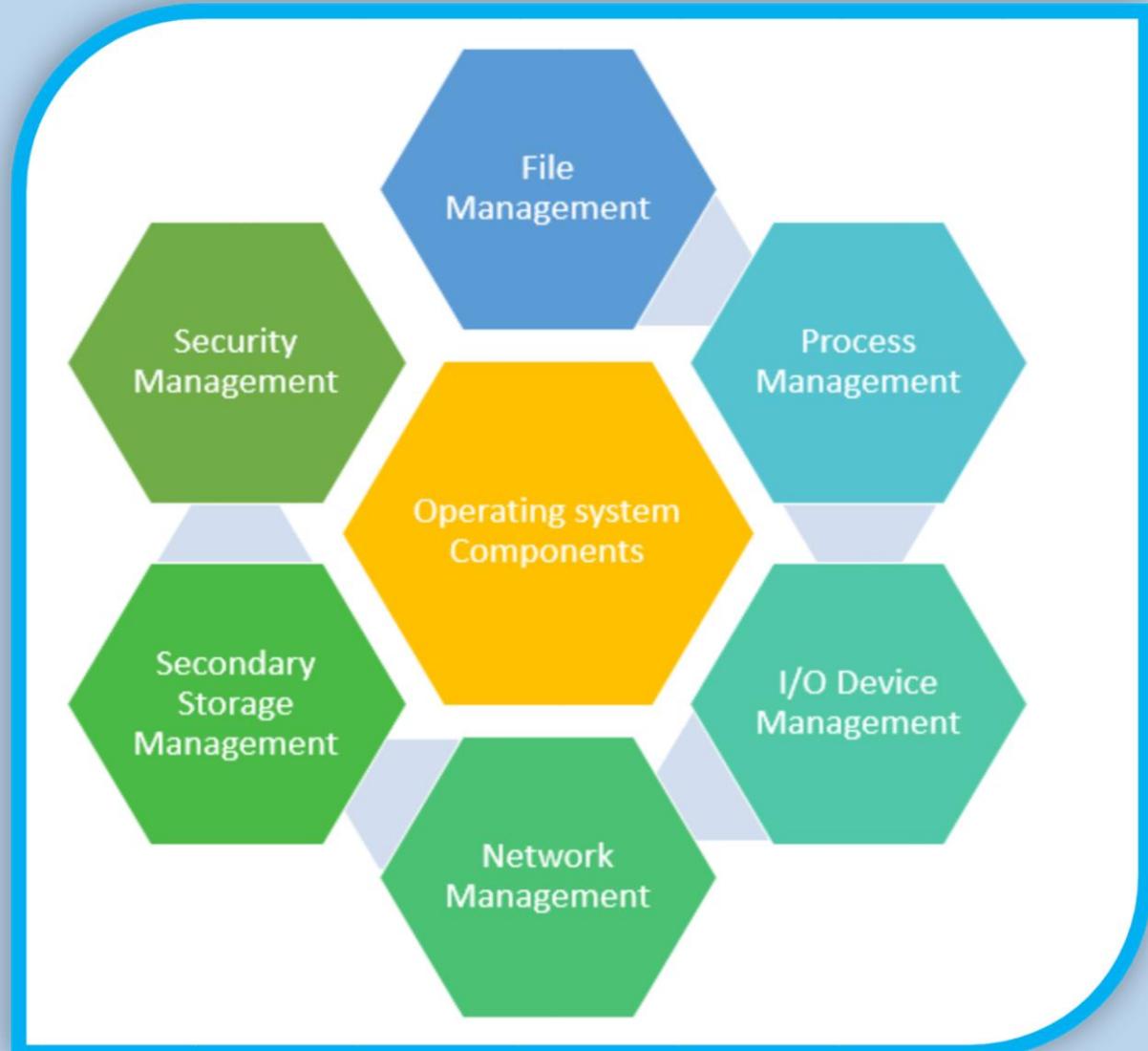




Homework

Operating System

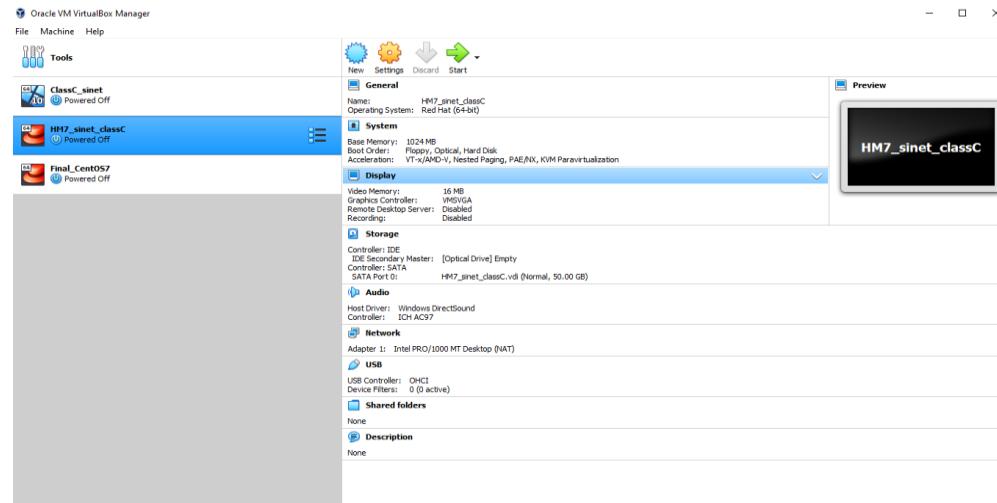
Chapter9



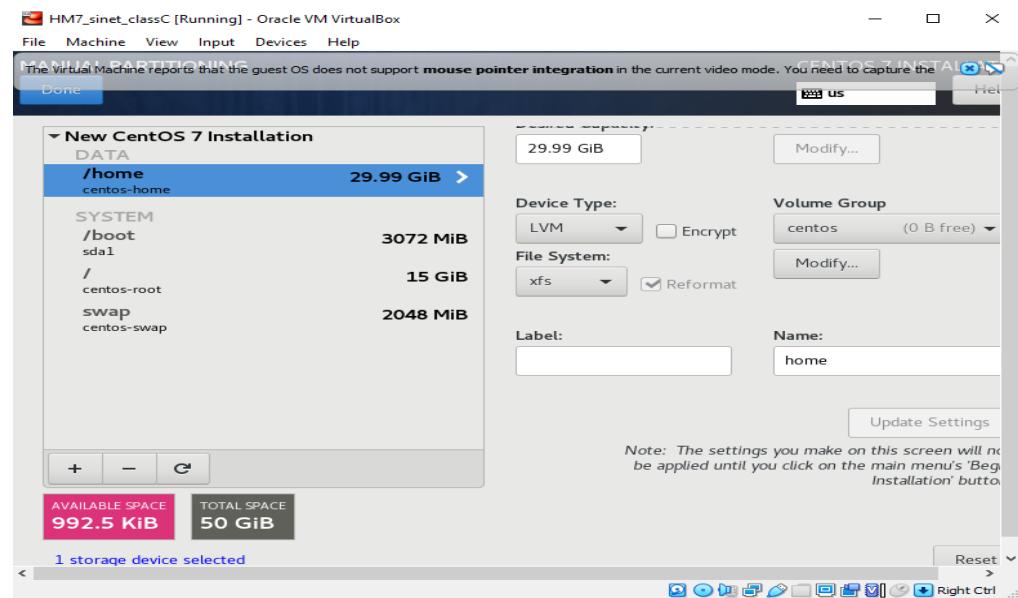


1. Install CentOS 7 on your VirtualBox

- Information of centos 7

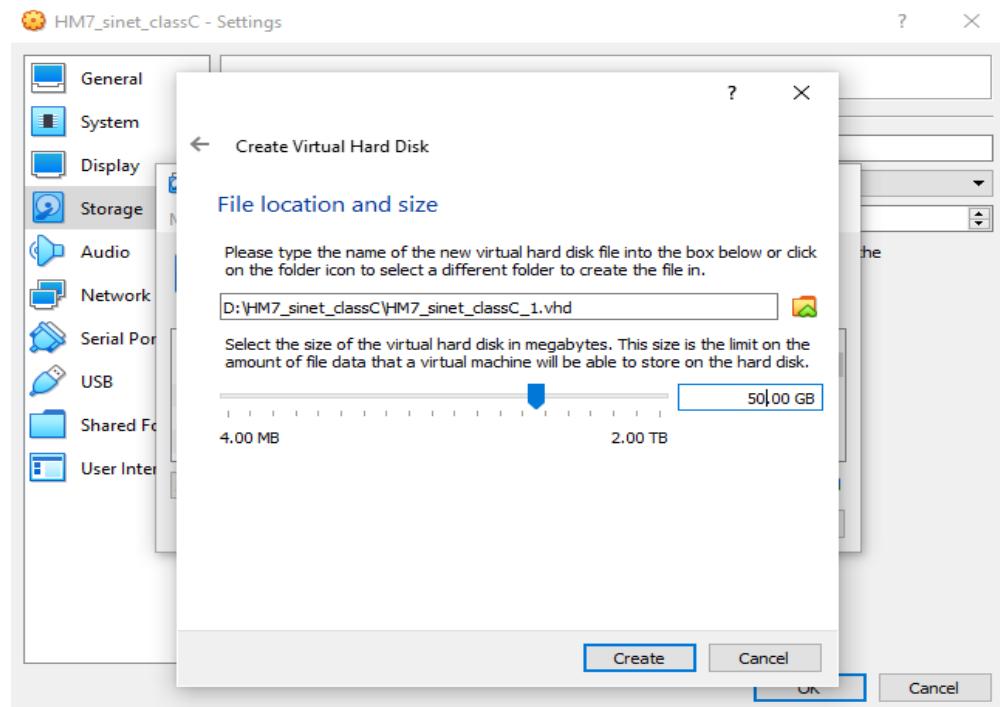


- Divide HDD





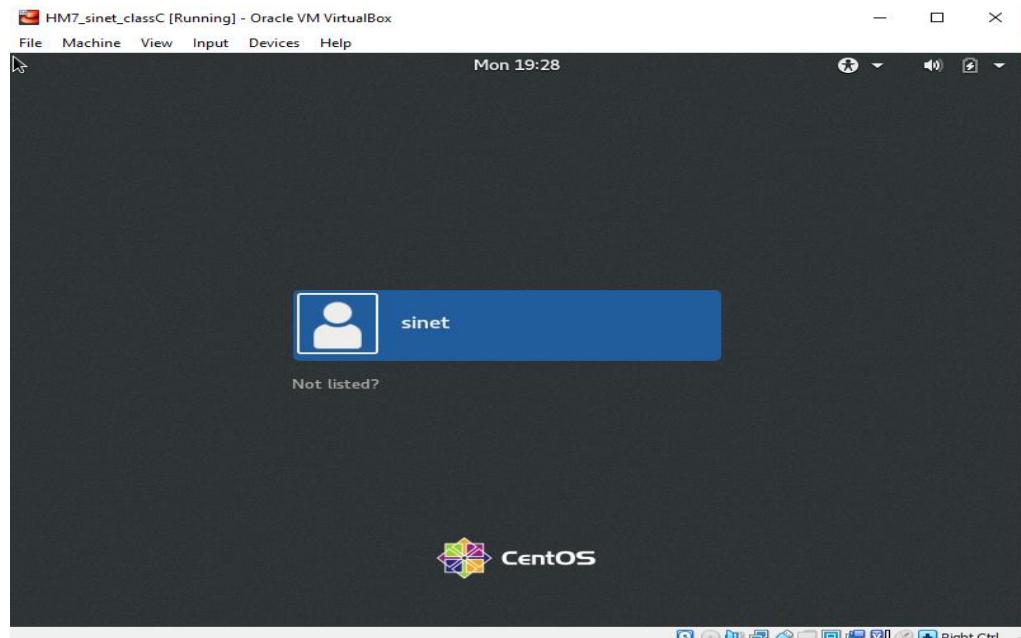
- Add new disk



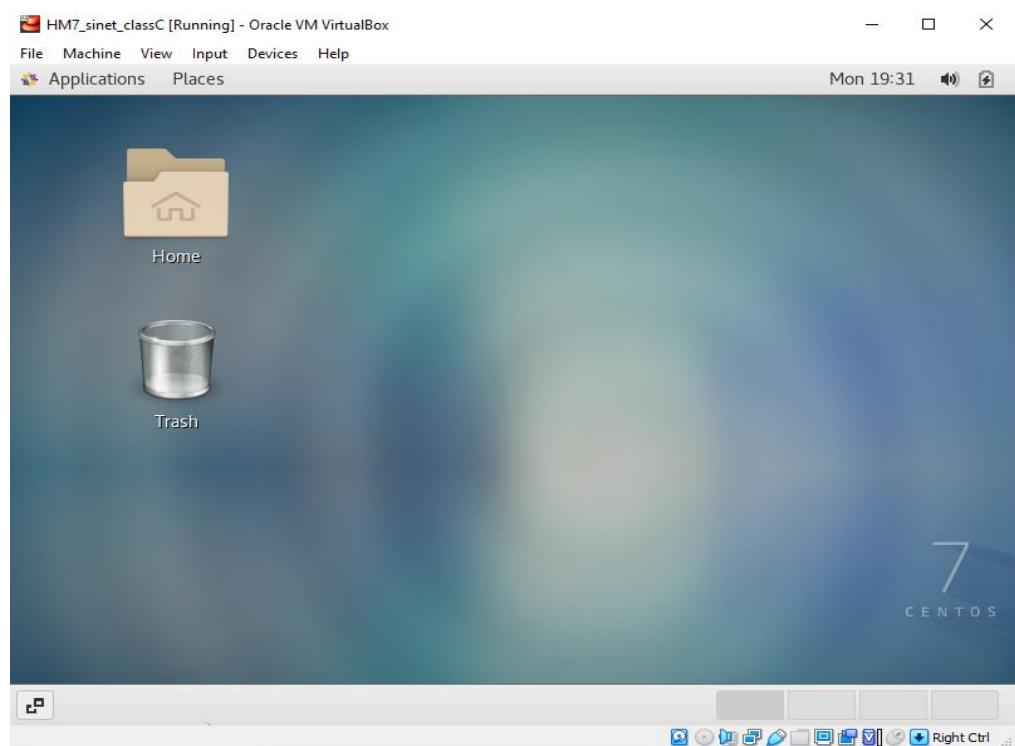
```
[root@homework_ch7 ~]# lsblk
NAME      MAJ:MIN RM  SIZE RO TYPE MOUNTPOINT
sda        8:0    0   50G  0 disk 
└─sda1     8:1    0    3G  0 part /boot
  └─sda2     8:2    0   47G  0 part 
    ├─centos-root 253:0    0   15G  0 lvm  /
    ├─centos-swap 253:1    0    2G  0 lvm  [SWAP]
    └─centos-home 253:2    0   30G  0 lvm  /home
sdb        8:16   0   50G  0 disk 
└─sdb1     8:17   0   50G  0 part
sr0       11:0    1 1024M 0 rom
```



- Login centos 7



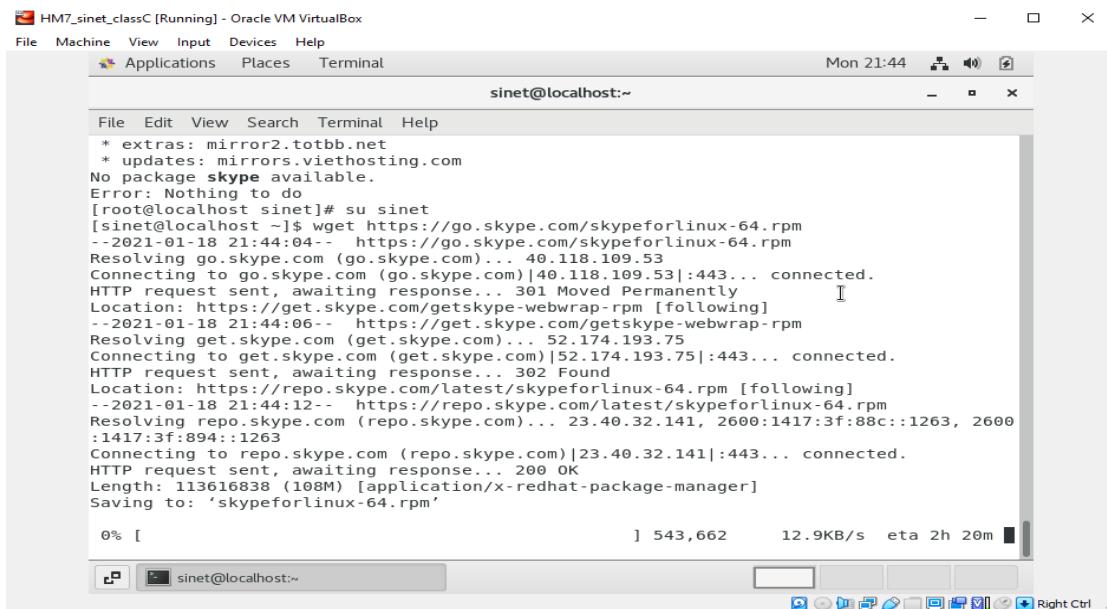
- Result of installing centos 7





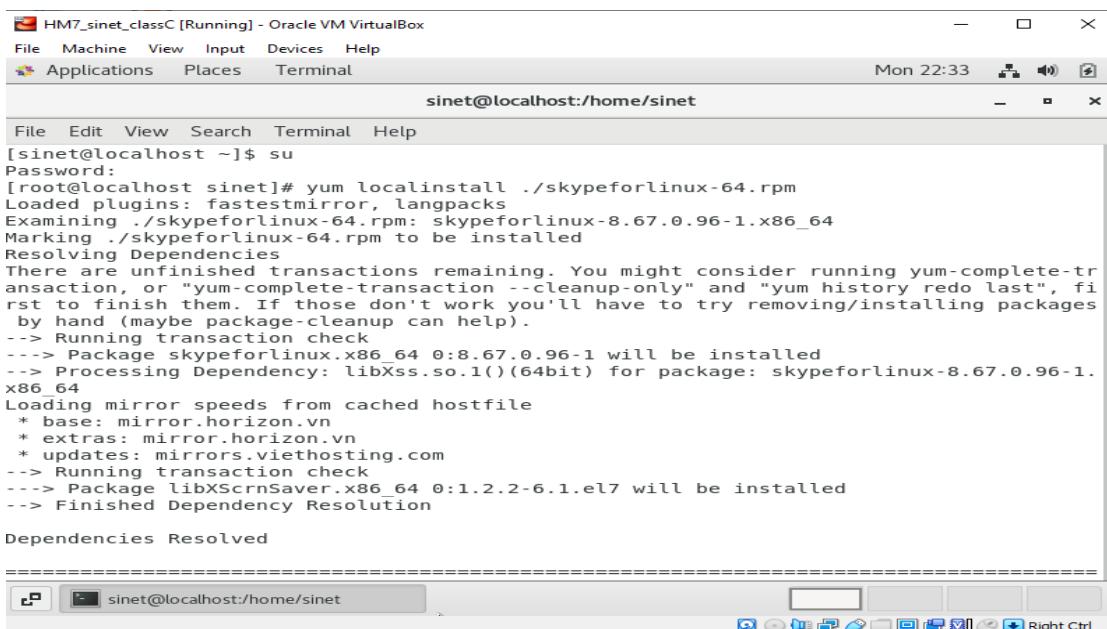
2. Install package:

- Skype



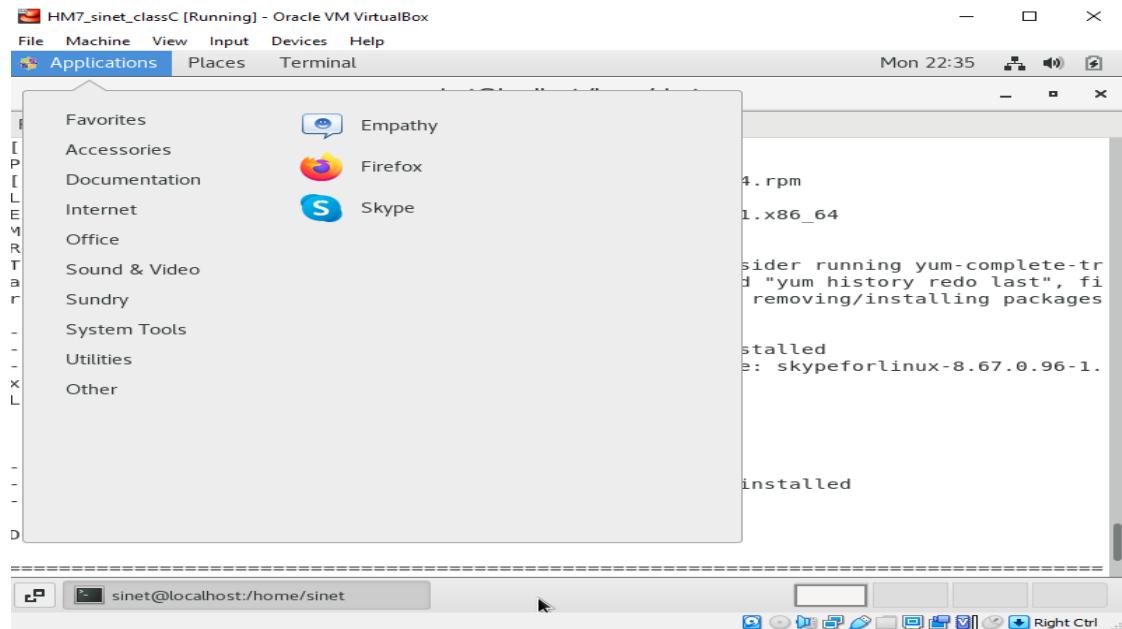
```
HM7_sinet_classC [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal
sinet@localhost:~ Mon 21:44
File Edit View Search Terminal Help
* extras: mirror2.totbb.net
* updates: mirrors.viethosting.com
No package skype available.
Error: Nothing to do
[root@localhost sinet]# su sinet
[sinet@localhost ~]$ wget https://go.skype.com/skypeforlinux-64.rpm
--2021-01-18 21:44:04-- https://go.skype.com/skypeforlinux-64.rpm
Resolving go.skype.com (go.skype.com)... 40.118.109.53
Connecting to go.skype.com (go.skype.com)|40.118.109.53|:443... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: https://get.skype.com/getskype-webwrap-rpm [following]
--2021-01-18 21:44:06-- https://get.skype.com/getskype-webwrap-rpm
Resolving get.skype.com (get.skype.com)... 52.174.193.75
Connecting to get.skype.com (get.skype.com)|52.174.193.75|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://repo.skype.com/latest/skypeforlinux-64.rpm [following]
--2021-01-18 21:44:12-- https://repo.skype.com/latest/skypeforlinux-64.rpm
Resolving repo.skype.com (repo.skype.com)... 23.40.32.141, 2600:1417:3f:88c::1263, 2600
:1417:3f:894::1263
Connecting to repo.skype.com (repo.skype.com)|23.40.32.141|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 113616838 (108M) [application/x-redhat-package-manager]
Saving to: 'skypeforlinux-64.rpm'

0% [                                ] 543,662      12.9KB/s eta 2h 20m
```

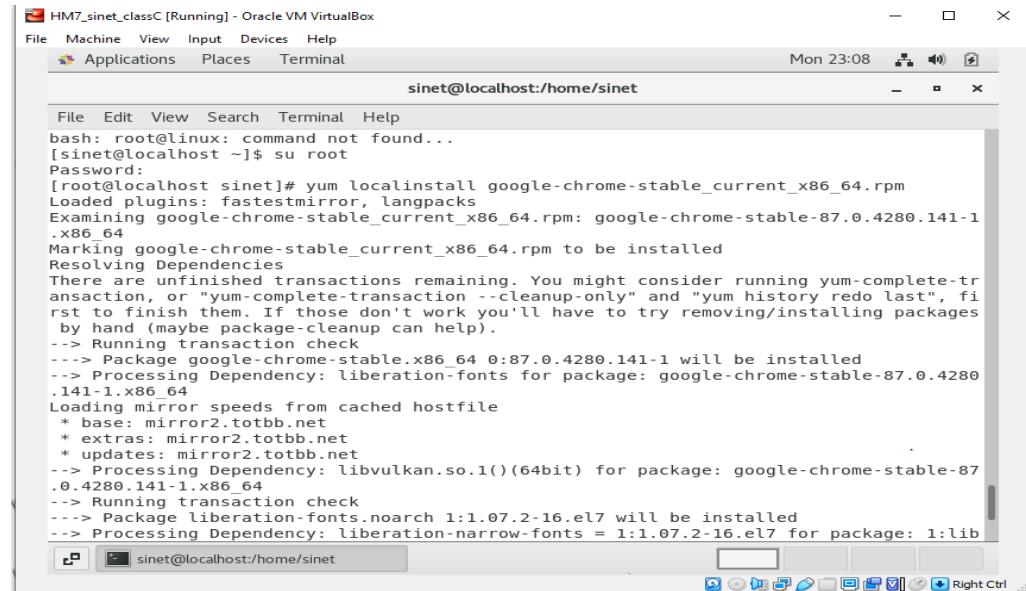


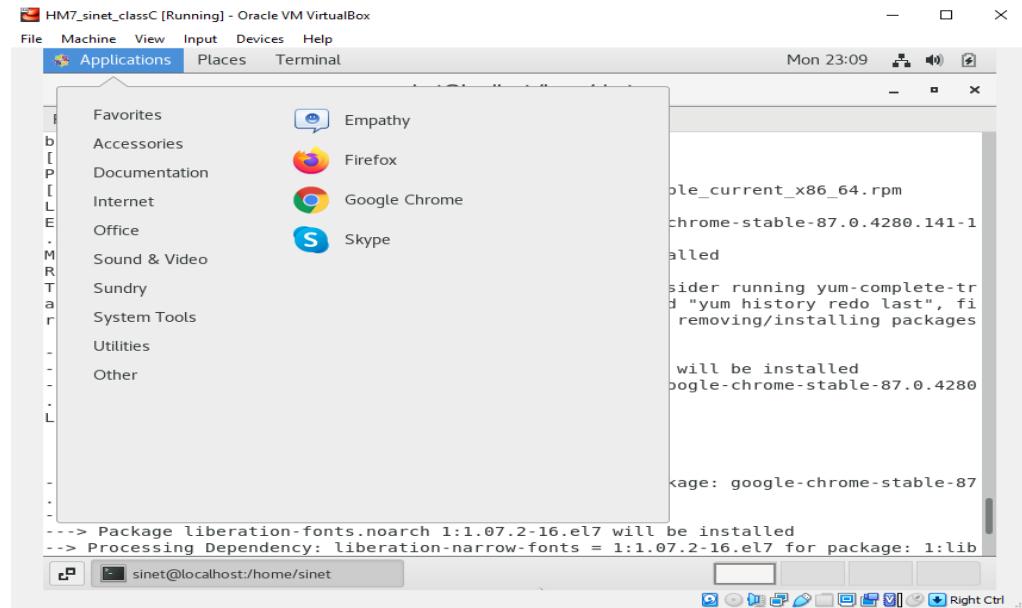
```
HM7_sinet_classC [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal
sinet@localhost:/home/sinet Mon 22:33
File Edit View Search Terminal Help
[sinet@localhost ~]$ su
Password:
[root@localhost sinet]# yum localinstall ./skypeforlinux-64.rpm
Loaded plugins: fastestmirror, langpacks
Examining ./skypeforlinux-64.rpm: skypeforlinux-8.67.0.96-1.x86_64
Marking ./skypeforlinux-64.rpm to be installed
Resolving Dependencies
There are unfinished transactions remaining. You might consider running yum-complete-tr
ansaction, or "yum-complete-transaction --cleanup-only" and "yum history redo last", fi
rst to finish them. If those don't work you'll have to try removing/installing packages
by hand (maybe package-cleanup can help).
--> Running transaction check
-->> Package skypeforlinux.x86_64 0:8.67.0.96-1 will be installed
-->> Processing Dependency: libXss.so.1()(64bit) for package: skypeforlinux-8.67.0.96-1.
x86_64
Loading mirror speeds from cached hostfile
* base: mirror.horizon.vn
* extras: mirror.horizon.vn
* updates: mirrors.viethosting.com
-->> Running transaction check
-->>> Package libXScrnSaver.x86_64 0:1.2.2-6.1.el7 will be installed
-->> Finished Dependency Resolution

Dependencies Resolved
```

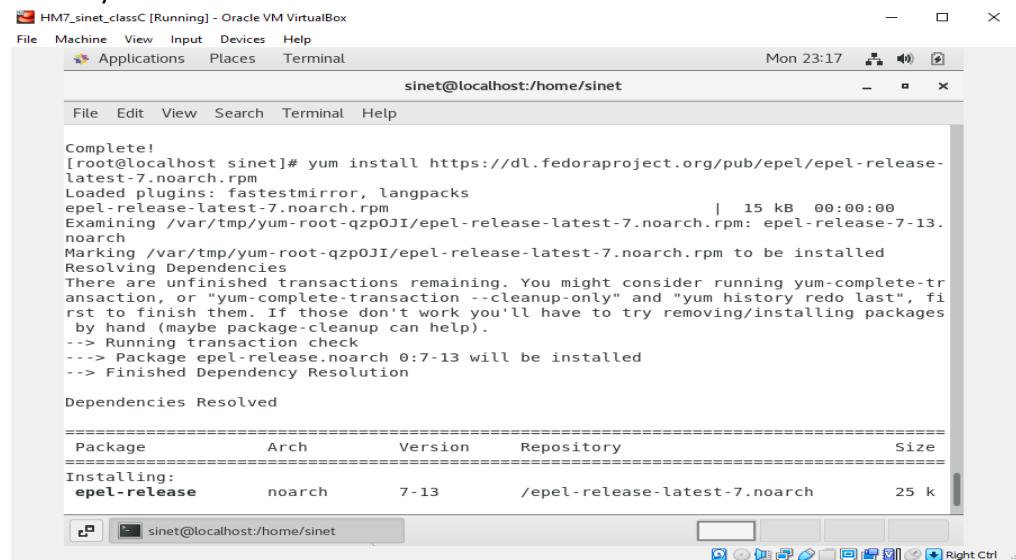


- Google Chrome





- VLC Player





```
HM7_sinet_classC [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal Mon 23:24
sinet@localhost:/home/sinet
File Edit View Search Terminal Help
epel-release.noarch 0:7-13

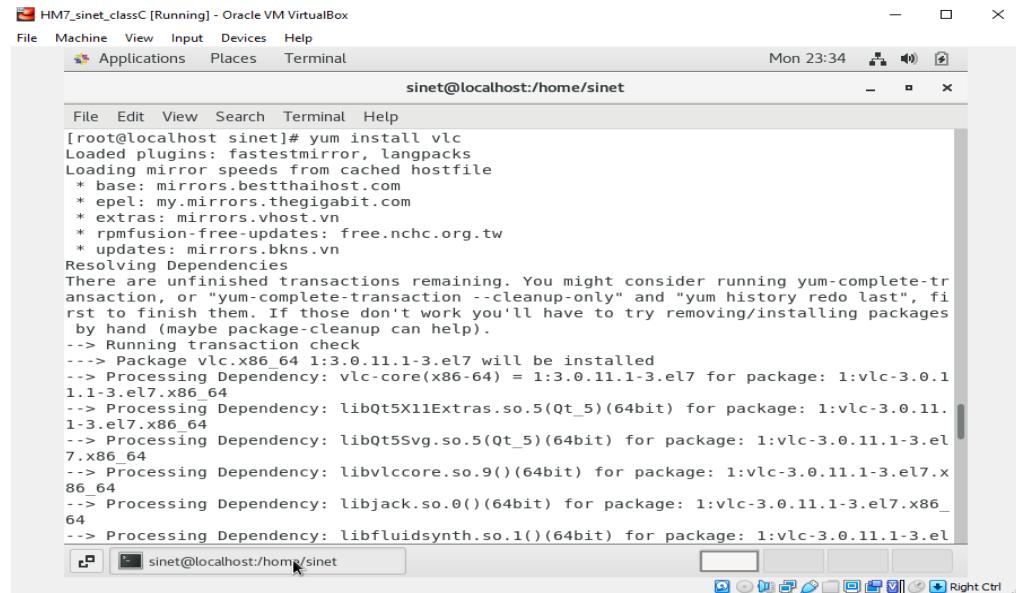
Complete!
[root@localhost sinet]# yum install https://download1.rpmfusion.org/free/el/rpmfusion-free-release-7.noarch.rpm
Loaded plugins: fastestmirror, langpacks
rpmfusion-free-release-7.noarch.rpm | 6.3 kB 00:00:00
Examining /var/tmp/yum-root-qzp0J1/rpmfusion-free-release-7.noarch.rpm: rpmfusion-free-release-7-4.noarch
Marking /var/tmp/yum-root-qzp0J1/rpmfusion-free-release-7.noarch.rpm to be installed
Resolving Dependencies
There are unfinished transactions remaining. You might consider running yum-complete-transaction, or "yum-complete-transaction --cleanup-only" and "yum history redo last", first to finish them. If those don't work you'll have to try removing/installing packages by hand (maybe package-cleanup can help).
--> Running transaction check
--> Package rpmfusion-free-release.noarch 0:7-4 will be installed
--> Finished Dependency Resolution
epel/x86_64/metalink | 8.7 kB 00:00:00
epel/x86_64/group_gz | 4.7 kB 00:00:00
epel/x86_64/updateinfo | 95 kB 00:00:00
epel/x86_64/primary_db | 1.0 MB 00:00:03
epel/x86_64/primary_db | 6.9 MB 00:00:38

Dependencies Resolved

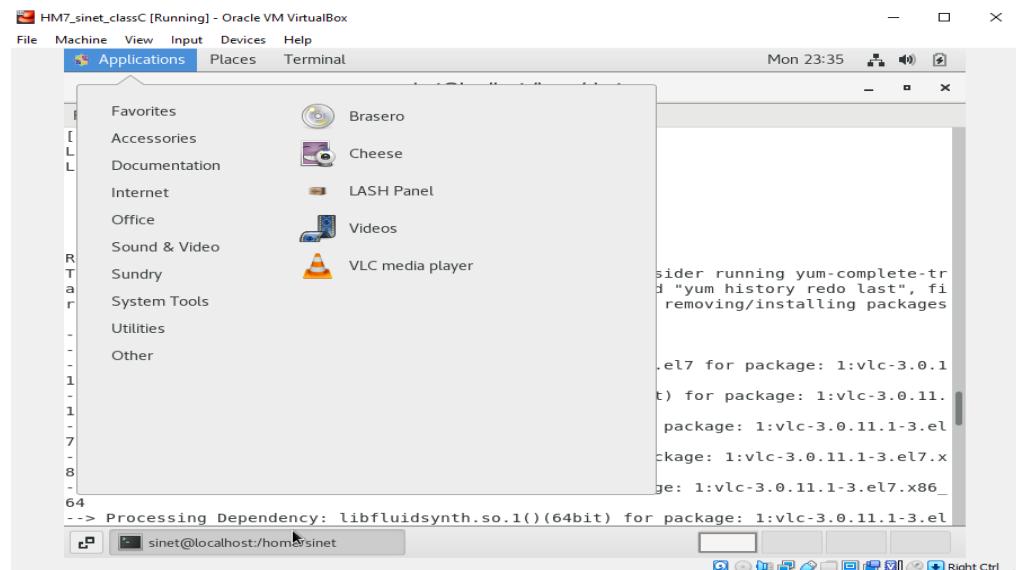
sinet@localhost:/home/sinet
```

```
HM7_sinet_classC [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal Mon 23:26
sinet@localhost:/home/sinet
File Edit View Search Terminal Help
Complete!
[root@localhost sinet]# yum info vlc
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: mirror.cambo.host
 * epel: fedora.cs.nctu.edu.tw
 * extras: mirror.cambo.host
 * rpmfusion-free-updates: mirror.lzu.edu.cn
 * updates: mirror.cambo.host
rpmfusion-free-updates
(1/2): rpmfusion-free-updates/x86_64/group_gz | 3.7 kB 00:00:00
(1/2): rpmfusion-free-updates/x86_64/ FAILED
http://mirrors.piconecs.webwerks.in/rpmfusion-mirror/free/el/updates/7/x86_64/repo/79b56ac95da16e69765db5df8a2e6bf1ae17a0c67df9f6ba682f4dd5a302ed5-primary.sqlite.xz: [Errno 14] HTTP Error 500 - Internal Server Error
Trying other mirror.
(2/2): rpmfusion-free-updates/x86_64/primary_db | 253 kB 00:00:01
Available Packages
Name : vlc
Arch : x86_64
Epoch : 1
Version : 3.0.11.1
Release : 3.el7
Size : 1.5 M
Repo : rpmfusion-free-updates/x86_64

sinet@localhost:/home/sinet
```

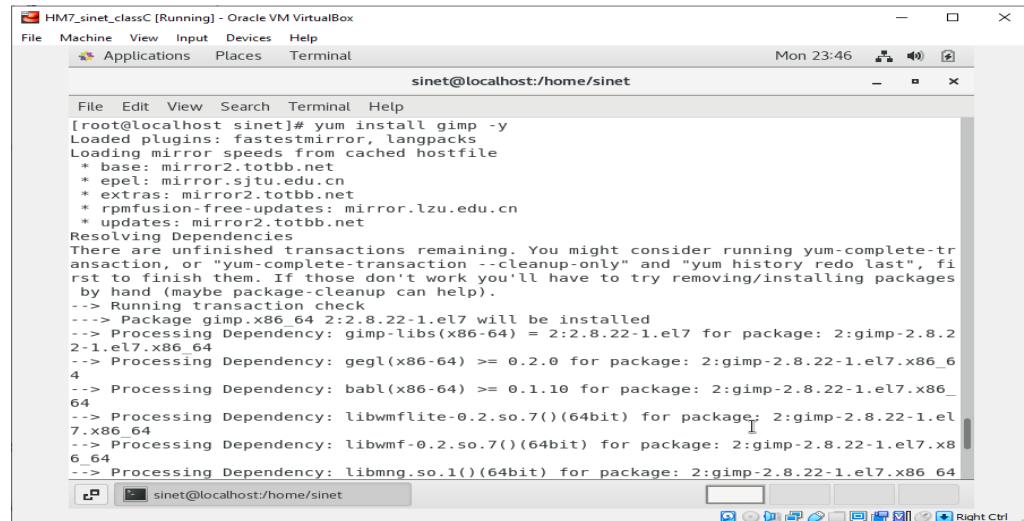


```
[root@localhost sinet]# yum install vlc
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: mirrors.bestthaihost.com
 * epel: my.mirrors.thegigabit.com
 * extras: mirrors.vhost.vn
 * rpmfusion-free-updates: free.nchc.org.tw
 * updates: mirrors.bkns.vn
Resolving Dependencies
There are unfinished transactions remaining. You might consider running yum-complete-tr
ansaction, or "yum-complete-transaction --cleanup-only" and "yum history redo last", fi
rst to finish them. If those don't work you'll have to try removing/installing packages
by hand (maybe package-cleanup can help).
--> Running transaction check
--> Package vlc.x86_64 1:3.0.11.1-3.el7 will be installed
--> Processing Dependency: vlc-core(x86-64) = 1:3.0.11.1-3.el7 for package: 1:vlc-3.0.1
1.1-3.el7.x86_64
--> Processing Dependency: libQt5X11Extras.so.5(Qt_5)(64bit) for package: 1:vlc-3.0.11.
1-3.el7.x86_64
--> Processing Dependency: libQt5Svg.so.5(Qt_5)(64bit) for package: 1:vlc-3.0.11.1-3.el
7.x86_64
--> Processing Dependency: libvlccore.so.9()(64bit) for package: 1:vlc-3.0.11.1-3.el7.x
86_64
--> Processing Dependency: libjack.so.0()(64bit) for package: 1:vlc-3.0.11.1-3.el7.x86_
64
--> Processing Dependency: libfluidsynth.so.1()(64bit) for package: 1:vlc-3.0.11.1-3.el
```

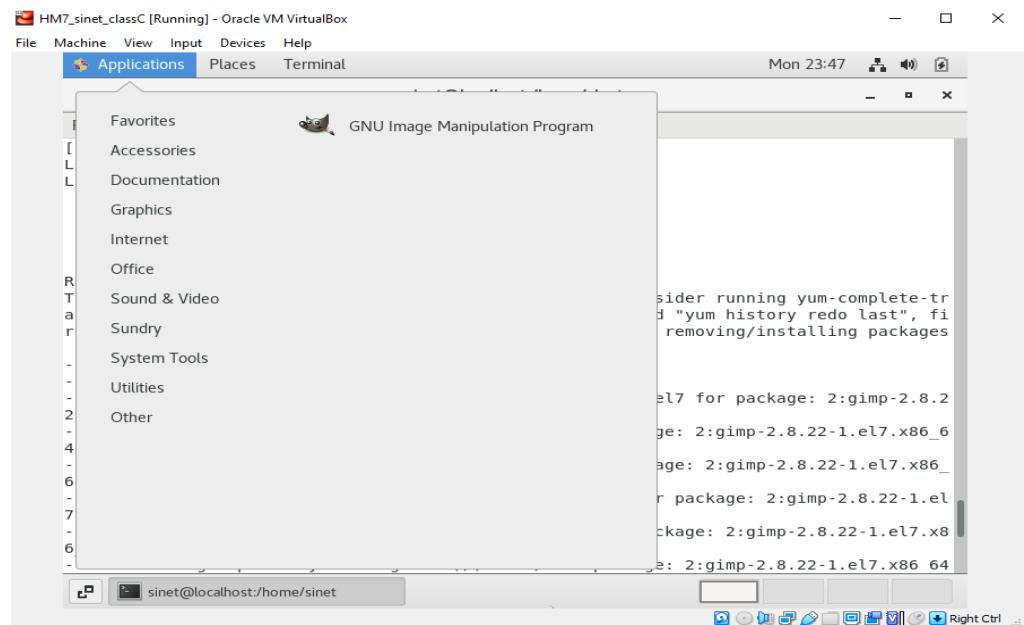




- **Gimp (Photo Editor)**

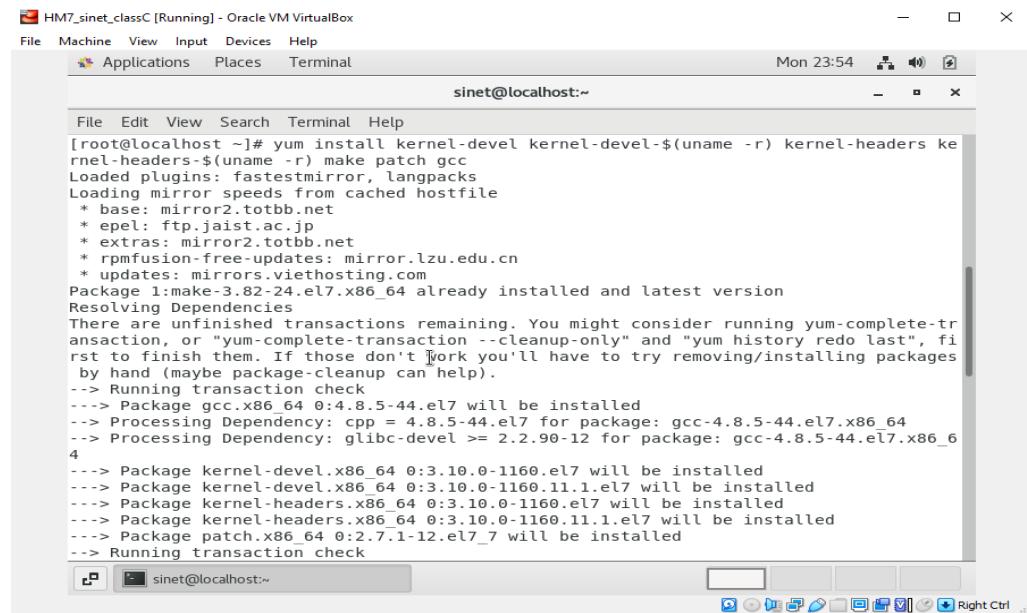


```
[root@sinet sinet]# yum install gimp -y
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: mirror2.totbb.net
 * epel: mirror.sjtu.edu.cn
 * extras: mirror2.totbb.net
 * rpmfusion-free-updates: mirror.lzu.edu.cn
 * updates: mirror2.totbb.net
Resolving Dependencies
There are unfinished transactions remaining. You might consider running yum-complete-tr
ansaction, or "yum-complete-transaction --cleanup-only" and "yum history redo last", fi
rst to finish them. If those don't work you'll have to try removing/installing packages
by hand (maybe package-cleanup can help).
--> Running transaction check
--> Package gimp.x86_64 2:2.8.22-1.el7 will be installed
--> Processing Dependency: gimp-libs(x86-64) = 2:2.8.22-1.el7 for package: 2:gimp-2.8.2
2-1.el7.x86_64
--> Processing Dependency: geogl(x86-64) >= 0.2.0 for package: 2:gimp-2.8.22-1.el7.x86_6
4
--> Processing Dependency: babel(x86-64) >= 0.1.10 for package: 2:gimp-2.8.22-1.el7.x86_
64
--> Processing Dependency: libwmflite-0.2.so.7()(64bit) for package: 2:gimp-2.8.22-1.el7.x86_
64
--> Processing Dependency: libwmf-0.2.so.7()(64bit) for package: 2:gimp-2.8.22-1.el7.x86_
64
--> Processing Dependency: libmng.so.1()(64bit) for package: 2:gimp-2.8.22-1.el7.x86_64
```

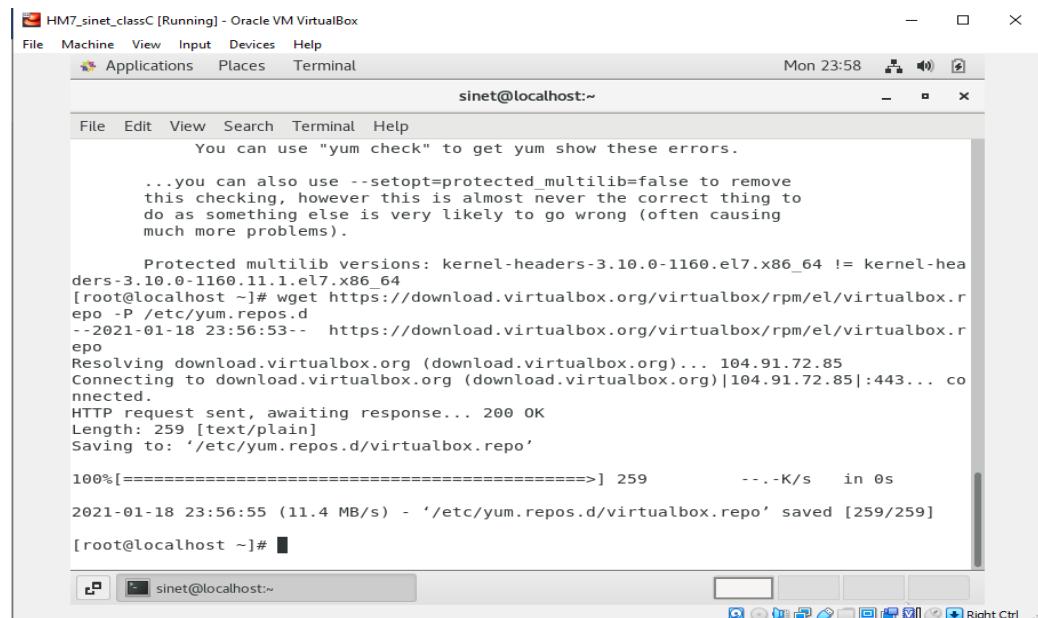




- **VirtualBox**

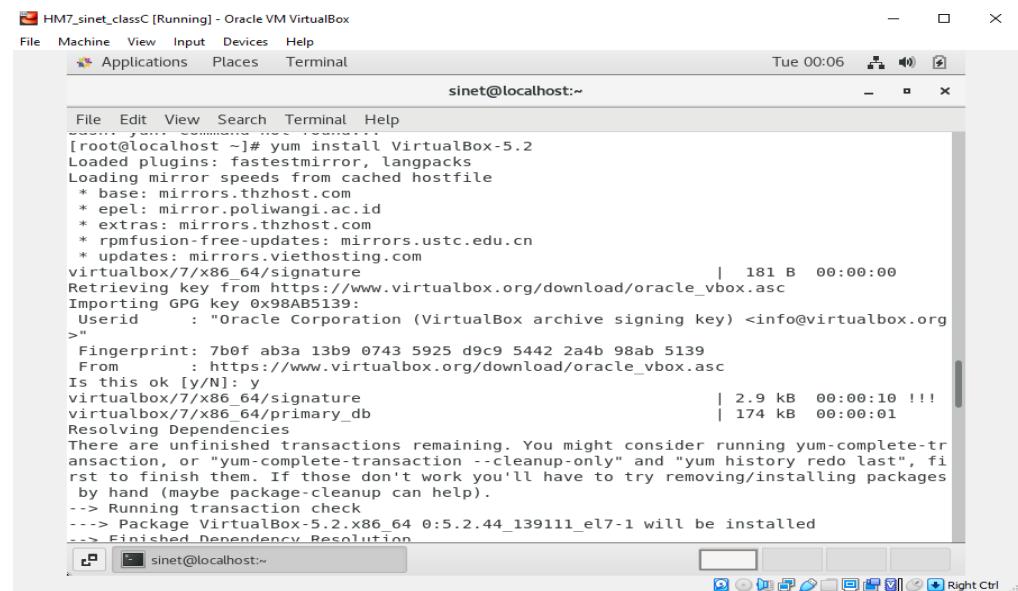


```
[root@localhost ~]# yum install kernel-devel kernel-devel-$(uname -r) kernel-headers kernel-headers-$(uname -r) make patch gcc
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: mirror2.totbb.net
 * epel: ftp.jaist.ac.jp
 * extras: mirror2.totbb.net
 * rpmfusion-free-updates: mirror.lzu.edu.cn
 * updates: mirrors.viethosting.com
Package 1:make-3.82-24.el7.x86_64 already installed and latest version
Resolving Dependencies
There are unfinished transactions remaining. You might consider running yum-complete-transaction, or "yum-complete-transaction --cleanup-only" and "yum history redo last", first to finish them. If those don't work you'll have to try removing/installing packages by hand (maybe package-cleanup can help).
--> Running transaction check
--> Package gcc.x86_64 0:4.8.5-44.el7 will be installed
--> Processing Dependency: cpp = 4.8.5-44.el7 for package: gcc-4.8.5-44.el7.x86_64
--> Processing Dependency: glibc-devel >= 2.2.90-12 for package: gcc-4.8.5-44.el7.x86_64
--> Package kernel-devel.x86_64 0:3.10.0-1160.el7 will be installed
--> Package kernel-devel.x86_64 0:3.10.0-1160.11.1.el7 will be installed
--> Package kernel-headers.x86_64 0:3.10.0-1160.el7 will be installed
--> Package kernel-headers.x86_64 0:3.10.0-1160.11.1.el7 will be installed
--> Package patch.x86_64 0:2.7.1-12.el7_7 will be installed
--> Running transaction check
[sinet@localhost:~]
```

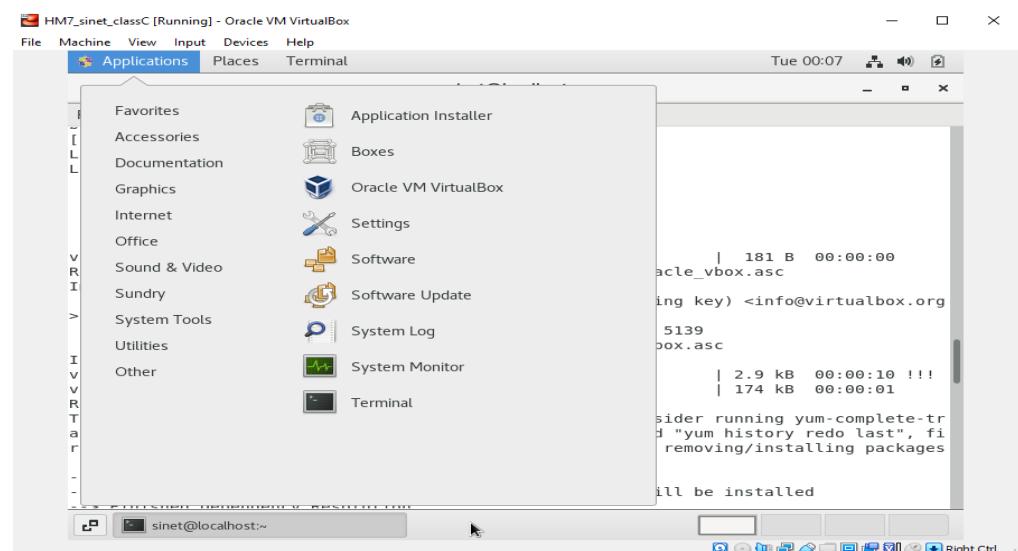


```
[root@localhost ~]# wget https://download.virtualbox.org/virtualbox/rpm/el/virtualbox.repo -P /etc/yum.repos.d
--2021-01-18 23:56:53-- https://download.virtualbox.org/virtualbox/rpm/el/virtualbox.repo
Resolving download.virtualbox.org (download.virtualbox.org)... 104.91.72.85
Connecting to download.virtualbox.org (download.virtualbox.org)|104.91.72.85|:443...
HTTP request sent, awaiting response... 200 OK
Length: 259 [text/plain]
Saving to: '/etc/yum.repos.d/virtualbox.repo'

100%[=====] 259          --.-K/s   in 0s
2021-01-18 23:56:55 (11.4 MB/s) - '/etc/yum.repos.d/virtualbox.repo' saved [259/259]
[root@localhost ~]#
```

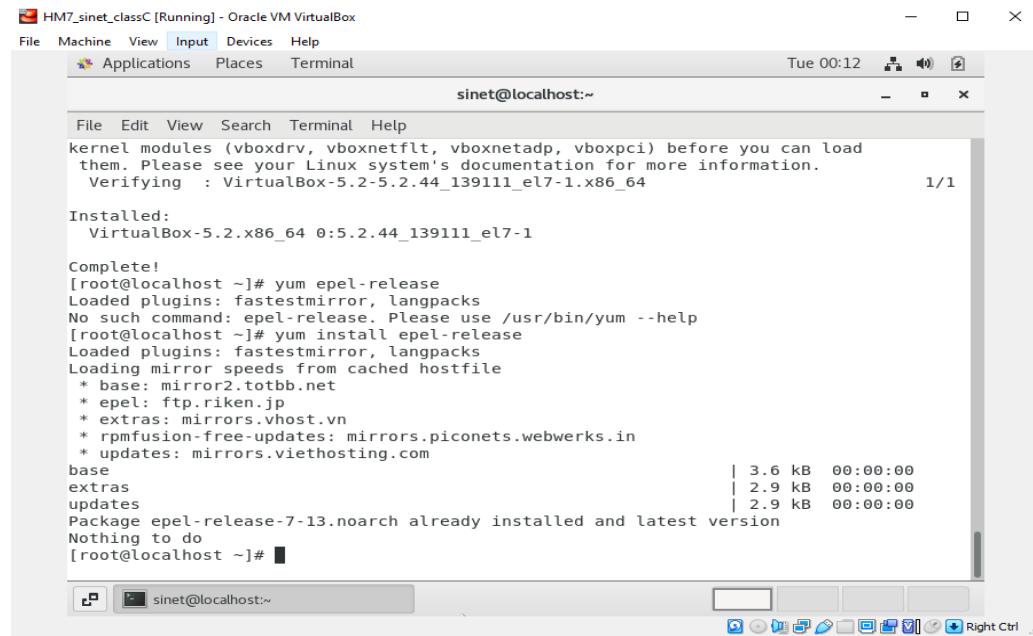


```
[root@localhost ~]# yum install VirtualBox-5.2
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: mirrors.thzhost.com
 * epel: mirror.poliwangi.ac.id
 * extras: mirrors.thzhost.com
 * rpmfusion-free-updates: mirrors.ustc.edu.cn
 * updates: mirrors.viethosting.com
virtualbox/7/x86_64/signature | 181 B 00:00:00
Retrieving key from https://www.virtualbox.org/download/oracle_vbox.asc
Importing GPG key 0x98AB5139:
Userid : "Oracle Corporation (VirtualBox archive signing key) <info@virtualbox.org>"
Fingerprint: 7b0f ab3a 13b9 0743 5925 d9c9 5442 2a4b 98ab 5139
From : https://www.virtualbox.org/download/oracle_vbox.asc
Is this ok [y/N]: y
virtualbox/7/x86_64/signature | 2.9 kB 00:00:10 !!!
virtualbox/7/x86_64/primary_db | 174 kB 00:00:01
Resolving Dependencies
There are unfinished transactions remaining. You might consider running yum-complete-tr
ansaction, or "yum-complete-transaction --cleanup-only" and "yum history redo last", fi
rst to finish them. If those don't work you'll have to try removing/installing packages
by hand (maybe package-cleanup can help).
--> Running transaction check
-->> Package VirtualBox-5.2.x86_64 0:5.2.44_139111_el7-1 will be installed
-->>> Finished Dependency Resolution
[sinet@localhost:~]
```





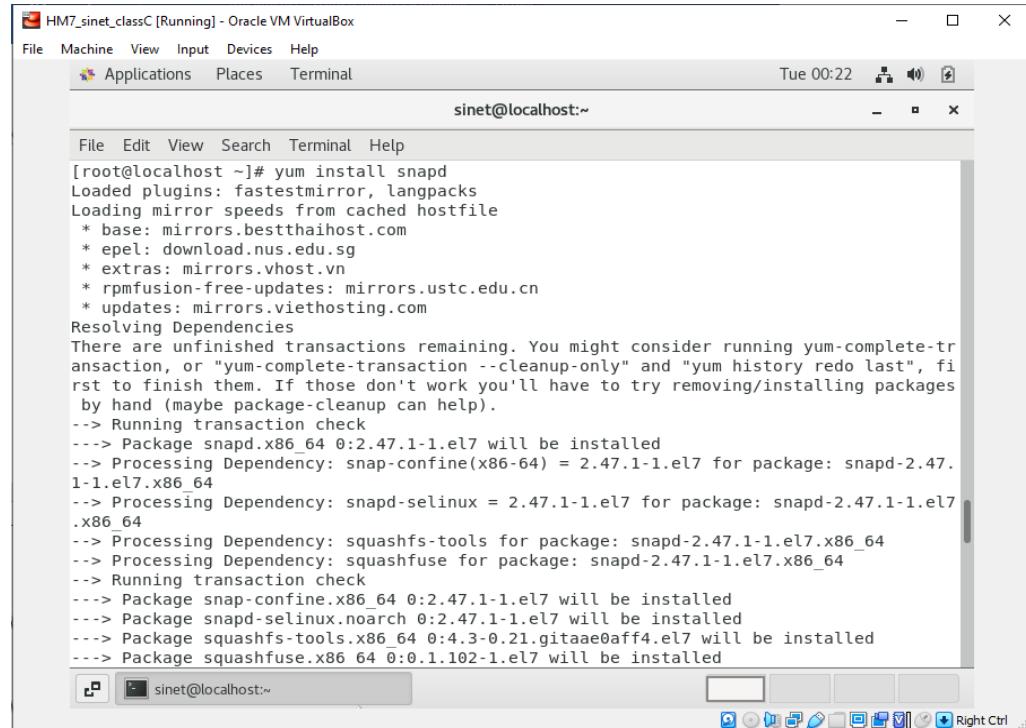
- Notepad++



```
HM7_sinet_classC [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal Tue 00:12
sinet@localhost:~ - x
File Edit View Search Terminal Help
kernel modules (vboxdrv, vboxnetflt, vboxnetadp, vboxpci) before you can load
them. Please see your Linux system's documentation for more information.
Verifying : VirtualBox-5.2-5.2.44_139111_el7-1.x86_64 1/1

Installed:
VirtualBox-5.2.x86_64 0:5.2.44_139111_el7-1

Complete!
[root@localhost ~]# yum epel-release
Loaded plugins: fastestmirror, langpacks
No such command: epel-release. Please use /usr/bin/yum --help
[root@localhost ~]# yum install epel-release
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: mirror2.totbb.net
 * epel: ftp.riken.jp
 * extras: mirrors.vhost.vn
 * rpmfusion-free-updates: mirrors.piconets.webwerks.in
 * updates: mirrors.viethosting.com
base | 3.6 KB 00:00:00
extras | 2.9 KB 00:00:00
updates | 2.9 KB 00:00:00
Package epel-release-7-13.noarch already installed and latest version
Nothing to do
[root@localhost ~]#
```

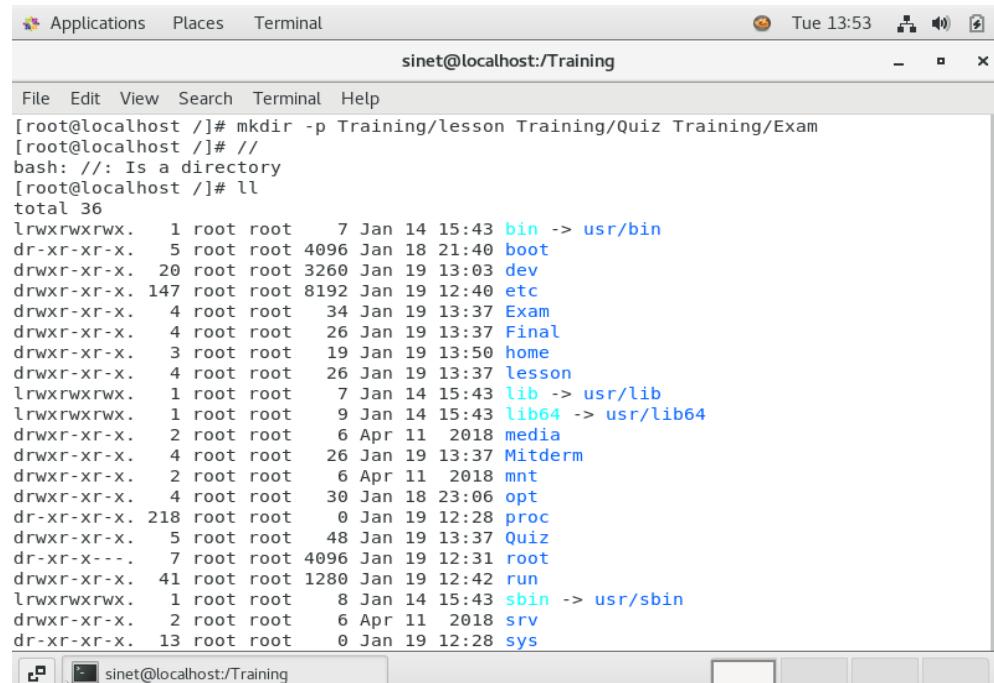


```
HM7_sinet_classC [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal Tue 00:22
sinet@localhost:~ - x
File Edit View Search Terminal Help
[root@localhost ~]# yum install snapd
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: mirrors.bestthaihost.com
 * epel: download.nus.edu.sg
 * extras: mirrors.vhost.vn
 * rpmfusion-free-updates: mirrors.ustc.edu.cn
 * updates: mirrors.viethosting.com
Resolving Dependencies
There are unfinished transactions remaining. You might consider running yum-complete-tr
ansaction, or "yum-complete-transaction --cleanup-only" and "yum history redo last", fi
rst to finish them. If those don't work you'll have to try removing/installing packages
by hand (maybe package-cleanup can help).
--> Running transaction check
--> Package snapd.x86_64 0:2.47.1-1.el7 will be installed
--> Processing Dependency: snap-confine(x86-64) = 2.47.1-1.el7 for package: snapd-2.47.
1-1.el7.x86_64
--> Processing Dependency: snapd-selinux = 2.47.1-1.el7 for package: snapd-2.47.1-1.el7
.x86_64
--> Processing Dependency: squashfs-tools for package: snapd-2.47.1-1.el7.x86_64
--> Processing Dependency: squashfuse for package: snapd-2.47.1-1.el7.x86_64
--> Running transaction check
--> Package snap-confine.x86_64 0:2.47.1-1.el7 will be installed
--> Package snapd-selinux.noarch 0:2.47.1-1.el7 will be installed
--> Package squashfs-tools.x86_64 0:4.3-0.21.gitaae0aff4.el7 will be installed
--> Package squashfuse.x86_64 0:0.1.102-1.el7 will be installed
```

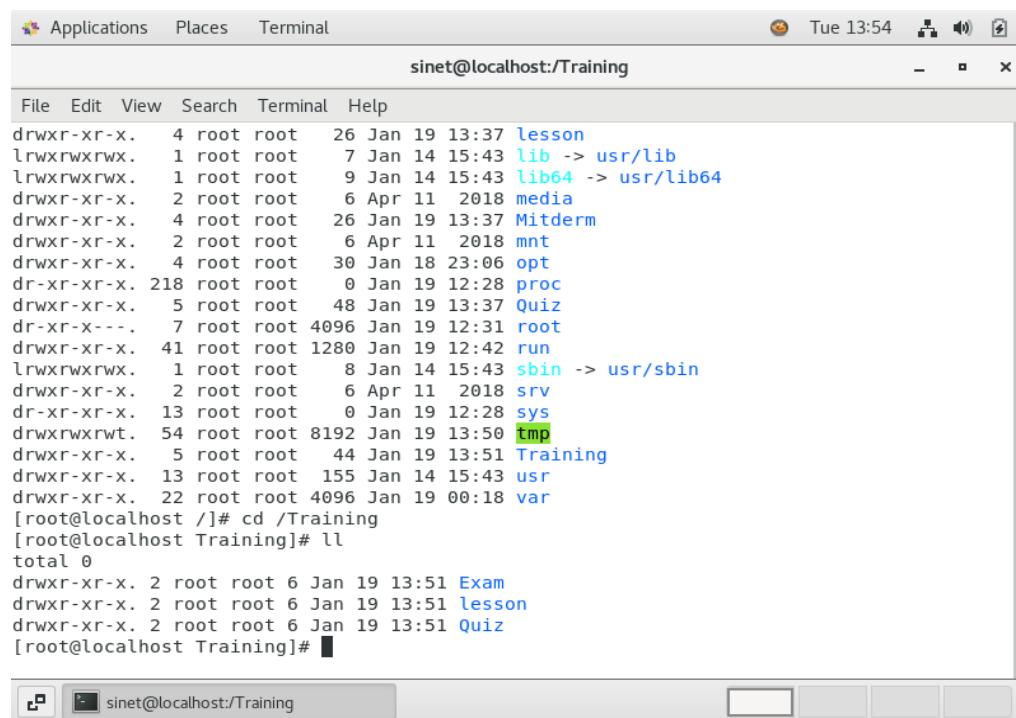


3. Basic Command Lines:

- Create directory



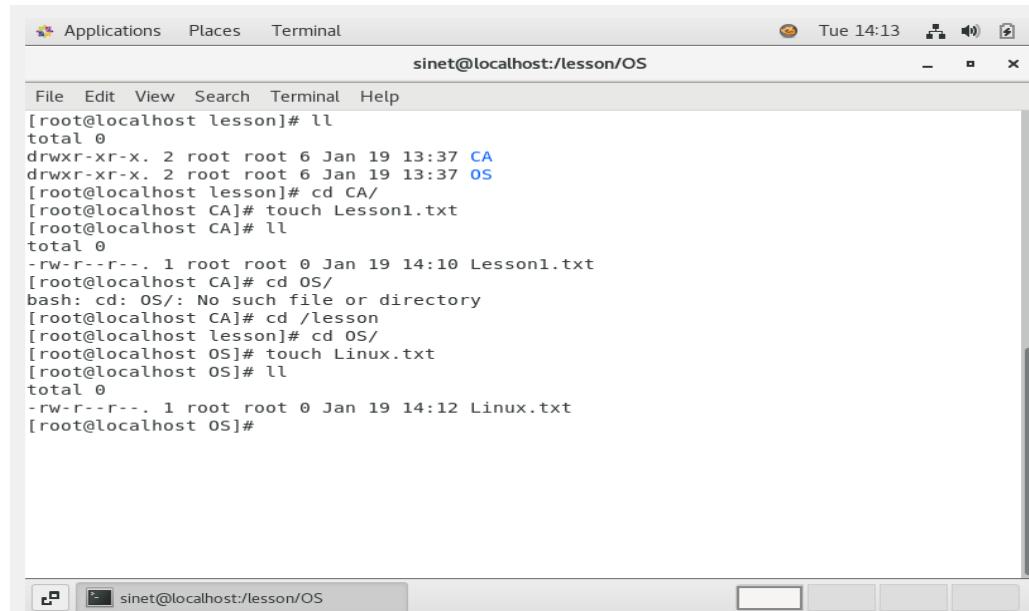
```
[root@localhost /]# mkdir -p Training/lesson Training/Quiz Training/Exam
[root@localhost /]# //
bash: //: Is a directory
[root@localhost /]# ll
total 36
lrwxrwxrwx.  1 root root    7 Jan 14 15:43 bin -> usr/bin
dr-xr-xr-x.  5 root root 4096 Jan 18 21:40 boot
drwxr-xr-x. 20 root root 3260 Jan 19 13:03 dev
drwxr-xr-x. 147 root root 8192 Jan 19 12:40 etc
drwxr-xr-x.  4 root root   34 Jan 19 13:37 Exam
drwxr-xr-x.  4 root root   26 Jan 19 13:37 Final
drwxr-xr-x.  3 root root   19 Jan 19 13:50 home
drwxr-xr-x.  4 root root   26 Jan 19 13:37 lesson
lrwxrwxrwx.  1 root root    7 Jan 14 15:43 lib -> usr/lib
lrwxrwxrwx.  1 root root    9 Jan 14 15:43 lib64 -> usr/lib64
drwxr-xr-x.  2 root root   6 Apr 11 2018 media
drwxr-xr-x.  4 root root   26 Jan 19 13:37 Mitterm
drwxr-xr-x.  2 root root   6 Apr 11 2018 mnt
drwxr-xr-x.  4 root root   30 Jan 18 23:06 opt
dr-xr-xr-x. 218 root root   0 Jan 19 12:28 proc
drwxr-xr-x.  5 root root   48 Jan 19 13:37 Quiz
dr-xr-x---. 7 root root 4096 Jan 19 12:31 root
drwxr-xr-x. 41 root root 1280 Jan 19 12:42 run
lrwxrwxrwx.  1 root root    8 Jan 14 15:43 sbin -> usr/sbin
drwxr-xr-x.  2 root root   6 Apr 11 2018 srv
dr-xr-xr-x. 13 root root   0 Jan 19 12:28 sys
drwxr-xr-x. 13 root root 155 Jan 14 15:43 usr
drwxr-xr-x. 22 root root 4096 Jan 19 00:18 var
[root@localhost /]# cd /Training
[root@localhost Training]# ll
total 0
drwxr-xr-x. 2 root root 6 Jan 19 13:51 Exam
drwxr-xr-x. 2 root root 6 Jan 19 13:51 lesson
drwxr-xr-x. 2 root root 6 Jan 19 13:51 Quiz
[root@localhost Training]#
```



```
drwxr-xr-x.  4 root root 26 Jan 19 13:37 lesson
lrwxrwxrwx.  1 root root 7 Jan 14 15:43 lib -> usr/lib
lrwxrwxrwx.  1 root root 9 Jan 14 15:43 lib64 -> usr/lib64
drwxr-xr-x.  2 root root 6 Apr 11 2018 media
drwxr-xr-x.  4 root root 26 Jan 19 13:37 Mitterm
drwxr-xr-x.  2 root root 6 Apr 11 2018 mnt
drwxr-xr-x.  4 root root 30 Jan 18 23:06 opt
dr-xr-xr-x. 218 root root 0 Jan 19 12:28 proc
drwxr-xr-x.  5 root root 48 Jan 19 13:37 Quiz
dr-xr-x---. 7 root root 4096 Jan 19 12:31 root
drwxr-xr-x. 41 root root 1280 Jan 19 12:42 run
lrwxrwxrwx.  1 root root 8 Jan 14 15:43 sbin -> usr/sbin
drwxr-xr-x.  2 root root 6 Apr 11 2018 srv
dr-xr-xr-x. 13 root root 0 Jan 19 12:28 sys
drwxrwxrwt. 54 root root 8192 Jan 19 13:50 tmp
drwxr-xr-x.  5 root root 44 Jan 19 13:51 Training
drwxr-xr-x. 13 root root 155 Jan 14 15:43 usr
drwxr-xr-x. 22 root root 4096 Jan 19 00:18 var
[root@localhost /]# cd /Training
[root@localhost Training]# ll
total 0
drwxr-xr-x. 2 root root 6 Jan 19 13:51 Exam
drwxr-xr-x. 2 root root 6 Jan 19 13:51 lesson
drwxr-xr-x. 2 root root 6 Jan 19 13:51 Quiz
[root@localhost Training]#
```



```
[root@localhost ~]# cd lesson/OS
[root@localhost Training]# mkdir -p lesson/CA lesson/OS
[root@localhost Training]# ll
total 0
drwxr-xr-x. 2 root root 6 Jan 19 13:51 Exam
drwxr-xr-x. 4 root root 26 Jan 19 13:57 lesson
drwxr-xr-x. 2 root root 6 Jan 19 13:51 Quiz
[root@localhost Training]# cd /lesson
[root@localhost lesson]# ll
total 0
drwxr-xr-x. 2 root root 6 Jan 19 13:37 CA
drwxr-xr-x. 2 root root 6 Jan 19 13:37 OS
[root@localhost lesson]#
```



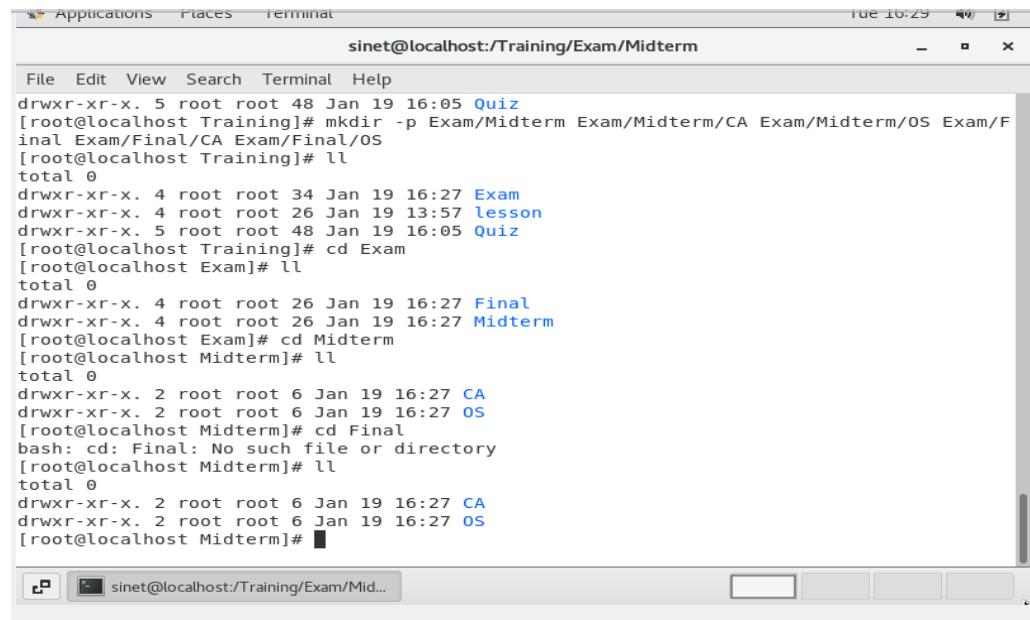
The screenshot shows a Linux desktop environment with a terminal window open. The window title is "sinet@localhost:/lesson/OS". The terminal shows the following command-line session:

```
Applications Places Terminal Tue 14:13
sinet@localhost:/lesson/OS
File Edit View Search Terminal Help
[root@localhost lesson]# ll
total 0
drwxr-xr-x. 2 root root 6 Jan 19 13:37 CA
drwxr-xr-x. 2 root root 6 Jan 19 13:37 OS
[root@localhost lesson]# cd CA/
[root@localhost CA]# touch Lesson1.txt
[root@localhost CA]# ll
total 0
-rw-r--r--. 1 root root 0 Jan 19 14:10 Lesson1.txt
[root@localhost CA]# cd OS/
bash: cd: OS/: No such file or directory
[root@localhost CA]# cd /lesson
[root@localhost lesson]# cd OS/
[root@localhost OS]# touch Linux.txt
[root@localhost OS]# ll
total 0
-rw-r--r--. 1 root root 0 Jan 19 14:12 Linux.txt
[root@localhost OS]#
```



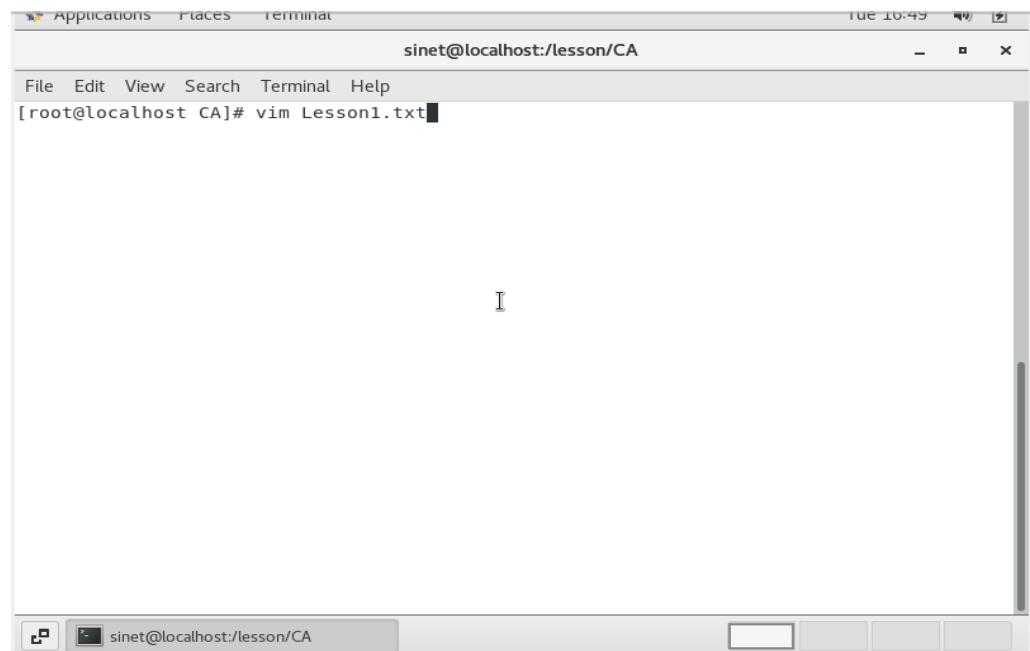
```
sinet@localhost:/Quiz/ClassC
File Edit View Search Terminal Help
[root@localhost Training]# mkdir -p Quiz/ClassA Quiz/ClassB Quiz/ClassC
[root@localhost Training]# ll
total 0
drwxr-xr-x. 2 root root 6 Jan 19 13:51 Exam
drwxr-xr-x. 4 root root 26 Jan 19 13:57 lesson
drwxr-xr-x. 5 root root 48 Jan 19 16:05 Quiz
[root@localhost Training]# cd Quiz
[root@localhost Quiz]# ll
total 0
drwxr-xr-x. 2 root root 6 Jan 19 16:05 ClassA
drwxr-xr-x. 2 root root 6 Jan 19 16:05 ClassB
drwxr-xr-x. 2 root root 6 Jan 19 16:05 ClassC
[root@localhost Quiz]# cd ClassA
[root@localhost ClassA]# touch Q1.Geeko
[root@localhost ClassA]# cd /Quiz
[root@localhost Quiz]# cd ClassB
[root@localhost ClassB]# touch Q2.Mike
[root@localhost ClassB]# ll
total 0
-rw-r--r--. 1 root root 0 Jan 19 16:08 Q2.Mike
[root@localhost ClassB]# cd /Quiz
[root@localhost Quiz]# cd ClassC
[root@localhost ClassC]# touch Q3.John
[root@localhost ClassC]#
```

```
sinet@localhost:/Quiz/ClassC
File Edit View Search Terminal Help
drwxr-xr-x. 4 root root 26 Jan 19 13:57 lesson
drwxr-xr-x. 5 root root 48 Jan 19 16:05 Quiz
[root@localhost Training]# cd Quiz
[root@localhost Quiz]# ll
total 0
drwxr-xr-x. 2 root root 22 Jan 19 16:07 ClassA
drwxr-xr-x. 2 root root 6 Jan 19 16:05 ClassB
drwxr-xr-x. 2 root root 6 Jan 19 16:05 ClassC
[root@localhost Quiz]# cd ClassA
[root@localhost ClassA]# ll
total 0
-rw-r--r--. 1 root root 0 Jan 19 16:07 Q1.Geeko
[root@localhost ClassA]# cd ClassB
bash: cd: ClassB: No such file or directory
[root@localhost ClassA]# cd /Quiz
[root@localhost Quiz]# cd ClassB
[root@localhost ClassB]# ll
total 0
-rw-r--r--. 1 root root 0 Jan 19 16:08 Q2.Mike
[root@localhost ClassB]# cd /Quiz
[root@localhost Quiz]# cd ClassC
[root@localhost ClassC]# ll
total 0
-rw-r--r--. 1 root root 0 Jan 19 16:09 Q3.John
[root@localhost ClassC]#
```

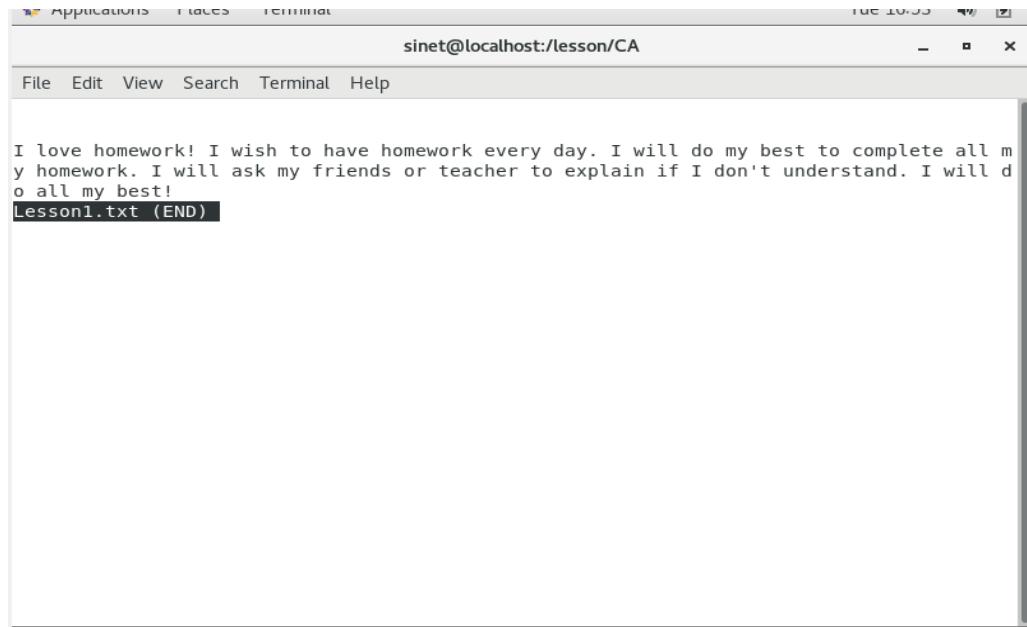


```
sinet@localhost:/Training/Exam/Midterm
File Edit View Search Terminal Help
drwxr-xr-x. 5 root root 48 Jan 19 16:05 Quiz
[root@localhost Training]# mkdir -p Exam/Midterm Exam/Midterm/CA Exam/Midterm/OS Exam/Final Exam/Final/CA Exam/Final/OS
[root@localhost Training]# ll
total 0
drwxr-xr-x. 4 root root 34 Jan 19 16:27 Exam
drwxr-xr-x. 4 root root 26 Jan 19 13:57 lesson
drwxr-xr-x. 5 root root 48 Jan 19 16:05 Quiz
[root@localhost Training]# cd Exam
[root@localhost Exam]# ll
total 0
drwxr-xr-x. 4 root root 26 Jan 19 16:27 Final
drwxr-xr-x. 4 root root 26 Jan 19 16:27 Midterm
[root@localhost Exam]# cd Midterm
[root@localhost Midterm]# ll
total 0
drwxr-xr-x. 2 root root 6 Jan 19 16:27 CA
drwxr-xr-x. 2 root root 6 Jan 19 16:27 OS
[root@localhost Midterm]# cd Final
bash: cd: Final: No such file or directory
[root@localhost Midterm]# ll
total 0
drwxr-xr-x. 2 root root 6 Jan 19 16:27 CA
drwxr-xr-x. 2 root root 6 Jan 19 16:27 OS
[root@localhost Midterm]#
```

- **Insert text**

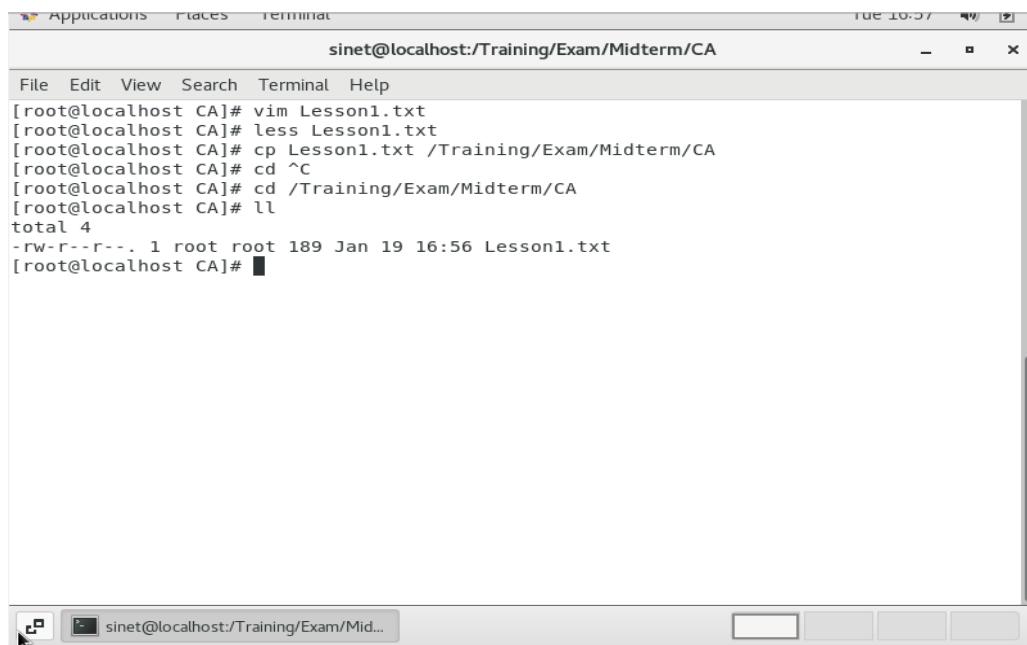


```
sinet@localhost:/lesson/CA
File Edit View Search Terminal Help
[root@localhost CA]# vim Lesson1.txt
```



```
I love homework! I wish to have homework every day. I will do my best to complete all my homework. I will ask my friends or teacher to explain if I don't understand. I will do all my best!
Lesson1.txt (END)
```

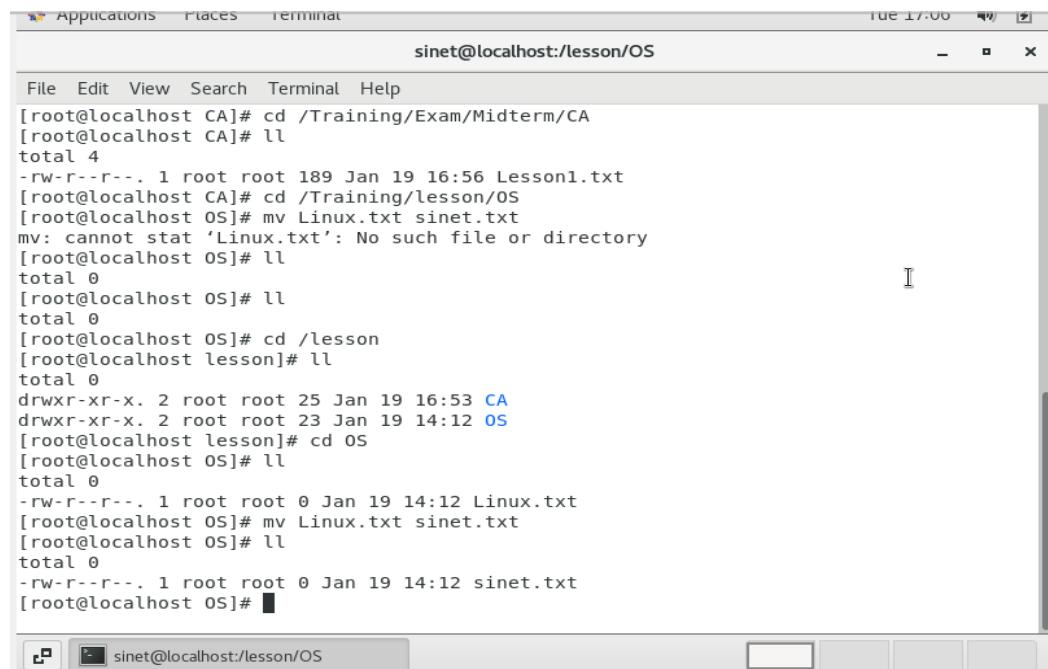
- **Copy**



```
[root@localhost CA]# vim Lesson1.txt
[root@localhost CA]# less Lesson1.txt
[root@localhost CA]# cp Lesson1.txt /Training/Exam/Midterm/CA
[root@localhost CA]# cd ~
[root@localhost CA]# cd /Training/Exam/Midterm/CA
[root@localhost CA]# ll
total 4
-rw-r--r--. 1 root root 189 Jan 19 16:56 Lesson1.txt
[root@localhost CA]#
```

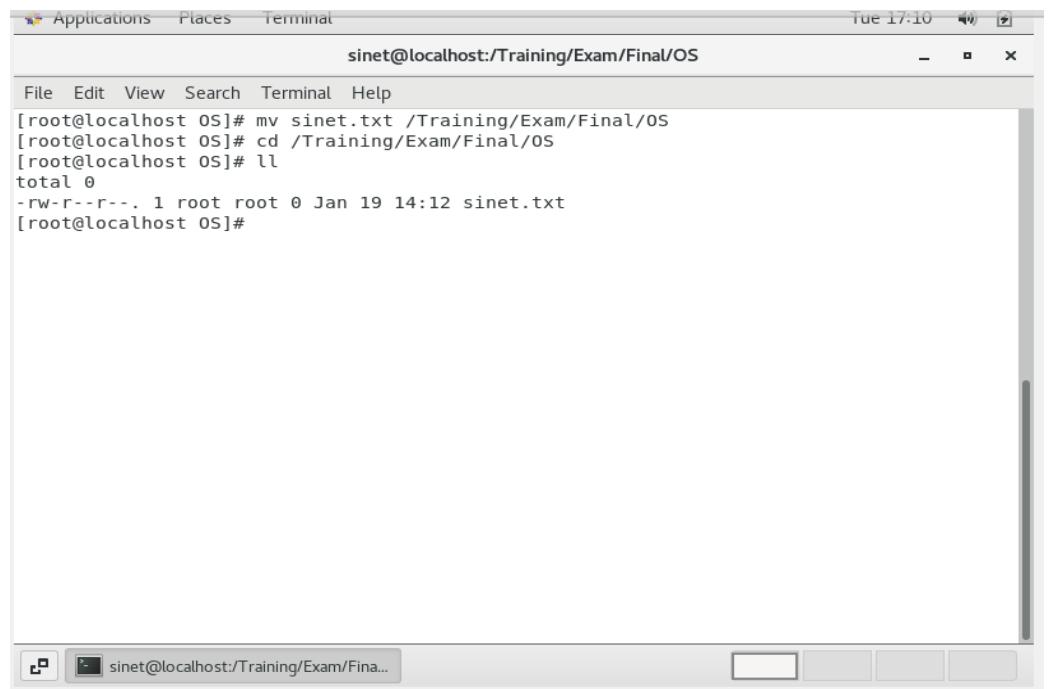


- Rename



```
Applications Places Terminal Tue 17:00
sinet@localhost:/lesson/OS
File Edit View Search Terminal Help
[root@localhost CA]# cd /Training/Exam/Midterm/CA
[root@localhost CA]# ll
total 4
-rw-r--r--. 1 root root 189 Jan 19 16:56 Lesson1.txt
[root@localhost CA]# cd /Training/lesson/OS
[root@localhost OS]# mv Linux.txt sinet.txt
mv: cannot stat 'Linux.txt': No such file or directory
[root@localhost OS]# ll
total 0
[root@localhost OS]# ll
total 0
[root@localhost OS]# cd /lesson
[root@localhost lesson]# ll
total 0
drwxr-xr-x. 2 root root 25 Jan 19 16:53 CA
drwxr-xr-x. 2 root root 23 Jan 19 14:12 OS
[root@localhost lesson]# cd OS
[root@localhost OS]# ll
total 0
-rw-r--r--. 1 root root 0 Jan 19 14:12 Linux.txt
[root@localhost OS]# mv Linux.txt sinet.txt
[root@localhost OS]# ll
total 0
-rw-r--r--. 1 root root 0 Jan 19 14:12 sinet.txt
[root@localhost OS]#
```

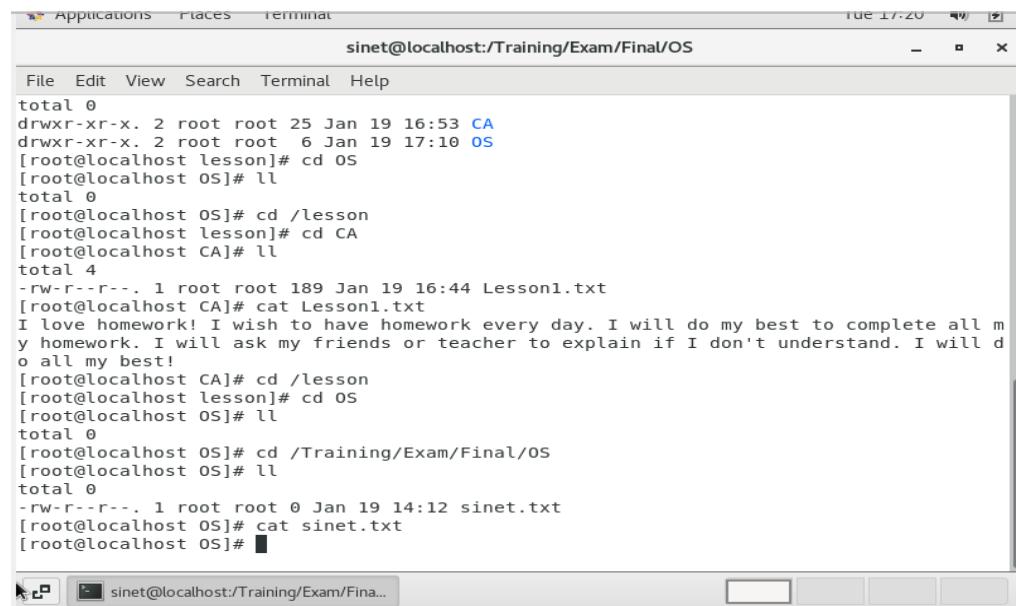
- Remove



```
Applications Places Terminal Tue 17:10
sinet@localhost:/Training/Exam/Final/OS
File Edit View Search Terminal Help
[root@localhost OS]# mv sinet.txt /Training/Exam/Final/OS
[root@localhost OS]# cd /Training/Exam/Final/OS
[root@localhost OS]# ll
total 0
-rw-r--r--. 1 root root 0 Jan 19 14:12 sinet.txt
[root@localhost OS]#
```

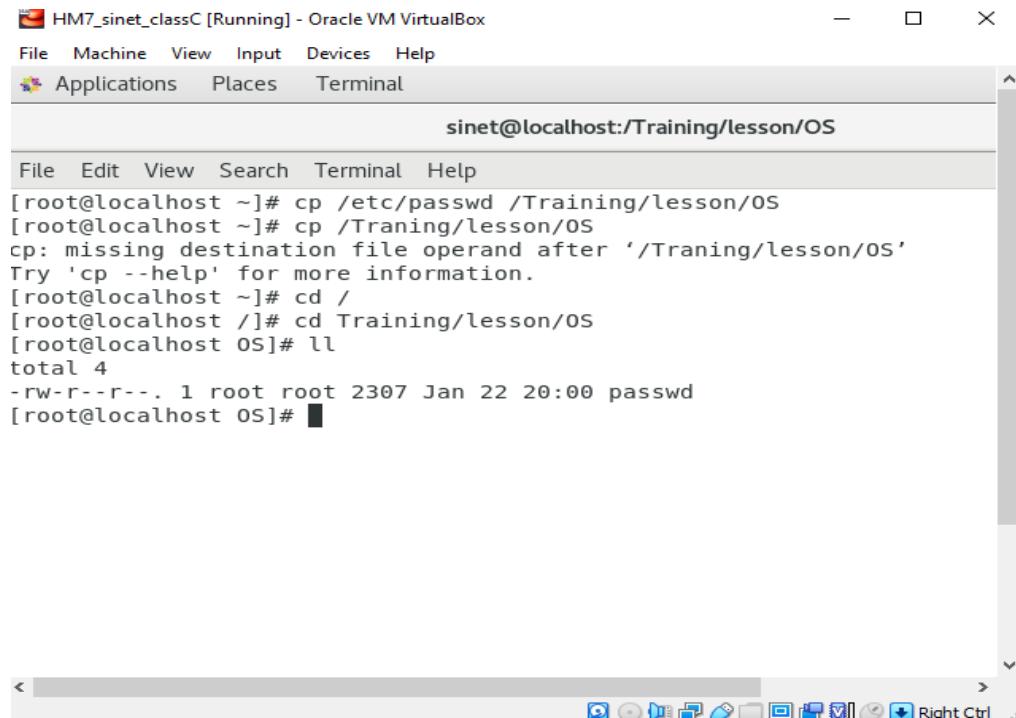


- Use Cat command to view both files Lesson1.txt and yourname.txt



```
sinet@localhost:/Training/Exam/Final/OS
File Edit View Search Terminal Help
total 0
drwxr-xr-x. 2 root root 25 Jan 19 16:53 CA
drwxr-xr-x. 2 root root 6 Jan 19 17:10 OS
[root@localhost lesson]# cd OS
[root@localhost OS]# ll
total 0
[root@localhost OS]# cd /lesson
[root@localhost lesson]# cd CA
[root@localhost CA]# ll
total 4
-rw-r--r--. 1 root root 189 Jan 19 16:44 Lesson1.txt
[root@localhost CA]# cat Lesson1.txt
I love homework! I wish to have homework every day. I will do my best to complete all my homework. I will ask my friends or teacher to explain if I don't understand. I will do all my best!
[root@localhost CA]# cd /lesson
[root@localhost lesson]# cd OS
[root@localhost OS]# ll
total 0
[root@localhost OS]# cd /Training/Exam/Final/OS
[root@localhost OS]# ll
total 0
-rw-r--r--. 1 root root 0 Jan 19 14:12 sinet.txt
[root@localhost OS]# cat sinet.txt
[root@localhost OS]#
```

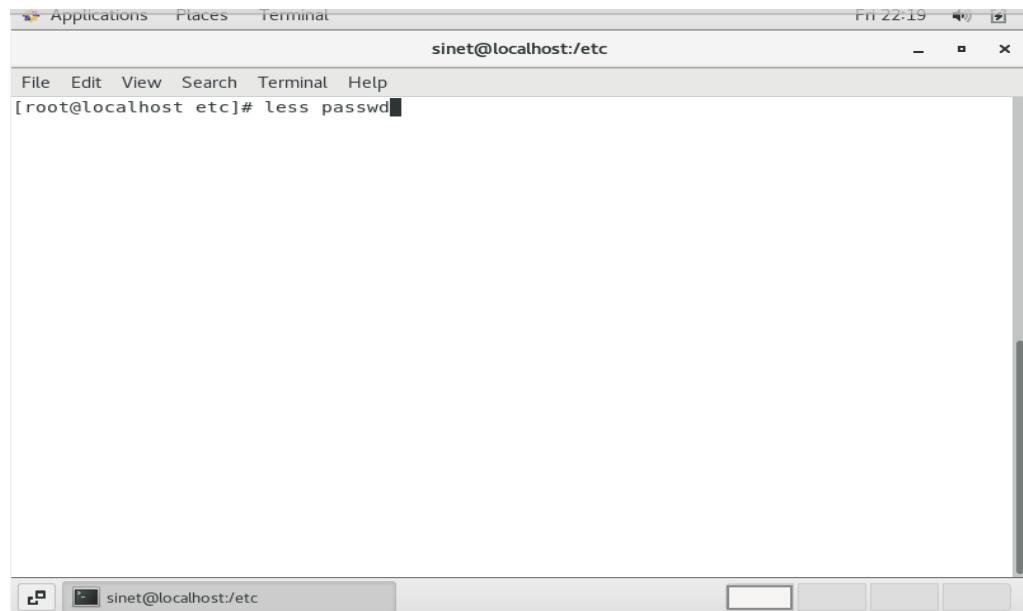
- Copy file



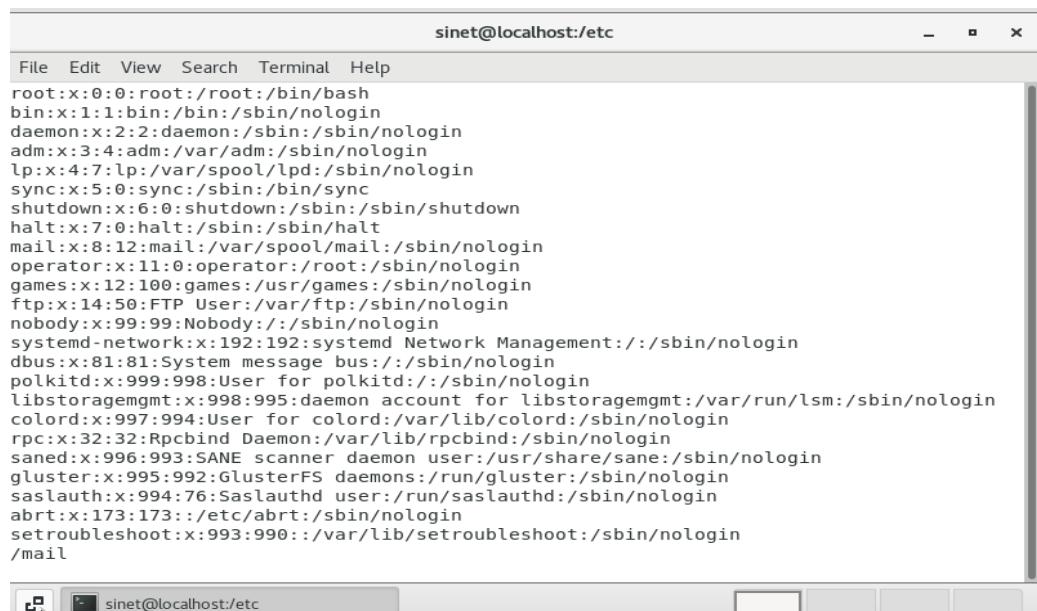
```
HM7_sinet_classC [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal
sinet@localhost:/Training/lesson/OS
File Edit View Search Terminal Help
[root@localhost ~]# cp /etc/passwd /Training/lesson/OS
[root@localhost ~]# cp /Traning/lesson/OS
cp: missing destination file operand after '/Traning/lesson/OS'
Try 'cp --help' for more information.
[root@localhost ~]# cd /
[root@localhost /]# cd Training/lesson/OS
[root@localhost OS]# ll
total 4
-rw-r--r--. 1 root root 2307 Jan 22 20:00 passwd
[root@localhost OS]#
```



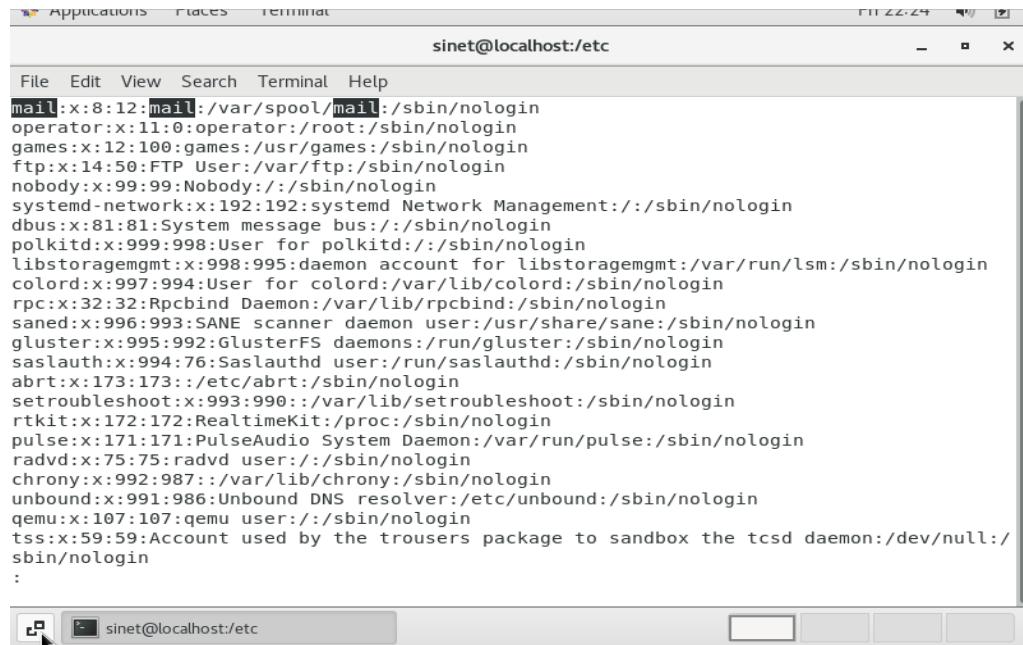
- Use less command to view content within file passwd and search the word "mail" in the file



```
[root@localhost etc]# less passwd
```

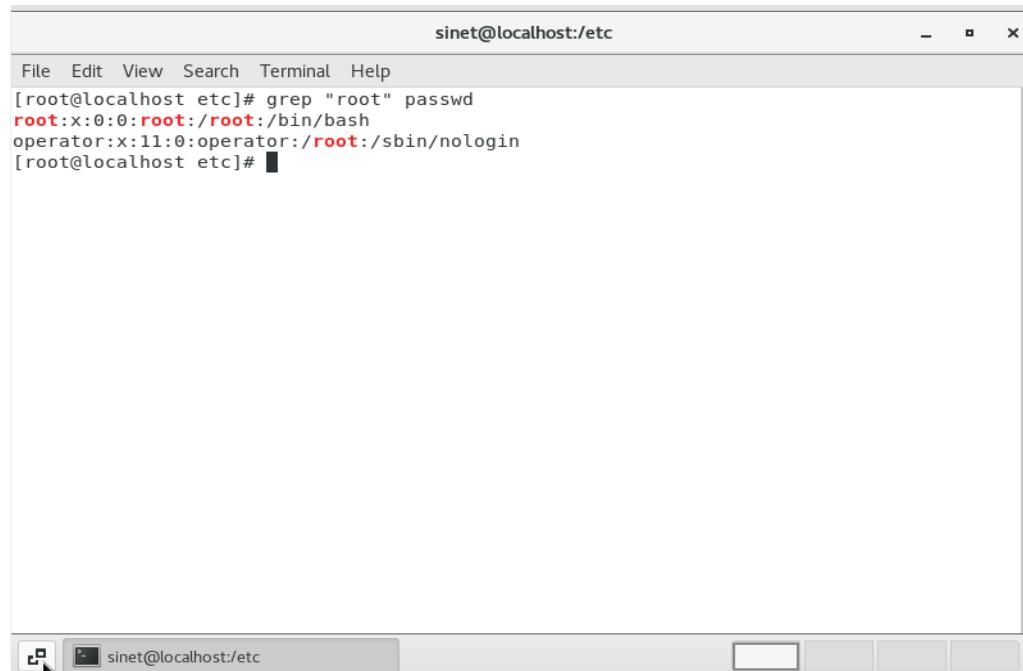


```
File Edit View Search Terminal Help
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
daemon:x:2:2:daemon:/sbin:/sbin/nologin
adm:x:3:4:adm:/var/adm:/sbin/nologin
lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin
sync:x:5:0:sync:/sbin:/bin/sync
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown
halt:x:7:0:halt:/sbin:/sbin/halt
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
operator:x:11:0:operator:/root:/sbin/nologin
games:x:12:100:games:/usr/games:/sbin/nologin
ftp:x:14:50:FTP User:/var/ftp:/sbin/nologin
nobody:x:99:99:Nobody:/sbin/nologin
systemd-network:x:192:192:systemd Network Management:/sbin/nologin
dbus:x:81:81:System message bus:/sbin/nologin
polkitd:x:999:998:User for polkitd:/sbin/nologin
libstoragemgmt:x:998:995:daemon account for libstoragemgmt:/var/run/lsm:/sbin/nologin
colord:x:997:994:User for colord:/var/lib/colord:/sbin/nologin
rpc:x:32:32:Rpcbind Daemon:/var/lib/rpcbind:/sbin/nologin
saned:x:996:993:SANE scanner daemon user:/usr/share/sane:/sbin/nologin
gluster:x:995:992:GlusterFS daemons:/run/gluster:/sbin/nologin
saslauthd:x:994:76:Saslauthd user:/run/saslauthd:/sbin/nologin
abrt:x:173:173::/etc/abrt:/sbin/nologin
setroubleshoot:x:993:990::/var/lib/setroubleshoot:/sbin/nologin
/mail
```



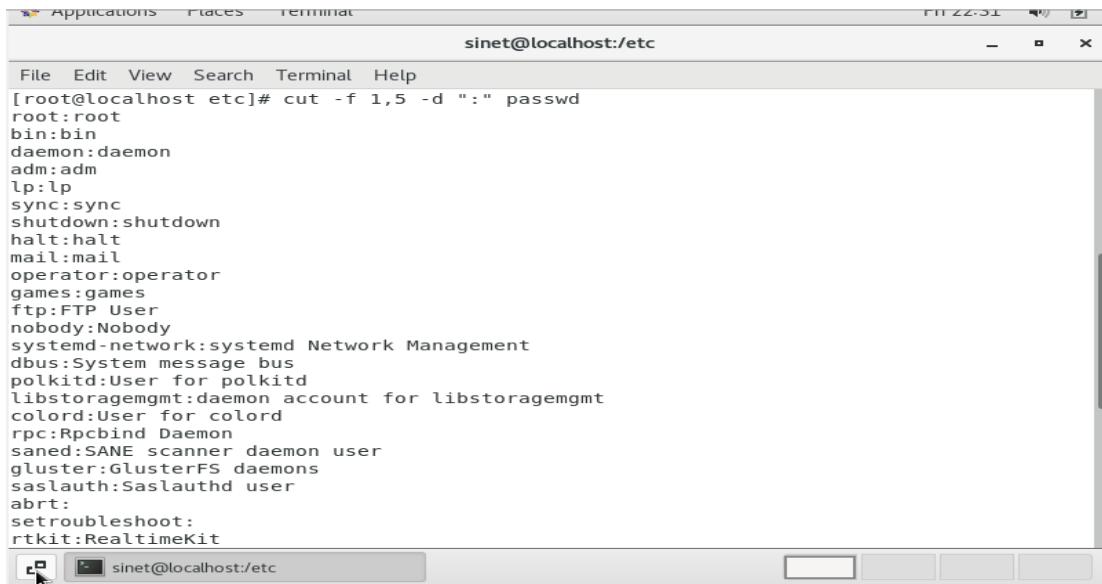
```
sinet@localhost:/etc
File Edit View Search Terminal Help
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
operator:x:11:0:operator:/root:/sbin/nologin
games:x:12:100:games:/usr/games:/sbin/nologin
ftp:x:14:50:FTP User:/var/ftp:/sbin/nologin
nobody:x:99:99:Nobody:/:/sbin/nologin
systemd-network:x:192:192:systemd Network Management:/:/sbin/nologin
dbus:x:81:81:System message bus:/:/sbin/nologin
polkitd:x:999:998:User for polkitd:/:/sbin/nologin
libstoragemgmt:x:998:995:daemon account for libstoragemgmt:/var/run/lsm:/sbin/nologin
colord:x:997:994:User for colord:/var/lib/colord:/sbin/nologin
rpc:x:32:32:Rpcbind Daemon:/var/lib/rpcbind:/sbin/nologin
saned:x:996:993:SANE scanner daemon user:/usr/share/sane:/sbin/nologin
gluster:x:995:992:GlusterFS daemons:/run/gluster:/sbin/nologin
saslauth:x:994:76:Saslauthd user:/run/saslauthd:/sbin/nologin
abrt:x:173:173:/:/etc/abrt:/sbin/nologin
setroubleshoot:x:993:990:/var/lib/setroubleshoot:/sbin/nologin
rtkit:x:172:172:RealtimeKit:/proc:/sbin/nologin
pulse:x:171:171:PulseAudio System Daemon:/var/run/pulse:/sbin/nologin
radvd:x:75:75:radvd user:/:/sbin/nologin
chrony:x:992:987:/var/lib/chrony:/sbin/nologin
unbound:x:991:986:Unbound DNS resolver:/etc/unbound:/sbin/nologin
qemu:x:107:107:qemu user:/:/sbin/nologin
tss:x:59:59:Account used by the trousers package to sandbox the tcsd daemon:/dev/null:/sbin/nologin
:
```

- Use grep command to search word "root" within file passwd



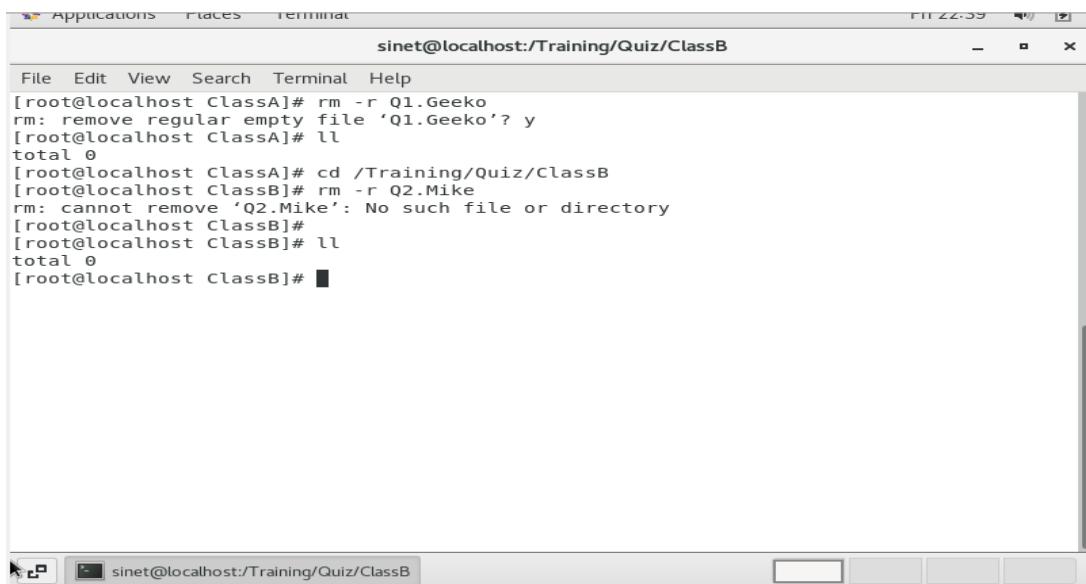
```
sinet@localhost:/etc
File Edit View Search Terminal Help
[root@localhost etc]# grep "root" passwd
root:x:0:0:root:/root:/bin/bash
operator:x:11:0:operator:/root:/sbin/nologin
[root@localhost etc]#
```

- use cut command to display only to 1st and 5th field of all lines within file passwd

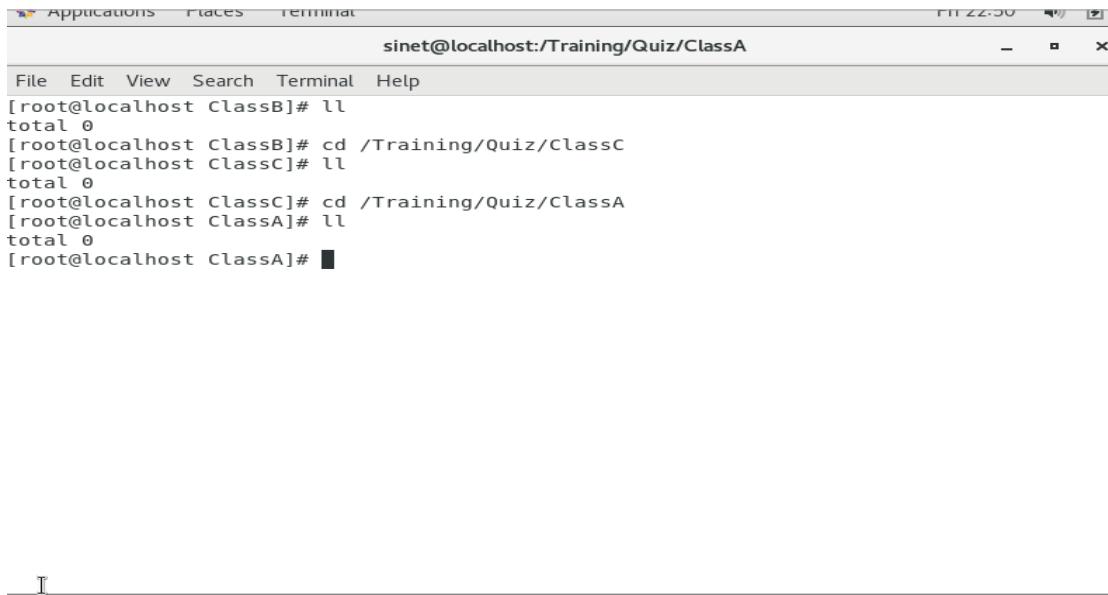


```
[root@localhost etc]# cat -f 1,5 -d ":" passwd
root:root
bin:bin
daemon:daemon
adm:adm
lp:lp
sync:sync
shutdown:shutdown
halt:halt
mail:mail
operator:operator
games:games
ftp:FTP User
nobody:Nobody
systemd-network:systemd Network Management
dbus:System message bus
polkitd:User for polkitd
libstoragemgmt:daemon account for libstoragemgmt
colord:User for colord
rpc:Rpcbind Daemon
saned:SANE scanner daemon user
gluster:GlusterFS daemons
saslauth:Saslauthd user
abrt:
setroubleshoot:
rtkit:RealtimeKit
```

- Remove file

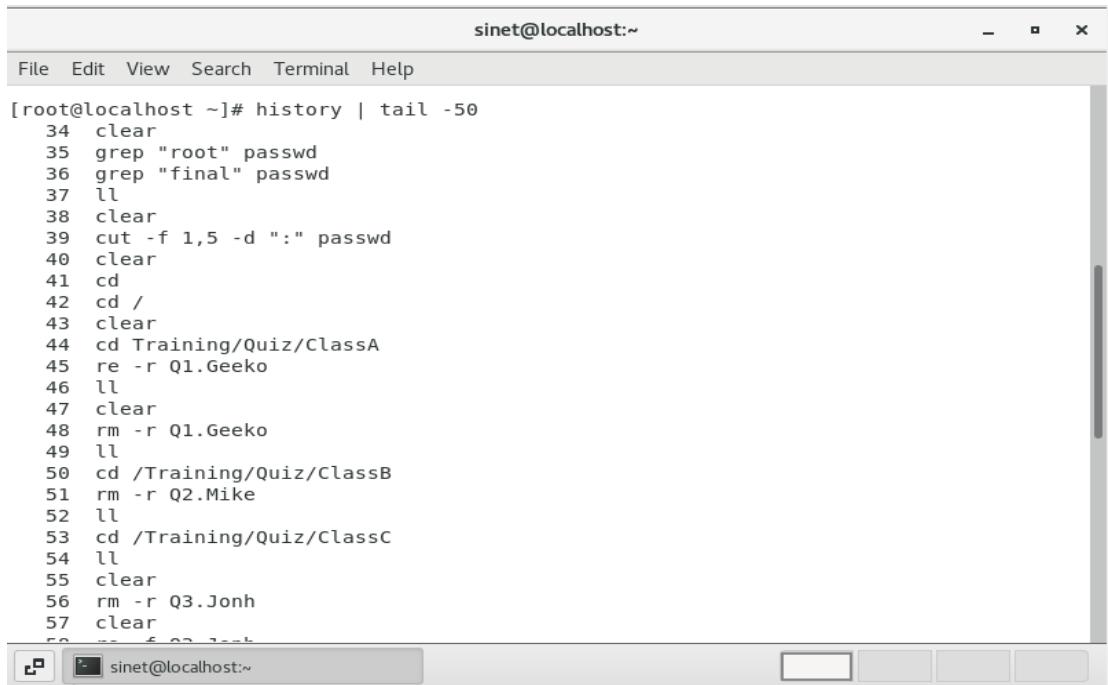


```
[root@localhost ClassA]# rm -r Q1.Geeko
rm: remove regular empty file 'Q1.Geeko'? y
[root@localhost ClassA]# ll
total 0
[root@localhost ClassA]# cd /Training/Quiz/ClassB
[root@localhost ClassB]# rm -r Q2.Mike
rm: cannot remove 'Q2.Mike': No such file or directory
[root@localhost ClassB]#
[root@localhost ClassB]# ll
total 0
[root@localhost ClassB]#
```



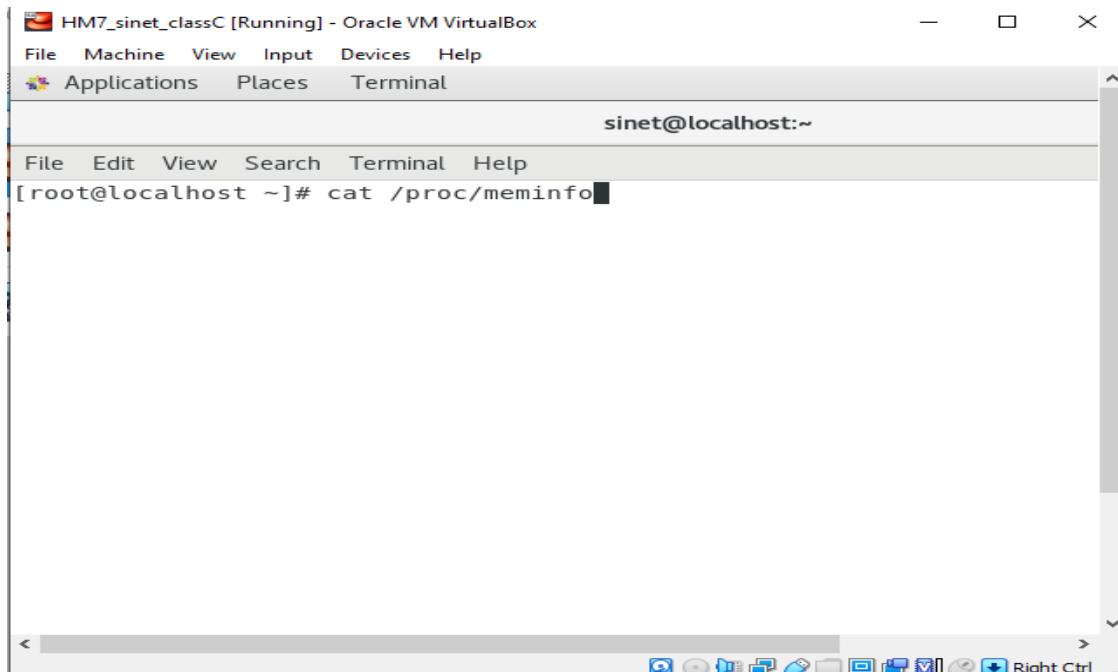
```
sinet@localhost:/Training/Quiz/ClassA
File Edit View Search Terminal Help
[root@localhost ClassB]# ll
total 0
[root@localhost ClassB]# cd /Training/Quiz/ClassC
[root@localhost ClassC]# ll
total 0
[root@localhost ClassC]# cd /Training/Quiz/ClassA
[root@localhost ClassA]# ll
total 0
[root@localhost ClassA]# █
```

- Show all histories of your commands but only the last 50 lines

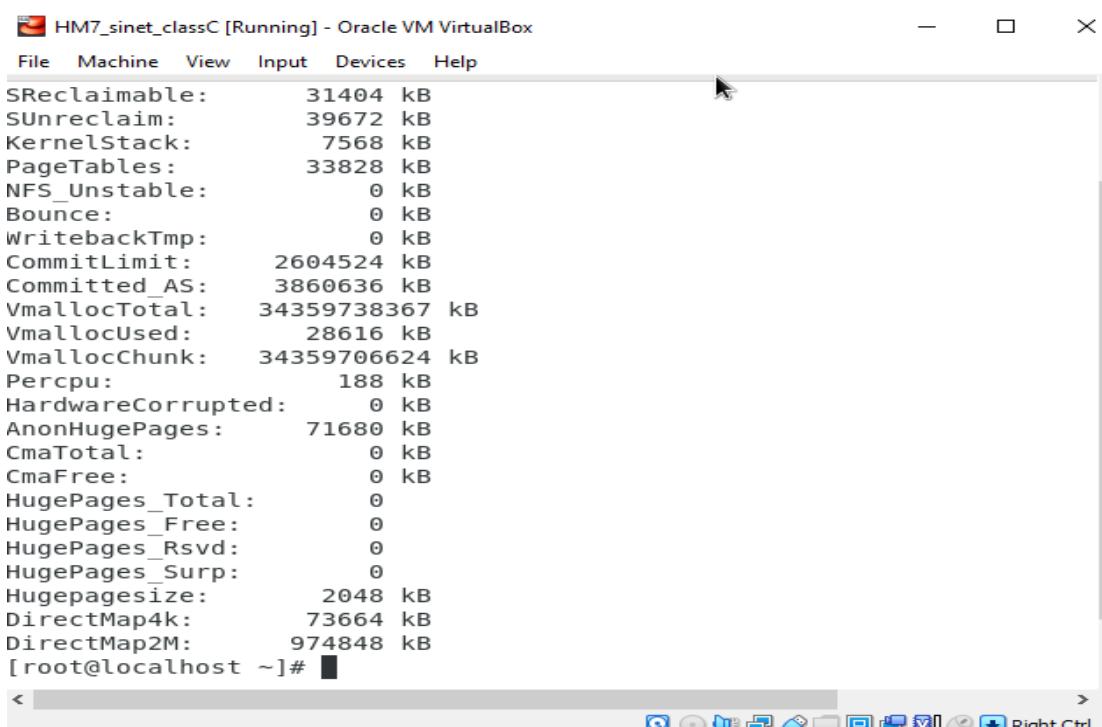


```
sinet@localhost:~
File Edit View Search Terminal Help
[root@localhost ~]# history | tail -50
34 clear
35 grep "root" passwd
36 grep "final" passwd
37 ll
38 clear
39 cut -f 1,5 -d ":" passwd
40 clear
41 cd
42 cd /
43 clear
44 cd Training/Quiz/ClassA
45 re -r Q1.Geeko
46 ll
47 clear
48 rm -r Q1.Geeko
49 ll
50 cd /Training/Quiz/ClassB
51 rm -r Q2.Mike
52 ll
53 cd /Training/Quiz/ClassC
54 ll
55 clear
56 rm -r Q3.Jonh
57 clear
58 ll
```

- Use command line to show your system's memory usage



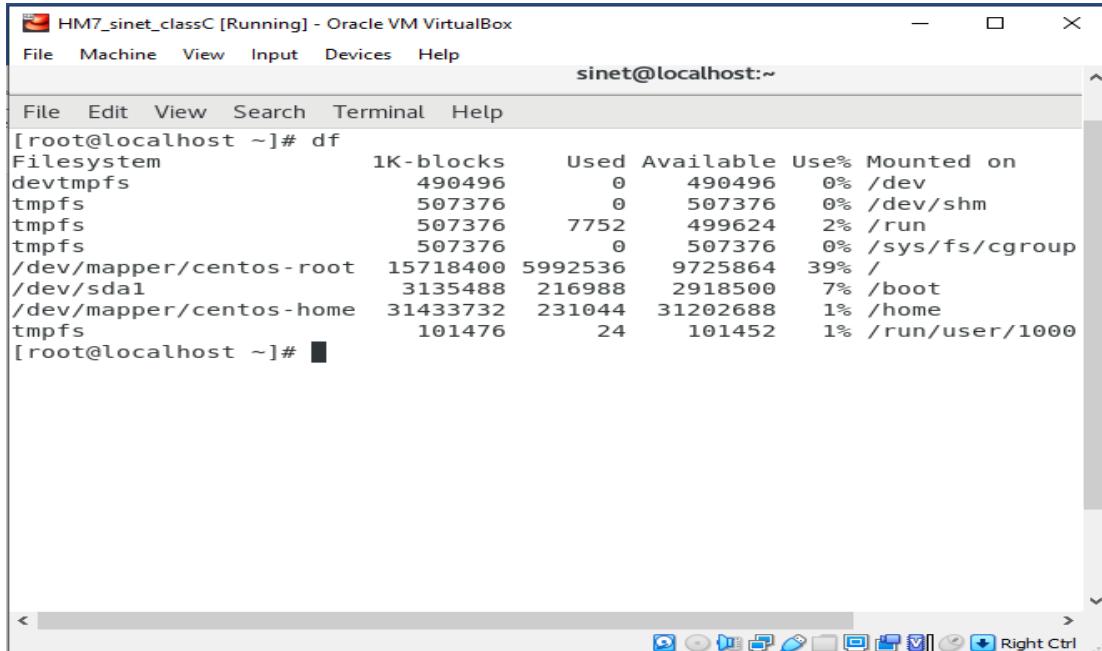
```
sinet@localhost:~$ cat /proc/meminfo
```



```
SReclaimable:      31404 kB
SUnreclaim:       39672 kB
KernelStack:       7568 kB
PageTables:        33828 kB
NFS_Unstable:      0 kB
Bounce:            0 kB
WritebackTmp:      0 kB
CommitLimit:      2604524 kB
Committed_AS:     3860636 kB
VmallocTotal:     34359738367 kB
VmallocUsed:      28616 kB
VmallocChunk:     34359706624 kB
Percpu:            188 kB
HardwareCorrupted: 0 kB
AnonHugePages:    71680 kB
CmaTotal:          0 kB
CmaFree:           0 kB
HugePages_Total:   0
HugePages_Free:    0
HugePages_Rsvd:    0
HugePages_Surp:    0
Hugepagesize:      2048 kB
DirectMap4k:        73664 kB
DirectMap2M:       974848 kB
```



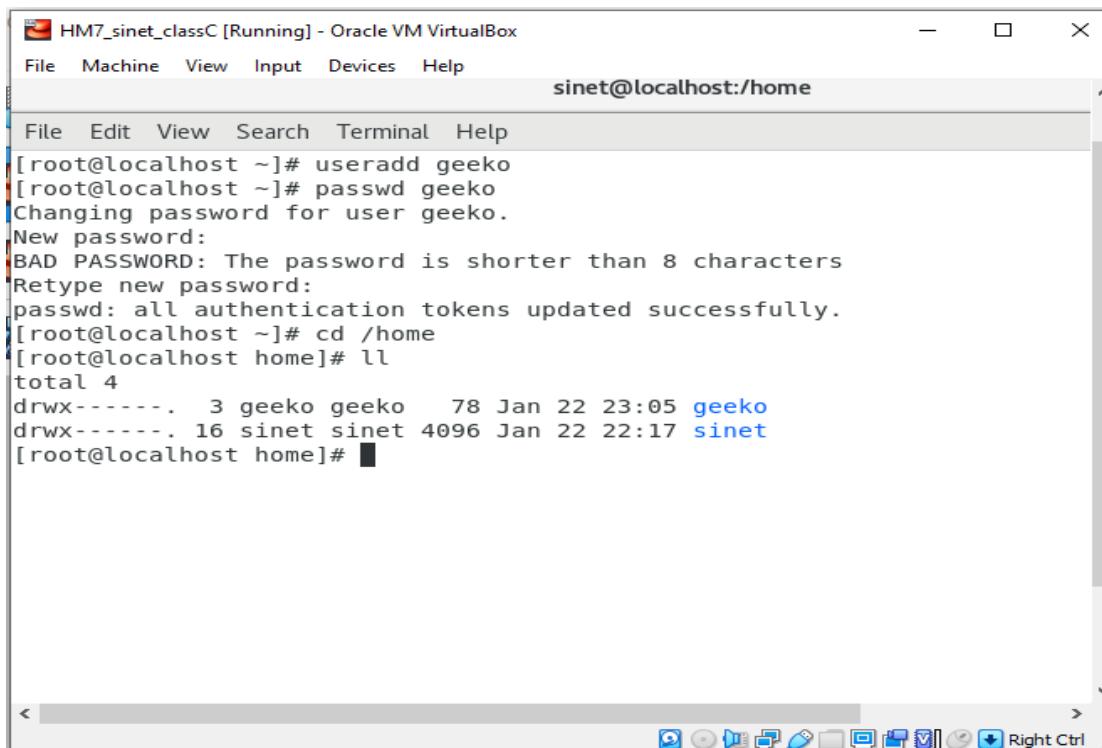
- Use command line to show used and available disk space on your system



```
HM7_sinet_classC [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
sinet@localhost:~
```

```
File Edit View Search Terminal Help
[root@localhost ~]# df
Filesystem      1K-blocks   Used Available Use% Mounted on
/devtmpfs          490496     0    490496  0% /dev
tmpfs             507376     0    507376  0% /dev/shm
tmpfs             507376   7752   499624  2% /run
tmpfs             507376     0    507376  0% /sys/fs/cgroup
/dev/mapper/centos-root 15718400 5992536  9725864  39% /
/dev/sda1         3135488 216988  2918500  7% /boot
/dev/mapper/centos-home 31433732 231044  31202688  1% /home
tmpfs            101476     24   101452  1% /run/user/1000
[root@localhost ~]#
```

- Create username

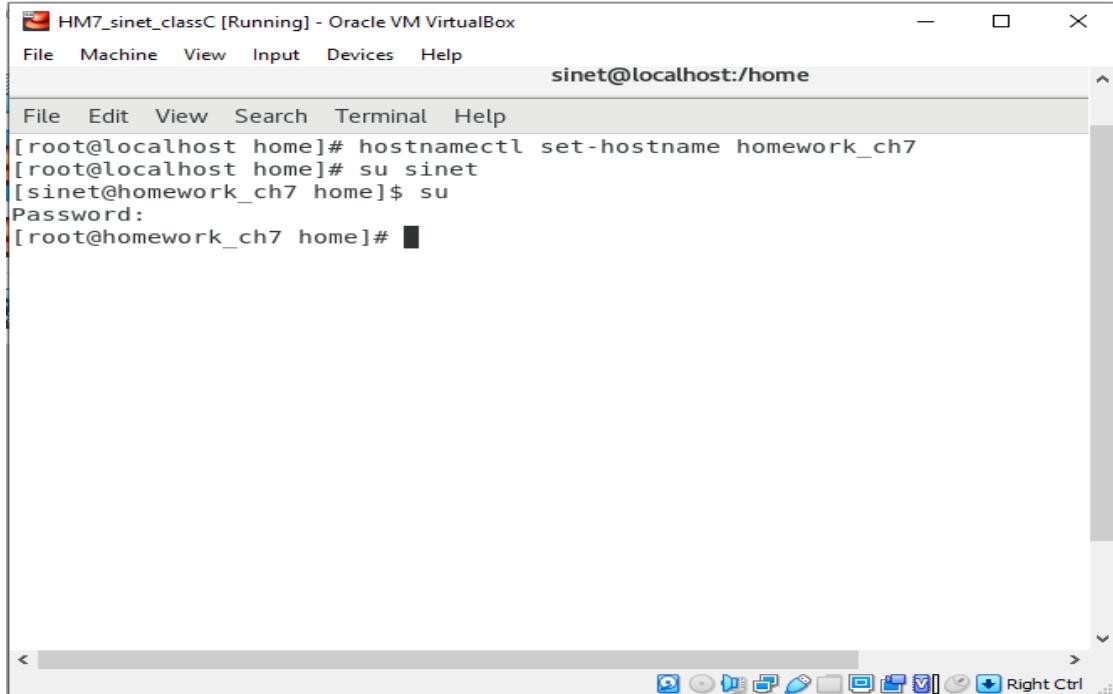


```
HM7_sinet_classC [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
sinet@localhost:/home
```

```
File Edit View Search Terminal Help
[root@localhost ~]# useradd geeko
[root@localhost ~]# passwd geeko
Changing password for user geeko.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@localhost ~]# cd /home
[root@localhost home]# ll
total 4
drwx----- 3 geeko geeko 78 Jan 22 23:05 geeko
drwx----- 16 sinet sinet 4096 Jan 22 22:17 sinet
[root@localhost home]#
```



- Change hostname



```
HM7_sinet_classC [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
sinet@localhost:/home
File Edit View Search Terminal Help
[root@localhost home]# hostnamectl set-hostname homework_ch7
[root@localhost home]# su sinet
[sinet@homework_ch7 home]$ su
Password:
[root@homework_ch7 home]#
```

- Login by user geeko

