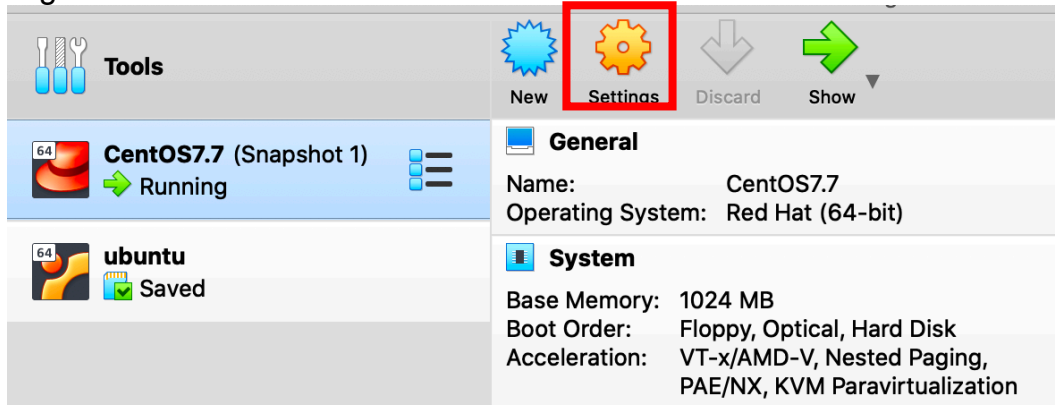


Exersercise 4: Managing Software and Processes

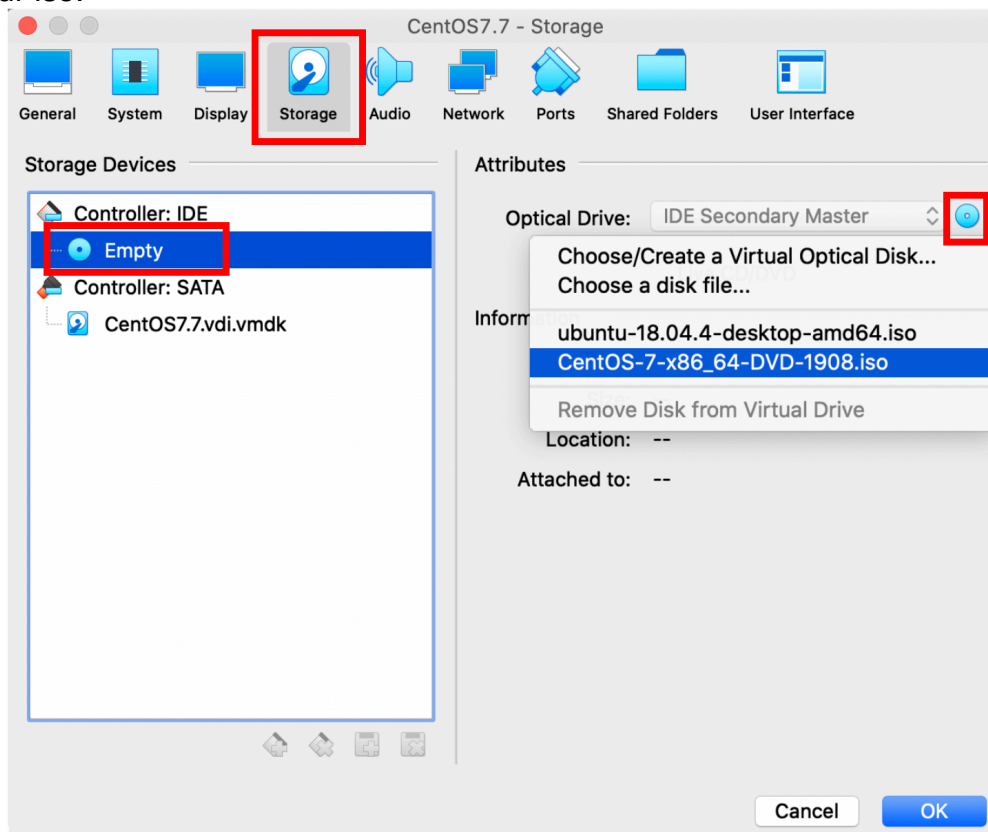
- Part 1

I. Prepare the environment

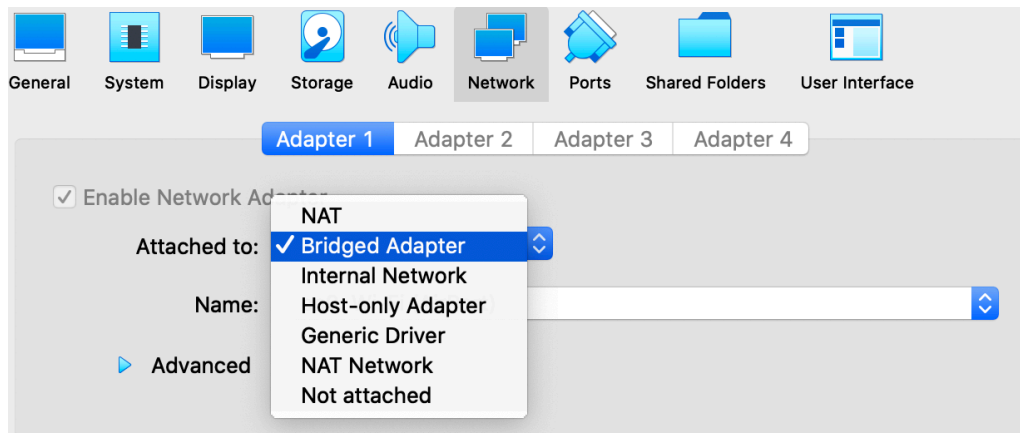
1. From the Oracle VM Virtual Manager windows, select the CentOS VM and click setting



Click on Storage icon, select the optical disk icon and select to attach the CentOS 7 iso file. If the CentOS iso file do not show up, select "Choos a disk file" to browse to your iso.



Click on Network icon, click to Attached to list and select Bridged Adapter as the following. → Click OK to complete.



2. Do the above steps with the Ubuntu server but using the Ubuntu iso instead

II. Using RPM package management

1. Login to the CentOS server with user student.
2. Mount the cdrom to the /mnt directory with the following command
\$ sudo mount -o ro /dev/sr0 /mnt
3. Check if the cdrom is mounted with the following command
\$ df -h | grep /mnt
4. Change directory to /mnt/Packages
5. Using rpm to install the nano package in verbose mode with the progress information of the installation.
6. Using rpm to show the path to config file of nano
7. Add some text into the above config file of nano, using rpm to verify the nano package. Does it show anything?
8. Remove the changes you made in exercise 7 and re-verify the nano package. The problem is fixed or not?
9. Using rpm to display the information of nano package
10. Using rpm to list all the package that installed on you system

III. Using YUM

11. Change directory to /etc/yum.repos.d/ and move all file to the orgn directory using the following command
\$ sudo mv * orgn/
12. Create a file with vim inside the /etc/yum.repos.d/ directory, named it rhel.repo, input the following content and save it.

```
[DVD]
name=Local repository from DVD
baseurl=file:///mnt
enabled=1
```

13. Using yum to search and install emacs

14. Using yum to display the information of nano package
15. Using yum to remove emacs and nano

IV. Using dpkg and apt suite package manager

16. Login to the Ubuntu server with student.
17. Using dpkg to list all the package installed on your system
18. Using apt suite tools to search for and install the emacs and nano
19. List all the files of the emacs package
20. Using apt suite to remove the nano and emacs package.

Exercise Instructions

I. Prepare the environment

V. Using RPM package management

1. Log int to the CentOS system with the user name and password provided:
student/lpic1@123
2. Mount the cdrom to the /mnt directory with the following command
\$ sudo mount -o ro /dev/sr0 /mnt

3. Check if the cdrom is mounted with the following command
\$ df -h |grep /mnt

```
[student@centos7 ~]$ df -h |grep /mnt
/dev/sr0          4.4G  4.4G    0 100% /mnt
```

4. Change directory to /mnt/Packages
\$ cd /mnt/Packages
5. Using rpm to install the nano package in verbose mode with the progress information of the installation.
\$ sudo rpm -ivh nano-2.3.1-10.el7.x86_64.rpm

```
sudo rpm -ivh nano-2.3.1-10.el7.x86_64.rpm
[sudo] password for student:
Preparing...                               ##### [100%]
package nano-2.3.1-10.el7.x86_64 is already installed
```

6. Using rpm to show the path to config file of nano
[student@centos7 Packages]\$ rpm -qc nano
/etc/nanorc
7. Add some text into the above config file of nano, using rpm to verify the nano package. Does it show anything?
\$ sudo vim /etc/nanorc
Type i to access input mode
Insert some random text
Esc
:wq!

```
$ rpm -V nano
[student@centos7 Packages]$ rpm -V nano
S.5....T. c /etc/nanorc
```

8. Remove the changes you made in excercise 7 and re-verify the nano package.
The problem is fixed or not?
\$ sudo vim /etc/nanorc
Type i to access input mode
Insert some random text
Esc

:wq!

\$ rpm -V nano

```
[student@centos7 Packages]$ rpm -V nano
.....T. c /etc/nanorc
```

9. Using rpm to display the information of nano package

\$ rpm -qi nano

```
[student@centos7 Packages]$ rpm -qi nano
Name           : nano
Version        : 2.3.1
Release        : 10.el7
Architecture   : x86_64
Install Date   : Thu 23 Apr 2020 08:37:44 PM +07
Group          : Applications/Editors
Size           : 1715901
License        : GPLv3+
Signature      : RSA/SHA256, Fri 04 Jul 2014 10:53:43 AM +07, Key ID 24c6a8a7f4a80eb5
Source RPM     : nano-2.3.1-10.el7.src.rpm
Build Date    : Tue 10 Jun 2014 11:47:54 AM +07
Build Host     : worker1.bsys.centos.org
Relocations    : (not relocatable)
Packager       : CentOS BuildSystem <http://bugs.centos.org>
Vendor         : CentOS
URL            : http://www.nano-editor.org
Summary        : A small text editor
Description    :
GNU nano is a small and friendly text editor.
```

10. Using rpm to list all the package that installed on you system

\$ rpm -qa | more

```
openssh-server-7.4p1-21.el7.x86_64
setup-2.8.71-10.el7.noarch
postfix-2.10.1-7.el7.x86_64
kbd-misc-1.15.5-15.el7.noarch
aic94xx-firmware-30-6.el7.noarch
nss-softoken-freebl-3.44.0-5.el7.x86_64
irqbalance-1.0.7-12.el7.x86_64
nss-util-3.44.0-3.el7.x86_64
iprutils-2.4.17.1-2.el7.x86_64
libsepol-2.5-10.el7.x86_64
e2fsprogs-1.42.9-16.el7.x86_64
info-5.1-5.el7.x86_64
libsysfs-2.1.0-16.el7.x86_64
sed-4.2.2-5.el7.x86_64
iwl6000g2a-firmware-17.168.5.3-72.el7.noarch
libdb-5.3.21-25.el7.x86_64
iwl135-firmware-18.168.6.1-72.el7.noarch
elfutils-libelf-0.176-2.el7.x86_64
iqtv-firmware-20080701-26.el7.noarch
libattr-2.4.46-13.el7.x86_64
iwl2030-firmware-18.168.6.1-72.el7.noarch
libgcrypt-1.5.3-14.el7.x86_64
gpg-pubkey-f4a80eb5-53a7ff4b
lua-5.1.4-15.el7.x86_64
libICE-1.0.9-9.el7.x86_64
diffutils-3.3-5.el7.x86_64
mesa-libglapi-18.3.4-5.el7.x86_64
libmnl-1.0.3-7.el7.x86_64
libwayland-client-1.15.0-1.el7.x86_64
libassuan-2.1.0-3.el7.x86_64
libthai-0.1.14-9.el7.x86_64
xz-5.2.2-1.el7.x86_64
pixmap-0.34.0-1.el7.x86_64
sysvinit-tools-2.88-14.ds.el7.x86_64
OpenEXR-libs-1.7.1-7.el7.x86_64
slang-2.2.4-11.el7.x86_64
--More--
```

VI. Using YUM

11. Change directory to /etc/yum.repos.d/ and move all file to the orgn directory using the following command

```
$ sudo mv * orgn/
```

12. Create a file with vim inside the /etc/yum.repos.d/ directory, named it rhel.repo, input the following content and save it.

```
$ vim rhel.repo
```

Press i to access input mode

Insert the following content

```
[DVD]
name=Local repository from DVD
baseurl=file:///mnt
enabled=1
```

Esc

:wq!

13. Using yum to search and install emacs

```
$ yum search emacs
```

```
lstudent@centos7 yum.repos.d]$ yum search emacs
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
===== N/S matched: emacs =====
emacs.x86_64 : GNU Emacs text editor
emacs-auctex.noarch : Enhanced TeX modes for Emacs
emacs-common.x86_64 : Emacs common files
emacs-filesystem.noarch : Emacs filesystem layout
emacs-gnuplot.noarch : Emacs bindings for the gnuplot main application
emacs-nox.x86_64 : GNU Emacs text editor without X support
ctags-ctags.x86_64 : Exuberant Ctags for emacs tag format

Name and summary matches only, use "search all" for everything.
```

```
$ sudo yum install emacs
```

```
emacs-common.x86_64 : Emacs common files
emacs-filesystem.noarch : Emacs filesystem layout
emacs-gnuplot.noarch : Emacs bindings for the gnuplot main application
emacs-nox.x86_64 : GNU Emacs text editor without X support
ctags-ctags.x86_64 : Exuberant Ctags for emacs tag format

Name and summary matches only, use "search all" for everything.
lstudent@centos7 yum.repos.d]$ yum install emacs
Loaded plugins: fastestmirror
You need to be root to perform this command.
lstudent@centos7 yum.repos.d]$ sudo !!
sudo yum install emacs
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
DVD
(1/2): DVD/group_gz | 3.6 kB 00:00:00
(2/2): DVD/primary_db | 165 kB 00:00:00
Resolving Dependencies
--> Running transaction check
--> Package emacs.x86_64 1:24.3-22.el7 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package Arch Version Repository Size
=====
Installing:
emacs x86_64 1:24.3-22.el7 DVD 2.9 M
=====

Transaction Summary
=====
Install 1 Package

Total download size: 2.9 M
Installed size: 14 M
Is this ok [y/d/N]: y_
```

Input y on question

```

Downloading packages:
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
Warning: RPMDB altered outside of yum.
Installing : 1:emacs-24.3-22.el7.x86_64 1/1
Verifying : 1:emacs-24.3-22.el7.x86_64 1/1

Installed:
  emacs.x86_64 1:24.3-22.el7

Complete!

```

14. Using yum to display the information of nano package

```

[student@centos7 yum.repos.d]$ yum info nano
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
Installed Packages
Name           : nano
Arch           : x86_64
Version        : 2.3.1
Release        : 10.el7
Size           : 1.6 M
Repo           : installed
Summary        : A small text editor
URL            : http://www.nano-editor.org
License        : GPLv3+
Description    : GNU nano is a small and friendly text editor.

```

15. Using yum to remove emacs and nano

\$ yum remove emacs

Input y on question

\$ yum remove nano

Input y on question

VII. Using dpkg and apt suite package manager

16. Login to the Ubuntu server with the user name and password provided:

student/lpic1@123

17. Using dpkg to list all the package installed on your system

\$ dpkg -l | more

```

Desired=Unknown/Install/Remove/Purge/Hold
| Status=Not/Inst/Conf-files/Unpacked/halF-conf/Half-inst/trig-aWait/Trig-pend
|/ Err?=(none)/Reinst-required (Status,Err: uppercase=bad)
||/ Name                               Version                               Architecture
re Description
+++-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
ii accountsservice                     0.6.45-1ubuntu1                     amd64
query and manipulate user account information
ii acl                                 2.2.52-3build1                      amd64
Access control list utilities
ii acpid                               1:2.0.28-1ubuntu1                   amd64
Advanced Configuration and Power Interface event daemon
ii adduser                             3.116ubuntu1                        all
add and remove users and groups
ii adwaita-icon-theme                  3.28.0-1ubuntu1                     all
default icon theme of GNOME (small subset)
ii amd64-microcode                     3.20191021.1+really3.20181128.1~ubuntu0.18.04.1 amd64
Processor microcode firmware for AMD CPUs
ii apparmor                            2.12-4ubuntu5.1                     amd64
user-space parser utility for AppArmor
ii apport                              2.20.9-0ubuntu7.14                  all
automatically generate crash reports for debugging
ii apport-symptoms                     0.20                                all
symptom scripts for apport
ii apt                                 1.6.12                              amd64
commandline package manager
ii apt-utils                           1.6.12                              amd64
package management related utility programs
ii at                                  3.1.20-3.1ubuntu2                   amd64
Delayed job execution and batch processing
ii at-spi2-core                        2.28.0-1                            amd64
Assistive Technology Service Provider Interface (dbus core)
ii base-files                          10.1ubuntu2.8                       amd64
Debian base system miscellaneous files
ii base-passwd                         3.5.44                              amd64

```

18. Using apt suite tools to search for and install the emacs and nano

\$ apt-cache search nano |grep ^nano

\$ sudo apt-get install nano

\$ apt-cache search emacs |grep ^emacs

\$ sudo apt-get install emacs

19. Display information of emacs package

\$ apt-cache showpkg emacs

20. Using apt suite to remove the nano and emacs package.

\$ sudo apt-get remove emacs

Input y on question

\$ sudo apt-get remove nano

Input y on question