

# Assignment-II

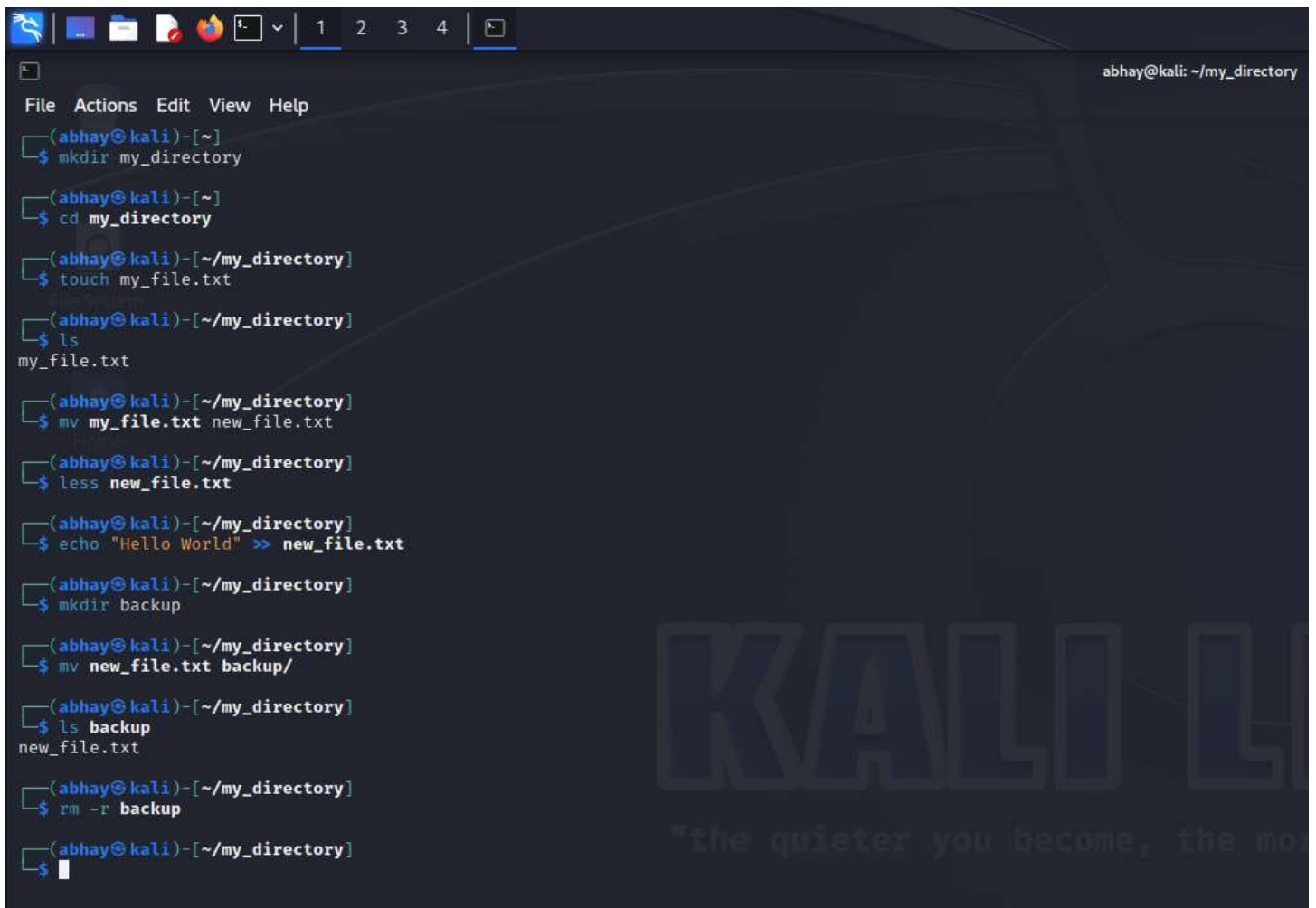
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Reg.No: 20BCI0017

## Task 1: File and Directory Manipulation

- Create a directory called "my\_directory".
- Navigate into the "my\_directory".
- Create an empty file called "my\_file.txt".
- List all the files and directories in the current directory.
- Rename "my\_file.txt" to "new\_file.txt".
- Display the content of "new\_file.txt" using a pager tool of your choice.
- Append the text "Hello, World!" to "new\_file.txt".
- Create a new directory called "backup" within "my\_directory".
- Move "new\_file.txt" to the "backup" directory.
- Verify that "new\_file.txt" is now located in the "backup" directory.
- Delete the "backup" directory and all its contents.





```
File Actions Edit View Help
(abhay@kali)-[~]
$ mkdir my_directory

(abhay@kali)-[~]
$ cd my_directory

(abhay@kali)-[~/my_directory]
$ touch my_file.txt

(abhay@kali)-[~/my_directory]
$ ls
my_file.txt

(abhay@kali)-[~/my_directory]
$ mv my_file.txt new_file.txt

(abhay@kali)-[~/my_directory]
$ less new_file.txt

(abhay@kali)-[~/my_directory]
$ echo "Hello World" >> new_file.txt

(abhay@kali)-[~/my_directory]
$ mkdir backup

(abhay@kali)-[~/my_directory]
$ mv new_file.txt backup/

(abhay@kali)-[~/my_directory]
$ ls backup
new_file.txt

(abhay@kali)-[~/my_directory]
$ rm -r backup

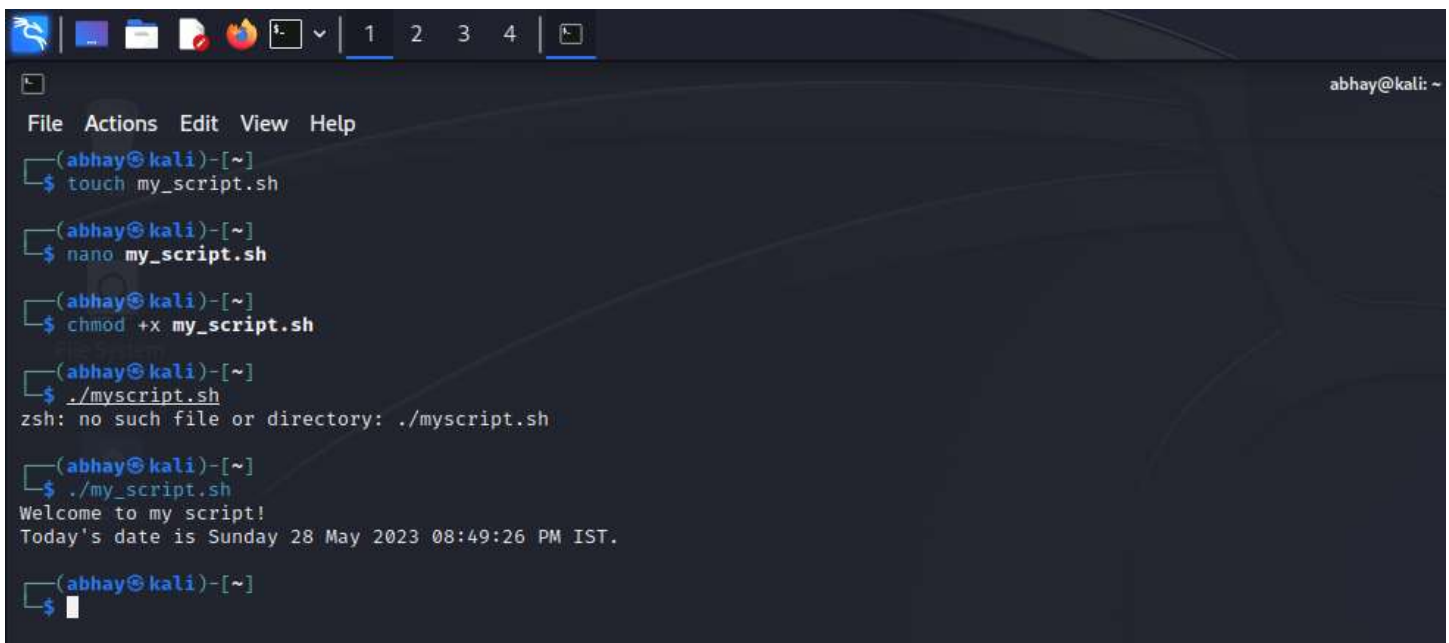
(abhay@kali)-[~/my_directory]
$
```

A backup folder have been created inside “my\_directory” directory and a renamed “new\_file.txt” file have been moved into it. Finally, the backup folder and all the files in have been successfully deleted.

## Task 2: Permissions and Scripting

- Create a new file called "my\_script.sh".
- Edit "my\_script.sh" using a text editor of your choice and add the following lines:  
#!/bin/bash  
echo "Welcome to my script!"  
echo "Today's date is \$(date)."
- Save and exit the file.
- Make "my\_script.sh" executable.
- Run "my\_script.sh" and verify that the output matches the expected result.

### Output:

A terminal window on a Kali Linux system. The user 'abhay' is in the directory '~'. The terminal shows the following commands and output:

```
(abhay@kali)-[~]  
$ touch my_script.sh  
  
(abhay@kali)-[~]  
$ nano my_script.sh  
  
(abhay@kali)-[~]  
$ chmod +x my_script.sh  
  
(abhay@kali)-[~]  
$ ./myscript.sh  
zsh: no such file or directory: ./myscript.sh  
  
(abhay@kali)-[~]  
$ ./my_script.sh  
Welcome to my script!  
Today's date is Sunday 28 May 2023 08:49:26 PM IST.  
  
(abhay@kali)-[~]  
$
```

“my\_script.sh” file has been successfully executed and the expected output have been obtained.

## Task 3: Command Execution and Pipelines

- List all the processes running on your system using the "ps" command.
- Use the "grep" command to filter the processes list and display only the processes with "bash" in their name.
- Use the "wc" command to count the number of lines in the filtered output

## Output:

```
abhay@kali:~$ ps aux
USER          PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root           1  0.0  0.3 169016 13428 ?        Ss   17:31   0:02 /sbin/init splash
root           2  0.0  0.0  0 0 ?        S    17:31   0:00 [kthreadd]
root           3  0.0  0.0  0 0 ?        Ic   17:31   0:00 [rcu_gp]
root           4  0.0  0.0  0 0 ?        Ic   17:31   0:00 [rcu_par_gp]
root           5  0.0  0.0  0 0 ?        Ic   17:31   0:00 [slub_flushwq]
root           6  0.0  0.0  0 0 ?        Ic   17:31   0:00 [netns]
root          10  0.0  0.0  0 0 ?        Ic   17:31   0:00 [mm_percpu_wq]
root          11  0.0  0.0  0 0 ?        Ic   17:31   0:00 [rcu_tasks_kthread]
root          12  0.0  0.0  0 0 ?        Ic   17:31   0:00 [rcu_tasks_rude_kthread]
root          13  0.0  0.0  0 0 ?        Ic   17:31   0:00 [rcu_tasks_trace_kthread]
root          14  0.0  0.0  0 0 ?        S    17:31   0:00 [ksoftirqd/0]
root          15  0.0  0.0  0 0 ?        Ic   17:31   0:00 [rcu_preempt]
root          16  0.0  0.0  0 0 ?        S    17:31   0:00 [migration/0]
root          18  0.0  0.0  0 0 ?        S    17:31   0:00 [cpuhp/0]
root          19  0.0  0.0  0 0 ?        S    17:31   0:00 [cpuhp/1]
root          20  0.0  0.0  0 0 ?        S    17:31   0:00 [migration/1]
root          21  0.0  0.0  0 0 ?        S    17:31   0:01 [ksoftirqd/1]
root          23  0.0  0.0  0 0 ?        Ic   17:31   0:00 [kworker/1:0H-events_highpri]
root          26  0.0  0.0  0 0 ?        S    17:31   0:00 [kdevmpts]
root          27  0.0  0.0  0 0 ?        Ic   17:31   0:00 [inet_frag_wq]
root          28  0.0  0.0  0 0 ?        S    17:31   0:00 [kauditd]
root          29  0.0  0.0  0 0 ?        S    17:31   0:00 [khungtaskd]
root          31  0.0  0.0  0 0 ?        Ic   17:31   0:00 [writeback]
root          32  0.0  0.0  0 0 ?        S    17:31   0:00 [kcompactd0]
root          34  0.0  0.0  0 0 ?        SM   17:31   0:00 [ksmd]
root          35  0.0  0.0  0 0 ?        SM   17:31   0:01 [khugepaged]
root          36  0.0  0.0  0 0 ?        Ic   17:31   0:00 [kintegrityd]
root          37  0.0  0.0  0 0 ?        Ic   17:31   0:00 [kblockd]
root          38  0.0  0.0  0 0 ?        Ic   17:31   0:00 [blkcg_punt_bio]
root          39  0.0  0.0  0 0 ?        Ic   17:31   0:00 [tpm_dev_wq]
root          40  0.0  0.0  0 0 ?        Ic   17:31   0:00 [edac-poller]
root          41  0.0  0.0  0 0 ?        Ic   17:31   0:00 [devfreq_wq]
root          42  0.0  0.0  0 0 ?        Ic   17:31   0:00 [kworker/0:1H-kblockd]
root          43  0.0  0.0  0 0 ?        S    17:31   0:00 [kswapd0]
root          51  0.0  0.0  0 0 ?        Ic   17:31   0:00 [kthrotld]
root          53  0.0  0.0  0 0 ?        Ic   17:31   0:00 [acpi_thermal_pm]
root          54  0.0  0.0  0 0 ?        S    17:31   0:00 [xenbus_probe]
root          55  0.0  0.0  0 0 ?        Ic   17:31   0:00 [ald]
root          56  0.0  0.0  0 0 ?        Ic   17:31   0:00 [kworker/1:1H-kblockd]
root          57  0.0  0.0  0 0 ?        Ic   17:31   0:00 [ipv6_addrconf]
root          62  0.0  0.0  0 0 ?        Ic   17:31   0:00 [kstrp]
root          67  0.0  0.0  0 0 ?        Ic   17:31   0:00 [kswap-shrink]
root          68  0.0  0.0  0 0 ?        Ic   17:31   0:00 [kworker/u5:0]
root         138  0.0  0.0  0 0 ?        Ic   17:31   0:00 [cryptd]
root         150  0.0  0.0  0 0 ?        Ic   17:31   0:00 [ata_sff]
root         151  0.0  0.0  0 0 ?        S    17:31   0:00 [scsi_eh_0]
root         152  0.0  0.0  0 0 ?        Ic   17:31   0:00 [scsi_tmf_0]
root         153  0.0  0.0  0 0 ?        S    17:31   0:00 [scsi_eh_1]

root         154  0.0  0.0  0 0 ?        S    17:31   0:00 [scsi_eh_2]
root         155  0.0  0.0  0 0 ?        Ic   17:31   0:00 [scsi_tmf_1]
root         156  0.0  0.0  0 0 ?        Ic   17:31   0:00 [scsi_tmf_2]
root         158  0.0  0.0  0 0 ?        S    17:31   0:03 [irq/18-vmmgfx]
root         160  0.0  0.0  0 0 ?        S    17:31   0:00 [card0-crtc0]
root         163  0.0  0.0  0 0 ?        S    17:31   0:00 [card0-crtc1]
root         164  0.0  0.0  0 0 ?        S    17:31   0:00 [card0-crtc2]
root         165  0.0  0.0  0 0 ?        S    17:31   0:00 [card0-crtc3]
root         166  0.0  0.0  0 0 ?        S    17:31   0:00 [card0-crtc4]
root         167  0.0  0.0  0 0 ?        S    17:31   0:00 [card0-crtc5]
root         168  0.0  0.0  0 0 ?        S    17:31   0:00 [card0-crtc6]
root         169  0.0  0.0  0 0 ?        S    17:31   0:00 [card0-crtc7]
root         228  0.0  0.0  0 0 ?        Ic   17:31   0:01 [kworker/0:2H-kblockd]
root         269  0.0  0.0  0 0 ?        S    17:31   0:00 [jbd2/sdcl-8]
root         270  0.0  0.0  0 0 ?        Ic   17:31   0:00 [ext4-rsv-conver]
root         321  0.0  0.5 49484 20424 ?        Ss   17:31   0:00 /lib/systemd/systemd-journald
root         347  0.0  0.1 27048 7180 ?        Ss   17:31   0:00 /lib/systemd/systemd-udevd
root         362  0.0  0.1 8268 6136 ?        Ss   17:31   0:00 /usr/sbin/haaved --foreground --address=systemd: --verbosel
message+     490  0.0  0.1 10488 5544 ?        Ss   17:31   0:02 /usr/bin/dbus-daemon --system --address=systemd: --nofork --nopidfile --systemd-activation --syslog-only
polkitd      492  0.0  0.2 310184 10216 ?        Ssl  17:31   0:02 /usr/lib/polkit-1/polkitd --no-debug
root         493  0.0  0.1 25360 7972 ?        Ss   17:31   0:00 /lib/systemd/systemd-logind
root         496  0.0  0.0  0 0 ?        Ic   17:31   0:00 [rpciod]
root         497  0.0  0.0  0 0 ?        Ic   17:31   0:00 [xprtiod]
root         499  0.0  0.0 6608 2700 ?        Ss   17:31   0:00 /usr/sbin/cron -f
root         517  0.0  0.5 258444 21452 ?        Ssl  17:31   0:00 /usr/sbin/NetworkManager --no-daemon
root         528  0.0  0.3 317288 12200 ?        Ssl  17:31   0:00 /usr/sbin/ModemManager
root         538  0.0  0.0 292876 2928 ?        Sl   17:31   0:04 /usr/sbin/VBoxService
root         555  0.0  0.1 309036 7684 ?        Ssl  17:31   0:00 /usr/sbin/lightdm
root         570  0.0  0.0 5072 1028 ?        Ss+  17:31   0:00 /sbin/agetty -o -p -- \u --nolc -- linux
root         571  1.1  3.6 478388 147184 tty7    Ssl+ 17:31  2:17 /usr/lib/xorg/Xorg :0 -seat seats -auth /var/run/lightdm/root/:0 -nolisten tcp vt7 -novtswitch
rtkit        678  0.0  0.0 22684 1524 ?        Ssl  17:31   0:00 /usr/libexec/rtkit-daemon
root         758  0.0  0.2 162508 8176 ?        Sl   17:32   0:00 lightdm --session-child 16 25
rtkit        763  0.0  0.1 9672 10912 ?        Ss+  17:32   0:00 /lib/systemd/systemd --user
abhay        764  0.0  0.0 103288 3240 ?        S    17:32   0:00 (sd-pam)
abhay        779  0.0  0.8 660464 36024 ?        Ssl  17:32   0:00 /usr/bin/pulseaudio --daemonize=no --log-target=journal
abhay        781  0.0  0.2 239748 11120 ?        Ssl  17:32   0:00 /usr/bin/gnome-keyring-daemon --foreground --components=pkcs11,secrets --control-directory=/run/user/1000/keyring
abhay        787  0.0  0.1 9672 10912 ?        Ss+  17:32   0:00 /usr/bin/dbus-daemon --session --address=systemd: --nofork --nopidfile --systemd-activation --syslog-only
abhay        789  0.0  0.7 267472 28940 ?        Ssl  17:32   0:00 xfce-session
abhay        854  0.0  0.0 19152 340 ?        S    17:32   0:00 /usr/bin/VBoxClient --clipboard
abhay        857  0.0  0.1 217340 4052 ?        Sl   17:32   0:00 /usr/bin/VBoxClient --clipboard
abhay        865  0.0  0.0 19152 340 ?        S    17:32   0:00 /usr/bin/VBoxClient --seamless
abhay        867  0.0  0.0 217440 2400 ?        Sl   17:32   0:00 /usr/bin/VBoxClient --seamless
abhay        873  0.0  0.0 19152 344 ?        S    17:32   0:00 /usr/bin/VBoxClient --draganddrop
abhay        876  0.5  0.0 217956 2416 ?        Sl   17:32   1:02 /usr/bin/VBoxClient --draganddrop
abhay        896  0.0  0.0 7908 844 ?        Ss+  17:32   0:00 /usr/bin/ssh-agent x-session-manager
abhay        896  0.0  0.0 19152 344 ?        S    17:32   0:00 /usr/bin/VBoxClient --vmsvga
abhay        897  0.0  0.0 217544 3400 ?        Sl   17:32   0:03 /usr/bin/VBoxClient --vmsvga
abhay        911  0.0  0.2 384904 9620 ?        Ssl  17:32   0:00 /usr/libexec/at-spi-bus-launcher
abhay        919  0.0  0.1 9236 4784 ?        S    17:32   0:00 /usr/bin/dbus-daemon --config-file=/usr/share/defaults/at-spi2/accessibility.conf --nofork --print-address 11 --address-unix:path=/run/user/1000/at-spi-bus_0
abhay        921  0.0  0.2 237504 10084 ?        Ssl  17:32   0:00 /usr/libexec/gvfsd-fuse /run/user/1000/gvfs -f
abhay        930  0.0  0.2 380364 8264 ?        Sl   17:32   0:00 /usr/libexec/gvfsd-fuse /run/user/1000/gvfs -f
```

```
abhay 943 0.0 0.1 164364 7960 ? Sl 17:32 0:01 /usr/libexec/at-spi2-registrd --use-gnome-session
abhay 956 0.0 0.1 81256 5600 ? Sls 17:32 0:00 /usr/bin/gpg-agent --supervised
abhay 959 0.3 1.1 398212 47964 ? Sl 17:32 0:46 xfwm4
abhay 969 0.0 0.7 231592 30464 ? Sl 17:32 0:02 xfsettingsd
root 972 0.0 0.2 307500 10772 ? Ssl 17:32 0:00 /usr/libexec/upowerd
abhay 978 0.0 1.1 467944 47320 ? Sl 17:32 0:07 xfce4-panel
abhay 982 0.0 1.4 486512 57892 ? Sl 17:32 0:00 Thunar --daemon
abhay 990 0.0 2.6 516468 106524 ? Sl 17:32 0:07 xfdesktop
abhay 994 0.0 1.2 401624 50692 ? Sl 17:32 0:02 /usr/lib/x86_64-linux-gnu/xfce4/panel/wrapper-2.0 /usr/lib/x86_64-linux-gnu/xfce4/panel/plugins/libwhiskermenu.so 1 27262983 whiskermenu Whisker Menu Show a menu to eas
abhay 1001 0.0 1.3 374668 55484 ? Sl 17:32 0:00 /usr/bin/python3 /usr/bin/blueman-applet
abhay 1003 0.0 1.2 493836 49184 ? Sl 17:32 0:00 nm-applet
abhay 1009 0.0 0.4 186948 10940 ? Sl 17:32 0:00 /usr/lib/polkit-1-gnome/polkit-gnome-authentication-agent-1
abhay 1017 0.0 0.7 431936 30584 ? Sl 17:32 0:00 light-locker
abhay 1018 0.0 0.2 719204 10696 ? Sl 17:32 0:00 xiccd
abhay 1020 0.0 0.1 14648 4064 ? Ssl 17:32 0:00 xcacpe -e Super_L Control_L Escape
abhay 1021 0.0 1.1 391532 45552 ? Sl 17:32 0:00 /usr/lib/x86_64-linux-gnu/xfce4/panel/wrapper-2.0 /usr/lib/x86_64-linux-gnu/xfce4/panel/plugins/libxfce4-notifd/xfce4-notifd
abhay 1025 0.0 0.1 307768 7084 ? Sl 17:32 0:00 /usr/libexec/geoclue-2.0/demos/agent
abhay 1032 0.0 0.6 192540 26884 ? Sl 17:32 0:00 xfce4-power-manager
colord 1036 0.0 0.3 242320 15192 ? Ssl 17:32 0:00 /usr/libexec/colord
abhay 1049 0.0 0.3 351368 12292 ? Ssl 17:32 0:00 /usr/libexec/gvfs-udisks2-volume-monitor
abhay 1053 0.0 0.1 156340 5492 ? Ssl 17:32 0:00 /usr/libexec/dconf-service
root 1061 0.0 0.3 394652 14768 ? Ssl 17:32 0:00 /usr/libexec/udisks2/udisksd
abhay 1095 0.2 0.8 203988 34880 ? Sl 17:32 0:35 /usr/lib/x86_64-linux-gnu/xfce4/panel/wrapper-2.0 /usr/lib/x86_64-linux-gnu/xfce4/panel/plugins/libcpugraph.so 13 27262988 cpugraph CPU Graph Graphical representation o
abhay 1096 0.0 0.6 340804 28868 ? Sl 17:32 0:00 /usr/lib/x86_64-linux-gnu/xfce4/panel/wrapper-2.0 /usr/lib/x86_64-linux-gnu/xfce4/panel/plugins/libgenmon.so 14 27262989 systay Status Tray Plugin Provides status not
abhay 1099 0.2 0.7 358524 30752 ? Sl 17:32 0:27 /usr/lib/x86_64-linux-gnu/xfce4/panel/wrapper-2.0 /usr/lib/x86_64-linux-gnu/xfce4/panel/plugins/libgenmon.so 15 27262990 genmon Generic Monitor Show output of a command
abhay 1100 0.0 1.0 666584 43216 ? Sl 17:32 0:08 /usr/lib/x86_64-linux-gnu/xfce4/panel/wrapper-2.0 /usr/lib/x86_64-linux-gnu/xfce4/panel/plugins/libpulseaudio-plugin.so 16 27262991 pulseaudio PulseAudio Plugin Adjust
abhay 1102 0.0 1.0 399564 42560 ? Sl 17:32 0:00 /usr/lib/x86_64-linux-gnu/xfce4/panel/wrapper-2.0 /usr/lib/x86_64-linux-gnu/xfce4/panel/plugins/libnotification-plugin.so 17 27262992 notification-plugin Notification P
abhay 1105 0.0 1.1 234188 45100 ? Sl 17:32 0:01 /usr/lib/x86_64-linux-gnu/xfce4/panel/wrapper-2.0 /usr/lib/x86_64-linux-gnu/xfce4/panel/plugins/libxfce4powermanager.so 18 27262993 power-manager-plugin Power Manager P
abhay 1109 0.0 1.0 391372 42604 ? Sl 17:32 0:00 /usr/lib/x86_64-linux-gnu/xfce4/panel/wrapper-2.0 /usr/lib/x86_64-linux-gnu/xfce4/panel/plugins/libactions.so 22 27262994 actions Action Buttons Log out, lock or other
abhay 1135 0.0 0.2 312392 9948 ? Ssl 17:32 0:00 /usr/libexec/gvfs-afc-volume-monitor
abhay 1155 0.0 0.2 233512 8336 ? Ssl 17:32 0:00 /usr/libexec/gvfs-goa-volume-monitor
abhay 1168 0.0 0.2 233244 8420 ? Ssl 17:32 0:00 /usr/libexec/gvfs-mtp-volume-monitor
abhay 1178 0.0 0.2 234296 10864 ? Ssl 17:32 0:00 /usr/libexec/gvfs-gphoto2-volume-monitor
abhay 1232 0.0 0.2 311608 10408 ? Sl 17:32 0:00 /usr/libexec/gvfsd-trash --spawner :1.13 /org/gtk/gvfs/exec_spaw/0
abhay 1254 0.0 0.2 159904 8412 ? Ssl 17:32 0:00 /usr/libexec/gvfsd-metadata
abhay 1296 0.0 0.1 48472 7164 ? Ss 17:32 0:00 /usr/libexec/bluetooth/obexd
abhay 34756 0.0 0.4 390060 16088 ? Sl 18:38 0:00 /usr/libexec/xdg-desktop-portal
abhay 34760 0.0 0.2 460312 11204 ? Ssl 18:38 0:00 /usr/libexec/xdg-desktop-portal
abhay 34763 0.0 0.2 236672 10760 ? Ssl 18:38 0:00 /usr/libexec/xdg-permission-store
root 34769 0.0 0.0 2480 980 ? Ss 18:38 0:00 /usrmount3 -o rw,nosuid,nodev,fsname=portal,auto_umount,subtype=portal -- /run/user/1000/doc
abhay 34772 0.0 0.5 335948 22976 ? Ssl 18:38 0:00 /usr/libexec/xdg-desktop-portal-gtk
root 85358 0.0 0.0 0 0 ? I 20:18 0:00 [kworker/u4:0-events_unbound]
root 90279 0.0 0.0 0 0 ? I 20:29 0:00 [kworker/0:1-events]
root 9202 0.0 0.0 0 0 ? I 20:35 0:00 [kworker/i:0-ata-sff]
root 93385 0.0 0.0 0 0 ? I 20:35 0:00 [kworker/u4:2-flush-8:0]
root 93528 0.0 0.0 0 0 ? I 20:35 0:00 [kworker/0:3-events]
root 98586 0.0 0.0 0 0 ? I 20:45 0:00 [kworker/1:1-events]
root 101171 0.0 0.0 0 0 ? I 20:50 0:00 [kworker/i:2-ata-sff]
abhay 102066 0.0 0.2 233132 8148 ? Sl 20:52 0:00 /usr/lib/x86_64-linux-gnu/xfce4/xfconf/xfconf
root 102293 0.0 0.0 0 0 ? I 20:53 0:00 [kworker/u4:1-events_unbound]
abhay 103454 0.5 0.3 38944 15840 ? S 20:55 0:00 /usr/bin/xfce4-mime-helper --Launch TerminalEmulator
abhay 103455 3.3 2.7 445732 108892 ? Sl 20:55 0:00 /usr/bin/qterminal

abhay 103455 3.3 2.7 445732 108892 ? Sl 20:55 0:00 /usr/bin/qterminal
abhay 103458 2.6 0.1 10156 6328 pts/0 Ss 20:55 0:00 /usr/bin/zsh
abhay 103519 0.0 0.1 11196 4716 pts/0 R+ 20:55 0:00 ps aux

(abhay@kali)-[~]
$ ps aux | grep bash
abhay 103706 0.0 0.0 6332 2064 pts/0 S+ 20:55 0:00 grep --color=auto bash

(abhay@kali)-[~]
$ ps aux | grep bash | wc -l
1

(abhay@kali)-[~]
$
```

It can be observed that there is only 1 process with bash in their name.