CYBER SECURITY & ETHICAL HACKING

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ASSESSMENT – 1

File and directory operations:

ls: list files and directories

```
evanth@revanth-VirtualBox:~/Desktop$ cd
evanth@revanth-VirtualBox:~$ ls
Desktop  Documents  Downloads  Music  os  Pictures  Public  Templates  Videos
evanth@revanth-VirtualBox:~$
```

cd: Change directory

```
revanth@revanth-VirtualBox:~$ cd /
revanth@revanth-VirtualBox:/$ pwd
/
revanth@revanth-VirtualBox:/$
```

pwd: Print working directory

```
revanth@revanth-VirtualBox:/$ cd
revanth@revanth-VirtualBox:~$ pwd
/home/revanth
revanth@revanth-VirtualBox:~$
```

mkdir: Make directory

```
revanth@revanth-VirtualBox:~$ mkdir cyber
revanth@revanth-VirtualBox:~$ ls
cyber     Documents  Music  Pictures  Templates
Desktop  Downloads  os      Public    Videos
revanth@revanth-VirtualBox:~$
```

touch: Create an empty file

```
revanth@revanth-VirtualBox:~$ touch learn_linux.txt
revanth@revanth-VirtualBox:~$ ls
cyber     Documents   learn_linux.txt   os         Public      Videos
Desktop   Downloads   Music                        Pictures    Templates
revanth@revanth-VirtualBox:~$ █
```

cp: Copy files and directories

```
revanth@revanth-VirtualBox:~$ cp /etc/passwd .
revanth@revanth-VirtualBox:~$ ls
cyber     Documents   learn_linux.txt   os         Pictures    Templates
Desktop   Downloads   Music                        passwd  Public      Videos
revanth@revanth-VirtualBox:~$
```

mv: Move or rename files and directories

```
revanth@revanth-VirtualBox:~$ mv learn_linux.txt fast.txt
revanth@revanth-VirtualBox:~$ ls
cyber     Documents   fast.txt   os         Pictures    Templates
Desktop   Downloads   Music      passwd     Public      Videos
revanth@revanth-VirtualBox:~$ █
```

rm: Remove files and directories

```
revanth@revanth-VirtualBox:~$ ls
cyber     Documents   fast.txt   os         Pictures    Templates
Desktop   Downloads   Music      passwd     Public      Videos
revanth@revanth-VirtualBox:~$ rm fat.txt
rm: cannot remove 'fat.txt': No such file or directory
revanth@revanth-VirtualBox:~$ rm fast.txt
revanth@revanth-VirtualBox:~$ ls
cyber     Documents   Music   passwd     Public      Videos
Desktop   Downloads   os      Pictures   Templates
revanth@revanth-VirtualBox:~$ █
```

find: Search for files and directories

```
revanth@revanth-VirtualBox:~$ find / -name *.txt -type f 2>/dev/null
/home/revanth/.cache/tracker/first-index.txt
/home/revanth/.cache/tracker/locale-for-miner-apps.txt
/home/revanth/.cache/tracker/db-locale.txt
/home/revanth/.cache/tracker/last-crawl.txt
/home/revanth/.cache/tracker/db-version.txt
/home/revanth/.cache/tracker/parser-version.txt
/home/revanth/.thunderbird/ktxgb8mn.default-release/SiteSecurityServiceState.txt
/home/revanth/.thunderbird/ktxgb8mn.default-release/pkcs11.txt
/home/revanth/.mozilla/firefox/4kjws1t5.default-release/AlternateServices.txt
/home/revanth/.mozilla/firefox/4kjws1t5.default-release/SiteSecurityServiceState
.txt
/home/revanth/.mozilla/firefox/4kjws1t5.default-release/pkcs11.txt
/snap/snap-store/959/usr/share/gnupg/help_hn.txt
```

File Viewing and Editing:

cat: Concatenate and display file content

```
revanth@revanth-VirtualBox:~$ cat /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
```

less: View file content with pagination

```
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/nologi
n
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/n
ologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
systemd-timesync:x:102:104:systemd Time Synchronization,,,:/run/systemd:/usr/sbi
/etc/passwd
```

head: Display the beginning of a file

```
revanth@revanth-VirtualBox:~$ head /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
revanth@revanth-VirtualBox:~$
```

tail: Display the end of a file

```
revanth@revanth-VirtualBox:~$ tail /etc/passwd
whoopsie:x:120:125::/nonexistent:/bin/false
colord:x:121:126:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/no
login
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
sssd:x:126:131:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin
revanth:x:1000:1000:revanth,,,:/home/revanth:/bin/bash
systemd-coredump:x:999:999:systemd Core Dumper:/:/usr/sbin/nologin
vboxadd:x:998:1::/var/run/vboxadd:/bin/false
revanth@revanth-VirtualBox:~$
```
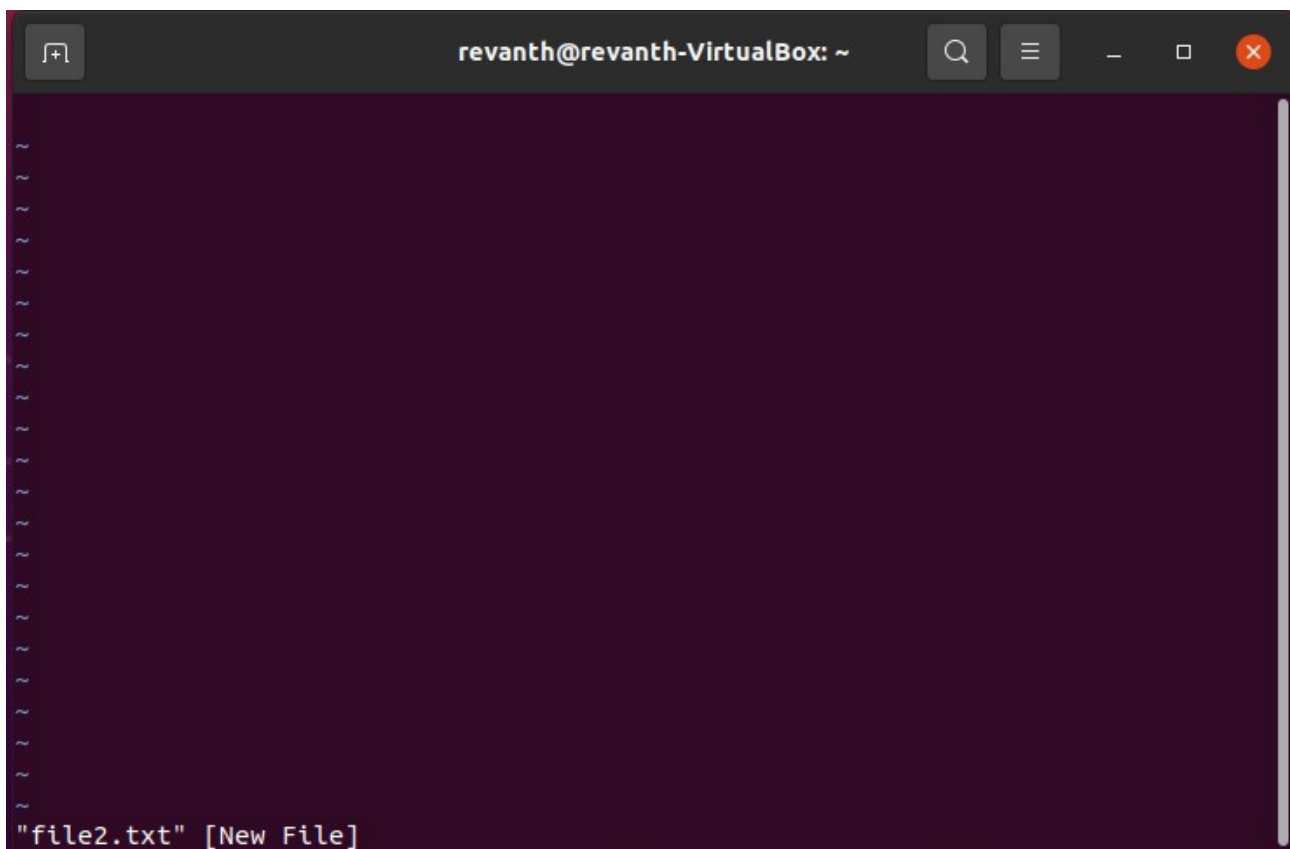
nano: Text editor for creating and editing files

command – nano file1.txt

```
  GNU nano 4.8                       file1.txt

                                 [ New File ]
^G Get Help    ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit        ^R Read File ^\ Replace   ^U Paste Text^T To Spell  ^  Go To Line
```

vi/vim: Powerful text editor for experienced users

command – vi file2.txt

File Permissions:

chmod: Change file permissions

```
revanth@revanth-VirtualBox:~/Desktop$ cd
revanth@revanth-VirtualBox:~$ ls -la
total 128
drwxr-xr-x 19 revanth revanth  4096 May 29 15:49 .
drwxr-xr-x  3 root    root     4096 May 18  2022 ..
-rw-------  1 revanth revanth  1989 May 29 15:50 .bash_history
-rw-r--r--  1 revanth revanth   220 May 18  2022 .bash_logout
-rw-r--r--  1 revanth revanth  3771 May 18  2022 .bashrc
revanth@revanth-VirtualBox:~$ chmod +x passwd
revanth@revanth-VirtualBox:~$ ls -la
total 128
drwxr-xr-x 19 revanth revanth  4096 May 29 15:49 .
drwxr-xr-x  3 root    root     4096 May 18  2022 ..
-rw-------  1 revanth revanth  1989 May 29 15:50 .bash_history
-rw-r--r--  1 revanth revanth   220 May 18  2022 .bash_logout
-rw-r--r--  1 revanth revanth  3771 May 18  2022 .bashrc
drwx------ 15 revanth revanth  4096 Jun 12  2022 .cache
drwx------ 14 revanth revanth  4096 Jun 12  2022 .config
drwxrwxr-x  2 revanth revanth  4096 May 29 15:33 cyber
drwxr-xr-x  2 revanth revanth  4096 May 18  2022 Desktop
drwxr-xr-x  2 revanth revanth  4096 May 18  2022 Documents
drwxr-xr-x  3 revanth revanth  4096 Jun 16  2022 Downloads
-rw-------  1 revanth revanth     1 May 29 15:49 file1.txt.save
-rw-------  1 revanth revanth 12288 May 29 15:50 .file2.txt.swp
drwx------  3 revanth revanth  4096 May 18  2022 .gnupg
drwxr-xr-x  3 revanth revanth  4096 May 18  2022 .local
drwx------  4 revanth revanth  4096 May 18  2022 .mozilla
drwxr-xr-x  2 revanth revanth  4096 May 18  2022 Music
drwxrwxr-x  5 revanth revanth  4096 Jun 11  2022 os
-rwxr-xr-x  1 revanth revanth  2855 May 29 15:35 passwd
```

chown: Change file owner

```
revanth@revanth-VirtualBox:~$ sudo chown revanth passwd
[sudo] password for revanth:
revanth@revanth-VirtualBox:~$ ls -la
total 128
drwxr-xr-x 19 revanth revanth  4096 May 29 15:49 .
drwxr-xr-x  3 root    root     4096 May 18  2022 ..
-rw-------  1 revanth revanth  1989 May 29 15:50 .bash_history
-rw-r--r--  1 revanth revanth   220 May 18  2022 .bash_logout
-rw-r--r--  1 revanth revanth  3771 May 18  2022 .bashrc
drwx------ 15 revanth revanth  4096 Jun 12  2022 .cache
drwx------ 14 revanth revanth  4096 Jun 12  2022 .config
drwxrwxr-x  2 revanth revanth  4096 May 29 15:33 cyber
drwxr-xr-x  2 revanth revanth  4096 May 18  2022 Desktop
drwxr-xr-x  2 revanth revanth  4096 May 18  2022 Documents
drwxr-xr-x  3 revanth revanth  4096 Jun 16  2022 Downloads
-rw-------  1 revanth revanth     1 May 29 15:49 file1.txt.save
-rw-------  1 revanth revanth 12288 May 29 15:50 .file2.txt.swp
drwx------  3 revanth revanth  4096 May 18  2022 .gnupg
drwxr-xr-x  3 revanth revanth  4096 May 18  2022 .local
drwx------  4 revanth revanth  4096 May 18  2022 .mozilla
drwxr-xr-x  2 revanth revanth  4096 May 18  2022 Music
drwxrwxr-x  5 revanth revanth  4096 Jun 11  2022 os
-rwxr-xr-x  1 revanth revanth  2855 May 29 15:35 passwd
```

chgrp: Change file group

```
revanth@revanth-VirtualBox:~$ sudo chgrp revanth passwd
revanth@revanth-VirtualBox:~$ ls -la
total 128
drwxr-xr-x 19 revanth revanth  4096 May 29 15:49 .
drwxr-xr-x  3 root    root     4096 May 18  2022 ..
-rw-------  1 revanth revanth  1989 May 29 15:50 .bash_history
-rw-r--r--  1 revanth revanth   220 May 18  2022 .bash_logout
-rw-r--r--  1 revanth revanth  3771 May 18  2022 .bashrc
drwx------ 15 revanth revanth  4096 Jun 12  2022 .cache
drwx------ 14 revanth revanth  4096 Jun 12  2022 .config
drwxrwxr-x  2 revanth revanth  4096 May 29 15:33 cyber
drwxr-xr-x  2 revanth revanth  4096 May 18  2022 Desktop
drwxr-xr-x  2 revanth revanth  4096 May 18  2022 Documents
drwxr-xr-x  3 revanth revanth  4096 Jun 16  2022 Downloads
-rw-------  1 revanth revanth     1 May 29 15:49 file1.txt.save
-rw-------  1 revanth revanth 12288 May 29 15:50 .file2.txt.swp
drwx------  3 revanth revanth  4096 May 18  2022 .gnupg
drwxr-xr-x  3 revanth revanth  4096 May 18  2022 .local
drwx------  4 revanth revanth  4096 May 18  2022 .mozilla
drwxr-xr-x  2 revanth revanth  4096 May 18  2022 Music
drwxrwxr-x  5 revanth revanth  4096 Jun 11  2022 os
-rwxr-xr-x  1 revanth revanth  2855 May 29 15:35 passwd
```

File Compression and Archiving:

tar: Archive files

```
revanth@revanth-VirtualBox:~$ tar -cvf archive1.tar file1.txt.save passwd
file1.txt.save
passwd
revanth@revanth-VirtualBox:~$ ls -la
total 140
drwxr-xr-x 19 revanth revanth  4096 May 29 15:58 .
drwxr-xr-x  3 root    root     4096 May 18  2022 ..
-rw-rw-r--  1 revanth revanth 10240 May 29 15:59 archive1.tar
-rw-------  1 revanth revanth  1989 May 29 15:50 .bash_history
-rw-r--r--  1 revanth revanth   220 May 18  2022 .bash_logout
-rw-r--r--  1 revanth revanth  3771 May 18  2022 .bashrc
drwx------ 15 revanth revanth  4096 Jun 12  2022 .cache
drwx------ 14 revanth revanth  4096 Jun 12  2022 .config
drwxrwxr-x  2 revanth revanth  4096 May 29 15:33 cyber
drwxr-xr-x  2 revanth revanth  4096 May 18  2022 Desktop
drwxr-xr-x  2 revanth revanth  4096 May 18  2022 Documents
drwxr-xr-x  3 revanth revanth  4096 Jun 16  2022 Downloads
-rw-------  1 revanth revanth     1 May 29 15:49 file1.txt.save
-rw-------  1 revanth revanth 12288 May 29 15:50 .file2.txt.swp
drwx------  3 revanth revanth  4096 May 18  2022 .gnupg
drwxr-xr-x  3 revanth revanth  4096 May 18  2022 .local
drwx------  4 revanth revanth  4096 May 18  2022 .mozilla
drwxr-xr-x  2 revanth revanth  4096 May 18  2022 Music
drwxrwxr-x  5 revanth revanth  4096 Jun 11  2022 os
drwxrwxr-x  5 revanth revanth  4096 Jun 11  2022 os
-rwxr-xr-x  1 revanth revanth  2855 May 29 15:35 passwd
drwxr-xr-x  2 revanth revanth  4096 May 29 15:10 Pictures
-rw-r--r--  1 revanth revanth   807 May 18  2022 .profile
```

gzip: Compress files

```
revanth@revanth-VirtualBox:~$ gzip passwd
revanth@revanth-VirtualBox:~$ ls -la
total 140
drwxr-xr-x 19 revanth revanth  4096 May 29 16:01 .
drwxr-xr-x  3 root    root     4096 May 18  2022 ..
-rw-rw-r--  1 revanth revanth 10240 May 29 15:59 archive1.tar
-rw-------  1 revanth revanth  1989 May 29 15:50 .bash_history
-rw-r--r--  1 revanth revanth   220 May 18  2022 .bash_logout
-rw-r--r--  1 revanth revanth  3771 May 18  2022 .bashrc
drwx------ 15 revanth revanth  4096 Jun 12  2022 .cache
drwx------ 14 revanth revanth  4096 Jun 12  2022 .config
drwxrwxr-x  2 revanth revanth  4096 May 29 15:33 cyber
drwxr-xr-x  2 revanth revanth  4096 May 18  2022 Desktop
drwxr-xr-x  2 revanth revanth  4096 May 18  2022 Documents
drwxr-xr-x  3 revanth revanth  4096 Jun 16  2022 Downloads
-rw-------  1 revanth revanth     1 May 29 15:49 file1.txt.save
-rw-------  1 revanth revanth 12288 May 29 15:50 .file2.txt.swp
drwx------  3 revanth revanth  4096 May 18  2022 .gnupg
drwxr-xr-x  3 revanth revanth  4096 May 18  2022 .local
drwx------  4 revanth revanth  4096 May 18  2022 .mozilla
drwxr-xr-x  2 revanth revanth  4096 May 18  2022 Music
drwxrwxr-x  5 revanth revanth  4096 Jun 11  2022 os
-rwxr-xr-x  1 revanth revanth  1050 May 29 15:35 passwd.gz
drwxr-xr-x  2 revanth revanth  4096 May 29 15:10 Pictures
```

unzip: Extract files from a ZIP archive

```
revanth@revanth-VirtualBox:~$ unzip archive1.zip
unzip:  cannot find or open archive1.zip, archive1.zip.zip or archive1.zip.ZIP.
revanth@revanth-VirtualBox:~$
```

Process Management:

ps: List running processes

```
revanth@revanth-VirtualBox:~$ ps
    PID TTY          TIME CMD
   2260 pts/0    00:00:00 bash
   2346 pts/0    00:00:00 ps
revanth@revanth-VirtualBox:~$
```

top: Display real-time system information and processes

```
top - 16:07:32 up 47 min,  1 user,  load average: 0.03, 0.14, 0.16
Tasks: 187 total,   1 running, 186 sleeping,   0 stopped,   0 zombie
%Cpu(s):  1.3 us,  0.3 sy,  0.0 ni, 98.3 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
MiB Mem :   1906.0 total,    103.4 free,    624.4 used,   1178.2 buff/cache
MiB Swap:   2048.0 total,   2048.0 free,      0.0 used.   1094.6 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM     TIME+ COMMAND
 2347 revanth   20   0   11856   3756   3260 R   1.0   0.2   0:00.08 top
 1364 revanth   20   0  258372  73668  46416 S   0.7   3.8   1:02.68 Xorg
 1508 revanth   20   0  155368   2628   2260 S   0.7   0.1   0:12.25 VBoxCl+
 1578 revanth   20   0 3659440 305400 125592 S   0.7  15.6   1:32.32 gnome-+
    1 root      20   0  102036  11432   8328 S   0.0   0.6   0:02.91 systemd
    2 root      20   0       0      0      0 S   0.0   0.0   0:00.00 kthrea+
    3 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 rcu_gp
    4 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 rcu_pa+
    6 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 kworke+
    7 root      20   0       0      0      0 I   0.0   0.0   0:00.91 kworke+
    9 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 mm_per+
   10 root      20   0       0      0      0 S   0.0   0.0   0:00.00 rcu_ta+
   11 root      20   0       0      0      0 S   0.0   0.0   0:00.00 rcu_ta+
   12 root      20   0       0      0      0 S   0.0   0.0   0:00.48 ksofti+
   13 root      20   0       0      0      0 I   0.0   0.0   0:01.92 rcu_sc+
   14 root      rt   0       0      0      0 S   0.0   0.0   0:00.03 migrat+
   15 root     -51   0       0      0      0 S   0.0   0.0   0:00.00 idle i+
```

kill: Terminate processes

```
revanth@revanth-VirtualBox:~$ ps
    PID TTY          TIME CMD
   2364 pts/0    00:00:00 bash
   2382 pts/0    00:00:00 ps
revanth@revanth-VirtualBox:~$ kill 2364
revanth@revanth-VirtualBox:~$ 
```

bg: Run processes in the background

```
revanth@revanth-VirtualBox:~$ sleep 12
revanth@revanth-VirtualBox:~$ bg
bash: bg: current: no such job
```

fg: Bring background processes to the foreground

```
revanth@revanth-VirtualBox:~$ sleep 23 &
[1] 2386
revanth@revanth-VirtualBox:~$ fg
sleep 23
revanth@revanth-VirtualBox:~$ 
```

System Information:

uname: Print system information

```
revanth@revanth-VirtualBox:~$ uname
Linux
[1]+  Done                    sleep 12
revanth@revanth-VirtualBox:~$
```

df: Display disk space usage

```
revanth@revanth-VirtualBox:~$ df
Filesystem      1K-blocks      Used Available Use% Mounted on
udev               942396         0    942396   0% /dev
tmpfs              195176      1320    193856   1% /run
/dev/sda5       102168536  11186428  85749212  12% /
tmpfs              975868         0    975868   0% /dev/shm
tmpfs                5120         4      5116   1% /run/lock
tmpfs              975868         0    975868   0% /sys/fs/cgroup
```

free: Display memory usage

```
revanth@revanth-VirtualBox:~$ free
              total        used        free      shared  buff/cache   available
Mem:        1951740      641288      104500        7016     1205952     1120784
Swap:       2097148           0     2097148
revanth@revanth-VirtualBox:~$
```

uptime: Show system uptime

```
revanth@revanth-VirtualBox:~$ uptime
 16:16:12 up 55 min,  1 user,  load average: 0.05, 0.08, 0.12
revanth@revanth-VirtualBox:~$
```

who: Display logged-in users

```
revanth@revanth-VirtualBox:~$ who
revanth  :0           2023-05-29 15:22 (:0)
revanth@revanth-VirtualBox:~$
```

w: Display logged-in users and their activities

```
revanth@revanth-VirtualBox:~$ w
 16:17:03 up 56 min,  1 user,  load average: 0.20, 0.12, 0.13
USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
revanth  :0       :0               15:22    ?xdm?  3:00   0.04s /usr/lib/gdm3/g
revanth@revanth-VirtualBox:~$
```

Networking:

ifconfig: Configure network interfaces

```
revanth@revanth-VirtualBox:~$ ifconfig lo
lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 149  bytes 12547 (12.5 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 149  bytes 12547 (12.5 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

revanth@revanth-VirtualBox:~$
```

ping: Send ICMP echo requests to a network host

```
revanth@revanth-VirtualBox:~$ ping google.com
PING google.com (142.250.193.142) 56(84) bytes of data.
64 bytes from maa05s25-in-f14.1e100.net (142.250.193.142): icmp_seq=1 ttl=113 ti
me=170 ms
64 bytes from maa05s25-in-f14.1e100.net (142.250.193.142): icmp_seq=2 ttl=113 ti
me=80.2 ms
64 bytes from maa05s25-in-f14.1e100.net (142.250.193.142): icmp_seq=3 ttl=113 ti
me=78.2 ms
64 bytes from maa05s25-in-f14.1e100.net (142.250.193.142): icmp_seq=4 ttl=113 ti
me=95.3 ms
64 bytes from maa05s25-in-f14.1e100.net (142.250.193.142): icmp_seq=5 ttl=113 ti
me=83.9 ms
64 bytes from maa05s25-in-f14.1e100.net (142.250.193.142): icmp_seq=6 ttl=113 ti
me=81.4 ms
64 bytes from maa05s25-in-f14.1e100.net (142.250.193.142): icmp_seq=7 ttl=113 ti
me=82.1 ms
64 bytes from maa05s25-in-f14.1e100.net (142.250.193.142): icmp_seq=8 ttl=113 ti
me=87.9 ms
```

ssh: Securely connect to a remote system

```
revanth@revanth-VirtualBox:~$ ssh marcus"10.10.11.211
>
```

scp: Securely copy files between systems

```
revanth@revanth-VirtualBox:~$ scp -r /var/www/html hacker"12.14.15.16:/test/inde
x/
>
```

wget: Download files from the web

```
revanth@revanth-VirtualBox:~$ wget https://github.com/cassidoo/todometer/archive/refs/heads/main
.zip
--2023-05-29 16:31:59--  https://github.com/cassidoo/todometer/archive/refs/heads/main.zip
Resolving github.com (github.com)... 20.207.73.82, 64:ff9b::14cf:4952
Connecting to github.com (github.com)|20.207.73.82|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://codeload.github.com/cassidoo/todometer/zip/refs/heads/main [following]
--2023-05-29 16:32:00--  https://codeload.github.com/cassidoo/todometer/zip/refs/heads/main
Resolving codeload.github.com (codeload.github.com)... 20.207.73.88, 64:ff9b::14cf:4958
Connecting to codeload.github.com (codeload.github.com)|20.207.73.88|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [application/zip]
Saving to: 'main.zip'

main.zip                    [        <=>        ]   1.75M  1.05MB/s    in 1.7s

2023-05-29 16:32:03 (1.05 MB/s) - 'main.zip' saved [1832115]

revanth@revanth-VirtualBox:~$ ls
archive1.tar  Documents      main.zip  passwd.gz  Templates
cyber         Downloads      Music     Pictures   Videos
Desktop       file1.txt.save os        Public
```

System Administration:

sudo: Execute commands with superuser privileges

```
revanth@revanth-VirtualBox:~$ sudo wireshark
[sudo] password for revanth:
sudo: wireshark: command not found
```

apt-get: Package management for Debian-based distributions

```
revanth@revanth-VirtualBox:~$ sudo apt-get update
Get:1 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Hit:2 http://in.archive.ubuntu.com/ubuntu focal InRelease
Get:3 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:4 http://security.ubuntu.com/ubuntu focal-security/main amd64 Packages [2,192 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]
Get:6 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [2,574 kB]
Get:7 http://in.archive.ubuntu.com/ubuntu focal-updates/main i386 Packages [826 kB]
Get:8 http://security.ubuntu.com/ubuntu focal-security/main i386 Packages [597 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu focal-updates/main Translation-en [435 kB]
Get:10 http://security.ubuntu.com/ubuntu focal-security/main Translation-en [354 kB]
Get:11 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 DEP-11 Metadata [275 kB]
Get:12 http://security.ubuntu.com/ubuntu focal-security/main amd64 DEP-11 Metadata [59.8 kB]
Get:13 http://in.archive.ubuntu.com/ubuntu focal-updates/main DEP-11 48x48 Icons [60.8 kB]
Get:14 http://security.ubuntu.com/ubuntu focal-security/main DEP-11 48x48 Icons [18.9 kB]
Get:15 http://in.archive.ubuntu.com/ubuntu focal-updates/main DEP-11 64x64 Icons [98.3 kB]
Get:16 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 c-n-f Metadata [16.6 kB]
Get:17 http://security.ubuntu.com/ubuntu focal-security/main DEP-11 64x64 Icons [36.0 kB]
```

yum: Package management for Red Hat-based distributions

(yum is not used, so this is skipped)

systemctl: Manage system services

```
revanth@revanth-VirtualBox:~$ systemctl status nessusd
Unit nessusd.service could not be found.
revanth@revanth-VirtualBox:~$
```

crontab: Schedule recurring tasks

```
revanth@revanth-VirtualBox:~$ crontab -e
no crontab for revanth - using an empty one

Select an editor.  To change later, run 'select-editor'.
  1. /bin/nano        <---- easiest
  2. /usr/bin/vim.tiny
  3. /bin/ed

Choose 1-3 [1]:
```

```
  GNU nano 4.8                      /tmp/crontab.s0cJ42/crontab
# Edit this file to introduce tasks to be run by cron.
#
# Each task to run has to be defined through a single line
# indicating with different fields when the task will be run
# and what command to run for the task
#
# To define the time you can provide concrete values for
# minute (m), hour (h), day of month (dom), month (mon),
# and day of week (dow) or use '*' in these fields (for 'any').
#
# Notice that tasks will be started based on the cron's system
# daemon's notion of time and timezones.
#
# Output of the crontab jobs (including errors) is sent through
# email to the user the crontab file belongs to (unless redirected).
#
# For example, you can run a backup of all your user accounts
# at 5 a.m every week with:
# 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/
```

useradd: Add a new user

```
revanth@revanth-VirtualBox:~$ sudo useradd hacker
[sudo] password for revanth:
```

passwd: Change user password

```
revanth@revanth-VirtualBox:~$ sudo passwd hacker
New password:
Retype new password:
passwd: password updated successfully
revanth@revanth-VirtualBox:~$
```