

20 Gathering System Information

Before you learn how to configure your system, you should learn how to gather essential system information. For example, you should know how to find the amount of free memory, how your hard drive is partitioned, and what processes are running. This chapter discusses how to retrieve this type of information from your Red Hat Linux system using simple commands and a few simple programs.

20.1 System Processes

The `ps aux` command displays a list of current system processes, including processes owned by other users. To display the owner of the processes along with the processes use the command `ps aux`. This list is a static list; in other words, it is a snapshot of what is running when you invoked the command. If you want a constantly updated list of running processes, use `top` as described below.

You can use the `ps` command in combination with the `grep` command to see if a process is running. For example, to determine if `Gnome-RPM` is still running, use the command `ps aux | grep gnorpm`.

The `top` command displays currently running processes and important information about them including their memory and CPU usage. The list is both real-time and interactive. An example of `top`'s output is provided as follows:

```

6:14pm up 2 days, 19:29, 5 users, load average: 0.10, 0.06, 0.07
71 processes: 68 sleeping, 2 running, 1 zombie, 0 stopped
CPU states: 2.7% user, 0.5% system, 0.0% nice, 96.6% idle
Mem: 256812K av, 252016K used, 4796K free, 97228K shrd, 43300K buff
Swap: 265032K av, 1328K used, 263704K free, 86180K cached

  PID USER      PRI  NI  SIZE  RSS SHARE STAT  %CPU  %MEM   TIME COMMAND
 15775 joe         5   0 11028  10M  3192 S    1.5   4.2   0:46 emacs
 14429 root        15   0 63620  62M  3284 R    0.5  24.7  63:33 X
 17372 joe        11   0  1056  1056   840 R    0.5   0.4   0:00 top
 17356 joe         2   0  4104  4104  3244 S    0.3   1.5   0:00 gnome-terminal
 14461 joe         1   0  3584  3584  2104 S    0.1   1.3   0:17 sawfish
     1 root         0   0    544   544   476 S    0.0   0.2   0:06 init
     2 root         0   0     0     0     0 SW    0.0   0.0   0:00 kflushd
     3 root         1   0     0     0     0 SW    0.0   0.0   0:24 kupdate
     4 root         0   0     0     0     0 SW    0.0   0.0   0:00 kpiod
     5 root         0   0     0     0     0 SW    0.0   0.0   0:29 kswapd
    347 root         0   0    556   556   460 S    0.0   0.2   0:00 syslogd
    357 root         0   0    712   712   360 S    0.0   0.2   0:00 klogd
    372 bin          0   0    692   692   584 S    0.0   0.2   0:00 portmap
    388 root         0   0     0     0     0 SW    0.0   0.0   0:00 lockd

```

```

389 root      0  0      0   0      0 SW    0.0  0.0   0:00 rpciod
414 root      0  0    436 432    372 S    0.0  0.1   0:00 apmd
476 root      0  0    592 592    496 S    0.0  0.2   0:00 automount

```

To exit `top`, press the [q] key.

Useful interactive commands that you can use with `top` include the following:

Table 20–1 Interactive `top` commands

Command	Description
[Space]	Immediately refresh the display
[h]	Display a help screen
[k]	Kill a process. You will be prompted for the process ID and the signal to send to it.
[n]	Change the number of processes displayed. You will be prompted to enter the number.
[u]	Sort by user.
[M]	Sort by memory usage.
[P]	Sort by CPU usage.

If you would like to use a graphical interface for `top`, you can use **GNOME System Monitor**. To start it, go to the **GNOME Main Menu Button => Programs => System => System Monitor** or type `gtop` at a shell prompt.