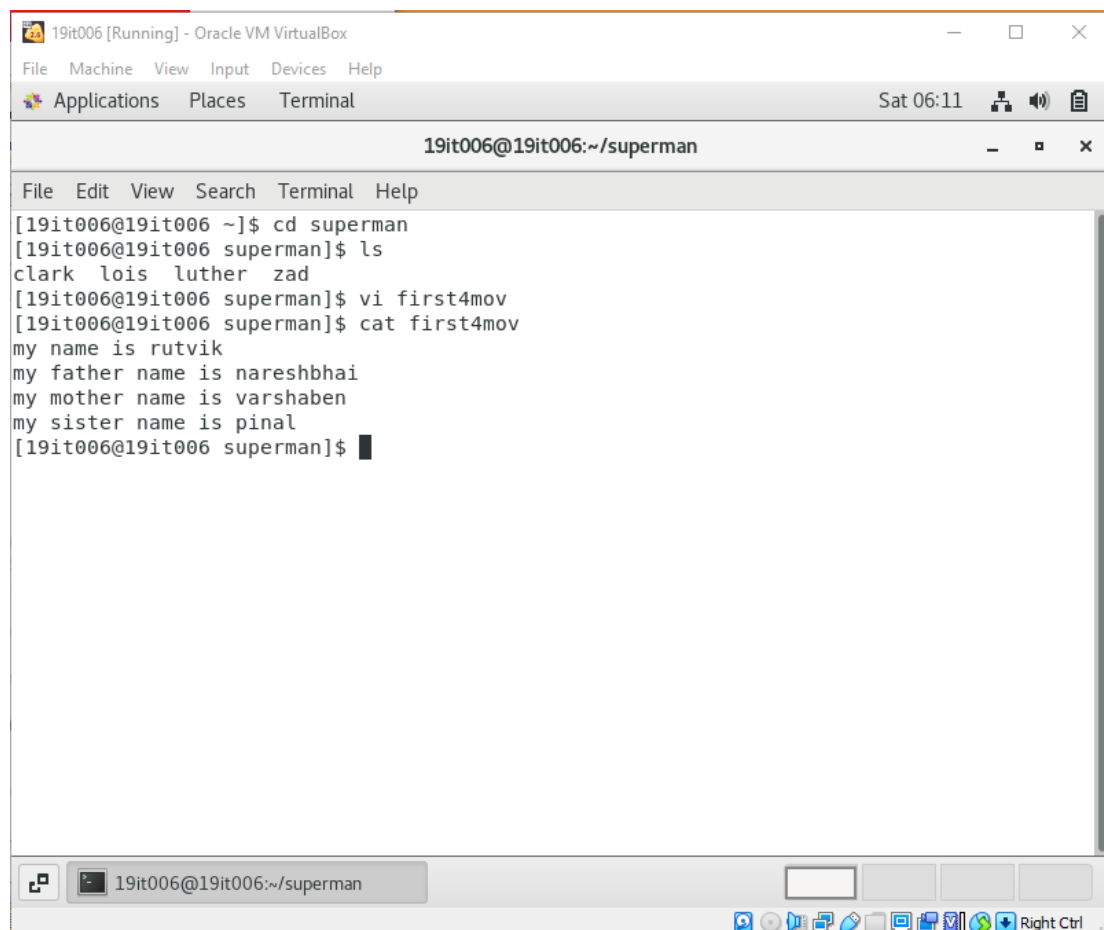


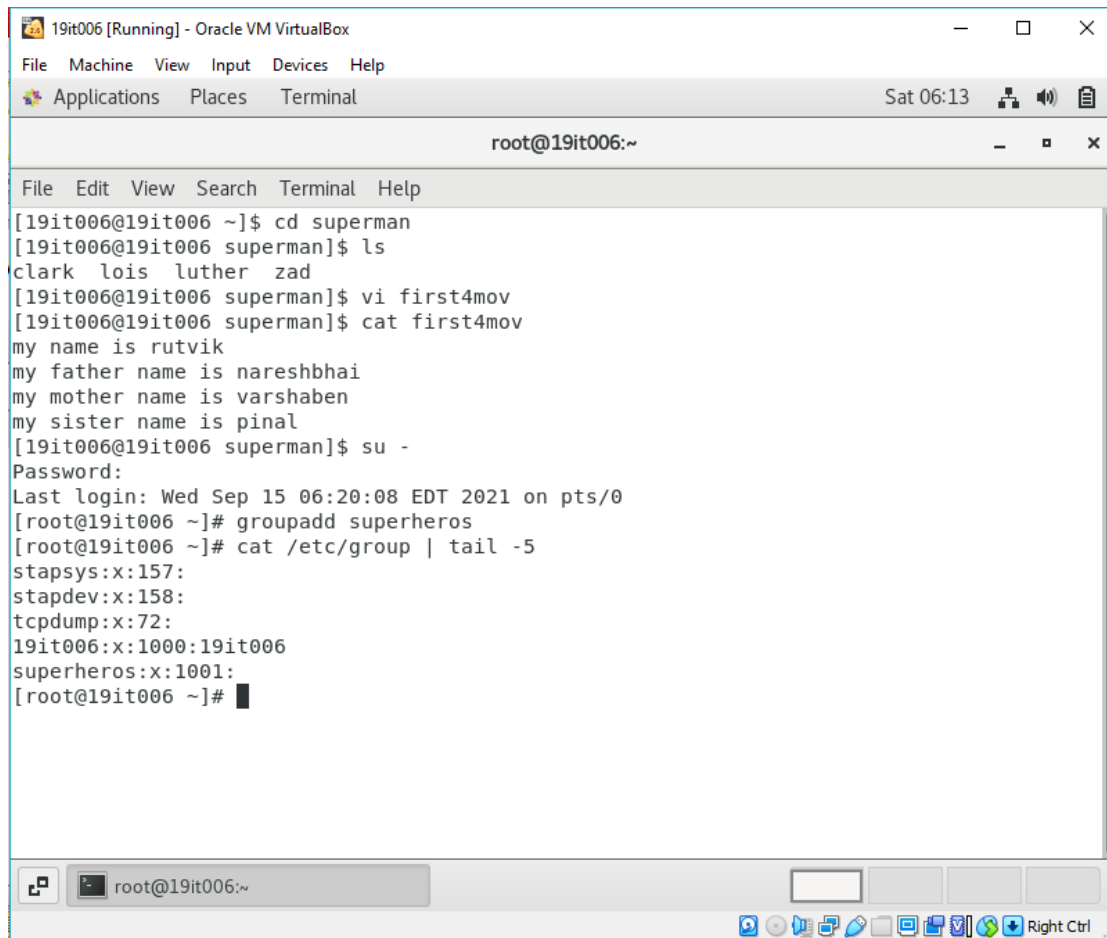
## Practical 4

- Go to your home directory and then go to superman directory.
- Create a new file called "first4movies" using vi command.
- Write anything you know about all first 4 movies of superman. If you never watched superman then you can enter at least 20 names of your family members. This file should have 20 lines and each line should have 5-6 words.



```
19it006 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal Sat 06:11
19it006@19it006:~/superman
File Edit View Search Terminal Help
[19it006@19it006 ~]$ cd superman
[19it006@19it006 superman]$ ls
clark lois luther zad
[19it006@19it006 superman]$ vi first4mov
[19it006@19it006 superman]$ cat first4mov
my name is rutvik
my father name is nareshbhai
my mother name is varshaben
my sister name is pinal
[19it006@19it006 superman]$
```

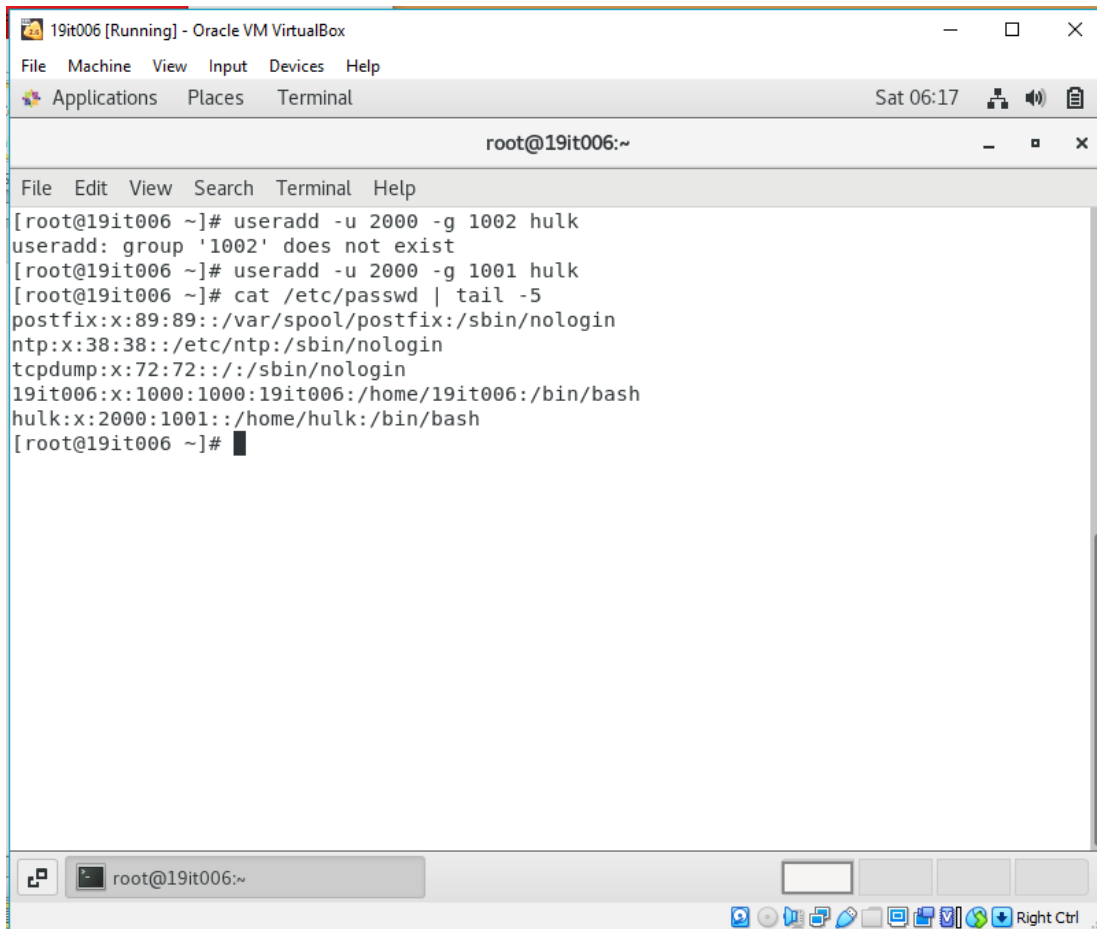
- Create a new group superheroes if you don't already have one)



The screenshot shows a terminal window titled "19it006 [Running] - Oracle VM VirtualBox". The terminal is running as root on a machine named 19it006. The user navigates to a directory named 'superman' and lists its contents, which are 'clark', 'lois', 'luther', and 'zad'. Then, the user opens a file named 'first4mov' with 'vi' and enters the following text: 'my name is rutvik', 'my father name is nareshbhai', 'my mother name is varshaben', and 'my sister name is pinal'. After saving the file, the user switches to root using 'su -' and enters the password. The root user then runs 'groupadd superheroes' to create a new group. Finally, the user runs 'cat /etc/group | tail -5' to display the last five lines of the /etc/group file, showing the newly created 'superheroes' group and other system groups like 'stapsys', 'stapdev', and 'tcpdump'.

```
File Edit View Search Terminal Help
root@19it006:~
[19it006@19it006 ~]$ cd superman
[19it006@19it006 superman]$ ls
clark lois luther zad
[19it006@19it006 superman]$ vi first4mov
[19it006@19it006 superman]$ cat first4mov
my name is rutvik
my father name is nareshbhai
my mother name is varshaben
my sister name is pinal
[19it006@19it006 superman]$ su -
Password:
Last login: Wed Sep 15 06:20:08 EDT 2021 on pts/0
[root@19it006 ~]# groupadd superheroes
[root@19it006 ~]# cat /etc/group | tail -5
stapsys:x:157:
stapdev:x:158:
tcpdump:x:72:
19it006:x:1000:19it006
superheroes:x:1001:
[root@19it006 ~]#
```

- Create a new user hulk and make sure its group should be superheroes and its userid should be 2000.

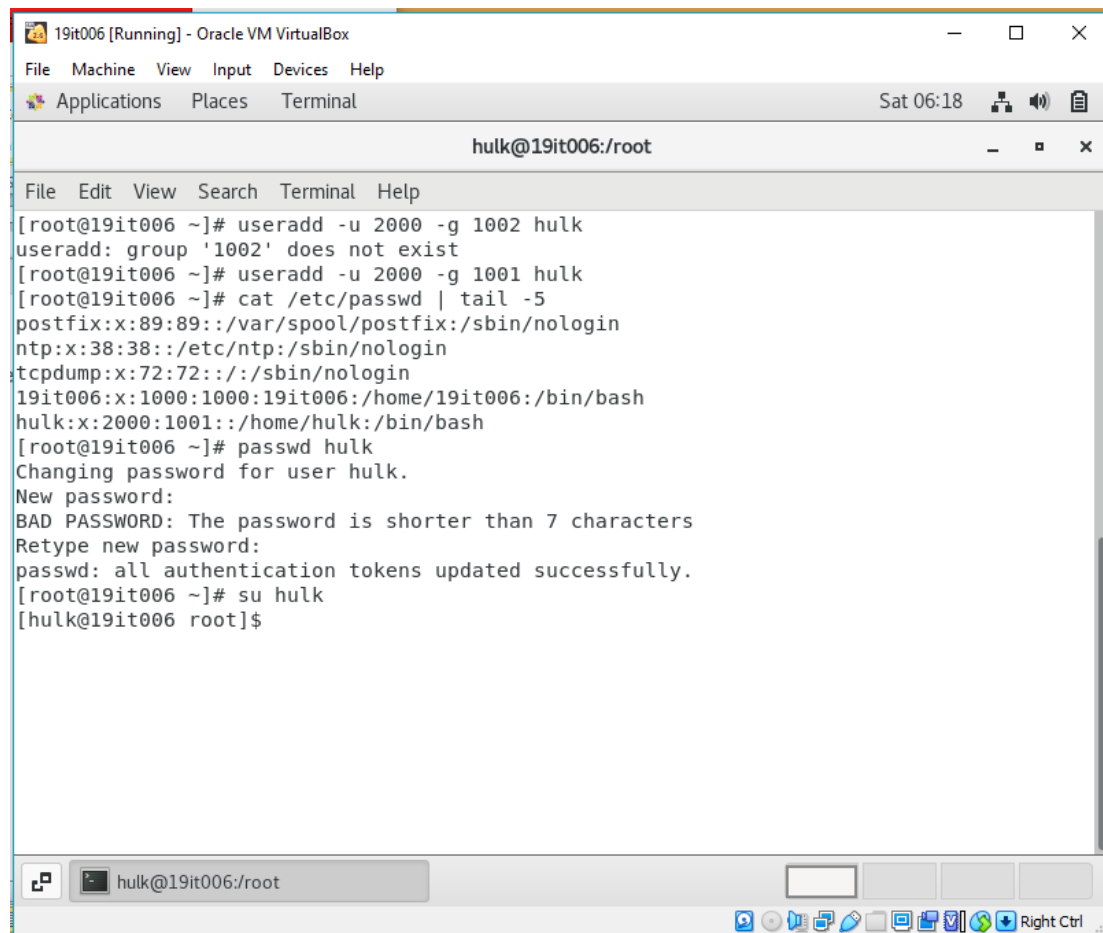


The screenshot shows a terminal window titled "19it006 [Running] - Oracle VM VirtualBox". The terminal is running as root on a machine named 19it006. The user has executed the following commands:

```
[root@19it006 ~]# useradd -u 2000 -g 1002 hulk
useradd: group '1002' does not exist
[root@19it006 ~]# useradd -u 2000 -g 1001 hulk
[root@19it006 ~]# cat /etc/passwd | tail -5
postfix:x:89:89:./var/spool/postfix:/sbin/nologin
ntp:x:38:38:./etc/ntp:/sbin/nologin
tcpdump:x:72:72:./sbin/nologin
19it006:x:1000:1000:19it006:/home/19it006:/bin/bash
hulk:x:2000:1001:./home/hulk:/bin/bash
[root@19it006 ~]#
```

The terminal output shows that the first command failed because group 1002 does not exist. The second command succeeded, creating the user hulk with UID 2000 and GID 1001. The tail command shows the last five lines of /etc/passwd, including the newly created user hulk.

- Once the user hulk is created then change the password for hulk and then login as hulk

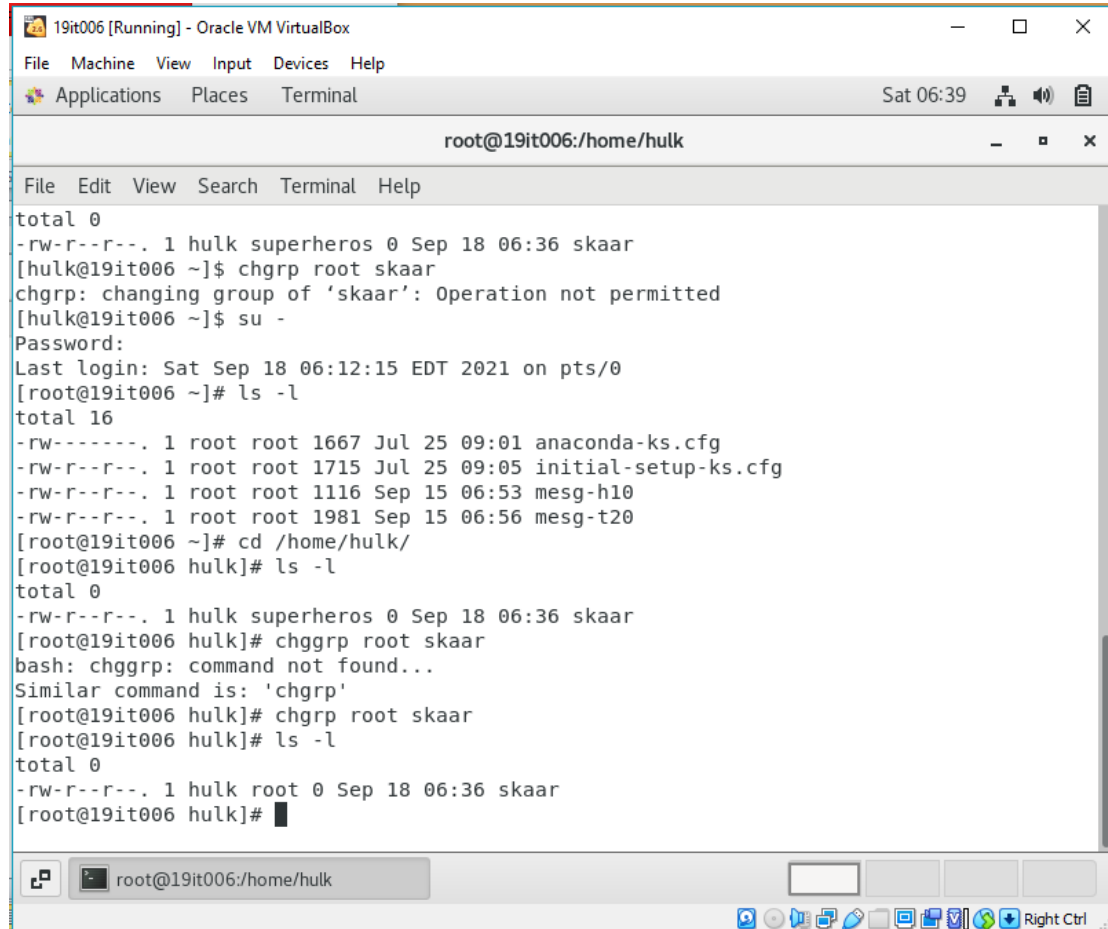


The screenshot shows a terminal window titled "19it006 [Running] - Oracle VM VirtualBox". The terminal output is as follows:

```
File Machine View Input Devices Help
Applications Places Terminal Sat 06:18
hulk@19it006:/root
File Edit View Search Terminal Help
[root@19it006 ~]# useradd -u 2000 -g 1002 hulk
useradd: group '1002' does not exist
[root@19it006 ~]# useradd -u 2000 -g 1001 hulk
[root@19it006 ~]# cat /etc/passwd | tail -5
postfix:x:89:89::/var/spool/postfix:/sbin/nologin
ntp:x:38:38::/etc/ntp:/sbin/nologin
tcpdump:x:72:72:::/sbin/nologin
19it006:x:1000:1000:19it006:/home/19it006:/bin/bash
hulk:x:2000:1001:/home/hulk:/bin/bash
[root@19it006 ~]# passwd hulk
Changing password for user hulk.
New password:
BAD PASSWORD: The password is shorter than 7 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@19it006 ~]# su hulk
[hulk@19it006 root]$
```

The terminal window has a menu bar with "File", "Machine", "View", "Input", "Devices", and "Help". Below the menu bar is a toolbar with "Applications", "Places", and "Terminal". The status bar at the bottom shows the current user and location "hulk@19it006:/root" and a "Right Ctrl" button.

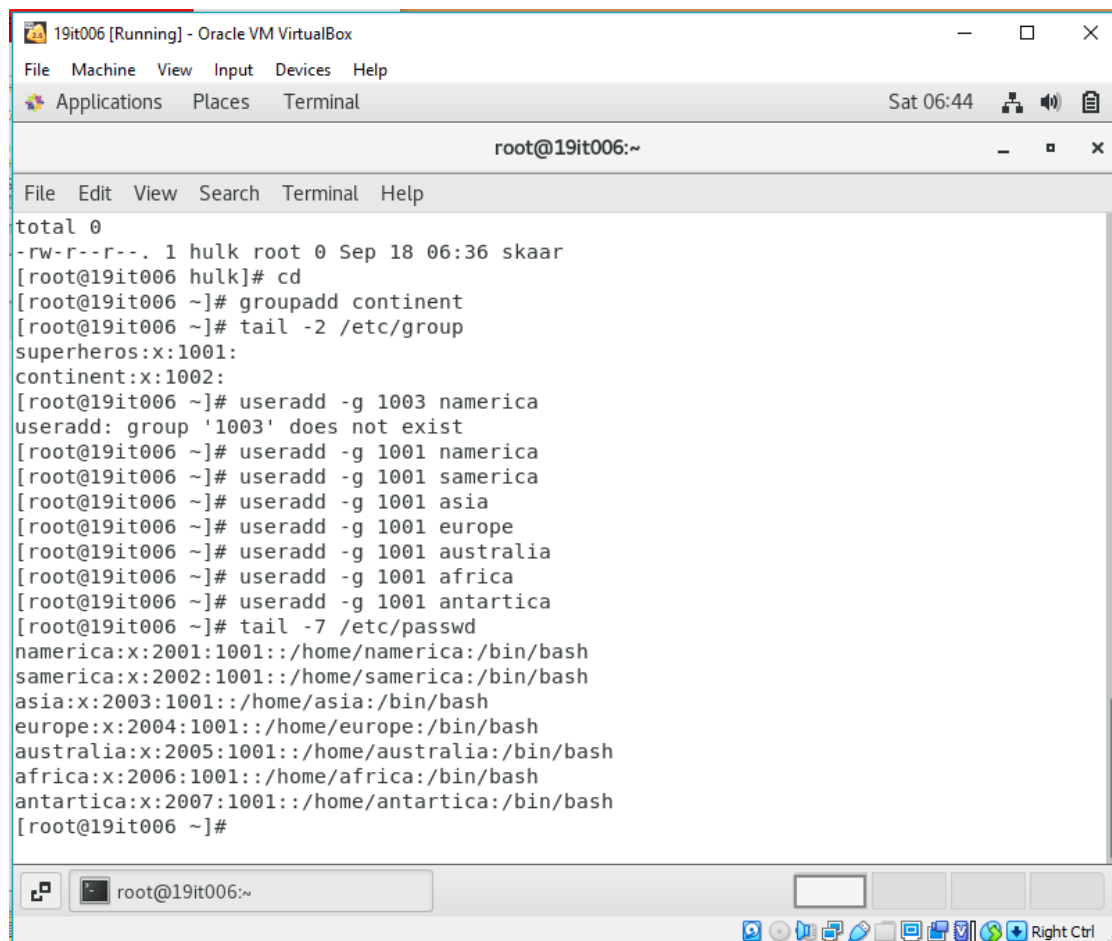
- Under hulk home directory create a file Skaar.
- Change group ownership of Skaar from superheros to root



```
19it006 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal Sat 06:39
root@19it006:/home/hulk

File Edit View Search Terminal Help
total 0
-rw-r--r--. 1 hulk superheros 0 Sep 18 06:36 skaar
[hulk@19it006 ~]$ chgrp root skaar
chgrp: changing group of 'skaar': Operation not permitted
[hulk@19it006 ~]$ su -
Password:
Last login: Sat Sep 18 06:12:15 EDT 2021 on pts/0
[root@19it006 ~]# ls -l
total 16
-rw-----. 1 root root 1667 Jul 25 09:01 anaconda-ks.cfg
-rw-r--r--. 1 root root 1715 Jul 25 09:05 initial-setup-ks.cfg
-rw-r--r--. 1 root root 1116 Sep 15 06:53 mesg-h10
-rw-r--r--. 1 root root 1981 Sep 15 06:56 mesg-t20
[root@19it006 ~]# cd /home/hulk/
[root@19it006 hulk]# ls -l
total 0
-rw-r--r--. 1 hulk superheros 0 Sep 18 06:36 skaar
[root@19it006 hulk]# chggrp root skaar
bash: chggrp: command not found...
Similar command is: 'chgrp'
[root@19it006 hulk]# chgrp root skaar
[root@19it006 hulk]# ls -l
total 0
-rw-r--r--. 1 hulk root 0 Sep 18 06:36 skaar
[root@19it006 hulk]#
```

- Then create a new group continents.
- Create a new users namerica, samerica, asia, europe, australia, africa and antartica.
- Make sure all these user'sgroups are continents.

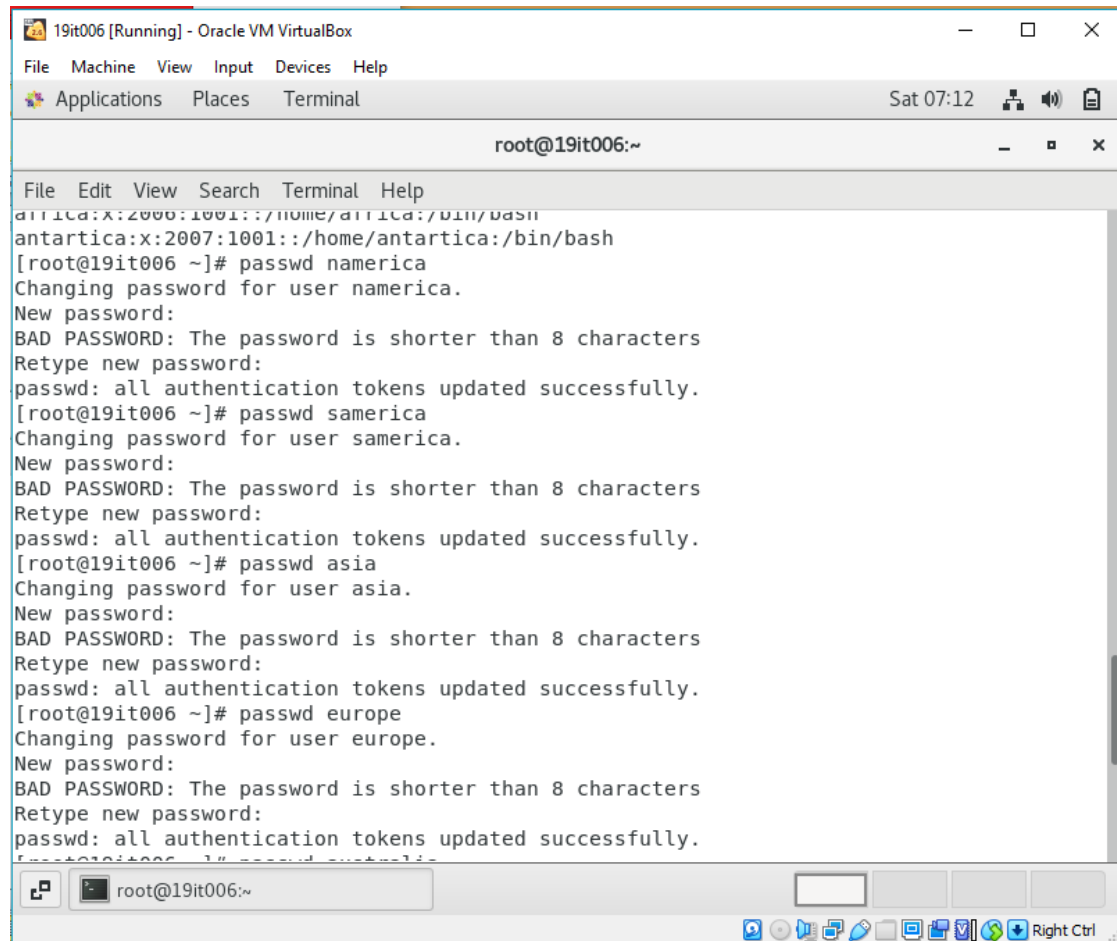


The screenshot shows a terminal window titled "19it006 [Running] - Oracle VM VirtualBox". The terminal output is as follows:

```
total 0
-rw-r--r--. 1 hulk root 0 Sep 18 06:36 skaar
[root@19it006 hulk]# cd
[root@19it006 ~]# groupadd continent
[root@19it006 ~]# tail -2 /etc/group
superheros:x:1001:
continent:x:1002:
[root@19it006 ~]# useradd -g 1003 namerica
useradd: group '1003' does not exist
[root@19it006 ~]# useradd -g 1001 namerica
[root@19it006 ~]# useradd -g 1001 samerica
[root@19it006 ~]# useradd -g 1001 asia
[root@19it006 ~]# useradd -g 1001 europe
[root@19it006 ~]# useradd -g 1001 australia
[root@19it006 ~]# useradd -g 1001 africa
[root@19it006 ~]# useradd -g 1001 antartica
[root@19it006 ~]# tail -7 /etc/passwd
namerica:x:2001:1001::/home/namerica:/bin/bash
samerica:x:2002:1001::/home/samerica:/bin/bash
asia:x:2003:1001::/home/asia:/bin/bash
europe:x:2004:1001::/home/europe:/bin/bash
australia:x:2005:1001::/home/australia:/bin/bash
africa:x:2006:1001::/home/africa:/bin/bash
antartica:x:2007:1001::/home/antartica:/bin/bash
[root@19it006 ~]#
```

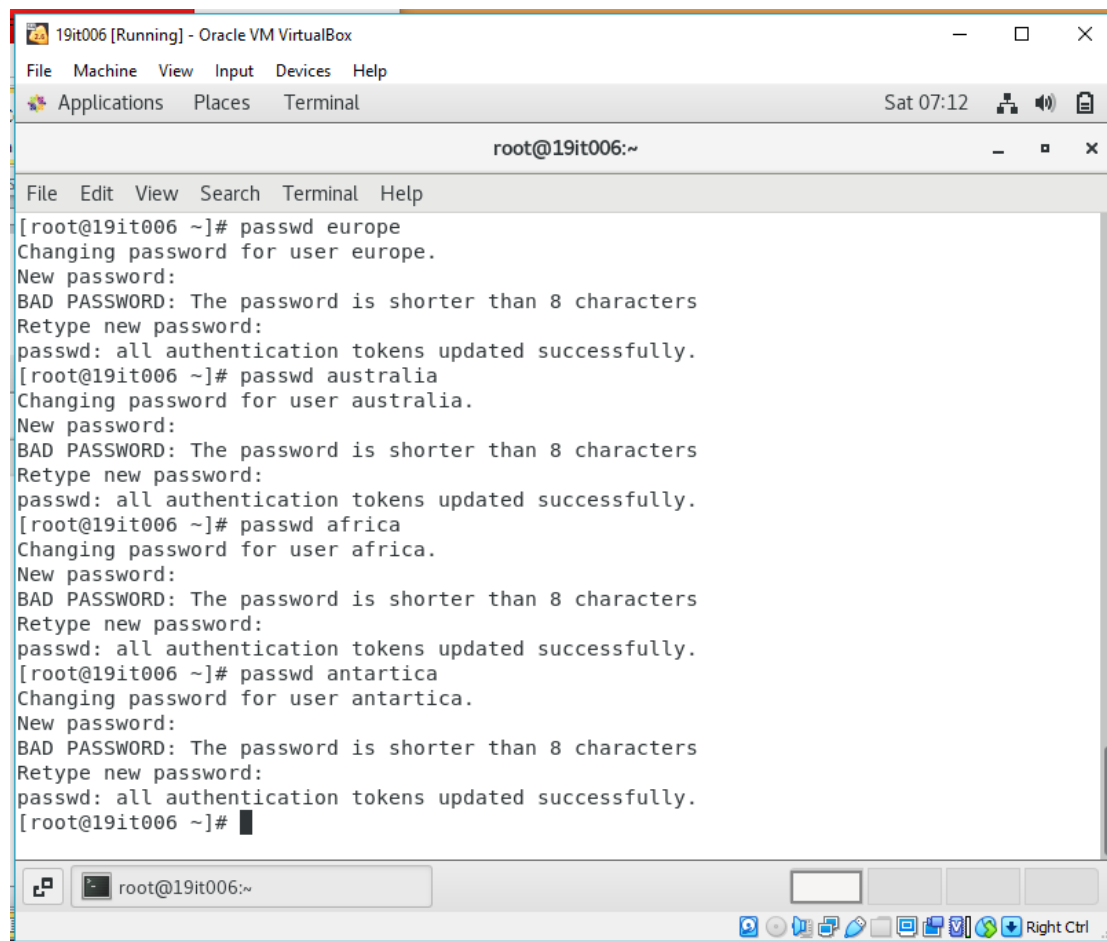
- Change password for every user, then switch into each user one by one using su -username command and create one file in each user account (e.g.,england file in europe, usa in namerica, japan in asia and so on)

- Changing password for each user



The screenshot shows a terminal window titled "19it006 [Running] - Oracle VM VirtualBox". The terminal output shows the root user at 19it006 performing a series of password changes using the 'passwd' command. The users being modified are namerica, samerica, asia, and europe. Each time a password is changed, the system prompts for a new password, checks if it is shorter than 8 characters (which it is), and then successfully updates the authentication tokens. The terminal also shows the root user switching to each user using the 'su' command.

```
File Edit View Search Terminal Help
antartica:x:2000:1001::/home/antartica:/bin/bash
antartica:x:2007:1001::/home/antartica:/bin/bash
[root@19it006 ~]# passwd namerica
Changing password for user namerica.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@19it006 ~]# passwd samerica
Changing password for user samerica.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@19it006 ~]# passwd asia
Changing password for user asia.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@19it006 ~]# passwd europe
Changing password for user europe.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
```



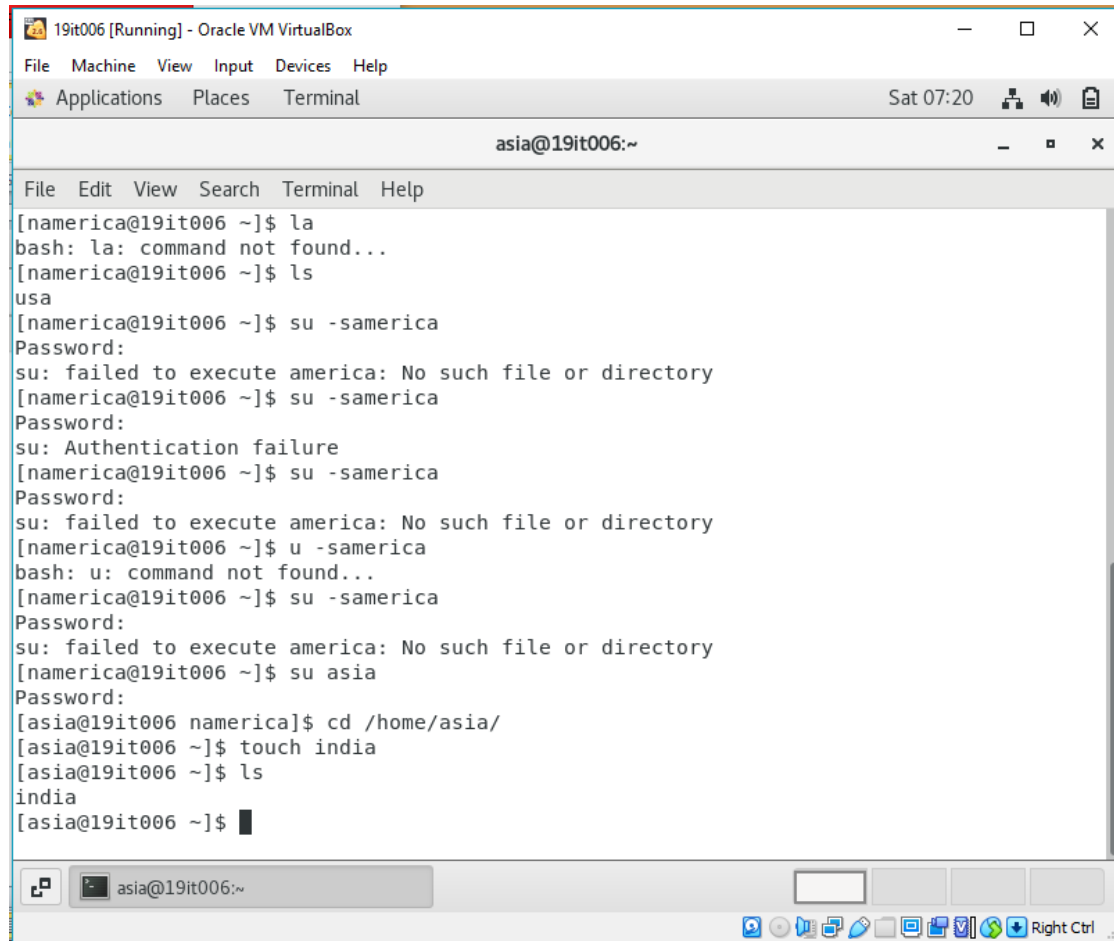
The screenshot shows a terminal window titled "19it006 [Running] - Oracle VM VirtualBox". The terminal prompt is "root@19it006:~". The user has executed the command "passwd europe", which prompted for a new password. The password was rejected as being shorter than 8 characters, and the user successfully updated the password after retyping. This process was repeated for users "australia", "africa", and "antartica". The terminal output is as follows:

```
[root@19it006 ~]# passwd europe
Changing password for user europe.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@19it006 ~]# passwd australia
Changing password for user australia.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@19it006 ~]# passwd africa
Changing password for user africa.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@19it006 ~]# passwd antartica
Changing password for user antartica.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@19it006 ~]#
```

The terminal window includes a menu bar with "File", "Machine", "View", "Input", "Devices", and "Help". The status bar at the bottom shows the date and time as "Sat 07:12" and includes icons for network, volume, and power. The bottom of the window also features a taskbar with various application icons and a "Right Ctrl" button.



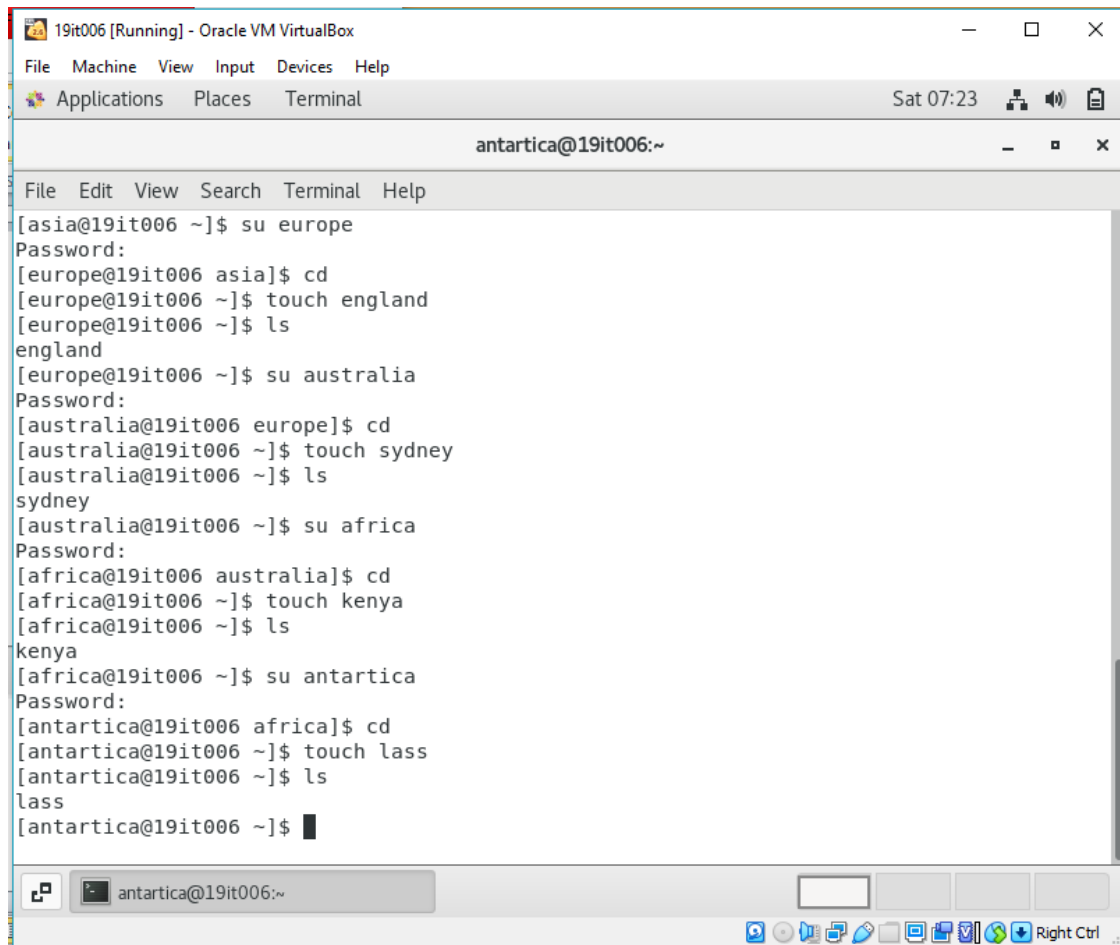
- Creating file in each user



The screenshot shows a terminal window titled "19it006 [Running] - Oracle VM VirtualBox". The terminal displays the following commands and output:

```
[namerica@19it006 ~]$ la
bash: la: command not found...
[namerica@19it006 ~]$ ls
usa
[namerica@19it006 ~]$ su -samerica
Password:
su: failed to execute america: No such file or directory
[namerica@19it006 ~]$ su -samerica
Password:
su: Authentication failure
[namerica@19it006 ~]$ su -samerica
Password:
su: failed to execute america: No such file or directory
[namerica@19it006 ~]$ u -samerica
bash: u: command not found...
[namerica@19it006 ~]$ su -samerica
Password:
su: failed to execute america: No such file or directory
[namerica@19it006 ~]$ su asia
Password:
[asia@19it006 namerica]$ cd /home/asia/
[asia@19it006 ~]$ touch india
[asia@19it006 ~]$ ls
india
[asia@19it006 ~]$
```

The terminal window has a menu bar with "File", "Machine", "View", "Input", "Devices", and "Help". Below the menu bar, there are tabs for "Applications", "Places", and "Terminal". The status bar at the bottom shows the time "Sat 07:20" and some system icons. The terminal window title bar includes standard window controls (minimize, maximize, close) and the text "asia@19it006:~".

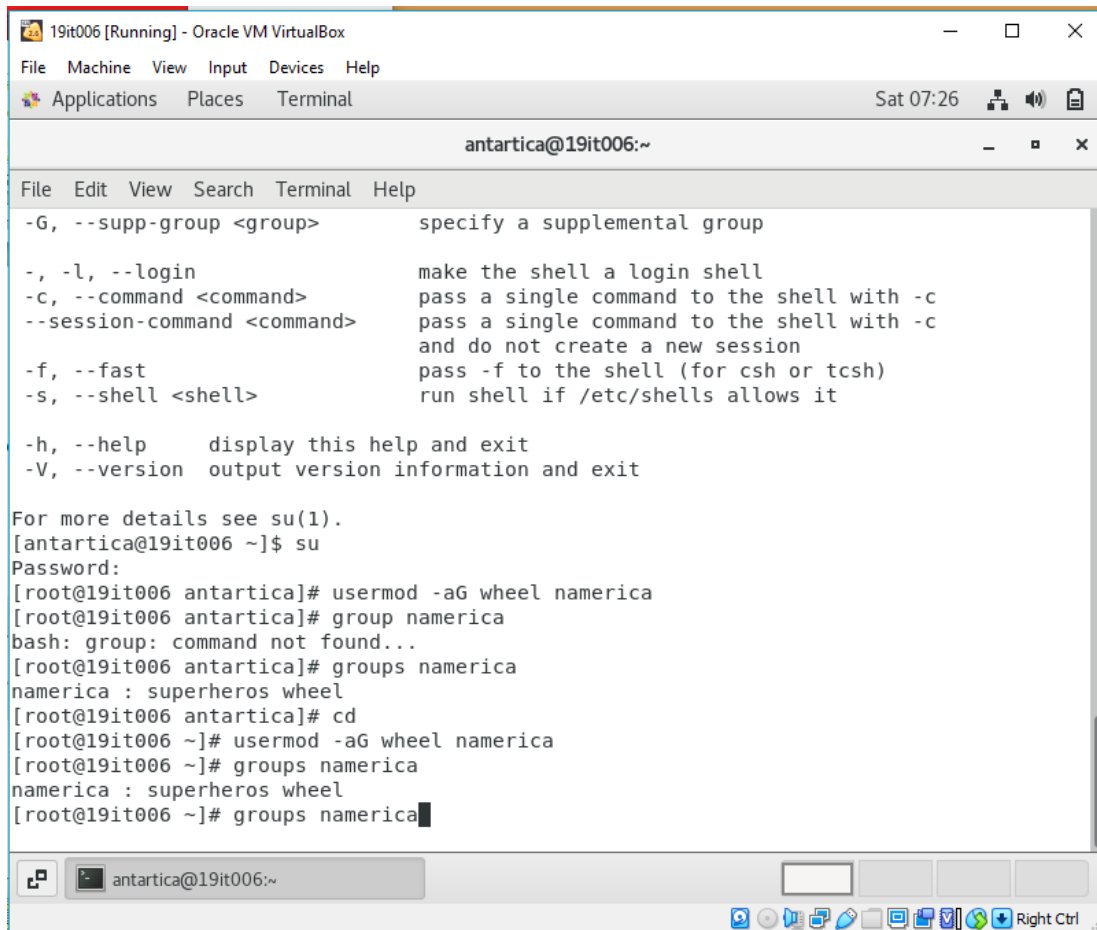


The screenshot shows a terminal window titled "19it006 [Running] - Oracle VM VirtualBox". The window has a menu bar with "File", "Machine", "View", "Input", "Devices", and "Help". Below the menu bar is a toolbar with "Applications", "Places", and "Terminal". The terminal itself has a title bar "antartica@19it006:~" and a menu bar with "File", "Edit", "View", "Search", "Terminal", and "Help". The terminal content shows a sequence of commands and outputs:

```
[asia@19it006 ~]$ su europe
Password:
[europe@19it006 asia]$ cd
[europe@19it006 ~]$ touch england
[europe@19it006 ~]$ ls
england
[europe@19it006 ~]$ su australia
Password:
[australia@19it006 europe]$ cd
[australia@19it006 ~]$ touch sydney
[australia@19it006 ~]$ ls
sydney
[australia@19it006 ~]$ su africa
Password:
[africa@19it006 australia]$ cd
[africa@19it006 ~]$ touch kenya
[africa@19it006 ~]$ ls
kenya
[africa@19it006 ~]$ su antartica
Password:
[antartica@19it006 africa]$ cd
[antartica@19it006 ~]$ touch lass
[antartica@19it006 ~]$ ls
lass
[antartica@19it006 ~]$
```

The terminal window also shows a taskbar at the bottom with various icons and a "Right Ctrl" button.

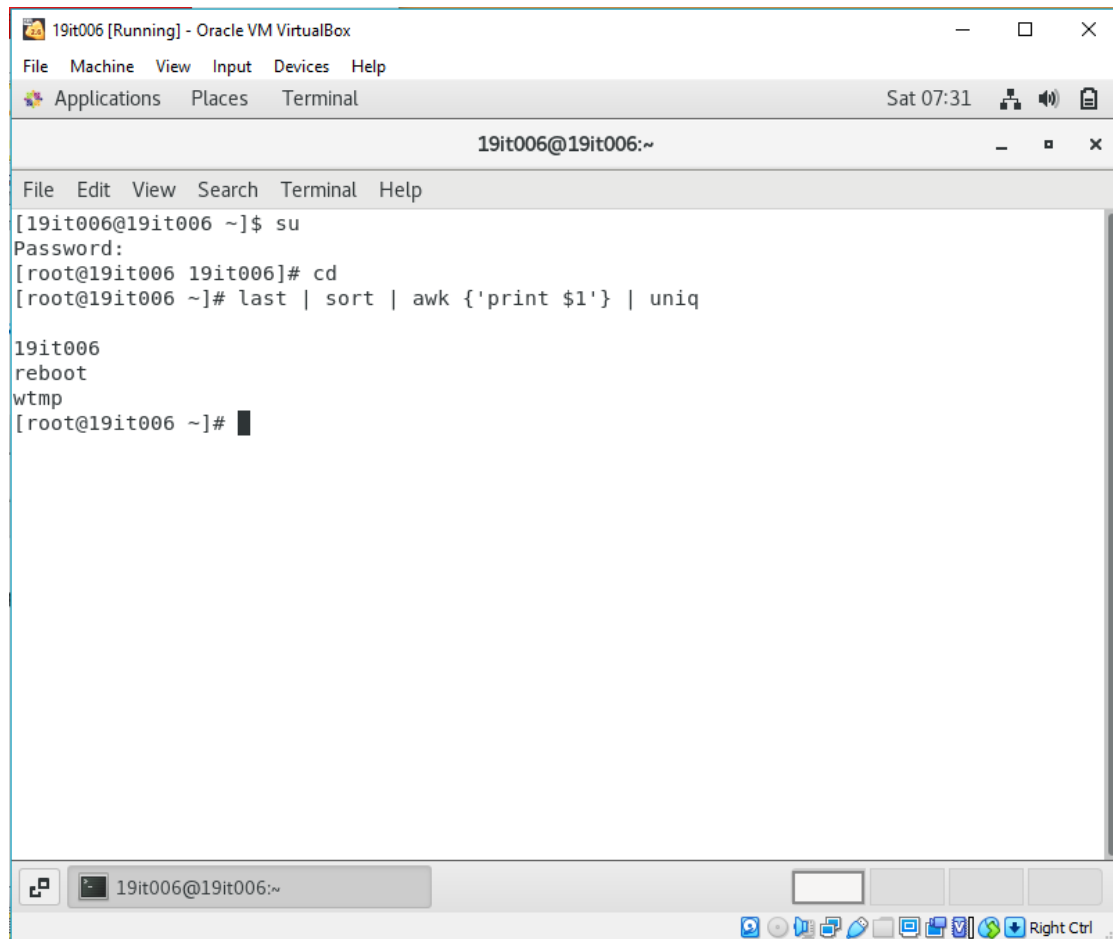
- Also add user namerica to wheel group to allow it to run root commands as root and then test it.



The screenshot shows a terminal window titled "19it006 [Running] - Oracle VM VirtualBox". The terminal output is as follows:

```
antartica@19it006:~  
File Edit View Search Terminal Help  
-G, --supp-group <group>      specify a supplemental group  
  
-, -l, --login                 make the shell a login shell  
-c, --command <command>       pass a single command to the shell with -c  
--session-command <command>   pass a single command to the shell with -c  
                                and do not create a new session  
-f, --fast                     pass -f to the shell (for csh or tcsh)  
-s, --shell <shell>           run shell if /etc/shells allows it  
  
-h, --help                     display this help and exit  
-V, --version                  output version information and exit  
  
For more details see su(1).  
[antartica@19it006 ~]$ su  
Password:  
[root@19it006 antartica]# usermod -aG wheel namerica  
[root@19it006 antartica]# group namerica  
bash: group: command not found...  
[root@19it006 antartica]# groups namerica  
namerica : superheroes wheel  
[root@19it006 antartica]# cd  
[root@19it006 ~]# usermod -aG wheel namerica  
[root@19it006 ~]# groups namerica  
namerica : superheroes wheel  
[root@19it006 ~]# groups namerica
```

- Run last command and find out the number of users logged in.(Do not count duplicate users)



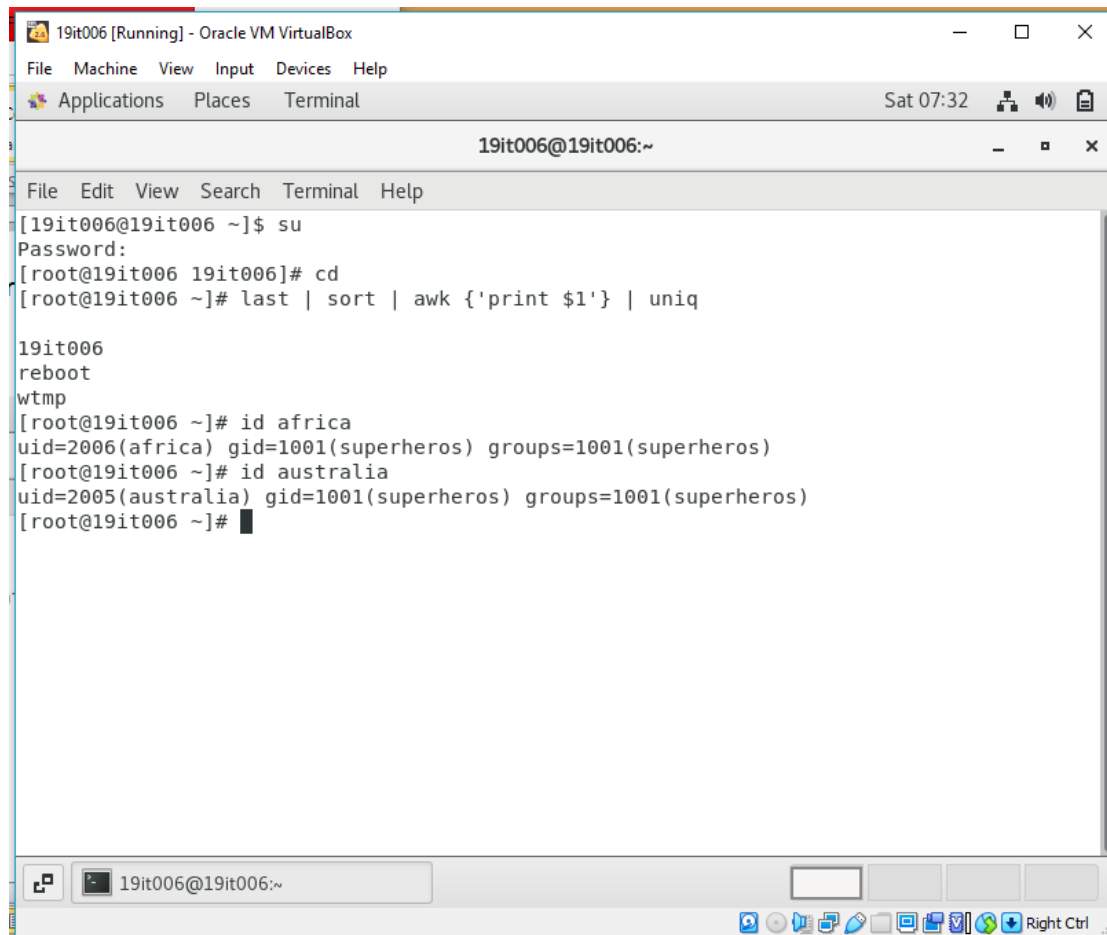
The screenshot shows a terminal window titled "19it006 [Running] - Oracle VM VirtualBox". The terminal has a menu bar with "File", "Machine", "View", "Input", "Devices", and "Help". Below the menu bar is a toolbar with "Applications", "Places", and "Terminal". The terminal's title bar shows "19it006@19it006:~" and a status bar on the right shows "Sat 07:31". The terminal's menu bar includes "File", "Edit", "View", "Search", "Terminal", and "Help". The terminal content shows the following commands and output:

```
[19it006@19it006 ~]$ su
Password:
[root@19it006 19it006]# cd
[root@19it006 ~]# last | sort | awk {'print $1'} | uniq

19it006
reboot
wtmp
[root@19it006 ~]#
```

The terminal window has a taskbar at the bottom with a "19it006@19it006:~" tab and a "Right Ctrl" button.

- Run id command on Africa and Australia users to verify their user id.



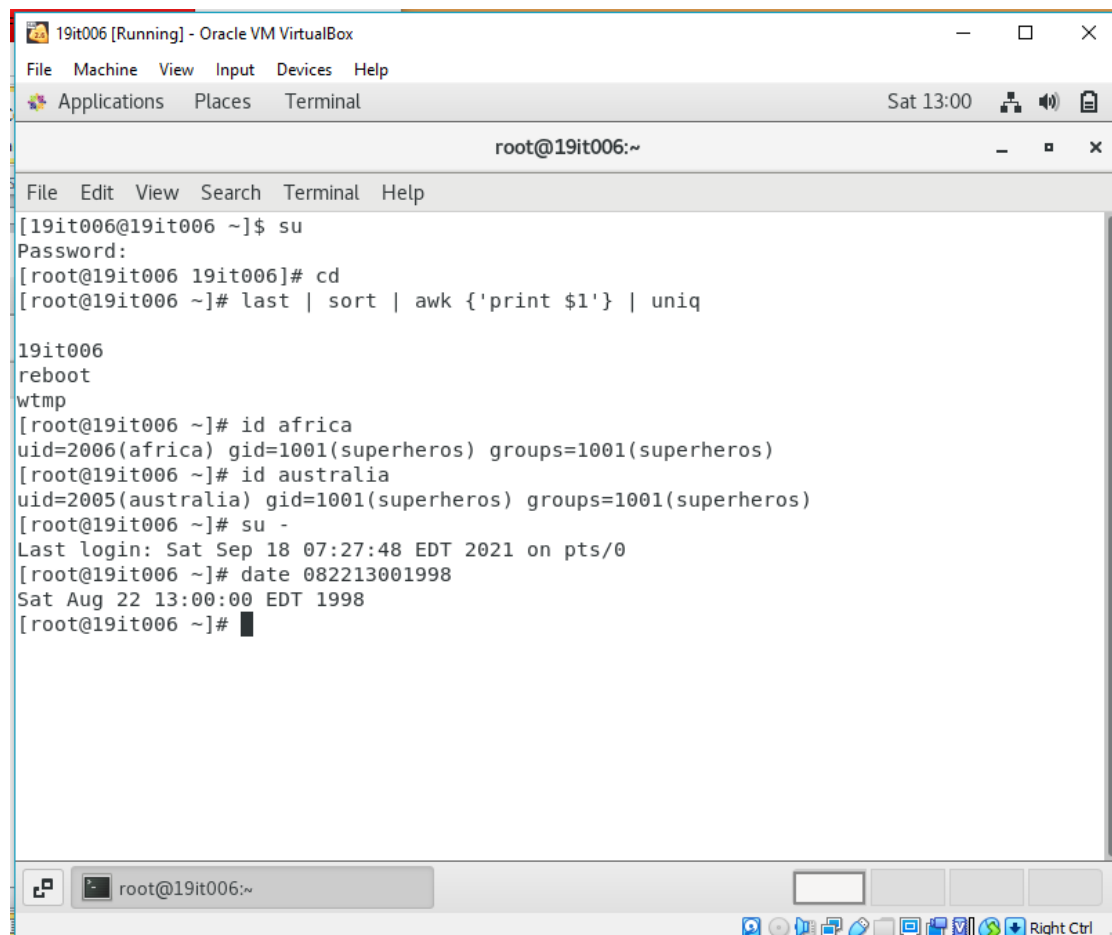
The screenshot shows a terminal window titled "19it006 [Running] - Oracle VM VirtualBox". The terminal displays the following commands and output:

```
[19it006@19it006 ~]$ su
Password:
[root@19it006 19it006]# cd
[root@19it006 ~]# last | sort | awk {'print $1'} | uniq

19it006
reboot
wtmp
[root@19it006 ~]# id africa
uid=2006(africa) gid=1001(superheros) groups=1001(superheros)
[root@19it006 ~]# id australia
uid=2005(australia) gid=1001(superheros) groups=1001(superheros)
[root@19it006 ~]#
```

The terminal window includes a menu bar (File, Machine, View, Input, Devices, Help), a toolbar (Applications, Places, Terminal), and a status bar (Sat 07:32, system icons, and a taskbar at the bottom with various application icons and a "Right Ctrl" key indicator).

- Change the date of your system to Aug 22 1998 at 1pm and verify.



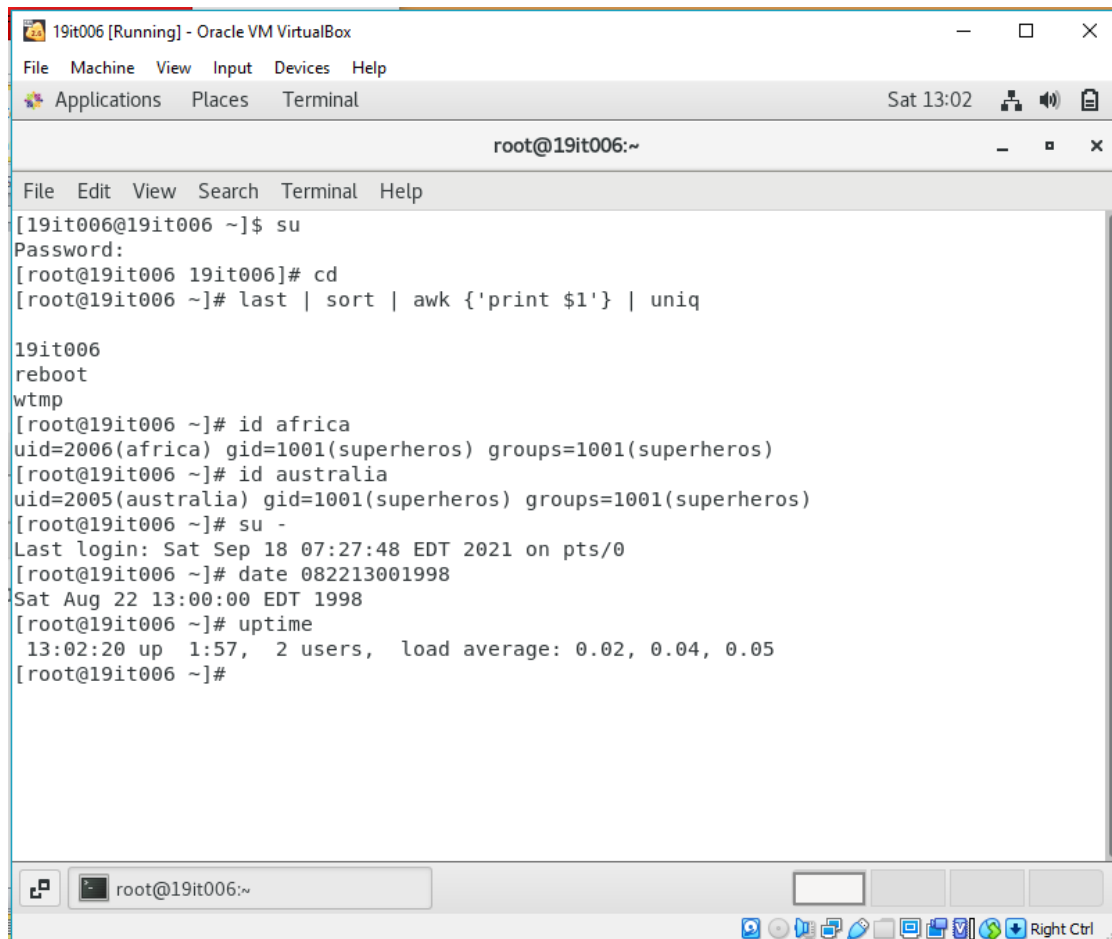
The screenshot shows a terminal window titled "19it006 [Running] - Oracle VM VirtualBox". The window has a menu bar with "File", "Machine", "View", "Input", "Devices", and "Help". Below the menu bar is a toolbar with "Applications", "Places", and "Terminal". The terminal itself has a title bar "root@19it006:~" and a menu bar with "File", "Edit", "View", "Search", "Terminal", and "Help". The terminal content shows the following commands and output:

```
[19it006@19it006 ~]$ su
Password:
[root@19it006 19it006]# cd
[root@19it006 ~]# last | sort | awk {'print $1'} | uniq

19it006
reboot
wtmpt
[root@19it006 ~]# id africa
uid=2006(africa) gid=1001(superheros) groups=1001(superheros)
[root@19it006 ~]# id australia
uid=2005(australia) gid=1001(superheros) groups=1001(superheros)
[root@19it006 ~]# su -
Last login: Sat Sep 18 07:27:48 EDT 2021 on pts/0
[root@19it006 ~]# date 082213001998
Sat Aug 22 13:00:00 EDT 1998
[root@19it006 ~]#
```

The terminal window also shows a taskbar at the bottom with various icons and a "Right Ctrl" button.

- Check system uptime



The screenshot shows a terminal window titled "19it006 [Running] - Oracle VM VirtualBox". The terminal prompt is "root@19it006:~". The user has executed the following commands and received the following output:

```
[19it006@19it006 ~]$ su
Password:
[root@19it006 19it006]# cd
[root@19it006 ~]# last | sort | awk {'print $1'} | uniq

19it006
reboot
wtmp
[root@19it006 ~]# id africa
uid=2006(africa) gid=1001(superheros) groups=1001(superheros)
[root@19it006 ~]# id australia
uid=2005(australia) gid=1001(superheros) groups=1001(superheros)
[root@19it006 ~]# su -
Last login: Sat Sep 18 07:27:48 EDT 2021 on pts/0
[root@19it006 ~]# date 082213001998
Sat Aug 22 13:00:00 EDT 1998
[root@19it006 ~]# uptime
13:02:20 up 1:57, 2 users, load average: 0.02, 0.04, 0.05
[root@19it006 ~]#
```

The terminal window includes a menu bar (File, Machine, View, Input, Devices, Help), a toolbar (Applications, Places, Terminal), and a status bar (Sat 13:02, system icons, and a taskbar at the bottom with various application icons and a "Right Ctrl" key indicator).

- List 1999 calendar

```

19it006 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal Sat 13:04
root@19it006:~
File Edit View Search Terminal Help
Sat Aug 22 13:00:00 EDT 1998
[root@19it006 ~]# uptime
13:02:20 up 1:57, 2 users, load average: 0.02, 0.04, 0.05
[root@19it006 ~]# cal 1999
1999

January February March
Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa
1 2 1 2 3 4 5 6 1 2 3 4 5 6
3 4 5 6 7 8 9 7 8 9 10 11 12 13 7 8 9 10 11 12 13
10 11 12 13 14 15 16 14 15 16 17 18 19 20 14 15 16 17 18 19 20
17 18 19 20 21 22 23 21 22 23 24 25 26 27 21 22 23 24 25 26 27
24 25 26 27 28 29 30 28 28 29 30 31
31

April May June
Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa
1 2 3 1 1 2 3 4 5
4 5 6 7 8 9 10 2 3 4 5 6 7 8 6 7 8 9 10 11 12
11 12 13 14 15 16 17 9 10 11 12 13 14 15 13 14 15 16 17 18 19
18 19 20 21 22 23 24 16 17 18 19 20 21 22 20 21 22 23 24 25 26
25 26 27 28 29 30 23 24 25 26 27 28 29 27 28 29 30
30 31

July August September
Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa
1 2 3 1 2 3 4 5 6 7 1 2 3 4
4 5 6 7 8 9 10 8 9 10 11 12 13 14 5 6 7 8 9 10 11

```



- Become yourself “your username” and run `df -h` command. Output the `df -h` command to another file name it `systemdiskinfo`.

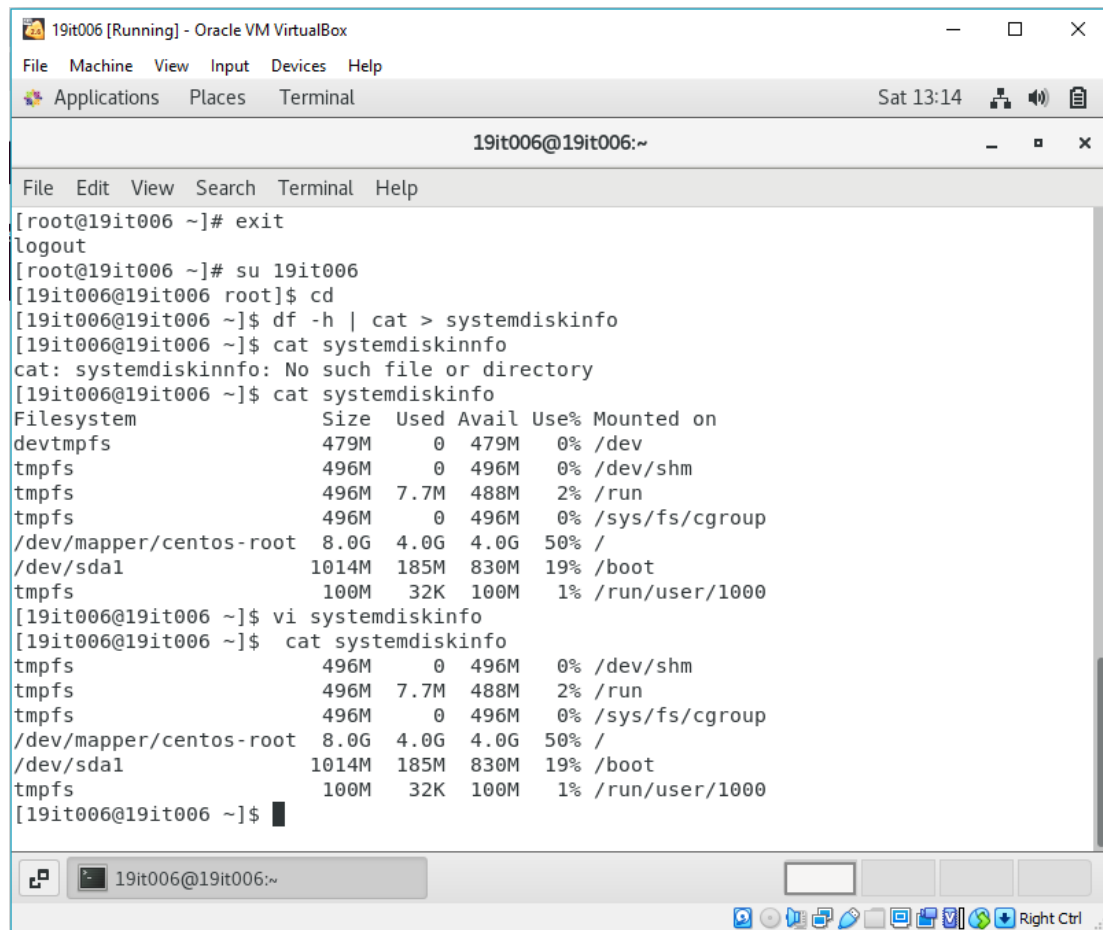
The screenshot shows a terminal window titled "19it006 [Running] - Oracle VM VirtualBox". The terminal prompt is `19it006@19it006:~`. The user enters `File Edit View Search Terminal Help` and then `31`. The prompt changes to `[root@19it006 ~]#`. The user enters `xit`, `bash: xit: command not found...`, `exit`, `logout`, `[root@19it006 ~]# su 19it006`, `[19it006@19it006 root]$ cd`, `[19it006@19it006 ~]$ df -h | cat > systemdiskinfo`, `[19it006@19it006 ~]$ cat systemdiskinfo`, `cat: systemdiskinfo: No such file or directory`, `[19it006@19it006 ~]$ cat systemdiskinfo`, and finally the output of the `df -h` command.

```

[19it006@19it006 ~]$ df -h | cat > systemdiskinfo
[19it006@19it006 ~]$ cat systemdiskinfo
cat: systemdiskinfo: No such file or directory
[19it006@19it006 ~]$ cat systemdiskinfo
Filesystem                Size      Used Avail Use% Mounted on
devtmpfs                   479M         0  479M   0% /dev
tmpfs                      496M         0  496M   0% /dev/shm
tmpfs                      496M   7.7M  488M   2% /run
tmpfs                      496M         0  496M   0% /sys/fs/cgroup
/dev/mapper/centos-root    8.0G   4.0G   4.0G  50% /
/dev/sda1                 1014M   185M   830M  19% /boot
tmpfs                      100M     32K   100M   1% /run/user/1000

```

- Vi systemdiskinfo file and remove the first and second line and save the file.

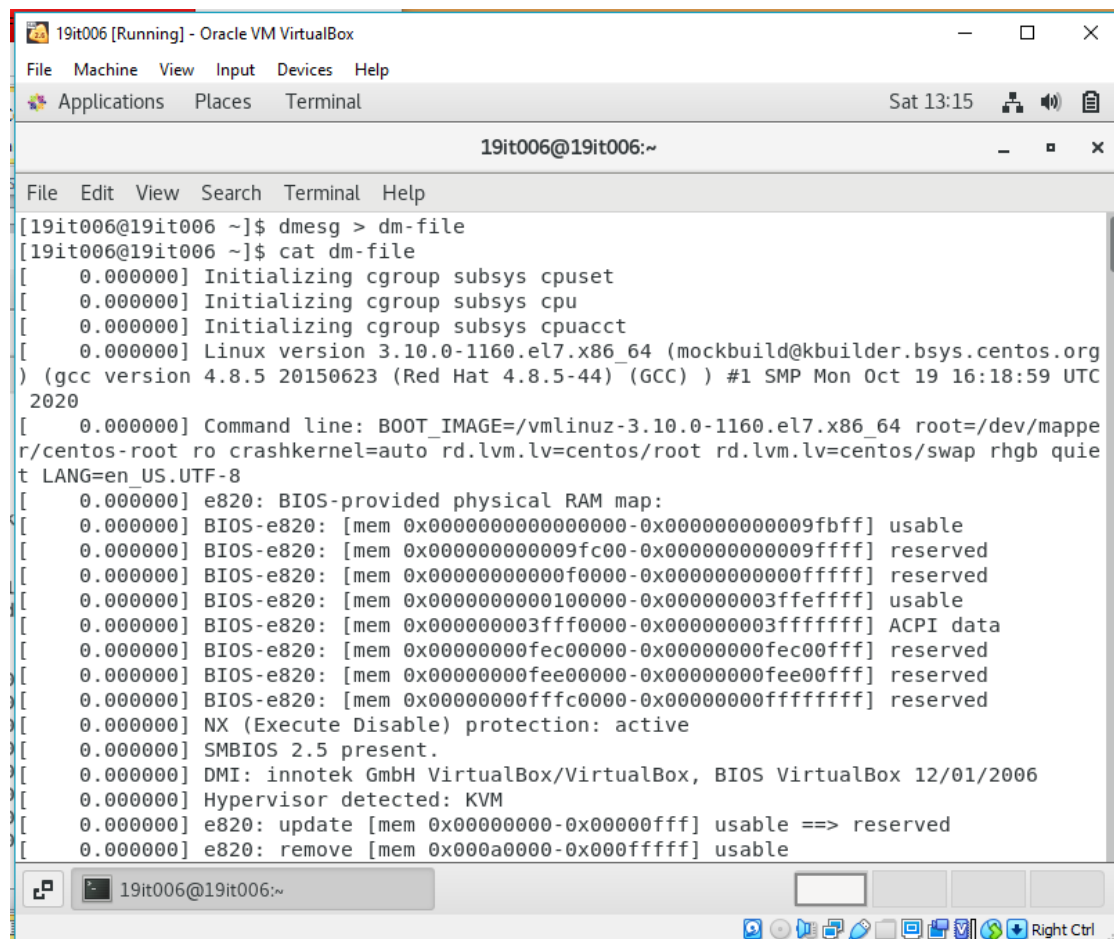


The screenshot shows a terminal window titled "19it006 [Running] - Oracle VM VirtualBox". The terminal output is as follows:

```
[root@19it006 ~]# exit
logout
[root@19it006 ~]# su 19it006
[19it006@19it006 root]$ cd
[19it006@19it006 ~]$ df -h | cat > systemdiskinfo
[19it006@19it006 ~]$ cat systemdiskinfo
cat: systemdiskinfo: No such file or directory
[19it006@19it006 ~]$ cat systemdiskinfo
Filesystem                Size      Used Avail Use% Mounted on
devtmpfs                   479M         0  479M   0% /dev
tmpfs                      496M         0  496M   0% /dev/shm
tmpfs                      496M   7.7M  488M   2% /run
tmpfs                      496M         0  496M   0% /sys/fs/cgroup
/dev/mapper/centos-root    8.0G   4.0G   4.0G  50% /
/dev/sda1                  1014M   185M   830M  19% /boot
tmpfs                      100M     32K   100M   1% /run/user/1000
[19it006@19it006 ~]$ vi systemdiskinfo
[19it006@19it006 ~]$ cat systemdiskinfo
tmpfs                      496M         0  496M   0% /dev/shm
tmpfs                      496M   7.7M  488M   2% /run
tmpfs                      496M         0  496M   0% /sys/fs/cgroup
/dev/mapper/centos-root    8.0G   4.0G   4.0G  50% /
/dev/sda1                  1014M   185M   830M  19% /boot
tmpfs                      100M     32K   100M   1% /run/user/1000
[19it006@19it006 ~]$
```

The terminal window has a menu bar with "File", "Machine", "View", "Input", "Devices", and "Help". Below the menu bar is a toolbar with "Applications", "Places", and "Terminal". The status bar at the bottom shows "Sat 13:14" and system icons. The terminal window itself has a menu bar with "File", "Edit", "View", "Search", "Terminal", and "Help".

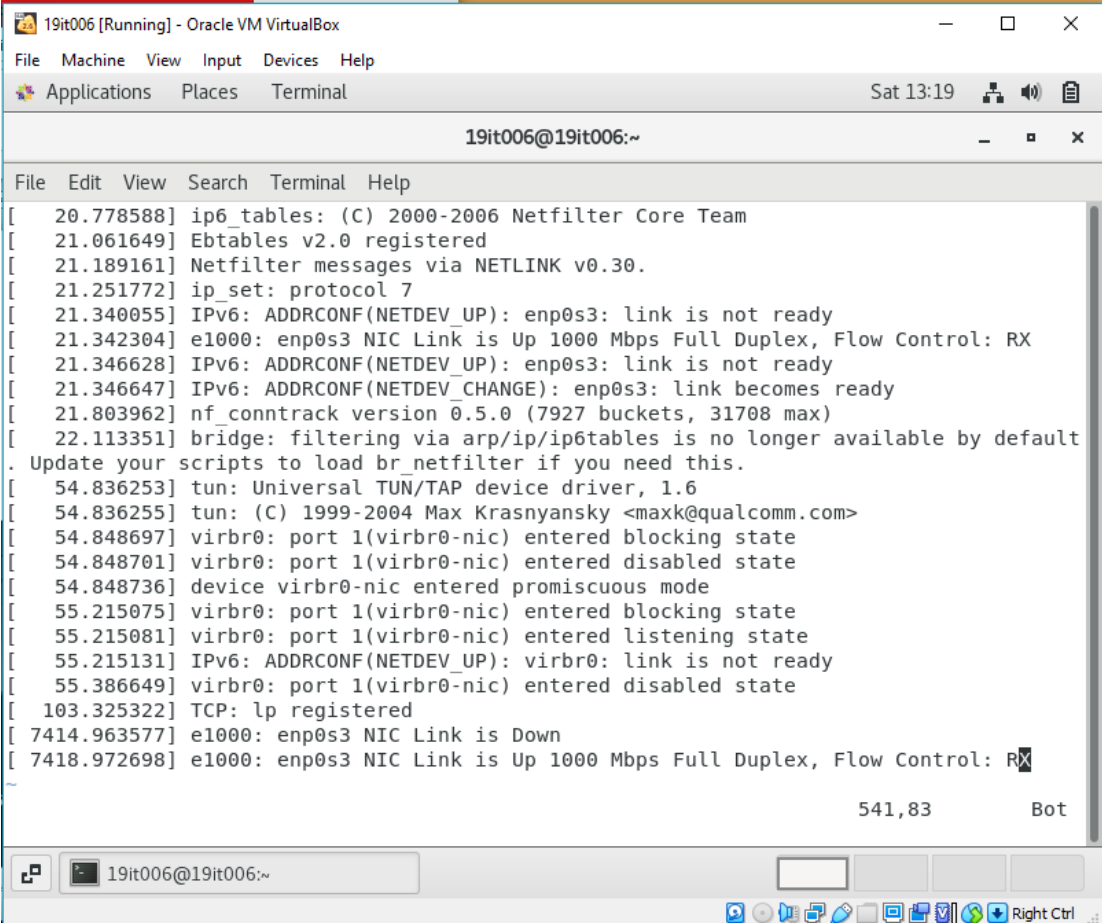
- Run dmesg command and output to dm-file.



The screenshot shows a VirtualBox window titled "19it006 [Running] - Oracle VM VirtualBox". Inside, a terminal window is open with the prompt "19it006@19it006:~". The terminal output shows the execution of the `dmesg > dm-file` command, followed by `cat dm-file`. The output is a log of system boot messages, including cgroup initialization, kernel version (3.10.0-1160.el7.x86\_64), command line, and BIOS/UEFI memory map details. The terminal window has a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar at the bottom showing system icons and a "Right Ctrl" indicator.

```
19it006@19it006 ~]$ dmesg > dm-file
19it006@19it006 ~]$ cat dm-file
[    0.000000] Initializing cgroup subsys cpuset
[    0.000000] Initializing cgroup subsys cpu
[    0.000000] Initializing cgroup subsys cpuacct
[    0.000000] Linux version 3.10.0-1160.el7.x86_64 (mockbuild@kbuilder.bsys.centos.org
) (gcc version 4.8.5 20150623 (Red Hat 4.8.5-44) (GCC) ) #1 SMP Mon Oct 19 16:18:59 UTC
2020
[    0.000000] Command line: BOOT_IMAGE=/vmlinuz-3.10.0-1160.el7.x86_64 root=/dev/mappe
r/centos-root ro crashkernel=auto rd.lvm.lv=centos/root rd.lvm.lv=centos/swap rhgb quie
t LANG=en_US.UTF-8
[    0.000000] e820: BIOS-provided physical RAM map:
[    0.000000] BIOS-e820: [mem 0x0000000000000000-0x000000000009fbff] usable
[    0.000000] BIOS-e820: [mem 0x000000000009fc00-0x000000000009ffff] reserved
[    0.000000] BIOS-e820: [mem 0x00000000000f0000-0x00000000000fffff] reserved
[    0.000000] BIOS-e820: [mem 0x0000000000100000-0x00000000003fffff] usable
[    0.000000] BIOS-e820: [mem 0x00000000003fff0000-0x00000000003fffff] ACPI data
[    0.000000] BIOS-e820: [mem 0x00000000fec00000-0x00000000fec00fff] reserved
[    0.000000] BIOS-e820: [mem 0x00000000fee00000-0x00000000fee00fff] reserved
[    0.000000] BIOS-e820: [mem 0x00000000fffc0000-0x00000000ffffffff] reserved
[    0.000000] NX (Execute Disable) protection: active
[    0.000000] SMBIOS 2.5 present.
[    0.000000] DMI: innotek GmbH VirtualBox/VirtualBox, BIOS VirtualBox 12/01/2006
[    0.000000] Hypervisor detected: KVM
[    0.000000] e820: update [mem 0x00000000-0x00000fff] usable ==> reserved
[    0.000000] e820: remove [mem 0x000a0000-0x000fffff] usable
```

- Vi dm-file and remove the last 5-7 lines.
  - Add text in the end of file dm-file using vi. Text= this is the end of file.
- Then save the file.



The screenshot shows a VirtualBox window titled "19it006 [Running] - Oracle VM VirtualBox". Inside, there is a terminal window titled "19it006@19it006:~". The terminal displays a series of log messages from the kernel, including network interface status changes and netfilter updates. The messages are timestamped and include details about the enp0s3 NIC and the virbr0 interface. The terminal window has a menu bar with "File", "Edit", "View", "Search", "Terminal", and "Help". The status bar at the bottom of the terminal shows "541,83" and "Bot".

```
[ 20.778588] ip6_tables: (C) 2000-2006 Netfilter Core Team
[ 21.061649] Ebtables v2.0 registered
[ 21.189161] Netfilter messages via NETLINK v0.30.
[ 21.251772] ip_set: protocol 7
[ 21.340055] IPv6: ADDRCONF(NETDEV_UP): enp0s3: link is not ready
[ 21.342304] e1000: enp0s3 NIC Link is Up 1000 Mbps Full Duplex, Flow Control: RX
[ 21.346628] IPv6: ADDRCONF(NETDEV_UP): enp0s3: link is not ready
[ 21.346647] IPv6: ADDRCONF(NETDEV_CHANGE): enp0s3: link becomes ready
[ 21.803962] nf_conntrack version 0.5.0 (7927 buckets, 31708 max)
[ 22.113351] bridge: filtering via arp/ip/ip6tables is no longer available by default
. Update your scripts to load br_netfilter if you need this.
[ 54.836253] tun: Universal TUN/TAP device driver, 1.6
[ 54.836255] tun: (C) 1999-2004 Max Krasnyansky <maxk@qualcomm.com>
[ 54.848697] virbr0: port 1(virbr0-nic) entered blocking state
[ 54.848701] virbr0: port 1(virbr0-nic) entered disabled state
[ 54.848736] device virbr0-nic entered promiscuous mode
[ 55.215075] virbr0: port 1(virbr0-nic) entered blocking state
[ 55.215081] virbr0: port 1(virbr0-nic) entered listening state
[ 55.215131] IPv6: ADDRCONF(NETDEV_UP): virbr0: link is not ready
[ 55.386649] virbr0: port 1(virbr0-nic) entered disabled state
[ 103.325322] TCP: lp registered
[ 7414.963577] e1000: enp0s3 NIC Link is Down
[ 7418.972698] e1000: enp0s3 NIC Link is Up 1000 Mbps Full Duplex, Flow Control: RX
```

- Reboot the system using init command.

