Assessment-1

Title: Linux Command List Assessment

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File and Directory Operations:

ls: List files and directories

cd: Change directory

```
root@Information-Security-With-Kali-Linux-17-20BKT0047: ~/Downloads/P...  

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(root@ Information-Security-With-Kali-Linux-17-20BKT0047)-[~]

# cd /

(root@ Information-Security-With-Kali-Linux-17-20BKT0047)-[/]

# cd ~

(root@ Information-Security-With-Kali-Linux-17-20BKT0047)-[~]

# cd Downloads

(root@ Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads]

# cd Photos

(root@ Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads/Photos]
```

Pwd: Print working directory

File Viewing and Editing:

cat: Concatenate and display file content less: View file content with pagination head: Display the beginning of a file

```
root@Information-Security-With-Kali-Linux-17-20BKT0047: ~/Downloads/M... Eile Edit View Search Terminal Help

— (root@ Information-Security-With-Kali-Linux-17-20BKT0047)-[~]

# cd Downloads

— (root@ Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads]

# cd Movies

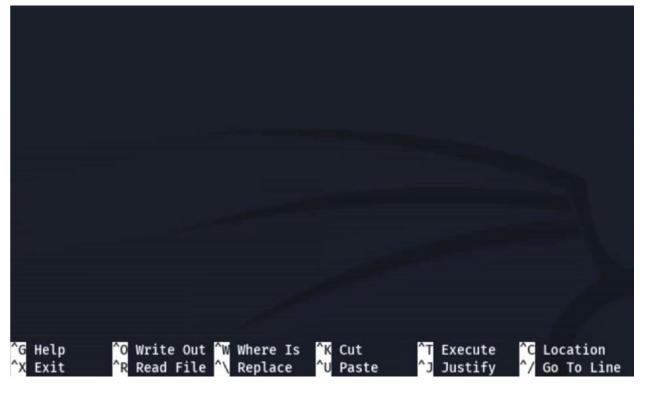
— (root@ Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads/Movies]

— # ls
text.txt

— (root@ Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads/Movies]
```

tail: Display the end of a file

nano: Text editor for creating and editing files



```
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(root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~]

# cd Downloads

(root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads]

# cd Movies

(root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads/Movies]

# nano text.txt
```

vi/vim: Powerful text editor for experienced users

File Permissions: chmod: Change file permissions

chown: Change file owner

```
root@Information-Security-With-Kali-Linux-17-20BKT0047: ~/Downloads

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-(root@ Information-Security-With-Kali-Linux-17-20BKT0047)-[~]

# cd Downloads

-(root@ Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads]

# ls

Movies newfile Photos Videos

-(root@ Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads]

# chown root newfile

-(root@ Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads]
```

chgrp: Change file group

File Compression and Archiving:

tar: Archive files

```
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Movies newfile Photos Videos
  _(root⊕ Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads]
 # tarp -cf arch newfile
Command 'tarp' not found, did you mean:
 command 'tar' from deb tar
 command 'arp' from deb net-tools
 command 'rarp' from deb net-tools
 command 'warp' from deb libghc-wai-app-static-dev
 command 'tap' from deb node-tap
Try: apt install <deb name>
                     -Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads]
 # tar -cf arch newfile
 —(root⊗ Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads]
 # tar -xf arch
  _(root⊕ Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads]
 # ls
arch Movies newfile Photos Videos
                           tv-With-Kali-Linux-17-20BKT0047)-[~/Downloads]
```

gzip: Compress files

```
root@Information-Security-With-Kali-Linux-17-20BKT0047: ~/Downloads 

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—(root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~]

# cd Downloads

—(root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads]

# gzip newfile

—(root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads]
```

unzip: Extract files from a ZIP archive

```
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— (root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~]

—# cd Downloads

— (root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads]

—# ls

arch Movies newfile.gz Photos Videos

— (root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads]

—# gunzip newfile.gz

— (root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads]

—# ls

arch Movies newfile Photos Videos

— (root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads]

—# Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads]
```

Process Management:

ps: List running processes

```
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(root@Information-Security-With-Kali-Linux-17-20BKT0047)-[~]

# ps
PID TTY TIME CMD

12373 pts/1 00:00:00 bash
12390 pts/1 00:00:00 ps
```

top: Display real-time system information and processes

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top - 10:01:06 up 2:38, 0 users, load average: 0.16, 0.13, 0.17											
Tasks: 74 total, 1 running, 73 sleeping, 0 stopped, 0 zombie											
%Cpu(s): 2.7 us, 0.0 sy, 0.0 ni, 97.3 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st											
MiB Mem : 3814.7 total, 2701.4 free, 642.6 used, 470.7 buff/cache											
MiB Swap: 0.0 total, 0.0 free, 0.0 used. 3172.1 avail Mem											
	USER	PR	NI	VIRT	RES	SHR		%CPU	%MEM	237552771	COMMAND
	root	20	0	157272	50112	8336		1.3	1.3		nessusd
10636		20	0	3335728		99120		0.7	8.3		gnome-s+
10632	root	20	0	274512	89572	44356	S	0.3	2.3	0:08.02	Xtigerv+
12346	root	20	0	698644	38664	27204	S	0.3	1.0	0:00.27	gnome-t+
1	root	20	0	168676	10460	6168	S	0.0	0.3	0:01.02	systemd
75	root	20	0	33144	12360	10996	S	0.0	0.3	0:03.45	systemd+
94	root	20	0	23496	4600	2856	S	0.0	0.1	0:00.07	systemd+
111	root	20	0	8252	4232	1100	S	0.0	0.1	0:00.40	haveged
124	root	20	0	236844	4760	3888	s	0.0	0.1	0:00.26	account+
125	root	20	0	6600	1628	1384	S	0.0	0.0	0:00.04	
	message+	20	0	10848	4820	2572		0.0	0.1		dbus-da+
0.374(3)(3)(4)(4)	polkitd	20	0	240372	7968	4572		0.0	0.2		polkitd
	syslog	20	0	156496	3116	2532		0.0	0.1		rsyslogd
	root	20	0	16880	5988	4912		0.0	0.2		systemd+
	root	20	0	6916	2132	1828		0.0	0.1	0:00.77	
	root	20	0	258092	11828	9180		0.0	0.3		Network+

kill: Terminate processes

```
root@Information-Security-With-Kali-Linux-17-20BKT0047: ~
   kill
kill: usage: kill [-s sigspec | -n signum | -sigspec] pid | jobspec ... or kill
-l [sigspec]
   kill -l
1) SIGHUP
                 2) SIGINT
                                  SIGQUIT
                                                    4) SIGILL
                                                                     5) SIGTRAP
6) SIGABRT
                 7) SIGBUS
                                 8) SIGFPE
                                                    9) SIGKILL
                                                                    10) SIGUSR1
11) SIGSEGV
                12) SIGUSR2
                                 13) SIGPIPE
                                                   14) SIGALRM
                                                                    15) SIGTERM
16)
   SIGSTKFLT
                17) SIGCHLD
                                  18) SIGCONT
                                                   19) SIGSTOP
                                                                    20) SIGTSTP
                                 23) SIGURG
21) SIGTTIN
                22) SIGTTOU
                                                   24) SIGXCPU
                                                                    25) SIGXFSZ
26) SIGVTALRM 27) SIGPROF
                                 28) SIGWINCH
                                                   29) SIGIO
                                                                    30) SIGPWR
31) SIGSYS 34) SIGRTMIN 35) SIGRTMIN+1 36) SIGRTMIN+2 37) SIGRTMIN+3
38) SIGRTMIN+4 39) SIGRTMIN+5 40) SIGRTMIN+6 41) SIGRTMIN+7 42) SIGRTMIN+8
43) SIGRTMIN+9 44) SIGRTMIN+10 45) SIGRTMIN+11 46) SIGRTMIN+12 47) SIGRTMIN+13
   SIGRTMIN+14 49) SIGRTMIN+15 50) SIGRTMAX-14 51) SIGRTMAX-13 52) SIGRTMAX-12
53) SIGRTMAX-11 54) SIGRTMAX-10 55) SIGRTMAX-9 56) SIGRTMAX-8 57) SIGRTMAX-7
58) SIGRTMAX-6 59) SIGRTMAX-5 60) SIGRTMAX-4 61) SIGRTMAX-3 62) SIGRTMAX-2
53) SIGRTMAX-1 64) SIGRTMAX
```

bg: Run processes in the background fg: Bring background

processes to the foreground

```
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—(root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~]
# bg
bash: bg: current: no such job

—(root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~]
# jobs

—(root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~]
# fg
bash: fg: current: no such job

—(root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~]
# jobs

—(root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~]
# jobs
```

System Information:

uname: Print system information df: Display disk space usage

```
Linux
   df
                                                                        1K-blocks
   Used Available Use% Mounted on
data-pool/containers/Information-Security-With-Kali-Linux-17-20BKT0047 887440512
8022144 879418368 1% /
none
                     1% /dev
               488
                                                                        124721436
udev
       0 124721436
                     0% /dev/tty
tmpfs
                                                                              100
                     0% /dev/lxd
tmpfs
                                                                              100
                     0% /dev/.lxd-mounts
                                                                        124738904
                     0% /dev/shm
       0 124738904
                                                                         49895564
    836 49894728
                     1% /run
```

free: Display memory usage uptime: Show system uptime who

Display logged-in users w: Display logged-in users and their activities

```
used
             total
                                   free
                                          shared buff/cache
                                                               available
           3906248
                       657260
                                             11284 482148
                                                                3248988
Mem:
                                 2766840
Swap:
 # uptime
10:05:03 up 2:42, 0 users, load average: 0.04, 0.09, 0.15
  (root⊕ Information-Security-With-Kali-Linux-17-20BKT0047)-[~]
10:05:10 up 2:42, 0 users, load average: 0.04, 0.09, 0.15
                              LOGINO IDLE JCPU PCPU WHAT
USER
```

Networking: ifconfig: Configure network interfaces

```
root@Information-Security-With-Kali-Linux-17-20BKT0047: ~
   ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
       inet 10.12.197.185 netmask 255.255.0.0 broadcast 10.12.255.255
       inet6 fe80::216:3eff:fe64:6548 prefixlen 64 scopeid 0x20<link>
       ether 00:16:3e:64:65:48 txqueuelen 1000 (Ethernet)
       RX packets 126023 bytes 10523825 (10.0 MiB)
       RX errors 0 dropped 0 overruns 0 frame 0
       TX packets 97464 bytes 178180942 (169.9 MiB)
       TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
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 162264 bytes 179993769 (171.6 MiB)
       RX errors 0 dropped 0 overruns 0 frame 0
       TX packets 162264 bytes 179993769 (171.6 MiB)
       TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

ping: Send ICMP echo requests to a network host

```
root@Information-Security-With-Kali-Linux-17-20BKT0047: ~
    ping www.google.com
PING www.google.com (142.250.182.68): 56 data bytes
64 bytes from 142.250.182.68: icmp_seq=0 ttl=116 time=33.690 ms
64 bytes from 142.250.182.68: icmp_seq=1 ttl=116 time=32.716 ms
64 bytes from 142.250.182.68: icmp_seq=2 ttl=116 time=32.717 ms
64 bytes from 142.250.182.68: icmp_seq=3 ttl=116 time=32.727 ms
64 bytes from 142.250.182.68: icmp_seq=4 ttl=116 time=32.709 ms
64 bytes from 142.250.182.68: icmp_seq=5 ttl=116 time=32.679 ms
64 bytes from 142.250.182.68: icmp_seq=6 ttl=116 time=32.681 ms
64 bytes from 142.250.182.68: icmp_seq=7 ttl=116 time=32.654 ms
64 bytes from 142.250.182.68: icmp_seq=8 ttl=116 time=32.685 ms
64 bytes from 142.250.182.68: icmp_seq=9 ttl=116 time=32.690 ms
64 bytes from 142.250.182.68: icmp_seq=10 ttl=116 time=32.723 ms
64 bytes from 142.250.182.68: icmp_seq=11 ttl=116 time=32.712 ms
64 bytes from 142.250.182.68: icmp_seq=12 ttl=116 time=32.681 ms
64 bytes from 142.250.182.68: icmp_seq=13 ttl=116 time=32.689 ms
```

ssh: Securely connect to a remote system

scp: Securely copy files between systems

```
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(root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~]

# scp
usage: scp [-346ABCOpqRrsTv] [-c cipher] [-D sftp_server_path] [-F ssh_config]

[-i identity_file] [-J destination] [-l limit]

[-o ssh_option] [-P port] [-S program] source ... target
```

wget: Download files from the web

System Administration:

sudoExecute commands with superuser privileges

```
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(root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~]

# sudo
usage: sudo -h | -K | -k | -V
usage: sudo -v [-ABknS] [-g group] [-h host] [-p prompt] [-u user]
usage: sudo -l [-ABknS] [-g group] [-h host] [-p prompt] [-U user] [-u user]
[command]
usage: sudo [-ABbEHknPS] [-r role] [-t type] [-C num] [-D directory] [-g group]
[-h host] [-p prompt] [-R directory] [-T timeout] [-u user]
[VAR=value] [-i|-s] [<command>]
usage: sudo -e [-ABknS] [-r role] [-t type] [-C num] [-D directory] [-g group]
[-h host] [-p prompt] [-R directory] [-T timeout] [-u user] file ...

(root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~]
# sudo su
```

apt-get: Package management for Debian-based distributions

yum: Package management for Red Hat-based distributions

```
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(root@ Information-Security-With-Kali-Linux-17-20BKT0047)-[~]

# apt-get install yum -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Package yum is not available, but is referred to by another package.
This may mean that the package is missing, has been obsoleted, or is only available from another source

E: Package 'yum' has no installation candidate
```

systemctl: Manage system services

```
systemctl
UNIT
                                     LOAD ACTIVE SUB
                                                             DESCRIPTION
sys-devices-virtual-net-eth0.device
                                     loaded active plugged
                                                             /sys/devices/vi
sys-subsystem-net-devices-eth0.device loaded active plugged
                                                            /sys/subsystem/
                                      loaded active mounted
                                                             Root Mount
-.mount
dev-.lxd\x2dmounts.mount
                                     loaded active mounted
                                                             /dev/.lxd-mounts
dev-full.mount
                                      loaded active mounted
                                                             /dev/full
                                      loaded active mounted
dev-fuse.mount
                                                             /dev/fuse
dev-lxd.mount
                                                             /dev/lxd
                                      loaded active mounted
                                      loaded active mounted
                                                             POSIX Message Q
dev-maueue.mount
dev-net-tun.mount
                                     loaded active mounted
                                                             /dev/net/tun
                                      loaded active mounted
                                                             /dev/null
dev-null.mount
dev-ptmx.mount
                                     loaded active mounted
                                                             /dev/ptmx
                                      loaded active mounted
                                                             /dev/random
dev-random.mount
dev-tty.mount
                                      loaded active mounted
                                                             /dev/ttv
dev-urandom.mount
                                                             /dev/urandom
                                      loaded active mounted
dev-zero.mount
                                     loaded active mounted
                                                             /dev/zero
proc-cpuinfo.mount
                                     loaded active mounted
                                                            /proc/cpuinfo
proc-diskstats.mount
                                     loaded active mounted /proc/diskstats
```

crontab: Schedule recurring tasks

```
-(root⊕ Information-Security-With-Kali-Linux-17-20BKT0047)-[~]
 # crontab -i
crontab: usage error: file name must be specified for replace
usage: crontab [-u user] file
        crontab [ -u user ] [ -i ] { -e | -l | -r }
                (default operation is replace, per 1003.2)
                (edit user's crontab)
        -е
        -1
                (list user's crontab)
                (delete user's crontab)
        -\mathbf{r}
               (prompt before deleting user's crontab)
        -i
 # cd Downloads
 —(root@Information-Security-With-Kali-Linux-17-20BKT0047)-[~/Downloads]
—# crontab -i newfile
"newfile":0: bad minute
errors in crontab file, can't install.
                              y-With-Kali-Linux-17-20BKT0047)-[~/Downloads]
```

useradd: Add a new user

```
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# useradd
sage: useradd [options] LOGIN
     useradd -D
     useradd -D [options]
ptions:
    --badname
                              do not check for bad names
 -b, --base-dir BASE_DIR
                              base directory for the home directory of the
                              new account
                              use BTRFS subvolume for home directory
     --btrfs-subvolume-home
 -c, --comment COMMENT
                              GECOS field of the new account
 -d. --home-dir HOME_DIR
                              home directory of the new account
 -D, --defaults
                              print or change default useradd configuration
 -e, --expiredate EXPIRE_DATE expiration date of the new account
 -f, --inactive INACTIVE
                              password inactivity period of the new account
 -F, --add-subids-for-system
                              add entries to sub[ud]id even when adding a syst
m user
 -g, --gid GROUP
                              name or ID of the primary group of the new
                              account
 -G, --groups GROUPS
                              list of supplementary groups of the new
 -h, --help
                              display this help message and exit
                              use this alternative skeleton directory
```

passwd: Change user password

```
root® Information-Security-With-Kali-Linux-17-20BKT0047)-[~]
# passwd
New password:
Retype new password:
passwd: password updated successfully
```

```
root@Information-Security-With-Kali-Linux-17-20BKT0047: ~
                  ion-Security-With-Kali-Linux-17-20BKT0047)-[~]
 # adduser new
Adding user `new' ...
Adding new group `new' (1001) ...
Adding new user `new' (1001) with group `new (1001)' ...
Creating home directory '/home/new' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for new
Enter the new value, or press ENTER for the default
        Full Name []:
        Room Number []:
       Work Phone []:
        Home Phone []:
       Other []:
Is the information correct? [Y/n]
Adding new user `new' to supplemental / extra groups `users' ...
Adding user `new' to group `users' ...
```

```
root⊕ Information-Security-With-Kali-Linux-17-20BKT0047)-[~]
# passwd new
New password:
Retype new password:
passwd: password updated successfully
```