

## Lab Practical #1:

- **File and Directory Management:**

- `pwd` – Show the current working directory.

```
root@kali:~# pwd
/root
root@kali:~#
```

- `ls` – List files and directories.
  - Example: `ls -la` (detailed view with hidden files).
- `cd` – Change directories.
  - Example: `cd /etc/` (navigate to the `/etc/` directory).
- `mkdir` – Create a new directory.
  - Example: `mkdir test_dir`.
- `rm` – Remove files or directories.
  - Example: `rm file.txt` or `rm -r directory/`.
- `cp` – Copy files or directories.
  - Example: `cp source.txt destination.txt`.
- `mv` – Move or rename files.
  - Example: `mv oldname.txt newname.txt`.

```
root@kali:~# pwd
/root
root@kali:~# ls
Desktop    Pictures    bettercap.history    ritesh.txt.cupp.txt    wpa_cap_hs-01.csv
Documents  Public      embedded-browser-no-sandbox.json    rtl8814au              wpa_cap_hs-01.kismet.csv
Downloads  Templates  hostapd.config.save    spoof.cap              wpa_cap_hs-01.kismet.netxml
Music      Videos    ritesh.txt              wpa_cap_hs-01.cap      wpa_cap_hs-01.log.csv
root@kali:~# cd Desktop/
root@kali:~/Desktop# mkdir test1
root@kali:~/Desktop# ls
PC  test1  txtfile.txt
root@kali:~/Desktop# rm test1/
rm: cannot remove 'test1/': Is a directory
root@kali:~/Desktop# rm -r test1/
root@kali:~/Desktop# ls
PC  txtfile.txt
root@kali:~/Desktop# cat > demo.txt
Hello this is demo
^C
root@kali:~/Desktop# ls
PC  demo.txt  txtfile.txt
root@kali:~/Desktop# cat demo.txt
Hello this is demo
root@kali:~/Desktop# cat > demo2.txt
hi^C
root@kali:~/Desktop# cat demo2.txt
hi
root@kali:~/Desktop# cp demo.txt demo2.txt
root@kali:~/Desktop# cat demo2.txt
Hello this is demo
root@kali:~/Desktop# mv demo.txt demo1.txt
root@kali:~/Desktop# ls
PC  demo1.txt  demo2.txt  txtfile.txt
root@kali:~/Desktop# less demo1.txt
root@kali:~/Desktop#
```



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- **File Viewing and Editing:**

- `cat` – View file contents.
- `less` – View file contents one screen at a time.
- `nano` – Simple text editor.
- `vi` or `vim` – Advanced text editor.
- `head` – Show the first few lines of a file.
- `tail` – Show the last few lines of a file (use `tail -f` for live updates).

```
root@kali: ~/Desktop 135x35

VIM - Vi IMproved
      version 9.1.16
    by Bram Moolenaar et al.
Modified by team+vim@tracker.debian.org
Vim is open source and freely distributable

  Help poor children in Uganda!
type  :help iccf<Enter>      for information

type  :q<Enter>              to exit
type  :help<Enter> or <F1>   for on-line help
type  :help version9<Enter> for version info

0,0-1 All
```



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```
GNU nano 7.2 root@kali: ~/Desktop 135x35
demol.txt
Hello this is demo
```

```
^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location   ^U Undo       ^A Set Mark
^X Exit      ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^/ Go To Line ^E Redo      ^M Copy
```

```
root@kali:~/Desktop# head -c 3 demol.txt
Hel
root@kali:~/Desktop# tail -c demol.txt
tail: invalid number of bytes: 'demol.txt'
root@kali:~/Desktop# tail -c 3 demol.txt
mo
root@kali:~/Desktop#
```



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- **File Permissions and Ownership:**

- `chmod` – Change file permissions.
  - Example: `chmod 755 file.sh`.
- `chown` – Change file ownership.
  - Example: `chown user:group file.txt`.
- `ls -l` – View permissions and ownership.

```
root@kali:~/Desktop# chown kali:kali demo1.txt
root@kali:~/Desktop# ls -l
total 20
drwxr-xr-x 2 root root 4096 May 13 2024 PC
-rwxr-xr-x 1 kali kali 19 Dec 10 11:53 demo1.txt
-rw-r--r-- 1 root root 19 Dec 10 11:55 demo2.txt
-rw-r--r-- 1 root root 7059 Dec 10 02:57 txtfile.txt
root@kali:~/Desktop# chown root:kali demo1.txt
root@kali:~/Desktop# ls -l
total 20
drwxr-xr-x 2 root root 4096 May 13 2024 PC
-rwxr-xr-x 1 root kali 19 Dec 10 11:53 demo1.txt
-rw-r--r-- 1 root root 19 Dec 10 11:55 demo2.txt
-rw-r--r-- 1 root root 7059 Dec 10 02:57 txtfile.txt
root@kali:~/Desktop#
```

```
root@kali:~/Desktop# chmod 755 demo1.txt
```



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### • System Information

- `uname -a` – Show system information.
- `hostname` – Display or set the system hostname.
- `df -h` – Show disk usage in human-readable format.
- `du -sh` – Show size of a directory.
- `free -h` – Display memory usage.
- `top` or `htop` – Monitor system processes in real-time.
- `whoami` – Show the current logged-in user.

```
root@kali:~# hostname
kali
root@kali:~# uname -a
Linux kali 6.6.9-amd64 #1 SMP PREEMPT_DYNAMIC Kali 6.6.9-1kali1 (2024-01-08) x86_64 GNU/Linux
root@kali:~# df -h
Filesystem      Size  Used Avail Use% Mounted on
udev            930M   0    930M   0% /dev
tmpfs           195M  1.9M   193M   1% /run
/dev/sda1       78G   17G   57G   24% /
tmpfs           971M   0    971M   0% /dev/shm
tmpfs           5.0M   0    5.0M   0% /run/lock
tmpfs           195M  160K   194M   1% /run/user/0
root@kali:~# du -sh
944M
root@kali:~#
```

```
root@kali:~# free -h
              total        used        free      shared  buff/cache   available
Mem:           1.9Gi       978Mi       672Mi        18Mi        454Mi       961Mi
Swap:          974Mi       476Mi       498Mi
root@kali:~#
```



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```
root@kali:~# top
top - 12:09:48 up 9:12, 1 user, load average: 0.12, 0.22, 0.36
Tasks: 220 total, 2 running, 218 sleeping, 0 stopped, 0 zombie
%Cpu(s): 6.0 us, 2.3 sy, 0.0 ni, 90.9 id, 0.7 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 1940.1 total, 663.9 free, 978.3 used, 463.8 buff/cache
MiB Swap: 975.0 total, 498.6 free, 476.4 used, 961.8 avail Mem

  PID USER      PR  NI  VIRT  RES  SHR  S  %CPU  %MEM    TIME+  COMMAND
 1882 root        20   0 3961284 338028 84184 S   4.3   16.6  41:48.41 gnome-shell
 1683 root        20   0 4099984 81456 19356 S   3.3   4.1   16:35.11 Xorg
 11776 root        20   0 0 0 0 I   1.6   0.0   0:10.21 kworker/0:3-mpt_poll_0
 11820 root        20   0 0 0 0 I   1.6   0.0   0:02.72 kworker/1:3-events
 11899 root        20   0 926888 82280 44404 S   1.6   4.1   0:08.86 terminator
 1933 root        20   0 386664 9556 4480 S   1.3   0.5   1:01.19 ibus-daemon
12058 root        20   0 12352 5504 3328 R   1.3   0.3   0:00.25 top
 494 root        20   0 316248 7176 4476 S   1.0   0.4   4:32.75 vmtoolsd
 1974 root        20   0 365632 17120 10444 S   0.7   0.9   3:50.98 vmtoolsd
 1868 root        20   0 1289368 25860 10444 S   0.3   1.3   0:34.65 mutter-x11-fram
 1953 root        20   0 418884 8492 6528 S   0.3   0.4   0:01.46 gsd-xsettings
 1965 root        20   0 598860 17844 10056 S   0.3   0.9   0:18.48 kdeconnectd
 2081 root        20   0 834612 10672 7532 S   0.3   0.5   0:04.31 evolution-alarm
 2179 root        20   0 345804 15844 6272 S   0.3   0.8   0:17.70 ibus-extension-
 2290 root        20   0 234776 4812 4480 S   0.3   0.2   0:16.23 ibus-engine-sim
 2449 root        20   0 3294852 40532 25344 S   0.3   2.0   0:32.24 gjs
 3517 root        20   0 606368 149040 20080 S   0.3   7.5   0:23.32 fwupd
 1 root        20   0 22552 8560 6128 S   0.0   0.4   0:25.83 systemd
 2 root        20   0 0 0 0 S   0.0   0.0   0:00.64 kthreadd
 3 root        20   0 0 0 0 S   0.0   0.0   0:00.00 pool_workqueue_release
 4 root        0 -20 0 0 0 I   0.0   0.0   0:00.00 kworker/R-rcu_g
 5 root        0 -20 0 0 0 I   0.0   0.0   0:00.00 kworker/R-rcu_p
 6 root        0 -20 0 0 0 I   0.0   0.0   0:00.00 kworker/R-slub
 7 root        0 -20 0 0 0 I   0.0   0.0   0:00.00 kworker/R-netns
 11 root       20   0 0 0 0 I   0.0   0.0   0:00.65 kworker/u256:0-ext4-rsv-conversion
 12 root        0 -20 0 0 0 I   0.0   0.0   0:00.00 kworker/R-mm_pg
 13 root        20   0 0 0 0 I   0.0   0.0   0:00.00 rcu_tasks_kthreadd
 14 root        20   0 0 0 0 I   0.0   0.0   0:00.00 rcu_tasks_rude_kthreadd
 15 root        20   0 0 0 0 I   0.0   0.0   0:00.00 rcu_tasks_trace_kthreadd
 16 root        20   0 0 0 0 S   0.0   0.0   0:03.52 ksoftirqd/0
 17 root        20   0 0 0 0 R   0.0   0.0   0:18.39 rcu_preempt
 18 root        rt  0 0 0 0 S   0.0   0.0   0:01.90 migration/0
 19 root       -51  0 0 0 0 S   0.0   0.0   0:00.00 idle_inject/0
 20 root        20   0 0 0 0 S   0.0   0.0   0:00.00 cpuhp/0
 21 root        20   0 0 0 0 S   0.0   0.0   0:00.00 cpuhp/1
 22 root       -51  0 0 0 0 S   0.0   0.0   0:00.00 idle_inject/1
 23 root        rt  0 0 0 0 S   0.0   0.0   0:01.94 migration/1
 24 root        20   0 0 0 0 S   0.0   0.0   0:04.90 ksoftirqd/1
 31 root        20   0 0 0 0 S   0.0   0.0   0:00.00 kdevtmpfs
 32 root        0 -20 0 0 0 I   0.0   0.0   0:00.00 kworker/R-inet_
 34 root        20   0 0 0 0 S   0.0   0.0   0:00.00 kauditd
 36 root        20   0 0 0 0 S   0.0   0.0   0:02.34 khungtaskd
 37 root        20   0 0 0 0 S   0.0   0.0   0:00.00 oom_reaper
 38 root        0 -20 0 0 0 I   0.0   0.0   0:00.00 kworker/R-write
 39 root        20   0 0 0 0 S   0.0   0.0   0:46.68 kcompactd0
 40 root        25   5 0 0 0 S   0.0   0.0   0:00.00 ksmd
 41 root        39  19 0 0 0 S   0.0   0.0   0:14.00 khugepaged
 42 root        0 -20 0 0 0 I   0.0   0.0   0:00.00 kworker/R-kinte
 43 root        0 -20 0 0 0 I   0.0   0.0   0:00.00 kworker/R-kbloc
 44 root        0 -20 0 0 0 I   0.0   0.0   0:00.00 kworker/R-blkcg
 46 root        0 -20 0 0 0 I   0.0   0.0   0:00.00 kworker/R-tpm_d
 47 root        0 -20 0 0 0 I   0.0   0.0   0:00.00 kworker/R-edac-
 48 root        0 -20 0 0 0 I   0.0   0.0   0:00.00 kworker/R-devfr
 50 root        20   0 0 0 0 S   0.0   0.0   0:35.60 kswapd0
```

```
root@kali:~# whoami
root
root@kali:~#
```



- **Networking Commands**

- `ifconfig / ip addr` – Display network interfaces.
- `ping` – Test network connectivity.
- `netstat` – Show network connections.
- `nmap` – Network scanning (pre-installed in Kali Linux).
  - Example: `nmap -sS -p 22 192.168.1.1`.
- `wget` – Download files from the internet.
  - Example: `wget http://example.com/file.zip`.
- `curl` – Transfer data from URLs.

Example: `curl -O http://example.com/file.zip`

```
root@kali:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.230.131 netmask 255.255.255.0 broadcast 192.168.230.255
    inet6 fe80::20c:29ff:fe92:dbf5 prefixlen 64 scopeid 0x20<link>
    ether 00:0c:29:92:db:f5 txqueuelen 1000 (Ethernet)
    RX packets 57724 bytes 26599622 (25.3 MiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 54691 bytes 4386405 (4.1 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 4559 bytes 209089 (204.1 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 4559 bytes 209089 (204.1 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

root@kali:~# ping www.google.com
PING www.google.com (142.251.42.68) 56(84) bytes of data:
64 bytes from bom12s21-in-f4.1e100.net (142.251.42.68): icmp_seq=1 ttl=128 time=37.3 ms
64 bytes from bom12s21-in-f4.1e100.net (142.251.42.68): icmp_seq=2 ttl=128 time=39.1 ms
64 bytes from bom12s21-in-f4.1e100.net (142.251.42.68): icmp_seq=3 ttl=128 time=44.2 ms
64 bytes from bom12s21-in-f4.1e100.net (142.251.42.68): icmp_seq=4 ttl=128 time=45.5 ms
64 bytes from bom12s21-in-f4.1e100.net (142.251.42.68): icmp_seq=5 ttl=128 time=46.6 ms
64 bytes from bom12s21-in-f4.1e100.net (142.251.42.68): icmp_seq=6 ttl=128 time=42.6 ms
64 bytes from bom12s21-in-f4.1e100.net (142.251.42.68): icmp_seq=7 ttl=128 time=48.6 ms
64 bytes from bom12s21-in-f4.1e100.net (142.251.42.68): icmp_seq=8 ttl=128 time=49.3 ms
^C
--- www.google.com ping statistics ---
8 packets transmitted, 8 received, 0% packet loss, time 6994ms
rtt min/avg/max/mdev = 37.273/44.147/49.318/4.023 ms
root@kali:~#
```

```
root@kali:~# netstat -r
Kernel IP routing table
Destination      Gateway          Genmask         Flags   MSS Window  irtt Iface
default          gateway         0.0.0.0         UG        0 0        0 eth0
192.168.230.0    0.0.0.0         255.255.255.0   U         0 0        0 eth0
root@kali:~#
```



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```
root@kali:~# nmap 192.168.230.131
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-12-10 12:17 EST
Nmap scan report for 192.168.230.131
Host is up (0.000036s latency).
Not shown: 999 closed tcp ports (reset)
PORT      STATE SERVICE
22/tcp    open  ssh

Nmap done: 1 IP address (1 host up) scanned in 0.33 seconds
root@kali:~#
```

```
root@kali:~# nmap 192.168.230.131
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-12-10 12:17 EST
Nmap scan report for 192.168.230.131
Host is up (0.000036s latency).
Not shown: 999 closed tcp ports (reset)
PORT      STATE SERVICE
22/tcp    open  ssh
```

```
Nmap done: 1 IP address (1 host up) scanned in 0.33 seconds
root@kali:~# nmap 192.168.230.131 -sV
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-12-10 12:17 EST
Nmap scan report for 192.168.230.131
Host is up (0.000034s latency).
Not shown: 999 closed tcp ports (reset)
PORT      STATE SERVICE
22/tcp    open  ssh      OpenSSH 9.6p1 Debian 3 (protocol 2.0)
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel
```

```
Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 1.04 seconds
root@kali:~#
```

```
root@kali:~# wget https://github.com/Thinkful-Ed/text-analyzer-starter-files/blob/master/index.html
--2024-12-10 12:20:33-- https://github.com/Thinkful-Ed/text-analyzer-starter-files/blob/master/index.html
Resolving github.com (github.com)... 20.207.73.82
Connecting to github.com (github.com)|20.207.73.82|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [text/html]
Saving to: 'index.html'

index.html      [ <=> ] 331.95K  1.42MB/s   in 0.2s

2024-12-10 12:20:34 (1.42 MB/s) - 'index.html' saved [339912]

root@kali:~#
```

```
root@kali:~/Desktop# curl --upload-file demol.txt https://transfer.sh/remote-file.txt
^X^C
root@kali:~/Desktop# ^C
root@kali:~/Desktop#
```



## Package Management

- `apt update` – Update package lists.
- `apt upgrade` – Upgrade installed packages.
- `apt install <package>` – Install a package.
  - Example: `apt install nmap`.
- `apt remove <package>` – Uninstall a package.

```
root@kali:~# apt update
Get:1 http://kali.download/kali kali-rolling InRelease [41.5 kB]
Get:2 http://kali.download/kali kali-rolling/main i386 Packages [19.8 MB]
Get:3 http://kali.download/kali kali-rolling/main amd64 Packages [20.2 MB]
Get:4 http://kali.download/kali kali-rolling/main i386 Contents (deb) [45.6 MB]
Get:5 http://kali.download/kali kali-rolling/main amd64 Contents (deb) [48.8 MB]
Get:6 http://kali.download/kali kali-rolling/contrib i386 Packages [93.1 kB]
Get:7 http://kali.download/kali kali-rolling/contrib amd64 Packages [109 kB]
Get:8 http://kali.download/kali kali-rolling/contrib amd64 Contents (deb) [261 kB]
Get:9 http://kali.download/kali kali-rolling/contrib i386 Contents (deb) [178 kB]
Get:10 http://kali.download/kali kali-rolling/non-free i386 Packages [148 kB]
Get:11 http://kali.download/kali kali-rolling/non-free amd64 Packages [196 kB]
Get:12 http://kali.download/kali kali-rolling/non-free i386 Contents (deb) [823 kB]
Get:13 http://kali.download/kali kali-rolling/non-free amd64 Contents (deb) [876 kB]
Get:14 http://kali.download/kali kali-rolling/non-free-firmware amd64 Packages [10.6 kB]
Get:15 http://kali.download/kali kali-rolling/non-free-firmware i386 Packages [10.1 kB]
Get:16 http://kali.download/kali kali-rolling/non-free-firmware amd64 Contents (deb) [23.2 kB]
Get:17 http://kali.download/kali kali-rolling/non-free-firmware i386 Contents (deb) [23.2 kB]
Fetched 137 MB in 52s (2644 kB/s)
```

```
root@kali:~# apt upgrade
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following packages were automatically installed and are no longer required:
  chrome-gnome-shell ibverbs-providers libabsl20220623:i386
  libaiol libatk-adaptor libboost-iostreams1.74.0
  libboost-thread1.74.0 libcephfs2 libdrm-nouveau2:i386
  libdrm-radeon1:i386 libgfpapi0 libgfrpc0 libgfxdr0
  libglusterfs0 libgphoto2-l10n libibverbs1 librados2 librdmacm1
  libsensors5:i386 libsub-override-perl python3-diskcache
  python3-mistune0 python3-png python3-pyatspi python3-pypdf2
  vlc-l10n
Use 'apt autoremove' to remove them.
The following NEW packages will be installed:
  firmware-carl9170 firmware-marvell-prestera gsfons
  kf6-breeze-icon-theme libabsl20230802 libabsl20230802:i386
  libaiolt64 libavle0.7 libavle0.7:i386 libsvtavlc2
  libsvtavlc2:i386 libxxhash0:i386 linux-image-6.11.2-amd64
  python3-legacy-cgi python3-mistune python3-pyasyncore
  python3-pypdf python3-pyzipper python3-tabulate
  python3-typeguard
The following packages have been kept back:
  accountsservice acl adw-gtk3-kali adwaita-icon-theme
  aircrack-ng alsa-ucm-conf apache2 apache2-bin apache2-data
  apache2-utils apparmor appstream apt apt-utils arj ark
  arp-scan arping aspell at-spi2-core atftpd avahi-daemon axel
```



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```
root@kali:~# apt install curl
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  accountsservice acl aha apache2-data apache2-utils apg appstream apt-config-icons apt-config-icons-hidpi apt-config-icons-large
  apt-config-icons-large-hidpi binutils-mingw-w64-i686 binutils-mingw-w64-x86_64 bluez-obexd bolt breeze-cursor-theme
  breeze-gtk-theme breeze-icon-theme bubblewrap bup-doc catdoc colord-data cups-bsd cups-client dconf-cli doc-base docbook-xml
  docbook-xsl enchant-2 espeak espeak-data espeak-ng-data evince-common evolution-data-server-common firebird3.0-common
  firebird3.0-common-doc fonts-dejavu fonts-hack fonts-wine freetds-common fwupd galera-4 gcc-mingw-w64-base gcc-mingw-w64-i686-win32
  gcc-mingw-w64-i686-win32-runtime gcc-mingw-w64-x86_64-win32 gcc-mingw-w64-x86_64-win32-runtime gdal-data gdal-plugins gdb-minimal
  geocode-glib-common geoip-database geoupdate gir1.2-accountsservice-1.0 gir1.2-gck-1 gir1.2-gcr-3 gir1.2-gdesktopenums-3.0
  gir1.2-gdm-1.0 gir1.2-geoclue-2.0 gir1.2-gmenu-3.0 gir1.2-gnomeautoar-0.1 gir1.2-gnomebluetooth-3.0 gir1.2-gnomedesktop-3.0
  gir1.2-gnomedesktop-4.0 gir1.2-graphene-1.0 gir1.2-gst-plugins-base-1.0 gir1.2-gstreamer-1.0 gir1.2-gtksource-4 gir1.2-handy-1
  gir1.2-ibus-1.0 gir1.2-javascriptcoregtk-4.1 gir1.2-javascriptcoregtk-6.0 gir1.2-json-1.0 gir1.2-malcontent-0
  gir1.2-packagekitglib-1.0 gir1.2-polkit-1.0 gir1.2-rsvg-2.0 gir1.2-secret-1 gir1.2-totemplerparser-1.0 gir1.2-upowerglib-1.0
```

## Process Management

- `ps` – View running processes.
  - `kill` – Terminate a process.
    - Example: `kill -9 <PID>`.
  - `jobs` – List background jobs.
- `bg` / `fg` – Resume jobs in background/foreground

```
root@kali:~# ps
  PID TTY          TIME CMD
 12685 pts/0    00:00:00 bash
 12686 pts/0    00:00:00 ps
root@kali:~# kill -9 12686
bash: kill: (12686) - No such process
root@kali:~#
```

```
root@kali:~# jobs --help
jobs: jobs [-lnprs] [jobspec ...] or jobs -x command [args]
  Display status of jobs.

  Lists the active jobs.  JOBSPEC restricts output to that job.
  Without options, the status of all active jobs is displayed.

  Options:
  -l          lists process IDs in addition to the normal information
  -n          lists only processes that have changed status since the last
              notification
  -p          lists process IDs only
  -r          restrict output to running jobs
  -s          restrict output to stopped jobs

  If -x is supplied, COMMAND is run after all job specifications that
  appear in ARGS have been replaced with the process ID of that job's
  process group leader.

  Exit Status:
  Returns success unless an invalid option is given or an error occurs.
  If -x is used, returns the exit status of COMMAND.
```

```
root@kali:~# jobs -l
root@kali:~# jobs -s
root@kali:~# jobs
```

```
root@kali:~# bg
bash: bg: current: no such job
root@kali:~#
```

## Scripting and Automation

- `bash script.sh` – Run a bash script.
- `crontab -e` – Edit cron jobs for scheduling tasks.
- `grep` – Search text in files.
  - Example: `grep "pattern" file.txt`.
- `find` – Search for files.
  - Example: `find / -name "filename"`.

```
root@kali:~/Desktop# ls
PC demo1.txt demo2.txt txtfile.txt
root@kali:~/Desktop# cat > script.sh
echo "Hello, this is a simple echo statement!"
root@kali:~/Desktop# cat script.sh
echo "Hello, this is a simple echo statement!"
root@kali:~/Desktop# bash script.sh
Hello, this is a simple echo statement!
root@kali:~/Desktop#
```

```
root@kali:~/Desktop# crontab -e
no crontab for root - using an empty one

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

Choose 1-3 [1]:
```

```
root@kali:~/Desktop# grep "dem" demo1.txt
Hello this is demo
root@kali:~/Desktop# grep "dem" script.sh
root@kali:~/Desktop#
```

```
root@kali:~/Desktop# ls
PC demo1.txt demo2.txt script.sh txtfile.txt
root@kali:~/Desktop# find . -name "demo1.txt"
./demo1.txt
root@kali:~/Desktop#
```