

آموزش مقدماتی لینوکس

تهیه کننده: فاطمه رشیدی



GNU / LINUX FREE AS IN FREEDOM

"The GNU Project is idealistic, and anyone encouraging idealism today faces a great obstacle: the prevailing ideology encourages people to dismiss idealism as 'impractical'. Our idealism has been extremely practical: it is the reason we have a free GNU/Linux operating system. People who love this system ought to know that it is our idealism made real." - RMS

Open source



مفهوم آزادی

- ۱- آزادی در داشتن کل متن برنامه نوشته شده
- ۲ - آزادی در تعداد کپی هایی که میتوان از برنامه داشت
- ۳ - آزادی در داشتن متن برنامه و تغییر در آن و اجرای آن به شکل دلخواه و در اختیار قرار دادن این نسخه جدید به دیگران
- ۴ - آزادی در قرار دادن متن برنامه به دیگران اما گرفتن پول برای پشتیبانی و یا اعمال تغییرات در آن



لایسنس های متن باز

1. FSF Free Software Foundation
2. OSI Open Source Initiative

**GPL GNU General Public
License**



توزیع های لینوکس



- Redhat
 - یک شرکت که نسخه ای به همین نام دارد
 - Fedora, Centos,...
- Debian
 - یک انجمن که یک نسخه یه همین نام دارد
 - Ubuntu → mint, knopix,...

نصب
centos



CentOS

Automatic boot in 2 seconds...

CentOS 6
Community ENTERprise Operating System



Activate Windows
Go to PC settings to activate Windows.

Welcome to CentOS-6.3-i386-LiveCD!

Verify and Boot
Boot
Boot (Text Mode)
Boot (Basic Video)
Install
Install (Text Mode)
Memory Test
Boot from local drive

Press [Tab] to edit options

CentOS 6
Community ENTERprise Operating System



Activate Windows
Go to PC settings to activate Windows.

To direct input to this virtual machine, press Ctrl+G.



Activate Windows
Go to PC settings to activate Windows.



To direct input to this virtual machine, press Ctrl+G.

Please name this computer. The
hostname identifies the computer on a
network.

Hostname:

Configure Network


Activate Windows
Go to PC settings to activate Windows.



CentOS Installer

To direct input to this virtual machine, press Ctrl+G.

Please select the nearest city in your time zone:



Selected city: New York, America (Eastern Time)

America/New York

☒ System clock uses UTC

Activate Windows

Go to PC settings to activate Windows.

Back

Next

CentOS Installer

To direct input to this virtual machine, press Ctrl+G.

Which type of installation would you like?

05

Use All Space
Removes all partitions on the selected device(s). This includes partitions created by other operating systems.
Tip: This option will remove data from the selected device(s). Make sure you have backups.

01

Replace Existing Linux System(s)
Removes only Linux partitions (created from a previous Linux installation). This does not remove other partitions you may have on your storage device(s) (such as VFAT or FAT32).
Tip: This option will remove data from the selected device(s). Make sure you have backups.

05

Shrink Current System
Shrinks existing partitions to create free space for the default layout.

05

Use Free Space
Retains your current data and partitions and uses only the unpartitioned space on the selected device(s), assuming you have enough free space available.

?

Create Custom Layout
Manually create your own custom layout on the selected device(s) using our partitioning tool.

☐ Encrypt system

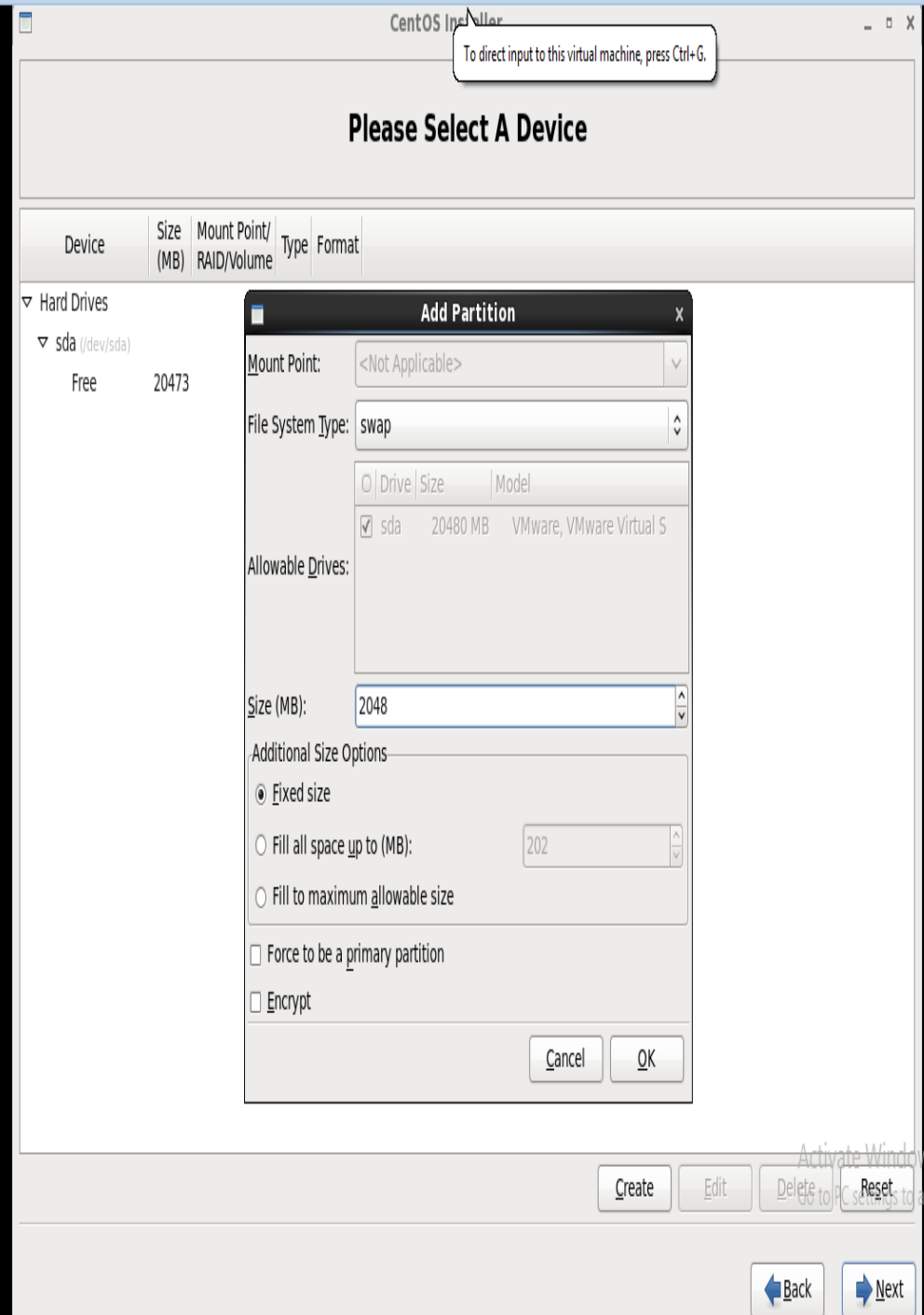
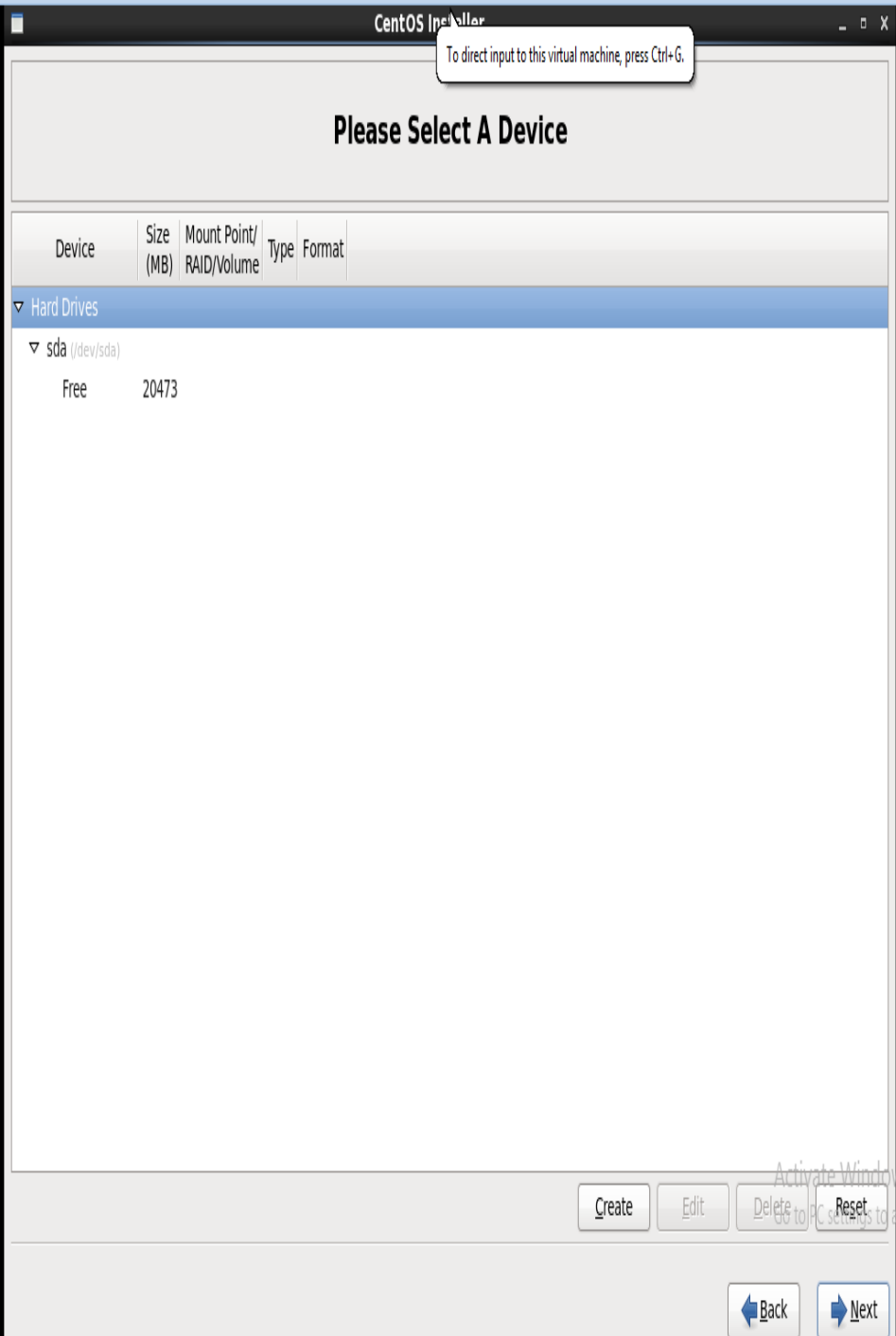
☒ Review and modify partitioning layout

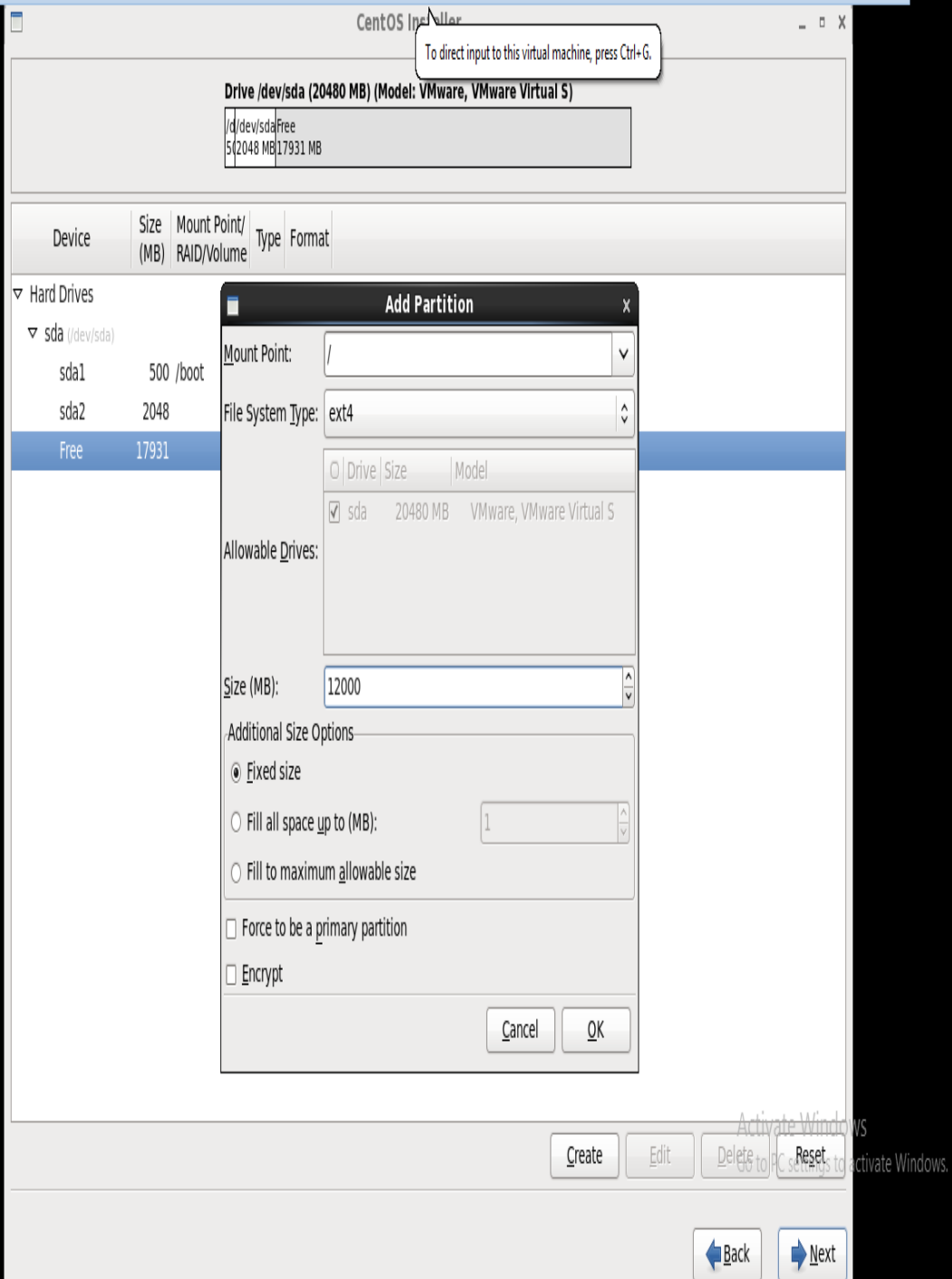
Activate Windows

Go to PC settings to activate Windows.

Back

Next





Root

1. Root as super user
2. Root as file system /
3. Root as root's home directory /root



☒ Install boot loader on /dev/sda. [C](#)hange device

☐ Use a boot loader password [C](#)hange password

Boot loader operating system list

Default	Label	Device
<input checked="" type="radio"/>	CentOS	/dev/sda2

[Add](#)[Edit](#)[Delete](#)[←](#) Back[→](#) Next

- › Welcome
- License Information
- Create User
- Date and Time
- Kdump

Welcome

To direct input to this virtual machine, press Ctrl+G.

There are a few more steps to take before your system is ready to use. The Setup Agent will now guide you through some basic configuration. Please click the "Forward" button in the lower right corner to continue



Activate Windows
Go to PC settings to activate Windows.

Back

Forward

- Welcome
- › License Information
- Create User
- Date and Time
- Kdump

License Information

To direct input to this virtual machine, press Ctrl+G.

CentOS-6 EULA

CentOS-6 comes with no guarantees or warranties of any sorts, either written or implied.

The Distribution is released as GPL. Individual packages in the distribution come with their own licences.

☒ Yes, I agree to the License Agreement

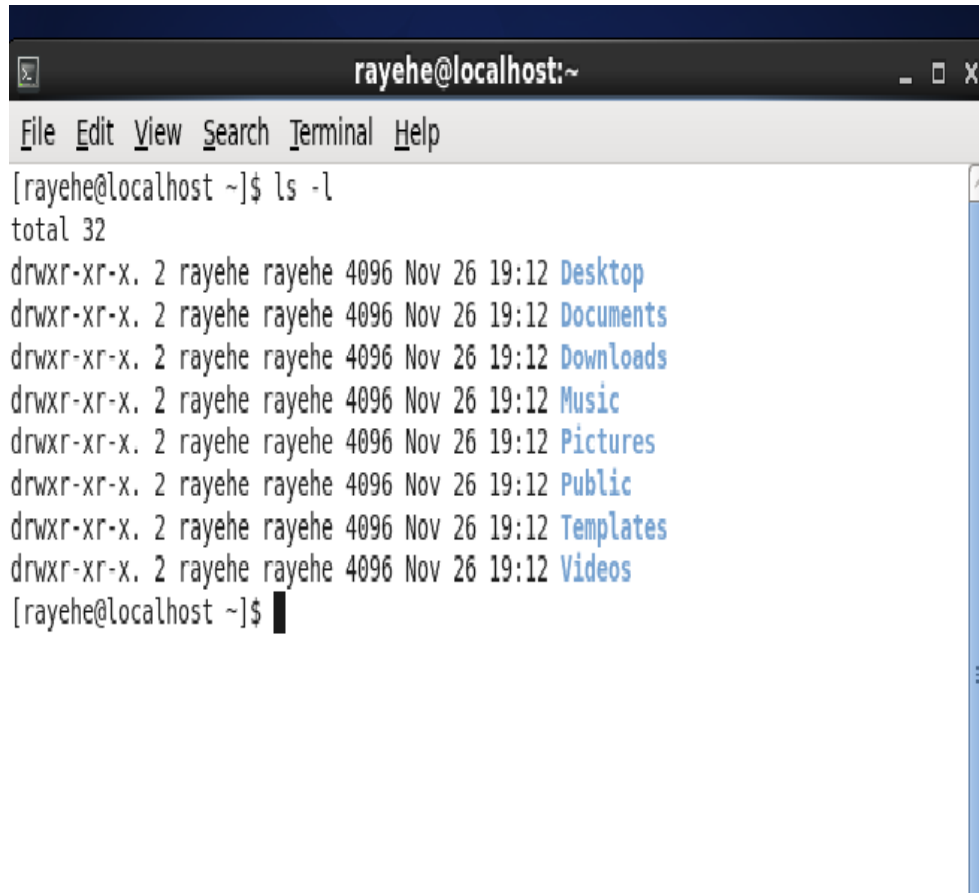
☐ No, I do not agree

Activate Windows
Go to PC settings to activate Windows.

Back

Forward

LS -L



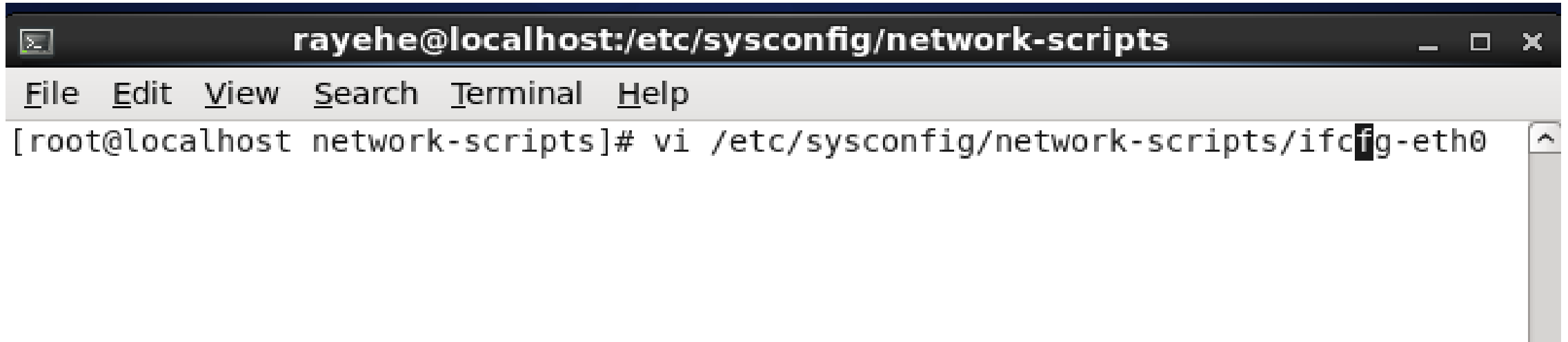
```
rayehe@localhost:~  
File Edit View Search Terminal Help  
[rayehe@localhost ~]$ ls -l  
total 32  
drwxr-xr-x. 2 rayehe rayehe 4096 Nov 26 19:12 Desktop  
drwxr-xr-x. 2 rayehe rayehe 4096 Nov 26 19:12 Documents  
drwxr-xr-x. 2 rayehe rayehe 4096 Nov 26 19:12 Downloads  
drwxr-xr-x. 2 rayehe rayehe 4096 Nov 26 19:12 Music  
drwxr-xr-x. 2 rayehe rayehe 4096 Nov 26 19:12 Pictures  
drwxr-xr-x. 2 rayehe rayehe 4096 Nov 26 19:12 Public  
drwxr-xr-x. 2 rayehe rayehe 4096 Nov 26 19:12 Templates  
drwxr-xr-x. 2 rayehe rayehe 4096 Nov 26 19:12 Videos  
[rayehe@localhost ~]$
```

1. Permission
2. Hard link تعداد
3. Owner
4. Group owner
5. Size
6. Modify time
7. File name

File Edit View Search Terminal Help

```
[rayehe@localhost ~]$ cd Music/
[rayehe@localhost Music]$ mkdir shajarian
[rayehe@localhost Music]$ ll
total 4
drwxrwxr-x. 2 rayehe rayehe 4096 Nov 26 20:11 shajarian
[rayehe@localhost Music]$ cp shajarian/ /home/rayehe
cp: omitting directory `shajarian/'
[rayehe@localhost Music]$ cd shajarian/
[rayehe@localhost shajarian]$ touch rabana
[rayehe@localhost shajarian]$ cp rabana /home/directory
cp: cannot create regular file `/home/directory': Permission denied
[rayehe@localhost shajarian]$ cp rabana /home/rayehe
[rayehe@localhost shajarian]$
```

تنظیمات آدرس IP



```
rayehe@localhost:/etc/sysconfig/network-scripts
File Edit View Search Terminal Help
[root@localhost network-scripts]# vi /etc/sysconfig/network-scripts/ifcfg-eth0
```

File Edit View Search Terminal Help

```
DEVICE=eth0
onboot=yes
BOOTPROTO=static
IPADDR=192.168.1.50
NETMASK=255.255.255.0
GATEWAY=192.168.1.2
```

~

~

~

~

~

~

~

~

~

~

~

~

~

~

~

~

~

```
-- INSERT --
```

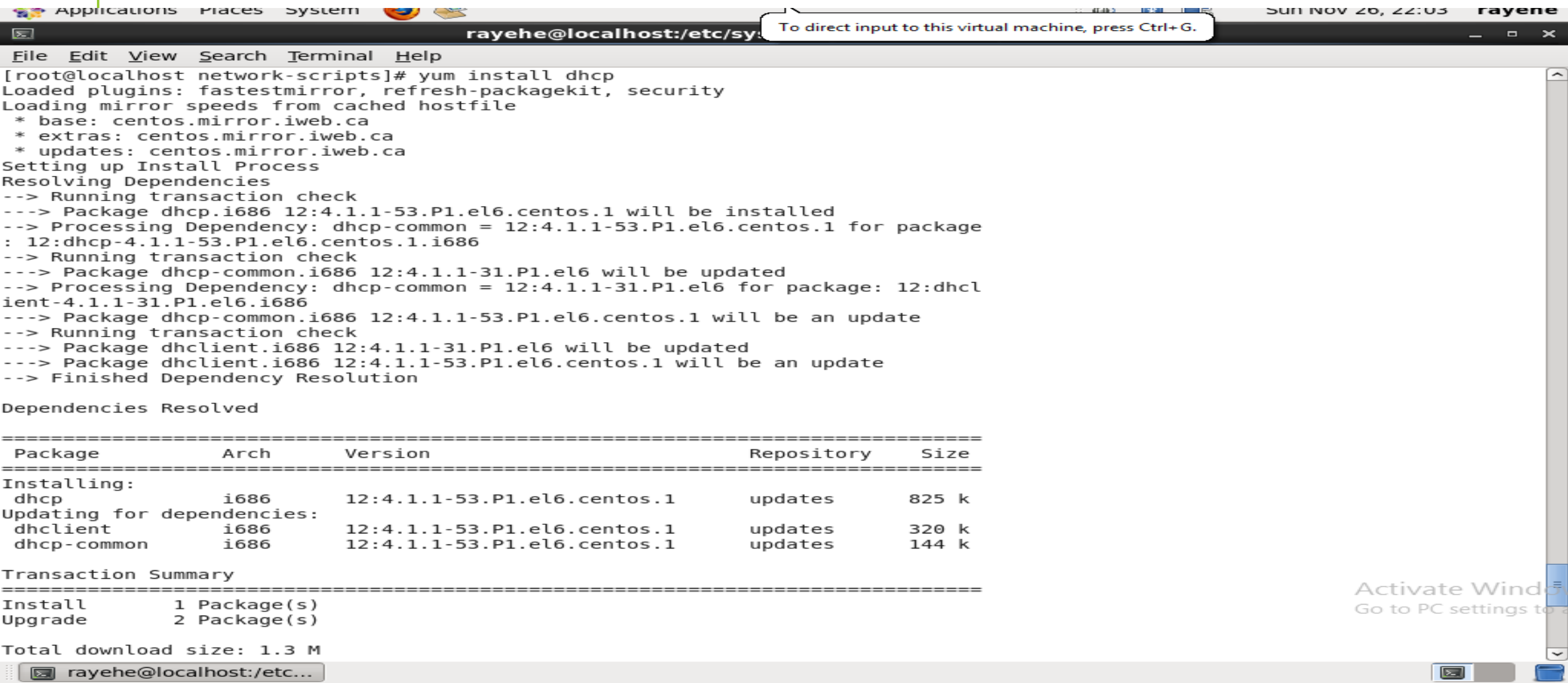
```
rayehe@localhost:/etc/sysconfig/network-scripts
File Edit View Search Terminal Help
[root@localhost network-scripts]# service network restart
```

```
rayehe@localhost:/etc/sysconfig/network-scripts
File Edit View Search Terminal Help
[root@localhost network-scripts]# ifconfig
eth0      Link encap:Ethernet  HWaddr 00:0C:29:7C:91:E3
          inet addr:192.168.1.50  Bcast:192.168.1.255  Mask:255.255.255.0
          inet6 addr: fe80::20c:29ff:fe7c:91e3/64  Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:9054  errors:0  dropped:0  overruns:0  frame:0
          TX packets:5842  errors:0  dropped:0  overruns:0  carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:12254486 (11.6 MiB)  TX bytes:346475 (338.3 KiB)
          Interrupt:19 Base address:0x2000

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128  Scope:Host
          UP LOOPBACK RUNNING  MTU:16436  Metric:1
          RX packets:12  errors:0  dropped:0  overruns:0  frame:0
          TX packets:12  errors:0  dropped:0  overruns:0  carrier:0
          collisions:0 txqueuelen:0
          RX bytes:720 (720.0 b)  TX bytes:720 (720.0 b)

[root@localhost network-scripts]#
```

DHCP SERVER



The screenshot shows a terminal window titled "rayehe@localhost:/etc/sy...". The user is in the root directory of the network-scripts directory and has run the command "yum install dhcp". The terminal output shows the process of loading plugins, resolving dependencies, and installing the dhcp package along with its dependencies (dhcp-common, dhclient). A table summarizes the packages to be installed and updated, showing their architecture, version, repository, and size. The transaction summary indicates that 1 package will be installed and 2 packages will be upgraded, with a total download size of 1.3 M.

```
[root@localhost network-scripts]# yum install dhcp
Loaded plugins: fastestmirror, refresh-packagekit, security
Loading mirror speeds from cached hostfile
 * base: centos.mirror.iweb.ca
 * extras: centos.mirror.iweb.ca
 * updates: centos.mirror.iweb.ca
Setting up Install Process
Resolving Dependencies
--> Running transaction check
--> Package dhcp.i686 12:4.1.1-53.P1.el6.centos.1 will be installed
--> Processing Dependency: dhcp-common = 12:4.1.1-53.P1.el6.centos.1 for package
: 12:dhcp-4.1.1-53.P1.el6.centos.1.i686
--> Running transaction check
--> Package dhcp-common.i686 12:4.1.1-31.P1.el6 will be updated
--> Processing Dependency: dhcp-common = 12:4.1.1-31.P1.el6 for package: 12:dhcl
ient-4.1.1-31.P1.el6.i686
--> Package dhcp-common.i686 12:4.1.1-53.P1.el6.centos.1 will be an update
--> Running transaction check
--> Package dhclient.i686 12:4.1.1-31.P1.el6 will be updated
--> Package dhclient.i686 12:4.1.1-53.P1.el6.centos.1 will be an update
--> Finished Dependency Resolution

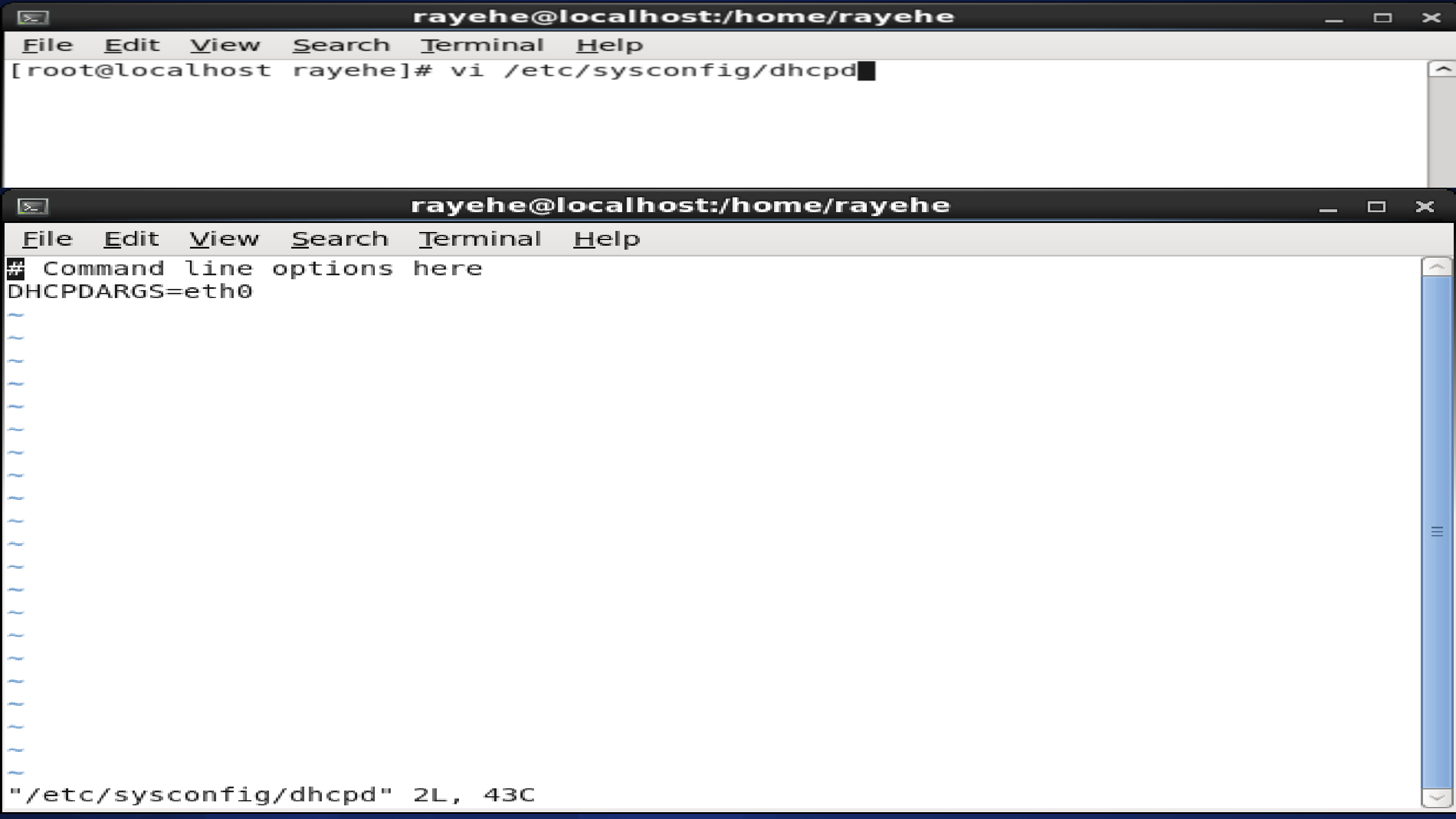
Dependencies Resolved

=====
Package                Arch      Version                               Repository    Size
=====
Installing:
dhcp                   i686      12:4.1.1-53.P1.el6.centos.1          updates      825 k
Updating for dependencies:
dhclient               i686      12:4.1.1-53.P1.el6.centos.1          updates      320 k
dhcp-common            i686      12:4.1.1-53.P1.el6.centos.1          updates      144 k
=====

Transaction Summary
=====
Install      1 Package(s)
Upgrade     2 Package(s)

Total download size: 1.3 M
```

rayehe@localhost:/etc...



rayehe@localhost:/home/rayehe

File Edit View Search Terminal Help

[root@localhost rayehe]# vi /etc/sysconfig/dhcpd

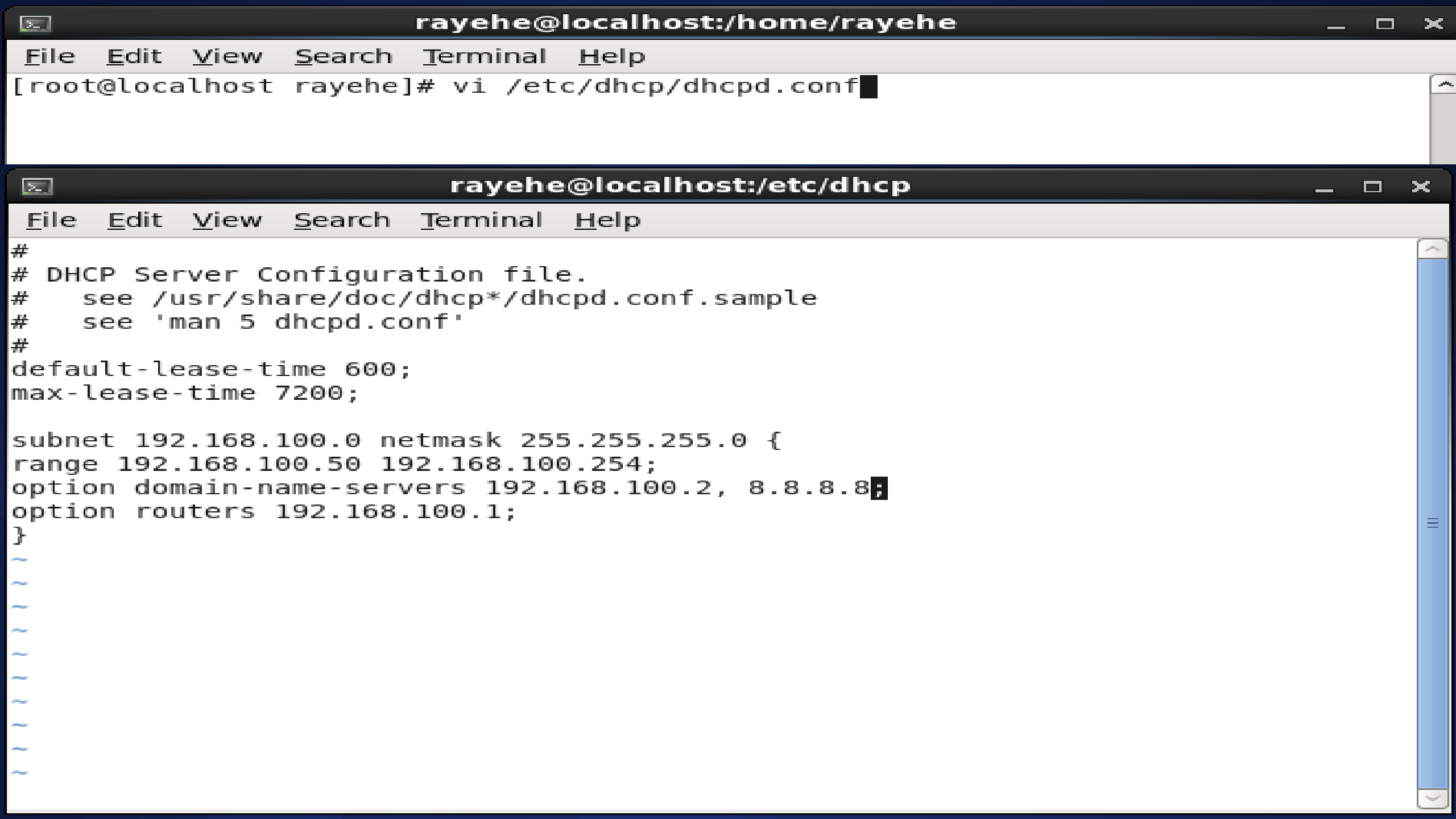
rayehe@localhost:/home/rayehe

File Edit View Search Terminal Help

Command line options here
DHCPDARGS=eth0

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

"/etc/sysconfig/dhcpd" 2L, 43C



```
[root@localhost rayehe]# vi /etc/dhcp/dhcpd.conf
```

```
#
# DHCP Server Configuration file.
#   see /usr/share/doc/dhcp*/dhcpd.conf.sample
#   see 'man 5 dhcpd.conf'
#
default-lease-time 600;
max-lease-time 7200;

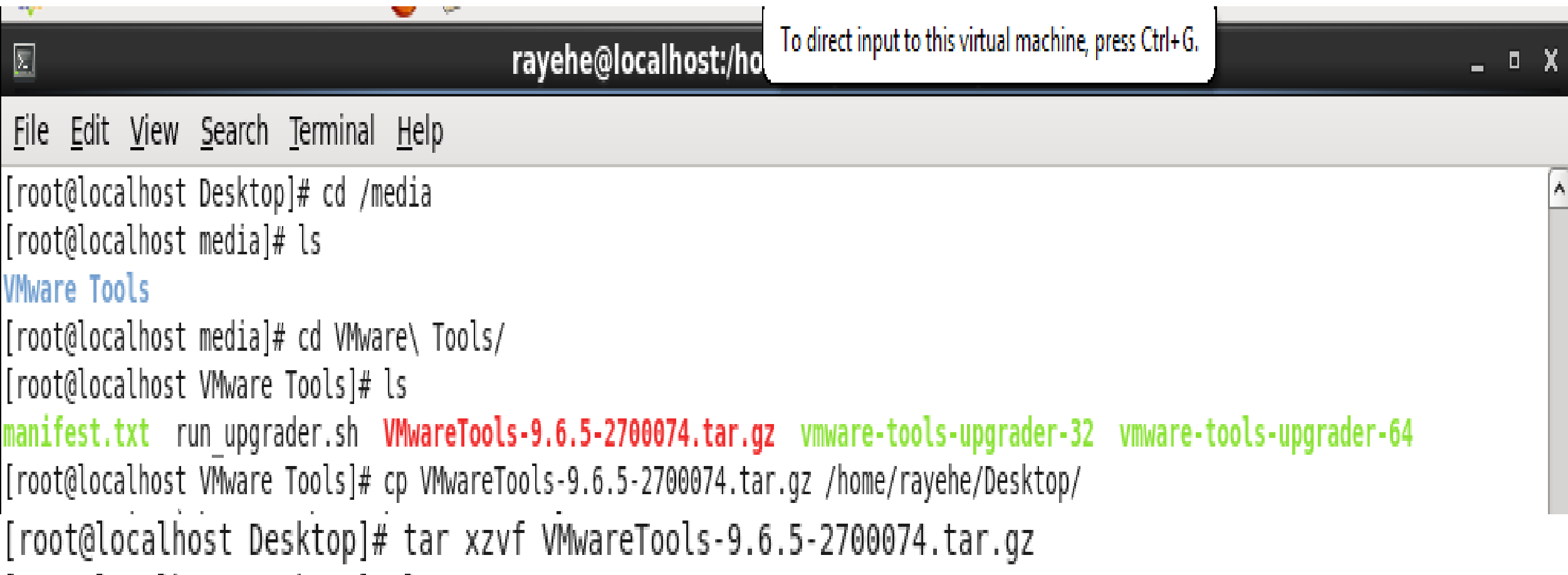
subnet 192.168.100.0 netmask 255.255.255.0 {
range 192.168.100.50 192.168.100.254;
option domain-name-servers 192.168.100.2, 8.8.8.8;
option routers 192.168.100.1;
}
```

```
~
~
~
~
~
~
~
~
~
~
```




```
rayehe@localhost:/home/rayehe
File Edit View Search Terminal Help
[root@localhost rayehe]# service dhcpd start
```

FULLSCREEN VM → INSTALL VMWARE TOOLS



```
rayehe@localhost:/home/rayehe
To direct input to this virtual machine, press Ctrl+G.
File Edit View Search Terminal Help
[root@localhost Desktop]# cd /media
[root@localhost media]# ls
VMware Tools
[root@localhost media]# cd VMware\ Tools/
[root@localhost VMware Tools]# ls
manifest.txt  run_upgrader.sh  VMwareTools-9.6.5-2700074.tar.gz  vmware-tools-upgrader-32  vmware-tools-upgrader-64
[root@localhost VMware Tools]# cp VMwareTools-9.6.5-2700074.tar.gz /home/rayehe/Desktop/
[root@localhost Desktop]# tar xzvf VMwareTools-9.6.5-2700074.tar.gz
```

```
[root@localhost Desktop]# ls
VMwareTools-9.6.5-2700074.tar.gz  vmware-tools-distrib
[root@localhost Desktop]# cd vmware-tools-distrib/
[root@localhost vmware-tools-distrib]# ls
bin  doc  etc  FILES  INSTALL  installer  lib  vmware-install.pl
[root@localhost vmware-tools-distrib]# ./vmware-install.pl
Creating a new VMware Tools installer database using the tar4 format.
```

Installing VMware Tools.

In which directory do you want to install the binary files?
[/usr/bin]

What is the directory that contains the init directories (rc0.d/ to rc6.d/)?
[/etc/rc.d]

What is the directory that contains the init scripts?
[/etc/rc.d/init.d]

In which directory do you want to install the daemon files?
[/usr/sbin]

In which directory do you want to install the library files?
[/usr/lib/vmware-tools]

The path "/usr/lib/vmware-tools" does not exist currently. This program is going to create it, including needed parent directories. Is this what you want?
[yes]

در ادامه جواب های پیش فرض را انتخاب می کنیم یعنی Enter می زنیم و برای yes/no ها y/n می زنیم.

بعد از کامل شدن نصب سیستم را restart می کنیم.



