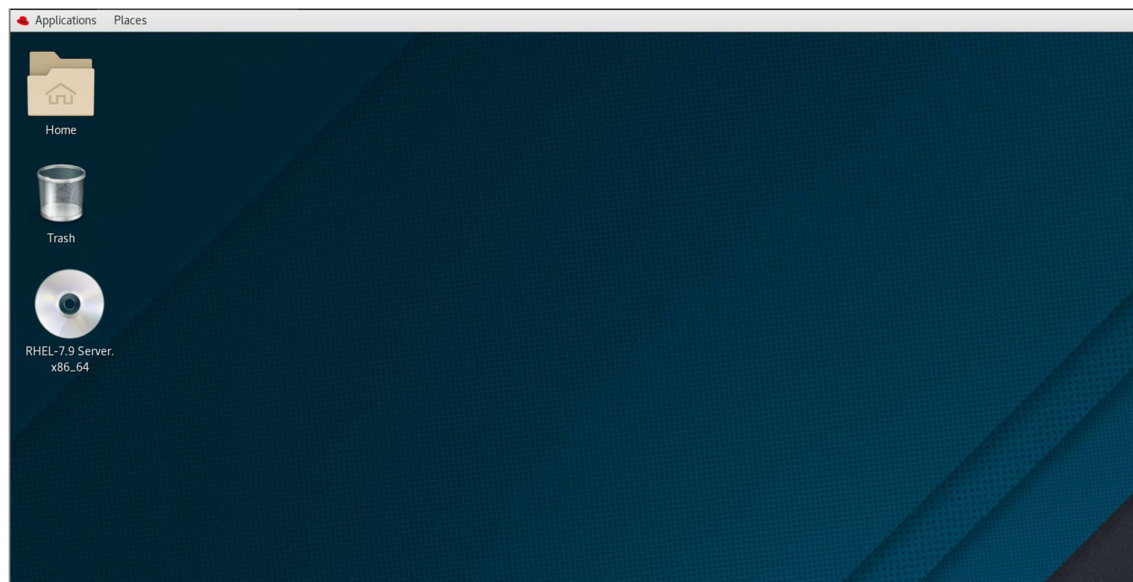
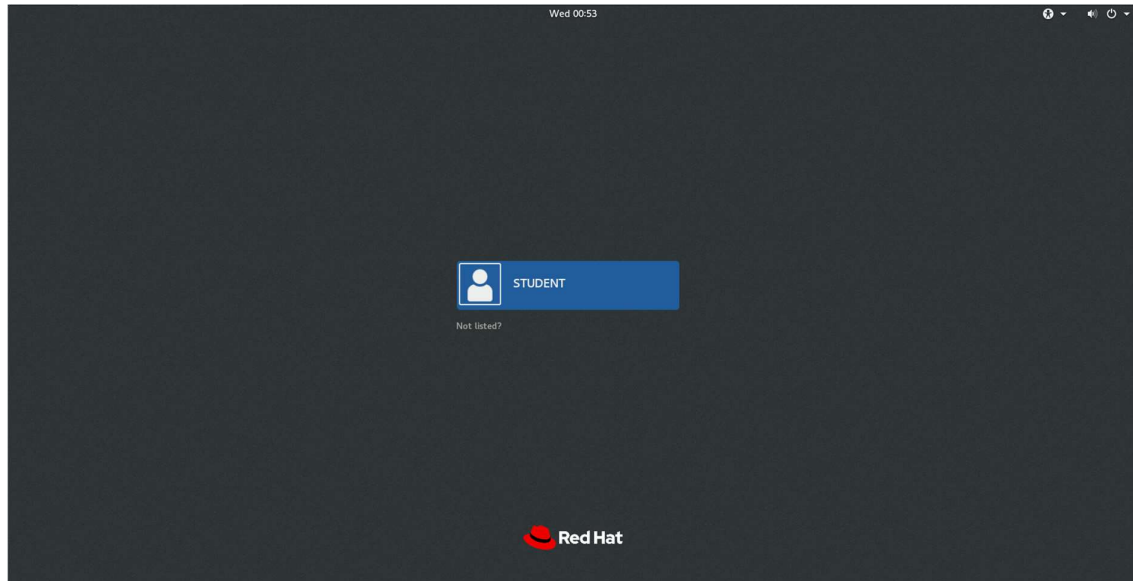


## Practical 1: Graphical User Interface & Command Line Interface and Processes

### GUI of Red Hat Enterprise Linux:



## General Purpose Commands:

**#tty:** to display current terminal.  
**#pwd:** to print working directory.  
**#whoami:** to know current user.  
**#who:** to display all logged in users and their terminals  
**#hostname:** to know computer name.  
**#cal:** to display calendar of current month.  
**#date:** to display current date & time.  
**#date -s "2024-07-28 18:33":** to set particular date & time.  
**#uname -r:** to check kernel version.  
**#uname -a:** to display information about kernel.  
**#w:** information about the users currently on the machine and their processes.  
**#watch:** for live monitoring (to exit use ctrl+c) can be used with w & free command.  
**#history:** to display history of the commands executed.  
**#cd:** to change directory.  
**#users:** to know who all are logged in.  
**#clear:** to clear the screen.

```
student@localhost:/home/student
File Edit View Search Terminal Help
[root@localhost student]# tty
/dev/pts/0
[root@localhost student]# pwd
/home/student
[root@localhost student]# whoami
root
[root@localhost student]# who
student  seat0      2024-07-28 18:54 (login screen)
harsh    tty2      2024-07-28 18:21 (tty2)
student  tty3      2024-07-28 18:54 (tty3)
[root@localhost student]# hostname
localhost.localdomain
[root@localhost student]# cal
      July 2024
Su Mo Tu We Th Fr Sa
      1  2  3  4  5  6
 7  8  9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30 31

[root@localhost student]# date
Mon Jul 29 18:53:58 IST 2024
[root@localhost student]# date -s "2024-07-29 18:58:35"
Mon Jul 29 18:58:35 IST 2024
[root@localhost student]# uname -r
4.18.0-477.10.1.el8_8.x86_64
[root@localhost student]# uname -a
Linux localhost.localdomain 4.18.0-477.10.1.el8_8.x86_64 #1 SMP Wed Apr 5 13:35:01 EDT 20
23 x86_64 x86_64 x86_64 GNU/Linux
[root@localhost student]#
```

```
root@localhost:~/Desktop
File Edit View Search Terminal Help
[root@localhost ~]# cd Desktop
[root@localhost Desktop]# users
root root
[root@localhost Desktop]# clear
```

```
343 tty
344 pwd
345 whoami
346 hostname
347 cal
348 date
349 date -s "2024-07-29 18:58:35"
350 uname -r
351 uname -a
352 w
353 cd Desktop
354 users
355 clear
356 history
```

### File management commands:

**#ls:** to list the contents of a directory.

**#ls -l:** to long list the contents of a directory.

**#ls -lh:** to long list the contents of a directory in human readable form.

**#l :** to display hidden files. Hidden file names starts with “.”

```
student@localhost:/home/student
File Edit View Search Terminal Help
[root@localhost student]# ls
Desktop Documents Downloads Music Pictures Public Templates Videos
[root@localhost student]# ls -l
total 0
drwxr-xr-x. 2 student student 6 Jul 28 18:54 Desktop
drwxr-xr-x. 2 student student 6 Jul 28 18:54 Documents
drwxr-xr-x. 2 student student 6 Jul 28 18:54 Downloads
drwxr-xr-x. 2 student student 6 Jul 28 18:54 Music
drwxr-xr-x. 2 student student 6 Jul 28 18:54 Pictures
drwxr-xr-x. 2 student student 6 Jul 28 18:54 Public
drwxr-xr-x. 2 student student 6 Jul 28 18:54 Templates
drwxr-xr-x. 2 student student 6 Jul 28 18:54 Videos
[root@localhost student]# ls -lh
total 0
drwxr-xr-x. 2 student student 6 Jul 28 18:54 Desktop
drwxr-xr-x. 2 student student 6 Jul 28 18:54 Documents
drwxr-xr-x. 2 student student 6 Jul 28 18:54 Downloads
drwxr-xr-x. 2 student student 6 Jul 28 18:54 Music
drwxr-xr-x. 2 student student 6 Jul 28 18:54 Pictures
drwxr-xr-x. 2 student student 6 Jul 28 18:54 Public
drwxr-xr-x. 2 student student 6 Jul 28 18:54 Templates
drwxr-xr-x. 2 student student 6 Jul 28 18:54 Videos
[root@localhost student]# l.
. .bash history .bash profile .cache .esd auth .local .pki
```

**#ls /usr:** to list all the contents of /usr directory.

**#ls -lh /usr:** to list the contents of /usr directory in human readable format.

```
student@localhost:/home/student
File Edit View Search Terminal Help
[root@localhost student]#
[root@localhost student]#
[root@localhost student]# ls /usr
bin config games include lib lib64 libexec local sbin share src tmp
[root@localhost student]# ls -lh /usr
total 336K
dr-xr-xr-x. 2 root root 68K Jul 28 17:55 bin
drwxr-xr-x. 2 root root 22 Jul 28 17:40 config
drwxr-xr-x. 2 root root 6 Jun 21 2021 games
drwxr-xr-x. 56 root root 8.0K Jul 28 17:41 include
dr-xr-xr-x. 48 root root 4.0K Jul 28 17:42 lib
dr-xr-xr-x. 157 root root 96K Jul 28 17:57 lib64
drwxr-xr-x. 67 root root 12K Jul 28 17:44 libexec
drwxr-xr-x. 12 root root 131 Jul 28 17:25 local
dr-xr-xr-x. 2 root root 28K Jul 28 17:44 sbin
drwxr-xr-x. 283 root root 8.0K Jul 28 17:44 share
drwxr-xr-x. 5 root root 49 Jul 28 17:31 src
lrwxrwxrwx. 1 root root 10 Jun 21 2021 tmp -> ../var/tmp
[root@localhost student]# clear
[root@localhost student]#
```

**#ls -il:** Display inode number.

**#ls -a:** Display regular as well as hidden files.

```
student@localhost:/home/student
File Edit View Search Terminal Help
[root@localhost student]# ls -a
. .bash_profile Desktop .ICEauthority Pictures Videos
.. .bashrc Documents .local .pki .zshrc
.bash_history .cache Downloads .mozilla Public
.bash_logout .config .esd_auth Music Templates
[root@localhost student]# ls -il
total 0
390 drwxr-xr-x. 2 student student 6 Jul 28 18:54 Desktop
391 drwxr-xr-x. 2 student student 6 Jul 28 18:54 Documents
2097338 drwxr-xr-x. 2 student student 6 Jul 28 18:54 Downloads
2097339 drwxr-xr-x. 2 student student 6 Jul 28 18:54 Music
4214959 drwxr-xr-x. 2 student student 6 Jul 28 18:54 Pictures
6291633 drwxr-xr-x. 2 student student 6 Jul 28 18:54 Public
4214958 drwxr-xr-x. 2 student student 6 Jul 28 18:54 Templates
6291634 drwxr-xr-x. 2 student student 6 Jul 28 18:54 Videos
[root@localhost student]#
```

**#mkdir dir1:** creates a single directory named dir1 in the current directory.

**#mkdir dir2 dir3 dir4:** creates multiple directories at the same time.

**#mkdir /tmp/dir:** creates a directory at the mentioned location.

**#mkdir /home/d2 /usr/d3:** creates multiple directories at the mentioned location.

```
student@localhost:/home/student
File Edit View Search Terminal Help
[root@localhost student]# mkdir dir1
[root@localhost student]# mkdir dir2 dir3 dir4
[root@localhost student]# mkdir /tmp/dir
[root@localhost student]# mkdir /home/d2 /usr/d3
[root@localhost student]# ls
Desktop  dir2  dir4      Downloads  Pictures  Templates
dir1     dir3  Documents Music      Public    Videos
[root@localhost student]# ls /home
d2  harsh  student
[root@localhost student]# ls /usr
bin  d3  include  lib64  local  share  tmp
config  games  lib      libexec  sbin  src
[root@localhost student]# ls /tmp
anaconda.log
dbus.log
dir
dnf.librepo.log
hsperfdata_root
ks-script-8iidj68c
ks-script-alw5bo31
```

**#rmdir:** to delete an empty directory.

**#rmdir -rf:** removes directories.

**#rm:** to remove a file.

```
student@localhost:/home/student
File Edit View Search Terminal Help
[root@localhost student]# ls
Desktop  dir2  dir4      Downloads  Pictures  Templates
dir1     dir3  Documents Music      Public    Videos
[root@localhost student]# rmdir dir4
[root@localhost student]# ls
Desktop  dir2  Documents Music      Public    Videos
dir1     dir3  Downloads Pictures Templates
[root@localhost student]# rmdir dir3
[root@localhost student]# ls
Desktop  dir2      Downloads  Pictures  Templates
dir1     Documents Music      Public    Videos
[root@localhost student]#
```

**#touch <filename>:** creates a single file.

**#touch <file1><file2>:** creates multiple files.

**#touch /month/Jan/one.txt:** creates a file at the specified location.

```
student@localhost:/home/student
File Edit View Search Terminal Help
[root@localhost student]# touch file
[root@localhost student]# touch file1 file2
[root@localhost student]# ls
Desktop  dir2      Downloads  file1  month  Pictures  Templates
dir1     Documents file       file2  Music  Public    Videos
[root@localhost student]# touch /month/Jan/one.txt
[root@localhost student]# ls /month/Jan
one.txt
[root@localhost student]# touch /month/feb/{day1.txt,day2.txt,day3.txt}
[root@localhost student]# ls /month/feb
day1.txt day2.txt day3.txt
[root@localhost student]#
```

#**cp**: command to copy files from source to destination.

```
student@localhost:/home/student
File Edit View Search Terminal Help
[root@localhost student]# ls
Desktop  dir2      Downloads  file1  month  Pictures  Templates
dir1     Documents file       file2  Music  Public    Videos
[root@localhost student]# cp file file3
[root@localhost student]# ls
Desktop  dir2      Downloads  file1  file3  Music  Public  Videos
dir1     Documents file       file2  month  Pictures Templates
[root@localhost student]# cp file2 copied_file
[root@localhost student]# ls
copied_file  dir1  Documents  file  file2  month  Pictures  Templates
Desktop     dir2  Downloads  file1  file3  Music  Public    Videos
[root@localhost student]#
```

#**cat** > <filename>: adds or overwrite contents in file.

#**cat** <filename>: command to display content of file.

#**cat** >> <filename>: append contents in file.

#**tac** <filename>: command to display content of file in reverse manner.



```
student@localhost:/home/student
File Edit View Search Terminal Help
[root@localhost student]# ls
copied_file  dir1  Documents  file  file2  month  Pictures  Templates
Desktop      dir2  Downloads  file1 file3  Music  Public    Videos
[root@localhost student]# cat > file1
Hii Students
[root@localhost student]# cat file1
Hii Students
[root@localhost student]# cat >> file1
This is RedHat Enterprise Linux
[root@localhost student]# cat file1
Hii Students
This is RedHat Enterprise Linux
[root@localhost student]# tac file1
This is RedHat Enterprise Linux
Hii Students
[root@localhost student]#
```

**#sort<filename>:** to sort a file.

**#sort -r<filename>:** to sort a file in reverse order.

**#sort -n<filename>:** performs numerical sort.

**#sort -nr<filename>:** performs numerical sort in reverse.

```
student@localhost:/home/student
File Edit View Search Terminal Help
[root@localhost student]# sort file1
Friday
Monday
Saturday
Sunday
Thursday
Tuesday
Wednesday
[root@localhost student]# sort -r file1
Wednesday
Tuesday
Thursday
Sunday
Saturday
Monday
Friday
[root@localhost student]#
```

```
student@localhost:/home/student
File Edit View Search Terminal Help
[root@localhost student]# sort -n file2
1
2
4
12
21
29
32
43
44
49
56
90
[root@localhost student]# sort -nr file2
90
56
49
44
43
32
29
21
12
4
```

**#head<filename>:** displays first 10 lines of the file.

**#head -n<filename>:** displays n number of lines of the file.

**#tail <filename>:** displays last 10 lines of the file.

**#tail -n<filename>:** displays last n lines of the file.

```
student@localhost:/
File Edit View Search Terminal Help
[root@localhost student]# head months
Jan
Feb
Mar
Apr
May
June
July
Aug
Sept
Oct
[root@localhost student]# head -5 months
Jan
Feb
Mar
Apr
May
[root@localhost student]#
```

```
student@localhost:/
File Edit View Search Terminal Help
[root@localhost student]# tail months
Mar
Apr
May
June
July
Aug
Sept
Oct
Nov
Dec
[root@localhost student]# tail -5 months
Aug
Sept
Oct
Nov
Dec
[root@localhost student]#
```

**#cut:** command to cut a particular column field of a file.

**#cut -f 4 -d: /etc/passwd :** f is field number and d is delimiter or separator.

```
student@localhost:/home/student
File Edit View Search Terminal Help
[root@localhost student]# date
Sun Jul 28 21:51:26 IST 2024
[root@localhost student]# date | cut -c 12-19
21:51:33
[root@localhost student]# date | cut -c 5-10
Jul 28
[root@localhost student]# cut -f 4 -d: /etc/passwd
0
1
2
4
7
0
0
0
12
0
100
50
65534
81
997
193
59
996
994
993
992
172
990
171
107
```

**#grep:** stands for Global Regular Expression Print.

**#grep -i:** Ignore case sensitivity.

**#grep "spool" /etc/passwd:** searches spool word in the passwd under etc directory.

**#file <filename>:** gives the type of the file.



```
student@localhost:/home/student
File Edit View Search Terminal Help
[root@localhost student]# grep "spool" /etc/passwd
lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
postfix:x:89:89:/var/spool/postfix:/sbin/nologin
[root@localhost student]# grep -i "spool" /etc/passwd
lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
postfix:x:89:89:/var/spool/postfix:/sbin/nologin
[root@localhost student]# file months
months: ASCII text
[root@localhost student]#
```

### Word count commands:

- #wc -l<filename>**: displays number of lines in the file.
- #wc -w<filename>**: displays number of words in the file.
- #wc -c<filename>**: displays number of characters in the file.
- #wc -m<filename>**: displays number of bytes in the file.
- #wc -L<filename>**: displays the length of the longest line in the file.

**Input redirection(<):** Input redirection takes the content of a file and redirects it to a command.

**#wc < <filename>**

```
student@localhost:/home/student
File Edit View Search Terminal Help
[root@localhost student]# wc months
12 12 51 months
[root@localhost student]# wc -l months
12 months
[root@localhost student]# wc -w months
12 months
[root@localhost student]# wc -c months
51 months
[root@localhost student]# wc -m months
51 months
[root@localhost student]# wc -L months
4 months
[root@localhost student]# wc < months
12 12 51
[root@localhost student]#
```

**Output redirection (>):** Output of all commands is by default printed on terminal. Using output redirection, we can redirect output of any command to file or to /dev/null (trash).

- #date > /tmp/mytime**: to redirect output to a file.
- #whoami >> /tmp/mytime**: to append output to a file.
- #ls /blabla 2> /tmp/myerror**: to redirect error.

**#date 2>> /tmp/myerror:** to append error to a file.

**#ls /usr /blabla &> /tmp/errors:** to redirect both output as well as error.

**#ls /home /blabla &>> /tmp/errors:** to append both output as well as error to a file.

```
student@localhost:/home/student
File Edit View Search Terminal Help
[root@localhost student]# date > /tmp/mytime
[root@localhost student]# whoami >> /tmp/mytime
[root@localhost student]# ls /blabla 2> /tmp/myerror
[root@localhost student]# date 2>> /tmp/myerror
Sun Jul 28 22:19:12 IST 2024
[root@localhost student]# ls /usr/blabla &> /tmp/errors
[root@localhost student]# ls /home/blabla &>> /tmp/errors
[root@localhost student]# █
```

#### Different use of cat command:

- Used to create a new file
- Used to insert data in empty file
- Used to display existing file
- Used to concatenate new content to a file

```
student@localhost:/home/student
File Edit View Search Terminal Help
[root@localhost student]# cat > hello
This is Linux OS
[root@localhost student]# cat hello
This is Linux OS
[root@localhost student]# cat > hello
This is Linux Operating System
[root@localhost student]# cat hello
This is Linux Operating System
[root@localhost student]# cat >> hello
Currently student is user
[root@localhost student]# cat hello
This is Linux Operating System
Currently student is user
[root@localhost student]#
```

## Find Commands

**#find . -name demofile:** Find all the files whose name is demofile in a current working directory.

**#find / -type d -name month:** Find all directories whose name is month in / directory

**#find . -type f -name abc.txt:** Find all txt files whose name is abc.txt in a current working directory.

**#find . -type f name "\*.txt":** Find all txt files in a current directory.

**#find /tmp -type f -empty:** Find all empty files under a certain path.

**#find /etc -name "a.conf":** Find files starting with 'a' and ending with '.conf'.

**#find /etc -name "[a-g]\*.conf":** Find files starting with 'a' & 'g' and ending with '.conf'.

**#find /tmp -name "???":** Find files containing only 3 characters in their name.

**#find /usr/bin -size +4M:** Find files with size greater than 4MB.

**#find /usr/bin -size -2M:** Find files with size less than 2MB.

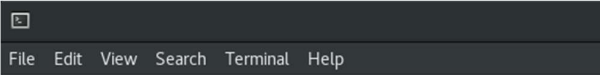
**#find /root -name "[a-c]\*":** Find files starting with 'a' & 'c' & ignore case sensitivity.

**#find /home -user student:** Find files created or owned by a user student.

**#find /home -group student:** Find files created or owned by a group student.

**#find /tmp -name "[a-c]\*" -exec cp{} \;;** Find files and delete them.

**#find /tmp -user student -exec cp{} /root/Desktop \;;** Find files and copy them to another directory.



```
[root@localhost student]# find . -name demofile
./demofile
[root@localhost student]# find / -type d -name month
/home/student/month
find: '/run/user/1001/gvfs': Permission denied
find: '/run/user/1000/gvfs': Permission denied
/month
[root@localhost student]# find . -type f -name hello
./hello
[root@localhost student]# find . -type f -name "*.txt"
./.cache/tracker/db-version.txt
./.cache/tracker/db-locale.txt
./.cache/tracker/parser-version.txt
./.cache/tracker/locale-for-miner-apps.txt
./.cache/tracker/last-crawl.txt
./.cache/tracker/first-index.txt
[root@localhost student]# find /tmp -type f -empty
/tmp/packaging.log
/tmp/dnf.librepo.log
/tmp/sensitive-info.log
/tmp/myerror
[root@localhost student]# find /etc -name "a*.conf"
/etc/libreport/events.d/abrt_dbus_event.conf
/etc/libreport/events.d/abrt_event.conf
/etc/libreport/workflows.d/anaconda_event.conf
/etc/abrt/abrt.conf
/etc/abrt/abrt-action-save-package-data.conf
/etc/dbus-1/system.d/avahi-dbus.conf
/etc/security/access.conf
```

```
/etc/autofs_ldap_auth.conf
[root@localhost student]# find /etc -name "[a-g]*.conf"
/etc/dnf/dnf.conf
/etc/dnf/plugins/copr.conf
/etc/dnf/plugins/debuginfo-install.conf
/etc/dnf/protected.d/dnf.conf
/etc/fonts/fonts.conf
/etc/libreport/events.d/collect_dnf.conf
/etc/libreport/events.d/emergencyanalysis_event.conf
/etc/libreport/events.d/bugzilla_anaconda_event.conf
```

```
[root@localhost student]# find /tmp -name "???"
/tmp
/tmp/systemd-private-f56c56ce63bd4b739062410ad86dc0e2-rtkit-daemon.service-7Uoaos/tmp
/tmp/systemd-private-f56c56ce63bd4b739062410ad86dc0e2-ModemManager.service-awkGC5/tmp
/tmp/systemd-private-f56c56ce63bd4b739062410ad86dc0e2-colord.service-Frlxa0/tmp
/tmp/dir
[root@localhost student]# find /usr/bin -size +4M
/usr/bin/crash
/usr/bin/runc
/usr/bin/podman
/usr/bin/buildah
/usr/bin/rhc
/usr/bin/perf
/usr/bin/bpftrace
/usr/bin/bpftrace-aotrt
[root@localhost student]# find /usr/bin -size -2M
/usr/bin
/usr/bin/cpio
/usr/bin/neqn
/usr/bin/catchsegv
/usr/bin/bunzip2
/usr/bin/gencat
/usr/bin/bzcat
```

```
[root@localhost student]# find /root -iname "[a-c]*"
/root/anaconda-ks.cfg
/root/.config/ibus/bus
[root@localhost student]# find /home -user student
/home/student
/home/student/.mozilla
/home/student/.mozilla/extensions
/home/student/.mozilla/plugins
/home/student/.bash_logout
/home/student/.bash_profile
/home/student/.bashrc
/home/student/.zshrc
/home/student/.bash_history
/home/student/.ICEauthority
```

## Process Monitoring Command

#ps (process state) – shows PID of the programs.

```
File Edit View Search Terminal Help
[root@localhost student]# ps
  PID TTY          TIME CMD
 22868 pts/0    00:00:00 su
 22881 pts/0    00:00:00 bash
 23039 pts/0    00:00:00 ps
[root@localhost student]#
```

#top: provides real time information

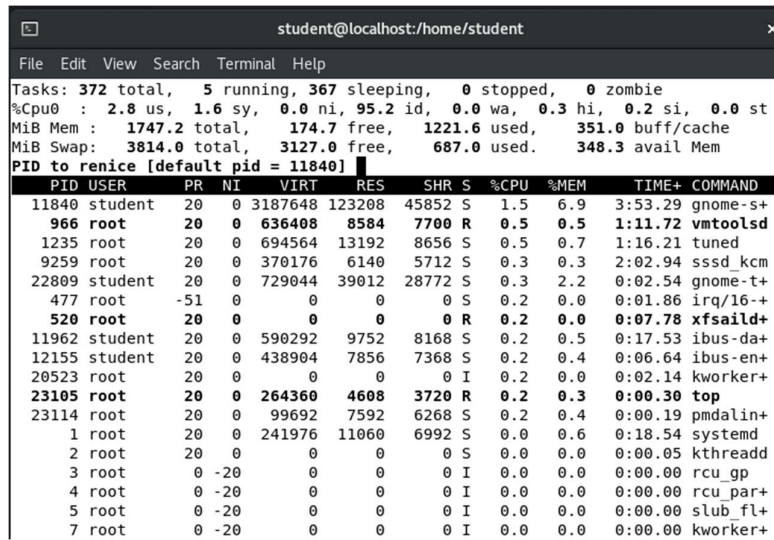
```
student@localhost:/home/student
File Edit View Search Terminal Help
top - 23:09:49 up 5:03, 3 users, load average: 0.17, 0.09, 0.08
Tasks: 372 total, 3 running, 369 sleeping, 0 stopped, 0 zombie
%Cpu(s): 1.3 us, 1.3 sy, 0.0 ni, 97.0 id, 0.0 wa, 0.3 hi, 0.0 si, 0.0 st
MiB Mem : 1747.2 total, 176.8 free, 1221.0 used, 349.4 buff/cache
MiB Swap: 3814.0 total, 3126.0 free, 688.0 used. 348.9 avail Mem

  PID USER      PR  NI  VIRT  RES  SHR S %CPU  %MEM    TIME+  COMMAND
  966 root        20   0 636408 8584 7700 S   0.7   0.5   1:10.49 vmttoolsd
23064 root        20   0 264360 4728 3844 R   0.7   0.3   0:00.22 top
 1235 root        20   0 694564 13192 8656 S   0.3   0.7   1:15.05 tuned
 2866 root        20   0 99940 5532 4740 S   0.3   0.3   0:14.05 pmdaproc
 2885 pcp          20   0 98148 6568 5220 S   0.3   0.4   0:02.75 pmlogger
11840 student    20   0 3187648 123208 45788 S   0.3   6.9   3:50.72 gnome-s+
22809 student    20   0 728860 39012 28772 S   0.3   2.2   0:01.79 gnome-t+
   1 root        20   0 241976 11060 6992 S   0.0   0.6   0:18.35 systemd
   2 root        20   0      0      0      0 S   0.0   0.0   0:00.05 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 slub_fl+
   7 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 kworker+
  10 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 mm_perc+
  11 root        20   0      0      0      0 S   0.0   0.0   0:00.00 rcu_tas+
  12 root        20   0      0      0      0 S   0.0   0.0   0:00.00 rcu_tas+
  13 root        20   0      0      0      0 S   0.0   0.0   0:01.53 ksoftir+
```

Run top command then press k for killing and enter PID.

```
student@localhost:/home/student
File Edit View Search Terminal Help
Tasks: 371 total, 3 running, 368 sleeping, 0 stopped, 0 zombie
%Cpu(s): 1.0 us, 3.3 sy, 0.0 ni, 95.0 id, 0.0 wa, 0.3 hi, 0.3 si, 0.0 st
MiB Mem : 1747.2 total, 177.4 free, 1219.8 used, 350.1 buff/cache
MiB Swap: 3814.0 total, 3126.5 free, 687.5 used. 350.1 avail Mem
PID to signal/kill [default pid = 13] 13
  PID USER      PR  NI  VIRT  RES  SHR S %CPU  %MEM    TIME+  COMMAND
   13 root        20   0      0      0      0 S   0.3   0.0   0:01.55 ksoftir+
  1235 root        20   0 694564 13192 8656 R   0.3   0.7   1:15.73 tuned
11840 student    20   0 3187648 123308 45788 S   0.3   6.9   3:52.50 gnome-s+
11962 student    20   0 590292 9752 8168 S   0.3   0.5   0:17.50 ibus-da+
12155 student    20   0 438904 7856 7368 S   0.3   0.4   0:06.63 ibus-en+
23105 root        20   0 264360 4608 3720 R   0.3   0.3   0:00.25 top
   1 root        20   0 241976 11060 6992 S   0.0   0.6   0:18.54 systemd
   2 root        20   0      0      0      0 S   0.0   0.0   0:00.05 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 slub_fl+
   7 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 kworker+
  10 root        0 -20      0      0      0 I   0.0   0.0   0:00.00 mm_perc+
  11 root        20   0      0      0      0 S   0.0   0.0   0:00.00 rcu_tas+
  12 root        20   0      0      0      0 S   0.0   0.0   0:00.00 rcu_tas+
  14 root        20   0      0      0      0 R   0.0   0.0   0:02.34 rcu_sch+
  15 root        rt    0      0      0      0 S   0.0   0.0   0:00.00 migrati+
  16 root        rt    0      0      0      0 S   0.0   0.0   0:00.04 watchdo+
```

When you press R, it will give you a prompt to enter PID to renice.



student@localhost:/home/student

File Edit View Search Terminal Help

Tasks: 372 total, 5 running, 367 sleeping, 0 stopped, 0 zombie  
%Cpu0 : 2.8 us, 1.6 sy, 0.0 ni, 95.2 id, 0.0 wa, 0.3 hi, 0.2 si, 0.0 st  
MiB Mem : 1747.2 total, 174.7 free, 1221.6 used, 351.0 buff/cache  
MiB Swap: 3814.0 total, 3127.0 free, 687.0 used, 348.3 avail Mem

PID to renice [default pid = 11840]

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
11840	student	20	0	3187648	123208	45852	S	1.5	6.9	3:53.29	gnome-s+
966	root	20	0	636408	8584	7700	R	0.5	0.5	1:11.72	vmtoolsd
1235	root	20	0	694564	13192	8656	S	0.5	0.7	1:16.21	tuned
9259	root	20	0	370176	6140	5712	S	0.3	0.3	2:02.94	sssd kcm
22809	student	20	0	729044	39012	28772	S	0.3	2.2	0:02.54	gnome-t+
477	root	-51	0	0	0	0	S	0.2	0.0	0:01.86	irq/16+
520	root	20	0	0	0	0	R	0.2	0.0	0:07.78	xfsaild+
11962	student	20	0	590292	9752	8168	S	0.2	0.5	0:17.53	ibus-da+
12155	student	20	0	438904	7856	7368	S	0.2	0.4	0:06.64	ibus-en+
20523	root	20	0	0	0	0	I	0.2	0.0	0:02.14	kworker+
23105	root	20	0	264360	4608	3720	R	0.2	0.3	0:00.30	top
23114	root	20	0	99692	7592	6268	S	0.2	0.4	0:00.19	pmdalin+
1	root	20	0	241976	11060	6992	S	0.0	0.6	0:18.54	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:00.05	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	slub_fl+
7	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker+