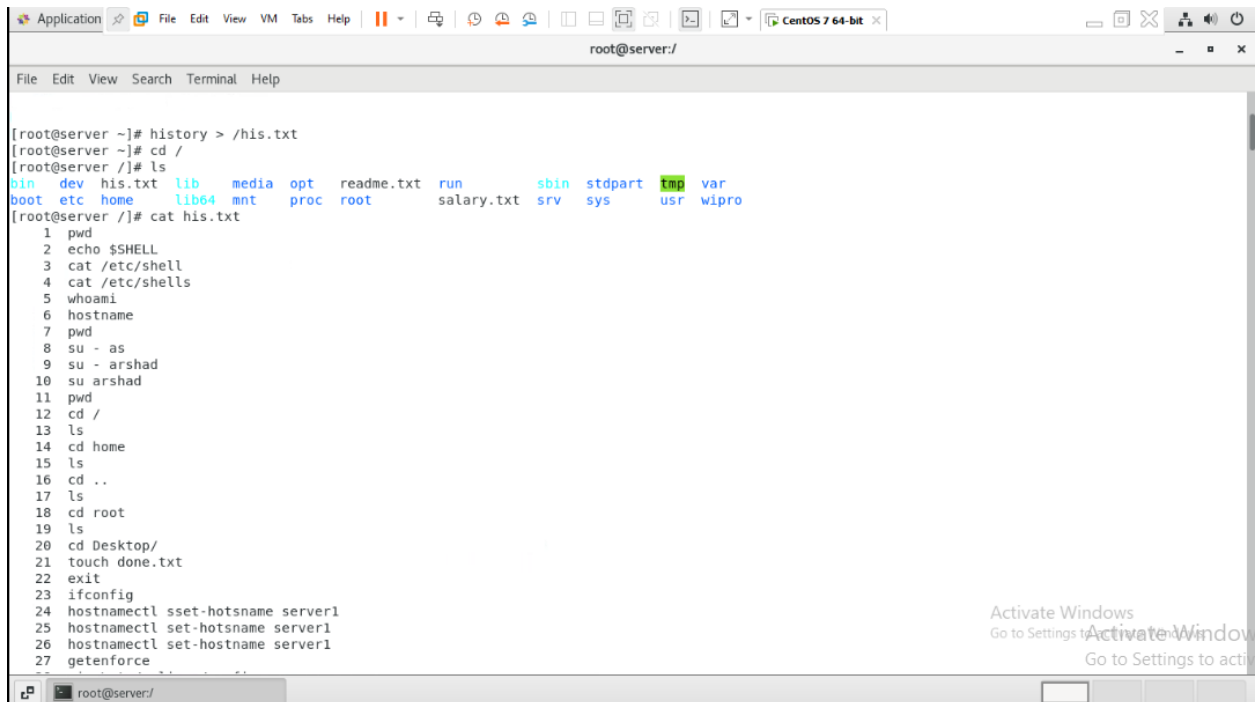


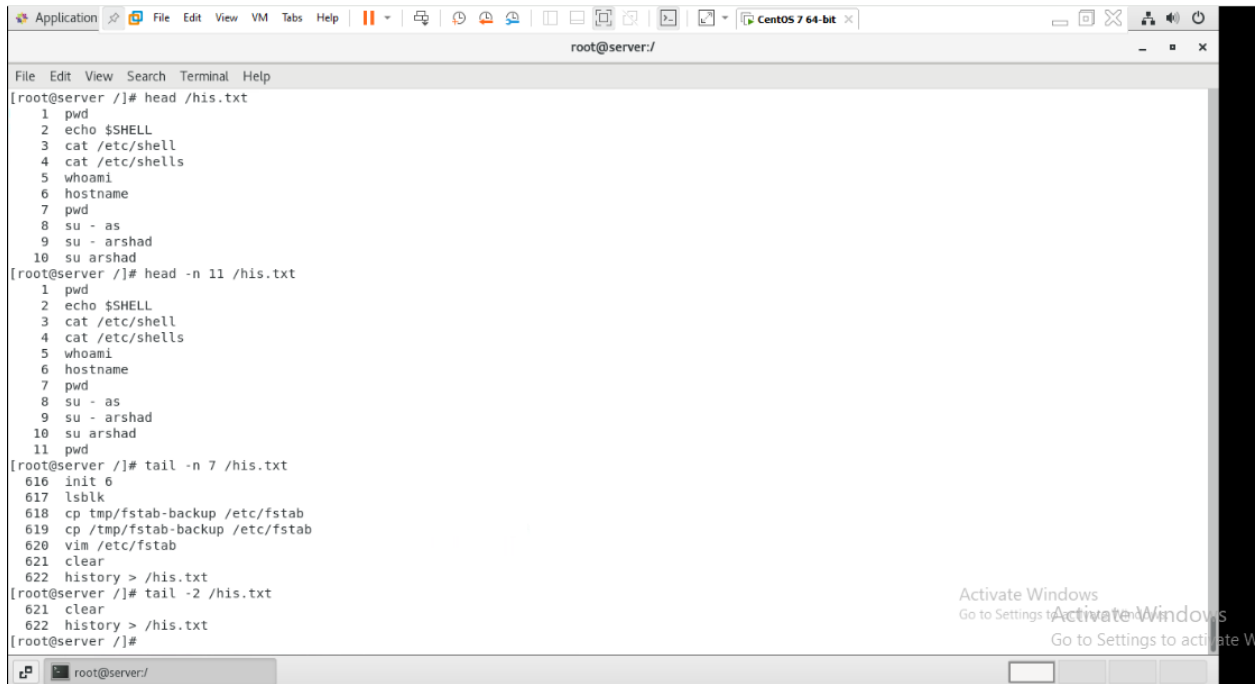
Searching / filtering / finding

Example :



```
Application File Edit View VM Tabs Help root@server:/ CentOS 7 64-bit x
root@server:/
File Edit View Search Terminal Help

[root@server ~]# history > /his.txt
[root@server ~]# cd /
[root@server /]# ls
bin dev his.txt lib media opt readme.txt run sbin stdpart tmp var
boot etc home lib64 mnt proc root salary.txt srv sys usr wipro
[root@server /]# cat his.txt
1 pwd
2 echo $SHELL
3 cat /etc/shell
4 cat /etc/shells
5 whoami
6 hostname
7 pwd
8 su - as
9 su - arshad
10 su arshad
11 pwd
12 cd /
13 ls
14 cd home
15 ls
16 cd ..
17 ls
18 cd root
19 ls
20 cd Desktop/
21 touch done.txt
22 exit
23 ifconfig
24 hostnamectl sset-hostname server1
25 hostnamectl set-hostname server1
26 hostnamectl set-hostname server1
27 getenforce
```



```
Application File Edit View VM Tabs Help root@server:/ CentOS 7 64-bit x
root@server:/
File Edit View Search Terminal Help

[root@server /]# head /his.txt
1 pwd
2 echo $SHELL
3 cat /etc/shell
4 cat /etc/shells
5 whoami
6 hostname
7 pwd
8 su - as
9 su - arshad
10 su arshad
11 pwd
[root@server /]# head -n 11 /his.txt
1 pwd
2 echo $SHELL
3 cat /etc/shell
4 cat /etc/shells
5 whoami
6 hostname
7 pwd
8 su - as
9 su - arshad
10 su arshad
11 pwd
[root@server /]# tail -n 7 /his.txt
616 init 6
617 lsblk
618 cp tmp/fstab-backup /etc/fstab
619 cp /tmp/fstab-backup /etc/fstab
620 vim /etc/fstab
621 clear
622 history > /his.txt
[root@server /]# tail -2 /his.txt
621 clear
622 history > /his.txt
[root@server /]#
```

```

2066  zlib-1.2.7-18.el7.x86_64
[root@server /]#
[root@server /]# grep "python" install.txt
abrt-addon-python-2.1.11-60.el7.centos.x86_64
abrt-python-2.1.11-60.el7.centos.x86_64
audit-libs-python-2.8.5-4.el7.x86_64
cryptsetup-python-2.0.3-6.el7.x86_64
dbus-python-1.1.1-9.el7.x86_64
gnome-python2-2.28.1-14.el7.x86_64
gnome-python2-canvas-2.28.1-14.el7.x86_64
langtable-python-0.0.31-4.el7.noarch
liblouis-python-2.5.2-12.el7_4.noarch
libpeas-loader-python-1.22.0-1.el7.x86_64
libreport-python-2.1.11-53.el7.centos.x86_64
libselinux-python-2.5-15.el7.x86_64
libsemanage-python-2.5-14.el7.x86_64
libstoragemgmt-python-1.8.1-1.el7.noarch
libstoragemgmt-python-clibs-1.8.1-1.el7.x86_64
libuser-python-0.60-9.el7.x86_64
libvirt-python-4.5.0-1.el7.x86_64
libxml2-python-2.9.1-6.el7.5.x86_64
lvm2-python-libs-2.02.187-6.el7.x86_64
newt-python-0.52.15-4.el7.x86_64
openlmi-python-base-0.5.0-4.el7.noarch
openlmi-python-providers-0.5.0-4.el7.noarch
openwsman-python-2.6.3-7.git4391e5c.el7.x86_64
plasma-scriptengine-python-4.11.19-15.el7.x86_64
policycoreutils-python-2.5-34.el7.x86_64
python-2.7.5-89.el7.x86_64
python2-blockdev-2.18-5.el7.x86_64
python2-cryptography-1.7.2-2.el7.x86_64

```



Task : To find count of tcp and udp services within /etc/services file.

```

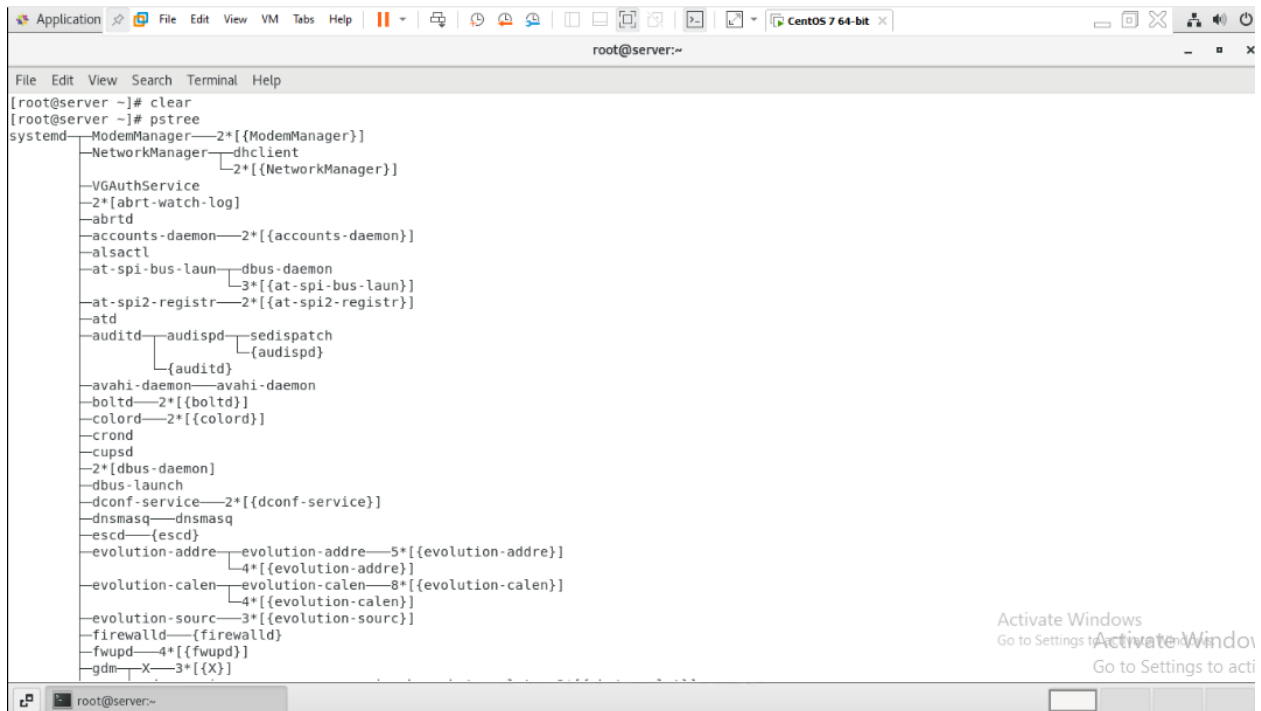
Application File Edit View VM Tabs Help
root@server:~

File Edit View Search Terminal Help
[root@server ~]# cat /etc/services | grep -i tcp | wc -l
5660
[root@server ~]# cat /etc/services | grep -i udp | wc -l
5394
[root@server ~]#

```

PROCESS MANAGEMENT

To list all process : #pstree



```
root@server ~]# clear
root@server ~]# pstree
systemd--2*[{ModemManager}]
  NetworkManager--dhclient
    2*[{NetworkManager}]
  VGAuthService
  2*[abrt-watch-log]
  abrt-d
  accounts-daemon--2*[{accounts-daemon}]
  alsactl
  at-spi-bus-launcher--dbus-daemon
    3*[{at-spi-bus-launcher}]
  at-spi2-registry--2*[{at-spi2-registry}]
  atd
  auditd--audispd
    {auditd}
    {audispd}
  avahi-daemon--avahi-daemon
  boltd--2*[{boltd}]
  colord--2*[{colord}]
  crond
  cupsd
  2*[dbus-daemon]
  dbus-launch
  dconf-service--2*[{dconf-service}]
  dnsmasq--dnsmasq
  escd--{escd}
  evolution-address--evolution-address--5*[{evolution-address}]
    4*[{evolution-address}]
  evolution-calendar--evolution-calendar--8*[{evolution-calendar}]
    4*[{evolution-calendar}]
  evolution-source--3*[{evolution-source}]
  firewallld--{firewalld}
  fwupd--4*[{fwupd}]
  gdm--X--3*[{X}]
```

To get process ID



```
root@server ~]# pgrep systemd
1
512
552
736
737
root@server ~]#
```

top

```
Application File Edit View VM Tabs Help
root@server:~

File Edit View Search Terminal Help
top - 12:52:49 up 4:19, 2 users, load average: 0.00, 0.01, 0.05
Tasks: 226 total, 1 running, 225 sleeping, 0 stopped, 0 zombie
%Cpu(s): 1.9 us, 1.3 sy, 0.0 ni, 96.8 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
KiB Mem : 3861300 total, 1155844 free, 969464 used, 1735992 buff/cache
KiB Swap: 3145724 total, 3145724 free, 0 used. 2621244 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM    TIME+  COMMAND
  9180 root        20   0 3433868 195440 70772 S   3.7   5.1   0:49.32 gnome-shell
 1386 root        20   0 353688 63388 35500 S   3.3   1.6   0:16.54 X
12917 root        20   0 671508 27680 16732 S   1.0   0.7   0:01.49 gnome-terminal-
   9 root        20   0 0 0 0 S   0.3   0.0   0:05.45 rcu_sched
  739 root        20   0 295376 5212 3960 S   0.3   0.1   0:33.89 vmtoolsd
  744 root        20   0 90568 3260 2336 S   0.3   0.1   0:04.74 rngd
2905 root        20   0 254572 1568 1100 S   0.3   0.0   0:38.94 pcscd
13176 root        20   0 162100 2376 1580 R   0.3   0.1   0:00.04 top
   1 root        20   0 125732 4256 2616 S   0.0   0.1   0:05.65 systemd
   2 root        20   0 0 0 0 S   0.0   0.0   0:00.05 kthreadd
   3 root        20   0 0 0 0 S   0.0   0.0   0:28.32 kworker/0:0
   4 root        0 -20 0 0 0 S   0.0   0.0   0:00.00 kworker/0:0H
   6 root        20   0 0 0 0 S   0.0   0.0   0:00.51 ksoftirqd/0
   7 root        rt   0 0 0 0 0 S   0.0   0.0   0:00.48 migration/0
   8 root        20   0 0 0 0 S   0.0   0.0   0:00.00 rcu_bh
  10 root        0 -20 0 0 0 S   0.0   0.0   0:00.00 lru-add-drain
  11 root        rt   0 0 0 0 0 S   0.0   0.0   0:00.13 watchdog/0
  12 root        rt   0 0 0 0 0 S   0.0   0.0   0:00.15 watchdog/1
  13 root        rt   0 0 0 0 0 S   0.0   0.0   0:00.53 migration/1
  14 root        20   0 0 0 0 S   0.0   0.0   0:00.32 ksoftirqd/1
  16 root        0 -20 0 0 0 S   0.0   0.0   0:00.00 kworker/1:0H
  18 root        20   0 0 0 0 S   0.0   0.0   0:00.02 kdevtmpfs
  19 root        0 -20 0 0 0 S   0.0   0.0   0:00.00 netns
  20 root        20   0 0 0 0 S   0.0   0.0   0:00.01 khungtaskd
  21 root        0 -20 0 0 0 S   0.0   0.0   0:00.00 writeback
  22 root        0 -20 0 0 0 S   0.0   0.0   0:00.00 kintegrityd
  23 root        0 -20 0 0 0 S   0.0   0.0   0:00.00 bioset
  24 root        0 -20 0 0 0 S   0.0   0.0   0:00.00 bioset
```

To delay the process , press d and enter second

To kill the process with top command

```
Application File Edit View VM Tabs Help
root@server:~

File Edit View Search Terminal Tabs Help
root@server:~

top - 12:55:55 up 4:22, 3 users, load average: 4.23, 1.76, 0.69
Tasks: 220 total, 4 running, 224 sleeping, 0 stopped, 0 zombie
%Cpu(s): 70.7 us, 24.7 sy, 0.0 ni, 4.2 id, 0.0 wa, 0.0 hi, 0.3 si, 0.0 st
KiB Mem : 3861300 total, 1152064 free, 972820 used, 1736416 buff/cache
KiB Swap: 3145724 total, 3145724 free, 0 used. 2617716 avail Mem
PID to signal/kill (default pid = 9180) 1323d
  PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM    TIME+  COMMAND
  9180 root        20   0 3433868 195468 70772 S  73.7   5.1   2:30.44 gnome-shell
13234 root        20   0 108056 356 280 R  62.5   0.0   1:38.18 yes
12917 root        20   0 683308 29756 17636 D  35.1   0.8   0:53.95 gnome-terminal-
 1386 root        20   0 353688 63604 35500 S  19.2   1.6   0:43.37 X
  739 root        20   0 295376 5212 3960 S   0.4   0.1   0:34.24 vmtoolsd
 9482 root        20   0 608392 25268 18600 S   0.4   0.7   0:30.62 vmtoolsd
13253 root        20   0 0 0 0 R   0.4   0.0   0:00.03 kworker/1:2
   9 root        20   0 0 0 0 R   0.2   0.0   0:06.11 rcu_sched
  308 root       -51   0 0 0 0 S   0.2   0.0   0:00.63 irq/16-vmwgfx
 9334 root        20   0 714064 15020 9560 S   0.2   0.4   0:02.53 gsd-color
13046 root        20   0 0 0 0 S   0.2   0.0   0:00.42 kworker/0:2
13176 root        20   0 162100 2376 1580 R   0.2   0.1   0:00.39 top
   1 root        20   0 125732 4256 2616 S   0.0   0.1   0:05.67 systemd
   2 root        20   0 0 0 0 S   0.0   0.0   0:00.05 kthreadd
   4 root        0 -20 0 0 0 S   0.0   0.0   0:00.00 kworker/0:0H
   6 root        20   0 0 0 0 S   0.0   0.0   0:00.53 ksoftirqd/0
   7 root        rt   0 0 0 0 0 S   0.0   0.0   0:00.48 migration/0
   8 root        20   0 0 0 0 S   0.0   0.0   0:00.00 rcu_bh
  10 root        0 -20 0 0 0 S   0.0   0.0   0:00.00 lru-add-drain
  11 root        rt   0 0 0 0 0 S   0.0   0.0   0:00.13 watchdog/0
  12 root        rt   0 0 0 0 0 S   0.0   0.0   0:00.16 watchdog/1
  13 root        rt   0 0 0 0 0 S   0.0   0.0   0:00.54 migration/1
  14 root        20   0 0 0 0 S   0.0   0.0   0:00.32 ksoftirqd/1
  16 root        0 -20 0 0 0 S   0.0   0.0   0:00.00 kworker/1:0H
  18 root        20   0 0 0 0 S   0.0   0.0   0:00.02 kdevtmpfs
  19 root        0 -20 0 0 0 S   0.0   0.0   0:00.00 netns
```

Another kill command

```
File Edit View Search Terminal Tabs Help
root@server:~
[root@server ~]# kill -9 13430
[root@server ~]# █
```

Backup Tools

1. Archive

- tar

tar -cvf <filename.tar> <which-file>

2. Compression

- gzip

gzip <filename>

-bzip2

bzip2 <filename>

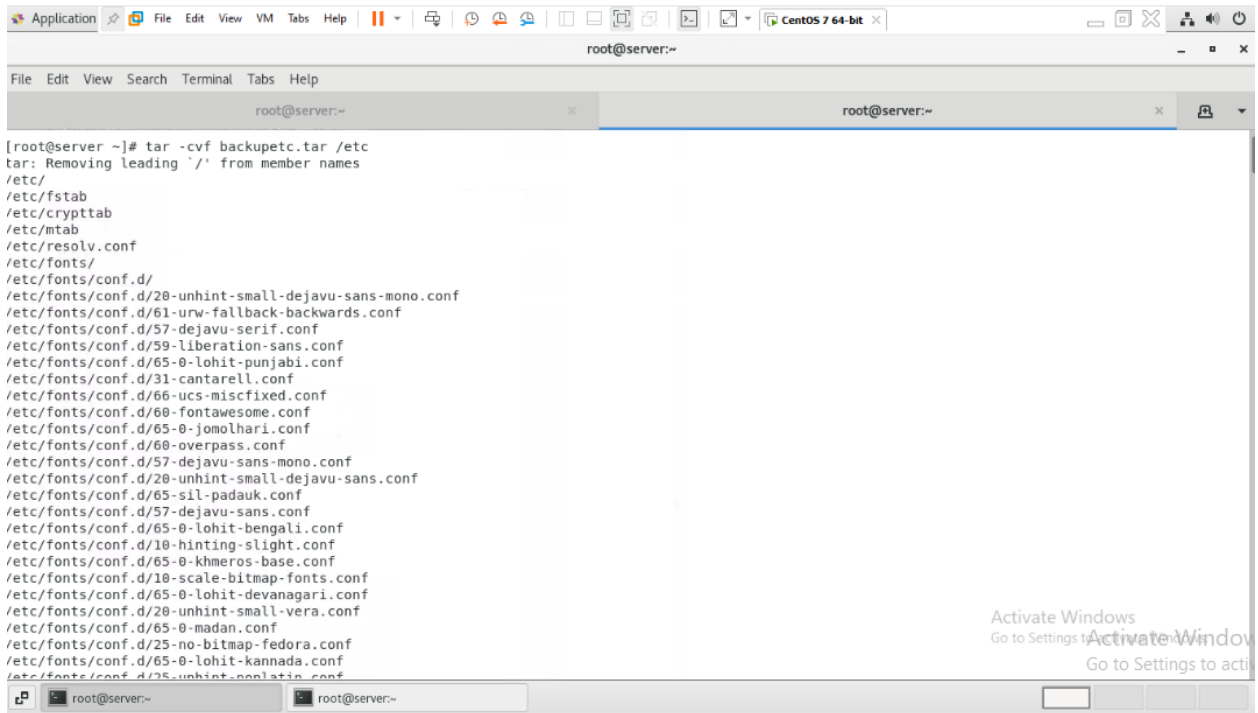
-zip

```
Application File Edit View VM Tabs Help CentOS 7 64-bit
root@server:~
File Edit View Search Terminal Tabs Help
root@server:~
[root@server ~]# ll
bash: ll: command not found...
[root@server ~]# ls -lh
total 117M
-rw-r--r-- 1 root root 2.1K Apr 19 14:43 anaconda-ks.cfg
-rw-r--r-- 1 root root 39M Apr 27 13:40 backupetc.tar
drwxr-xr-x 4 root root 162 Apr 22 14:29 d2
drwxr-xr-x 2 root root 73 Apr 24 10:16 Desktop
drwxr-xr-x 2 root root 6 Apr 19 14:47 Documents
drwxr-xr-x 2 root root 6 Apr 19 14:47 Downloads
-rw-r--r-- 1 root root 39M Apr 27 13:43 gzip2.tar
-rw-r--r-- 1 root root 39M Apr 27 13:43 gzip.tar
-rw-r--r-- 1 root root 2.2K Apr 19 14:46 initial-setup-ks.cfg
drwxr-xr-x 2 root root 6 Apr 19 14:47 Music
drwxr-xr-x 2 root root 6 Apr 19 14:47 Pictures
drwxr-xr-x 2 root root 6 Apr 19 14:47 Public
drwxr-xr-x 2 root root 6 Apr 19 14:47 Templates
drwxr-xr-x 2 root root 6 Apr 19 14:47 Videos
[root@server ~]# gzip gzip.tar
[root@server ~]# ls -lh gzip.tar.gz
-rw-r--r-- 1 root root 13M Apr 27 13:43 gzip.tar.gz
[root@server ~]# gzip2 gzip2.tar
bash: gzip2: command not found...
Similar command is: 'gzip'
[root@server ~]# bzip2 gzip2.tar
[root@server ~]# ls -lh gzip2.tar.gz
ls: cannot access gzip2.tar.gz: No such file or directory
[root@server ~]# ls -lh
anaconda-ks.cfg d2 Documents gzip2.tar.bz2 initial-setup-ks.cfg Pictures Templates
backupetc.tar Desktop Downloads gzip.tar.gz Music Public Videos
[root@server ~]# ls -lh gzip2.tar.bz2
-rw-r--r-- 1 root root 11M Apr 27 13:43 gzip2.tar.bz2
[root@server ~]#
```

To get process ID

```
File Edit View Search Terminal Tabs Help
root@server:~
[root@server ~]# firefox &
[2] 13924
[root@server ~]# pgrep firefox
13804
13819
13924
13942
[root@server ~]#
```

Take backup



The screenshot shows a terminal window titled "CentOS 7 64-bit" with the prompt "root@server:~". The user has executed the command `tar -cvf backupetc.tar /etc`. The output shows the tar command listing the files being archived, including `/etc/`, `/etc/fstab`, `/etc/crypttab`, `/etc/mtab`, `/etc/resolv.conf`, `/etc/fonts/`, and a large number of font configuration files in `/etc/fonts/conf.d/`. The window has a menu bar with "File", "Edit", "View", "Search", "Terminal", "Tabs", and "Help". The status bar at the bottom shows the current directory as `root@server:~`.

```
[root@server ~]# tar -cvf backupetc.tar /etc
tar: Removing leading '/' from member names
/etc/
/etc/fstab
/etc/crypttab
/etc/mtab
/etc/resolv.conf
/etc/fonts/
/etc/fonts/conf.d/
/etc/fonts/conf.d/20-unhint-small-dejavu-sans-mono.conf
/etc/fonts/conf.d/61-urw-fallback-backwards.conf
/etc/fonts/conf.d/57-dejavu-serif.conf
/etc/fonts/conf.d/59-liberation-sans.conf
/etc/fonts/conf.d/65-0-lohit-punjabi.conf
/etc/fonts/conf.d/31-cantarell.conf
/etc/fonts/conf.d/66-ucs-miscfixed.conf
/etc/fonts/conf.d/60-fontawesome.conf
/etc/fonts/conf.d/65-0-jomolhari.conf
/etc/fonts/conf.d/60-overpass.conf
/etc/fonts/conf.d/57-dejavu-sans-mono.conf
/etc/fonts/conf.d/20-unhint-small-dejavu-sans.conf
/etc/fonts/conf.d/65-sil-padauk.conf
/etc/fonts/conf.d/57-dejavu-sans.conf
/etc/fonts/conf.d/65-0-lohit-bengali.conf
/etc/fonts/conf.d/10-hinting-slight.conf
/etc/fonts/conf.d/65-0-khmeros-base.conf
/etc/fonts/conf.d/10-scale-bitmap-fonts.conf
/etc/fonts/conf.d/65-0-lohit-devanagari.conf
/etc/fonts/conf.d/20-unhint-small-vera.conf
/etc/fonts/conf.d/65-0-madan.conf
/etc/fonts/conf.d/25-no-bitmap-fedora.conf
/etc/fonts/conf.d/65-0-lohit-kannada.conf
/etc/fonts/conf.d/25-unhint-poplatin.conf
```

To transfer a file from linux to windows , from windows machine

