

Networking and System Administration Lab

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1.echo

- To move some data into a file.
- To add a text.

```
ashtami@ashtami-VirtualBox:~$ echo basic linux commands part 2 >>file2.txt
ashtami@ashtami-VirtualBox:~$ cat file2.txt
basic linux commands part 2
ashtami@ashtami-VirtualBox:~$
```

2.head

- used to view the first lines of any text file.
- default it shows 10 lines.

```
ashtami@ashtami-VirtualBox:~$ head -n 1 /etc/passwd
root:x:0:0:root:/root:/bin/bash
ashtami@ashtami-VirtualBox:~$
```

3.tail

- will display the last ten lines of a text files.

```
ashtami@ashtami-VirtualBox:~$ tail /etc/passwd
nm-openvpn:x:118:124:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
hplip:x:119:7:HPLIP system user,,,:/run/hplip:/bin/false
whoopsie:x:120:125::/nonexistent:/bin/false
colord:x:121:126:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin
geoclue:x:122:127::/var/lib/geoclue:/usr/sbin/nologin
pulse:x:123:128:PulseAudio daemon,,,:/var/run/pulse:/usr/sbin/nologin
gnome-initial-setup:x:124:65534::/run/gnome-initial-setup:/bin/false
gdm:x:125:130:Gnome Display Manager:/var/lib/gdm3:/bin/false
ashtami:x:1000:1000:Ashtami Prasad,,,:/home/ashtami:/bin/bash
systemd-coredump:x:999:999:systemd Core Dumper:/:/usr/sbin/nologin
```

4.read

- read the contents of a line into a variable

```
ashtami@ashtami-VirtualBox:~$ read v1 v2 v3
hello dorA caps
ashtami@ashtami-VirtualBox:~$ echo "[$v1] [$v2] [$v3]"
[hello] [dorA] [caps]
```

5.more

- displays content of the 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 : to search string

```
ashtami@ashtami-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:/var/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
```

6.less

- Automatically adjust with the width and height of terminal window

```

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:/var/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
--More-- (48%)

```

7.cut

- used for cutting out the section from each lines of files and writing the standard output.
- It can be used to cut parts of a line by byte position character and field

```

ashtami@ashtami-VirtualBox:~$ cut -b 1,2,3,4 file2.txt
basi

```

8.paste

- used to join files horizontally by outputting lines consisting of lines from each file specified, separated by tab as delimiter, to the standard output.

```

ashtami@ashtami-VirtualBox:~$ paste file2.txt q1.txt
basic linux commands part 2      paste: q1.txt: Is a directory

```

9. uname

- will print detailed information about your linux system like machine name,operatingsystem,kernel etc..

```
ashtami@ashtami-VirtualBox:~$ uname
Linux
ashtami@ashtami-VirtualBox:~$ uname -r
5.8.0-43-generic
ashtami@ashtami-VirtualBox:~$ uname -a
Linux ashtami-VirtualBox 5.8.0-43-generic #49~20.04.1-Ubuntu
7:56 UTC 2021 x86_64 x86_64 x86_64 GNU/Linux
ashtami@ashtami-VirtualBox:~$ uname -s
Linux
ashtami@ashtami-VirtualBox:~$ uname -v
#49~20.04.1-Ubuntu SMP Fri Feb 5 09:57:56 UTC 2021
ashtami@ashtami-VirtualBox:~$ uname -i
x86_64
ashtami@ashtami-VirtualBox:~$ uname -n
ashtami-VirtualBox
ashtami@ashtami-VirtualBox:~$
```

10. cp

- used to copy files from the current directory to a different directory
- cp -i(will ask for user's consent in case of a potential file overwrite.)
- cp -p (will preserve source file mode, ownership and time stamp)
- 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)

```
ashtami@ashtami-VirtualBox:~$ cp -r file2.txt /rmca
```

11. mv

- to move files
- rename files

```
ashtami@ashtami-VirtualBox:~$ mv file2.txt /mca1
```

12. locate

- to find a file
- locate -i filename (make it case insensitive you can search file if you don't remember its exact name)

- * (to search for a file that contains two or more words)

```
ashtami@ashtami-VirtualBox:~$ locate -i where
```

13. find

- To search for files or directories
- Find. -name filename (to find files in the current directory)

```
ashtami@ashtami-VirtualBox:~$ find file2.txt
file2.txt
```

14. grep

- Search through all the text in a given file

```
ashtami@ashtami-VirtualBox:~$ grep 'hello' file2.txt
ashtami@ashtami-VirtualBox:~$ grep boo /etc/passwd
ashtami@ashtami-VirtualBox:~$ grep /etc/passwd q1.txt
grep: q1.txt: Is a directory
```

15. df

- To get report on the system's disk space usage shows in percentage and kbs.

```
ashtami@ashtami-VirtualBox:~$ df -m
Filesystem      1M-blocks  Used Available Use% Mounted on
udev             504        0         504   0% /dev
tmpfs            107         2         106   2% /run
/dev/sda5        9509    5623      3385  63% /
tmpfs            533         0         533   0% /dev/shm
tmpfs             5          1          5   1% /run/lock
tmpfs            533         0         533   0% /sys/fs/cgroup
/dev/loop0        52         52          0 100% /snap/snap-store/518
/dev/loop1        65         65          0 100% /snap/gtk-common-themes/1514
/dev/loop3       219        219          0 100% /snap/gnome-3-34-1804/66
/dev/loop4        32         32          0 100% /snap/snapd/11036
/dev/loop2        56         56          0 100% /snap/core18/1988
/dev/sda1         511         1         511   1% /boot/efi
tmpfs            107         1         107   1% /run/user/1000
```

16. du

- to check how many space a file or directory takes.

```
ashtami@ashtami-VirtualBox:~$ du -h
4.0K    ./q1.txt/Ashtami
8.0K    ./q1.txt
4.0K    ./ssh
4.0K    ~/.config/gnome-session/saved-session
8.0K    ~/.config/gnome-session
4.0K    ~/.config/goa-1.0
```

17. useradd

- available only for system admins.
- To create new user

```
ashtami@ashtami-VirtualBox:~$ useradd ashtami
ashtami@ashtami-VirtualBox:~$ passwd ashtami
Changing password for ashtami.
Current password: 
```

18. userdel

- remove user or delete user account

```
ashtami@ashtami-VirtualBox:~$ userdel ashtami
userdel: user ashtami is currently used by process 686
```

19. sudo

- SuperUserDo ,enables you to perform tasks that require administrative or root permissions.

```
ashtami@ashtami-VirtualBox:~$ sudo userdel dharani
[sudo] password for ashtami:
```

20. passwd

- to change passwords for user account.

```
ashtami@ashtami-VirtualBox:~$ passwd ashtami
```

