Basic linux command

FIRST CREATE A VM SNAPSHOT
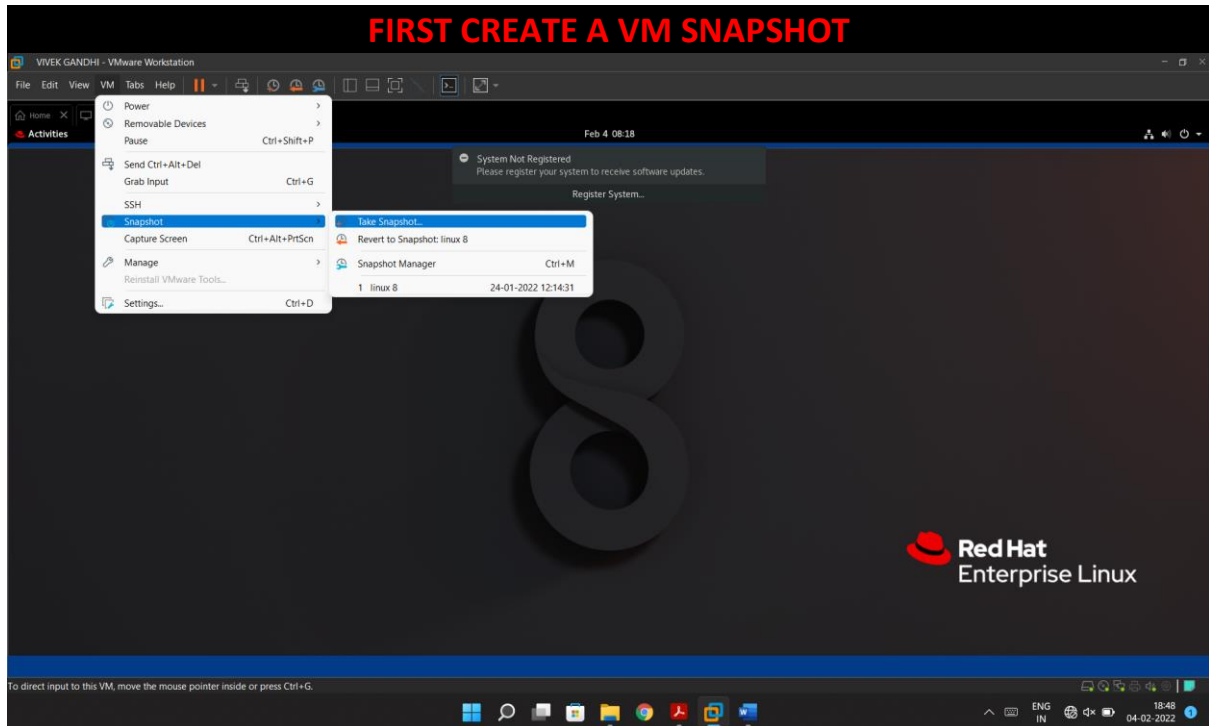
CLICK TAKE SNAPSHOT OPTION

VIVEK GANDHI – Take Snapshot

Taking a snapshot lets you preserve the state of the virtual machine so that you can return to the same state later.

Name: Snapshot 2

Description:

Take Snapshot   Cancel
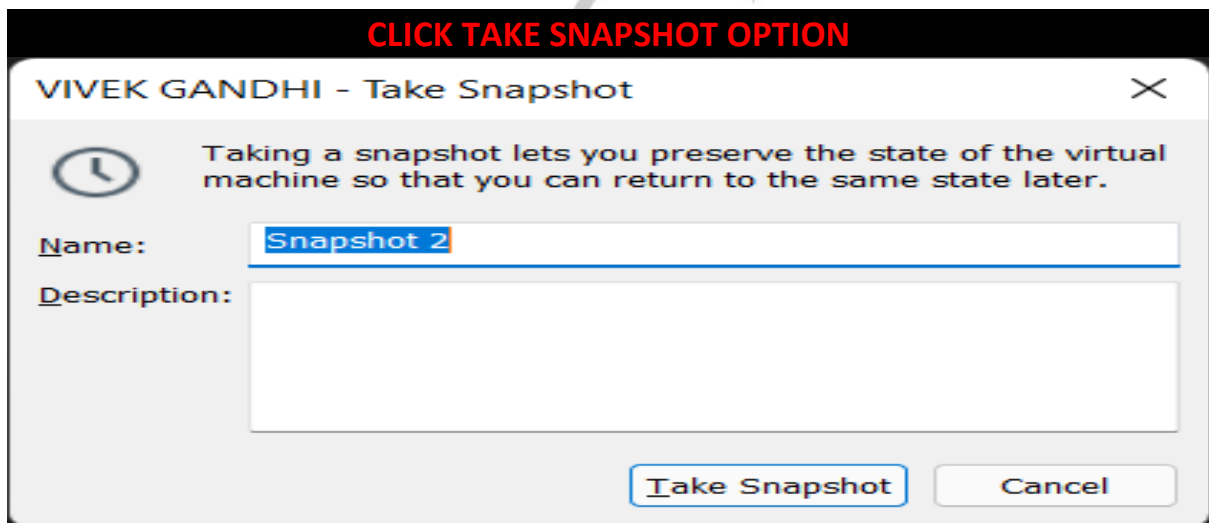
HOW TO CONNECT TO ROOT USER COMMAND

Activities   Terminal

File Edit View Search Terminal Help

```
[vgandhi@localhost ~]$ su
Password:
[root@localhost vgandhi]#
```
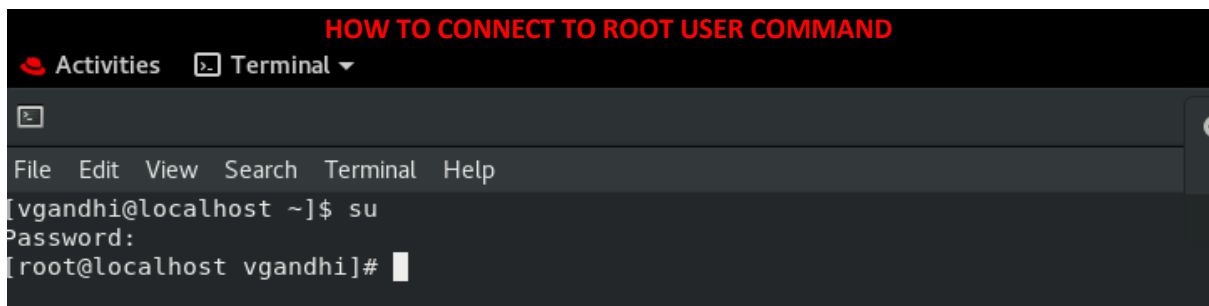
Basic linux command

Printing Working Directory - pwd

```
Password:
[root@localhost vgandhi]# pwd
/home/vgandhi
[root@localhost vgandhi]#
```

- The **pwd** (print working directory) command displays a user's current location in the directory tree.

Changing Directories - cd

```
[root@localhost ~]# cd ~
[root@localhost ~]# cd
[root@localhost ~]# cd /bin
[root@localhost bin]# cd ..
[root@localhost /]# cd ~
[root@localhost ~]# cd -
/
[root@localhost /]#
```

- The **cd** (change directory) command is used to navigate the directory tree.
- To change directory to -> **cd space /directory/files**
- Back directory command -> **cd space ..**
- To go back to the home directory -> **cd space ~**
- To switch between current and previous directories -> **cd space –**

To List content of file and directories:

```
[root@localhost /]# ls
bin  boot  dev  etc  home  lib  lib64  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var  vivek
[root@localhost /]# ls -a
.  ..  bin  boot  dev  etc  home  lib  lib64  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var  vivek
[root@localhost /]# ls -lh
total 24K
lrwxrwxrwx.   1 root root    7 Aug 12  2018 bin -> usr/bin
dr-xr-xr-x.   5 root root 4.0K Jan 20 06:47 boot
drwxr-xr-x.  20 root root 3.2K Feb  4 08:16 dev
drwxr-xr-x. 139 root root 8.0K Feb  4 08:16 etc
drwxr-xr-x.   3 root root   90 Feb  1 21:41 home
lrwxrwxrwx.   1 root root    7 Aug 12  2018 lib -> usr/lib
lrwxrwxrwx.   1 root root    9 Aug 12  2018 lib64 -> usr/lib64
drwxr-xr-x.   2 root root    6 Aug 12  2018 media
drwxr-xr-x.   3 root root   18 Jan 20 06:39 mnt
drwxr-xr-x.   2 root root    6 Aug 12  2018 opt
dr-xr-xr-x. 336 root root    0 Feb  4 08:16 proc
dr-xr-x---.   5 root root  251 Feb  3 08:19 root
drwxr-xr-x.  42 root root 1.2K Feb  4 08:17 run
lrwxrwxrwx.   1 root root    8 Aug 12  2018 sbin -> usr/sbin
drwxr-xr-x.   2 root root    6 Aug 12  2018 srv
dr-xr-xr-x.  13 root root    0 Feb  4 08:16 sys
drwxrwxrwt.  37 root root 4.0K Feb  4 08:41 tmp
drwxr-xr-x.  12 root root  144 Jan 20 06:34 usr
drwxr-xr-x.  21 root root 4.0K Jan 20 06:46 var
drwxr-xr-x.   2 root root    6 Feb  3 07:39 vivek
```

- **ls** -> list of files
- **ls –a ->** Lists hidden files also. If a file or directory name starts with a dot, it is considered hidden.
- **ls –lh-> Displays** long listing with file sizes in human readable format.
- ls **–l->** Displays long listing with detailed file information including the file type, permissions, link count, owner, group, size, date and time of last modification, name of the file.
- ls **–ld ->** Displays long listing of the specified directory, but hides its contents.
- **ls –R** -> Lists contents of the specified directory and all its sub-directories
- **ls -lt ->** Lists all files sorted by date and time with the newest file first.
- **ls -ltr ->** Lists all files sorted by date and time with the oldest file first.
-

Basic linux command

Listing Currently Logged-In Users

```
[root@localhost ~]# who
vgandhi  tty2          2022-02-04 08:17 (tty2)
root     pts/1         2022-02-04 09:15 (192.168.254.1)
[root@localhost ~]# who am i
root     pts/1         2022-02-04 09:15 (192.168.254.1)
[root@localhost ~]# w
 09:15:52 up 59 min,  2 users,  load average: 2.00, 0.58, 0.20
USER     TTY      FROM              LOGIN@   IDLE   JCPU   PCPU WHAT
vgandhi  tty2     tty2              08:17    59:11  31.14s 0.15s /usr/libexec/tr
root     pts/1    192.168.254.1     09:15    0.00s  0.07s  0.02s w
[root@localhost ~]# logname
root
```

System's current time

```
[root@localhost ~]# uptime
 09:15:54 up 59 min,  2 users,  load average: 2.00, 0.60, 0.21
[root@localhost ~]#
```

uname command produces basic information about the system

```
[root@localhost ~]# uname
Linux
[root@localhost ~]# uname -s
Linux
[root@localhost ~]# uname -n
localhost.localdomain
[root@localhost ~]# uname -r
4.18.0-193.el8.x86_64
[root@localhost ~]# uname -v
#1 SMP Fri Mar 27 14:35:58 UTC 2020
[root@localhost ~]# uname -m
x86_64
[root@localhost ~]# uname -p
x86_64
[root@localhost ~]# uname -i
x86_64
[root@localhost ~]# uname -o
GNU/Linux
```

- uname –s (kernel name)
- uname –n (node name)
- uname –r (kernel release)
- uname –v (kernel build date)
- uname –m (hardware name)
- uname –p (processor type)
- uname –i (hardware platform)
- uname –o (OS name)

C R E A T E D   B Y : -   V I V E K   G A N D H I

Basic linux command

Creating, Removing, Copying, Moving files & Directories

1. Creating a file in Linux Using cat command

```
[root@localhost ~]# cat > vivek
hello i am vivek gandhi
[root@localhost ~]# cat vivek
hello i am vivek gandhi
[root@localhost ~]# cat >> vivek
this is my command notes
[root@localhost ~]# cat vivek
hello i am vivek gandhi
this is my command notes
[root@localhost ~]# cat > vivek
yes i am vivek and this is overwrite data
[root@localhost ~]# cat vivek
yes i am vivek and this is overwrite data
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg  vivek
[root@localhost ~]#
```

- To create a file: - cat > filename
- To save command: - Ctrl+d (To save the file)
- To display the content of the file: - cat filename
- To add line in file: - cat >> filename
- Overwrite line: - cat > vivek
- Check folder create or not: - ls

2. Creating empty multiple files at same time using touch command

```
[root@localhost ~]# touch vivektouch1 touch2 touch3
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg  touch2  touch3  vivek  vivektouch1
[root@localhost ~]#
```

- **#touch <filename> <filename> <filename>**

3. Create directory file usinf mkdir command

```
[root@localhost ~]# mkdir -p vivekmkdir
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg  touch2  touch3  vivek  vivekmkdir  vivektouch1
```

- mkdir -p directoryname

Multi dir created

```
[root@localhost ~]# mkdir -pv {1..10}
mkdir: created directory '1'
mkdir: created directory '2'
mkdir: created directory '3'
mkdir: created directory '4'
mkdir: created directory '5'
mkdir: created directory '6'
mkdir: created directory '7'
mkdir: created directory '8'
mkdir: created directory '9'
mkdir: created directory '10'
[root@localhost ~]#
```

C R E A T E D B Y :- **V I V E K G A N D H I**

Basic linux command

Multi dir

```
[root@localhost ~]# mkdir -pv sun/mon/jan/feb
mkdir: created directory 'sun'
mkdir: created directory 'sun/mon'
mkdir: created directory 'sun/mon/jan'
mkdir: created directory 'sun/mon/jan/feb'
[root@localhost ~]#
```

Tree command

```
[root@localhost ~]# tree
.
├── anaconda-ks.cfg
├── initial-setup-ks.cfg
├── touch2
├── touch3
├── vivek
├── vivekmkdir
└── vivektouch1

1 directory, 6 files
```

Copying files into directory

```
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg  touch2  touch3  vivek  vivekmkdir  vivektouch1
[root@localhost ~]# cp vivek /test
[root@localhost ~]# cd /test
[root@localhost test]# ls
vivek
[root@localhost test]# cd ~
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg  touch2  touch3  vivek  vivekmkdir  vivektouch1
[root@localhost ~]#
```

- **#cp <source filename> <destination directory in which to paste the file>**

Copying directories from one location to other

```
[root@localhost ~]# cp vivekmkdir /test
cp: -r not specified; omitting directory 'vivekmkdir'
[root@localhost ~]# cp -rvfp vivekmkdir /test
'vivekmkdir' -> '/test/vivekmkdir'
[root@localhost ~]# cd /test
[root@localhost test]# ls
vivek  vivekmkdir
[root@localhost test]# cd ~
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg  touch2  touch3  vivek  vivekmkdir  vivektouch1
[root@localhost ~]#
```

- **# cp –rvfp <dir name> <destination name>**

Basic linux command

Moving files from one location to other (cut and Paste)

```
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg  touch2  touch3  vivek  vivekmkdir  vivektouch1
[root@localhost ~]# mv touch2 /test
[root@localhost ~]# cd ~
[root@localhost ~]# cd /test
[root@localhost test]# ls
touch2  vivek  vivekmkdir
[root@localhost test]# cd ~
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg  touch3  vivek  vivekmkdir  vivektouch1
```

- **#mv <Source dir-name> <destination dir-name>**

Renaming a File

```
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg  touch3  vivek  vivekmkdir  vivektouch1
[root@localhost ~]# mv vivek vivekchangename
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg  touch3  vivekchangename  vivekmkdir  vivektouch1
```

- **#mv <old name> <new name>**

Removing a File

```
[root@localhost ~]# rm touch3
rm: remove regular empty file 'touch3'? y
[root@localhost ~]# touch demo
[root@localhost ~]# ls
anaconda-ks.cfg  demo  initial-setup-ks.cfg  vivekchangename  vivekmkdir  vivektouch1
[root@localhost ~]# rm -f demo
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg  vivekchangename  vivekmkdir  vivektouch1
[root@localhost ~]#
```

#rm filename or #rm –f filename (without prompting)

Removing an Empty directory

```
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg  vivekchangename  vivekmkdir  vivektouch1
[root@localhost ~]# rm vivekmkdir
rm: cannot remove 'vivekmkdir': Is a directory
[root@localhost ~]# rmdir vivekmkdir
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg  vivekchangename  vivektouch1
```

- **#rmdir dirname**

Basic linux command

Removing a directory with files or directories inside

```
[root@localhost ~]# tree
.
├── anaconda-ks.cfg
├── initial-setup-ks.cfg
└── vivek
    ├── 1
    ├── 2
    └── 3

1 directory, 5 files
[root@localhost ~]# rm vivek
rm: cannot remove 'vivek': Is a directory
[root@localhost ~]# rm -f vivek
rm: cannot remove 'vivek': Is a directory
[root@localhost ~]# tree
.
├── anaconda-ks.cfg
├── initial-setup-ks.cfg
└── vivek
    ├── 1
    ├── 2
    └── 3

1 directory, 5 files
[root@localhost ~]# rm -rf vivek
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg
[root@localhost ~]# tree
.
├── anaconda-ks.cfg
└── initial-setup-ks.cfg

0 directories, 2 files
[root@localhost ~]#
```
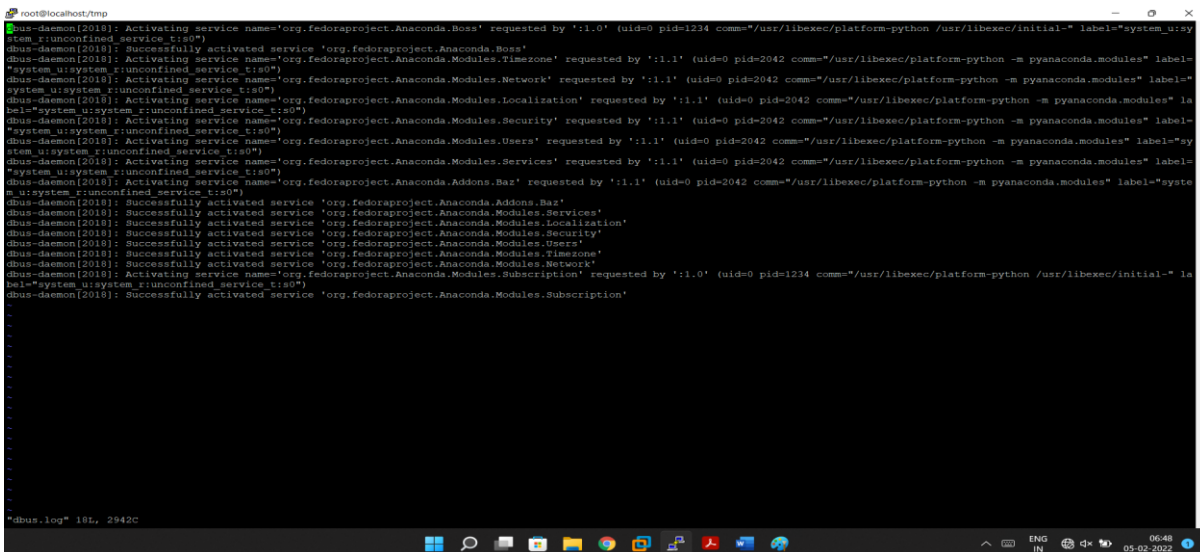
- **#rm –rf dirname (where r stands for recursive and f stands for forcefully.)**

VI Visual display editor

```
[root@localhost tmp]# vi dbus.log
```

Vim filename than Enter

Quit command :wq! Or :x

Basic linux command

VIM Visual display editor improved

```
[root@localhost tmp]# vim dbus.log
```

vim filename than Enter

To open multiple files in vim editor

#vim –o file1 file2

To switch between files use Ctrl +w

Insert Mode

i	To begin insert mode at the cursor position
I	To insert at the beginning of line
a	To append to the next word's letter
A	To Append at the end of the line
o	To insert a new line below the cursor position
O	To insert a new line above the cursor position

Command Mode

gg	To go to the beginning of the
G	To go to end of the page
w	To move the cursor forward, w
b	To move the cursor backward,
nw	To move the cursor forward to
nb	To move the cursor backward t
u	To undo last change (word)
U	To undo the previous changes
Ctrl+R	To redo the changes
yy	To copy a line
nyy	To copy n lines (5yy or 4yy)
p	To paste line below the curso
P	To paste line above the curso
dw	To delete the word letter by
x	To delete the world letter by
dd	To delete entire line
ndd	To delete n no. of lines from
/	To search a word in the file

 C R E A T E D   B Y : -   **V I V E K   G A N D H I**

Basic linux command

Extended Mode: (Colon Mode)

Extended Mode is used for save and quit or save without quit using "Esc" Key with ":"

```
Esc+:w          To Save the changes
Esc+:q          To quit (Without saving)
Esc+:wq         To save and quit
Esc+:w!         To save forcefully
Esc+wq!         To save and quit forcefully
Esc+:x          To save and quit
Esc+:X          To give password to the file and remove password
Esc+:20(n)      To go to line no 20 or n
Esc+: se nu     To set the line numbers to the file
Esc+:se nonu    To Remove the set line numbers
```

Creating a soft link: shortcut file   ln –s <source file> <destination>

```
[root@localhost /]# cd ~
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg
[root@localhost ~]# mkdir vivek
[root@localhost ~]# cd vivek
[root@localhost vivek]# touch 1 2 3 4
[root@localhost vivek]# tree
.
├── 1
├── 2
├── 3
└── 4

0 directories, 4 files
[root@localhost vivek]# ln -s /root/vivek /
[root@localhost vivek]# cd /
[root@localhost /]# ls
bin  boot  dev  etc  home  lib  lib64  media  mnt  opt  proc  root  run  sbin  srv  sys  test  tmp  usr  var  vivek
[root@localhost /]# cd vivek
[root@localhost vivek]# tree
.
├── 1
├── 2
├── 3
└── 4

0 directories, 4 files
[root@localhost vivek]# cd ~
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg  vivek
[root@localhost ~]# rm -rf vivek
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg
[root@localhost ~]# cd /
[root@localhost /]# ls
bin  boot  dev  etc  home  lib  lib64  media  mnt  opt  proc  root  run  sbin  srv  sys  test  tmp  usr  var  vivek
[root@localhost /]# cd vivek
-bash: cd: vivek: No such file or directory
[root@localhost /]# rm -rf vivek
[root@localhost /]# ls
bin  boot  dev  etc  home  lib  lib64  media  mnt  opt  proc  root  run  sbin  srv  sys  test  tmp  usr  var
[root@localhost /]#
```

Basic linux command

Basic linux command

REGULAR EXPRESSIONS, PIPELINES & I/O REDIRECTIONS

Grep: Global Regular Expression Print

grep root /etc/passwd

```
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg  vivek
[root@localhost ~]# grep test /root/vivek/test
test
[root@localhost ~]# cd vivek
[root@localhost vivek]# ls
test
[root@localhost vivek]# cat test
test
[root@localhost vivek]# cat > test
i am vivek gandhi
this is test page
for class lab practices
[root@localhost vivek]# grep vivek /root/vivek/test
i am vivek gandhi
[root@localhost vivek]#
```

upper of lower case

grep –i name /file path

```
[root@localhost ~]# tree
.
├── anaconda-ks.cfg
├── initial-setup-ks.cfg
└── vivek
    └── test

1 directory, 3 files
[root@localhost ~]# cd vivek
[root@localhost vivek]# cat test
i am vivek gandhi
this is test page
for class lab practices
[root@localhost vivek]# grep -i gandhi /root/vivek/test
i am vivek gandhi
[root@localhost vivek]# grep -i GANDHI /root/vivek/test
i am vivek gandhi
[root@localhost vivek]#
```

2 lines after the word

grep –nA2 name /etc/group

```
[root@localhost vivek]# cat test
i am vivek gandhi
this is test page
for class lab practices
i m 25 year old
[root@localhost vivek]# grep -nA2 test /root/vivek/test
2:this is test page
3-for class lab practices
4-i m 25 year old
[root@localhost vivek]#
```

Basic linux command

2 lines before the word
grep -nB2 name /etc/group

```
[root@localhost vivek]# cat test
i am vivek gandhi
this is test page
for class lab practices
i m 25 year old
[root@localhost vivek]# grep -nB2 lab /root/vivek/test
1-i am vivek gandhi
2-this is test page
3:for class lab practices
[root@localhost vivek]#
```

The given word delete the line
grep –v word   /file path

```
[root@localhost vivek]# cat test
i am vivek gandhi
this is test page
for class lab practices
i m 25 year old
[root@localhost vivek]# grep -v test /root/vivek/test
i am vivek gandhi
for class lab practices
i m 25 year old
[root@localhost vivek]#
```

searched word in colour
grep --color vivek /path file

```
[root@localhost vivek]# cat test
i am vivek gandhi
this is test page
for class lab practices
i m 25 year old
[root@localhost vivek]# grep --color vivek /root/vivek/test
i am vivek gandhi
```

Combining grep

```
[root@localhost vivek]# cat test
i am vivek gandhi
this is test page
for class lab practices
i m 25 year old
[root@localhost vivek]# cat test | grep -i vivek
i am vivek gandhi
[root@localhost vivek]# ls -l | grep -i test
-rw-r--r--. 1 root root 77 Feb  4 23:46 test
[root@localhost vivek]#
```

Filter first letter
grep '^filter word' /path file

```
[root@localhost vivek]# grep '^1' /root/vivek/test
1
11
13
14
15
```

Filter word
grep 'word' /path file

```
[root@localhost vivek]# grep 'gan' /root/vivek/test
i am vivek gandhi
vivekgandhi
poojagandhi
anilgandhi
rekhagandhi
```

Basic linux command

output line wise or page wise   less /path file

```
[root@localhost vivek]# less test
```

```
1 vivek
2 pooja
3 anil
4 rekha
5 dhara
6 nikunj
7 shraddha
8 sunil
9 mihit
10 gandhi
11 mehata
12 shah
13 mithani
test (END)
```

```
[root@localhost vivek]# less -F test
1 vivek
2 pooja
3 anil
4 rekha
5 dhara
6 nikunj
7 shraddha
8 sunil
9 mihit
10 gandhi
11 mehata
12 shah
13 mithani
[root@localhost vivek]#
```

more is exactly same like less   more /file path

```
[root@localhost vivek]# more test
1 vivek
2 pooja
3 anil
4 rekha
5 dhara
6 nikunj
7 shraddha
8 sunil
9 mihit
10 gandhi
11 mehata
12 shah
13 mithani
[root@localhost vivek]#
```

Basic linux command

used to display the top 10 lines   head /file path

```
[root@localhost vivek]# head test
1 vivek
2 pooja
3 anil
4 rekha
5 dhara
6 nikunj
7 shraddha
8 sunil
9 mihit
10 gandhi
```

display the custom lines   head -n /file path (n - any number)

```
[root@localhost ~]# head -12 /root/vivek/test
1 vivek
2 pooja
3 anil
4 rekha
5 dhara
6 nikunj
7 shraddha
8 sunil
9 mihit
10 gandhi
11 mehata
12 shah
```

last 10 lines of the file   tail /file path

```
[root@localhost ~]# tail /root/vivek/test
4 rekha
5 dhara
6 nikunj
7 shraddha
8 sunil
9 mihit
10 gandhi
11 mehata
12 shah
13 mithani
```

display the custom lines   tail-n /file path (n - any number)

```
[root@localhost ~]# tail -8 /root/vivek/test
6 nikunj
7 shraddha
8 sunil
9 mihit
10 gandhi
11 mehata
12 shah
13 mithani
```

Basic linux command

sort the output in numeric or alphabetic   sort /filepath

```
[root@localhost vivek]# cat /root/vivek/test
d
b
w
h
u
p
a
v
g
1
5
8
2
6
4
9
[root@localhost vivek]# sort /root/vivek/test
1
2
4
5
6
8
9
a
b
d
g
h
p
u
v
w
```

sort the file according to numbers

```
[root@localhost vivek]# sort -d /root/vivek/test
1
2
4
5
6
8
9
a
b
d
g
h
p
u
v
w
[root@localhost vivek]# sort -h /root/vivek/test
a
b
d
g
h
p
u
v
w
1
2
4
5
6
8
9
```

CREATED BY:- VIVEK GANDHI

Basic linux command

remove the duplicate   sort –u /file path

```
[root@localhost vivek]# cat test
vivek
pooja
vivek
gandhi
pooja
1
4
2
1
[root@localhost vivek]# sort -u /root/vivek/test
1
2
4
gandhi
pooja
vivek
```

delimit spaces   cut –d " " –f1 filename

```
[root@localhost vivek]# cat test
vivek gandhi
pooja gandhi
[root@localhost vivek]# cut -d " " -f1 /root/vivek/test
vivek
pooja
```

Stream editor

```
[root@localhost vivek]# cat test
vivek gandhi
pooja gandhi
anilbhai gandhi
rekhaben gandhi
[root@localhost vivek]# sed '2p' /root/vivek/test
vivek gandhi
pooja gandhi
pooja gandhi
anilbhai gandhi
rekhaben gandhi
[root@localhost vivek]# sed -n '3p' /root/vivek/test
anilbhai gandhi
[root@localhost vivek]# sed -n '$p' /root/vivek/test
rekhaben gandhi
[root@localhost vivek]# sed -n '2,4p' /root/vivek/test
pooja gandhi
anilbhai gandhi
rekhaben gandhi
```