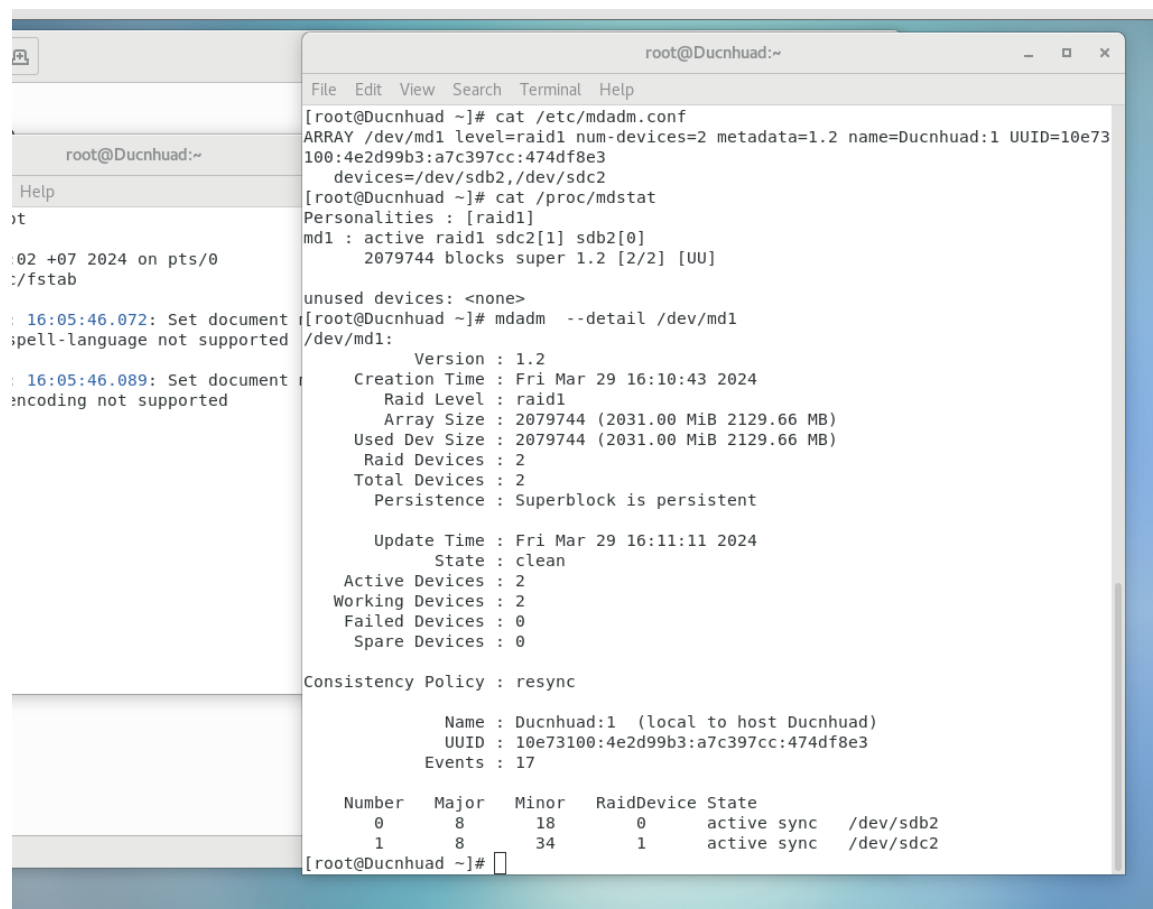Nhữ Đình Đức
211202522

```
43  mdadm  --version
44  fdisk -l | grep sd
45  umount -a
46  mount -a
47  mdadm -C /dev/md1 -l 1 -n 2 /dev/sdb2 /dev/sdc2
48  history
49  mkfs.ext4 /dev/md1
50  history
51  mdadm --detail --scan --verbose > /etc/mdadm.conf
52  cat /etc/mdadm.conf
53  history
54  cat /proc/mdstat
55  mkdir /raid1
56  mount -a
57  ls -l /raid1
58  touch /raid1/rai1test.txt
59  echo "This is raid1 - NguyenMinh" > /raid1/rai1test.txt
60  cat /raid1/rai1test.txt
61  history
62  57!
63  ls -l /raid1
64  mount | grep md
65  mdadm --detail /dev/md1
66  history
```

```
                                    root@Ducnhuad:~                    _  □  ×
File  Edit  View  Search  Terminal  Help
[root@Ducnhuad ~]# cat /etc/mdadm.conf
ARRAY /dev/md1 level=raid1 num-devices=2 metadata=1.2 name=Ducnhuad:1 UUID=10e73
100:4e2d99b3:a7c397cc:474df8e3
    devices=/dev/sdb2,/dev/sdc2
[root@Ducnhuad ~]# cat /proc/mdstat
Personalities : [raid1]
md1 : active raid1 sdc2[1] sdb2[0]
      2079744 blocks super 1.2 [2/2] [UU]

unused devices: <none>
[root@Ducnhuad ~]# mdadm  --detail /dev/md1
/dev/md1:
           Version : 1.2
     Creation Time : Fri Mar 29 16:10:43 2024
        Raid Level : raid1
        Array Size : 2079744 (2031.00 MiB 2129.66 MB)
     Used Dev Size : 2079744 (2031.00 MiB 2129.66 MB)
      Raid Devices : 2
     Total Devices : 2
       Persistence : Superblock is persistent

       Update Time : Fri Mar 29 16:11:11 2024
             State : clean
    Active Devices : 2
   Working Devices : 2
    Failed Devices : 0
     Spare Devices : 0

Consistency Policy : resync

              Name : Ducnhuad:1  (local to host Ducnhuad)
              UUID : 10e73100:4e2d99b3:a7c397cc:474df8e3
            Events : 17

    Number   Major   Minor   RaidDevice State
       0       8       18        0      active sync   /dev/sdb2
       1       8       34        1      active sync   /dev/sdc2
[root@Ducnhuad ~]#
```

```
ARRAY /dev/md1 level=raid1 num-devices=2 metadata=1.2 name=Ducnhuad:1 UUID=10e73
100:4e2d99b3:a7c397cc:474df8e3
    devices=/dev/sdb2,/dev/sdc2
ARRAY /dev/md5 level=raid5 num-devices=3 metadata=1.2 name=Ducnhuad:5 UUID=cd5e2
12b:6d5b46f6:a1ba79b6:2a9fd919
    devices=/dev/sdb3,/dev/sdc3,/dev/sdd3
[root@Ducnhuad ~]# mkdir /raid5
[root@Ducnhuad ~]# mount -a
[root@Ducnhuad ~]# ls -l /raid5
total 16
drwx------. 2 root root 16384 Mar 29 16:40 lost+found
[root@Ducnhuad ~]# touch /raid5/nhu_duc5.txt
[root@Ducnhuad ~]#
[root@Ducnhuad ~]# echo "This is raid 5 - Nhu Duc " >> /raid5/nhu_duc5.txt
[root@Ducnhuad ~]#
[root@Ducnhuad ~]# cat /raid5/nhu_duc5.txt
This is raid 5 - Nhu Duc
[root@Ducnhuad ~]# ls -l /raid5
total 20
drwx------. 2 root root 16384 Mar 29 16:40 lost+found
-rw-r--r--. 1 root root    26 Mar 29 16:44 nhu_duc5.txt
[root@Ducnhuad ~]# history
    1  fdisk -l | grep sd
    2  fdisk - l | grey sd
    3  fdisk - l | gret sd
    4  fdisk - l | gred sd
```

```
/dev/sdd2 on /d2 type ext4 (rw,relatime,seclabel,data=ordered)
/dev/sdd5 on /d5 type ext4 (rw,relatime,seclabel,data=ordered)
/dev/sdd6 on /d6 type ext4 (rw,relatime,seclabel,data=ordered)
[root@Ducnhuad ~]# mount | grep md
cgroup on /sys/fs/cgroup/systemd type cgroup (rw,nosuid,nodev,noexec,relati
clabel,xattr,release_agent=/usr/lib/systemd/systemd-cgroups-agent,name=syst
/dev/md1 on /raid1 type ext4 (rw,relatime,seclabel,data=ordered)
/dev/md5 on /raid5 type ext4 (rw,relatime,seclabel,stripe=256,data=ordered)
[root@Ducnhuad ~]# ll /raid
ls: cannot access /raid: No such file or directory
[root@Ducnhuad ~]# ll /raid5
total 20
drwx------. 2 root root 16384 Mar 29 16:40 lost+found
-rw-r--r--. 1 root root    26 Mar 29 16:44 nhu_duc5.txt
[root@Ducnhuad ~]#
```

Tab Width: 8

```
                  --make-rprivate          recursively mark a whole subtree as private
dev/disk'   --make-runbindable       recursively mark a whole subtree as unbindable
or more inf
            For more details see mount(8).
  defaults [root@Ducnhuad ~]# mdadm --detail /dev/md5
   xfs     /dev/md5:
  defaults           Version : 1.2
                Creation Time : Fri Mar 29 16:40:32 2024
                   Raid Level : raid5
                   Array Size : 10450944 (9.97 GiB 10.70 GB)
                Used Dev Size : 5225472 (4.98 GiB 5.35 GB)
                 Raid Devices : 3
                Total Devices : 3
                  Persistence : Superblock is persistent

                  Update Time : Fri Mar 29 16:45:22 2024
                        State : clean
               Active Devices : 3
              Working Devices : 3
               Failed Devices : 0
                Spare Devices : 0

                       Layout : left-symmetric
                   Chunk Size : 512K

           Consistency Policy : resync

                         Name : Ducnhuad:5  (local to host Ducnhuad)
                         UUID : cd5e212b:6d5b46f6:a1ba79b6:2a9fd919
                       Events : 20

              Number   Major   Minor   RaidDevice State
                 0        8       19        0       active sync   /dev/sdb3
                 1        8       35        1       active sync   /dev/sdc3
                 3        8       51        2       active sync   /dev/sdd3
           [root@Ducnhuad ~]#
```

```
Last login: Fri Apr  5 04:30:29 +07 2024 on pts/0
[root@Ducnhuad ~]# cat /proc/mdstat
Personalities : [raid1] [raid6] [raid5] [raid4]
md1 : active raid1 sdb2[0]
      2079744 blocks super 1.2 [2/1] [U_]

md5 : active raid5 sdd3[3] sdb3[0]
      10450944 blocks super 1.2 level 5, 512k chunk, algorithm 2 [3/2] [U_U]

unused devices: <none>
[root@Ducnhuad ~]#
```

```
        Raid Level : raid1
        Array Size : 2079744 (2031.00 MiB 2129.66 MB)
     Used Dev Size : 2079744 (2031.00 MiB 2129.66 MB)
      Raid Devices : 2
     Total Devices : 2
       Persistence : Superblock is persistent

       Update Time : Fri Apr  5 04:38:43 2024
             State : clean
     Active Devices : 2
    Working Devices : 2
     Failed Devices : 0
      Spare Devices : 0

Consistency Policy : resync

              Name : Ducnhuad:1  (local to host Ducnhuad)
              UUID : edb6ce09:bb8368aa:1966c633:3a53725e
            Events : 42

    Number   Major   Minor   RaidDevice State
       0       8       18        0      active sync   /dev/sdb2
       2       8       34        1      active sync   /dev/sdc2
[root@Ducnhuad ~]#
```

```
       Update Time : Fri Apr  5 04:40:22 2024
             State : clean, degraded, recovering
     Active Devices : 2
    Working Devices : 3
     Failed Devices : 0
      Spare Devices : 1

            Layout : left-symmetric
        Chunk Size : 512K

Consistency Policy : resync

    Rebuild Status : 48% complete

              Name : Ducnhuad:5  (local to host Ducnhuad)
              UUID : cd5e212b:6d5b46f6:a1ba79b6:2a9fd919
            Events : 39

    Number   Major   Minor   RaidDevice State
       0       8       19        0      active sync      /dev/sdb3
       4       8       35        1      spare rebuilding  /dev/sdc3
       3       8       51        2      active sync      /dev/sdd3
[root@Ducnhuad ~]#
```

```
  22  ll /raid1
  23  fdisk -l | grep sd
  24  fdisk /dev/sdd
  25  fdisk -l | grep sd
  26  mdadm --detail /dev/md1
  27  mdadm --manage /dev/md1 --add /dev/sdc2
  28  mdadm --detail /dev/md1
  29  cat /proc/mdstat
  30  ll /dev/md1
  31  ll /raid1
  32  history
```