

### Working with a Vi Editor:

1: Create a file using vi. Enter the following text:

A network is a group of computers that can communicate with each other, share resources, and access remote hosts or other networks. Netware is a computer network operating system designed to connect, manage, and maintain a network and its services. Some of the network services are Netware Directory Services (NDS), file system, printing and security.

Ans. admin@hostname01 ~]\$ vi network.txt

a. Change the word "Netware" in the second line to "Novell Netware".

:%s/Netware/Novell

b. Insert the text "(such as hard disks and printers)" after "share resources" in the first line.

/share resources

a to append text and type "such as hard disks and printers"

c. Append the following text to the file:

"Managing NDS is a fundamental administrator role because NDS provides a single point for accessing and managing most network resources."

Ans. Vi.network

G and type text and save

### Working shell

1. Type some text on the shell separated by space

This is me Ritul

1: Move cursor one word back

Ans.alt+b

2: Move cursor one word forward

Ans.alt+f

3: Move cursor to the first character

Ans. ctrl +a

4: Move cursor to the end

Ans. ctrl + e

5: Delete test from second word to last character

Ans. alt + b, Ctrl+ k

6: Delete the current line

Ans. Ctrl + u

2: In lab 4 we have created a file errorlog.txt. Display it using cat command using command completion.

Ans. Cat errorlog.txt

3: Display history of command used so far.

Ans. [admin@hostname01 ~]\$ history

1 ifconfig

2 exit

3 passwd root

4 cd /root/

5 exit

6 hostname host01

7 su - root

4: Search ls command in history file

[admin@hostname01 ~]\$ history | grep ls

19 ls

20 cd ls

5: Repeat the last command rd

Ans. [admin@hostname01 ~]\$ history | grep rd

256 history | grep rd

!! for last command repeat

6: Execute 3 command from history file.

Ans. [admin@hostname01 ~]\$ !3

7: What are the different shells available.

Ans. [admin@hostname01 ~]\$ cat /etc/shells

/bin/sh

/bin/bash

/usr/bin/sh

/usr/bin/bash

### Understanding access permissions

7.1: Create an empty file “demofile” and perform following instruction

Ans. [admin@hostname01 ~]\$ touch demofile

[admin@hostname01 ~]\$ ls

demofile

1. Revoke read permission from owner and use cat command.

Ans. [admin@hostname01 ~]\$ chmod u-r demofile

[admin@hostname01 ~]\$ cat demofile

cat: demofile: Permission denied

2. Revoke write permission from owner and open using vi editor and add some content in it.

Ans. [admin@hostname01 ~]\$ chmod u-w demofile

[admin@hostname01 ~]\$ vi demofile

3. Add read and write permission to owner.

Ans. [admin@hostname01 ~]\$ chmod u-rw demofile

4. Revoke write and execute from other and group

Ans. [admin@hostname01 ~]\$ chmod go-wx demofile

5. Add write permission to group only

Ans. [admin@hostname01 ~]\$ chmod g+w demofile

6. Assign read permission to all

Ans. [admin@hostname01 ~]\$ chmod a+r demofile

7. Revoke read permission from others

Ans. [admin@hostname01 ~]\$ chmod o-r demofile

8. Give the execute permission for the user for a file chap1

Ans. [admin@hostname01 Desktop]\$ chmod u+x chap1

9. Give the execute permission for user, group and others for a file add.c

Ans. [admin@hostname01 Desktop]\$ touch add.c

[admin@hostname01 Desktop]\$ chmod a+x add.c

10. Remove the execute permission from user, give read permission to group and others for a file aa.c

Ans. [admin@hostname01 Desktop]\$ chmod u-x,g+r,o+r aa.c

11. Give execute permission for users for a.c, kk.c, nato and myfile using single command

Ans.[admin@hostname01 Desktop]\$ chmod u+x a.c kk.c nato myfile

## 7.2: Create an directory “demo” and copy /etc/passwd file in it

[admin@hostname01 ~]\$ sudo mkdir demo

[sudo] password for admin:

[admin@hostname01 ~]\$ ls

Demo

[admin@hostname01 ~]\$ sudo cp /etc/passwd demo/

1. Display contents of demo

Ans.[admin@hostname01 ~]\$ ls demo

2. Revoke read permission from demo directory and use ls command on it

Ans. [admin@hostname01 ~]\$ sudo chmod go-rx demo

[admin@hostname01 ~]\$ ls demo

ls: cannot open directory 'demo': Permission denied

3. Revoke write permission from demo directory and try to copy /etc/profile file in it

Ans.admin@hostname01 ~]\$ sudo chmod u-w demo

[admin@hostname01 ~]\$ sudo cp /etc/profile demo/

4. Delete passwd file from demo directory

Ans.[admin@hostname01 ~]\$ sudo rm demo/passwd

5. Revoke execute permission from demo directory and try cd command on demo.

Ans.[admin@hostname01 ~]\$ sudo chmod u-x demo

[admin@hostname01 ~]\$ cd demo

bash: cd: demo: Permission denied

## Using Process-Related Commands

1. Find out the PID of the processes that are activated by you

Ans. [admin@hostname01 ~]\$ ps -u \$USER

PID	TTY	TIME	CMD
2040	?	00:00:01	systemd
2043	?	00:00:00	(sd-pam)
2059	?	00:00:00	gnome-keyring-d
2063	tty2	00:00:00	gdm-wayland-ses
2066	?	00:00:00	dbus-broker-lau
2069	?	00:00:01	dbus-broker

2074	tty2	00:00:00	gnome-session-b
2108	?	00:00:00	gnome-session-c
2110	?	00:00:00	gnome-session-b
2129	?	00:05:46	gnome-shell
2146	?	00:00:00	gvfsd
2151	?	00:00:00	gvfsd-fuse
2158	?	00:00:00	at-spi-bus-laun
2163	?	00:00:00	dbus-broker-lau
2165	?	00:00:00	dbus-broker
2173	?	00:00:00	xdg-permission-
2178	?	00:00:00	gnome-shell-cal
2191	?	00:00:00	pipewire
2193	?	00:00:00	wireplumber
2194	?	00:00:00	pipewire-pulse
2211	?	00:00:00	evolution-sourc
2222	?	00:00:00	dconf-service
2233	?	00:00:00	goa-daemon
2244	?	00:00:00	gvfs-udisks2-vo
2250	?	00:00:00	evolution-calen
2264	?	00:00:40	goa-identity-se
2269	?	00:00:00	gvfs-mtp-volume
2277	?	00:00:00	gvfs-gphoto2-vo
2285	?	00:00:00	gvfs-goa-volume
2289	?	00:00:00	evolution-addre
2319	?	00:00:00	gjs
2321	?	00:00:00	at-spi2-registr
2326	?	00:00:00	gsd-a11y-settin
2327	?	00:00:02	gsd-color
2331	?	00:00:00	gsd-datetime
2336	?	00:00:08	gsd-housekeepin
2338	?	00:00:00	gsd-keyboard
2339	?	00:00:00	gsd-media-keys
2340	?	00:00:00	gsd-power
2342	?	00:00:00	gsd-print-notif
2344	?	00:00:00	gsd-rfkill
2347	?	00:00:00	gsd-screensaver
2348	?	00:00:00	gsd-sharing
2350	?	00:00:20	gsd-smartcard
2355	?	00:00:00	gsd-sound
2356	?	00:00:00	gsd-disk-utilit
2362	?	00:00:00	gsd-usb-protect
2365	?	00:00:00	gsd-wacom
2366	?	00:00:00	evolution-alarm
2370	?	00:00:14	gnome-software

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2431 ?    00:04:56 vmtoolsd
2438 ?    00:00:00 gjs
2465 ?    00:00:00 gsd-printer
2542 ?    00:00:01 Xwayland
2549 ?    00:00:03 nautilus
2569 ?    00:00:00 gvfsd-trash
2581 ?    00:00:06 xdg-desktop-por
2590 ?    00:00:00 xdg-document-po
2614 ?    00:00:06 xdg-desktop-por
2660 ?    00:00:04 ibus-daemon
2665 ?    00:00:06 gsd-xsettings
2667 ?    00:00:05 xdg-desktop-por
2673 ?    00:00:00 ibus-dconf
2674 ?    00:00:02 ibus-extension-
2676 ?    00:00:00 ibus-x11
2680 ?    00:00:00 ibus-portal
2693 ?    00:00:01 ibus-engine-sim
2808 ?    00:00:00 gvfsd-metadata
17154 ?   00:00:00 gedit
17183 ?   00:00:02 gnome-terminal-
17201 pts/0 00:00:00 bash
17250 pts/0 00:00:00 ps

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- Find out the information about all the processes that are currently active

Ans. [admin@hostname01 ~]\$ ps -ef

UID	PID	PPID	C	STIME	TTY	TIME	CMD
root	1	0	0	Jan10 ?		00:00:11	/usr/lib/systemd/systemd rhgb --switched-root --system --deserialize 31
root	2	0	0	Jan10 ?		00:00:00	[kthreadd]
root	3	2	0	Jan10 ?		00:00:00	[pool_workqueue_]
root	4	2	0	Jan10 ?		00:00:00	[kworker/R-rcu_g]
root	5	2	0	Jan10 ?		00:00:00	[kworker/R-sync_]
root	6	2	0	Jan10 ?		00:00:00	[kworker/R-slub_]
root	7	2	0	Jan10 ?		00:00:00	[kworker/R-netns]
root	10	2	0	Jan10 ?		00:00:00	[kworker/u512:0-events_unbound]
root	11	2	0	Jan10 ?		00:00:00	[kworker/R-mm_pe]
root	12	2	0	Jan10 ?		00:00:00	[kworker/u512:1-netns]
root	13	2	0	Jan10 ?		00:00:00	[rcu_tasks_kthre]

root	14	2	0	Jan10	?	00:00:00	[rcu_tasks_rude_]
root	15	2	0	Jan10	?	00:00:00	[rcu_tasks_trace]
root	16	2	0	Jan10	?	00:00:00	[ksoftirqd/0]
root	17	2	0	Jan10	?	00:00:04	[rcu_preempt]
root	18	2	0	Jan10	?	00:00:00	[rcu_exp_par_gp_]
root	19	2	0	Jan10	?	00:00:00	[rcu_exp_gp_kthr]
root	20	2	0	Jan10	?	00:00:00	[migration/0]
root	21	2	0	Jan10	?	00:00:00	[idle_inject/0]
root	23	2	0	Jan10	?	00:00:00	[cpuhp/0]
root	24	2	0	Jan10	?	00:00:00	[cpuhp/1]
root	25	2	0	Jan10	?	00:00:00	[idle_inject/1]
root	26	2	0	Jan10	?	00:00:02	[migration/1]
root	27	2	0	Jan10	?	00:00:00	[ksoftirqd/1]
root	30	2	0	Jan10	?	00:00:00	[cpuhp/2]
root	31	2	0	Jan10	?	00:00:00	[idle_inject/2]
root	32	2	0	Jan10	?	00:00:02	[migration/2]
root	33	2	0	Jan10	?	00:00:00	[ksoftirqd/2]
root	36	2	0	Jan10	?	00:00:00	[cpuhp/3]
root	37	2	0	Jan10	?	00:00:00	[idle_inject/3]
root	38	2	0	Jan10	?	00:00:02	[migration/3]
root	39	2	0	Jan10	?	00:00:00	[ksoftirqd/3]
root	41	2	0	Jan10	?	00:00:00	[kworker/3:0H-events_highpri]
root	49	2	0	Jan10	?	00:00:00	[kdevtmpfs]
root	50	2	0	Jan10	?	00:00:00	[kworker/R-inet_]
root	51	2	0	Jan10	?	00:00:00	[kauditd]
root	52	2	0	Jan10	?	00:00:00	[khungtaskd]
root	53	2	0	Jan10	?	00:00:00	[oom_reaper]
root	55	2	0	Jan10	?	00:00:00	[kworker/R-write]
root	56	2	0	Jan10	?	00:00:02	[kcompactd0]



root	57	2	0	Jan10	?	00:00:00	[ksmd]
root	58	2	0	Jan10	?	00:00:04	[khugepaged]
root	59	2	0	Jan10	?	00:00:00	[kworker/R-crypt]
root	60	2	0	Jan10	?	00:00:00	[kworker/R-kinte]
root	61	2	0	Jan10	?	00:00:00	[kworker/R-kbloc]
root	62	2	0	Jan10	?	00:00:00	[irq/9-acpi]
root	66	2	0	Jan10	?	00:00:00	[kworker/R-tpm_d]
root	67	2	0	Jan10	?	00:00:00	[kworker/R-md]
root	68	2	0	Jan10	?	00:00:00	[kworker/R-md_bi]
root	69	2	0	Jan10	?	00:00:00	[kworker/R-edac-]
root	70	2	0	Jan10	?	00:00:00	[watchdogd]
root	72	2	0	Jan10	?	00:00:00	[kswapd0]
root	77	2	0	Jan10	?	00:00:00	[kworker/R-kthro]
root	81	2	0	Jan10	?	00:00:00	[irq/24-pciehp]
root	82	2	0	Jan10	?	00:00:00	[irq/25-pciehp]
root	83	2	0	Jan10	?	00:00:00	[irq/26-pciehp]
root	84	2	0	Jan10	?	00:00:00	[irq/27-pciehp]
root	85	2	0	Jan10	?	00:00:00	[irq/28-pciehp]
root	86	2	0	Jan10	?	00:00:00	[irq/29-pciehp]
root	87	2	0	Jan10	?	00:00:00	[irq/30-pciehp]
root	88	2	0	Jan10	?	00:00:00	[irq/31-pciehp]
root	89	2	0	Jan10	?	00:00:00	[irq/32-pciehp]
root	90	2	0	Jan10	?	00:00:00	[irq/33-pciehp]
root	91	2	0	Jan10	?	00:00:00	[irq/34-pciehp]
root	92	2	0	Jan10	?	00:00:00	[irq/35-pciehp]
root	93	2	0	Jan10	?	00:00:00	[irq/36-pciehp]
root	94	2	0	Jan10	?	00:00:00	[irq/37-pciehp]
root	95	2	0	Jan10	?	00:00:00	[irq/38-pciehp]
root	96	2	0	Jan10	?	00:00:00	[irq/39-pciehp]

root	97	2	0	Jan10	?	00:00:00 [irq/40-pciehp]
root	98	2	0	Jan10	?	00:00:00 [irq/41-pciehp]
root	99	2	0	Jan10	?	00:00:00 [irq/42-pciehp]
root	100	2	0	Jan10	?	00:00:00 [irq/43-pciehp]
root	101	2	0	Jan10	?	00:00:00 [irq/44-pciehp]
root	102	2	0	Jan10	?	00:00:00 [irq/45-pciehp]
root	103	2	0	Jan10	?	00:00:00 [irq/46-pciehp]
root	104	2	0	Jan10	?	00:00:00 [irq/47-pciehp]
root	105	2	0	Jan10	?	00:00:00 [irq/48-pciehp]
root	106	2	0	Jan10	?	00:00:00 [irq/49-pciehp]
root	107	2	0	Jan10	?	00:00:00 [irq/50-pciehp]
root	108	2	0	Jan10	?	00:00:00 [irq/51-pciehp]
root	109	2	0	Jan10	?	00:00:00 [irq/52-pciehp]
root	110	2	0	Jan10	?	00:00:00 [irq/53-pciehp]
root	111	2	0	Jan10	?	00:00:00 [irq/54-pciehp]
root	112	2	0	Jan10	?	00:00:00 [irq/55-pciehp]
root	113	2	0	Jan10	?	00:00:00 [kworker/R-acpi_]
root	114	2	0	Jan10	?	00:00:00 [kworker/R-kmpat]
root	115	2	0	Jan10	?	00:00:00 [kworker/R-kalua]
root	117	2	0	Jan10	?	00:00:00 [kworker/R-mld]
root	118	2	0	Jan10	?	00:00:00 [kworker/3:1H-kblockd]
root	119	2	0	Jan10	?	00:00:00 [kworker/R-ipv6_]
root	128	2	0	Jan10	?	00:00:00 [kworker/R-kstrp]
root	132	2	0	Jan10	?	00:00:00 [kworker/u515:0]
root	460	2	0	Jan10	?	00:00:00 [kworker/R-ata_s]
root	462	2	0	Jan10	?	00:00:00 [scsi_eh_0]
root	463	2	0	Jan10	?	00:00:00 [kworker/R-mpt_p]
root	465	2	0	Jan10	?	00:00:00 [kworker/R-scsi_]
root	466	2	0	Jan10	?	00:00:00 [kworker/R-mpt/0]

root	468	2	0	Jan10	?	00:00:00 [scsi_eh_1]
root	469	2	0	Jan10	?	00:00:00 [kworker/R-scsi_]
root	473	2	0	Jan10	?	00:00:00 [scsi_eh_2]
root	474	2	0	Jan10	?	00:00:00 [kworker/R-scsi_]
root	497	2	0	Jan10	?	00:00:00 [irq/16-vmwgfx]
root	499	2	0	Jan10	?	00:00:00 [kworker/R-ttm]
root	553	2	0	Jan10	?	00:00:00 [kworker/R-kdmfl]
root	560	2	0	Jan10	?	00:00:00 [kworker/R-kdmfl]
root	579	2	0	Jan10	?	00:00:00 [kworker/R-xfsal]
root	580	2	0	Jan10	?	00:00:00 [kworker/R-xfs_m]
root	581	2	0	Jan10	?	00:00:00 [kworker/R-xfs-b]
root	582	2	0	Jan10	?	00:00:00 [kworker/R-xfs-c]
root	583	2	0	Jan10	?	00:00:00 [kworker/R-xfs-r]
root	584	2	0	Jan10	?	00:00:00 [kworker/R-xfs-b]
root	585	2	0	Jan10	?	00:00:00 [kworker/R-xfs-i]
root	586	2	0	Jan10	?	00:00:00 [kworker/R-xfs-l]
root	587	2	0	Jan10	?	00:00:00 [kworker/R-xfs-c]
root	588	2	0	Jan10	?	00:00:03 [xfsaild/dm-0]
root	660	1	0	Jan10	?	00:00:03 /usr/lib/systemd/systemd-journald
root	677	1	0	Jan10	?	00:00:00 vmware-vmblock-fuse /run/vmblock-fuse -o rw,subtype=vmware-vmblock,default_permissions,allow_other,dev,suid
root	680	1	0	Jan10	?	00:00:01 /usr/lib/systemd/systemd-udev
root	742	2	0	Jan10	?	00:00:09 [irq/56-vmw_vmci]
root	743	2	0	Jan10	?	00:00:00 [irq/57-vmw_vmci]
root	744	2	0	Jan10	?	00:00:00 [irq/58-vmw_vmci]
root	746	2	0	Jan10	?	00:00:00 [kworker/R-kdmfl]
root	770	2	0	Jan10	?	00:00:00 [kworker/R-xfs-b]
root	771	2	0	Jan10	?	00:00:00 [kworker/R-xfs-c]
root	772	2	0	Jan10	?	00:00:00 [kworker/R-xfs-r]

root	773	2	0	Jan10	?	00:00:00 [kworker/R-xfs-b]
root	774	2	0	Jan10	?	00:00:00 [kworker/R-xfs-i]
root	775	2	0	Jan10	?	00:00:00 [kworker/R-xfs-b]
root	776	2	0	Jan10	?	00:00:00 [kworker/R-xfs-c]
root	777	2	0	Jan10	?	00:00:00 [kworker/R-xfs-r]
root	778	2	0	Jan10	?	00:00:00 [kworker/R-xfs-b]
root	779	2	0	Jan10	?	00:00:00 [kworker/R-xfs-l]
root	780	2	0	Jan10	?	00:00:00 [kworker/R-xfs-i]
root	781	2	0	Jan10	?	00:00:00 [kworker/R-xfs-c]
root	782	2	0	Jan10	?	00:00:00 [xfsaild/sda1]
root	783	2	0	Jan10	?	00:00:00 [kworker/R-xfs-l]
root	784	2	0	Jan10	?	00:00:00 [kworker/R-xfs-c]
root	785	2	0	Jan10	?	00:00:00 [xfsaild/dm-2]
root	790	1	0	Jan10	?	00:00:00 /sbin/auditd
root	792	790	0	Jan10	?	00:00:00 /usr/sbin/sedispach
dbus	818	1	0	Jan10	?	00:00:00 /usr/bin/dbus-broker-launch --scope system --audit
dbus	819	818	0	Jan10	?	00:00:03 dbus-broker --log 4 --controller 9 --machine-id 009f37d84e1d40d1b16d8b7e17653f73 --max-bytes 536870912 --max-fds
avahi	820	1	0	Jan10	?	00:00:00 avahi-daemon: running [hostname01.local]
root	823	1	0	Jan10	?	00:00:19 /usr/sbin/irqbalance
libstor+	824	1	0	Jan10	?	00:00:00 /usr/bin/lsmdd -d
root	825	1	0	Jan10	?	00:00:00 /usr/sbin/mcelog --daemon --foreground
polkitd	826	1	0	Jan10	?	00:00:02 /usr/lib/polkit-1/polkitd --no-debug
root	827	1	0	Jan10	?	00:00:00 /usr/libexec/power-profiles-daemon
rtkit	828	1	0	Jan10	?	00:00:04 /usr/libexec/rtkit-daemon
root	829	1	0	Jan10	?	00:00:00 /usr/libexec/accounts-daemon
root	830	1	0	Jan10	?	00:00:00 /usr/libexec/switcheroo-control
root	831	1	0	Jan10	?	00:00:01 /usr/lib/systemd/systemd-logind
root	832	1	0	Jan10	?	00:00:00 /usr/libexec/udisks2/udisksd

root	838	1	0	Jan10	?	00:00:00	/usr/libexec/upowerd
root	840	1	0	Jan10	?	00:00:00	/usr/bin/VGAuthService -s
root	842	1	0	Jan10	?	00:05:54	/usr/bin/vmtoolsd
avahi	848	820	0	Jan10	?	00:00:00	avahi-daemon: chroot helper
chrony	850	1	0	Jan10	?	00:00:01	/usr/sbin/chronyd -F 2
root	878	1	0	Jan10	?	00:00:00	/usr/sbin/ModemManager
root nopicd	883	1	0	Jan10	?	00:00:01	/usr/bin/python3 -s /usr/sbin/firewalld --nofork --
root	886	2	0	Jan10	?	00:00:00	[kworker/2:2H-kblockd]
root	1022	1	0	Jan10	?	00:00:10	/usr/sbin/NetworkManager --no-daemon
root	1044	1	0	Jan10	?	00:00:00	/usr/sbin/cupsd -l
root	1048	1	0	Jan10	?	00:00:00	sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
root	1116	1	0	Jan10	?	00:00:17	/usr/sbin/rsyslogd -n
root	1137	1	0	Jan10	?	00:00:00	/usr/sbin/atd -f
root	1142	1	0	Jan10	?	00:00:00	/usr/sbin/crond -n
root	1145	1	0	Jan10	?	00:00:00	/usr/sbin/gdm
root	1700	1	0	Jan10	?	00:00:01	/usr/sbin/wpa_supplicant -c /etc/wpa_supplicant/wpa_supplicant.conf -u -s
colord	1919	1	0	Jan10	?	00:00:00	/usr/libexec/colord
root	2004	2	0	Jan10	?	00:00:00	[kworker/0:2H-kblockd]
root	2023	1145	0	Jan10	?	00:00:00	gdm-session-worker [pam/gdm-password]
admin	2040	1	0	Jan10	?	00:00:01	/usr/lib/systemd/systemd --user
admin	2043	2040	0	Jan10	?	00:00:00	(sd-pam)
admin login	2059	1	0	Jan10	?	00:00:00	/usr/bin/gnome-keyring-daemon --daemonize --
admin	2063	2023	0	Jan10	tty2	00:00:00	/usr/libexec/gdm-wayland-session env GNOME_SHELL_SESSION_MODE=classic gnome-session
admin	2066	2040	0	Jan10	?	00:00:00	/usr/bin/dbus-broker-launch --scope user
admin	2069	2066	0	Jan10	?	00:00:01	dbus-broker --log 4 --controller 9 --machine-id 009f37d84e1d40d1b16d8b7e17653f73 --max-bytes 1000000000000000 --m

admin	2074	2063	0	Jan10	tty2	00:00:00 /usr/libexec/gnome-session-binary
admin	2108	2040	0	Jan10	?	00:00:00 /usr/libexec/gnome-session-ctl --monitor
admin	2110	2040	0	Jan10	?	00:00:00 /usr/libexec/gnome-session-binary --systemd- service --session=gnome
admin	2129	2040	0	Jan10	?	00:05:30 /usr/bin/gnome-shell
admin	2146	2040	0	Jan10	?	00:00:00 /usr/libexec/gvfsd
admin	2151	2040	0	Jan10	?	00:00:00 /usr/libexec/gvfsd-fuse /run/user/1000/gvfs -f
admin	2158	2040	0	Jan10	?	00:00:00 /usr/libexec/at-spi-bus-launcher
admin	2163	2158	0	Jan10	?	00:00:00 /usr/bin/dbus-broker-launch --config- file=/usr/share/defaults/at-spi2/accessibility.conf --scope user
admin	2165	2163	0	Jan10	?	00:00:00 dbus-broker --log 4 --controller 9 --machine-id 009f37d84e1d40d1b16d8b7e17653f73 --max-bytes 1000000000000000 --m
admin	2173	2040	0	Jan10	?	00:00:00 /usr/libexec/xdg-permission-store
admin	2178	2040	0	Jan10	?	00:00:00 /usr/libexec/gnome-shell-calendar-server
admin	2191	2040	0	Jan10	?	00:00:00 /usr/bin/pipewire
admin	2193	2040	0	Jan10	?	00:00:00 /usr/bin/wireplumber
admin	2194	2040	0	Jan10	?	00:00:00 /usr/bin/pipewire-pulse
admin	2211	2040	0	Jan10	?	00:00:00 /usr/libexec/evolution-source-registry
geoclue	2218	1	0	Jan10	?	00:00:01 /usr/libexec/geoclue
admin	2222	2040	0	Jan10	?	00:00:00 /usr/libexec/dconf-service
admin	2233	2040	0	Jan10	?	00:00:00 /usr/libexec/goa-daemon
admin	2244	2040	0	Jan10	?	00:00:00 /usr/libexec/gvfs-udisks2-volume-monitor
admin	2250	2040	0	Jan10	?	00:00:00 /usr/libexec/evolution-calendar-factory
admin	2264	2040	0	Jan10	?	00:00:40 /usr/libexec/goa-identity-service
admin	2269	2040	0	Jan10	?	00:00:00 /usr/libexec/gvfs-mtp-volume-monitor
admin	2277	2040	0	Jan10	?	00:00:00 /usr/libexec/gvfs-gphoto2-volume-monitor
admin	2285	2040	0	Jan10	?	00:00:00 /usr/libexec/gvfs-goa-volume-monitor
root	2286	1	0	Jan10	?	00:00:53 /usr/libexec/sss/sssd_kcm --uid 0 --gid 0 -- logger=files
admin	2289	2040	0	Jan10	?	00:00:00 /usr/libexec/evolution-addressbook-factory

admin	2319	2040	0 Jan10 ?	00:00:00 /usr/bin/gjs /usr/share/gnome-shell/org.gnome.Shell.Notifications
admin	2321	2040	0 Jan10 ?	00:00:00 /usr/libexec/at-spi2-registryd --use-gnome-session
admin	2326	2040	0 Jan10 ?	00:00:00 /usr/libexec/gsd-a11y-settings
admin	2327	2040	0 Jan10 ?	00:00:02 /usr/libexec/gsd-color
admin	2331	2040	0 Jan10 ?	00:00:00 /usr/libexec/gsd-datetime
admin	2336	2040	0 Jan10 ?	00:00:08 /usr/libexec/gsd-housekeeping
admin	2338	2040	0 Jan10 ?	00:00:00 /usr/libexec/gsd-keyboard
admin	2339	2040	0 Jan10 ?	00:00:00 /usr/libexec/gsd-media-keys
admin	2340	2040	0 Jan10 ?	00:00:00 /usr/libexec/gsd-power
admin	2342	2040	0 Jan10 ?	00:00:00 /usr/libexec/gsd-print-notifications
admin	2344	2040	0 Jan10 ?	00:00:00 /usr/libexec/gsd-rfkill
admin	2347	2040	0 Jan10 ?	00:00:00 /usr/libexec/gsd-screensaver-proxy
admin	2348	2040	0 Jan10 ?	00:00:00 /usr/libexec/gsd-sharing
admin	2350	2040	0 Jan10 ?	00:00:20 /usr/libexec/gsd-smartcard
admin	2355	2040	0 Jan10 ?	00:00:00 /usr/libexec/gsd-sound
admin	2356	2110	0 Jan10 ?	00:00:00 /usr/libexec/gsd-disk-utility-notify
admin	2362	2040	0 Jan10 ?	00:00:00 /usr/libexec/gsd-usb-protection
admin	2365	2040	0 Jan10 ?	00:00:00 /usr/libexec/gsd-wacom
admin	2366	2110	0 Jan10 ?	00:00:00 /usr/libexec/evolution-data-server/evolution-alarm-notify
admin	2370	2110	0 Jan10 ?	00:00:14 /usr/bin/gnome-software --gapplication-service
admin	2431	2040	0 Jan10 ?	00:04:56 /usr/bin/vmtoolsd -n vmusr --blockFd 3 --uinputFd 4
admin	2438	2040	0 Jan10 ?	00:00:00 /usr/bin/gjs /usr/share/gnome-shell/org.gnome.ScreenSaver
admin	2465	2040	0 Jan10 ?	00:00:00 /usr/libexec/gsd-printer
admin	2542	2129	0 Jan10 ?	00:00:01 /usr/bin/Xwayland :0 -rootless -noreset -accessx -core -auth /run/user/1000/.mutter-Xwaylandauth.J8RG02 -listenf
admin	2549	2040	0 Jan10 ?	00:00:03 /usr/bin/nautilus --gapplication-service

admin	2569	2146	0	Jan10	?	00:00:00 /usr/libexec/gvfsd-trash --spawner :1.17/org/gtk/gvfs/exec_spaw/0
admin	2581	2040	0	Jan10	?	00:00:06 /usr/libexec/xdg-desktop-portal
admin	2590	2040	0	Jan10	?	00:00:00 /usr/libexec/xdg-document-portal
root	2608	2590	0	Jan10	?	00:00:00 fusermount -o rw,nosuid,nodev,fsname=portal,auto_unmount,subtype=portal -- /run/user/1000/doc
admin	2614	2040	0	Jan10	?	00:00:06 /usr/libexec/xdg-desktop-portal-gnome
admin	2660	2129	0	Jan10	?	00:00:04 ibus-daemon --panel disable -r --xim
admin	2665	2040	0	Jan10	?	00:00:06 /usr/libexec/gsd-xsettings
admin	2667	2040	0	Jan10	?	00:00:05 /usr/libexec/xdg-desktop-portal-gtk
admin	2673	2660	0	Jan10	?	00:00:00 /usr/libexec/ibus-dconf
admin	2674	2660	0	Jan10	?	00:00:02 /usr/libexec/ibus-extension-gtk3
admin	2676	2040	0	Jan10	?	00:00:00 /usr/libexec/ibus-x11 --kill-daemon
admin	2680	2040	0	Jan10	?	00:00:00 /usr/libexec/ibus-portal
admin	2693	2660	0	Jan10	?	00:00:01 /usr/libexec/ibus-engine-simple
root	2733	1	0	Jan10	?	00:00:12 /usr/libexec/fwupd/fwupd
admin	2808	2040	0	Jan10	?	00:00:00 /usr/libexec/gvfsd-metadata
root	2839	2	0	Jan10	?	00:00:00 [kworker/R-tls-s]
root	8478	2	0	Jan12	?	00:00:00 [kworker/u516:2-ttm]
root	10162	2	0	Jan13	?	00:00:00 [kworker/0:0H-kblockd]
root	14328	2	0	Jan14	?	00:00:01 [kworker/u514:2-events_unbound]
root	14743	2	0	Jan15	?	00:00:00 [kworker/u517:1-ttm]
root	14749	2	0	Jan15	?	00:00:00 [kworker/u517:0-ttm]
root	14824	2	0	Jan15	?	00:00:00 [kworker/u516:0]
root	15841	2	0	Jan15	?	00:00:00 [kworker/1:2H-kblockd]
root	15846	2	0	Jan15	?	00:00:00 [kworker/1:0H-kblockd]
root	16141	2	0	Jan15	?	00:00:00 [kworker/2:0H-kblockd]
root	16182	2	0	Jan15	?	00:00:00 [kworker/u514:0-events_unbound]
root	16495	2	0	Jan15	?	00:00:01 [kworker/1:1-ata_sff]



```

root    16584    2 0 Jan15 ?    00:00:00 [kworker/u513:2-flush-253:0]
root    16672    2 0 Jan15 ?    00:00:00 [kworker/u513:0-events_unbound]
root    16798    2 0 Jan15 ?    00:00:00 [kworker/2:1-cgroup_destroy]
root    16876    2 0 Jan15 ?    00:00:07 [kworker/3:2-cgroup_destroy]
root    16918    2 0 Jan15 ?    00:00:00 [kworker/u514:1-events_unbound]
root    16931    2 0 Jan15 ?    00:00:00 [kworker/u513:1-events_unbound]
root    17003    2 0 Jan15 ?    00:00:00 [kworker/3:1-inet_frag_wq]
root    17006    2 0 Jan15 ?    00:00:00 [kworker/1:2-ata_sff]
root    17020    2 0 Jan15 ?    00:00:00 [kworker/1:0-events_freezable_pwr_ef]
root    17037    2 0 Jan15 ?    00:00:00 [kworker/0:0-events]
root    17052    2 0 00:00 ?    00:00:00 [kworker/0:1-events]
root    17055    2 0 00:00 ?    00:00:00 [kworker/2:0-cgwb_release]
root    17088    2 0 00:05 ?    00:00:00 [kworker/u516:1]
root    17120    2 0 00:06 ?    00:00:00 [kworker/u514:3-events_unbound]
root    17142    2 0 00:06 ?    00:00:00 [kworker/2:2-mpt_poll_0]
root    17149    2 0 00:06 ?    00:00:00 [kworker/3:0-events]
root    17152    2 0 00:07 ?    00:00:00 [kworker/3:3-events]
admin   17154    2040 1 00:07 ?    00:00:00 /usr/bin/gedit --gapplication-service
admin   17183    2040 1 00:07 ?    00:00:00 /usr/libexec/gnome-terminal-server
admin   17201    17183 0 00:07 pts/0  00:00:00 bash
root    17234    2 0 00:07 ?    00:00:00 [kworker/2:1H-kblockd]
admin   17239    17201 0 00:08 pts/0  00:00:00 ps -ef

```

3. Start a different process in the background. Find out the status of the background process using the PID of the same.

Ans. [admin@hostname01 ~]\$ sleep 100 &

[1] 7131

[admin@hostname01 ~]\$ ps -p \$!

PID TTY TIME CMD

7131 /1 00:00:00 sleep

7132

3. Run a job in background

Ans. [admin@hostname01 ~]\$ sleep 100 &  
[1] 7131

5. Bring a last background job in fore ground

Ans. [admin@hostname01 ~]\$ fg

bash: fg: job has terminated

[1]+ Done sleep 100

6. Run 3 jobs in background and bring first job in foreground

Ans.[admin@hostname01 ~]\$ sleep 100 &

[1] 7156

[admin@hostname01 ~]\$ sleep 200 &

[2] 7161

[admin@hostname01 ~]\$ sleep 300 &

[3] 7166

[admin@hostname01 ~]\$ fg %1

sleep 100

7. Stop current job

Ans. [admin@hostname01 ~]\$ kill -SIGSTOP %1

bash: kill: %1: no such job

[2]- Done sleep 200

8. Start stopped job

Ans. admin@hostname01 ~]\$ jobs

[1]+ Running sleep 240 &

[admin@hostname01 ~]\$ bg %1

9. Run a job

10. Kill last job

Ans. [admin@hostname01 ~]\$ kill %1

[1]+ Terminated sleep 450

11. Kill your shell using process id

Ans. kill -9 \$\$

12. Execute a ls command by setting priority as -10 using nice command

Ans. [admin@hostname01 ~]\$ sudo nice -n -10 ls

13. Display a date on every hour using cron tab

Ans. admin@hostname01 ~]\$ crontab -e

no crontab for admin - using an empty one

crontab: installing new crontab

[admin@hostname01 ~]\$ crontab -l

0 \* \* \* \* date