

EXPERIMENT NO. 10

AIM: Case Study of Linux Commands

RESOURCES REQUIRED:

H/W Requirements: P-IV and above, Ram 128 MB, Printer, Internet Connection.

S/W Requirements: Linux Operating System.

THEORY:

Commands	Typical Use
ls (list)	listing all the folders and files in current or specified directory.
pwd (print working directory)	Printing current working directory.
cd (change directory)	Changing current directory.
mkdir (make directory)	To create new directory (folder).
nano	To open existing file or creating and opening new file.
cat (Concatenate)	Commonly use to print content of file there are lots of different uses too.
rm (remove)	Deleting files.
rmdir (remove directory)	Deleting directory (folder).
echo	To insert or append into text into files.
sudo	To get superuser access.
apt	Use for upgrading, installing, listing, searching, etc apps
cp (copy)	Copying files from current directory to specify directory.
grep	To check the string content in specified files.
free	To get the information of all the memory.
lshw (list hardware)	To get information of system hardware.
history	History of all the commands used.

ping (packet internet groper)	This command is used to check the network connectivity between host and server/host.
hostname	Return hostname
ps (process state)	To get the Process state
mv (move)	To move files from one directory to another or renaming the files.
clear	To clear the terminal.

Conclusion: Hence, we have successfully study and used essential Linux commands.

Output :

Basic use of pwd, ls, cd and mkdir:

```

Activities  Terminal  May 21 16:02
adnan@adnan-VirtualBox: ~/Desktop/Testing

adnan@adnan-VirtualBox:~$ pwd
/home/adnan
adnan@adnan-VirtualBox:~$ ls
Desktop Documents Downloads Music Pictures Public snap Templates Videos
adnan@adnan-VirtualBox:~$ ls ~
Desktop Documents Downloads Music Pictures Public snap Templates Videos
adnan@adnan-VirtualBox:~$ ls /
bin cdrom etc lib lib64 lost+found mnt proc run snap swapfile tmp var
boot dev home lib32 libx32 media opt root sbin srv sys usr
adnan@adnan-VirtualBox:~$ cd Desktop
adnan@adnan-VirtualBox:~/Desktop$ pwd
/home/adnan/Desktop
adnan@adnan-VirtualBox:~/Desktop$ ls
python
adnan@adnan-VirtualBox:~/Desktop$ cd python
adnan@adnan-VirtualBox:~/Desktop/python$ ls
systemcalls.py
adnan@adnan-VirtualBox:~/Desktop/python$ pwd
/home/adnan/Desktop/python
adnan@adnan-VirtualBox:~/Desktop/python$ cd ..
adnan@adnan-VirtualBox:~/Desktop$ cd /
adnan@adnan-VirtualBox:/$ ls
bin cdrom etc lib lib64 lost+found mnt proc run snap swapfile tmp var
boot dev home lib32 libx32 media opt root sbin srv sys usr
adnan@adnan-VirtualBox:/$ cd ~
adnan@adnan-VirtualBox:~$ ls
Desktop Documents Downloads Music Pictures Public snap Templates Videos
adnan@adnan-VirtualBox:~$ cd desktop
bash: cd: desktop: No such file or directory
adnan@adnan-VirtualBox:~$ cd Desktop
adnan@adnan-VirtualBox:~/Desktop$ mkdir Testing
adnan@adnan-VirtualBox:~/Desktop$ ls
python Testing
adnan@adnan-VirtualBox:~/Desktop$ cd Testing
adnan@adnan-VirtualBox:~/Desktop/Testing$

```

nano command:

Before using **nano**, Testing(directory) is empty :

```
adnan@adnan-VirtualBox: ~/Desktop/Testing$ ls
adnan@adnan-VirtualBox: ~/Desktop/Testing$ nano test.py
```

After using **nano** to create test.py file:

Created newfile



```
adnan@adnan-VirtualBox: ~/Desktop/Testing
GNU nano 5.2 test.py
#!/usr/bin/python3
print("Hello world!!!")
```

ls command:

Using **ls** to check if the file is created

```
adnan@adnan-VirtualBox: ~/Desktop/Testing$ ls
test.py
```

rm command:

Using **rm** to remove test.py and checking if it removed successfully using **ls**:

```
adnan@adnan-VirtualBox: ~/Desktop/Testing$ rm test.py
adnan@adnan-VirtualBox: ~/Desktop/Testing$ ls
adnan@adnan-VirtualBox: ~/Desktop/Testing$
```

echo and cat command:

Creating file mdhash256testing.txt using **nano** and appending string into the using **echo** and checking the content of file after appending using **cat**:

```
adnan@adnan-VirtualBox: ~/Desktop/Testing$ nano mdhash256testing.txt
adnan@adnan-VirtualBox: ~/Desktop/Testing$ echo "I, Giorno Giovanna, have a dream" >> mdhash256testing.txt
adnan@adnan-VirtualBox: ~/Desktop/Testing$ cat mdhash256testing.txt

I, Giorno Giovanna, have a dream
adnan@adnan-VirtualBox: ~/Desktop/Testing$
```

More functionality of cat:

Creating file1.txt and file2.txt and writing text through terminal into them using **cat** command and merging them in file3.txt using same:

```

Activities  Terminal  May 21 16:33
adnan@adnan-VirtualBox: ~/Desktop

adnan@adnan-VirtualBox:~$ cd Desktop
adnan@adnan-VirtualBox:~/Desktop$ mkdir temporary
adnan@adnan-VirtualBox:~/Desktop$ ls temporary
adnan@adnan-VirtualBox:~/Desktop$ cat > file1.txt
Hello, This is file1 it will be merge to file2 to create new file3 #1
adnan@adnan-VirtualBox:~/Desktop$ cat > file2.txt
Hello, this is file2 #1
adnan@adnan-VirtualBox:~/Desktop$ cat file1.txt file2.txt > file3.txt
adnan@adnan-VirtualBox:~/Desktop$ cat file3.txt
Hello, This is file1 it will be merge to file2 to create new file3 #1
Hello, this is file2 #1
adnan@adnan-VirtualBox:~/Desktop$

```

Getting CPU and OS information using **cat**:

```

Activities  Terminal  May 21 16:53
adnan@adnan-VirtualBox: ~/Desktop/temporary

adnan@adnan-VirtualBox:~/Desktop/temporary$ cat /proc/cpuinfo
processor       : 0
vendor_id      : GenuineIntel
cpu family     : 6
model          : 165
model name     : Intel(R) Core(TM) i7-10750H CPU @ 2.60GHz
stepping       : 2
microcode      : 0xffffffff
cpu MHz        : 2591.990
cache size     : 12288 KB
physical id    : 0
siblings       : 2
core id        : 0
cpu cores      : 2
apicid         : 0
initial apicid : 0
fpu            : yes
fpu_exception  : yes
cpuid level    : 22
wp             : yes
flags          : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush mmx fxsr sse sse2 ht syscall nx rdtscp lm constant_
tsc rep_good nopl xtopology nonstop_tsc cpuid tsc_known_freq pni ssse3 pcid sse4_1 sse4_2 hypervisor lahf_lm invpcid_single ibrs_enhanced fsgsbase in
vpcid md_clear flush_lid arch_capabilities
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs itlb_multihit
bogomips       : 5183.98
clflush size   : 64
cache_alignme  : 64
address sizes  : 39 bits physical, 48 bits virtual
power managem  :

processor       : 1
vendor_id      : GenuineIntel
cpu family     : 6
model          : 165
model name     : Intel(R) Core(TM) i7-10750H CPU @ 2.60GHz

Activities  Terminal  May 22 11:53
adnan@adnan-VirtualBox: ~/Desktop

adnan@adnan-VirtualBox:~/Desktop$ cat /etc/os-release
NAME="Ubuntu"
VERSION="20.10 (Groovy Gorilla)"
ID=ubuntu
ID_LIKE=debian
PRETTY_NAME="Ubuntu 20.10"
VERSION_ID="20.10"
HOME_URL="https://www.ubuntu.com/"
SUPPORT_URL="https://help.ubuntu.com/"
BUG_REPORT_URL="https://bugs.launchpad.net/ubuntu/"
PRIVACY_POLICY_URL="https://www.ubuntu.com/legal/terms-and-policies/privacy-policy"
VERSION_CODENAME=groovy
UBUNTU_CODENAME=groovy
adnan@adnan-VirtualBox:~/Desktop$

```

More functionality of ls:

ls -l will give directories and files name with their details (The file type, The file permissions, Number of hard links to the file, File owner, File group, File size, Date and Time, File name) and **ls -al** use to list hidden files and folders.

ls -p to check content inside directory, **ls -r** to list files and folders in reverse alphabetical order, **ls -s** to get the size of each file and folder with total size. We can combine above command as **ls -psr** or **ls -p -s -r** (sequence can be change) :

```
adnan@adnan-VirtualBox:~$ ls -l
total 36
drwxr-xr-x 4 adnan adnan 4096 May 21 16:02 Desktop
drwxr-xr-x 2 adnan adnan 4096 May 19 19:08 Documents
drwxr-xr-x 2 adnan adnan 4096 May 19 19:08 Downloads
drwxr-xr-x 2 adnan adnan 4096 May 19 19:08 Music
drwxr-xr-x 2 adnan adnan 4096 May 19 19:08 Pictures
drwxr-xr-x 2 adnan adnan 4096 May 19 19:08 Public
drwxr-xr-x 4 adnan adnan 4096 May 20 15:31 snap
drwxr-xr-x 2 adnan adnan 4096 May 19 19:08 Templates
drwxr-xr-x 2 adnan adnan 4096 May 19 19:08 Videos
adnan@adnan-VirtualBox:~$ ls -r -p
Videos/ Templates/ snap/ Public/ Pictures/ Music/ Downloads/ Documents/ Desktop/
adnan@adnan-VirtualBox:~$ ls -r -p -s
total 36
4 Videos/ 4 Templates/ 4 snap/ 4 Public/ 4 Pictures/ 4 Music/ 4 Downloads/ 4 Documents/ 4 Desktop/
adnan@adnan-VirtualBox:~$
```

cp command:

Copying file sample.txt from current directory to Desktop using **cp** and checking content using **cat** after copying:



```
adnan@adnan-VirtualBox: ~/Desktop
adnan@adnan-VirtualBox:~/Desktop/temporary$ cp sample.txt ~/Desktop
adnan@adnan-VirtualBox:~/Desktop/temporary$ cd ..
adnan@adnan-VirtualBox:~/Desktop$ ls
python sample.txt temporary Testing
adnan@adnan-VirtualBox:~/Desktop$ cat sample.txt

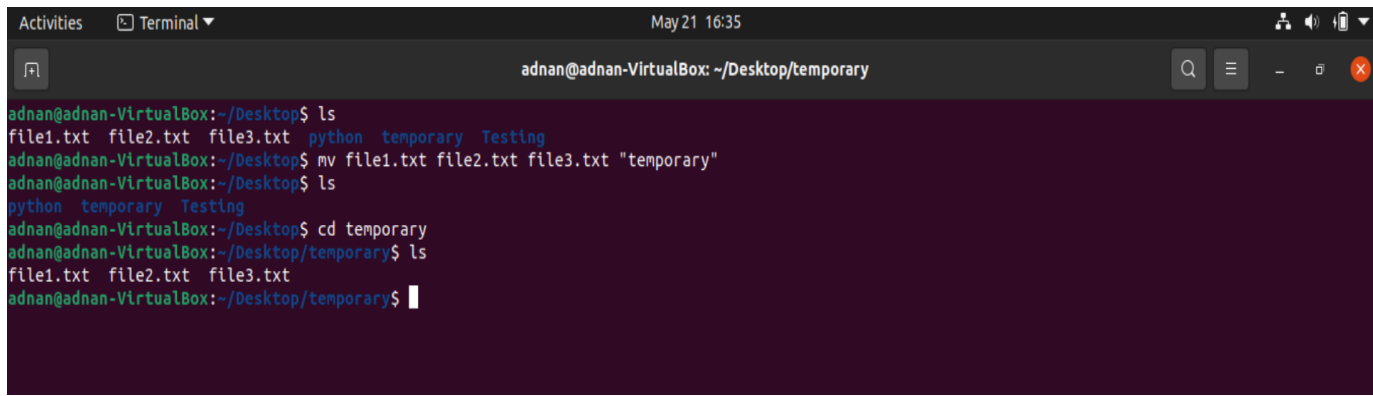
What is Lorem Ipsum?

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book. It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged. It was popularised in the 1960s with the release of Letraset sheets containing Lorem Ipsum passages, and more recently with desktop publishing software like Aldus PageMaker including versions of Lorem Ipsum.

Why do we use it?
```

mv command:

Moving file1.txt, file2.txt and file3.txt from Desktop to temporary folder using **mv**:

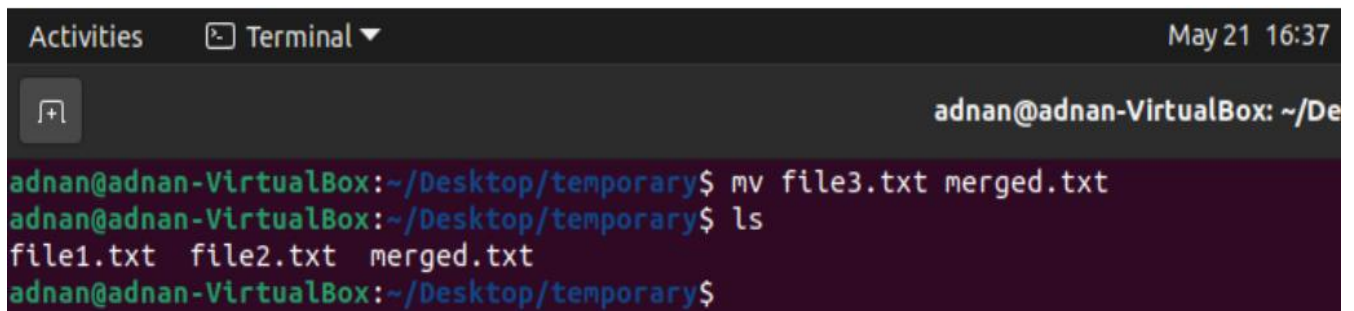


```

adnan@adnan-VirtualBox: ~/Desktop/temporary
adnan@adnan-VirtualBox:~/Desktop$ ls
file1.txt file2.txt file3.txt python temporary Testing
adnan@adnan-VirtualBox:~/Desktop$ mv file1.txt file2.txt file3.txt "temporary"
adnan@adnan-VirtualBox:~/Desktop$ ls
python temporary Testing
adnan@adnan-VirtualBox:~/Desktop$ cd temporary
adnan@adnan-VirtualBox:~/Desktop/temporary$ ls
file1.txt file2.txt file3.txt
adnan@adnan-VirtualBox:~/Desktop/temporary$

```

Renaming file3.txt to merged.txt using **mv**:

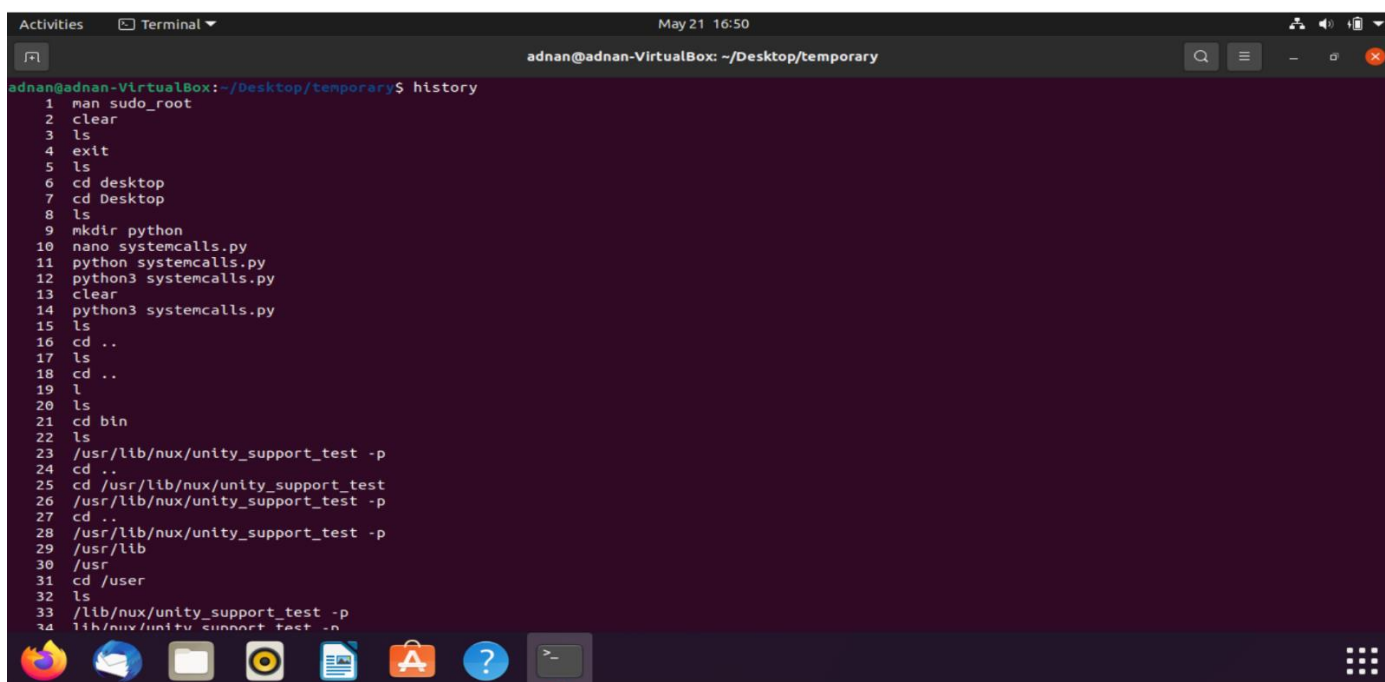


```

adnan@adnan-VirtualBox: ~/Desktop/temporary
adnan@adnan-VirtualBox:~/Desktop/temporary$ mv file3.txt merged.txt
adnan@adnan-VirtualBox:~/Desktop/temporary$ ls
file1.txt file2.txt merged.txt
adnan@adnan-VirtualBox:~/Desktop/temporary$

```

history command:



```

adnan@adnan-VirtualBox: ~/Desktop/temporary
adnan@adnan-VirtualBox:~/Desktop/temporary$ history
1 man sudo_root
2 clear
3 ls
4 exit
5 ls
6 cd desktop
7 cd Desktop
8 ls
9 mkdir python
10 nano systemcalls.py
11 python systemcalls.py
12 python3 systemcalls.py
13 clear
14 python3 systemcalls.py
15 ls
16 cd ..
17 ls
18 cd ..
19 l
20 ls
21 cd bin
22 ls
23 /usr/lib/nux/unity_support_test -p
24 cd
25 cd /usr/lib/nux/unity_support_test
26 /usr/lib/nux/unity_support_test -p
27 cd
28 /usr/lib/nux/unity_support_test -p
29 /usr/lib
30 /usr
31 cd /user
32 ls
33 /lib/nux/unity_support_test -p
34 lib/nux/unity_support_test -p

```


grep command:

grep -n "string" sample.txt return appearance of words with line no

grep -I used for removing case sensitivity

grep -e use for defining string expression multiple expression can be use using **-e** option

Output of combine of above options with **grep** command is given below:

String match is highlighted in red color

```

adnan@adnan-VirtualBox: ~/Desktop/temporary
adnan@adnan-VirtualBox:~/Desktop/temporary$ ls
file1.txt file2.txt merged.txt sample.txt
adnan@adnan-VirtualBox:~/Desktop/temporary$ grep -n -I -e "lorem" -e "ipsum" sample.txt
2:What is Lorem Ipsum?
4:Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a
galley of type and scrambled it to make a type specimen book. It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged. I
t was popularised in the 1960s with the release of Letraset sheets containing Lorem Ipsum passages, and more recently with desktop publishing software like Aldus PageMaker including ver
sions of Lorem Ipsum.
7:It is a long established fact that a reader will be distracted by the readable content of a page when looking at its layout. The point of using Lorem Ipsum is that it has a more-or-le
ss normal distribution of letters, as opposed to using 'Content here, content here', making it look like readable English. Many desktop publishing packages and web page editors now use
Lorem Ipsum as their default model text, and a search for 'lorem ipsum' will uncover many web sites still in their infancy. Various versions have evolved over the years, sometimes by ac
cident, sometimes on purpose (injected humour and the like).
11:Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 45 BC, making it over 2000 years old. Richard McClintock
, a Latin professor at Hampden-Sydney College in Virginia, looked up one of the more obscure Latin words, consectetur, from a Lorem Ipsum passage, and going through the cites of the wor
d in classical literature, discovered the undoubtable source. Lorem Ipsum comes from sections 1.10.32 and 1.10.33 of "de Finibus Bonorum et Malorum" (The Extremes of Good and Evil) by C
icero, written in 45 BC. This book is a treatise on the theory of ethics, very popular during the Renaissance. The first line of Lorem Ipsum, "Lorem ipsum dolor sit amet..", comes from
a line in section 1.10.32.
13:The standard chunk of Lorem Ipsum used since the 1500s is reproduced below for those interested. Sections 1.10.32 and 1.10.33 from "de Finibus Bonorum et Malorum" by Cicero are also
reproduced in their exact original form, accompanied by English versions from the 1914 translation by H. Rackham.
16:There are many variations of passages of Lorem Ipsum available, but the majority have suffered alteration in some form, by injected humour, or randomised words which don't look even
slightly believable. If you are going to use a passage of Lorem Ipsum, you need to be sure there isn't anything embarrassing hidden in the middle of text. All the Lorem Ipsum generators
on the Internet tend to repeat predefined chunks as necessary, making this the first true generator on the Internet. It uses a dictionary of over 200 Latin words, combined with a handf
ul of model sentence structures, to generate Lorem Ipsum which looks reasonable. The generated Lorem Ipsum is therefore always free from repetition, injected humour, or non-characterist
ic words etc.
adnan@adnan-VirtualBox:~/Desktop/temporary$

```

ps command:

getting process id, parent id their path, memory usage and CPU usage and sorting them in descending order using **ps** with options **-e -o** :

```

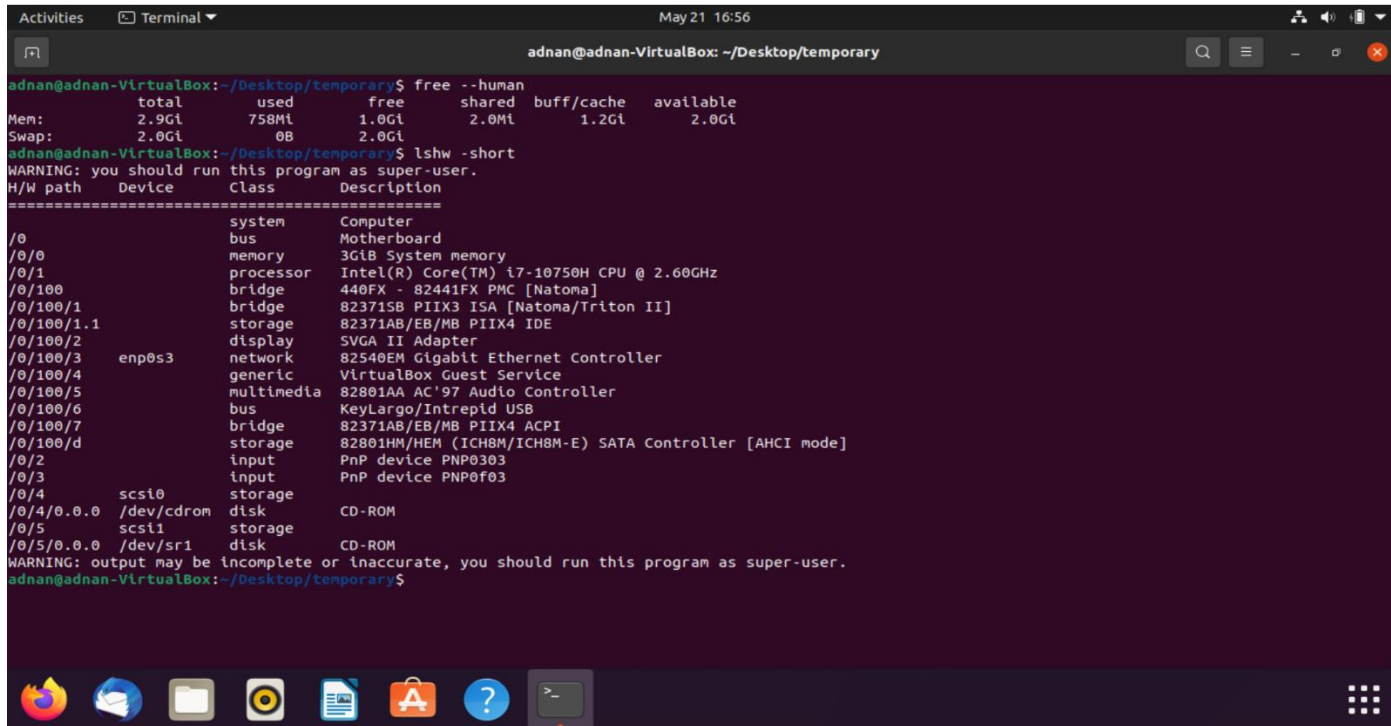
adnan@adnan-VirtualBox: ~/Desktop
adnan@adnan-VirtualBox:~/Desktop$ ps -eo pid,ppid,cmd,%mem,%cpu --sort=-%mem | head
  PID  PPID  CMD                                %MEM  %CPU
 1065   818  /usr/bin/gnome-shell                8.1    2.4
 1321   818  /snap/snap-store/518/usr/bi        6.6    0.2
 1226  1045  /usr/libexec/evolution-data        2.0    0.0
  836   834  /usr/lib/xorg/Xorg vt2 -dis        2.0    2.6
 2120   818  /usr/libexec/gnome-terminal        1.6    0.5
  897   818  /usr/libexec/goa-daemon            1.1    0.0
 1143   818  /usr/libexec/evolution-cale        1.0    0.0
 1831  1045  update-notifier                    0.9    0.0
 1165   818  /usr/libexec/evolution-addr        0.9    0.0
adnan@adnan-VirtualBox:~/Desktop$

```

free and lshw command:

free use return information about memory state --**human** option will format output in human readable format.

lshw list hardware information --**short** option is used to get information in brief.



```

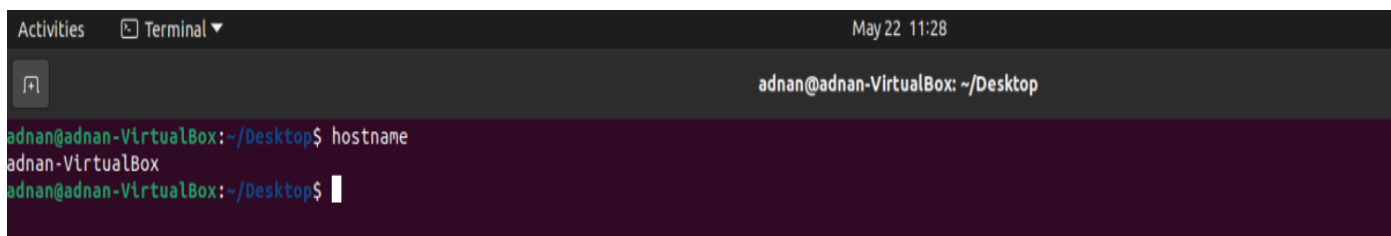
adnan@adnan-VirtualBox: ~/Desktop/temporary
adnan@adnan-VirtualBox:~/Desktop/temporary$ free --human
              total        used        free      shared  buff/cache   available
Mem:           2.9Gi       758Mi       1.0Gi       2.0Mi       1.2Gi       2.0Gi
Swap:           2.0Gi          0B         2.0Gi

adnan@adnan-VirtualBox:~/Desktop/temporary$ lshw -short
WARNING: you should run this program as super-user.
H/W path    Device      Class          Description
=====
/0           system       Computer
/0/0         bus          Motherboard
/0/0         memory       3GiB System memory
/0/1         processor    Intel(R) Core(TM) i7-10750H CPU @ 2.60GHz
/0/100       bridge       440FX - 82441FX PMC [Natoma]
/0/100/1     bridge       82371SB PIIX3 ISA [Natoma/Triton II]
/0/100/1.1   storage      82371AB/EB/MB PIIX4 IDE
/0/100/2     display      SVGA II Adapter
/0/100/3     network      82540EM Gigabit Ethernet Controller
/0/100/4     generic      VirtualBox Guest Service
/0/100/5     multimedia   82801AA AC'97 Audio Controller
/0/100/6     bus          KeyLargo/Intrepid USB
/0/100/7     bridge       82371AB/EB/MB PIIX4 ACPI
/0/100/d     storage      82801HM/HEM (ICH8M/ICH8M-E) SATA Controller [AHCI mode]
/0/2         input        PnP device PNP0303
/0/3         input        PnP device PNP0F03
/0/4         storage      scsi0
/0/4/0.0.0   /dev/cdrom   disk           CD-ROM
/0/5         storage      scsi1
/0/5/0.0.0   /dev/sr1     disk           CD-ROM
WARNING: output may be incomplete or inaccurate, you should run this program as super-user.
adnan@adnan-VirtualBox:~/Desktop/temporary$

```

hostname command:

return hostname of system:



```

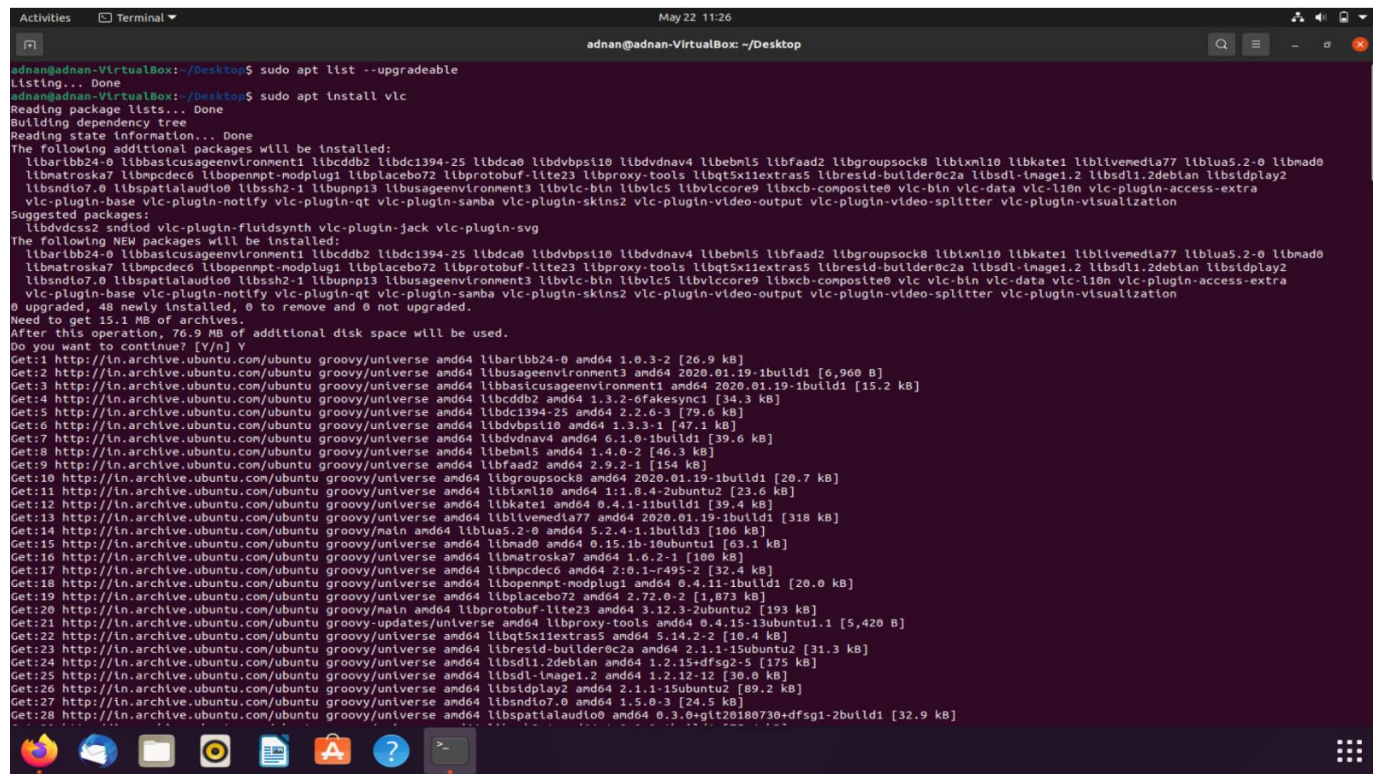
adnan@adnan-VirtualBox: ~/Desktop
adnan@adnan-VirtualBox:~/Desktop$ hostname
adnan-VirtualBox
adnan@adnan-VirtualBox:~/Desktop$

```


sudo and apt command:

sudo use for super user, apt list return applications present in a system

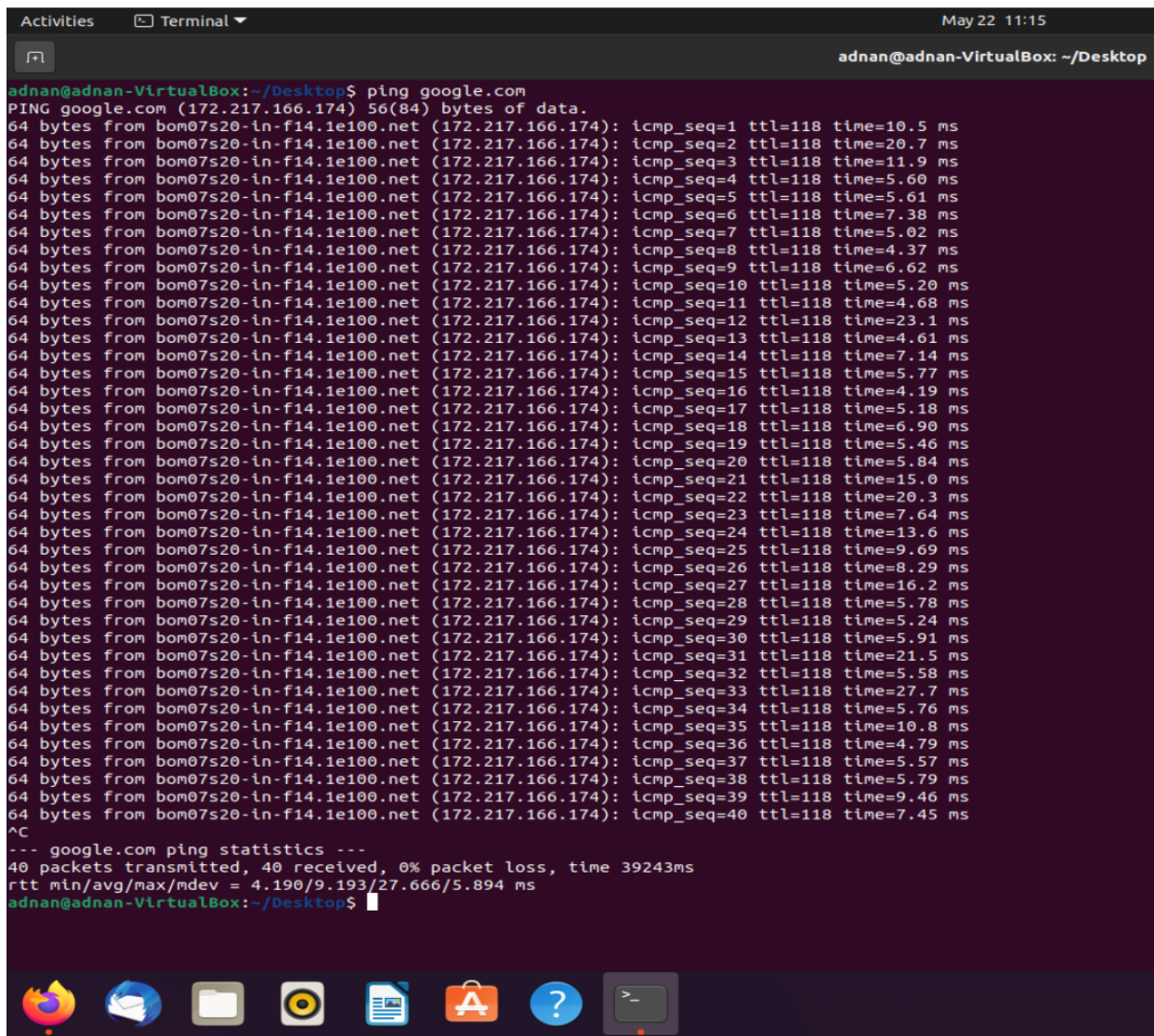
--upgradeable option use to check if any application needed an update, apt install will install specified application to system from host. (snap can be use instead of apt to install application). :



```

adnan@adnan-VirtualBox: ~/Desktop
adnan@adnan-VirtualBox:~/Desktop$ sudo apt list --upgradeable
Listing... Done
adnan@adnan-VirtualBox:~/Desktop$ sudo apt install vlc
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libbarbb24-0 libbasicusageenvironment1 libcdcb2 libdc1394-25 libdca0 libdvbpsi10 libdvnav4 libebml5 libfaad2 libgroupsock8 liblml10 libkate1 liblvmemedia77 liblua5.2-0 libmad0
  libmatroska7 libmpcdec6 libopenmpt-modplug1 libplacebo72 libprotobuf-lite23 libproxy-tools libqt5x11extras5 librest-builder0c2a libSDL-image1.2 libSDL1.2debian libSDL2
  libsndio7.0 libspatialaudio0 libssh2-1 libupnp3 libusageenvironment3 libvlc-bin libvlc5 libvlccore9 libxcb-composite0 vlc-bin vlc-data vlc-l10n vlc-plugin-access-extra
  vlc-plugin-base vlc-plugin-notify vlc-plugin-qt vlc-plugin-samba vlc-plugin-skins2 vlc-plugin-video-output vlc-plugin-video-splitter vlc-plugin-visualization
Suggested packages:
  libdvdcss2 sndiod vlc-plugin-fluidsynth vlc-plugin-jack vlc-plugin-svg
The following NEW packages will be installed:
  libbarbb24-0 libbasicusageenvironment1 libcdcb2 libdc1394-25 libdca0 libdvbpsi10 libdvnav4 libebml5 libfaad2 libgroupsock8 liblml10 libkate1 liblvmemedia77 liblua5.2-0 libmad0
  libmatroska7 libmpcdec6 libopenmpt-modplug1 libplacebo72 libprotobuf-lite23 libproxy-tools libqt5x11extras5 librest-builder0c2a libSDL-image1.2 libSDL1.2debian libSDL2
  libsndio7.0 libspatialaudio0 libssh2-1 libupnp3 libusageenvironment3 libvlc-bin libvlc5 libvlccore9 libxcb-composite0 vlc-bin vlc-data vlc-l10n vlc-plugin-access-extra
  vlc-plugin-base vlc-plugin-notify vlc-plugin-qt vlc-plugin-samba vlc-plugin-skins2 vlc-plugin-video-output vlc-plugin-video-splitter vlc-plugin-visualization
0 upgraded, 48 newly installed, 0 to remove and 0 not upgraded.
Need to get 15.1 MB of archives.
After this operation, 76.9 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libbarbb24-0 amd64 1.0.3-2 [26.9 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libbasicusageenvironment1 amd64 2020.01.19-1build1 [6,960 B]
Get:3 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libcdcb2 amd64 1.3.2-0fakesync1 [34.3 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libdc1394-25 amd64 2.2.6-3 [79.0 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libdca0 amd64 1.3.3-1 [47.1 kB]
Get:6 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libdvbpsi10 amd64 6.1.0-1build1 [39.6 kB]
Get:7 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libebml5 amd64 1.4.0-2 [46.3 kB]
Get:8 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libfaad2 amd64 2.9.2-1 [154 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libgroupsock8 amd64 2020.01.19-1build1 [20.7 kB]
Get:10 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 liblml10 amd64 1:1.8.4-2ubuntu2 [23.6 kB]
Get:11 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libkate1 amd64 0.4.1-1build1 [39.4 kB]
Get:12 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 liblvmemedia77 amd64 2020.01.19-1build1 [318 kB]
Get:13 http://in.archive.ubuntu.com/ubuntu groovy/main amd64 liblua5.2-0 amd64 5.2.4-1build3 [106 kB]
Get:14 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libmad0 amd64 0.15.1b-10ubuntu1 [63.1 kB]
Get:15 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libmatroska7 amd64 1.6.2-1 [108 kB]
Get:16 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libmpcdec6 amd64 2:0.1-r495-2 [32.4 kB]
Get:17 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libopenmpt-modplug1 amd64 0.4.11-1build1 [20.0 kB]
Get:18 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libplacebo72 amd64 2.72.0-2 [1,873 kB]
Get:19 http://in.archive.ubuntu.com/ubuntu groovy/main amd64 libprotobuf-lite23 amd64 3.12.3-2ubuntu2 [193 kB]
Get:20 http://in.archive.ubuntu.com/ubuntu groovy-updates/universe amd64 libproxy-tools amd64 0.4.15-1ubuntu1.1 [5,420 B]
Get:21 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libqt5x11extras5 amd64 5.14.2-2 [10.4 kB]
Get:22 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 librest-builder0c2a amd64 2.1.1-15ubuntu2 [31.3 kB]
Get:23 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libSDL1.2debian amd64 1.2.15+dfsg2-5 [175 kB]
Get:24 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libSDL-image1.2 amd64 1.2.12-12 [30.0 kB]
Get:25 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libSDL2 amd64 2.1.1-15ubuntu2 [89.2 kB]
Get:26 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libsndio7.0 amd64 1.5.0-3 [24.5 kB]
Get:27 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libspatialaudio0 amd64 0.3.0-glt20180730+dfsg1-2build1 [32.9 kB]
Get:28 http://in.archive.ubuntu.com/ubuntu groovy/universe amd64 libssh2-1 amd64 1.9.0-2 [159 kB]

```

ping command:


```

Activities  Terminal  May 22 11:15
adnan@adnan-VirtualBox: ~/Desktop
adnan@adnan-VirtualBox:~/Desktop$ ping google.com
PING google.com (172.217.166.174) 56(84) bytes of data.
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=1 ttl=118 time=10.5 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=2 ttl=118 time=20.7 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=3 ttl=118 time=11.9 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=4 ttl=118 time=5.60 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=5 ttl=118 time=5.61 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=6 ttl=118 time=7.38 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=7 ttl=118 time=5.02 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=8 ttl=118 time=4.37 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=9 ttl=118 time=6.62 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=10 ttl=118 time=5.20 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=11 ttl=118 time=4.68 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=12 ttl=118 time=23.1 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=13 ttl=118 time=4.61 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=14 ttl=118 time=7.14 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=15 ttl=118 time=5.77 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=16 ttl=118 time=4.19 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=17 ttl=118 time=5.18 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=18 ttl=118 time=6.90 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=19 ttl=118 time=5.46 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=20 ttl=118 time=5.84 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=21 ttl=118 time=15.0 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=22 ttl=118 time=20.3 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=23 ttl=118 time=7.64 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=24 ttl=118 time=13.6 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=25 ttl=118 time=9.69 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=26 ttl=118 time=8.29 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=27 ttl=118 time=16.2 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=28 ttl=118 time=5.78 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=29 ttl=118 time=5.24 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=30 ttl=118 time=5.91 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=31 ttl=118 time=21.5 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=32 ttl=118 time=5.58 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=33 ttl=118 time=27.7 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=34 ttl=118 time=5.76 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=35 ttl=118 time=10.8 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=36 ttl=118 time=4.79 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=37 ttl=118 time=5.57 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=38 ttl=118 time=5.79 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=39 ttl=118 time=9.46 ms
64 bytes from bom07s20-in-f14.1e100.net (172.217.166.174): icmp_seq=40 ttl=118 time=7.45 ms
^C
--- google.com ping statistics ---
40 packets transmitted, 40 received, 0% packet loss, time 39243ms
rtt min/avg/max/mdev = 4.190/9.193/27.666/5.894 ms
adnan@adnan-VirtualBox:~/Desktop$

```