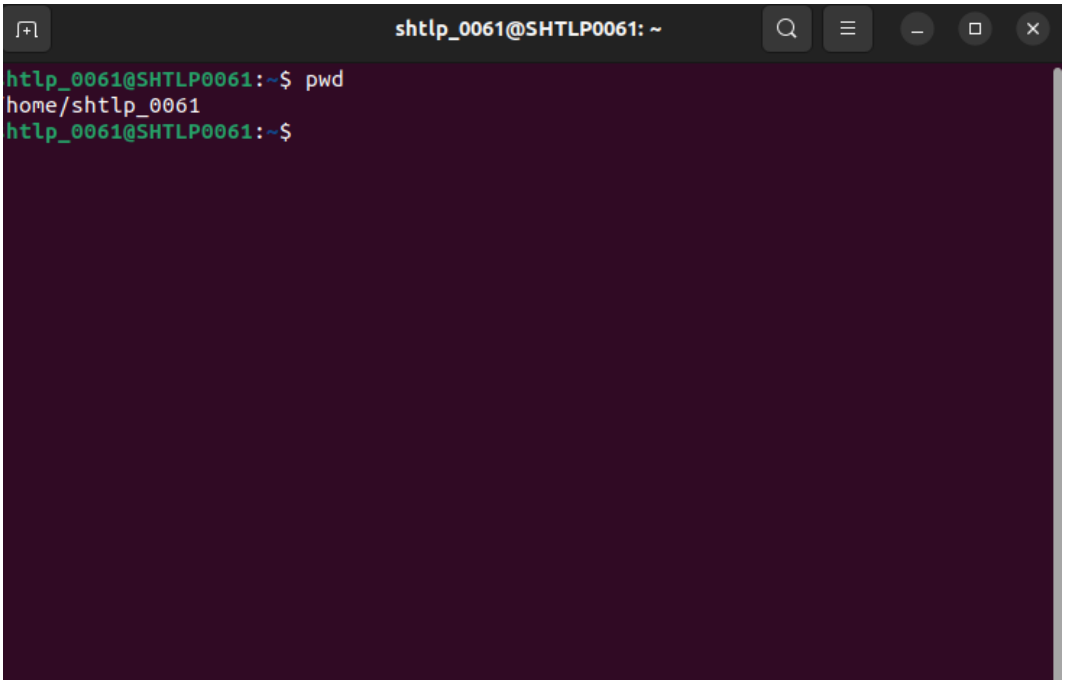
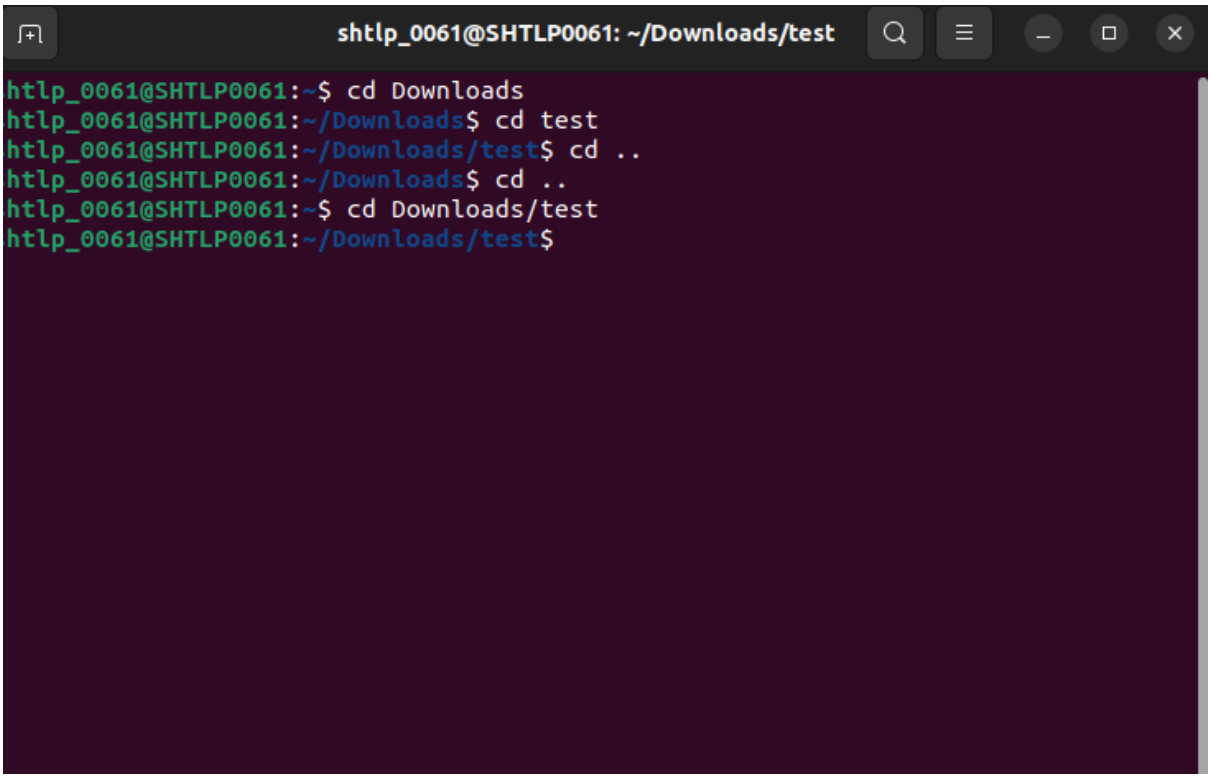
Basics of Linux Commands

1) pwd: display present working directory

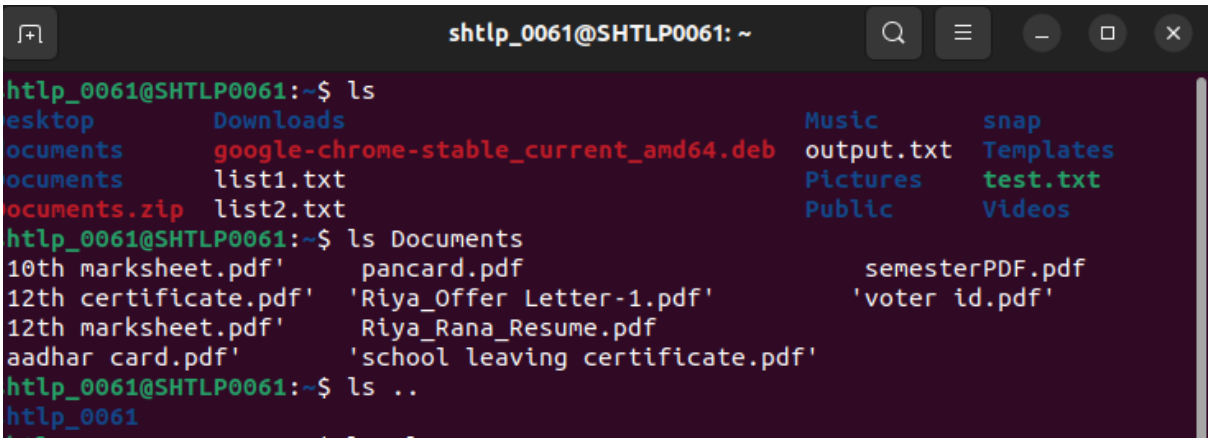


2) cd: Change Directory

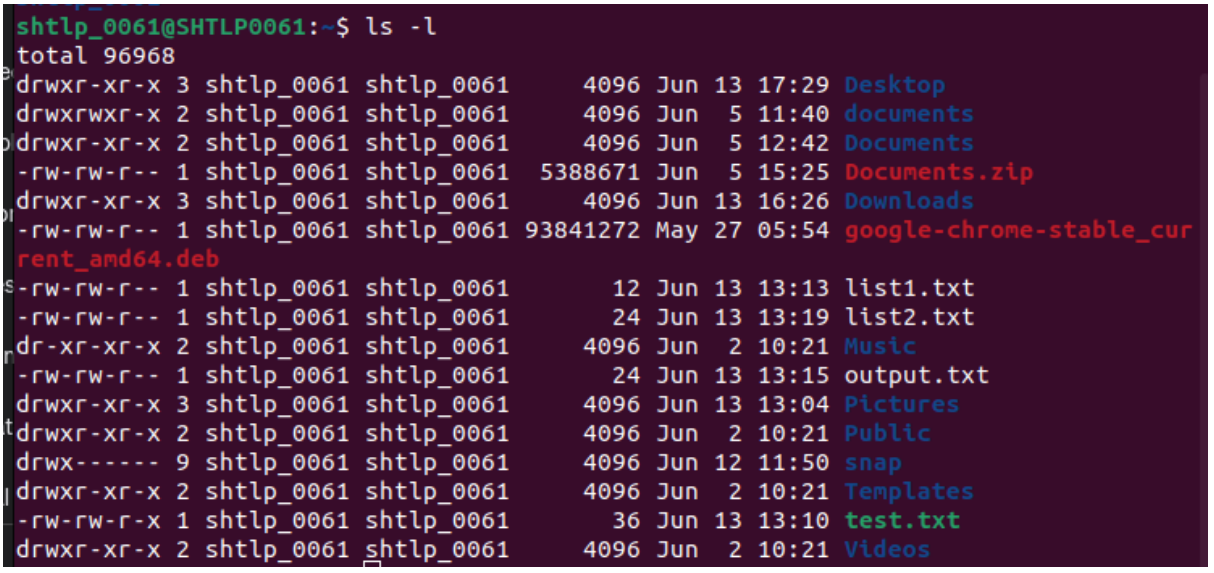


3) ls: Display List of directories and files of present directory

Syntax: ls options filename



ls -l: list files and directories in long format
ls -a: shows all hidden files
ls -al : hidden file with long format



```
shtlp_0061@SHTLP0061:~$ ls -al
total 97024
drwxr-x--- 20 shtlp_0061 shtlp_0061     4096 Jun 13 17:49 .
drwxr-xr-x  3 root       root           4096 Jun  2 10:18 ..
-rw-------  1 shtlp_0061 shtlp_0061      861 Jun 12 22:21 .bash_history
-rw-r--r--  1 shtlp_0061 shtlp_0061      220 Jun  2 10:18 .bash_logout
-rw-r--r--  1 shtlp_0061 shtlp_0061     3771 Jun  2 10:18 .bashrc
drwx------ 15 shtlp_0061 shtlp_0061     4096 Jun  8 15:21 .cache
drwx------ 19 shtlp_0061 shtlp_0061     4096 Jun 13 16:33 .config
drwxr-xr-x  3 shtlp_0061 shtlp_0061     4096 Jun 13 17:29 Desktop
drwxrwxr-x  2 shtlp_0061 shtlp_0061     4096 Jun  5 11:40 documents
drwxr-xr-x  2 shtlp_0061 shtlp_0061     4096 Jun  5 12:42 Documents
-rw-rw-r--  1 shtlp_0061 shtlp_0061  5388671 Jun  5 15:25 Documents.zip
drwxrwxr-x  3 shtlp_0061 shtlp_0061     4096 Jun 12 23:05 .dotnet
drwxr-xr-x  3 shtlp_0061 shtlp_0061     4096 Jun 13 16:26 Downloads
drwx------  2 shtlp_0061 shtlp_0061     4096 Jun 13 15:52 .gnupg
-rw-rw-r--  1 shtlp_0061 shtlp_0061 93841272 May 27 05:54 google-chrome-stable_cu
rrent_amd64.deb
-rw-rw-r--  1 shtlp_0061 shtlp_0061       12 Jun 13 13:13 list1.txt
-rw-rw-r--  1 shtlp_0061 shtlp_0061       24 Jun 13 13:19 list2.txt
drwx------  3 shtlp_0061 shtlp_0061     4096 Jun  2 10:21 .local
dr-xr-xr-x  2 shtlp_0061 shtlp_0061     4096 Jun  2 10:21 Music
-rw-rw-r--  1 shtlp_0061 shtlp_0061       24 Jun 13 13:15 output.txt
```

Ls documents/ *html : only list files in documents which ends with .html

Ls documents/ *.* : all files in documents

ls -ls > out.text : all list will be stored in the out.txt file. If the out.txt is not present it will create out.txt file.

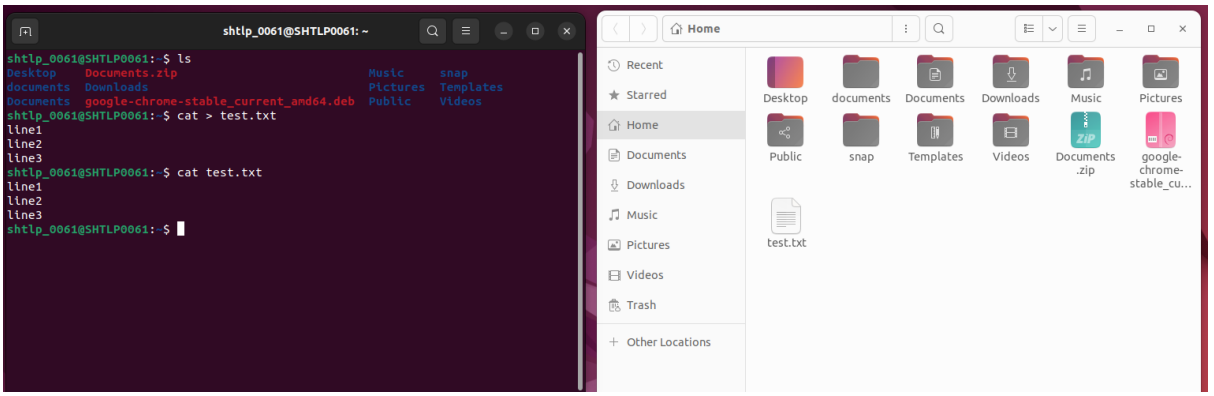
4) cat: Display text file, combine text file and create new file with content.

Syntax: cat options filenames

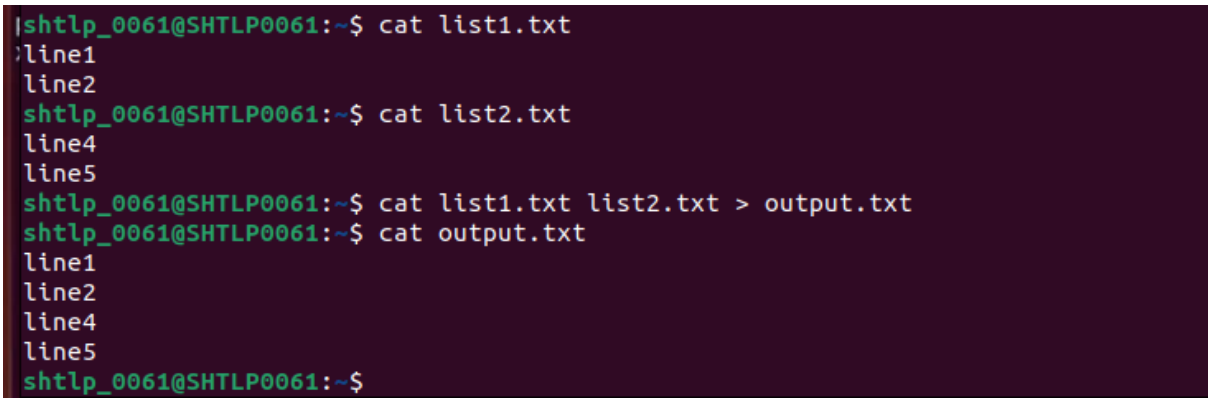
```
shtlp_0061@SHTLP0061:~$ cat >> test.txt
line7
line8
line9
shtlp_0061@SHTLP0061:~$ cat test.txt
line4
line5
line6
line7
line8
line9
shtlp_0061@SHTLP0061:~$
```

cat >> test.txt : this command is used for appending more text.
cat test.txt : this command displays the text of the test file.
cat -b file.txt : this command shows line number to non blank lines
cat -n file.txt : add line no. to all lines including blank lines.
cat -s file.txt : squeeze blank lines to only one line.
cat -E file.txt : adds $ symbol to end of line to identify end of line.

5) Redirection: capturing output and sending it to another file



To overwrite the content, run the same command and change the content.



To add content of two files use command :
“cat list1.txt list2.txt > output.txt”

Output.txt will have content of both files.

```
shtlp_0061@SHTLP0061:~$ cat list1.txt
line1
line2
shtlp_0061@SHTLP0061:~$ cat list2.txt
line4
line5
shtlp_0061@SHTLP0061:~$ cat list1.txt >> list2.txt
shtlp_0061@SHTLP0061:~$ cat list2.txt
line4
line5
line1
line2
shtlp_0061@SHTLP0061:~$
```

To append more lines use command “cat >> test.txt”

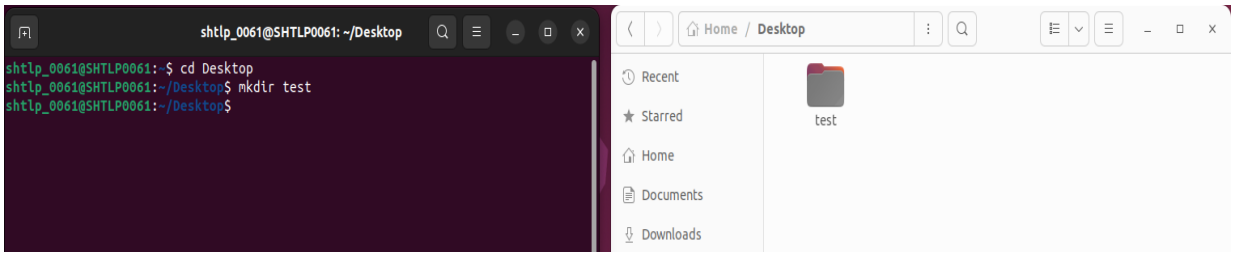
```
shtlp_0061@SHTLP0061:~$ cat > test.txt
line4
line5
line6
shtlp_0061@SHTLP0061:~$ cat test.txt
line4
line5
line6
shtlp_0061@SHTLP0061:~$
```

To display content of a file use command : “cat test.txt”

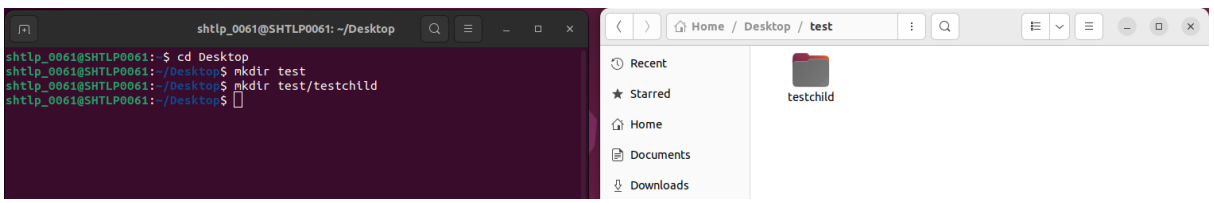
6) mkdir: for creating directory and subdirectories inside parent directory

Syntax: mkdir options nameOfDirectory

Creating new directory:

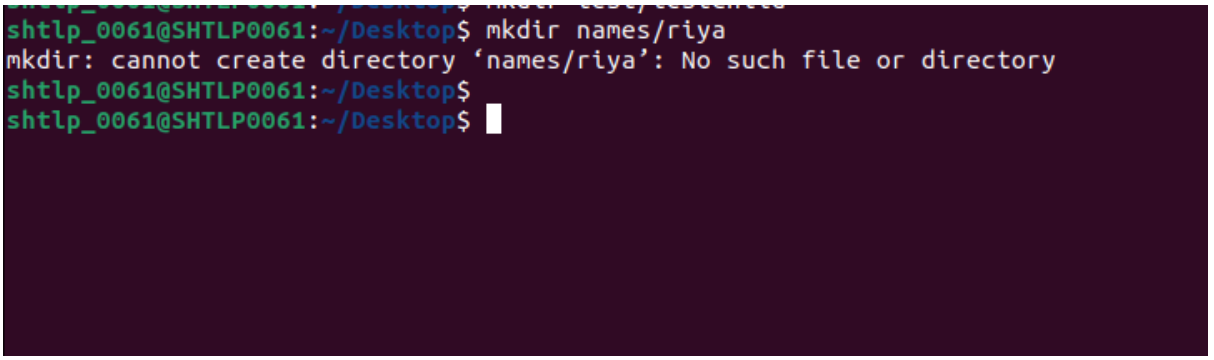


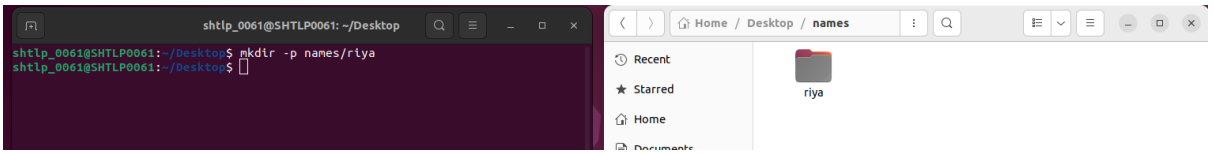
Creating “testchild” subdirectory inside a “test” directory



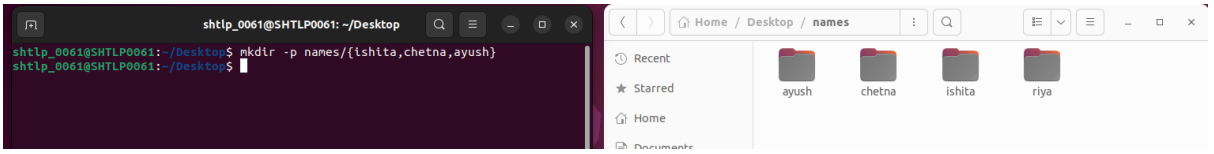
Note: if test directory doesn't exist then the command “mkdir test/testchild” will throw an error.

So to make directory with subdirectory use command:
“mkdir -p test/testchild”
p : parents



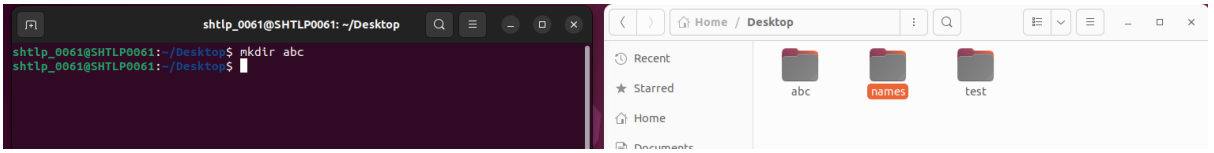


Creating multiple subdirectories at a time:

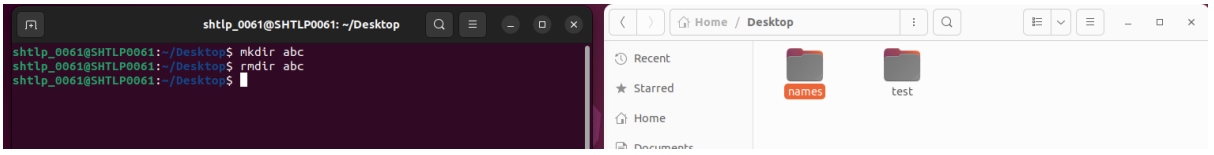


7) rmdir & rm: removes directory and directory structure
Syntax: rmdir -options dir

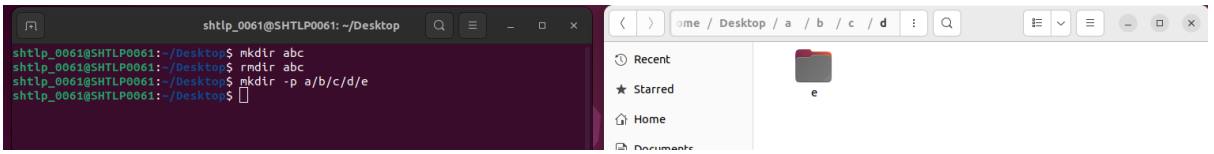
Creating directory:



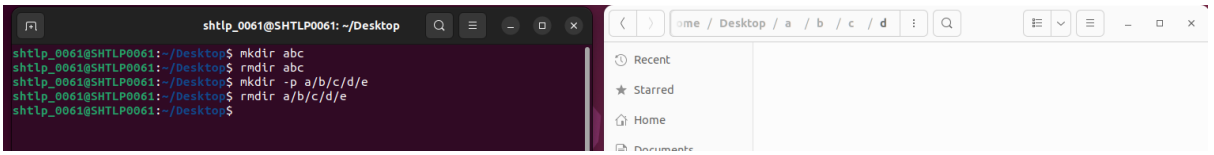
Removing directory:



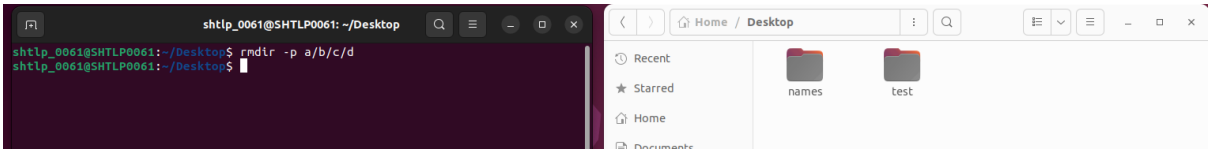
Creating directory with subdirectories:



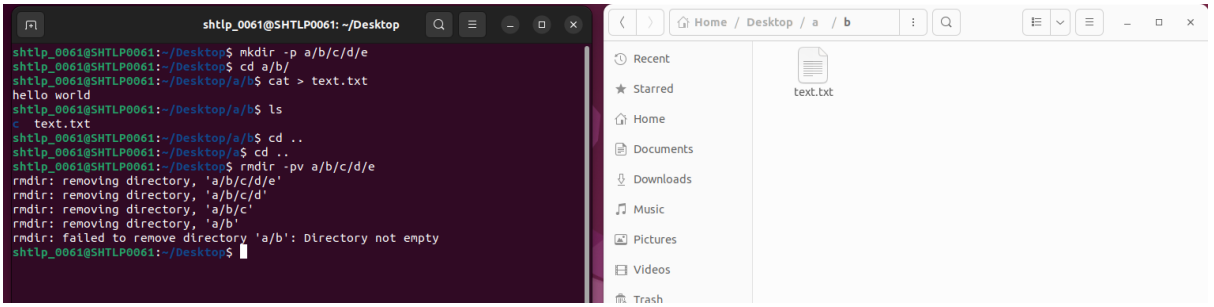
Deleting directories: “rmdir a/b/c/d/e” will only delete directory of top level i.e. “e” directory.



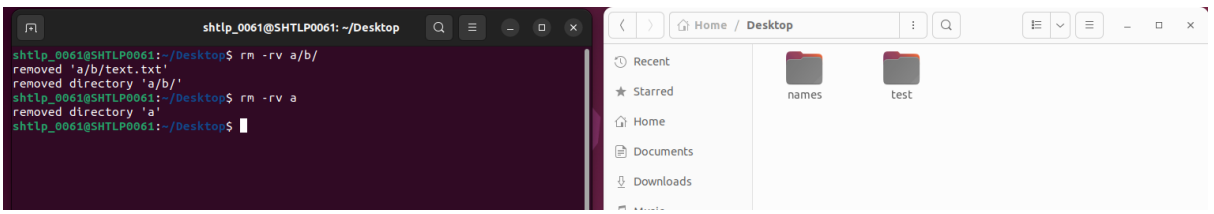
“rmdir -p a/b/c/d/e” This command will delete all the directories in a structured manner.



If any directory contains any file removal of that directory and its parent directory is not possible.
“rmdir -pv a/b/c/d/e” here v is verbose which shows what's happening in the background of the deleting process.

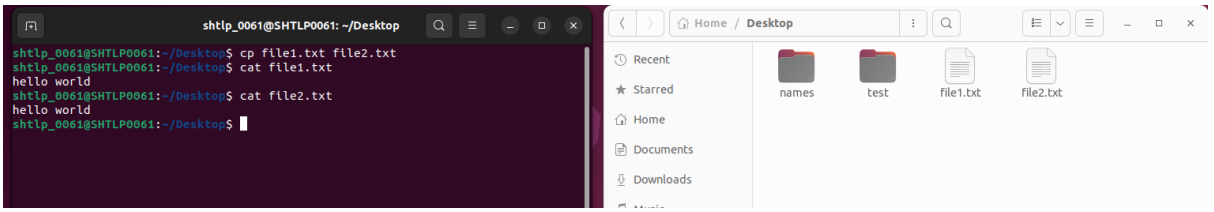


Use the below command to delete the directories with file successfully. Use command “rm”

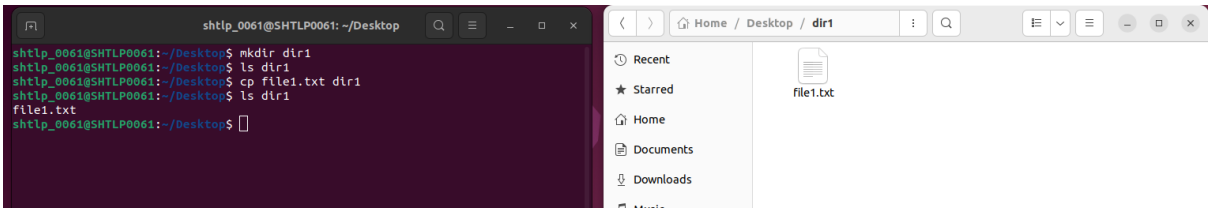


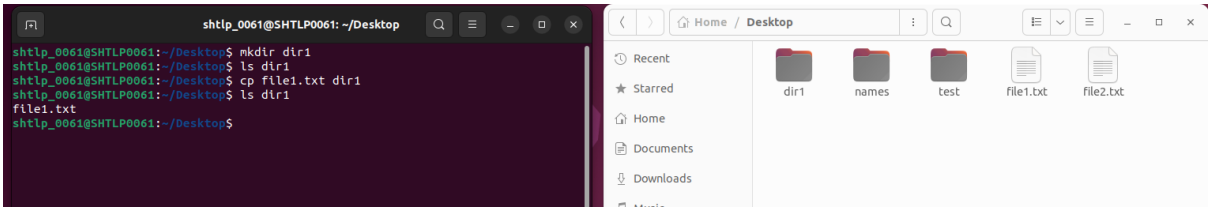
8) cp: copy files and directory
Syntax: cp options source destination

Cp file1.txt file2.txt



Copying file3.txt to dir1



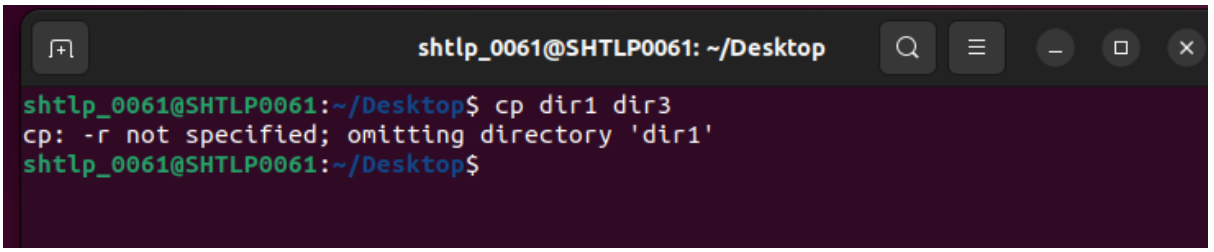


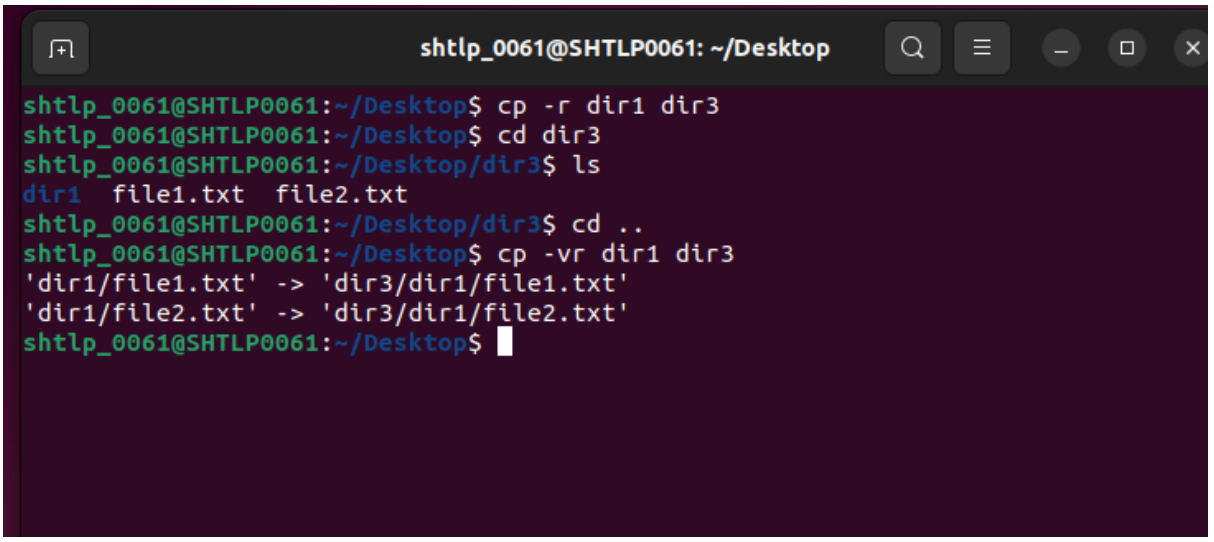
For multiple files at a time use command:
“Cp file1.txt file2.txt dir2”
Overwriting will be there if any file already exists in dir2.

To prevent overwriting of files we can use command:
“cp -i file1 file2 dir1” this command will ask you Y/N to overwrite the file or not.

To copy one directory content to another directory which has file in it use command:
“cp -R dir1 dir3” R: recursive copying

Note: if the destination directory does not exist it will create the destination directory and only content will be copied.
If the directory exists in prior then source directory will also be copied to destination directory.

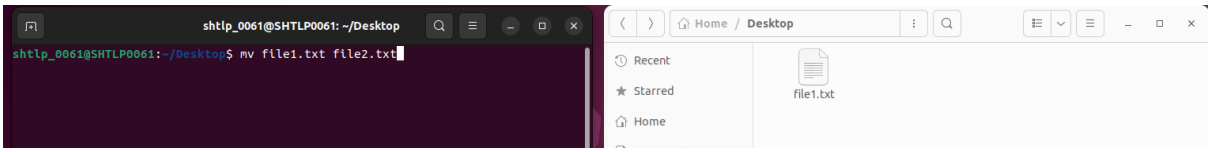


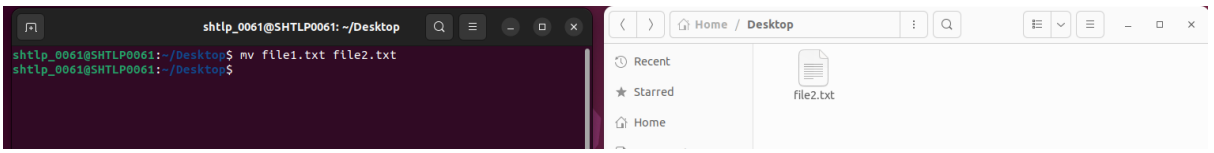


9) mv: move or rename files and directories. It allows you to change the name of a file or directory or move it to a different location.

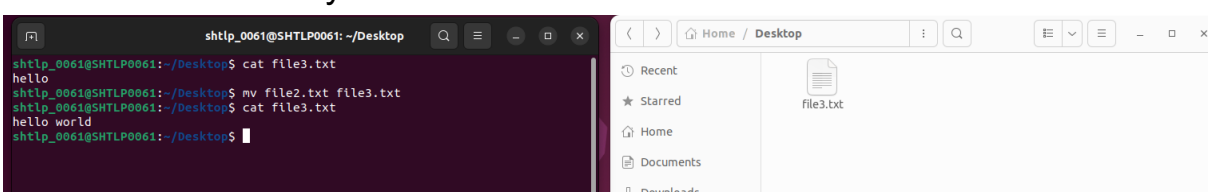
   Syntax: mv [options] source destination.

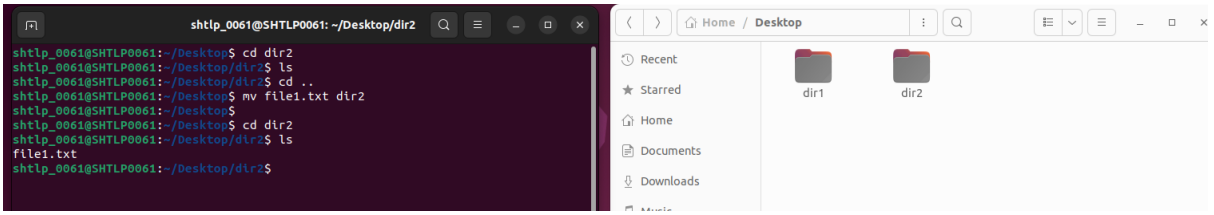
   To rename a file or move the content of file1 to file2: mv file1.txt file2.txt



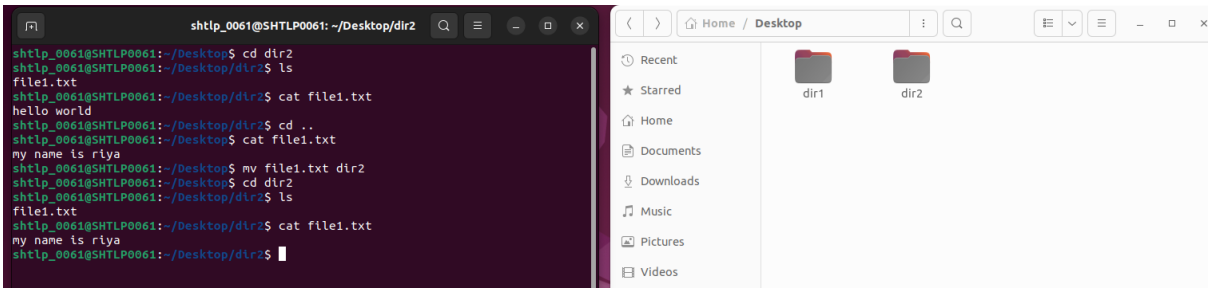


Move file to directory:



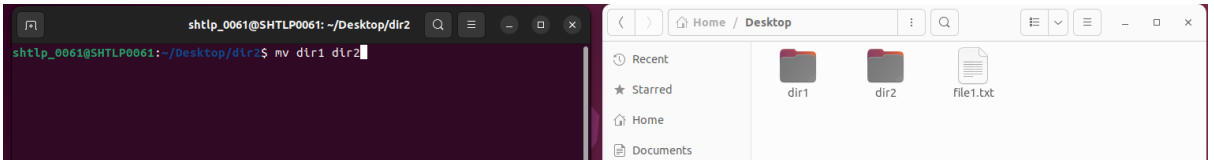


If the existing filename is moved to the directory then the content of the file will get overwritten.



To prevent overwriting use command:
“mv -i file1.txt dir1” it will ask user Y/N to overwrite the file or not.

Move directory 1 to directory2:



Note: if the destination directory does not exist then only content or files of the source directory will be moved to the destination directory.

10) less: this command is used to view the contents of a file one page at a time. It allows you to scroll through the file in a forward or backward direction.

Syntax: less [options] file

Any big file contains large data and to read large data less command is very useful.

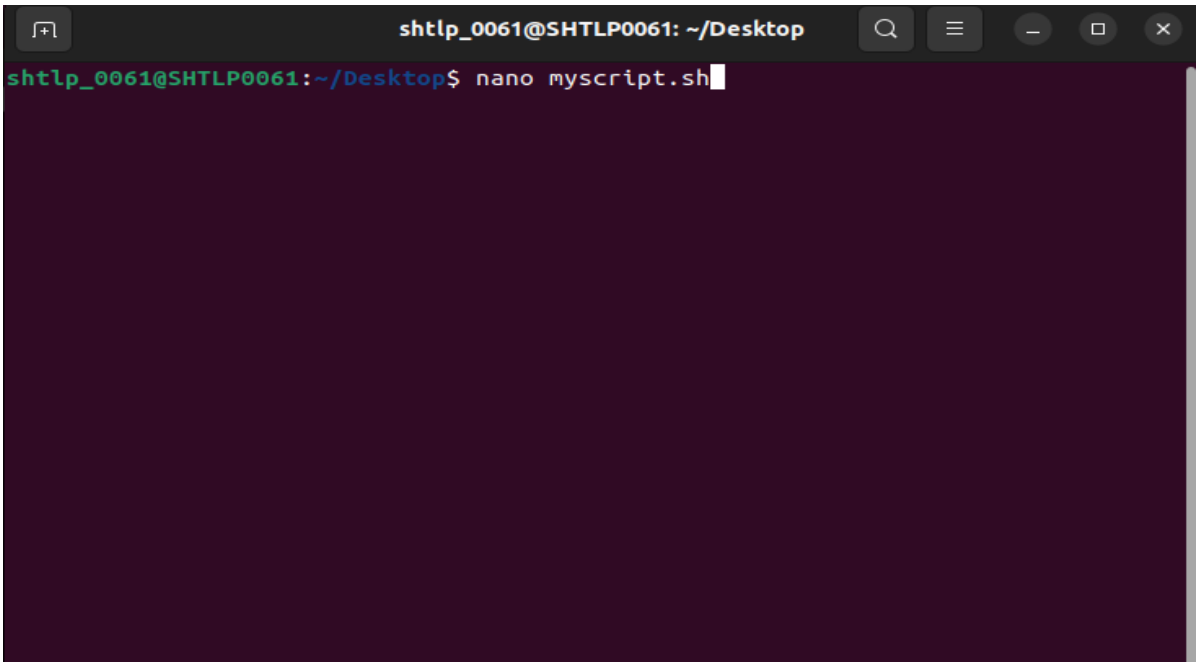
11) touch: used to create new files and to change the time stamp

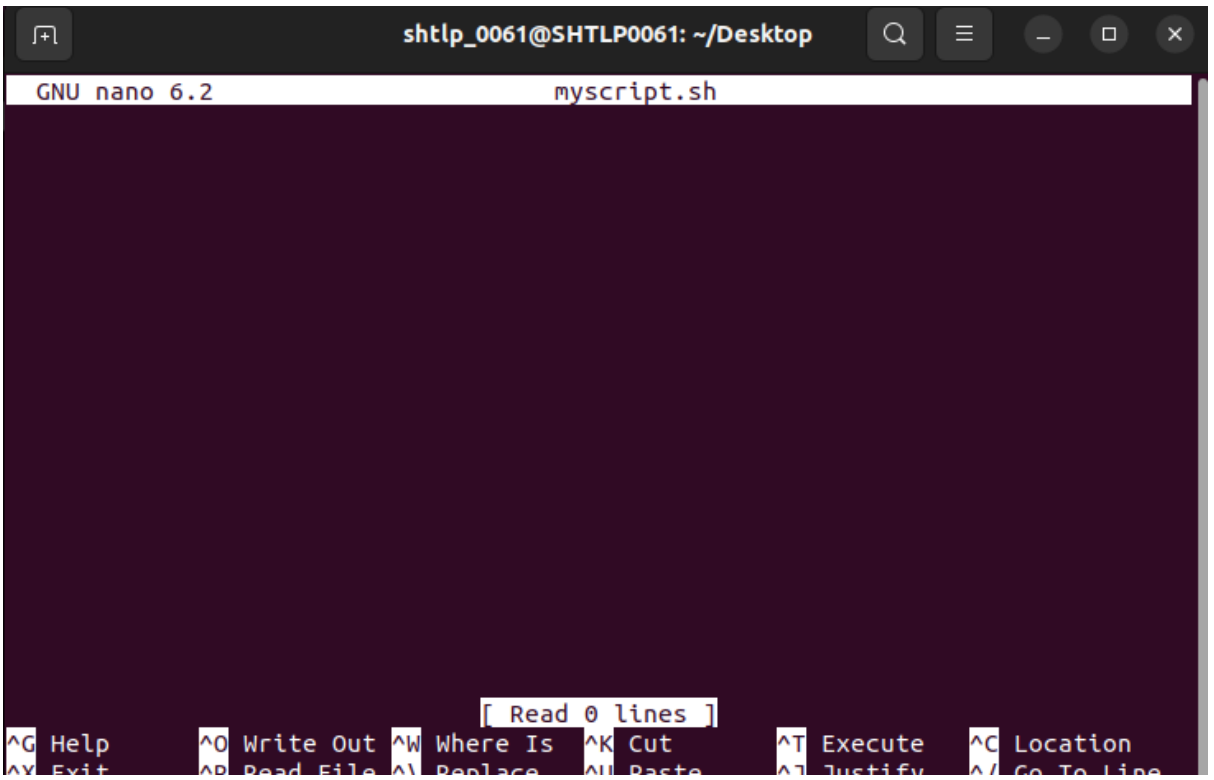
Syntax: “touch filename” (create the new file if does not exist)

“touch filename” (update the timestamp of the file, if file exist in prior)

12) nano: it's a simple and easy-to-use command-line text editor that allows you to create and edit text files directly in the terminal.

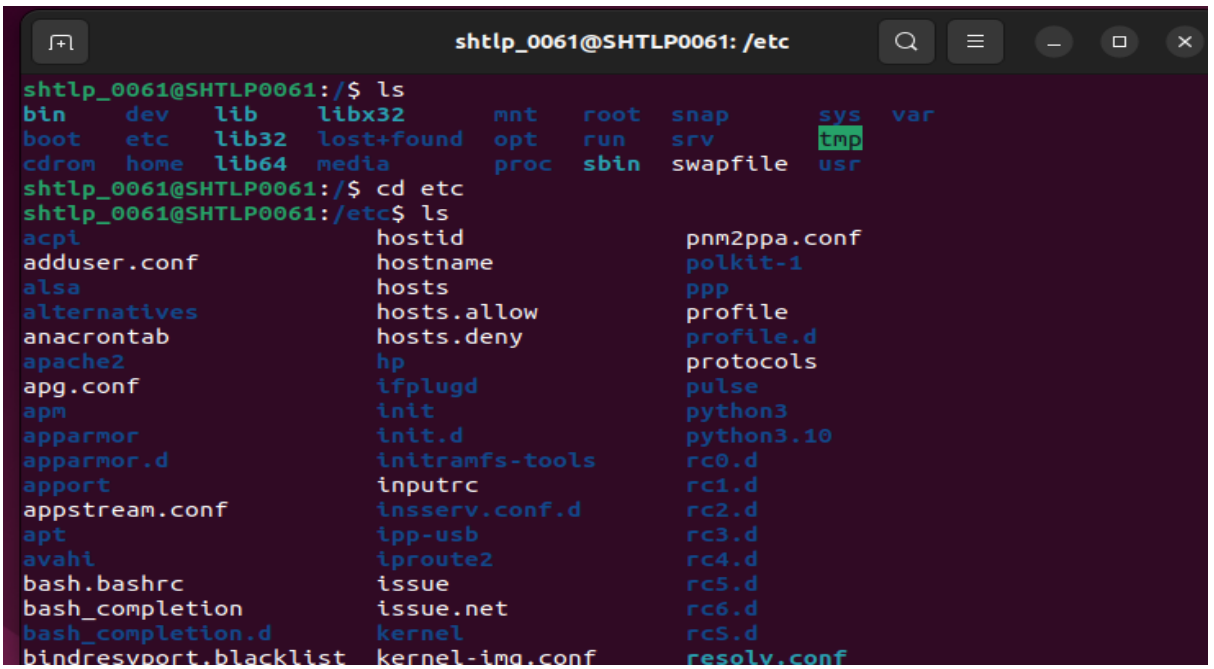
Syntax: nano filename

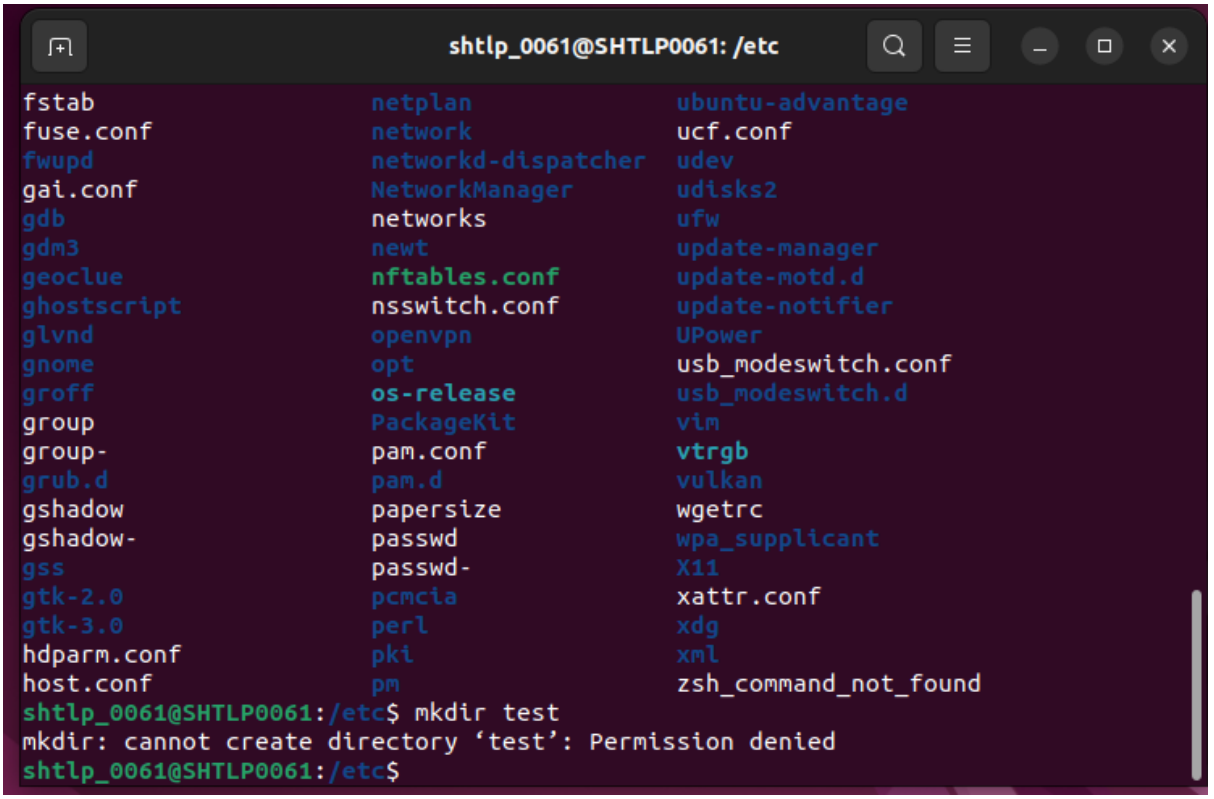


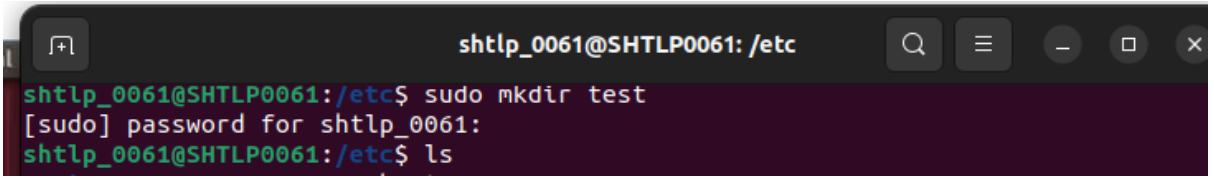


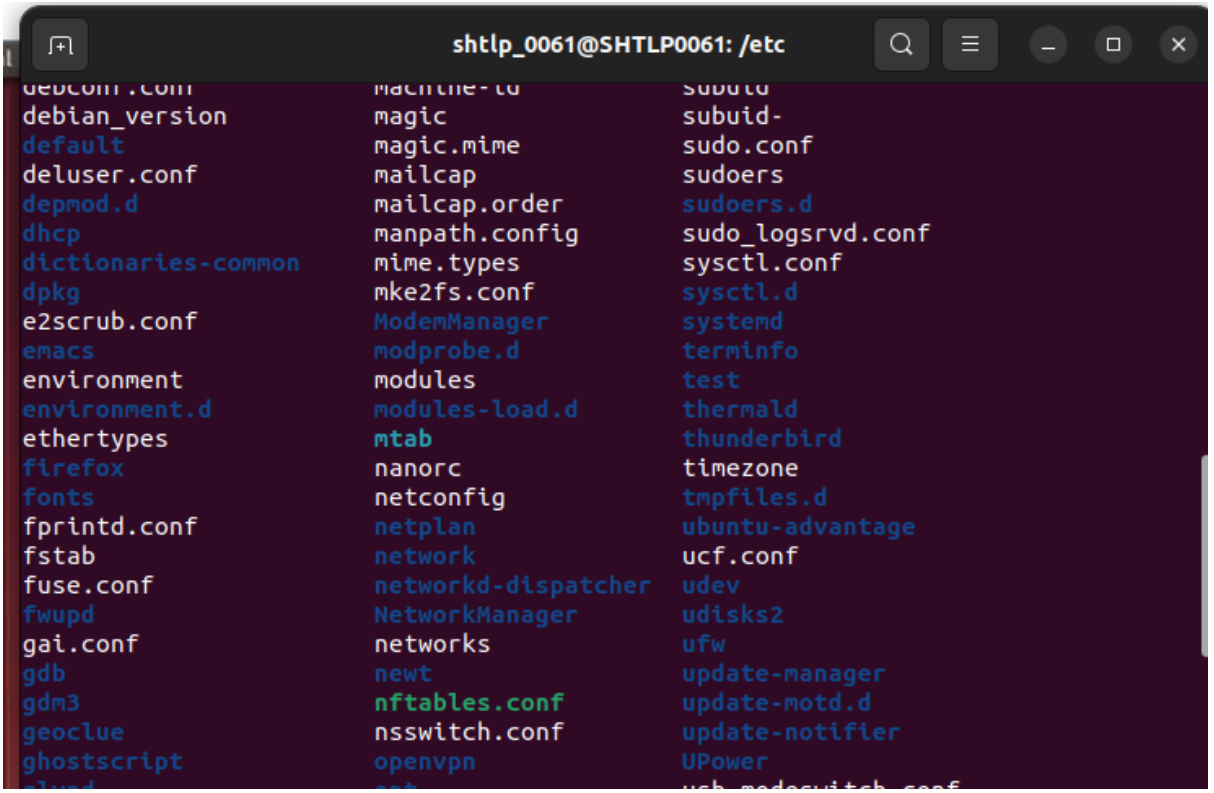
13) sudo: it allows users to execute commands with the privileges of another user, typically the root user (superuser/administrator). It stands for "superuser do."

Syntax: sudo [options] command

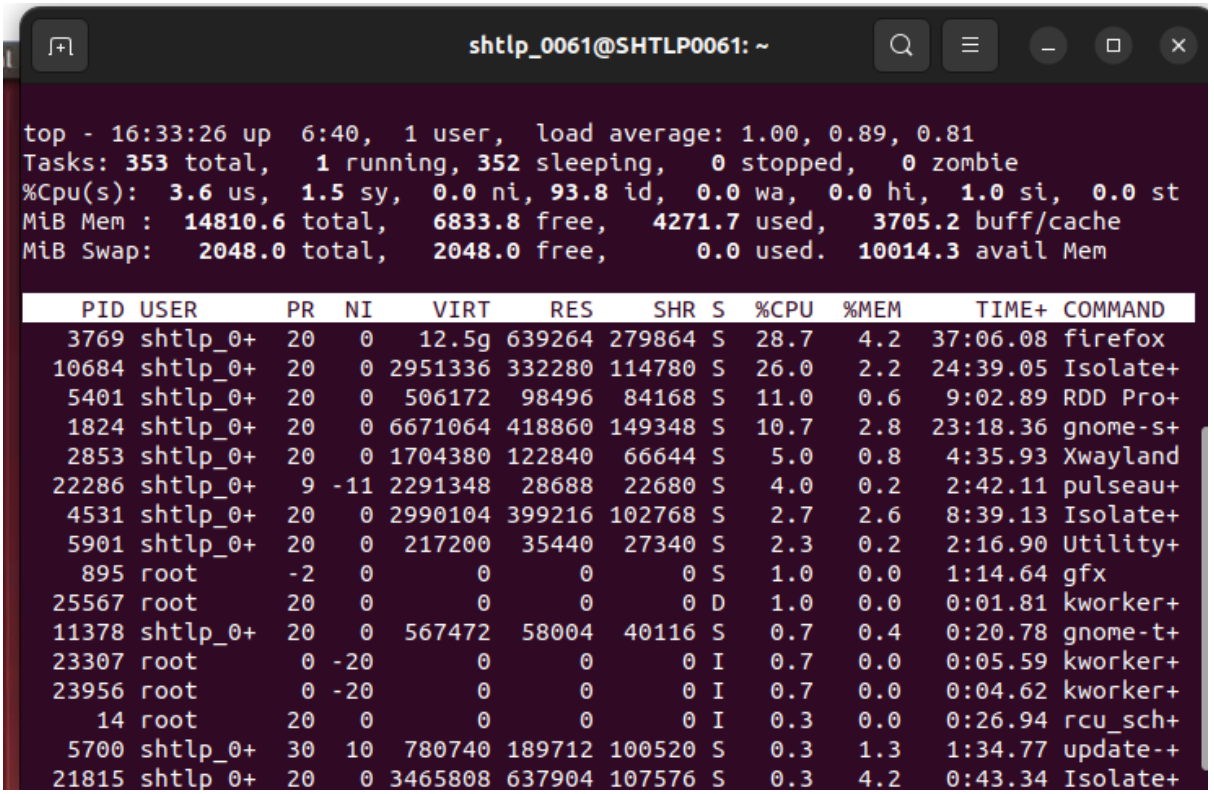



shtlp_0061@SHTLP0061: /etc
fstab
fuse.conf
fwupd
gai.conf
gdb
gdm3
geoclue
ghostscript
glvnd
gnome
groff
group
group-
grub.d
gshadow
gshadow-
gss
gtk-2.0
gtk-3.0
hdparm.conf
host.conf
netplan
network
networkd-dispatcher
NetworkManager
networks
newt
nftables.conf
nsswitch.conf
openvpn
opt
os-release
PackageKit
pam.conf
pam.d
papersize
passwd
passwd-
pcmcia
perl
pki
pm
ubuntu-advantage
ucf.conf
udev
udisks2
ufw
update-manager
update-motd.d
update-notifier
UPower
usb_modeswitch.conf
usb_modeswitch.d
vim
vtrgb
vulkan
wgetrc
wpa_supplicant
X11
xattr.conf
xdg
xml
zsh_command_not_found
shtlp_0061@SHTLP0061:/etc$ mkdir test
mkdir: cannot create directory ‘test’: Permission denied
shtlp_0061@SHTLP0061:/etc$


shtlp_0061@SHTLP0061: /etc
shtlp_0061@SHTLP0061:/etc$ sudo mkdir test
[sudo] password for shtlp_0061:
shtlp_0061@SHTLP0061:/etc$ ls


shtlp_0061@SHTLP0061: /etc
debian_version
default
deluser.conf
depmod.d
dhcp
dictionaries-common
dpkg
e2scrub.conf
emacs
environment
environment.d
ethertypes
firefox
fonts
fprintd.conf
fstab
fuse.conf
fwupd
gai.conf
gdb
gdm3
geoclue
ghostscript
magic
magic.mime
mailcap
mailcap.order
manpath.config
mime.types
mke2fs.conf
ModemManager
modprobe.d
modules
modules-load.d
mtab
nanorc
netconfig
netplan
network
networkd-dispatcher
NetworkManager
networks
newt
nftables.conf
nsswitch.conf
openvpn
subuid-
sudo.conf
sudoers
sudoers.d
sudo_logsrvd.conf
sysctl.conf
sysctl.d
systemd
terminfo
test
thermald
thunderbird
timezone
tmpfiles.d
ubuntu-advantage
ucf.conf
udev
udisks2
ufw
update-manager
update-motd.d
update-notifier
UPower

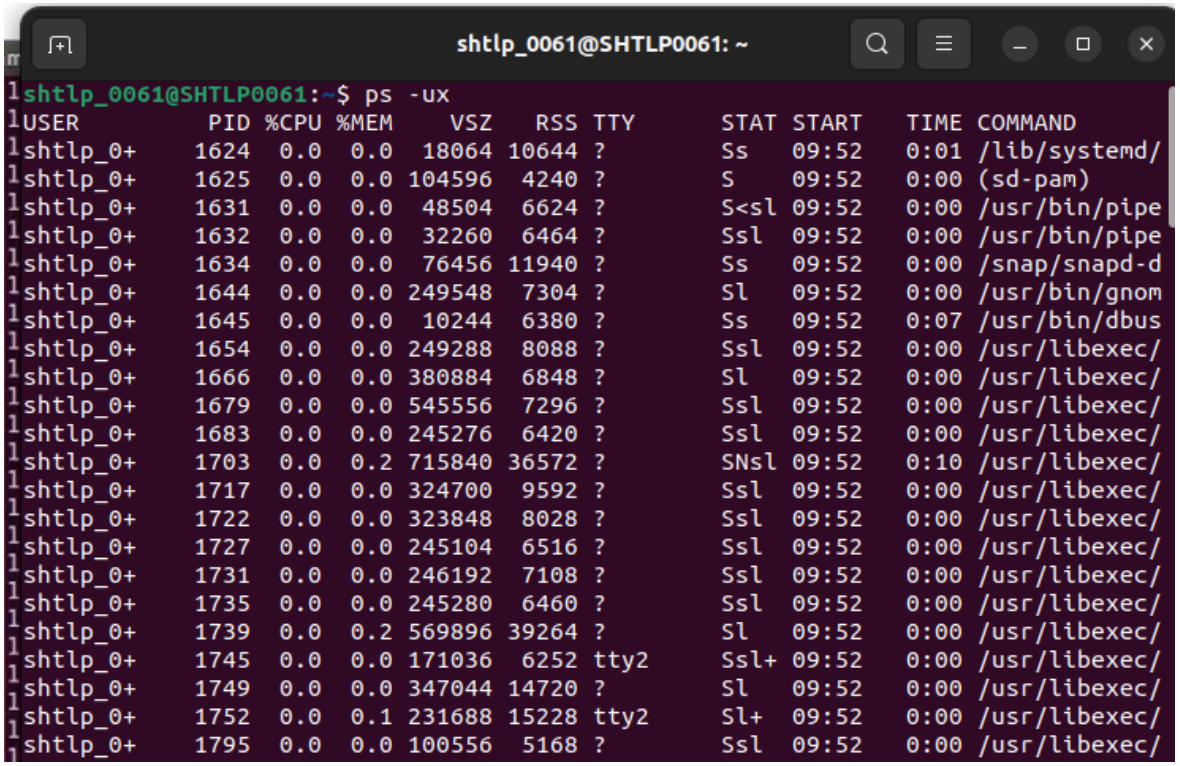
14) top: it provides an interactive, dynamic view of the system's CPU usage, memory utilisation, running processes, and other system statistics.

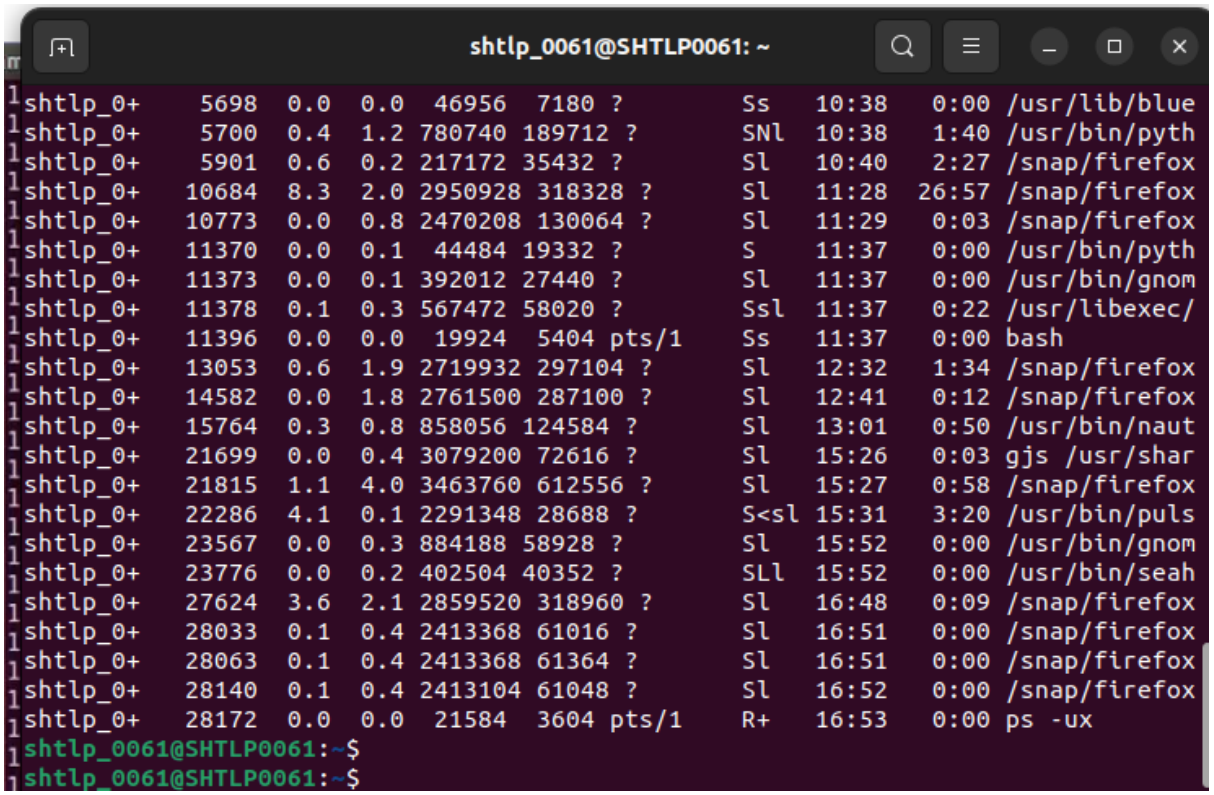


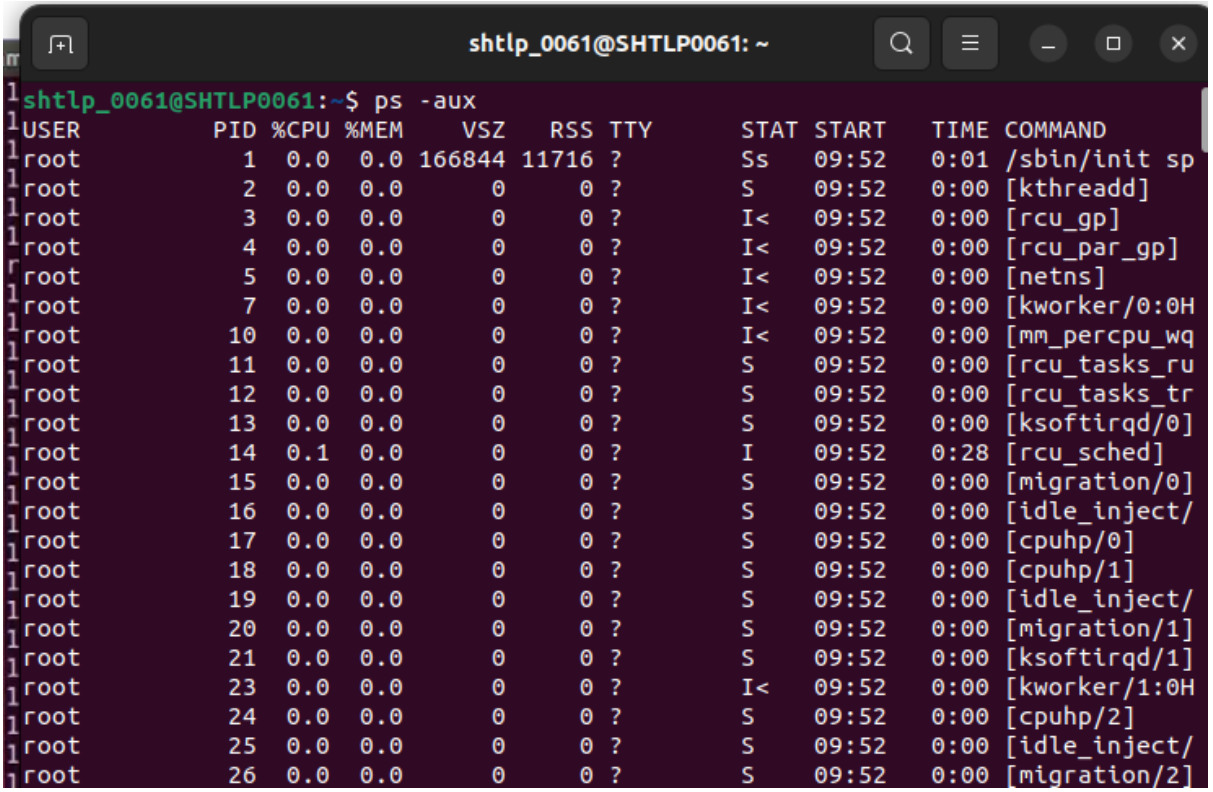
15) kill: used to terminate running processes
Syntax: kill [options] PID

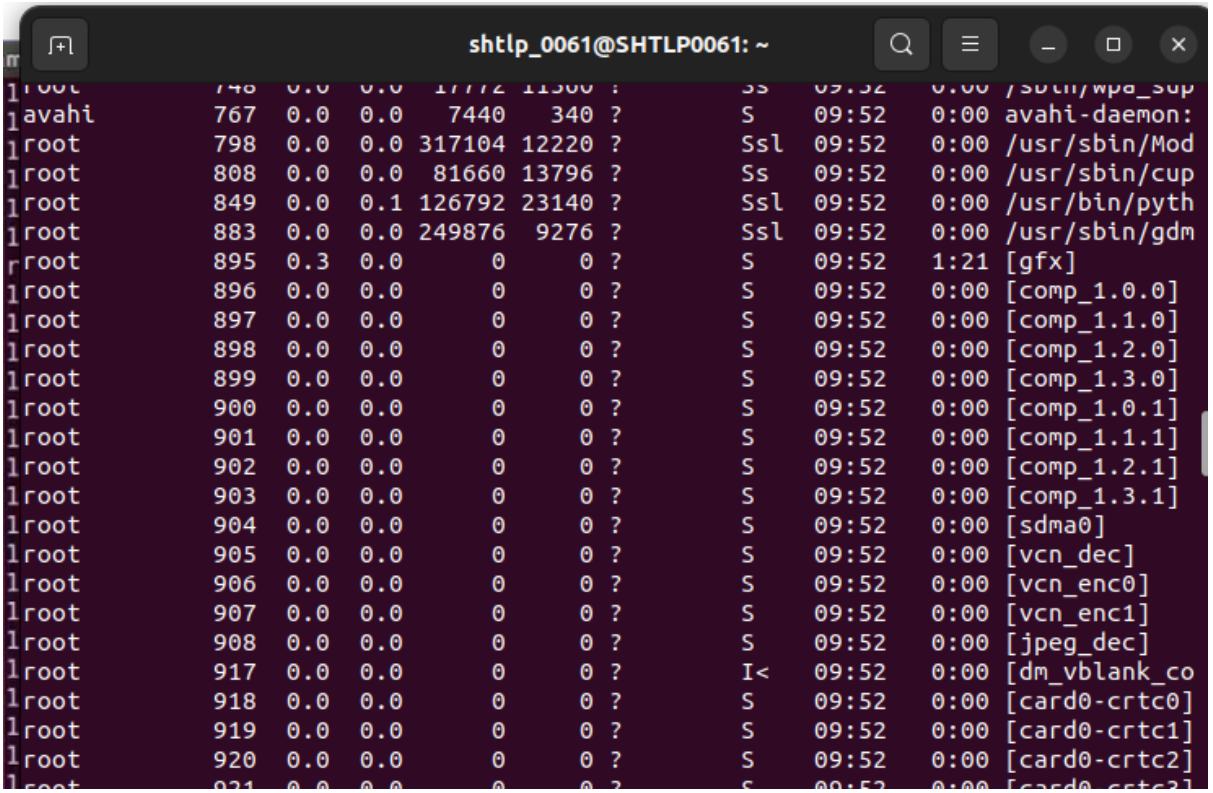
How to get PID(Process id) →

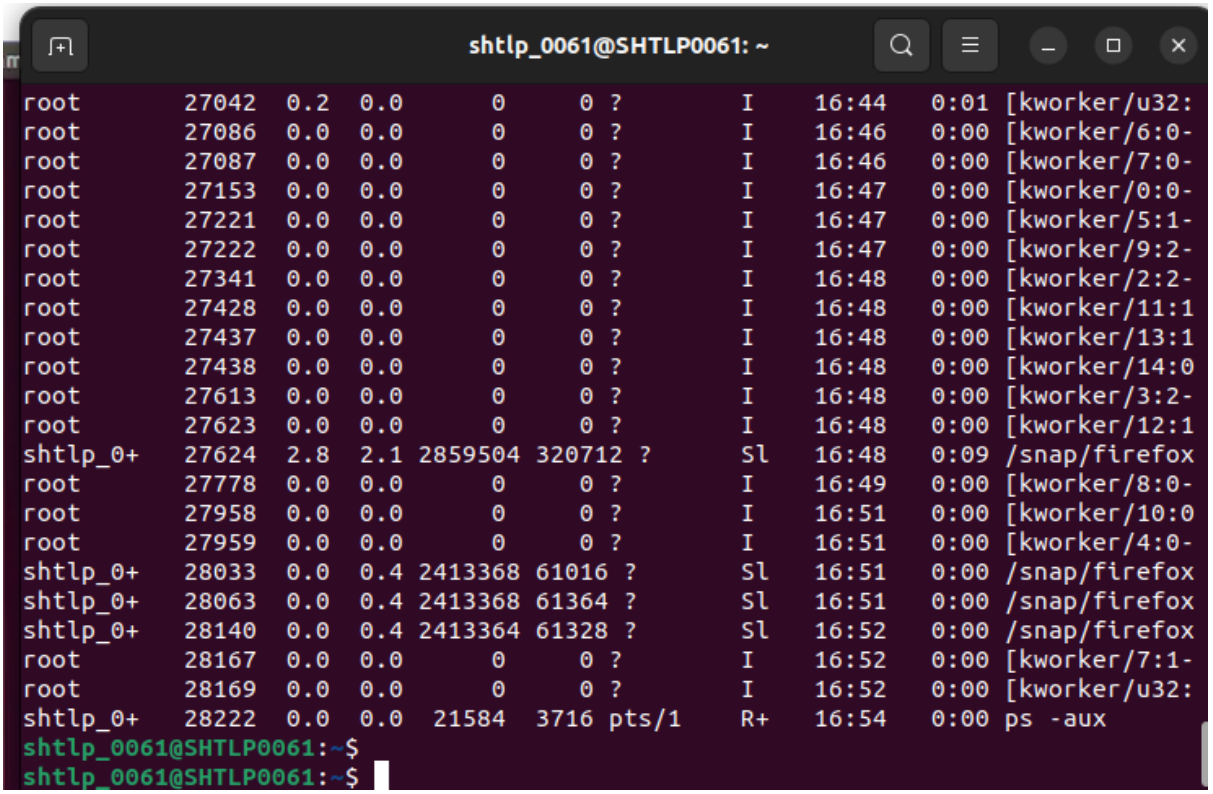
a) Using command : pidof “name of the process”
b) Using command: ps -ux (gives list of processes with PID)
Or ps - aux (all processes with PID)


shtlp_0061@SHTLP0061: ~
shtlp_0061@SHTLP0061:~$ ps -ux
USER PID %CPU %MEM VSZ RSS TTY STAT START TIME COMMAND
shtlp_0+ 1624 0.0 0.0 18064 10644 ? Ss 09:52 0:01 /lib/systemd/
shtlp_0+ 1625 0.0 0.0 104596 4240 ? S 09:52 0:00 (sd-pam)
shtlp_0+ 1631 0.0 0.0 48504 6624 ? S<sl 09:52 0:00 /usr/bin/pipe
shtlp_0+ 1632 0.0 0.0 32260 6464 ? Ssl 09:52 0:00 /usr/bin/pipe
shtlp_0+ 1634 0.0 0.0 76456 11940 ? Ss 09:52 0:00 /snap/snapd-d
shtlp_0+ 1644 0.0 0.0 249548 7304 ? Sl 09:52 0:00 /usr/bin/gnom
shtlp_0+ 1645 0.0 0.0 10244 6380 ? Ss 09:52 0:07 /usr/bin/dbus
shtlp_0+ 1654 0.0 0.0 249288 8088 ? Ssl 09:52 0:00 /usr/libexec/
shtlp_0+ 1666 0.0 0.0 380884 6848 ? Sl 09:52 0:00 /usr/libexec/
shtlp_0+ 1679 0.0 0.0 545556 7296 ? Ssl 09:52 0:00 /usr/libexec/
shtlp_0+ 1683 0.0 0.0 245276 6420 ? Ssl 09:52 0:00 /usr/libexec/
shtlp_0+ 1703 0.0 0.2 715840 36572 ? SNsl 09:52 0:10 /usr/libexec/
shtlp_0+ 1717 0.0 0.0 324700 9592 ? Ssl 09:52 0:00 /usr/libexec/
shtlp_0+ 1722 0.0 0.0 323848 8028 ? Ssl 09:52 0:00 /usr/libexec/
shtlp_0+ 1727 0.0 0.0 245104 6516 ? Ssl 09:52 0:00 /usr/libexec/
shtlp_0+ 1731 0.0 0.0 246192 7108 ? Ssl 09:52 0:00 /usr/libexec/
shtlp_0+ 1735 0.0 0.0 245280 6460 ? Ssl 09:52 0:00 /usr/libexec/
shtlp_0+ 1739 0.0 0.2 569896 39264 ? Sl 09:52 0:00 /usr/libexec/
shtlp_0+ 1745 0.0 0.0 171036 6252 tty2 Ssl+ 09:52 0:00 /usr/libexec/
shtlp_0+ 1749 0.0 0.0 347044 14720 ? Sl 09:52 0:00 /usr/libexec/
shtlp_0+ 1752 0.0 0.1 231688 15228 tty2 Sl+ 09:52 0:00 /usr/libexec/
shtlp_0+ 1795 0.0 0.0 100556 5168 ? Ssl 09:52 0:00 /usr/libexec/


shtlp_0061@SHTLP0061: ~
shtlp_0+ 5698 0.0 0.0 46956 7180 ? Ss 10:38 0:00 /usr/lib/blue
shtlp_0+ 5700 0.4 1.2 780740 189712 ? SNl 10:38 1:40 /usr/bin/pyth
shtlp_0+ 5901 0.6 0.2 217172 35432 ? Sl 10:40 2:27 /snap/firefox
shtlp_0+ 10684 8.3 2.0 2950928 318328 ? Sl 11:28 26:57 /snap/firefox
shtlp_0+ 10773 0.0 0.8 2470208 130064 ? Sl 11:29 0:03 /snap/firefox
shtlp_0+ 11370 0.0 0.1 44484 19332 ? S 11:37 0:00 /usr/bin/pyth
shtlp_0+ 11373 0.0 0.1 392012 27440 ? Sl 11:37 0:00 /usr/bin/gnom
shtlp_0+ 11378 0.1 0.3 567472 58020 ? Ssl 11:37 0:22 /usr/libexec/
shtlp_0+ 11396 0.0 0.0 19924 5404 pts/1 Ss 11:37 0:00 bash
shtlp_0+ 13053 0.6 1.9 2719932 297104 ? Sl 12:32 1:34 /snap/firefox
shtlp_0+ 14582 0.0 1.8 2761500 287100 ? Sl 12:41 0:12 /snap/firefox
shtlp_0+ 15764 0.3 0.8 858056 124584 ? Sl 13:01 0:50 /usr/bin/naut
shtlp_0+ 21699 0.0 0.4 3079200 72616 ? Sl 15:26 0:03 gjs /usr/shar
shtlp_0+ 21815 1.1 4.0 3463760 612556 ? Sl 15:27 0:58 /snap/firefox
shtlp_0+ 22286 4.1 0.1 2291348 28688 ? S<sl 15:31 3:20 /usr/bin/puls
shtlp_0+ 23567 0.0 0.3 884188 58928 ? Sl 15:52 0:00 /usr/bin/gnom
shtlp_0+ 23776 0.0 0.2 402504 40352 ? SLl 15:52 0:00 /usr/bin/seah
shtlp_0+ 27624 3.6 2.1 2859520 318960 ? Sl 16:48 0:09 /snap/firefox
shtlp_0+ 28033 0.1 0.4 2413368 61016 ? Sl 16:51 0:00 /snap/firefox
shtlp_0+ 28063 0.1 0.4 2413368 61364 ? Sl 16:51 0:00 /snap/firefox
shtlp_0+ 28140 0.1 0.4 2413104 61048 ? Sl 16:52 0:00 /snap/firefox
shtlp_0+ 28172 0.0 0.0 21584 3604 pts/1 R+ 16:53 0:00 ps -ux
shtlp_0061@SHTLP0061:~$
shtlp_0061@SHTLP0061:~$

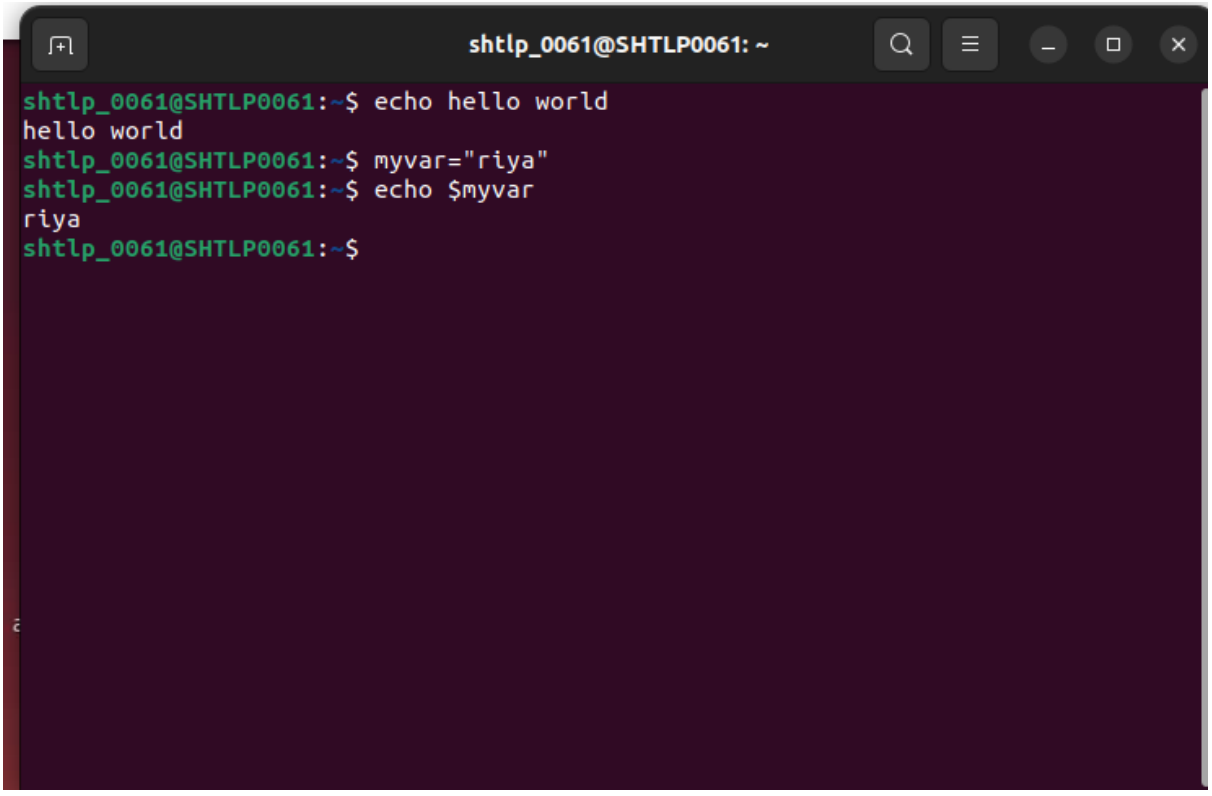

shtlp_0061@SHTLP0061: ~
shtlp_0061@SHTLP0061:~$ ps -aux
USER PID %CPU %MEM VSZ RSS TTY STAT START TIME COMMAND
root 1 0.0 0.0 166844 11716 ? Ss 09:52 0:01 /sbin/init sp
root 2 0.0 0.0 0 0 ? S 09:52 0:00 [kthreadd]
root 3 0.0 0.0 0 0 ? I< 09:52 0:00 [rcu_gp]
root 4 0.0 0.0 0 0 ? I< 09:52 0:00 [rcu_par_gp]
root 5 0.0 0.0 0 0 ? I< 09:52 0:00 [netns]
root 7 0.0 0.0 0 0 ? I< 09:52 0:00 [kworker/0:0H
root 10 0.0 0.0 0 0 ? I< 09:52 0:00 [mm_percpu_wq
root 11 0.0 0.0 0 0 ? S 09:52 0:00 [rcu_tasks_ru
root 12 0.0 0.0 0 0 ? S 09:52 0:00 [rcu_tasks_tr
root 13 0.0 0.0 0 0 ? S 09:52 0:00 [ksoftirqd/0]
root 14 0.1 0.0 0 0 ? I 09:52 0:28 [rcu_sched]
root 15 0.0 0.0 0 0 ? S 09:52 0:00 [migration/0]
root 16 0.0 0.0 0 0 ? S 09:52 0:00 [idle_inject/
root 17 0.0 0.0 0 0 ? S 09:52 0:00 [cpuhp/0]
root 18 0.0 0.0 0 0 ? S 09:52 0:00 [cpuhp/1]
root 19 0.0 0.0 0 0 ? S 09:52 0:00 [idle_inject/
root 20 0.0 0.0 0 0 ? S 09:52 0:00 [migration/1]
root 21 0.0 0.0 0 0 ? S 09:52 0:00 [ksoftirqd/1]
root 23 0.0 0.0 0 0 ? I< 09:52 0:00 [kworker/1:0H
root 24 0.0 0.0 0 0 ? S 09:52 0:00 [cpuhp/2]
root 25 0.0 0.0 0 0 ? S 09:52 0:00 [idle_inject/
root 26 0.0 0.0 0 0 ? S 09:52 0:00 [migration/2]


shtlp_0061@SHTLP0061: ~
avahi 767 0.0 0.0 7440 340 ? S 09:52 0:00 avahi-daemon:
root 798 0.0 0.0 317104 12220 ? Ssl 09:52 0:00 /usr/sbin/Mod
root 808 0.0 0.0 81660 13796 ? Ss 09:52 0:00 /usr/sbin/cup
root 849 0.0 0.1 126792 23140 ? Ssl 09:52 0:00 /usr/bin/pyth
root 883 0.0 0.0 249876 9276 ? Ssl 09:52 0:00 /usr/sbin/gdm
root 895 0.3 0.0 0 0 ? S 09:52 1:21 [gfx]
root 896 0.0 0.0 0 0 ? S 09:52 0:00 [comp_1.0.0]
root 897 0.0 0.0 0 0 ? S 09:52 0:00 [comp_1.1.0]
root 898 0.0 0.0 0 0 ? S 09:52 0:00 [comp_1.2.0]
root 899 0.0 0.0 0 0 ? S 09:52 0:00 [comp_1.3.0]
root 900 0.0 0.0 0 0 ? S 09:52 0:00 [comp_1.0.1]
root 901 0.0 0.0 0 0 ? S 09:52 0:00 [comp_1.1.1]
root 902 0.0 0.0 0 0 ? S 09:52 0:00 [comp_1.2.1]
root 903 0.0 0.0 0 0 ? S 09:52 0:00 [comp_1.3.1]
root 904 0.0 0.0 0 0 ? S 09:52 0:00 [sdma0]
root 905 0.0 0.0 0 0 ? S 09:52 0:00 [vcn_dec]
root 906 0.0 0.0 0 0 ? S 09:52 0:00 [vcn_enc0]
root 907 0.0 0.0 0 0 ? S 09:52 0:00 [vcn_enc1]
root 908 0.0 0.0 0 0 ? S 09:52 0:00 [jpeg_dec]
root 917 0.0 0.0 0 0 ? I< 09:52 0:00 [dm_vblank_co
root 918 0.0 0.0 0 0 ? S 09:52 0:00 [card0-crtc0]
root 919 0.0 0.0 0 0 ? S 09:52 0:00 [card0-crtc1]
root 920 0.0 0.0 0 0 ? S 09:52 0:00 [card0-crtc2]



16) echo: used to display text or variables on the terminal

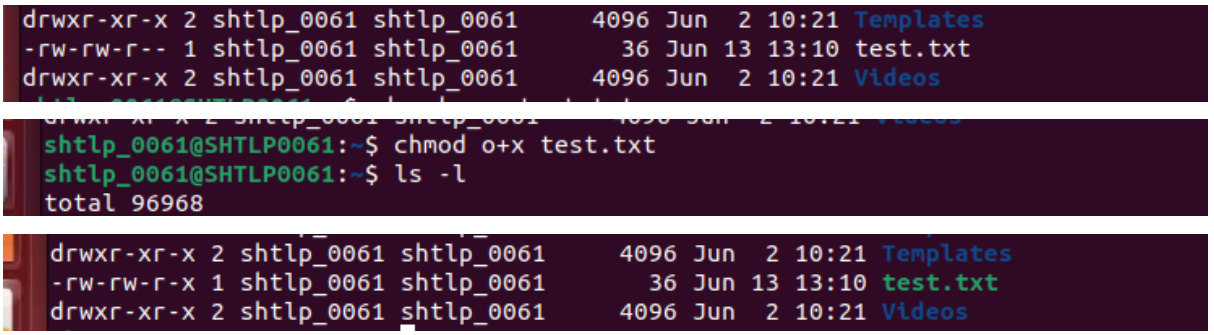
Syntax: echo [options] [text or variables]



17) File permission: it defines who can access a file and what actions they can perform on it.
There are three types of permissions: read (r), write (w), and execute (x).
These permissions are assigned to three categories of users: the owner of the file(u), the group associated with the file,(g) and others (everyone else)(o).

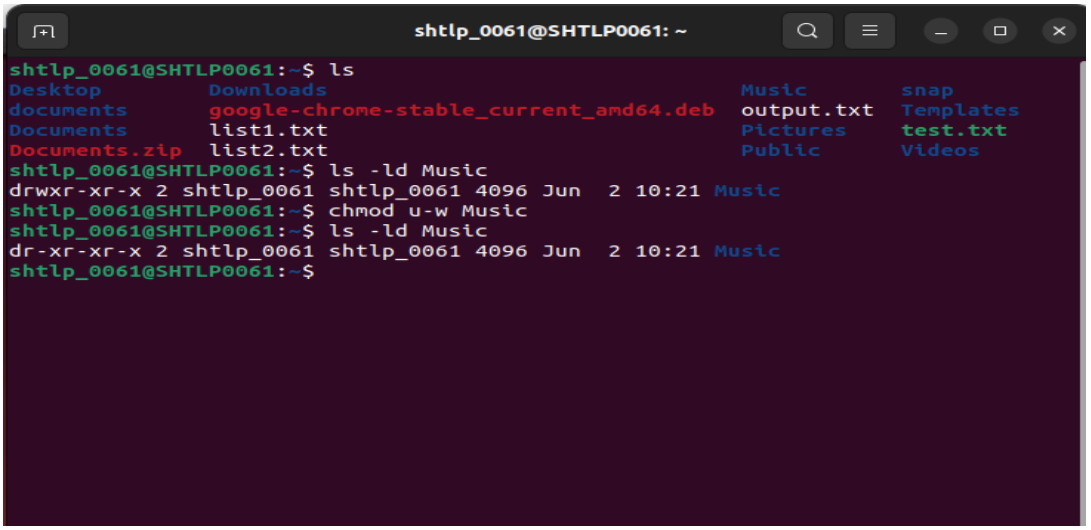
To change the access permission “chmod” command is used.

Syntax: chmod [options] permissions filename



18) Directory permission: this command allows who can access and perform specific actions on a directory. The permissions for a directory are similar to file permissions.

Syntax: chmod [options] permissions directoryname



19) Octal & numerical permission:

In this, each permission is assigned a numeric value:

Read (r) is represented by the value 4.

Write (w) is represented by the value 2.

Execute (x) is represented by the value 1.

By adding these values together, you can represent different combinations of permissions. Here's a table that shows some common octal permissions:

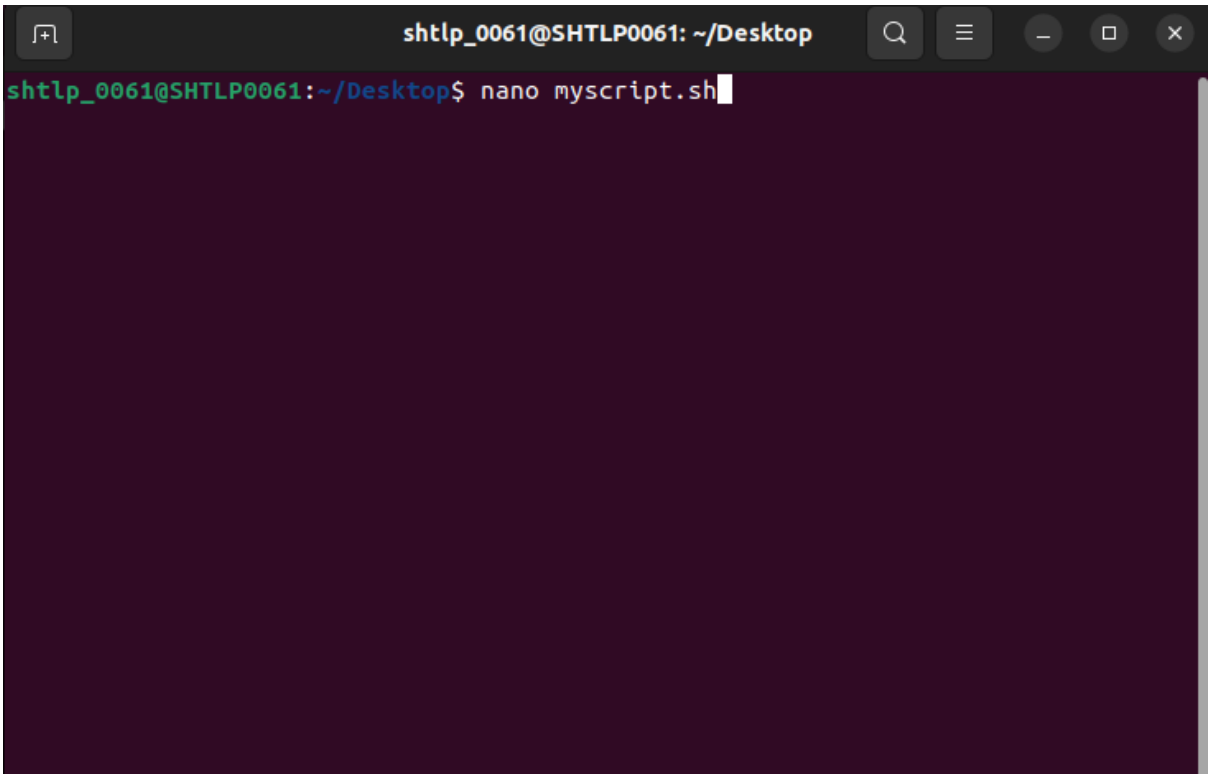
Value	**Permission**	**Binary**
0	No permission	000
1	Execute	001
2	Write	010
3	Write and execute	011
4	Read	100
5	Read and execute	101
6	Read and write	110
7	Read, write, and execute	111

20) Introduction to bash scripting:

Bash scripting allows you to automate tasks, create complex workflows, and build powerful scripts to perform various operations on the command line.

Script is a text file of a sequence of commands.

Syntax: nano filename.sh


shtlp_0061@SHTLP0061: ~/Desktop
shtlp_0061@SHTLP0061:~/Desktop$ nano myscript.sh


shtlp_0061@SHTLP0061: ~/Desktop
GNU nano 6.2 myscript.sh
[Read 0 lines]
^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location

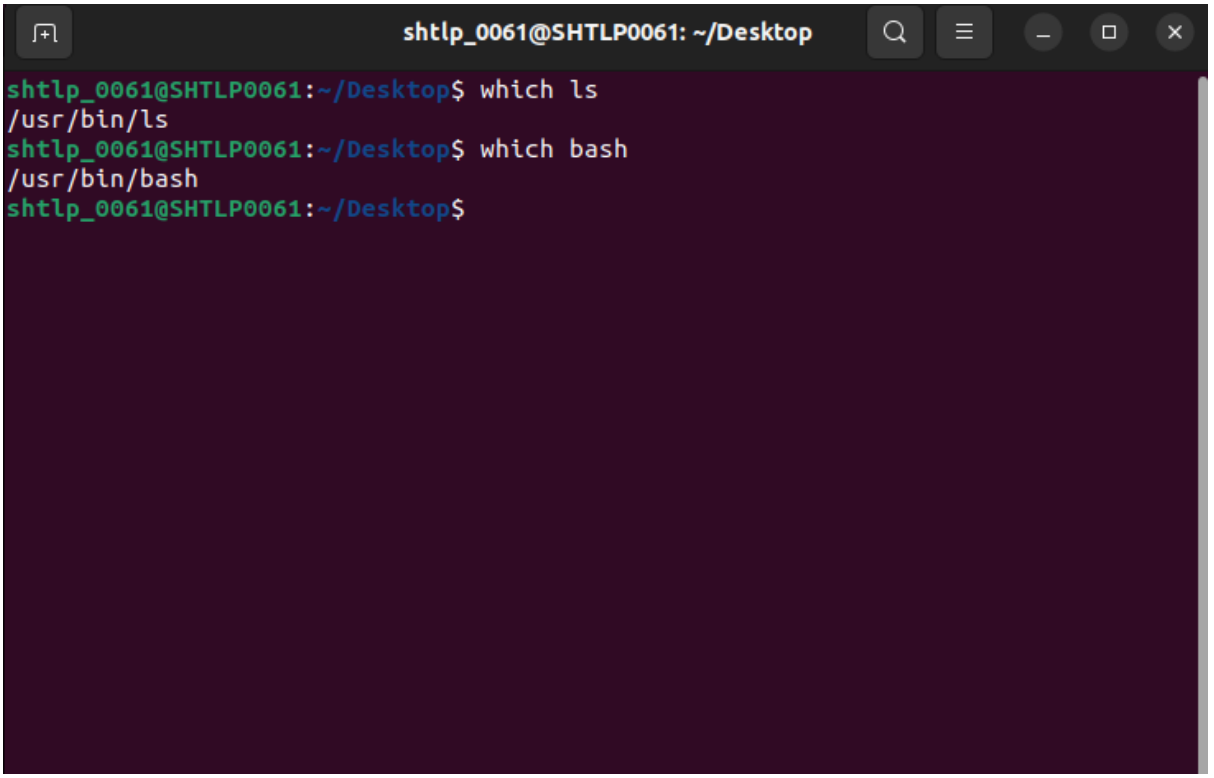
21) Which & whatis:

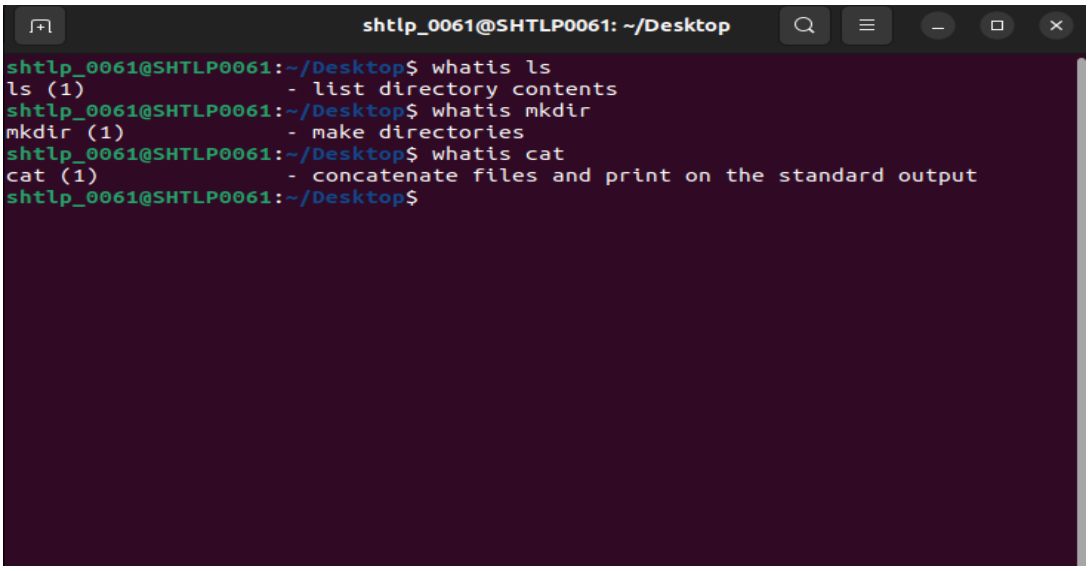
Which: It helps you determine the full path of the command that will be executed when you run a particular command in the terminal.

syntax : which command

Whatis: short description of command

Syntax: whatis command



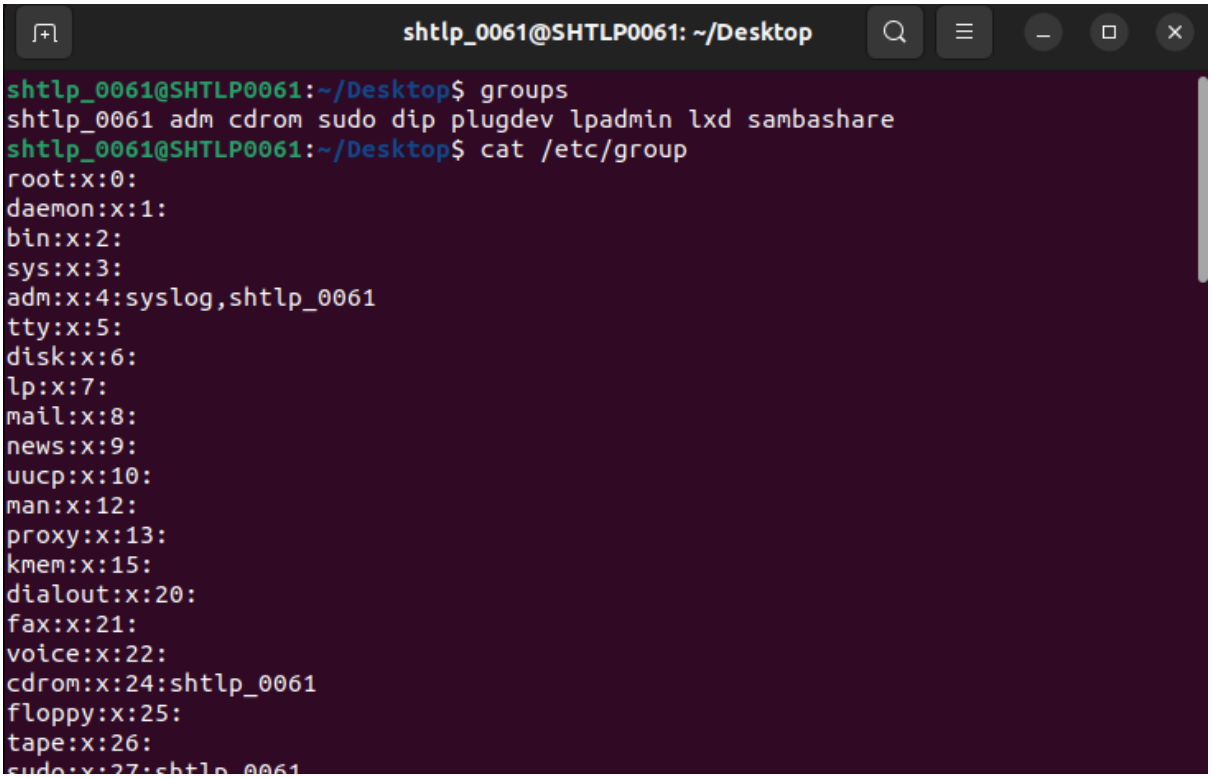


22) useradd: it allows to create a new user account on the system. It is primarily used by system administrators to add new users.

23) userdel: it allows to delete user accounts from the system. It is primarily used by system administrators to remove user accounts that are no longer needed.

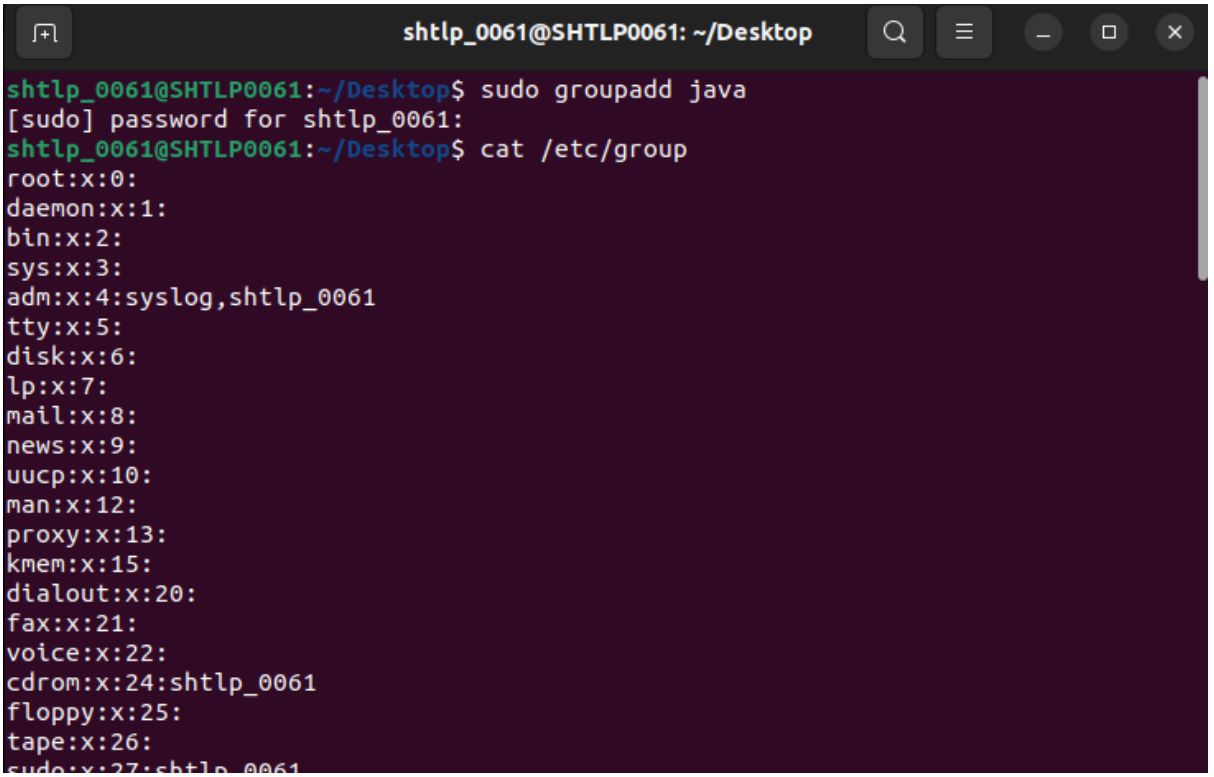
24) Basics of group management: it allows creating, modifying, and managing groups of users.

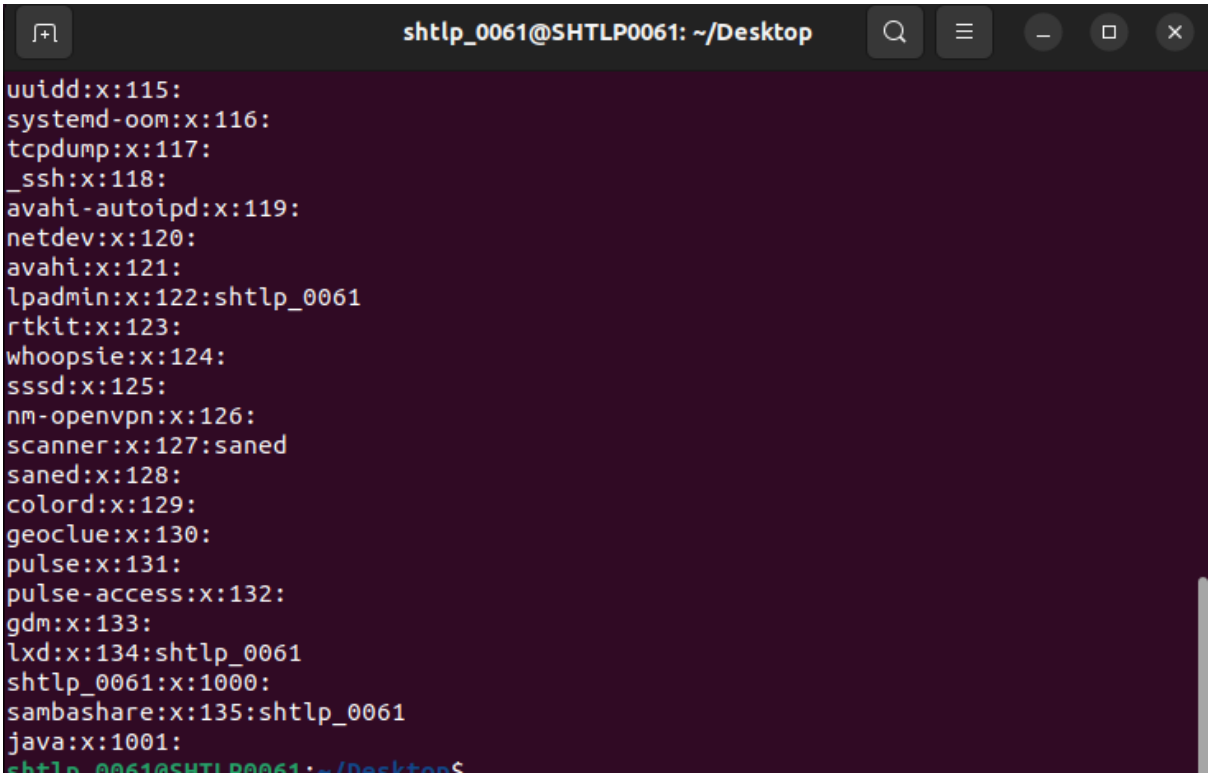
groups: display groups that are connected to the user.



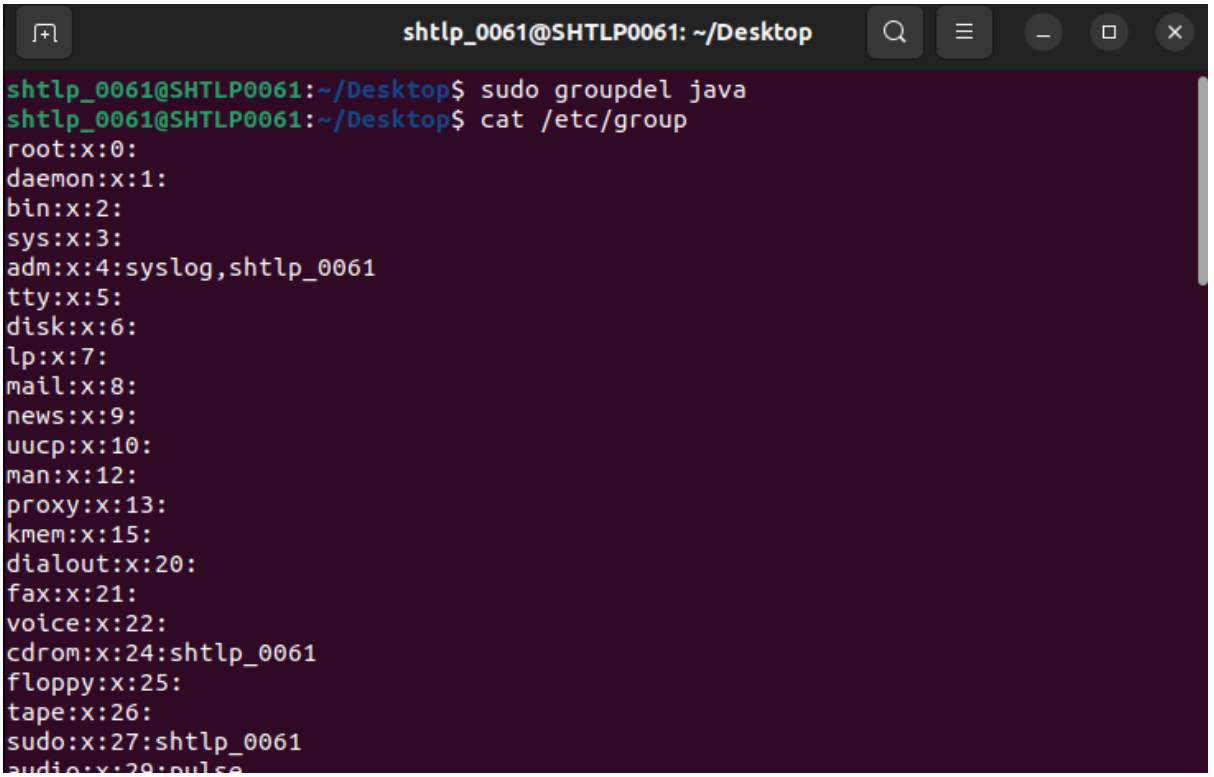
Note: groups are added date wise

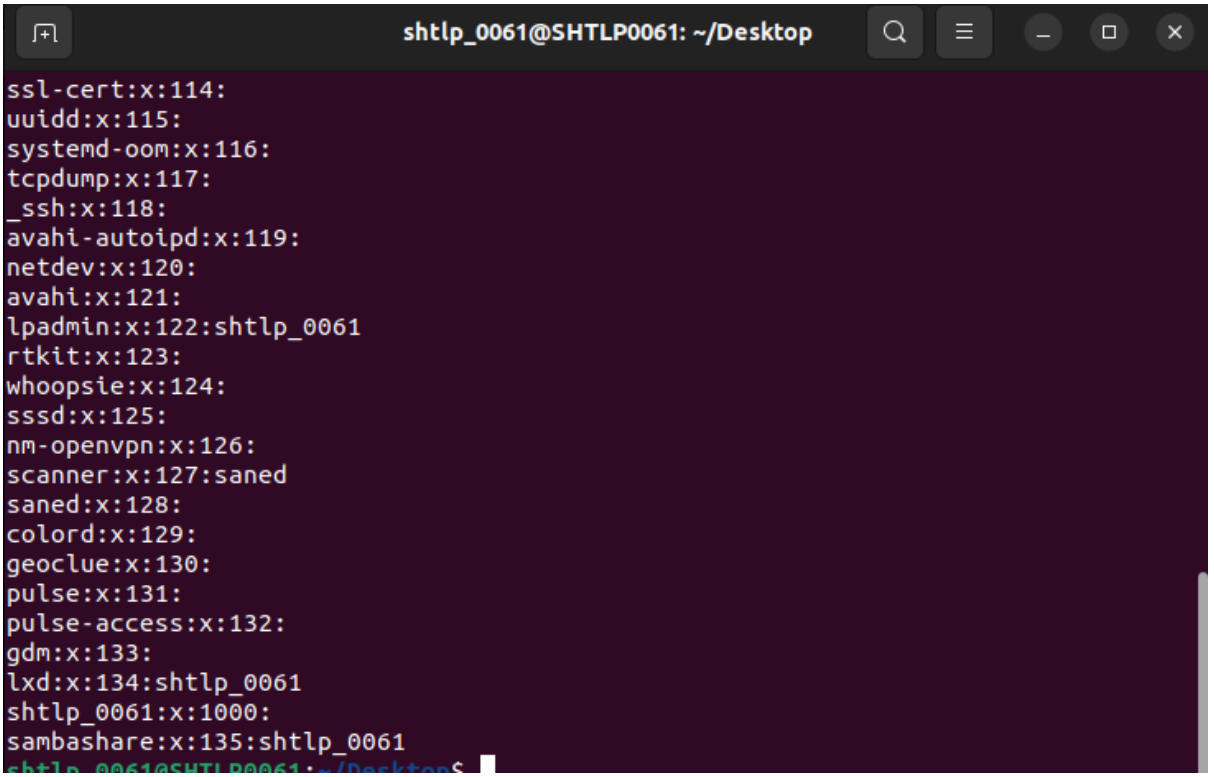
groupadd: create a new group, you can use the command followed by the desired group name. (groupadd groupName)



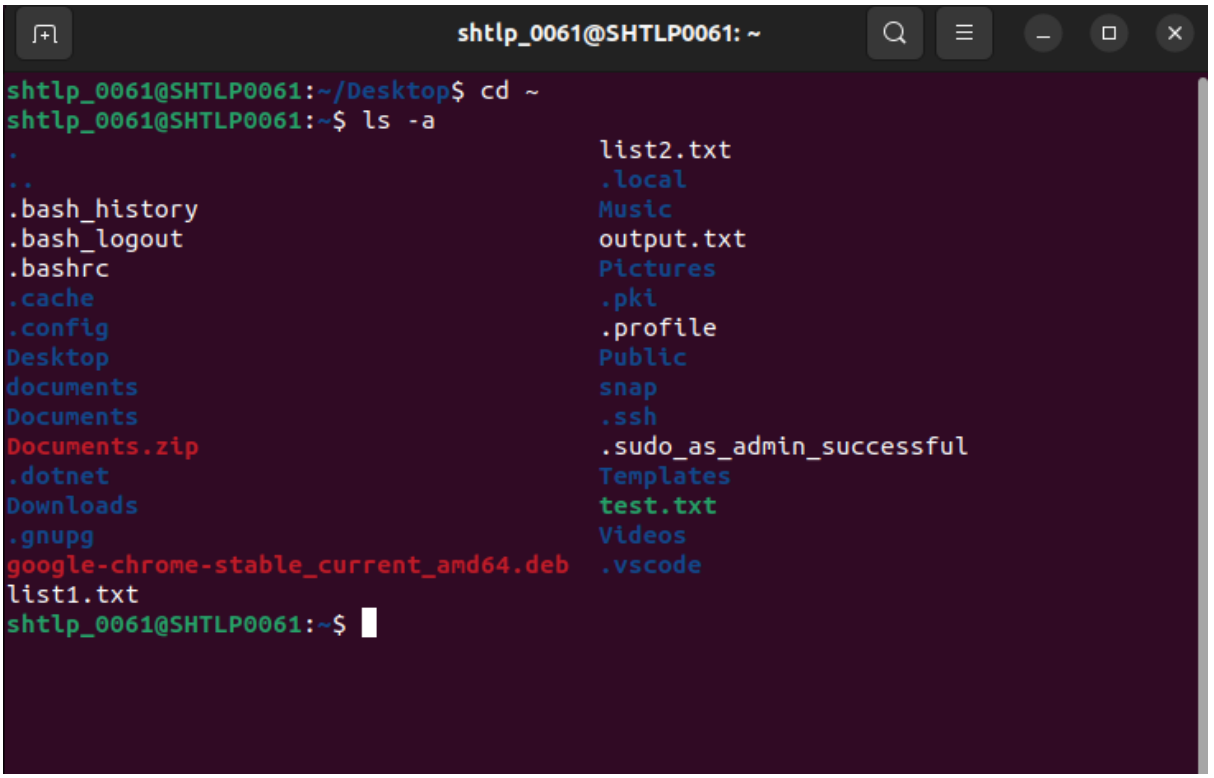


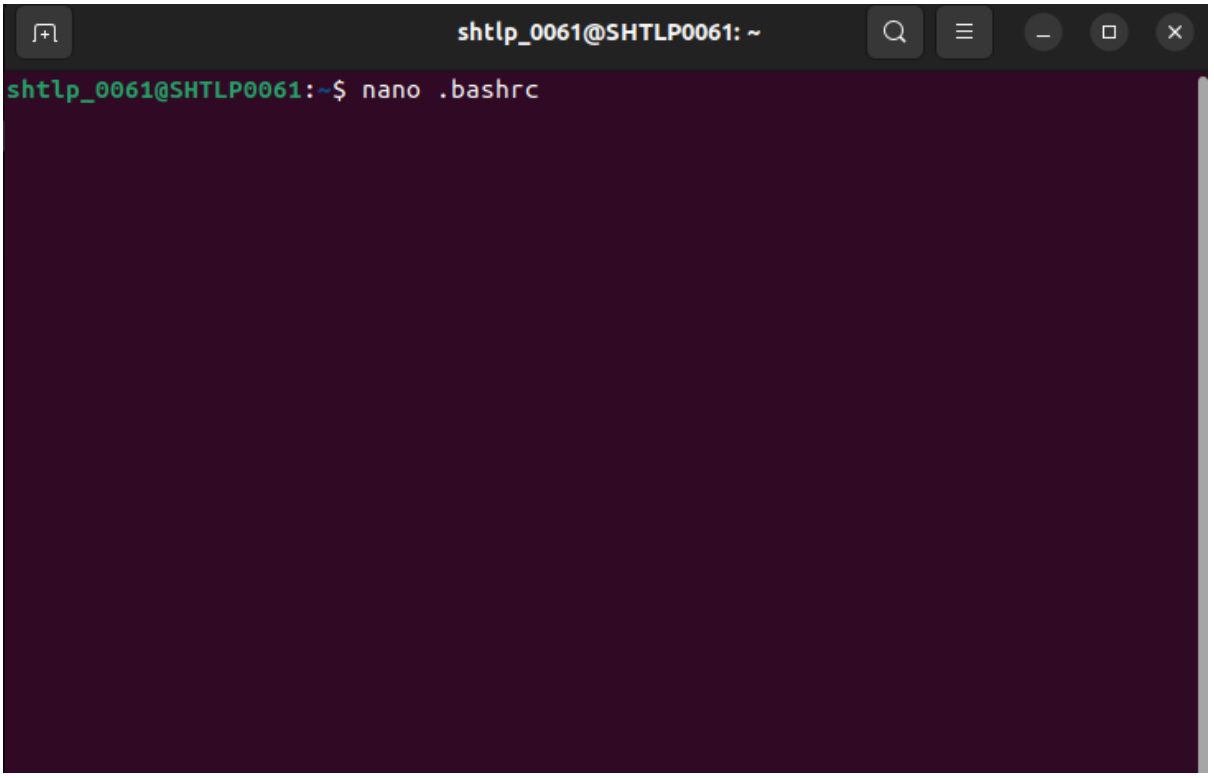
groupdel: To delete a group, you can use the groupdel command followed by the group name.

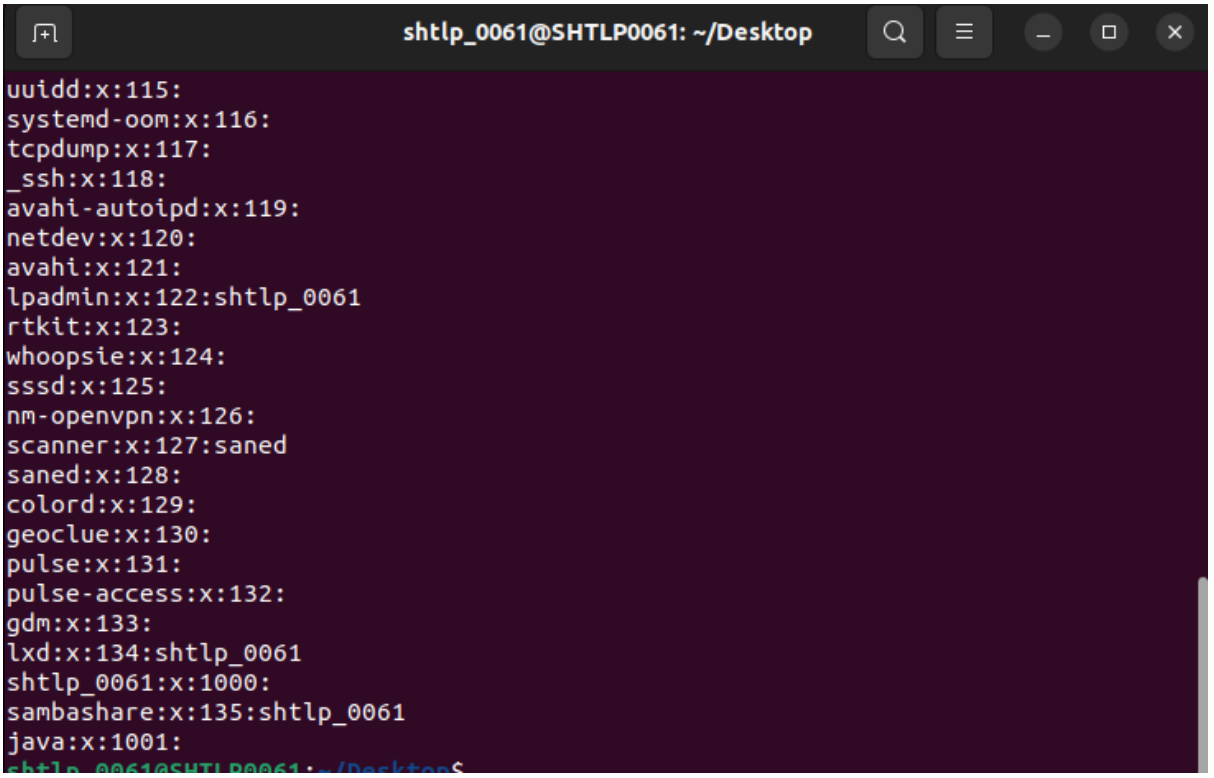

shtlp_0061@SHTLP0061: ~/Desktop
shtlp_0061@SHTLP0061:~/Desktop$ sudo groupdel java
shtlp_0061@SHTLP0061:~/Desktop$ cat /etc/group
root:x:0:
daemon:x:1:
bin:x:2:
sys:x:3:
adm:x:4:syslog,shtlp_0061
tty:x:5:
disk:x:6:
lp:x:7:
mail:x:8:
news:x:9:
uucp:x:10:
man:x:12:
proxy:x:13:
kmem:x:15:
dialout:x:20:
fax:x:21:
voice:x:22:
cdrom:x:24:shtlp_0061
floppy:x:25:
tape:x:26:
sudo:x:27:shtlp_0061


shtlp_0061@SHTLP0061: ~/Desktop
ssl-cert:x:114:
uuidd:x:115:
systemd-oom:x:116:
tcpdump:x:117:
_ssh:x:118:
avahi-autoipd:x:119:
netdev:x:120:
avahi:x:121:
lpadmin:x:122:shtlp_0061
rtkit:x:123:
whoopsie:x:124:
sssd:x:125:
nm-openvpn:x:126:
scanner:x:127:saned
saned:x:128:
colord:x:129:
geoclue:x:130:
pulse:x:131:
pulse-access:x:132:
gdm:x:133:
lxd:x:134:shtlp_0061
shtlp_0061:x:1000:
sambashare:x:135:shtlp_0061

25) .bashrc file:







26) Viewing resources:

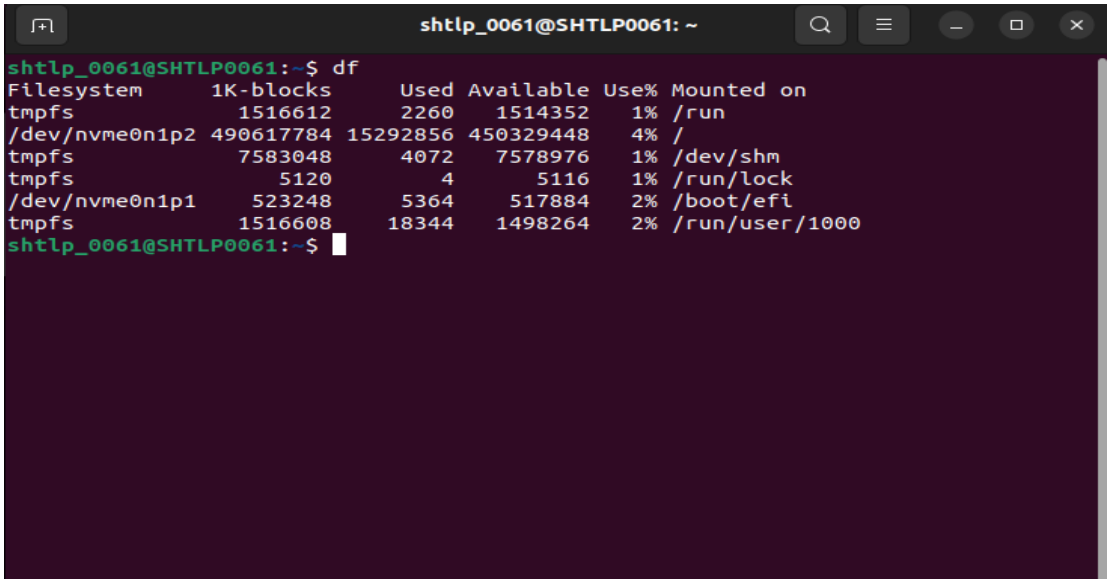
Here are some common commands in Linux for viewing system resources:

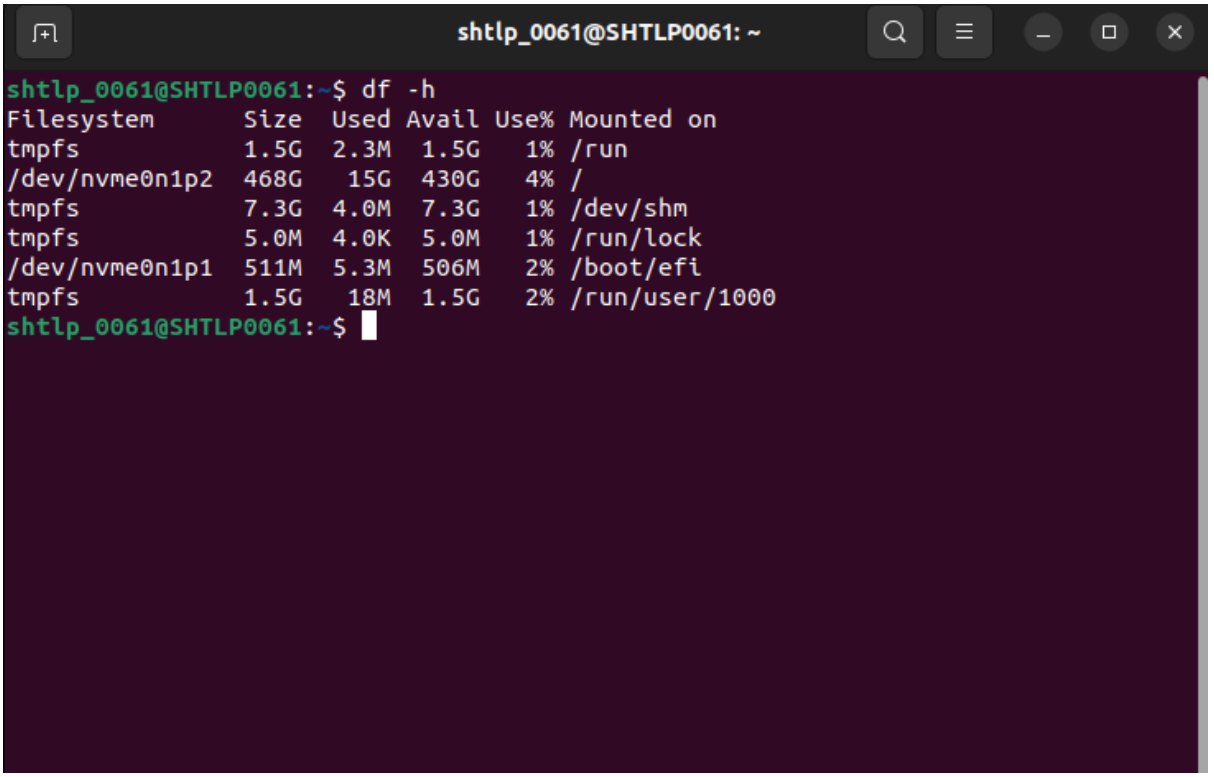
df: It provides information on total, used, and available space.

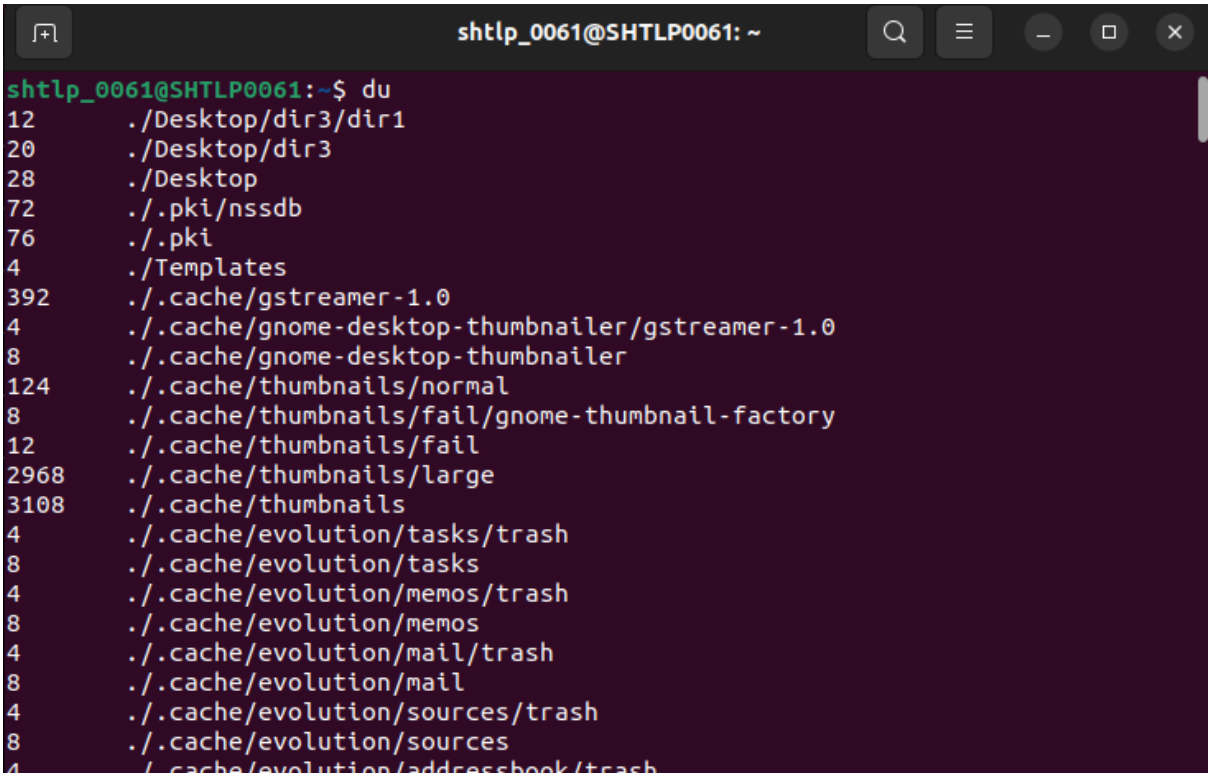
df -h (h: human readable)

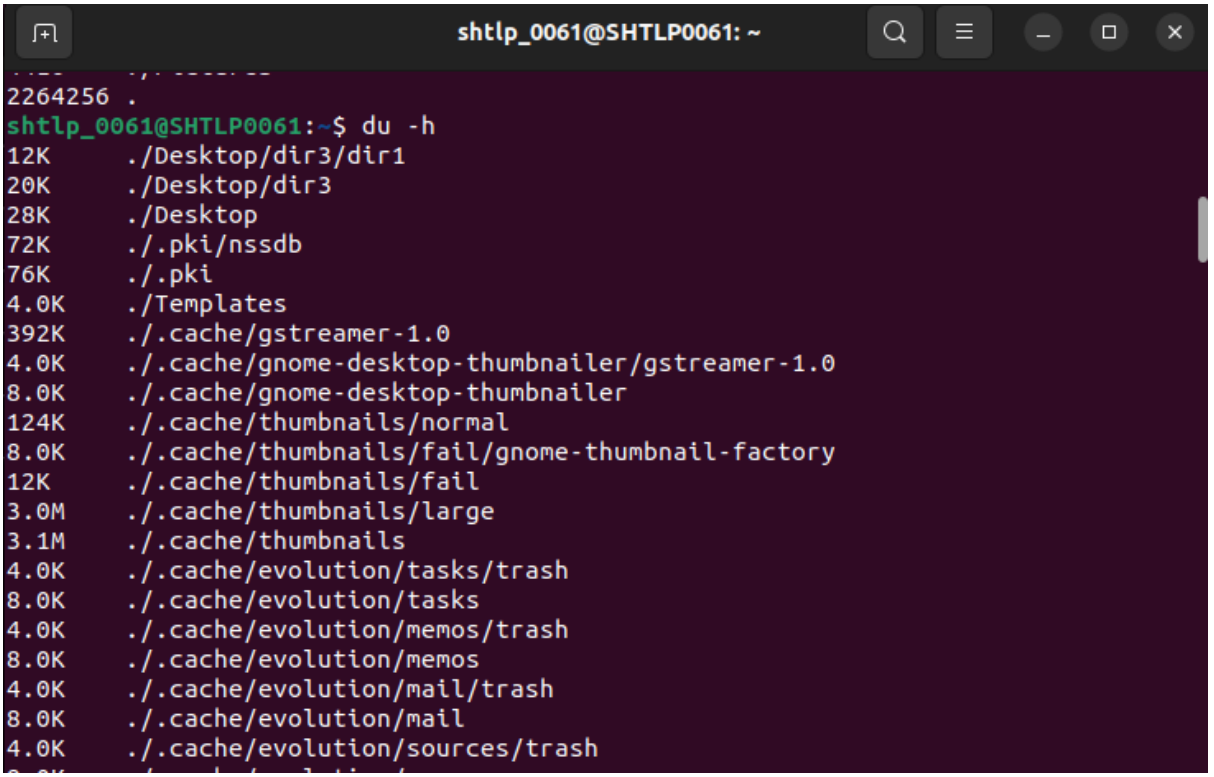
du: estimates disk usage for files and directories. It can be used to find the size of specific directories or files.

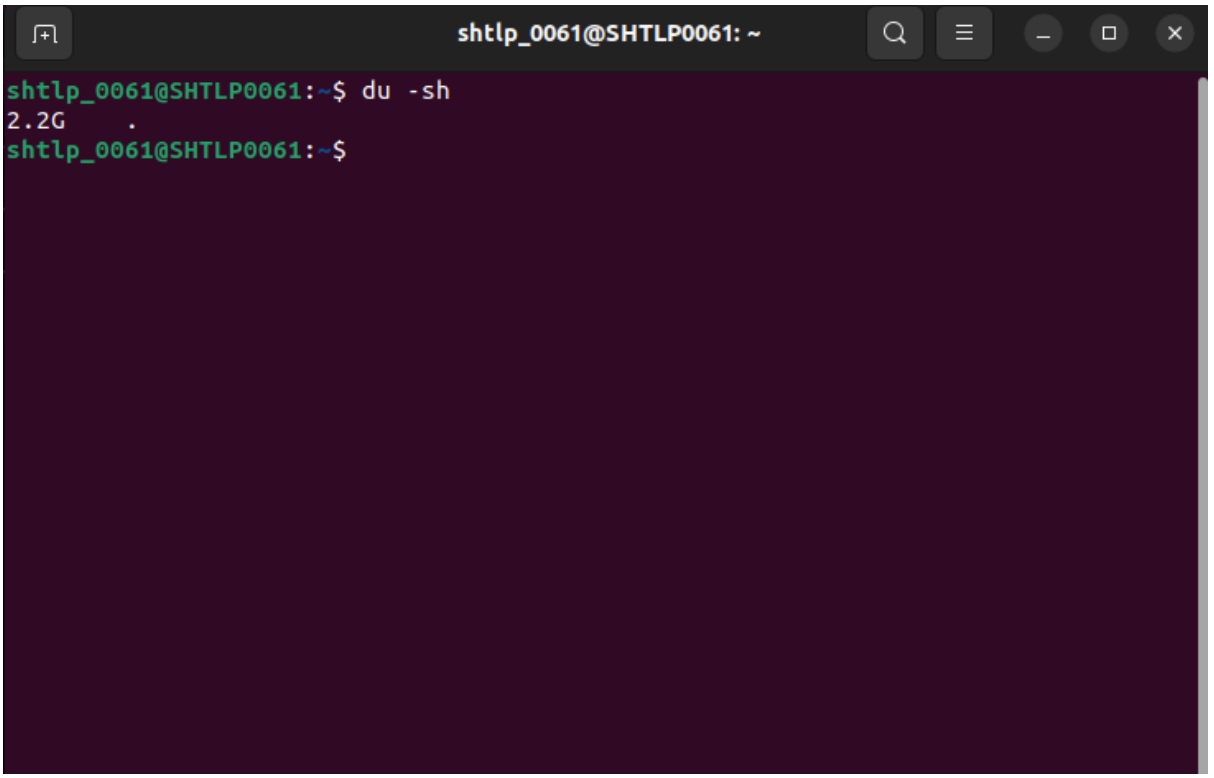
du -sh (s: summary h: human readable)




shtlp_0061@SHTLP0061: ~
shtlp_0061@SHTLP0061:~$ df -h
Filesystem Size Used Avail Use% Mounted on
tmpfs 1.5G 2.3M 1.5G 1% /run
/dev/nvme0n1p2 468G 15G 430G 4% /
tmpfs 7.3G 4.0M 7.3G 1% /dev/shm
tmpfs 5.0M 4.0K 5.0M 1% /run/lock
/dev/nvme0n1p1 511M 5.3M 506M 2% /boot/efi
tmpfs 1.5G 18M 1.5G 2% /run/user/1000
shtlp_0061@SHTLP0061:~$

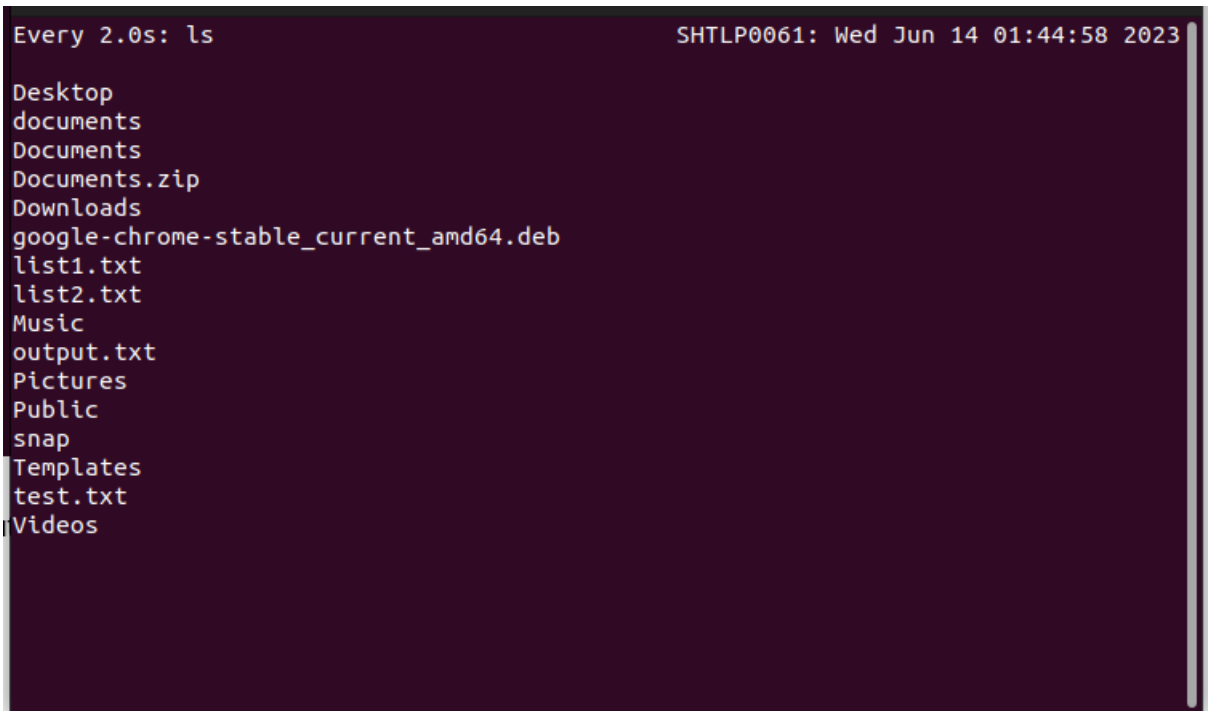

shtlp_0061@SHTLP0061: ~
shtlp_0061@SHTLP0061:~$ du
12 ./Desktop/dir3/dir1
20 ./Desktop/dir3
28 ./Desktop
72 ./.pki/nssdb
76 ./.pki
4 ./Templates
392 ./.cache/gstreamer-1.0
4 ./.cache/gnome-desktop-thumbnailer/gstreamer-1.0
8 ./.cache/gnome-desktop-thumbnailer
124 ./.cache/thumbnails/normal
8 ./.cache/thumbnails/fail/gnome-thumbnail-factory
12 ./.cache/thumbnails/fail
2968 ./.cache/thumbnails/large
3108 ./.cache/thumbnails
4 ./.cache/evolution/tasks/trash
8 ./.cache/evolution/tasks
4 ./.cache/evolution/memos/trash
8 ./.cache/evolution/memos
4 ./.cache/evolution/mail/trash
8 ./.cache/evolution/mail
4 ./.cache/evolution/sources/trash
8 ./.cache/evolution/sources





27) watch: It allows you to monitor the continuous output of a command without having to rerun it manually.

Syntax: watch [options] command



28) Head and tail: used to display the beginning or end of a file or a stream of text.

Head: it displays the first few lines of a file or input stream. By default, it shows the first 10 lines, but you can specify a different number.
Syntax: head options filename

head -n 3 file.txt (shows first 3 lines)

Tail: it displays the last few lines of a file or input stream. By default, it shows the last 10 lines, but you can change that.
Syntax: tail option filename
tail -n 5 file.txt (shows last 5 lines)

29) find : used to search for files and directories in a directory hierarchy.

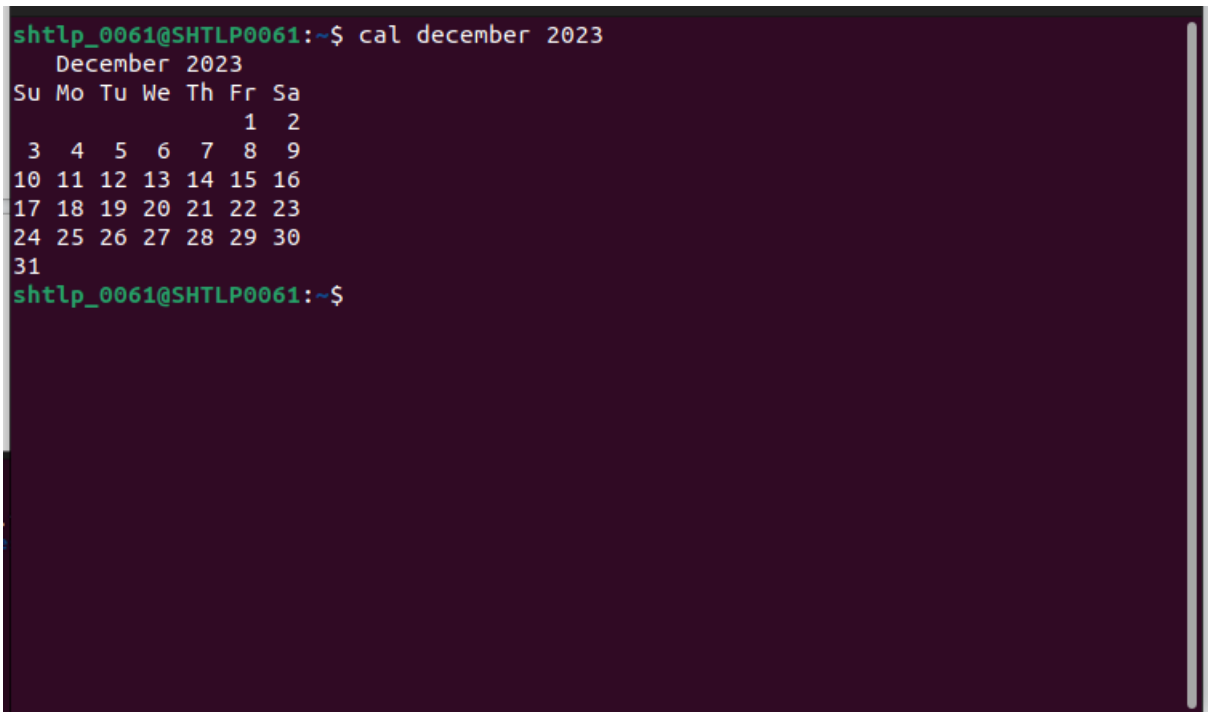
Example: find /path/to/search -name "filename"

30) wc: used to count the number of lines, words, and characters in a file or input stream.

Syntax: wc options filename

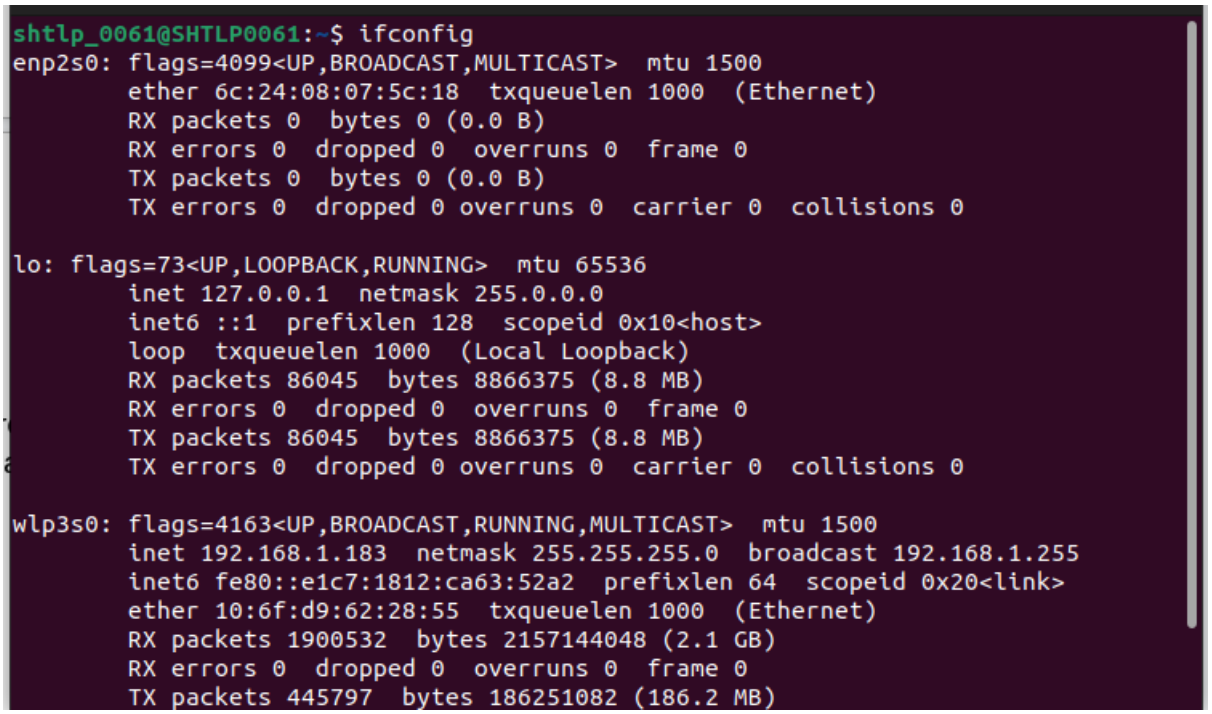
31) cal: used to display a calendar in the terminal.

Syntax: cal options month year



32) date: it displays or sets the system date and time.
Syntax : date options

33) ifconfig: It allows you to view and modify the IP addresses, netmasks, broadcast addresses, and other network-related parameters of your network interfaces.
Syntax: ifconfig interfaces options



34) tar: for archiving multiple files and directories into a single archive file.

35) grep: It allows you to search for specific strings or patterns within files or output streams and display the matching lines.

grep "example" file.txt: Searches for the word "example" in the file.txt

36) netstat: display various network-related information, such as active network connections, listening ports, routing tables, and network interface statistics.

Syntax: netstat options

```
shtlp_0061@SHTLP0061:~$ netstat
Active Internet connections (w/o servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp        0      0 SHTLP0061:52836         del11s22-in-f14.1:https ESTABLISHED
tcp        0      0 SHTLP0061:41208         del12s01-in-f13.1:https TIME_WAIT
tcp        0      0 SHTLP0061:60752         55.65.117.34.bc.g:https ESTABLISHED
tcp        0      0 SHTLP0061:56214         52.114.40.54:https      ESTABLISHED
tcp        0      0 SHTLP0061:50726         239.237.117.34.bc:https ESTABLISHED
tcp        0      0 SHTLP0061:35588         ec2-35-174-127-31:https ESTABLISHED
tcp        0      0 SHTLP0061:47740         52.123.178.18:https     ESTABLISHED
tcp        0      0 SHTLP0061:47440         del11s08-in-f10.1:https ESTABLISHED
tcp        0      0 SHTLP0061:49390         del11s16-in-f14.1:https ESTABLISHED
tcp        0      0 SHTLP0061:39472         52.114.36.188:https     ESTABLISHED
tcp        0      0 SHTLP0061:35592         ec2-35-174-127-31:https ESTABLISHED
tcp        0      0 SHTLP0061:53662         52.114.15.120:https     ESTABLISHED
tcp        0      0 SHTLP0061:54956         52.113.194.132:https    ESTABLISHED
tcp        0      0 SHTLP0061:57546         del11s06-in-f14.1:https ESTABLISHED
tcp        0      0 SHTLP0061:41210         del12s01-in-f13.1:https TIME_WAIT
tcp        0      0 SHTLP0061:44718         52.123.170.27:https     ESTABLISHED
udp        0      0 localhost:47711         localhost:domain        ESTABLISHED
udp        0      0 SHTLP0061:bootpc        _gateway:bootps         ESTABLISHED
udp        0      0 SHTLP0061:34303         _gateway:domain         ESTABLISHED
udp        0      0 localhost:34882         localhost:domain        ESTABLISHED
udp        0      0 SHTLP0061:35749         _gateway:domain         ESTABLISHED
```

```
unix  2      [ ]         DGRAM                    39286    /run/user/1000/systemd
/notify
unix  4      [ ]         DGRAM      CONNECTED     25282    /run/systemd/notify
unix  2      [ ]         DGRAM                    25298    /run/systemd/journal/s
yslog
unix  20     [ ]         DGRAM      CONNECTED     25307    /run/systemd/journal/d
ev-log
unix  9      [ ]         DGRAM      CONNECTED     25309    /run/systemd/journal/s
ocket
unix  2      [ ]         DGRAM                    515431   /run/wpa_supplicant/wl
p3s0
unix  3      [ ]         SEQPACKET  CONNECTED     42372    @00008
unix  3      [ ]         SEQPACKET  CONNECTED     42374    @00009
unix  3      [ ]         STREAM     CONNECTED     40403    /run/user/1000/bus
unix  2      [ ]         STREAM     CONNECTED     23004
unix  3      [ ]         STREAM     CONNECTED     27578
unix  3      [ ]         STREAM     CONNECTED     22933
unix  2      [ ]         DGRAM      CONNECTED     22917
unix  3      [ ]         STREAM     CONNECTED     644200   /run/user/1000/bus
unix  3      [ ]         STREAM     CONNECTED     586983
unix  3      [ ]         STREAM     CONNECTED     36767
unix  3      [ ]         STREAM     CONNECTED     44114    /run/user/1000/at-spi/
bus
unix  3      [ ]         STREAM     CONNECTED     28228    /run/dbus/system_bus_s
```