

LINUX COMMANDS

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Roll NO: 4

ECHO

- echo command is used to move some data into a file.
- If you want to add the text, “Hello, my name is John” into a file called name.txt, you would type echo Hello, my name is John>>name.txt

```
user@user-VirtualBox:~$ echo hello my name is adarsh>>sample2.txt
user@user-VirtualBox:~$ ls
Desktop    files      name.txt   Public     sample.txt
Documents  halo.txt   new.txt    sample1.txt Templates
Downloads  Music      Pictures   sample2.txt Videos
user@user-VirtualBox:~$ SS
```

HEAD

The head command is used to view the first lines of any text file.

- By default, it will show the first ten lines, but you can change this number to your liking.
- If you only want to show the first five lines, type
- head -n 5 filename.txt

```
user@user-VirtualBox:~$ cat halo.txt
haloo
adarsh
user@user-VirtualBox:~$ head -n 1 halo.txt
haloo
user@user-VirtualBox:~$
```

TAIL

This one has a similar function to the head command, but instead of showing the first lines, the tail command will display the last ten lines of a text file.

- tail -n 5 filename.txt

```
user@user-VirtualBox:~$ cat halo.txt
haloo
adarsh
user@user-VirtualBox:~$ tail -n 1 halo.txt
adarsh
user@user-VirtualBox:~$
```

READ

Read the contents of a line into a variable.

- The read command can be used with and without arguments.
- Read command is used to read [options] [name...]
- \$read
- \$read var1 var2 var3
- \$echo "\$var1" "\$var2" "\$var3" “

```
user@user-VirtualBox:~$ read firstname
adarsh
user@user-VirtualBox:~$ read lastname
V
user@user-VirtualBox:~$ echo $firstname $lastname;
adarsh V
user@user-VirtualBox:~$
```

MORE

Like cat command, more command displays the content of a file. Only difference is that, in case of larger files, 'cat' command output will scroll off your screen while 'more' command displays output one screenful at a time.

- Enter key: To scroll down page line by line.
- Space bar: To go to next page
- b key: To go to the backward page
- / key: Lets you search the string
- Syntax: more <file name>
- more /etc/passwd

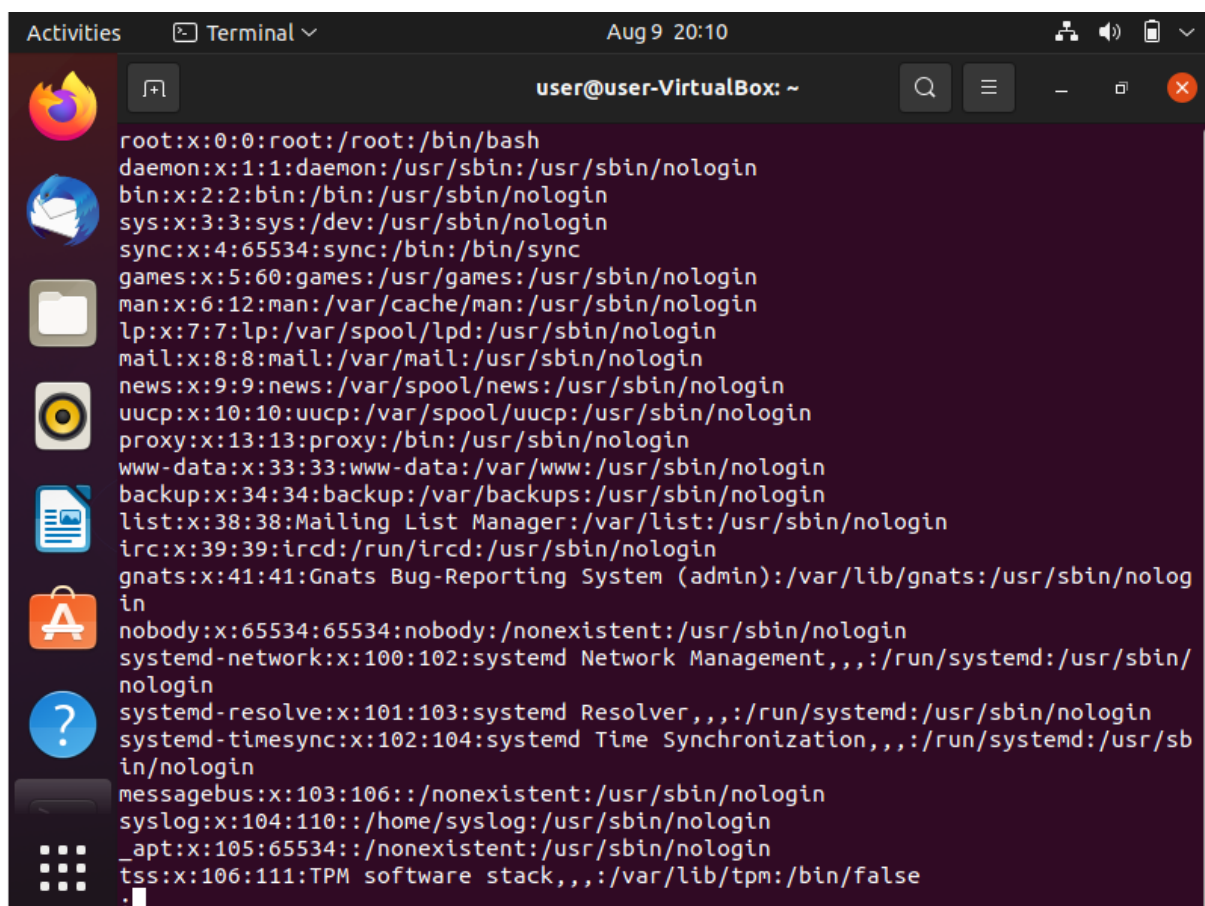
```
user@user-VirtualBox:~$ more /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nolog
in
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/
nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sb
in/nologin
messagebus:x:103:106::/nonexistent:/usr/sbin/nologin
syslog:x:104:110::/home/syslog:/usr/sbin/nologin
```

LESS

The 'less' command is same as 'more' command but include some more features. It automatically adjusts with the width and height of the terminal window, while 'more' command cuts the content as the width of the terminal window get shorter

- less <file name>
- less etc/passwd.

```
user@user-VirtualBox:~$ less /etc/passwd
[1]+  Stopped                  less /etc/passwd
user@user-VirtualBox:~$
```



```
user@user-VirtualBox: ~
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:103:106::/nonexistent:/usr/sbin/nologin
syslog:x:104:110::/home/syslog:/usr/sbin/nologin
_apt:x:105:65534::/nonexistent:/usr/sbin/nologin
tss:x:106:111:TPM software stack,,,:/var/lib/tpm:/bin/false
```

CUT

The cut command is used for cutting out the sections from each line of files and writing the result to standard output. It can be used to cut parts of a line by byte position, character and field.

- cut OPTION ... [FILE]...
- \$cut -b 1, 2, 3 state.txt

```
user@user-VirtualBox:~$ cut -b 1,2,3 name.txt
my
my
user@user-VirtualBox:~$
```

PASTE

It is used to join files horizontally (parallel merging) by outputting lines consisting of lines from each file specified, separated by tab as delimiter, to the standard output.

- paste [OPTION] ... [FILES] ...
- \$paste state.txt capital.txt

```
user@user-VirtualBox:~$ paste halo.txt new.txt
haloo
adarsh
user@user-VirtualBox:~$
```

UNAME

The `uname` command, short for Unix Name, will print detailed information about your Linux system like the machine name, operating system, kernel, and so on.

- `$uname`
- `$uname -r`

```
user@user-VirtualBox:~$ uname
Linux
user@user-VirtualBox:~$ uname -r
5.11.0-18-generic
user@user-VirtualBox:~$
```

CP

`cp` command is used to copy files from the current directory to a different directory. For instance, the command `cp scenery.jpg/home/username/Pictures` would create a copy of `scenery.jpg` (from your current directory) into the `Pictures` directory.

- `cp -i` will ask for user's consent in case of a potential file overwrite
- `cp -p` will preserve source files' mode, ownership and timestamp
- `cp -r` will copy directories recursively
- `cp -u` copies files only if the destination file is not existing or the source file is newer than the destination file

```
user@user-VirtualBox:~$ cp name.txt Pictures
user@user-VirtualBox:~$ ls
Desktop  Downloads  halo.txt  name.txt  Pictures  sample.txt  Videos
Documents  files      Music    new.txt   Public    Templates
user@user-VirtualBox:~$ cd Pictures
user@user-VirtualBox:~/Pictures$ ls
name.txt
user@user-VirtualBox:~/Pictures$
```

MV

The primary use of the mv command is to move files, it can also be used to rename files. The arguments in mv are similar to the cp command. You need to type mv, the file's name, and the destination's directory.

- mv file.txt /home/username/Documents
- To rename files, the Linux is mv oldname.txt newname.ext

```
user@user-VirtualBox:~$ ls
Desktop  Downloads  halo.txt  Pictures  Templates
Documents file.txt   Music    Public    Videos
user@user-VirtualBox:~$ mv file.txt Public
user@user-VirtualBox:~$ cd Public
user@user-VirtualBox:~/Public$ ls
adarsh  file.txt  Music
user@user-VirtualBox:~/Public$
```

LOCATE

To locate a file, just like the search command in Windows. What's more, using the -i argument along with this command will make it case-insensitive, so you can search for a file even if you don't remember its exact name. To search for a file that contains two or more words, use an asterisk (*). For example, locate -i school*note command will search for any file that contains the word "school" and "note" whether it is uppercase or lowercase.

```
user@user-VirtualBox:~$ locate file.txt
Command 'locate' not found, but can be installed with:
sudo apt install mlocate # version 0.26-5ubuntu1, or
sudo apt install plocate # version 1.1.7-1
user@user-VirtualBox:~$
```


FIND

Similar to the locate command, using find also searches for files and directories. The difference is, you use the find command to locate files within a given directory.

As an example, find / name notes.txt command will search for a file called notes.txt within the home directory and its subdirectories. Other variations when using the find are:

- To find files in the current directory use, find name notes.txt
- To look for directories use, type d name notes.txt

```
user@user-VirtualBox:~$ find halo.txt
halo.txt
user@user-VirtualBox:~$
```

GREP

Another basic Linux command that is undoubtedly helpful for everyday use is grep. It lets you search through all the text in a given file.

To illustrate, grep blue notepad.txt will search for the word blue in the notepad file. Lines that contain the searched word will be displayed fully. Usually output of a previous command is piped into the grep command. For example ls -l | grep "kernel".

```
user@user-VirtualBox:~$ ls
Desktop  Downloads  Music      Public      Templates
Documents halo.txt   Pictures   sample.txt  Videos
user@user-VirtualBox:~$ cat sample.txt
Halo how are you
user@user-VirtualBox:~$ grep Halo sample.txt
Halo how are you
user@user-VirtualBox:~$
```

DF

Use df command to get a report on the system's disk space usage, shown in percentage and KBs. If you want to see the report in megabytes, type df -m.

```
user@user-VirtualBox:~$ df
Filesystem      1K-blocks    Used Available Use% Mounted on
tmpfs           402160      1344    400816   1% /run
/dev/sda3       20038480 8114952  10882584  43% /
tmpfs           2010796        0    2010796   0% /dev/shm
tmpfs           5120         4      5116   1% /run/lock
tmpfs           4096         0      4096   0% /sys/fs/cgroup
/dev/sda2       524252     5340    518912   2% /boot/efi
tmpfs           402156     116    402040   1% /run/user/1000
user@user-VirtualBox:~$
```

DS

If you want to check how much space a file or a directory takes, the du (Disk Usage) command is the answer. However, the disk usage summary will show disk block numbers instead of the usual size format.

- ❖ If you want to see it in bytes, kilobytes, and megabytes, add the -h argument to the command line. \$du -h

```
user@user-VirtualBox:~$ du -h
4.0K    ./Public/adarsh
16K     ./Public
4.0K    ./Downloads
4.0K    ./ssh
8.0K    ./config/dconf
4.0K    ./config/nautilus
84K     ./config/pulse
8.0K    ./config/gtk-3.0
4.0K    ./config/enchant
16K     ./config/evolution/sources
20K     ./config/evolution
4.0K    ./config/update-notifier
16K     ./config/ibus/bus
20K     ./config/ibus
4.0K    ./config/gnome-session/saved-session
8.0K    ./config/gnome-session
8.0K    ./config/gedit
4.0K    ./config/goa-1.0
188K    ./config
4.0K    ./Templates
4.0K    ./Music
4.0K    ./Desktop
4.0K    ./local/share/ibus-table
4.0K    ./local/share/nautilus/scripts
8.0K    ./local/share/nautilus
8.0K    ./local/share/gnome-shell
4.0K    ./local/share/flatpak/db
```

USERADD

This is available only to system admins. Since Linux is a multi-user system, this means more than one person can interact with the same system at the same time.

useradd is used to create a new user, while passwd is adding a password to that user's

account To add a new person named John type, useradd John and then to add his password type, passwd 123456789

```
user@user-VirtualBox:~$ sudo useradd adarsh
useradd: user 'adarsh' already exists
user@user-VirtualBox:~$
```

USERDEL

Remove a user is very similar to adding a new user To delete the users account type,

userdel UserName

```
user@user-VirtualBox:~$ sudo userdel adarsh
user@user-VirtualBox:~$ sudo userdel adarsh
userdel: user 'adarsh' does not exist
user@user-VirtualBox:~$
```

SUDO

Short for “SuperUser Do”, this command enables you to perform tasks that require administrative or root permissions You must have sufficient permissions to use this command.

sudo useradd maria

```
user@user-VirtualBox:~$ sudo useradd adarsh
useradd: user 'adarsh' already exists
user@user-VirtualBox:~$
```

PASSWD

Changes passwords for user accounts

A normal user may only change the password for their own account, while the superuser may change the password for any account.

`passwd[option] [username]`

`passwd`

`passwd user 1`

```
user@user-VirtualBox:~$ sudo useradd adarsh
user@user-VirtualBox:~$ passwd adarsh
passwd: You may not view or modify password information for adarsh.
user@user-VirtualBox:~$ sudo passwd adarsh
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
Sorry, passwords do not match.
New password:
BAD PASSWORD: The password fails the dictionary check - it is too simplistic/sy
stematic
Retype new password:
passwd: password updated successfully
user@user-VirtualBox:~$
```