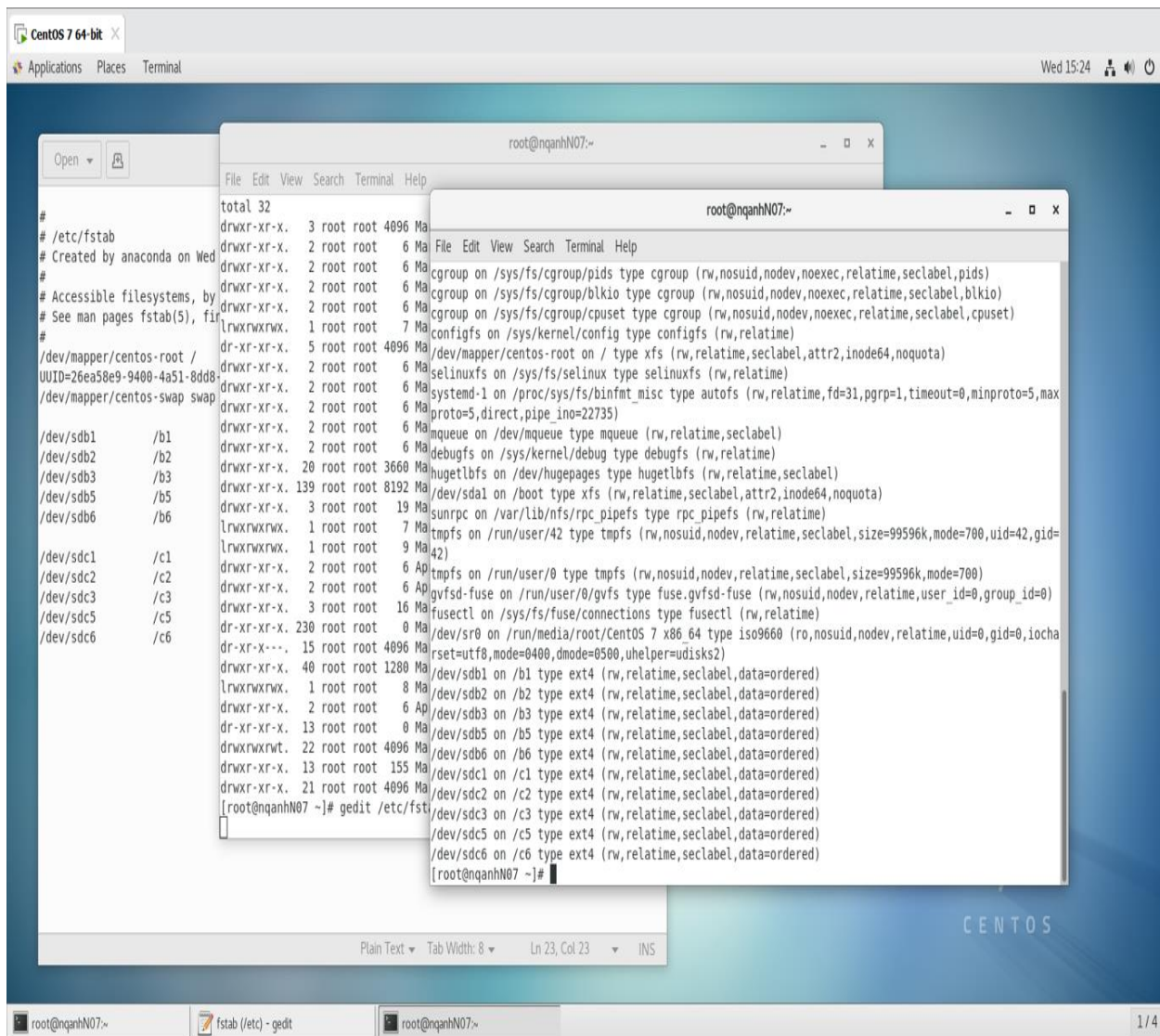


Họ và tên: Nguyễn Quỳnh Anh

Mã sinh viên: 201200014

Lớp Hệ điều hành N07 K61

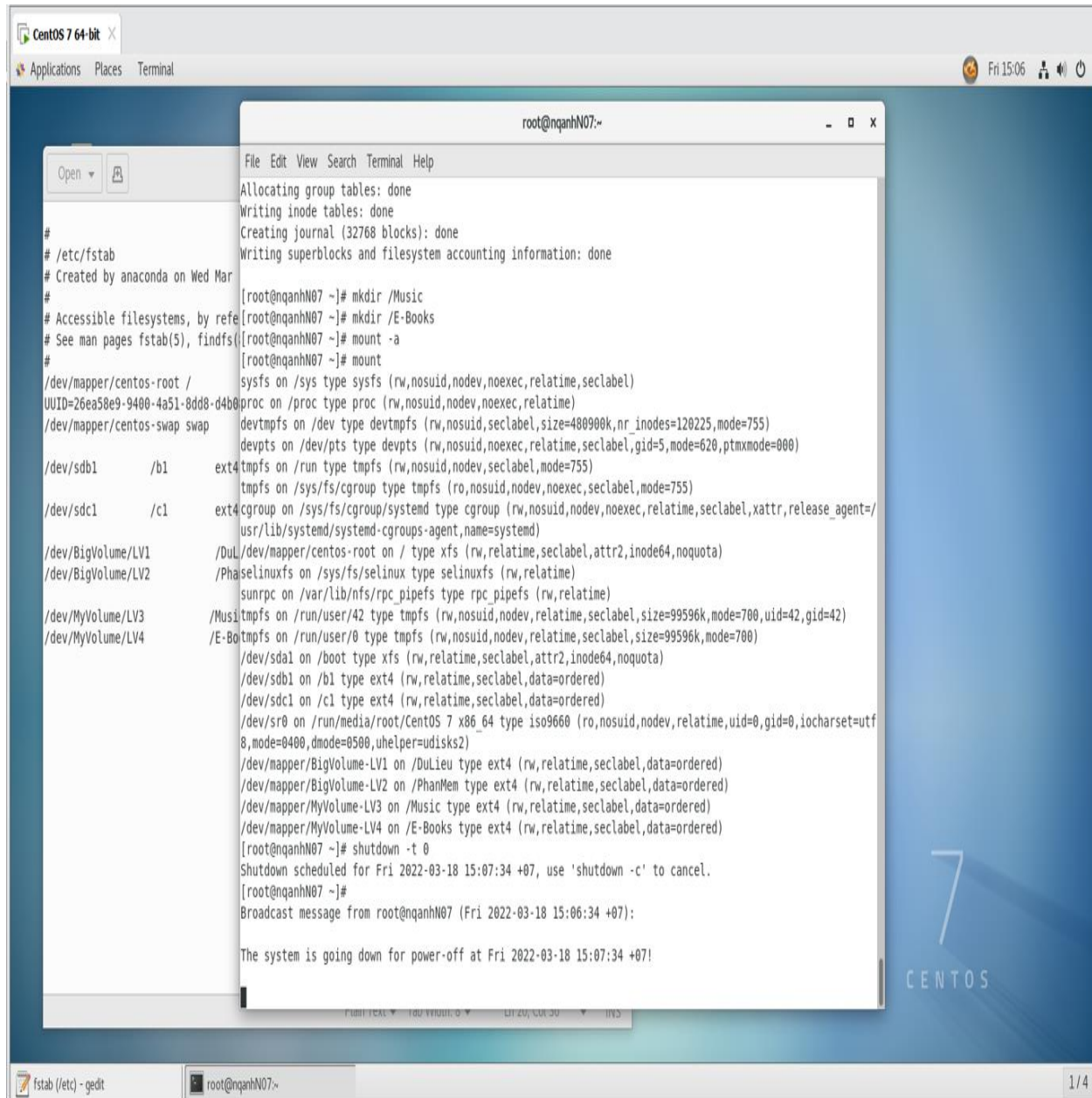
Bài Lab Hệ Điều Hành 1



```
# ls -ld /etc/fstab
# Created by anaconda on Wed
#
# Accessible filesystems, by
# See man pages fstab(5), first
#
/dev/mapper/centos-root / UUID=26ea58e9-9400-4a51-8d88-
/dev/mapper/centos-swap swap
/dev/sdb1 /b1
/dev/sdb2 /b2
/dev/sdb3 /b3
/dev/sdb5 /b5
/dev/sdb6 /b6
/dev/sdc1 /c1
/dev/sdc2 /c2
/dev/sdc3 /c3
/dev/sdc5 /c5
/dev/sdc6 /c6

total 32
drwxr-xr-x. 3 root root 4096 Ma
drwxr-xr-x. 2 root root 6 Ma
drwxr-xr-x. 2 root root 6 Ma
drwxr-xr-x. 2 root root 6 Ma
drwxr-xr-x. 2 root root 6 Ma
drwxr-xr-x. 1 root root 7 Ma
dr-xr-xr-x. 5 root root 4096 Ma
drwxr-xr-x. 2 root root 6 Ma
drwxr-xr-x. 2 root root 6 Ma
drwxr-xr-x. 2 root root 6 Ma
drwxr-xr-x. 2 root root 6 Ma
drwxr-xr-x. 2 root root 6 Ma
drwxr-xr-x. 2 root root 6 Ma
drwxr-xr-x. 2 root root 6 Ma
drwxr-xr-x. 20 root root 3668 Ma
drwxr-xr-x. 139 root root 8192 Ma
drwxr-xr-x. 3 root root 19 Ma
lrwxrwxrwx. 1 root root 7 Ma
lrwxrwxrwx. 1 root root 9 Ma
drwxr-xr-x. 2 root root 6 Ap
drwxr-xr-x. 2 root root 6 Ap
drwxr-xr-x. 3 root root 16 Ma
dr-xr-xr-x. 230 root root 0 Ma
dr-xr-xr-x. 15 root root 4096 Ma
drwxr-xr-x. 40 root root 1280 Ma
lrwxrwxrwx. 1 root root 8 Ma
drwxr-xr-x. 2 root root 6 Ap
dr-xr-xr-x. 13 root root 0 Ma
drwxrwxrwt. 22 root root 4096 Ma
drwxr-xr-x. 13 root root 155 Ma
drwxr-xr-x. 21 root root 4096 Ma
[root@nqanhN07 ~]# gedit /etc/fst
```

Quản lý đĩa cứng trên Linux



The screenshot displays a CentOS 7 desktop environment. A terminal window is open, showing the execution of various disk management commands. The commands include creating directories, mounting filesystems, and configuring the /etc/fstab file. The terminal output shows the successful execution of these commands, including the creation of group tables, inode tables, and the journal, as well as the mounting of various filesystems like sysfs, proc, devtmpfs, devpts, tmpfs, cgroup, xfs, selinux, rpc_pipefs, and ext4. The terminal also shows the execution of the 'shutdown' command, which schedules a system shutdown for Friday, 2022-03-18 at 15:07:34 +07.

```
root@nganhN07:~#  
Allocating group tables: done  
Writing inode tables: done  
Creating journal (32768 blocks): done  
Writing superblocks and filesystem accounting information: done  
[root@nganhN07 ~]# mkdir /Music  
[root@nganhN07 ~]# mkdir /E-Books  
[root@nganhN07 ~]# mount -a  
[root@nganhN07 ~]# mount  
sysfs on /sys type sysfs (rw,nosuid,nodev,noexec,relatime,seclabel)  
proc on /proc type proc (rw,nosuid,nodev,noexec,relatime)  
devtmpfs on /dev type devtmpfs (rw,nosuid,seclabel,size=480900k,nr_inodes=120225,mode=755)  
devpts on /dev/pts type devpts (rw,nosuid,noexec,relatime,seclabel,gid=5,mode=620,ptmxmode=000)  
tmpfs on /run type tmpfs (rw,nosuid,nodev,seclabel,mode=755)  
tmpfs on /sys/fs/cgroup type tmpfs (ro,nosuid,nodev,noexec,seclabel,mode=755)  
cgroup on /sys/fs/cgroup/systemd type cgroup (rw,nosuid,nodev,noexec,relatime,seclabel,xattr,release_agent=/usr/lib/systemd/systemd-cgroups-agent,name=systemd)  
/DuL/dev/mapper/centos-root on / type xfs (rw,relatime,seclabel,attr2,inode64,noquota)  
Phaselinuxfs on /sys/fs/selinux type selinuxfs (rw,relatime)  
sunrpc on /var/lib/nfs/rpc_pipefs type rpc_pipefs (rw,relatime)  
tmpfs on /run/user/42 type tmpfs (rw,nosuid,nodev,relatime,seclabel,size=99596k,mode=700,uid=42,gid=42)  
tmpfs on /run/user/0 type tmpfs (rw,nosuid,nodev,relatime,seclabel,size=99596k,mode=700)  
/dev/sda1 on /boot type xfs (rw,relatime,seclabel,attr2,inode64,noquota)  
/dev/sdb1 on /b1 type ext4 (rw,relatime,seclabel,data=ordered)  
/dev/sdc1 on /c1 type ext4 (rw,relatime,seclabel,data=ordered)  
/dev/sr0 on /run/media/root/CentOS 7 x86_64 type iso9660 (ro,nosuid,nodev,relatime,uid=0,gid=0,iocharset=utf8,mode=0400,dmode=0500,uhelper=udisks2)  
/dev/mapper/BigVolume-LV1 on /DuLieu type ext4 (rw,relatime,seclabel,data=ordered)  
/dev/mapper/BigVolume-LV2 on /PhanMem type ext4 (rw,relatime,seclabel,data=ordered)  
/dev/mapper/MyVolume-LV3 on /Music type ext4 (rw,relatime,seclabel,data=ordered)  
/dev/mapper/MyVolume-LV4 on /E-Books type ext4 (rw,relatime,seclabel,data=ordered)  
[root@nganhN07 ~]# shutdown -t 0  
Shutdown scheduled for Fri 2022-03-18 15:07:34 +07, use 'shutdown -c' to cancel.  
[root@nganhN07 ~]#  
Broadcast message from root@nganhN07 (Fri 2022-03-18 15:06:34 +07):  
  
The system is going down for power-off at Fri 2022-03-18 15:07:34 +07!
```

The file manager window shows the /etc/fstab file, which contains the following content:

```
#  
# /etc/fstab  
# Created by anaconda on Wed Mar 23 2022  
#  
# Accessible filesystems, by reference, are written here, using the  
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for more details  
#  
/dev/mapper/centos-root / UUID=26ea58e9-9400-4a51-8dd8-d4b0...  
/dev/mapper/centos-swap swap  
/dev/sdb1 /b1 ext4  
/dev/sdc1 /c1 ext4  
/dev/BigVolume/LV1 /DuLieu  
/dev/BigVolume/LV2 /PhanMem  
/dev/MyVolume/LV3 /Music  
/dev/MyVolume/LV4 /E-Books
```

The screenshot shows a CentOS 7 desktop environment. The desktop background is a blue gradient with a large white number '7' and the text 'CENTOS' in the bottom right corner. On the left side, there are icons for 'Home', 'Trash', and 'CentOS 7 x86_64'. At the top, there is a taskbar with 'Home', 'CentOS 7 HQA', 'Applications', 'Places', and 'Terminal' buttons. A terminal window is open in the center, showing the following commands and output:

```

root@nganhN07:~
File Edit View Search Terminal Help
Calling ioctl() to re-read partition table.
Syncing disks.
[root@nganhN07 ~]# mdadm --manage /dev/md1 --add /dev/sdd1
mdadm: added /dev/sdd1
[root@nganhN07 ~]# mdadm --detail /dev/md1
/dev/md1:
    Version : 1.2
    Creation Time : Sat Mar 26 16:54:54 2022
    Raid Level : raid1
    Array Size : 104791040 (99.94 GiB 107.31 GB)
    Used Dev Size : 104791040 (99.94 GiB 107.31 GB)
    Raid Devices : 2
    Total Devices : 2
    Persistence : Superblock is persistent

    Update Time : Sat Mar 26 17:24:11 2022
    State : clean, degraded, recovering
    Active Devices : 1
    Working Devices : 2
    Failed Devices : 0
    Spare Devices : 1

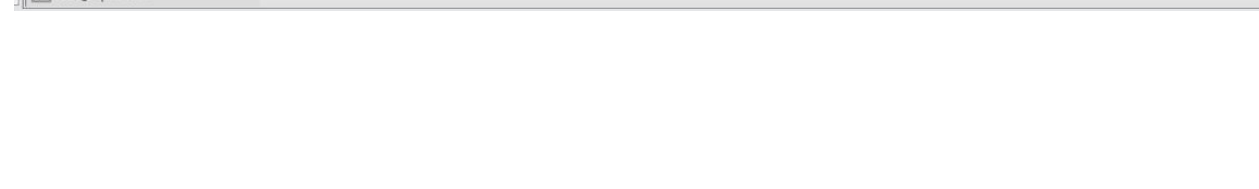
    Consistency Policy : resync

    Rebuild Status : 22% complete

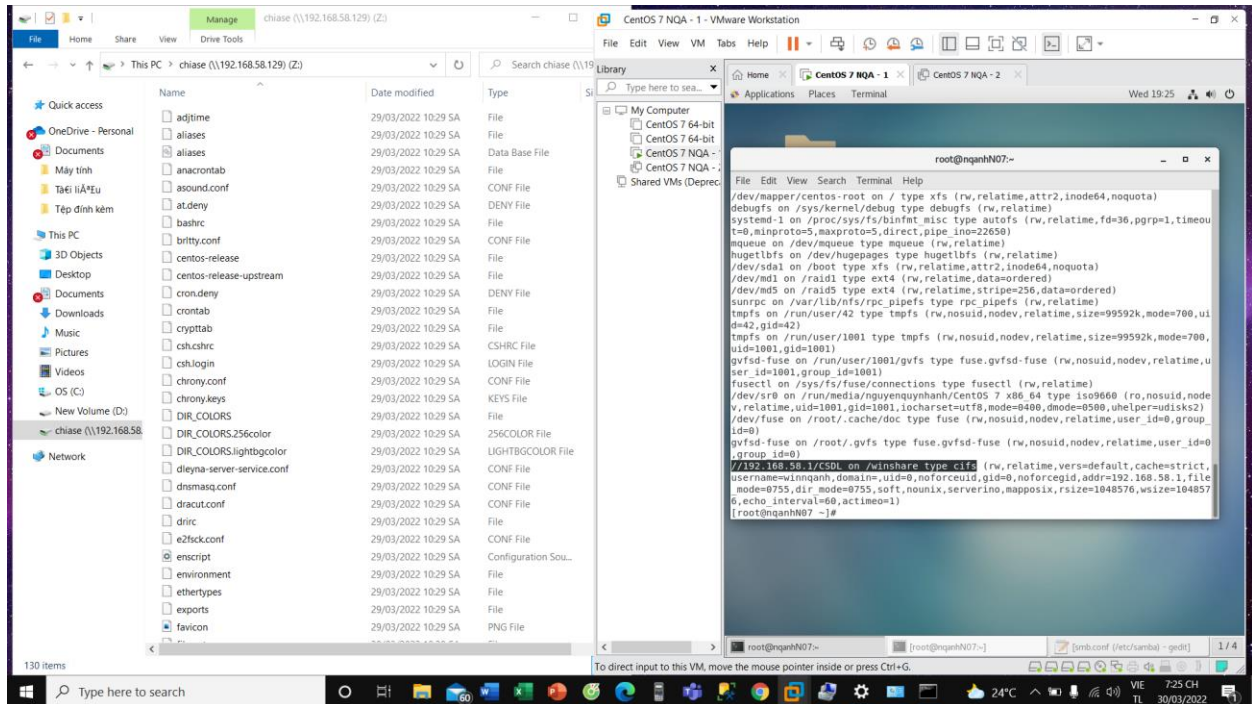
    Name : nganhN07:1 (local to host nganhN07)
    UUID : 2176d3e6:7db03631:8350be8d:3653d6e8
    Events : 24

    Number Major Minor RaidDevice State
    2         8      49        0     spare rebuilding  /dev/sdd1
    1         8      17        1     active sync      /dev/sdb1
[root@nganhN07 ~]#

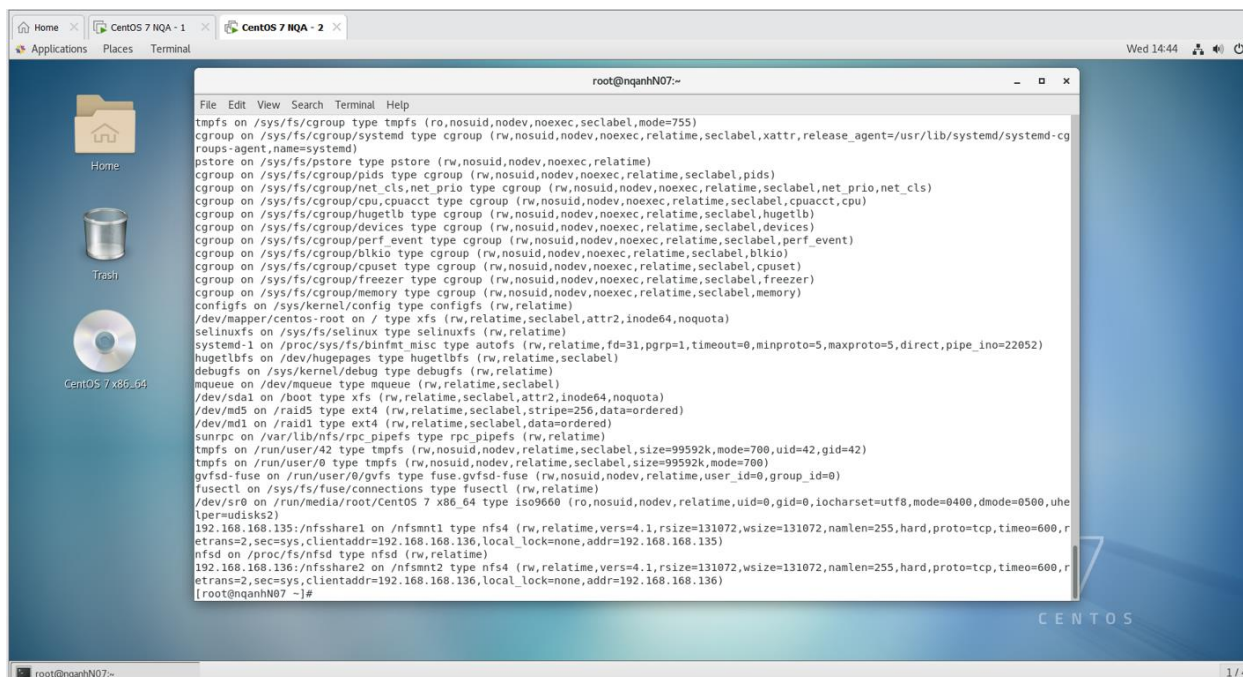
```



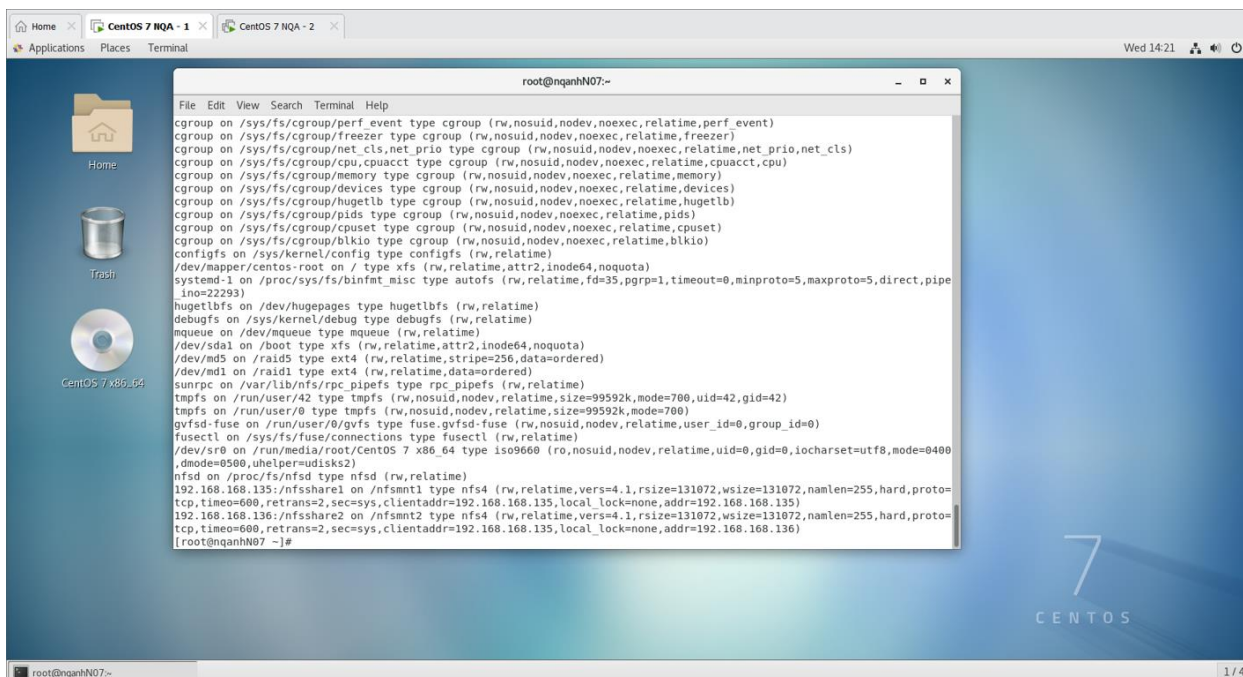
Cấu hình Samba trên CentOS



Cấu hình NFS chia sẻ thư mục trong Linux



```
root@nqanhN07:~  
File Edit View Search Terminal Help  
tmpfs on /sys/fs/cgroup type tmpfs (ro,nosuid,nodev,noexec,seclabel,mode=755)  
cgroup on /sys/fs/cgroup/systemd type cgroup (rw,nosuid,nodev,noexec,relatime,seclabel,xattr,release_agent=/usr/lib/systemd/systemd-cg  
roups-agent,name=systemd)  
pstore on /sys/fs/pstore type pstore (rw,nosuid,nodev,noexec,relatime)  
cgroup on /sys/fs/cgroup/pids type cgroup (rw,nosuid,nodev,noexec,relatime,seclabel,pids)  
cgroup on /sys/fs/cgroup/net_cls,net_prio type cgroup (rw,nosuid,nodev,noexec,relatime,seclabel,net_prio,net_cls)  
cgroup on /sys/fs/cgroup/cpu,cpuacct type cgroup (rw,nosuid,nodev,noexec,relatime,seclabel,cpuacct,cpu)  
cgroup on /sys/fs/cgroup/hugetlb type cgroup (rw,nosuid,nodev,noexec,relatime,seclabel,hugetlb)  
cgroup on /sys/fs/cgroup/devices type cgroup (rw,nosuid,nodev,noexec,relatime,seclabel,devices)  
cgroup on /sys/fs/cgroup/perf_event type cgroup (rw,nosuid,nodev,noexec,relatime,seclabel,perf_event)  
cgroup on /sys/fs/cgroup/blkio type cgroup (rw,nosuid,nodev,noexec,relatime,seclabel,blkio)  
cgroup on /sys/fs/cgroup/cpuset type cgroup (rw,nosuid,nodev,noexec,relatime,seclabel,cpuset)  
cgroup on /sys/fs/cgroup/freezer type cgroup (rw,nosuid,nodev,noexec,relatime,seclabel,freezer)  
cgroup on /sys/fs/cgroup/memory type cgroup (rw,nosuid,nodev,noexec,relatime,seclabel,memory)  
configs on /sys/kernel/config type configs (rw,relatime)  
/dev/mapper/centos-root on / type xfs (rw,relatime,seclabel,attr2,inode64,noquota)  
selinuxfs on /sys/fs/selinux type selinuxfs (rw,relatime)  
systemd-1 on /proc/sys/fs/binfmt_misc type autofs (rw,relatime,fd=31,pgpr=1,timeout=0,minproto=5,maxproto=5,direct,pipe_ino=22052)  
hugetlbfs on /dev/hugepages type hugetlbfs (rw,relatime,seclabel)  
debugfs on /sys/kernel/debug type debugfs (rw,relatime)  
mqueue on /dev/mqueue type mqueue (rw,relatime,seclabel)  
/dev/sda1 on /boot type xfs (rw,relatime,seclabel,attr2,inode64,noquota)  
/dev/md5 on /raid5 type ext4 (rw,relatime,seclabel,stripe=256,data=ordered)  
/dev/md1 on /raid1 type ext4 (rw,relatime,seclabel,data=ordered)  
sunrpc on /var/lib/nfs/rpc_pipefs type rpc_pipefs (rw,relatime)  
tmpfs on /run/user/42 type tmpfs (rw,nosuid,nodev,relatime,seclabel,size=99592k,mode=700,uid=42,gid=42)  
tmpfs on /run/user/0 type tmpfs (rw,nosuid,nodev,relatime,seclabel,size=99592k,mode=700)  
gvfsd-fuse on /run/user/0/gvfs type fuse.gvfsd-fuse (rw,nosuid,nodev,relatime,user_id=0,group_id=0)  
fusectl on /sys/fs/fuse/connections type fusectl (rw,relatime)  
/dev/sr0 on /run/media/root/CentOS 7 x86_64 type iso9660 (ro,nosuid,nodev,relatime,uid=0,gid=0,iocharset=utf8,mode=0400,dmode=0500,uhe  
lper=u disks2)  
192.168.168.135:/nfsshare1 on /nfsmnt1 type nfs4 (rw,relatime,vers=4.1,rsz=131072,wsz=131072,namlen=255,hard,proto=tcp,timeo=600,r  
etrans=2,sec=sys,clientaddr=192.168.168.135,local_lock=none,addr=192.168.168.135)  
192.168.168.136:/nfsshare2 on /nfsmnt2 type nfs4 (rw,relatime,vers=4.1,rsz=131072,wsz=131072,namlen=255,hard,proto=tcp,timeo=600,r  
etrans=2,sec=sys,clientaddr=192.168.168.136,local_lock=none,addr=192.168.168.136)  
[root@nqanhN07 ~]#
```



```
root@nqanhN07:~  
File Edit View Search Terminal Help  
cgroup on /sys/fs/cgroup/perf_event type cgroup (rw,nosuid,nodev,noexec,relatime,perf_event)  
cgroup on /sys/fs/cgroup/freezer type cgroup (rw,nosuid,nodev,noexec,relatime,freezer)  
cgroup on /sys/fs/cgroup/net_cls,net_prio type cgroup (rw,nosuid,nodev,noexec,relatime,net_prio,net_cls)  
cgroup on /sys/fs/cgroup/cpu,cpuacct type cgroup (rw,nosuid,nodev,noexec,relatime,cpuacct,cpu)  
cgroup on /sys/fs/cgroup/memory type cgroup (rw,nosuid,nodev,noexec,relatime,memory)  
cgroup on /sys/fs/cgroup/devices type cgroup (rw,nosuid,nodev,noexec,relatime,devices)  
cgroup on /sys/fs/cgroup/pids type cgroup (rw,nosuid,nodev,noexec,relatime,pids)  
cgroup on /sys/fs/cgroup/cpuset type cgroup (rw,nosuid,nodev,noexec,relatime,cpuset)  
cgroup on /sys/fs/cgroup/blkio type cgroup (rw,nosuid,nodev,noexec,relatime,blkio)  
configs on /sys/kernel/config type configs (rw,relatime)  
/dev/mapper/centos-root on / type xfs (rw,relatime,attr2,inode64,noquota)  
systemd-1 on /proc/sys/fs/binfmt_misc type autofs (rw,relatime,fd=35,pgpr=1,timeout=0,minproto=5,maxproto=5,direct,pipe  
ino=22293)  
hugetlbfs on /dev/hugepages type hugetlbfs (rw,relatime)  
debugfs on /sys/kernel/debug type debugfs (rw,relatime)  
mqueue on /dev/mqueue type mqueue (rw,relatime)  
/dev/sda1 on /boot type xfs (rw,relatime,attr2,inode64,noquota)  
/dev/md5 on /raid5 type ext4 (rw,relatime,stripe=256,data=ordered)  
/dev/md1 on /raid1 type ext4 (rw,relatime,data=ordered)  
sunrpc on /var/lib/nfs/rpc_pipefs type rpc_pipefs (rw,relatime)  
tmpfs on /run/user/42 type tmpfs (rw,nosuid,nodev,relatime,size=99592k,mode=700,uid=42,gid=42)  
tmpfs on /run/user/0 type tmpfs (rw,nosuid,nodev,relatime,size=99592k,mode=700)  
gvfsd-fuse on /run/user/0/gvfs type fuse.gvfsd-fuse (rw,nosuid,nodev,relatime,user_id=0,group_id=0)  
fusectl on /sys/fs/fuse/connections type fusectl (rw,relatime)  
/dev/sr0 on /run/media/root/CentOS 7 x86_64 type iso9660 (ro,nosuid,nodev,relatime,uid=0,gid=0,iocharset=utf8,mode=0400  
dmode=0500,uhe lper=u disks2)  
nfsd on /proc/fs/nfsd type nfsd (rw,relatime)  
192.168.168.135:/nfsshare1 on /nfsmnt1 type nfs4 (rw,relatime,vers=4.1,rsz=131072,wsz=131072,namlen=255,hard,proto=  
tcp,timeo=600,retrans=2,sec=sys,clientaddr=192.168.168.135,local_lock=none,addr=192.168.168.135)  
192.168.168.136:/nfsshare2 on /nfsmnt2 type nfs4 (rw,relatime,vers=4.1,rsz=131072,wsz=131072,namlen=255,hard,proto=  
tcp,timeo=600,retrans=2,sec=sys,clientaddr=192.168.168.135,local_lock=none,addr=192.168.168.136)  
[root@nqanhN07 ~]#
```