

How to use the htop command to monitor system processes in real time

The htop command in Linux is a command line utility that allows users to monitor important system processes in real time.

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Benefits of htop command

You can track important system resources or processes in real time. The color used in the output makes it much easier to read than the monochrome output of the top command.

Advantages of htop command are:

1. Support mouse operation
2. Allows you to scroll both horizontally and vertically, to view all processes and to complete the command line
3. Lets you end a process without knowing the PID
4. Start faster than the top command
5. The top command requires you to enter a PID or priority value to change the priority or extend a process, and the htop does not.

```

1  [|||||] 10.0% Tasks: 174, 826 thr; 1 running
2  [|||||] 11.2% Load average: 8.30 5.71 3.55
3  [|||||] 9.9% Uptime: 01:37:33
4  [|||||] 12.6%
Mem [|||||] 10.44G / 7.68G
Swp [|||||] 268M / 2.00G

PID USER     PRI  NI  VIRT   RES   SHR  S  CPU%  MEM%   TIME+  Command
10942 mtravisro 20   0 1044M 351M 85192 S 11.2  4.5  1:52.09 /opt/google/chrome/chrome --type=rend
10885 mtravisro 20   0 1035M 337M 105M  S  4.6  4.3  1:24.77 /opt/google/chrome/chrome --type=rend
10930 mtravisro 20   0 1114M 381M 281M  S  3.3  4.9  2:35.76 /opt/google/chrome/chrome --type=rend
3317 mtravisro 20   0 1245M 19032 13560 S 3.3  0.2  0:27.52 /usr/bin/pulseaudio --start --log-tar
4488 mtravisro 20   0 1492M 377M 149M  S  3.3  4.8  10:45.90 /opt/google/chrome/chrome
2814 root      20   0 384M 69212 53596 S 3.3  0.9  2:35.01 /usr/lib/xorg/Xorg -dpi $DPI :0 -seat
11528 mtravisro 20   0 1114M 381M 281M  S  2.6  4.9  0:02.11 /opt/google/chrome/chrome --type=rend
11795 mtravisro 20   0 60492 4408 3036  R  2.6  0.1  0:09.68 htop
11454 mtravisro 20   0 1101M 295M 96928 S 2.0  3.8  0:52.26 /opt/google/chrome/chrome --type=rend
3429 mtravisro 20   0 1245M 19032 13560 S 2.0  0.2  0:17.04 /usr/bin/pulseaudio --start --log-tar
12165 mtravisro 20   0 1044M 351M 85192 S 2.0  4.5  0:00.62 /opt/google/chrome/chrome --type=rend
4508 mtravisro 20   0 1492M 377M 149M  S  2.0  4.8  4:21.23 /opt/google/chrome/chrome
11534 mtravisro 20   0 1035M 337M 105M  S  2.0  4.3  0:03.68 /opt/google/chrome/chrome --type=rend
5482 mtravisro 20   0 1132M 402M 112M  S  2.0  5.1  8:26.27 /opt/google/chrome/chrome --type=rend
11398 mtravisro 20   0 758M 125M 86244 S 2.0  1.6  0:08.86 /opt/google/chrome/chrome --type=rend
9884 mtravisro 20   0 1012M 52444 42948 S 1.3  0.7  0:03.60 /opt/google/chrome/chrome --type=util
11535 mtravisro 20   0 1035M 337M 105M  S  1.3  4.3  0:03.99 /opt/google/chrome/chrome --type=rend
12170 mtravisro 20   0 1044M 351M 85192 S 1.3  4.5  0:00.63 /opt/google/chrome/chrome --type=rend
    
```

Benefits of htop command

Use the htop command

This command is easily called from the Command Prompt:

```
# htop
```

The use of the command is divided into 3 parts.

1. In the first section (upper left corner), we see the bars that show the processor usage, the memory in use, and the swap memory (virtual RAM) in use respectively.
2. The second part (upper right corner) displays standard information, such as task summary, load average and uptime.
3. The last section is at the bottom, where you will see 12 columns, including:
 1. **PID** - Process ID
 2. **USER** - The process owner's username (or user ID if the name cannot be specified)
 3. **PRI** - The kernel's internal priority for the process
 4. **NI** - Nice value of a process - from low priority, 19 to high priority, -20
 5. **VIRT** - The total capacity of the program in memory
 6. **RES** - Resident Set Size (memory that the process uses)
 7. **SHR** - The size of the process share page
 8. **S** - Process status (**S** - sleep / inactive, **R** - running, **D** - disk sleep / Drive sleep state, **Z** - zombie, **T** - suspended)
 9. **W** - Paging (memory management mechanism that allows real address spaces to allocate for scattered, discontinuous processes)
 10. **CPU%** - Percentage of CPU processes currently in use
 11. **MEM%** - Percentage of process memory currently in use
 12. **TIME + -** Time (calculated according to the time the process has taken of system and user time)
 13. **Command** - The full path of the command

As with most Linux commands, there are also options.

```
# htop [-dChusv]
```

1. **-D - delay** (shows the delay between updates, in 1/10 seconds).
2. **-C - no-color** (monochrome mode)
3. **-H - help** (display the help message and exit)
4. **-U - user = USERNAME** (only shows the progress of a given user)
5. **-H - pid = PID** (shows only the given PID)
6. **-S - sort-key COLUMN** (Sort by this column)
7. **-V - version** (output and exit **version** information)

```

Terminal
1 [|||||] 37.0% Tasks: 169, 757 thr; 1 running
2 [|||||] 37.3% Load average: 3.84 4.60 3.54
3 [|||||] 35.1% Uptime: 01:41:26
4 [|||||] 25.3%
Mem [|||||] 5.98G/7.68G
Swp [|||||] 268K/2.08G

PID USER      PRI  NI  VIRT   RES   SHR  S  CPU% MEM%  TIME+  Command
2814 root        20   0 385M 70884 54468 S  3.9  0.9 2:45.47 /usr/lib/xorg/Xorg -dpi $DPI :0 -seat
1 root        20   0 15816 1832 1672 S  0.0  0.0 0:03.64 init [5]
465 root        20   0 47748 5048 2632 S  0.0  0.1 0:02.07 /lib/systemd/systemd-udevd --daemon
1746 root        20   0 48872 2360 1864 S  0.0  0.0 0:00.00 /sbin/rpccbind -w
1816 root        20   0 23348 204  9 S  0.0  0.0 0:00.00 /usr/sbin/rpc.idmapd
2010 root        20   0 25356 224  0 S  0.0  0.0 0:00.00 /usr/sbin/acpi_fakekeyd
2043 root        20   0 40516 2968 2644 S  0.0  0.0 0:00.02 /sbin/cgmanager --daemon -m name=systemd
2245 root        20   0 244M 2240 1660 S  0.0  0.0 0:00.00 /usr/sbin/rsyslogd
2246 root        20   0 244M 2240 1660 S  0.0  0.0 0:00.00 /usr/sbin/rsyslogd
2247 root        20   0 244M 2240 1660 S  0.0  0.0 0:00.01 /usr/sbin/rsyslogd
2244 root        20   0 244M 2240 1660 S  0.0  0.0 0:00.04 /usr/sbin/rsyslogd
2299 root        20   0 4208 84  0 S  0.0  0.0 0:00.19 /usr/sbin/acpid
2370 root        20   0 95168 7112 5920 S  0.0  0.1 0:00.03 /usr/sbin/cupsd -C /etc/cups/cupsd.conf
2386 root        20   0 64944 2476 2196 S  0.0  0.0 0:00.00 /usr/sbin/cron
2699 root        20   0 180M 9008 7860 S  0.0  0.1 0:00.00 /usr/sbin/cups-browsed
2414 root        20   0 180M 9008 7860 S  0.0  0.1 0:00.01 /usr/sbin/cups-browsed
2458 root        20   0 12020 5832 816 S  0.0  0.1 0:02.87 /usr/sbin/haveged -w 1024
F1Help F2Setup F3Search F4Filter F5Tree F6SortBy F7Nice F8Nice F9Kill F10Quit

```

Information htop provided

You can also use interactive commands while the command is running to change the arrangement / appearance of the window, like:

1. Arrow, Page Up, Page Down, Home, End - Scroll the progress list
2. Space - tag or untag a process
3. U - Untag all processes
4. s - keep track of system calls
5. F1 - Help
6. F2 - Setting
7. F3 - Search
8. F4 - Filter
9. F5 - Tree view
10. F6 - Sort
11. F7 - Increase the priority of the selected process
12. F8 - Decreases the priority of the selected process
13. F9 - Destroy the process
14. F10 - Exit (Esc also works)

You can also sort columns simply by using the mouse.

Both new and experienced Linux users should use the **man** command to see all the features that the command provides.

```
# man htop
```

```
Terminal
HTOP(1)          Uutils          HTOP(1)

NAME
  htop - interactive process viewer

SYNOPSIS
  htop [-dChusv]

DESCRIPTION
  Htop is a free (GPL) ncurses-based process viewer for Linux.

  It is similar to top, but allows you to scroll vertically and horizontally, so you can see all the processes running on the system, along with their full command lines, as well as viewing them as a process tree, selecting multiple processes and acting on them all at once.

  Tasks related to processes (killing, renicing) can be done without entering their PIDs.

COMMAND-LINE OPTIONS
  Mandatory arguments to long options are mandatory for short options too.

  -d --delay=DELAY
      Delay between updates, in tenths of seconds

  -C --no-color --no-colour
      Start htop in monochrome mode

Manual page htop(1) line 1 (press h for help or q to quit)
```

Man command

This command is not only an invaluable utility for experienced Linux users' toolkit, but also useful for new Linux users, helping to better understand how Linux works and explore many interesting things. taste.

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