23:30 master mariadb-prepare-db-dir[13349]: Database MariaDB is probably ....

Jul 18 14:23:30 master mariadb-prepare-db-dir[13349]: If this is not the case, make....

Jul 18 14:23:30 master mysqld\_safe[13384]: 230718 14:23:30 mysqld\_safe Logging to ...'.

Jul 18 14:23:30 master mysqld\_safe[13384]: 230718 14:23:30 mysqld\_safe Starting my...ql

Jul 18 14:23:32 master systemd[1]: Started MariaDB database server.

Hint: Some lines were ellipsized, use -l to show in full.

[root@master ~]# mysql

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

Your MariaDB connection id is 56

Server version: 5.5.68-MariaDB MariaDB Server

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

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

MariaDB [(none)]> create user 'slurm'@'localhost';

ERROR 1396 (HY000): Operation CREATE USER failed for 'slurm'@'localhost'

MariaDB [(none)]> show databases;

+--------------------+

| Database |

+--------------------+

| information\_schema |

| mysql |

| performance\_schema |

| slurm\_acct\_db |

| test |

+--------------------+

5 rows in set (0.00 sec)

MariaDB [(none)]> exit

Bye

[root@master ~]# systemctl restart slurmctld

[root@master ~]# systemctl restart mariadb

[root@master ~]# vim /etc/slurm/slurmdbd.conf

*#*

*# Example slurmdbd.conf file.*

*#*

*# See the slurmdbd.conf man page for more information.*

*#*

*# Archive info*

*#ArchiveJobs=yes*

*#ArchiveDir="/tmp"*

*#ArchiveSteps=yes*

*#ArchiveScript=*

*#JobPurge=12*

*#StepPurge=1*

*#*

*# Authentication info*

*AuthType=auth/munge*

*#AuthInfo=/var/run/munge/munge.socket.2*

*#*

*# slurmDBD info*

*DbdAddr=localhost*

*DbdHost=master*

*#DbdPort=7031*

*SlurmUser=slurm*

*#MessageTimeout=300*

*DebugLevel=verbose*

*#DefaultQOS=normal,standby*

*LogFile=/var/log/slurmdbd.log*

*PidFile=/var/run/slurmdbd.pid*

*#PluginDir=/usr/lib/slurm*

*#PrivateData=accounts,users,usage,jobs*

*#TrackWCKey=yes*

*#*

*# Database info*

*StorageType=accounting\_storage/mysql*

*#StorageHost=localhost*

*StoragePort=6819*

*StoragePass=1234*

*StorageUser=slurm*

*StorageLoc=slurm\_acct\_db*

[root@master ~]# systemctl restart slurmdbd

[root@master ~]# systemctl status slurmdbd

● slurmdbd.service - Slurm DBD accounting daemon

Loaded: loaded (/usr/lib/systemd/system/slurmdbd.service; enabled; vendor preset: disabled)

Active: active (running) since Tue 2023-07-18 15:40:46 IST; 8s ago

Main PID: 20243 (slurmdbd)

Tasks: 6

CGroup: /system.slice/slurmdbd.service

└─20243 /usr/sbin/slurmdbd -D

Jul 18 15:40:46 master systemd[1]: Stopped Slurm DBD accounting daemon.

Jul 18 15:40:46 master systemd[1]: Started Slurm DBD accounting daemon.

[root@master ~]# systemctl restart slurmctld

[root@master ~]# systemctl restart mariadb

[root@master ~]# sacctmgr

sacctmgr: show cluster

Cluster ControlHost ControlPort RPC Share GrpJobs GrpTRES GrpSubmit MaxJobs MaxTRES MaxSubmit MaxWall QOS Def QOS

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hpcsa 127.0.0.1 6817 9216 1 normal

sacctmgr: show user

User Def Acct Admin

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root root Administ+

sacctmgr: add cluster cluster1

Adding Cluster(s)

Name = cluster1

Would you like to commit changes? (You have 30 seconds to decide)

(N/y): y

sacctmgr: add account account1

Adding Account(s)

account1

Settings

Description = Account Name

Organization = Parent/Account Name

Associations

A = account1 C = cluster1

A = account1 C = hpcsa

Would you like to commit changes? (You have 30 seconds to decide)

(N/y): y

sacctmgr: add user admin account=account1

Adding User(s)

admin

Associations =

U = admin A = account1 C = cluster1

U = admin A = account1 C = hpcsa

Non Default Settings

Would you like to commit changes? (You have 30 seconds to decide)

(N/y): y

sacctmgr: create qos qos1 maxwall=2-00:00:00

Adding QOS(s)

qos1

Settings

Description = qos1

MaxWall = 2-00:00:00

Would you like to commit changes? (You have 30 seconds to decide)

(N/y): y

sacctmgr: show qos

Name Priority GraceTime Preempt PreemptExemptTime PreemptMode Flags UsageThres UsageFactor GrpTRES GrpTRESMins GrpTRESRunMin GrpJobs GrpSubmit GrpWall MaxTRES MaxTRESPerNode MaxTRESMins MaxWall MaxTRESPU MaxJobsPU MaxSubmitPU MaxTRESPA MaxJobsPA MaxSubmitPA MinTRES

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normal 0 00:00:00 cluster 1.000000

qos1 0 00:00:00 cluster 1.000000 2-00:00:00

sacctmgr: create qos qos2 priority=1000

Adding QOS(s)

qos2

Settings

Description = qos2

Priority = 1000

Would you like to commit changes? (You have 30 seconds to decide)

(N/y): y

sacctmgr: show qos

Name Priority GraceTime Preempt PreemptExemptTime PreemptMode Flags UsageThres UsageFactor GrpTRES GrpTRESMins GrpTRESRunMin GrpJobs GrpSubmit GrpWall MaxTRES MaxTRESPerNode MaxTRESMins MaxWall MaxTRESPU MaxJobsPU MaxSubmitPU MaxTRESPA MaxJobsPA MaxSubmitPA MinTRES

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normal 0 00:00:00 cluster 1.000000

qos1 0 00:00:00 cluster 1.000000 2-00:00:00

qos2 1000 00:00:00 cluster 1.000000

sacctmgr: list cluster

Cluster ControlHost ControlPort RPC Share GrpJobs GrpTRES GrpSubmit MaxJobs MaxTRES MaxSubmit MaxWall QOS Def QOS

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cluster1 0 0 1 normal

hpcsa 127.0.0.1 6817 9216 1 normal

sacctmgr: show users

User Def Acct Admin

---------- ---------- ---------

admin account1 None

root root Administ+

sacctmgr:

[root@master ~]# sshare

Account User RawShares NormShares RawUsage EffectvUsage FairShare

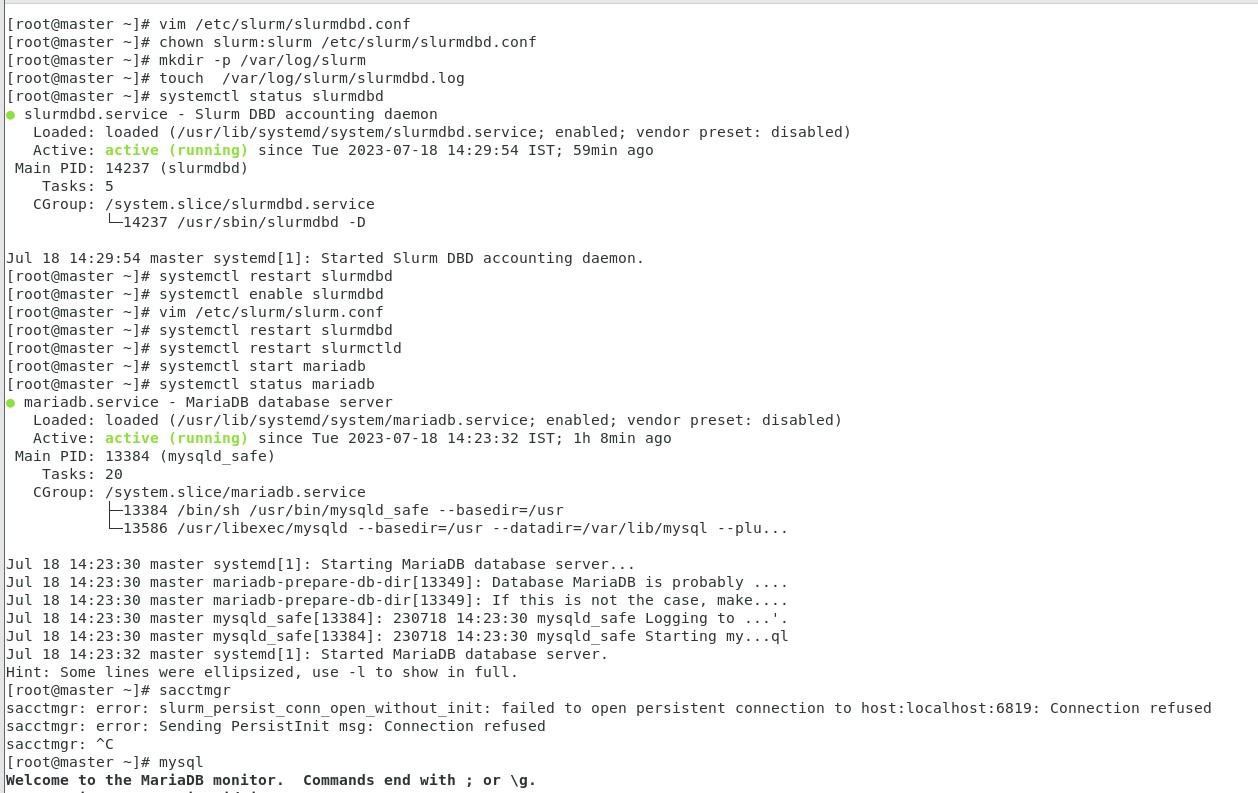
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root 0 0.000000

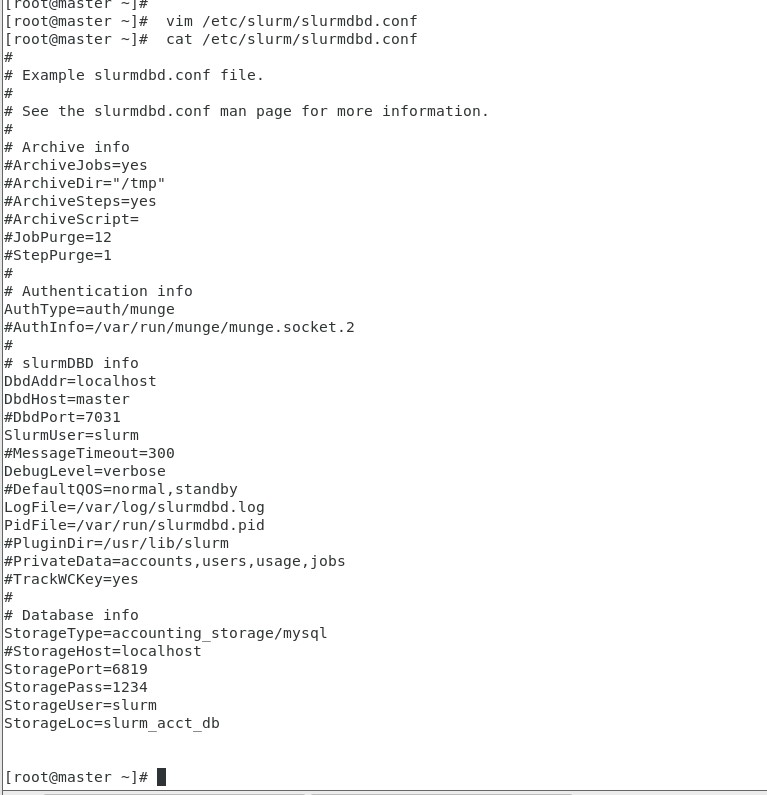
root root 1 0 0.000000 0.000000

account1 1 0 0.000000

STEP-1



STEP-2



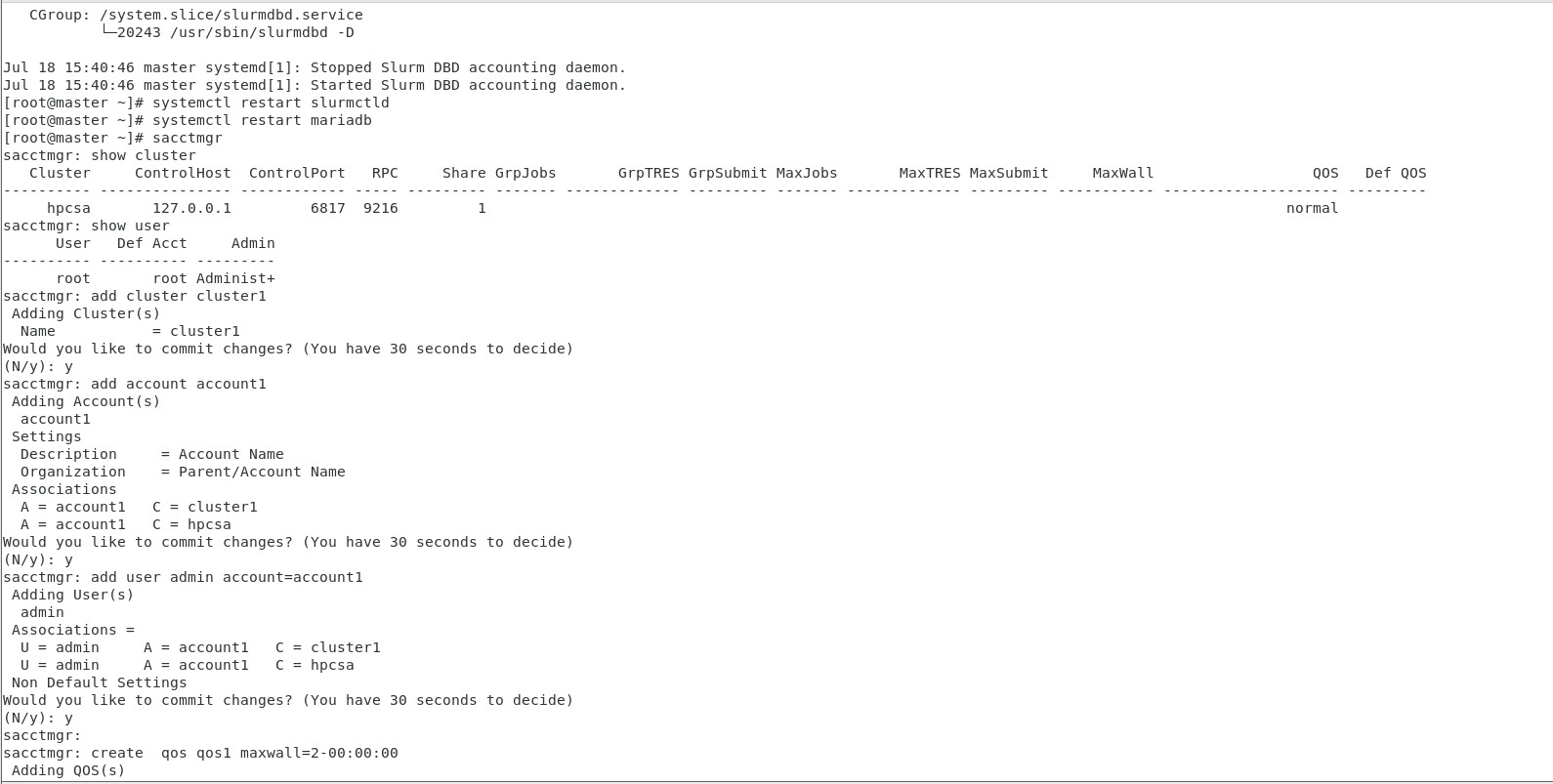
STEP-3



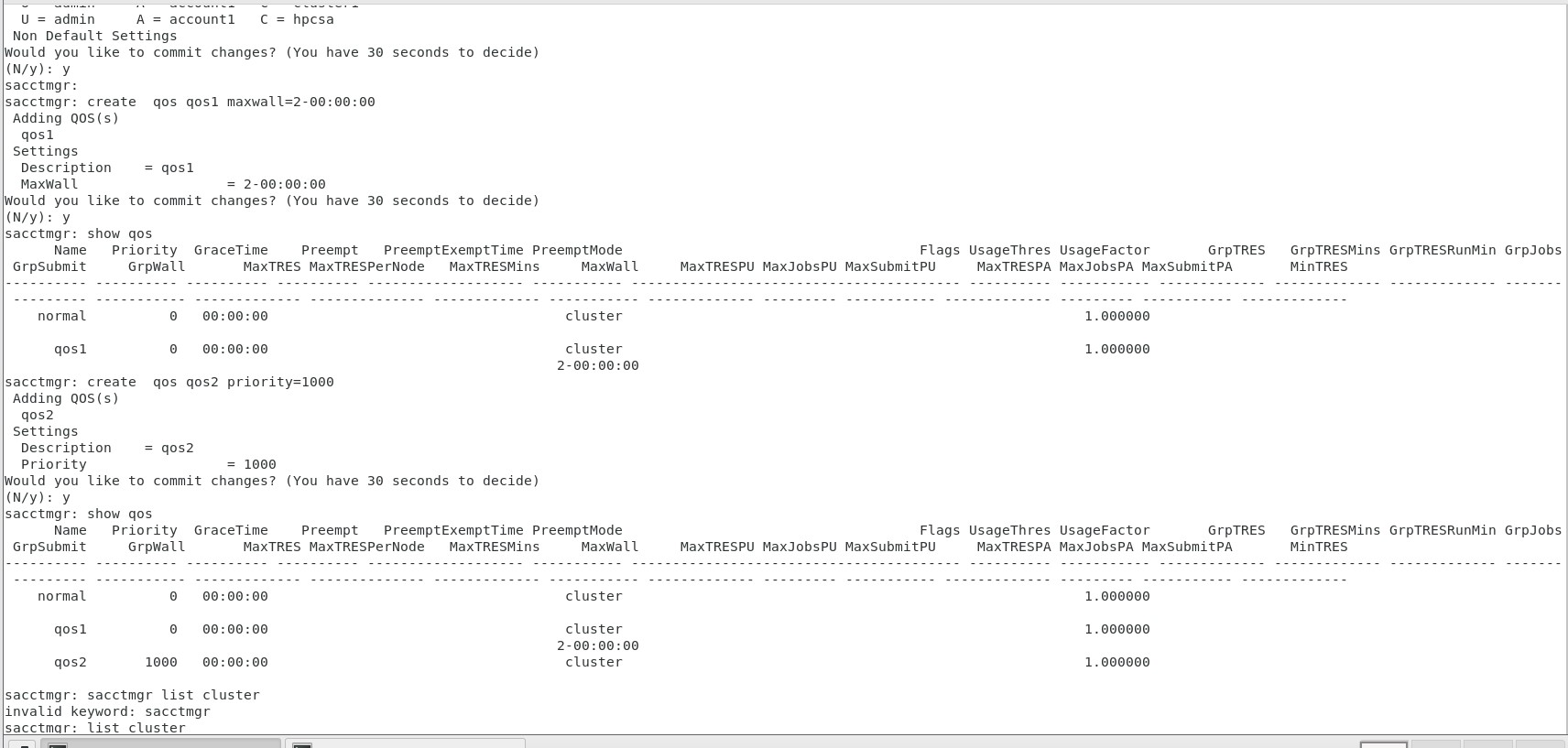
STEP-4



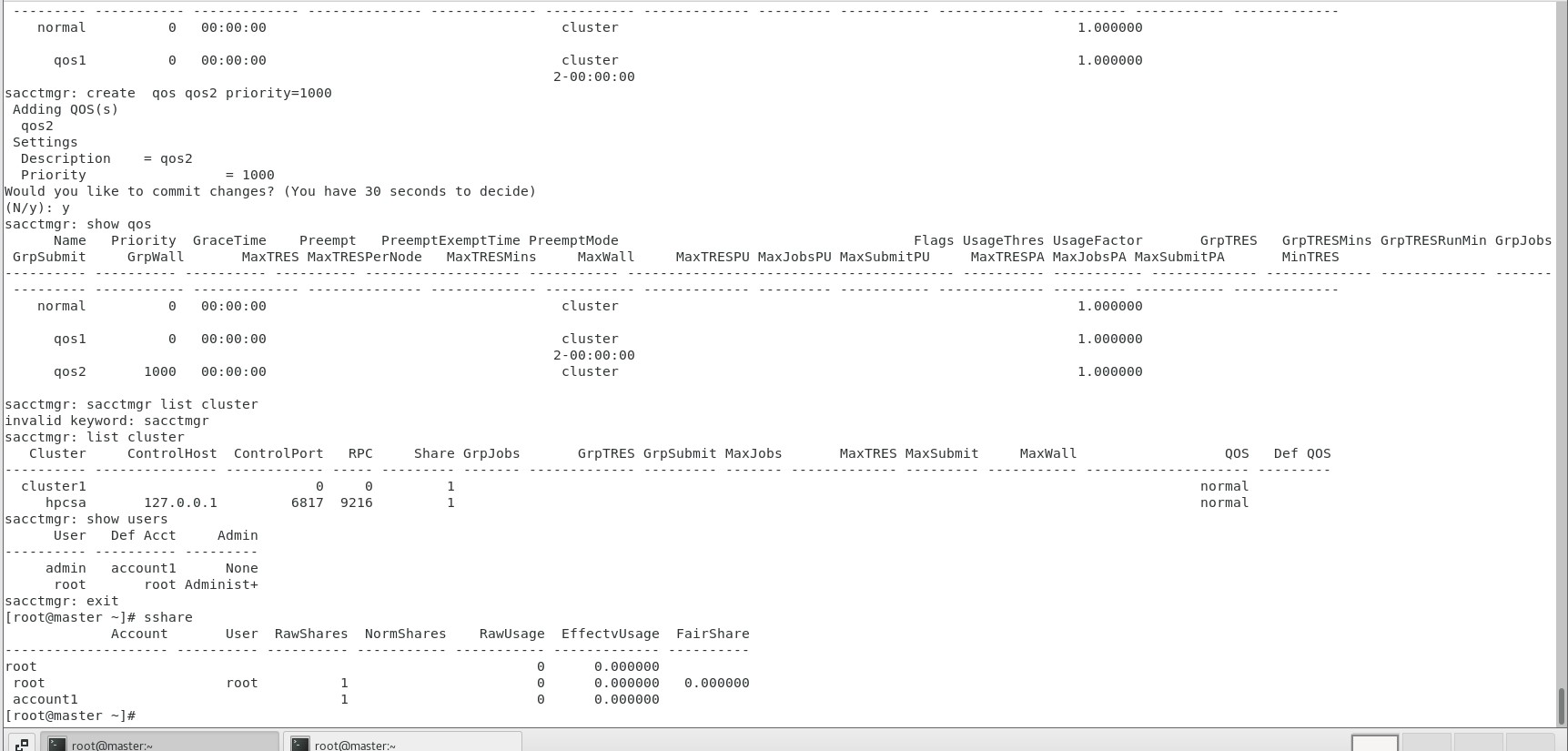
STEP-5



STEP-6



STEP-7



STEP-8

