

WEEK ASSESSMENT - 1

-By

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Title: Linux Command List Assessment

Instructions:-

The following assessment aims to test your understanding and practical knowledge of various Linux commands. Perform the tasks given below using the appropriate commands. Write down the command(s) used to complete each task. You can use any Linux distribution or command-line interface of your choice. Ensure that you provide the correct output or results for each task.

Note: It is recommended to perform this assessment on a Linux machine or virtual environment.

File and Directory Operations:

ls: List files and directories

cd: Change directory

pwd: Print working directory

mkdir: Make directory

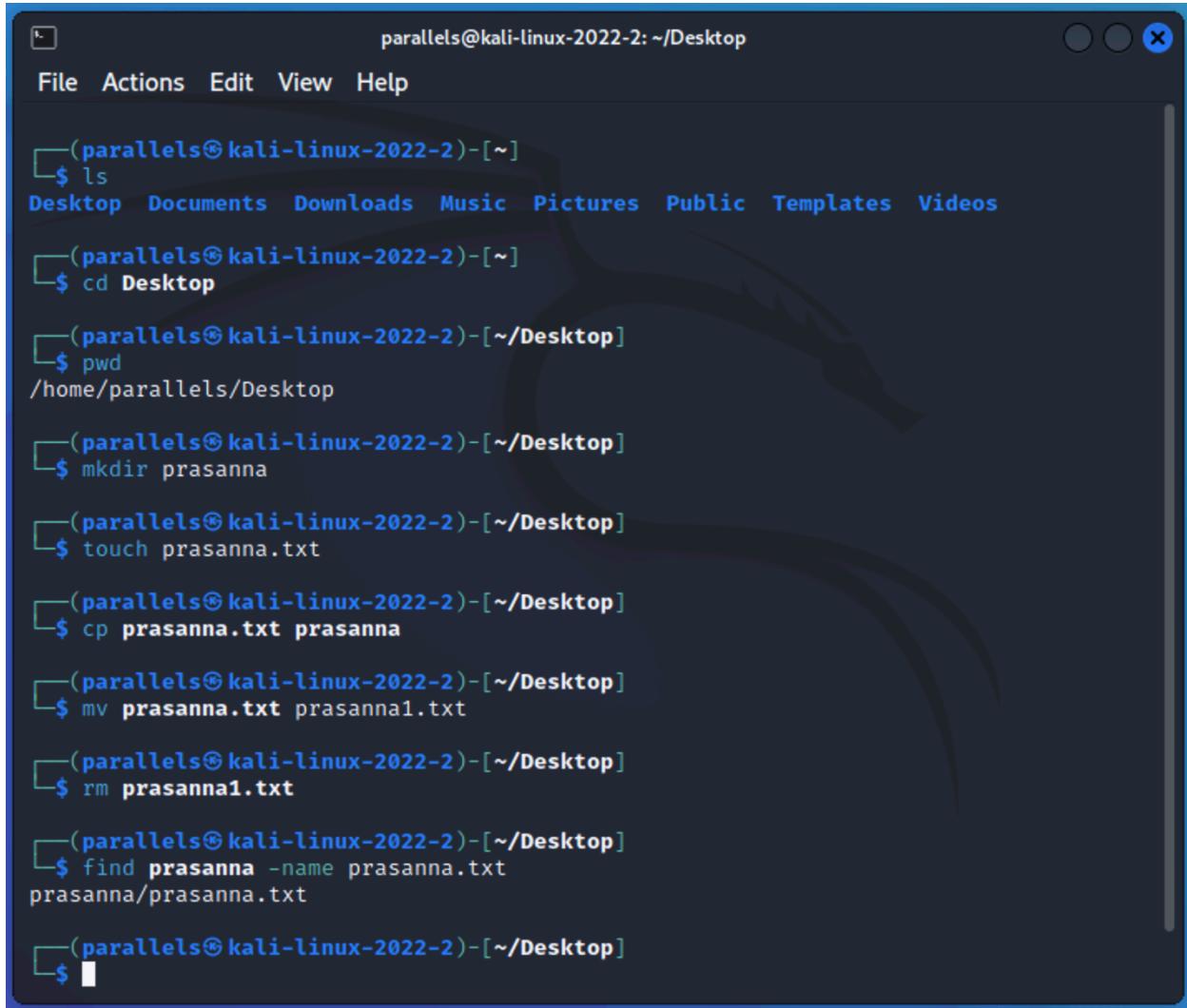
touch: Create an empty file

cp: Copy files and directories

mv: Move or rename files and directories

rm: Remove files and directories

find: Search for files and directories



The screenshot shows a terminal window titled "parallels@kali-linux-2022-2: ~/Desktop". The window has a dark theme with a dragon logo in the background. The terminal history is as follows:

```
(parallels@kali-linux-2022-2) [~]
$ ls
Desktop Documents Downloads Music Pictures Public Templates Videos

(parallels@kali-linux-2022-2) [~]
$ cd Desktop

(parallels@kali-linux-2022-2) [~/Desktop]
$ pwd
/home/parallels/Desktop

(parallels@kali-linux-2022-2) [~/Desktop]
$ mkdir prasanna

(parallels@kali-linux-2022-2) [~/Desktop]
$ touch prasanna.txt

(parallels@kali-linux-2022-2) [~/Desktop]
$ cp prasanna.txt prasanna

(parallels@kali-linux-2022-2) [~/Desktop]
$ mv prasanna.txt prasanna1.txt

(parallels@kali-linux-2022-2) [~/Desktop]
$ rm prasanna1.txt

(parallels@kali-linux-2022-2) [~/Desktop]
$ find prasanna -name prasanna.txt
prasanna/prasanna.txt

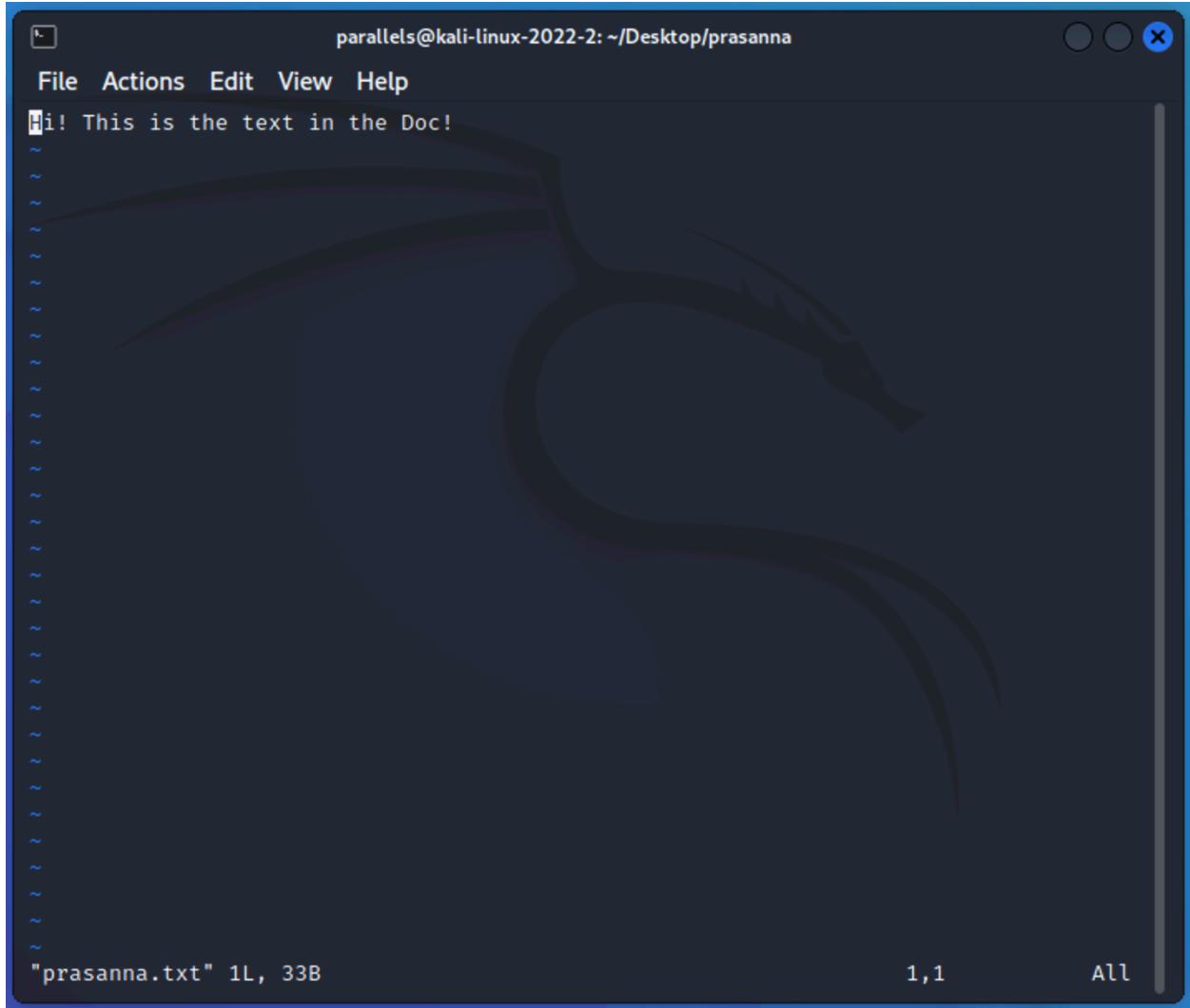
(parallels@kali-linux-2022-2) [~/Desktop]
$ █
```

File Viewing and Editing:

```
parallels@kali-linux-2022-2: ~/Desktop/prasanna
File Actions Edit View Help
└─(parallels@kali-linux-2022-2)-[~]
└─$ cd Desktop
└─(parallels@kali-linux-2022-2)-[~/Desktop]
└─$ cd prasanna
└─(parallels@kali-linux-2022-2)-[~/Desktop/prasanna]
└─$ cat prasanna.txt
Hi! This is the text in the Doc!
└─(parallels@kali-linux-2022-2)-[~/Desktop/prasanna]
└─$ less prasanna.txt
└─(parallels@kali-linux-2022-2)-[~/Desktop/prasanna]
└─$ head prasanna.txt
Hi! This is the text in the Doc!
└─(parallels@kali-linux-2022-2)-[~/Desktop/prasanna]
└─$ tail prasanna.txt
Hi! This is the text in the Doc!
└─(parallels@kali-linux-2022-2)-[~/Desktop/prasanna]
└─$ nano prasanna.txt
└─(parallels@kali-linux-2022-2)-[~/Desktop/prasanna]
└─$ vim prasanna.txt
└─(parallels@kali-linux-2022-2)-[~/Desktop/prasanna]
└─$ 
```

cat: Concatenate and display file content

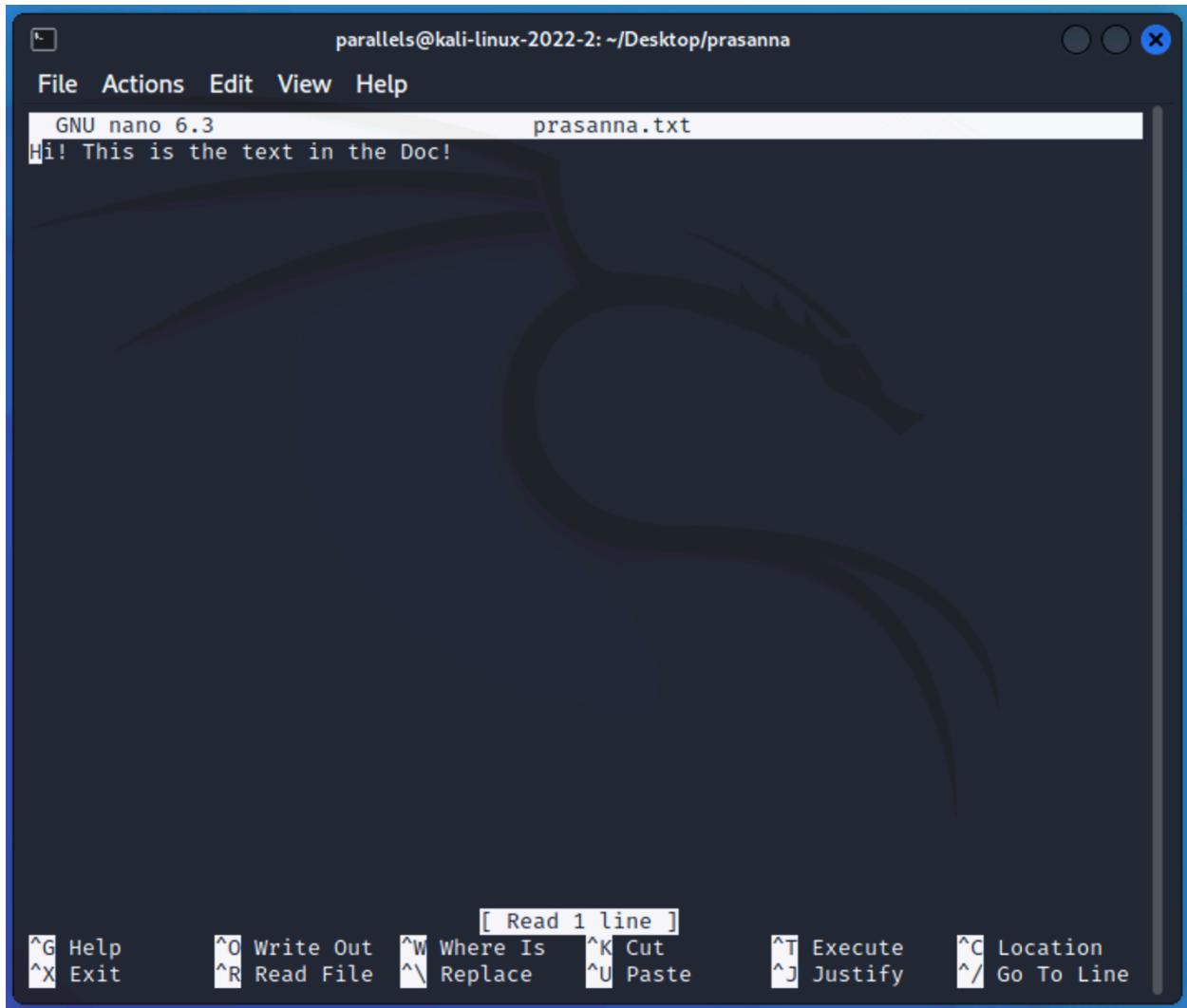
less: View file content with pagination:



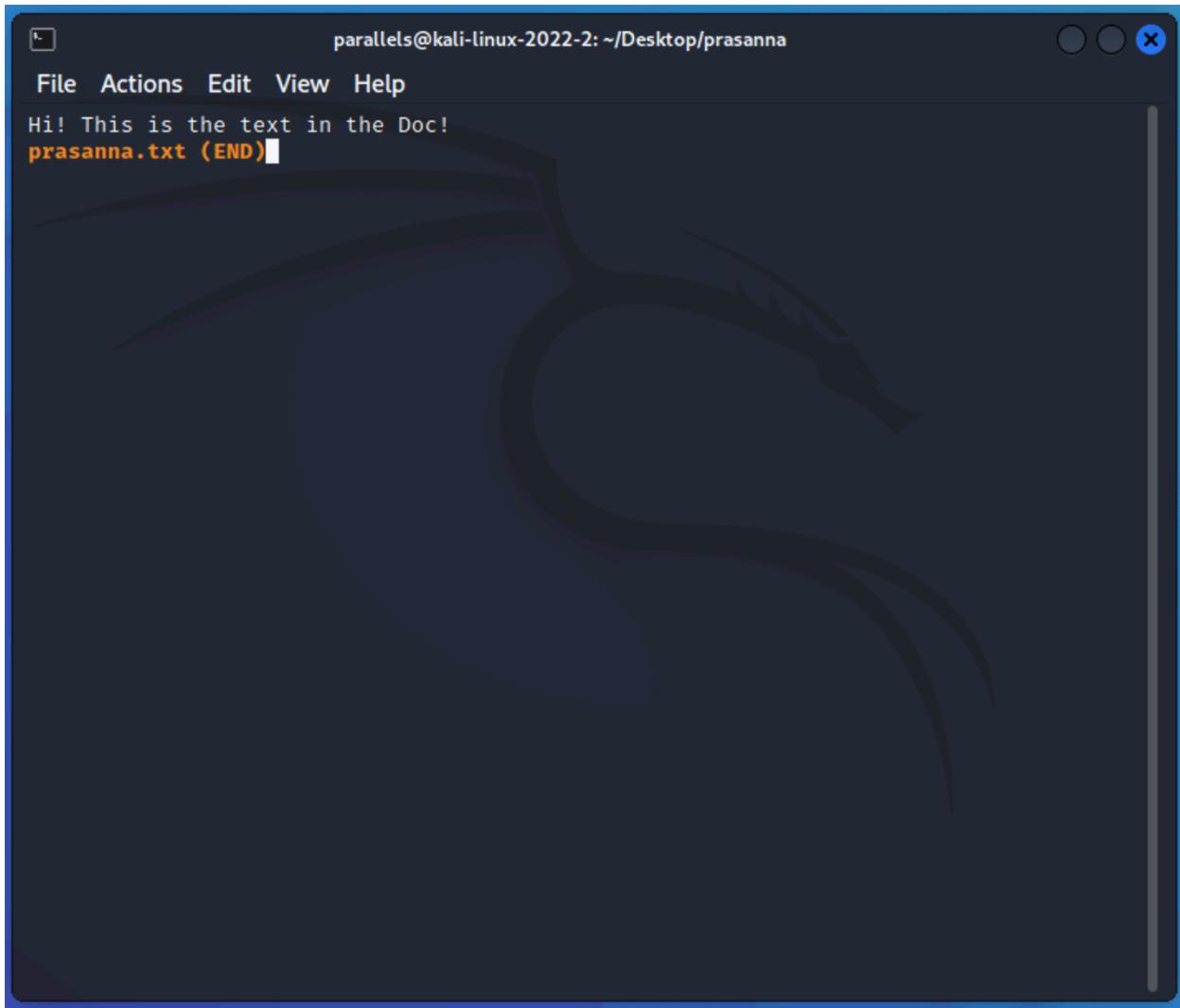
A screenshot of a terminal window titled "parallels@kali-linux-2022-2: ~/Desktop/prasanna". The window contains the text "Hi! This is the text in the Doc!" followed by approximately 30 blank lines indicated by a tilde (~). At the bottom, the status bar shows the file name "prasanna.txt" and its size "1L, 33B", along with the coordinates "1,1" and the word "All".

head: Display the beginning of a file
tail: Display the end of a file

nano: Text editor for creating and editing files:



vi/vim: Powerful text editor for experienced users:

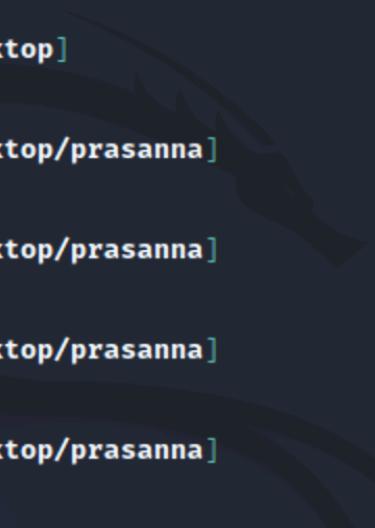


File Permissions:

chmod: Change file permissions

chown: Change file owner

chgrp: Change file group



```
parallels@kali-linux-2022-2: ~/Desktop/prasanna
File Actions Edit View Help
└─(parallels㉿kali-linux-2022-2)-[~]
$ cd Desktop

└─(parallels㉿kali-linux-2022-2)-[~/Desktop]
$ cd prasanna

└─(parallels㉿kali-linux-2022-2)-[~/Desktop/prasanna]
$ chmod 755 prasanna.txt

└─(parallels㉿kali-linux-2022-2)-[~/Desktop/prasanna]
$ chown parallels prasanna.txt

└─(parallels㉿kali-linux-2022-2)-[~/Desktop/prasanna]
$ chgrp parallels prasanna.txt

└─(parallels㉿kali-linux-2022-2)-[~/Desktop/prasanna]
$ █
```

File Compression and Archiving:

tar: Archive files

gzip: Compress files

unzip: Extract files from a ZIP archive

```
parallels@kali-linux-2022-2: ~/Desktop
File Actions Edit View Help
└─(parallels@kali-linux-2022-2)-[~]
$ cd Desktop

└─(parallels@kali-linux-2022-2)-[~/Desktop]
$ tar -czvf prasanna.tar.gz prasanna
prasanna/
prasanna/prasanna.txt

└─(parallels@kali-linux-2022-2)-[~/Desktop]
$ gzip -r prasanna

└─(parallels@kali-linux-2022-2)-[~/Desktop]
$ ls
'Parallels Shared Folders'  prasanna.tar.gz
prasanna                  prasanna.zip

└─(parallels@kali-linux-2022-2)-[~/Desktop]
$ unzip prasanna.zip
Archive: prasanna.zip
replace prasanna/prasanna.txt.gz? [y]es, [n]o, [A]ll, [N]one, [r]ename
: n

└─(parallels@kali-linux-2022-2)-[~/Desktop]
$ 
```

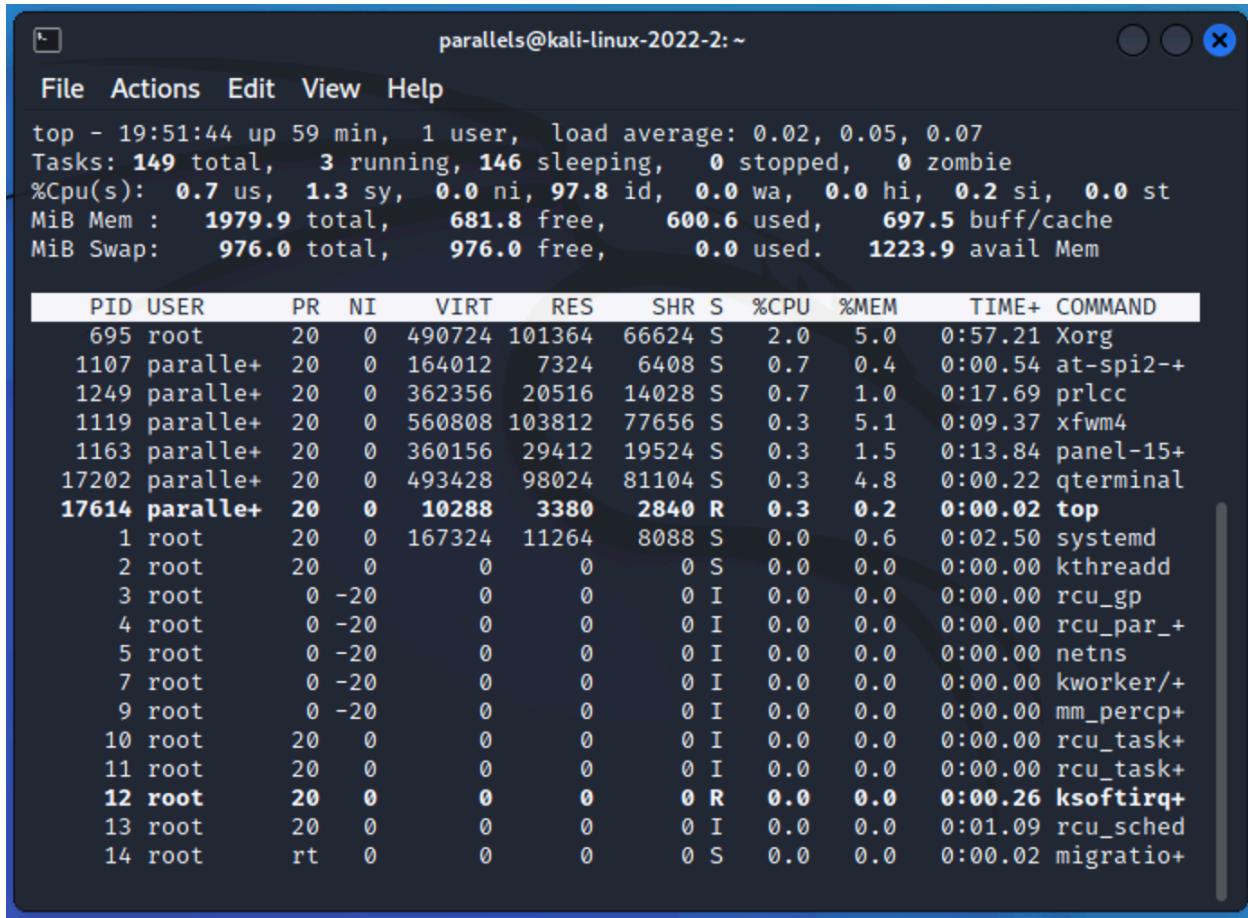
Process Management:

ps: List running processes:

```
parallels@kali-linux-2022-2: ~
File Actions Edit View Help
└─(parallels@kali-linux-2022-2)-[~]
$ ps
   PID TTY          TIME CMD
 17205 pts/0    00:00:00 zsh
 17571 pts/0    00:00:00 ps

└─(parallels@kali-linux-2022-2)-[~]
$ top
```

top: Display real-time system information and processes:



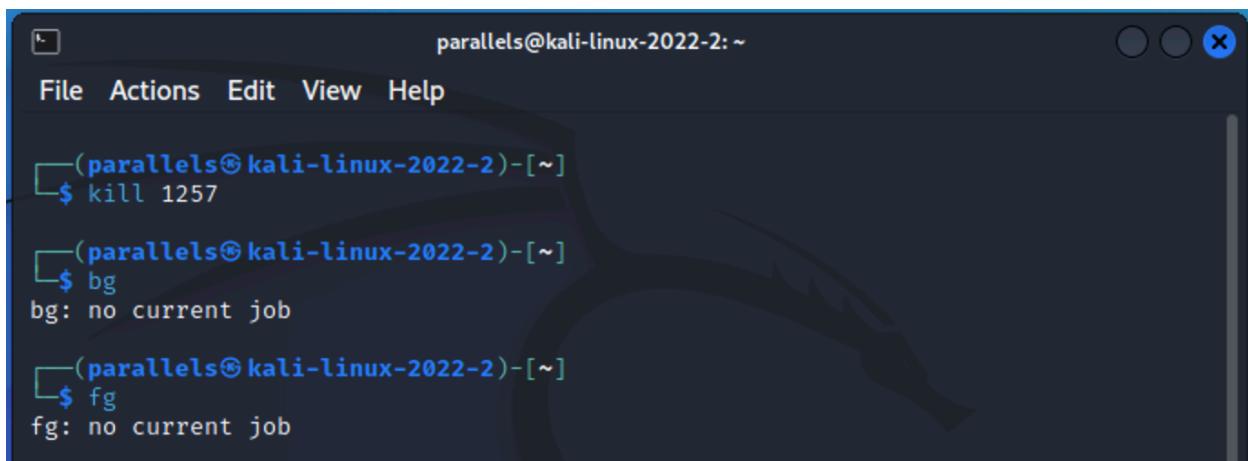
```
parallels@kali-linux-2022-2:~
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
695	root	20	0	490724	101364	66624	S	2.0	5.0	0:57.21	Xorg
1107	paralle+	20	0	164012	7324	6408	S	0.7	0.4	0:00.54	at-spi2-+
1249	paralle+	20	0	362356	20516	14028	S	0.7	1.0	0:17.69	prlcc
1119	paralle+	20	0	560808	103812	77656	S	0.3	5.1	0:09.37	xfwm4
1163	paralle+	20	0	360156	29412	19524	S	0.3	1.5	0:13.84	panel-15+
17202	paralle+	20	0	493428	98024	81104	S	0.3	4.8	0:00.22	qterminal
17614	paralle+	20	0	10288	3380	2840	R	0.3	0.2	0:00.02	top
1	root	20	0	167324	11264	8088	S	0.0	0.6	0:02.50	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kthreadd
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_par_+
5	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	netns
7	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker/+
9	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	mm_percp+
10	root	20	0	0	0	0	I	0.0	0.0	0:00.00	rcu_task+
11	root	20	0	0	0	0	I	0.0	0.0	0:00.00	rcu_task+
12	root	20	0	0	0	0	R	0.0	0.0	0:00.26	ksoftirq+
13	root	20	0	0	0	0	I	0.0	0.0	0:01.09	rcu_sched
14	root	rt	0	0	0	0	S	0.0	0.0	0:00.02	migratio+

kill: Terminate processes

bg: Run processes in the background

fg: Bring background processes to the foreground



```
(parallels@kali-linux-2022-2) [~]
$ kill 1257

(parallels@kali-linux-2022-2) [~]
$ bg
bg: no current job

(parallels@kali-linux-2022-2) [~]
$ fg
fg: no current job
```

System Information:

uname: Print system information

df: Display disk space usage

free: Display memory usage

uptime: Show system uptime

who: Display logged-in users

w: Display logged-in users and their activities

```
parallels@kali-linux-2022-2: ~
File Actions Edit View Help
[parallels@kali-linux-2022-2-[~]
$ uname -a
Linux kali-linux-2022-2 5.18.0-kali5-arm64 #1 SMP Debian 5.18.5-1kali5 (2022-07-
04) aarch64 GNU/Linux

[parallels@kali-linux-2022-2-[~]
$ df -h
Filesystem      Size  Used Avail Use% Mounted on
udev            928M    0  928M  0% /dev
tmpfs           198M  1012K 197M  1% /run
/dev/sda2        62G   11G   48G  19% /
tmpfs           990M    0  990M  0% /dev/shm
tmpfs            5.0M    0   5.0M  0% /run/lock
/dev/sda1        512M  160K  512M  1% /boot/efi
tmpfs           198M   92K  198M  1% /run/user/1000

[parallels@kali-linux-2022-2-[~]
$ free -m
total        used        free      shared  buff/cache   available
Mem:       1979        566        717         65        695       1260
Swap:        975          0        975

[parallels@kali-linux-2022-2-[~]
$ uptime
20:01:05 up  1:08,  1 user,  load average: 0.03, 0.10, 0.09

[parallels@kali-linux-2022-2-[~]
$ who
parallels  tty7        2023-05-28 18:52 (:0)

[parallels@kali-linux-2022-2-[~]
$ w
20:01:26 up  1:08,  1 user,  load average: 0.02, 0.09, 0.08
USER     TTY      FROM             LOGIN@  IDLE   JCPU   PCPU WHAT
parallel  tty7      :0              18:52   1:08m  1:04   0.67s xfce4-session
```

Networking:

ifconfig: Configure network interfaces

ping: Send ICMP echo requests to a network host:



The screenshot shows a terminal window titled "parallels@kali-linux-2022-2: ~". It displays two commands: "ifconfig" and "ping".

```
parallels@kali-linux-2022-2: ~
File Actions Edit View Help
[parallels@kali-linux-2022-2)-[~]
$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.211.55.5 netmask 255.255.255.0 broadcast 10.211.55.255
        inet6 fe80::21c:42ff:fe46 prefixlen 64 scopeid 0x20<link>
    inet6 fdb2:2c26:f4e4:0:21c:42ff:fe46 prefixlen 64 scopeid 0x0<global>
    inet6 fdb2:2c26:f4e4:0:691e:ca2f:448a:f179 prefixlen 64 scopeid 0x0<global>
        ether 00:1c:42:f1:fe:46 txqueuelen 1000 (Ethernet)
        RX packets 244 bytes 48908 (47.7 KiB)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 207 bytes 21553 (21.0 KiB)
        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 0 bytes 0 (0.0 B)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 0 bytes 0 (0.0 B)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

[parallels@kali-linux-2022-2)-[~]
$ ping google.com
PING google.com (142.250.182.78) 56(84) bytes of data.
64 bytes from maa05s20-in-f14.1e100.net (142.250.182.78): icmp_seq=1 ttl=128 time=10.3 ms
64 bytes from maa05s20-in-f14.1e100.net (142.250.182.78): icmp_seq=2 ttl=128 time=19.5 ms
^C64 bytes from 142.250.182.78: icmp_seq=3 ttl=128 time=18.0 ms

--- google.com ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2010ms
rtt min/avg/max/mdev = 10.340/15.940/19.521/4.011 ms

[parallels@kali-linux-2022-2)-[~]
$
```

ssh: Securely connect to a remote system

scp: Securely copy files between systems

wget: Download files from the web

```
parallels@kali-linux-2022-2:~
```

```
File Actions Edit View Help
```

```
(parallels@kali-linux-2022-2)-[~]
```

```
$ ssh prasannakumar@192.168.10.37
```

```
ssh: connect to host 192.168.10.37 port 22: Connection refused
```

```
(parallels@kali-linux-2022-2)-[~]
```

```
$ scp prasanna.txt prasannakumar@192.168.10.37 /home/parallels/Desktop
```

```
cp: cannot stat 'prasanna.txt': No such file or directory
```

```
cp: cannot stat 'prasannakumar@192.168.10.37': No such file or directory
```

```
(parallels@kali-linux-2022-2)-[~]
```

```
$ wget www.pdf995.com/samples/pdf.pdf
```

```
--2023-05-28 20:21:20-- http://www.pdf995.com/samples/pdf.pdf
```

```
Resolving www.pdf995.com (www.pdf995.com)... 3.219.198.246
```

```
Connecting to www.pdf995.com (www.pdf995.com)|3.219.198.246|:80... connected.
```

```
HTTP request sent, awaiting response ... 200 OK
```

```
Length: 433994 (424K) [application/pdf]
```

```
Saving to: 'pdf.pdf'
```

```
pdf.pdf 100%[=====] 423.82K 199KB/s in 2.1s
```

```
2023-05-28 20:21:27 (199 KB/s) - 'pdf.pdf' saved [433994/433994]
```

```
(parallels@kali-linux-2022-2)-[~]
```

```
$ █
```

System Administration:

sudo: Execute commands with superuser privileges

apt-get: Package management for Debian-based distributions

yum: Package management for Red Hat-based distributions

systemctl: Manage system services

```
root@kali-linux-2022-2: /home/parallels
File Actions Edit View Help
[parallels@kali-linux-2022-2:~]
$ sudo su
[sudo] password for parallels:
[parallels@kali-linux-2022-2:/home/parallels]
# apt-get install vim
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
vim is already the newest version (2:8.2.4793-1).
vim set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 8 not upgraded.

[parallels@kali-linux-2022-2:/home/parallels]
# yum list installed
Command 'yum' not found, did you mean:
  command 'num' from deb quickcal
  command 'zum' from deb perforate
  command 'sum' from deb coreutils
  command 'uum' from deb freewnn-jserver
  command 'yum4' from deb nextgen-yum4
Try: apt install <deb name>

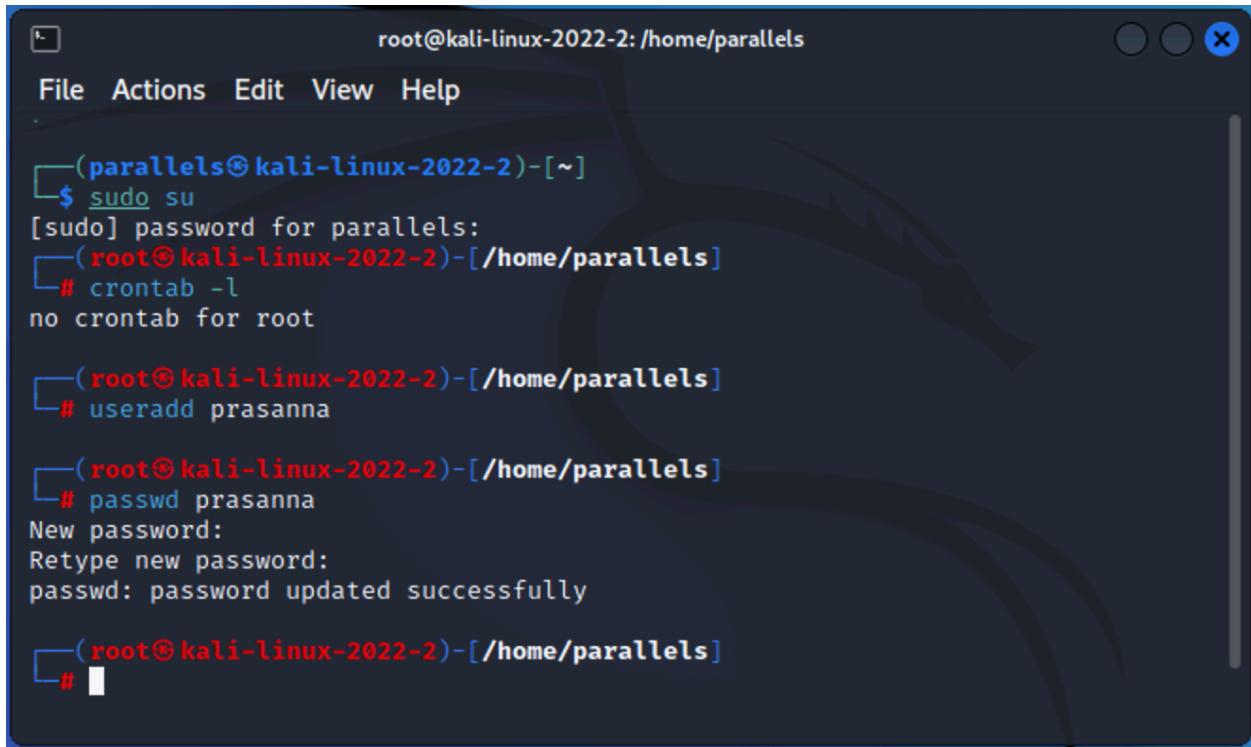
[parallels@kali-linux-2022-2:/home/parallels]
# systemctl status
● kali-linux-2022-2
  State: running
    Jobs: 0 queued
```

```
root@kali-linux-2022-2: /home/parallels
File Actions Edit View Help
● kali-linux-2022-2
  State: running
    Jobs: 0 queued
  Failed: 0 units
  Since: Sun 2023-05-28 18:52:38 IST; 1h 37min ago
  CGroup: /
      └─init.scope
          ├─1 /sbin/init splash
          └─system.slice
              ├─ModemManager.service
              │  └─468 /usr/sbin/ModemManager
              ├─NetworkManager.service
              │  └─462 /usr/sbin/NetworkManager --no-daemon
              ├─colord.service
              │  └─1275 /usr/libexec/colord
              ├─cron.service
              │  └─435 /usr/sbin/cron -f
              ├─dbus.service
              │  └─436 /usr/bin/dbus-daemon --system --address=systemd: --nofork --nopidfile --systemd-activat...
              ├─haveged.service
              │  └─415 /usr/sbin/haveged --Foreground --verbose=1
              ├─lightdm.service
              │  └─624 /usr/sbin/lightdm
              │      ├─695 /usr/lib/xorg/Xorg :0 -seat seat0 -auth /var/run/lightdm/root/:0 -nolisten tcp vt7 -novt...
              │      └─polkit.service
              │          └─439 /usr/libexec/polkitd --no-debug
lines 1-26
```

crontab: Schedule recurring tasks

useradd: Add a new user

passwd: Change user password



The screenshot shows a terminal window titled "root@kali-linux-2022-2: /home/parallels". The window has a dark background with light-colored text. It displays the following command-line session:

```
(parallels㉿kali-linux-2022-2)~]$ sudo su
[sudo] password for parallels:
(root㉿kali-linux-2022-2) [/home/parallels]
# crontab -l
no crontab for root

(root㉿kali-linux-2022-2) [/home/parallels]
# useradd prasanna

(root㉿kali-linux-2022-2) [/home/parallels]
# passwd prasanna
New password:
Retype new password:
passwd: password updated successfully

#
```