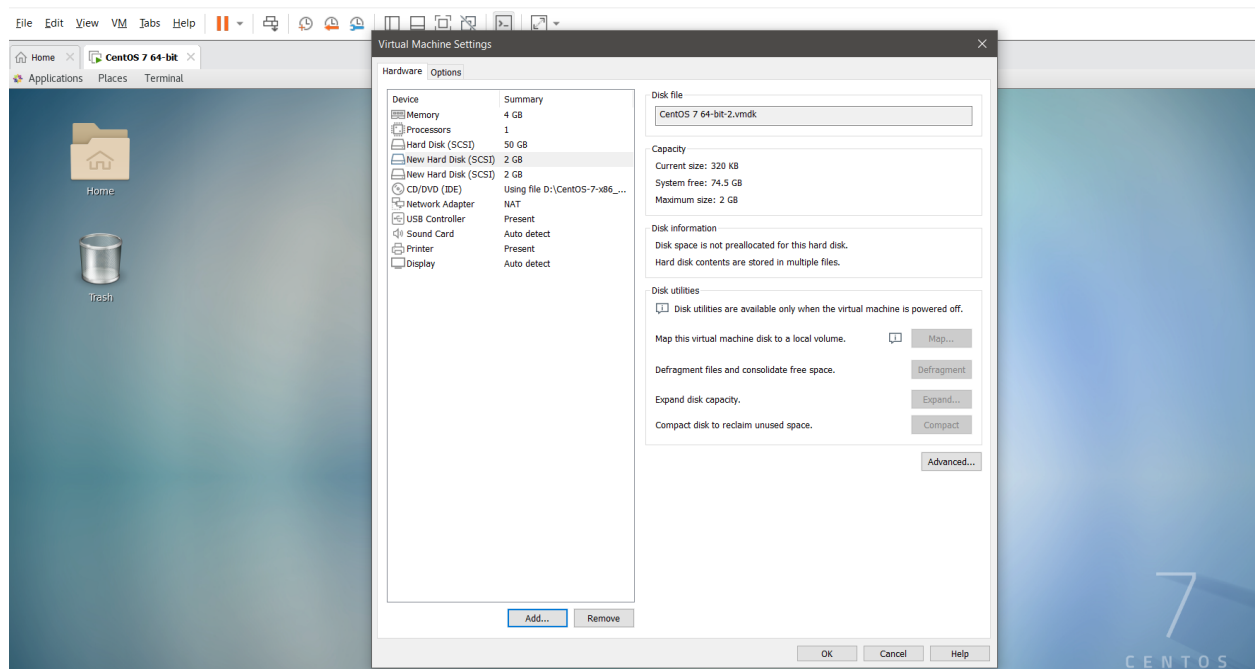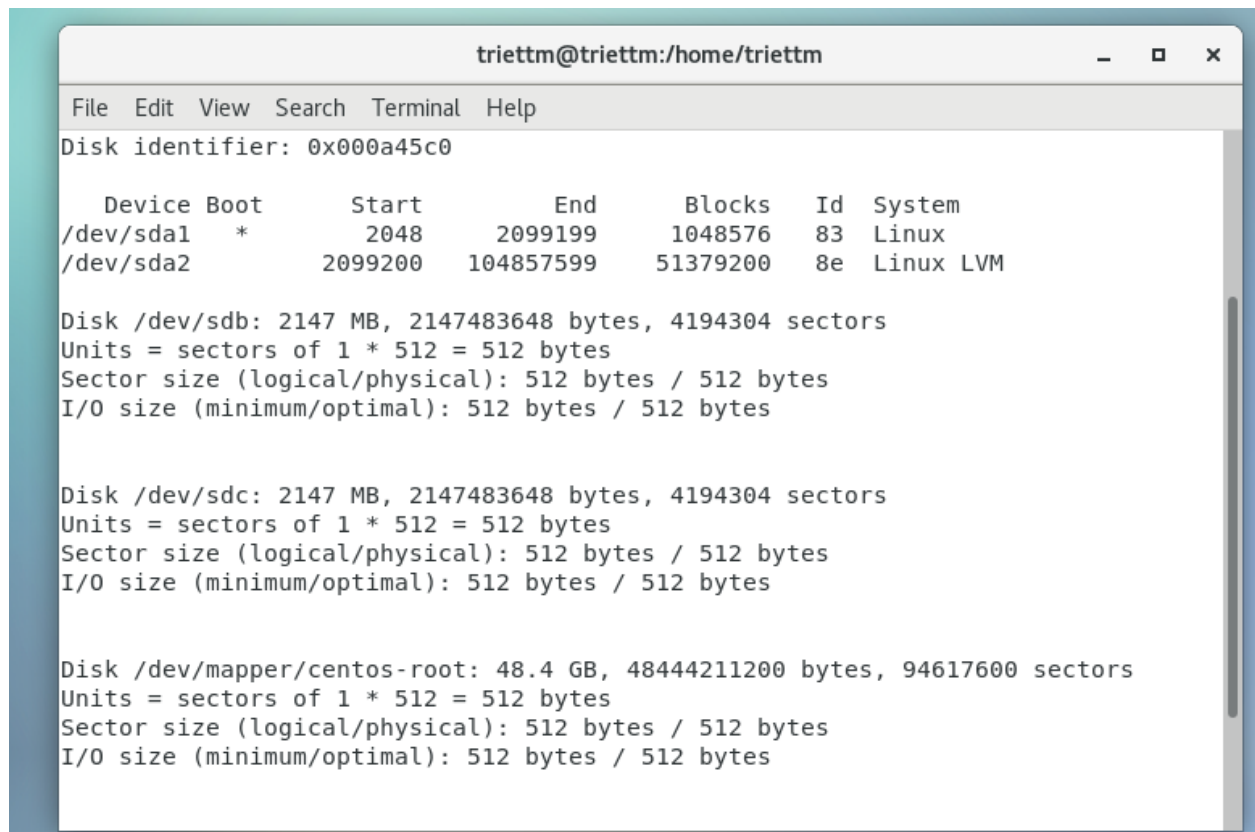Tên: Trần Minh Triết

MSSV: SE172241

Thêm hai ổ cứng vào máy rồi reboot lại máy.

Add hai ổ cứng thành công vào máy.

```
[root@triettm triettm]# fdisk /dev/sdb
Welcome to fdisk (util-linux 2.23.2).

Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.

Device does not contain a recognized partition table
Building a new DOS disklabel with disk identifier 0x02a77686.

Command (m for help): n
Partition type:
   p   primary (0 primary, 0 extended, 4 free)
   e   extended
Select (default p): p
Partition number (1-4, default 1):
First sector (2048-4194303, default 2048):
Using default value 2048
Last sector, +sectors or +size{K,M,G} (2048-4194303, default 4194303):
Using default value 4194303
Partition 1 of type Linux and of size 2 GiB is set

Command (m for help): w
The partition table has been altered!

Calling ioctl() to re-read partition table.
Syncing disks.
[root@triettm triettm]#
```

Cấu hình partition cho ổ sdb full ổ luôn rồi lưu lại.

```
[root@triettm triettm]# fdisk /dev/sdc
Welcome to fdisk (util-linux 2.23.2).

Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.

Device does not contain a recognized partition table
Building a new DOS disklabel with disk identifier 0x6c7ea0dc.

Command (m for help): n
Partition type:
   p   primary (0 primary, 0 extended, 4 free)
   e   extended
Select (default p): p
Partition number (1-4, default 1):
First sector (2048-4194303, default 2048):
Using default value 2048
Last sector, +sectors or +size{K,M,G} (2048-4194303, default 4194303):
Using default value 4194303
Partition 1 of type Linux and of size 2 GiB is set

Command (m for help): w
The partition table has been altered!

Calling ioctl() to re-read partition table.
Syncing disks.
[root@triettm triettm]#
```

Làm tương tự với ổ sdc.

triettm@triettm:/home/triettm

File Edit View Search Terminal Help

```
[root@triettm triettm]# mdadm --create /dev/md0 --level=1 --raid-devices=2 /dev/sdb1 /dev/sdc1
mdadm: Note: this array has metadata at the start and
    may not be suitable as a boot device.  If you plan to
    store '/boot' on this device please ensure that
    your boot-loader understands md/v1.x metadata, or use
    --metadata=0.90
Continue creating array?
Continue creating array? (y/n) y
mdadm: Defaulting to version 1.2 metadata
mdadm: array /dev/md0 started.
[root@triettm triettm]# 
```

Tạo raid level 1 tên md0 bằng hai ổ cứng sdb1 và sdc1.

triettm@triettm:/home/triettm

File Edit View Search Terminal Help

```
Every 2.0s: cat /proc/mdstat

Personalities : [raid1]
md0 : active raid1 sdc1[1] sdb1[0]
      2094080 blocks super 1.2 [2/2] [UU]

unused devices: <none>
```

Xem thông tin raid chúng ta vừa tạo

```
                                              triettm@triettm:/home/triettm

File   Edit   View   Search   Terminal   Help

[root@triettm triettm]# mkfs.ext3 /dev/md0
mke2fs 1.42.9 (28-Dec-2013)
Filesystem label=
OS type: Linux
Block size=4096 (log=2)
Fragment size=4096 (log=2)
Stride=0 blocks, Stripe width=0 blocks
131072 inodes, 523520 blocks
26176 blocks (5.00%) reserved for the super user
First data block=0
Maximum filesystem blocks=536870912
16 block groups
32768 blocks per group, 32768 fragments per group
8192 inodes per group
Superblock backups stored on blocks:
        32768, 98304, 163840, 229376, 294912

Allocating group tables: done
Writing inode tables: done
Creating journal (8192 blocks): done
Writing superblocks and filesystem accounting information: done

[root@triettm triettm]#
```
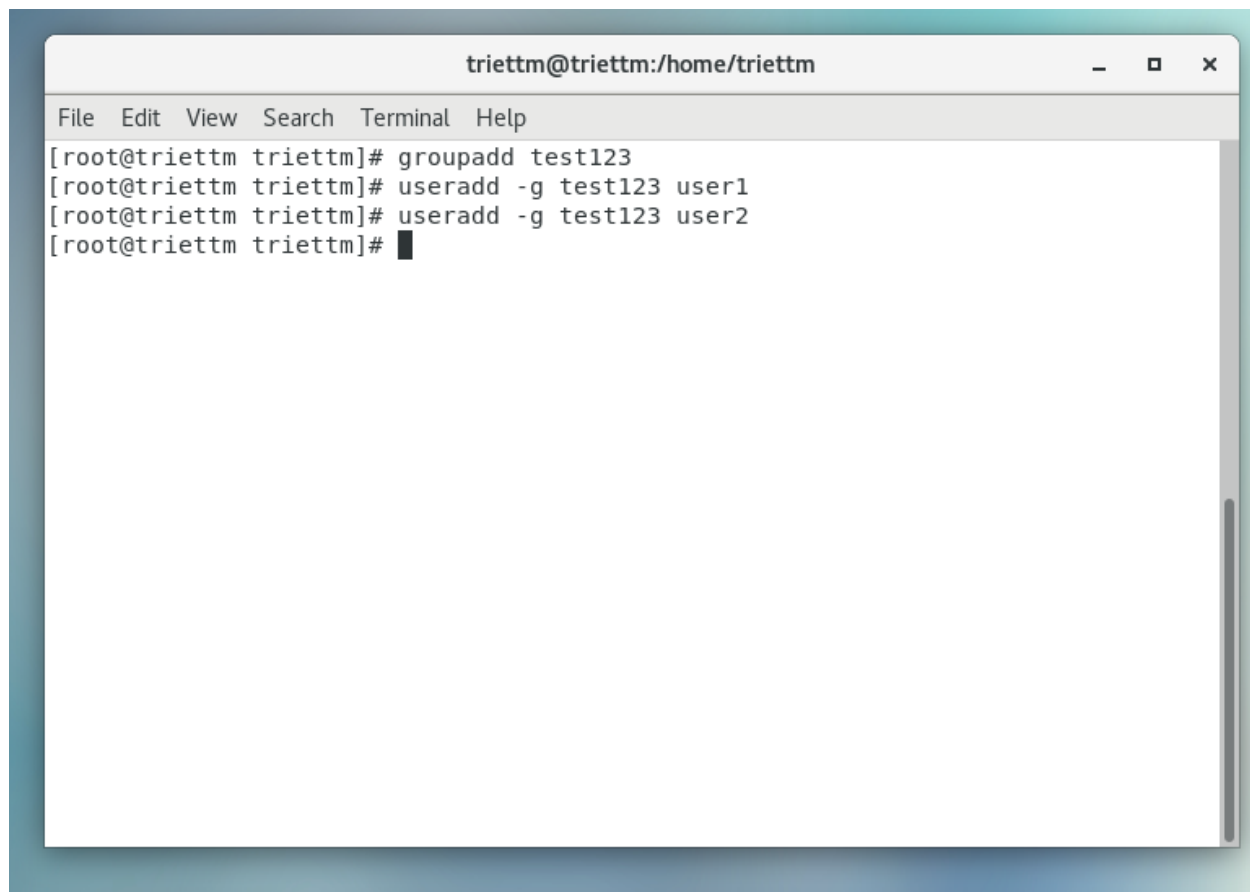
Cấu hình ext3 cho raid md0 chúng ta vừa tạo.

```
[root@triettm triettm]# mkdir /raid1
[root@triettm triettm]# mount /dev/md0 /raid1/
[root@triettm triettm]#
```

Mount raid md0 vào folder /raid1/

```
                                              triettm@triettm:/home/triettm

File   Edit   View   Search   Terminal   Help

#
# /etc/fstab
# Created by anaconda on Thu Jan  5 11:19:35 2023
#
# Accessible filesystems, by reference, are maintained under '/dev/disk'
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for more info
#
/dev/mapper/centos-root /                       xfs     defaults        0 0
UUID=32ab924c-b23c-446b-a51d-92c636862baa /boot                 xfs     defaults        0 0
/dev/mapper/centos-swap swap                    swap    defaults        0 0
/dev/md0                /raid1                  ext3    defaults        0 0
~
~
~
~
```

Cấu hình ổ cứng vừa mount từ raid ra xong. Mình sẽ tiếp tục với cấu hình quota.

```
triettm@triettm:/home/triettm

File  Edit  View  Search  Terminal  Help
[root@triettm triettm]# groupadd test123
[root@triettm triettm]# useradd -g test123 user1
[root@triettm triettm]# useradd -g test123 user2
[root@triettm triettm]#
```

Tạo group test123 và 2 user để thực hiện cấu hình quota.

```
                         triettm@triettm:/home/triettm        _   □   ✕

File  Edit  View  Search  Terminal  Help

#
# /etc/fstab
# Created by anaconda on Thu Jan  5 11:19:35 2023
#
# Accessible filesystems, by reference, are maintained under '/dev/disk'
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for more info
#
/dev/mapper/centos-root /                          xfs     defaults        0 0
UUID=32ab924c-b23c-446b-a51d-92c636862baa /boot                     xfs    defaul
ts        0 0
/dev/mapper/centos-swap swap                       swap    defaults        0 0
/dev/md0                /raid1                     ext3    defaults,usrquota,grpquo
ta       0 0
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-- INSERT --
```

Cấu hình lại trong file fstab.

```
[root@triettm triettm]# vi /etc/fstab
[root@triettm triettm]# mount -o remount /raid1
[root@triettm triettm]# █
```

Mount lại sau khi cấu hình.

```
triettm@triettm:/home/triettm
File   Edit   View   Search   Terminal   Help
[triettm@triettm ~]$ su
Password:
[root@triettm triettm]# quotacheck -mcug /raid1
[root@triettm triettm]# ls -la /raid1
total 36
drwxr-xr-x.  3 root root  4096 Feb  6 11:43 .
dr-xr-xr-x. 18 root root   237 Feb  6 11:23 ..
-rw-------.  1 root root  6144 Feb  6 11:43 aquota.group
-rw-------.  1 root root  6144 Feb  6 11:43 aquota.user
drwx------.  2 root root 16384 Feb  6 11:21 lost+found
[root@triettm triettm]#
```

```
triettm@triettm:/home/triettm                    _  □  ✕

File  Edit  View  Search  Terminal  Help
Disk quotas for user user1 (uid 1001):
  Filesystem                 blocks        soft        hard      inodes        soft
     hard
  /dev/md0                        0       10240       11000           0           0
        0
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-- INSERT --
```

```
trosttm@trosttm:/home/trosttm                    _  □  ×

File  Edit  View  Search  Terminal  Help

Disk quotas for user user2 (uid 1002):
  Filesystem                 blocks        soft        hard      inodes        soft
    hard
  /dev/md0                        0       10240       11000           0           0
        0



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:wq!█
```

```
trosttm@trosttm:/home/trosttm                    _  □  ×

File  Edit  View  Search  Terminal  Help

[root@triettm triettm]# requota -a
bash: requota: command not found...
[root@triettm triettm]# repquota -a
*** Report for user quotas on device /dev/md0
Block grace time: 7days; Inode grace time: 7days
                        Block limits                File limits
User            used    soft    hard   grace    used   soft   hard   grace
----------------------------------------------------------------------
root        --      20       0       0             2      0      0

[root@triettm triettm]#
```

```
                    triettm@triettm:/home/triettm              _  □  ✕

 File  Edit  View  Search  Terminal  Help

Grace period before enforcing soft limits for users:
Time units may be: days, hours, minutes, or seconds
  Filesystem                 Block grace period      Inode grace period
  /dev/md0                          1hours                   1hours
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:wq!█
```

```
[root@triettm triettm]# edquota -t
[root@triettm triettm]# quotacheck -mavug
quotacheck: Your kernel probably supports journaled quota but you are not using
it. Consider switching to journaled quota to avoid running quotacheck after an u
nclean shutdown.
quotacheck: Scanning /dev/md0 [/raid1] done
quotacheck: Checked 3 directories and 2 files
[root@triettm triettm]# █
```

```
user1@triettm:/raid1                                    _  □  ✕

File  Edit  View  Search  Terminal  Help

[triettm@triettm ~]$ su
Password:
[root@triettm triettm]# cd /raid1/
[root@triettm raid1]# ls
aquota.group  aquota.user  lost+found
[root@triettm raid1]# ls
aquota.group  aquota.user  lost+found
[root@triettm raid1]# cd ..
[root@triettm /]# ls
bin   dev   home  lib64  mnt   proc  root  sbin  sys  usr
boot  etc   lib   media  opt   raid1 run   srv   tmp  var
[root@triettm /]# chown root:test123 /raid1
[root@triettm /]# chmod 775 /raid1
[root@triettm /]# su user1
[user1@triettm /]$ cd /raid1/
[user1@triettm raid1]$ █
```

```
triettm@triettm:/                                       _  □  ✕

File  Edit  View  Search  Terminal  Help

[root@triettm raid1]# cd ..
[root@triettm /]# ls
bin   dev   home  lib64  mnt   proc  root  sbin  sys  usr
boot  etc   lib   media  opt   raid1 run   srv   tmp  var
[root@triettm /]# chown root:test123 /raid1
[root@triettm /]# chmod 775 /raid1
[root@triettm /]# su user1
[user1@triettm /]$ cd /raid1/
[user1@triettm raid1]$ seq 1000 > 1nghin.txt
[user1@triettm raid1]$ ls
1nghin.txt  aquota.group  aquota.user  lost+found
[user1@triettm raid1]$ exit
exit
[root@triettm /]# repquota -a
*** Report for user quotas on device /dev/md0
Block grace time: 01:00; Inode grace time: 01:00
                        Block limits              File limits
User            used    soft    hard  grace   used  soft  hard  grace
----------------------------------------------------------------------
root      --      20       0       0             2     0     0
user1     --       4   10240   11000             1     0     0


[root@triettm /]# █
```