

top command in Linux with Examples

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top command is used to show the Linux processes. It provides a dynamic real-time view of the running system. Usually, this command shows the summary information of the system and the list of processes or threads which are currently managed by the Linux Kernel.

As soon as you will run this command it will open an interactive command mode where the top half portion will contain the statistics of processes and resource usage. And Lower half contains a list of the currently running processes. Pressing q will simply exit the command mode.

Tasks: 238 total	ι, :	1 running,	184 sle	eping,	0 stop	ped,	0 zombie
%Cpu(s): 7.0 us	s, 1	.3 sy, 0.	0 ni, 91	.8 id, 0	.0 wa,	0.0	hi, 0.0 si, 0.0 st
							400712 buff/cache
KiB Swap: 6801 4	404 to	otal, 628	8476 fre	e, 5129	28 used	J. 4	051952 avail Mem
PID USER	PR I	NI VIRT	RES	SHR S	%CPU 9	KMFM	TIME+ COMMAND
30510 paras	20	0 1238776		78084 S	15.4	3.4	0:26.53 chrome
30591 paras	20	0 41944	3692	3004 R	7.7	0.1	0:00.14 top
1071 root	20		110808	90276 S	2.6	1.9	34:35.39 Xorg
1324 rabbitmq	20	0 2190040	14520	3164 S	2.6	0.2	7:36.91 beam.smp
2036 paras	20	0 351068	11348	3800 S	2.6	0.2	0:56.86 ibus-daemon
2256 paras 29789 paras	20 20	0 1606948 0 666292	94192 36848	45184 S 28652 S	2.6 2.6	1.6	36:58.63 compiz 0:03.85 gnome-terminal-
1 root	20	0 185800	4556	2936 S	0.0	0.1	0:03.14 systemd
2 root	20	0 0	0	0 S	0.0	0.0	0:00.03 kthreadd
4 root	0 -		0	0 I	0.0	0.0	0:00.00 kworker/0:0H
6 root	0 -	20 0	0	0 I	0.0	0.0	0:00.00 mm_percpu_wq
7 root	20	0 0	0	0 S	0.0	0.0	0:01.55 ksoftirqd/0
8 root	20	0 0	0	0 I	0.0	0.0	0:52.59 rcu_sched
9 root	20	0 0	0	0 I	0.0	0.0	0:00.00 rcu_bh
10 root 11 root	rt rt	0 0	0	0 S 0 S	0.0	0.0	0:00.14 migration/0
12 root	20	0 0	0	0 5	0.0	0.0	0:00.10 watchdog/0 0:00.00 cpuhp/0
13 root	20	0 0	0	0 5	0.0	0.0	0:00.00 cpuhp/1
14 root	rt	0 0	ō	0 S	0.0	0.0	0:00.10 watchdog/1
15 root	rt	0 0	0	0 S	0.0	0.0	0:00.10 migration/1
16 root	20	0 0	0	0 S	0.0	0.0	0:02.36 ksoftirqd/1
18 root	0 -		0	0 I	0.0	0.0	0:00.00 kworker/1:0H
19 root	20	0 0	0	0 S	0.0	0.0	0:00.00 cpuhp/2
20 root	rt	0 0	0	0 S	0.0	0.0	0:00.13 watchdog/2
21 root 22 root	rt 20	0 0	0	0 S 0 S	0.0	0.0	0:00.14 migration/2 0:07.13 ksoftirqd/2
24 root	0 -		0	0 I	0.0	0.0	0:00.00 kworker/2:0H
25 root	20	0 0	0	0 S	0.0	0.0	0:00.00 cpuhp/3
26 root	rt	0 0	0	0 S	0.0	0.0	0:00.11 watchdog/3
27 root	rt	0 0	0	0 S	0.0	0.0	0:00.11 migration/3
28 root	20	0 0	0	0 S	0.0	0.0	0:03.60 ksoftirqd/3
30 root	Θ -:		0	0 I	0.0	0.0	0:00.00 kworker/3:0H
31 root	20	0 0	0	0 S	0.0	0.0	0:00.00 kdevtmpfs
32 root 33 root	0 -:	20 0 0 0	0	0 I 0 S	0.0	0.0	0:00.00 netns 0:00.00 rcu tasks kthre
34 root	20	0 0	0	0 S	0.0	0.0	0:00.00 rcu_casks_ktme 0:00.00 kauditd
38 root	20	0 0	0	0 S	0.0	0.0	0:00.03 khungtaskd
39 root	20	0 0	0	0 S	0.0	0.0	0:00.00 oom_reaper
40 root	0 -	20 0	0	0 I	0.0	0.0	0:00.00 writeback
41 root	20	0 0	0	0 S	0.0	0.0	0:00.03 kcompactd0
42 root	25	5 0	0	0 S	0.0	0.0	0:00.00 ksmd
43 root		19 0	0	0 S	0.0	0.0	0:03.57 khugepaged
44 root 45 root	0 -		0	0 I 0 I	0.0	0.0	0:00.00 crypto 0:00.00 kintegrityd
46 root	0 -		0	0 I	0.0	0.0	0:00.00 kblockd
48 root	0 -		0	0 I	0.0	0.0	0:00.00 ata_sff
49 root	0 -		0	0 I	0.0	0.0	0:00.00 md
50 root	θ -		0	0 I	0.0	0.0	0:00.00 edac-poller
51 root	0 -		0	0 I	0.0	0.0	0:00.00 devfreq_wq
52 root	0 -		0	0 I	0.0	0.0	0:00.00 watchdogd
55 root	20	0 0	0	0 S	0.0	0.0	0:05.79 kswapd0
56 root 98 root	20	0 0 20 0	0	0 S 0 I	0.0	0.0	0:00.00 ecryptfs-kthrea 0:00.00 kthrotld
98 root	0 -		0	0 I	0.0	0.0	0:00.00 kthrottd 0:00.00 acpi thermal pm
104 root	0 -		0	0 I	0.0	0.0	0:00.00 ipv6 addrconf
			· ·	0 1	0.0	0.0	

- PID: Shows task's unique process id.
- PR: Stands for priority of the task.
- SHR: Represents the amount of shared memory used by a task.
- VIRT: Total virtual memory used by the task.
- USER: User name of owner of task.
- %CPU: Represents the CPU usage.
- TIME+: CPU Time, the same as 'TIME', but reflecting more granularity through hundredths of a second.
- SHR: Represents the Shared Memory size (kb) used by a task.
- NI: Represents a Nice Value of task. A Negative nice value implies higher priority, and positive Nice value means lower priority.
- %MEM: Shows the Memory usage of task.

Examples:

1) Exit Top Command After Specific repetition: Top output keep refreshing until you press 'q'. With below command top command will automatically exit after 20 number of repetition.

top -n 10

2) Display Specific User Process

top -u paras

top - 20:15:31 up 1 day, 20:57, 1 user, load average: 1.17, 1.28, 1.41 Tasks: **236** total, **1** running, **183** sleeping, **0** stopped, **0** zombie %Cpu(s): **37.4** us, **8.3** sy, **0.2** ni, **51.9** id, **1.3** wa, **0.0** hi, **1.0** si, **0.0** st KiB Mem : **5939268** total, **1511860** free, **1085144** used, **3342264** buff/cache KiB Swap: **6801404** total, **6288476** free, **512928** used. **4170564** avail Mem

PID USER	PR	NI	VIRT	RES	SHR S		%CPU			COMMAND
30956 paras	20	0	41952	3704	3016		16.7	0.1	0:00.05	
1856 paras	20	0	45360	2564	2120 9		0.0	0.0	0:00.07	
1857 paras	20	0	63880	416	0 9	S	0.0	0.0		(sd-pam)
1865 paras	20	0	205300	5340	4728	S	0.0	0.1	0:00.99	gnome-keyring-d
1896 paras	20	0	46444	3440	2492	S	0.0	0.1	0:00.65	upstart
1988 paras	20	0	32860	1696	1568	S	0.0	0.0	0:00.15	upstart-udev-br
1999 paras	20	0	43968	3944	2612 9	S	0.0	0.1	0:17.88	dbus-daemon
2011 paras	20	0	86344	3852	3592 5	S	0.0	0.1	0:00.76	window-stack-br
2036 paras	20	0	351852	12128	3800	S	0.0	0.2	1:03.08	ibus-daemon
2043 paras	20	0	274532	3068	2656	S	0.0	0.1	0:00.13	gvfsd
2048 paras	20	0	406864	2536	2536	S	0.0	0.0	0:00.00	gvfsd-fuse
2057 paras	20	0	264272	3552	3232	S	0.0	0.1	0:00.02	ibus-dconf
2058 paras	20	0	481712	14316	9072	S	0.0	0.2	0:25.88	ibus-ui-gtk3
2060 paras	20	0	427648	9228	8048	S	0.0	0.2	0:08.16	ibus-x11
2080 paras	20	0	32868	1168	968	S	0.0	0.0	0:03.67	upstart-dbus-br
2081 paras	20	0	32792	124	0 5	S	0.0	0.0	0:02.09	upstart-dbus-br
2091 paras	20	0	188388	2676	2584	S	0.0	0.0	0:14.40	ibus-engine-sim
2114 paras	20	0	41416	1844	1652	S	0.0	0.0	0:00.05	upstart-file-br
2121 paras	20	0	524848	14400	9612	S	0.0	0.2	0:19.22	bamfdaemon
2122 paras	20	0	166536	2188	2000	S	0.0	0.0	0:00.25	gpg-agent
2163 paras	20	0	653400	21212	9760	S	0.0	0.4	0:16.53	hud-service
2165 paras	20	0	1193320	16020	12172	S	0.0	0.3	0:07.45	unity-settings-
2172 paras	20	0	338016	3628	3488	S	0.0	0.1	0:00.01	at-spi-bus-laun
2174 paras	20	0	566872	6332	5488	S	0.0	0.1	0:00.99	gnome-session-b
2183 paras	20	0	42896	2600	2320 5	S	0.0	0.0	0:01.55	dbus-daemon
2186 paras	20	0	648624	28100	12712	S	0.0	0.5	0:31.51	unity-panel-ser
2193 paras	20	0	206988	4376	4052	S	0.0	0.1	0:04.70	at-spi2-registr
2219 paras	20	0	178908	3472	2864	S	0.0	0.1	0:00.32	dconf-service
2220 paras	20	0	22500	2412	2268	S	0.0	0.0	0:01.99	syndaemon
2234 paras	9	-11	435560	9116	6784	S	0.0	0.2	15:05.34	pulseaudio
2256 paras	20	0	1607316	94600	45060	S	0.0	1.6	37:32.52	compiz
2282 paras	20	0	576832	8660	7864	S	0.0	0.1	0:00.86	unity-fallback-
2283 paras	20	0	403148	5212	4928	S	0.0	0.1	0:03.78	indicator-appli
2285 paras	20	0	1074636	14244	10800	S	0.0	0.2	0:14.66	nm-applet
2287 paras	20	0	429284	8292	7644	S	0.0	0.1	0:00.81	polkit-gnome-au
2294 paras	20	0	1400164	64840	26236	S	0.0	1.1	0:58.16	nautilus
2298 paras	20	0	1421224	89844	13828	S	0.0	1.5	0:11.77	gnome-software
2310 paras	20	0	285452	4060	3212	S	0.0	0.1	0:00.32	gvfs-udisks2-vo
2377 paras	20	0	257528	2668	2496		0.0	0.0		gvfs-goa-volume
2382 paras	20	0	259520	3328	3020	S	0.0	0.1		gvfs-mtp-volume
2387 paras	20	0	271716	3500	3184		0.0	0.1		gvfs-gphoto2-vo
2392 paras	20	0	403612	3348	3020		0.0	0.1		gvfs-afc-volume
2443 paras	20	0	350572	4904	4212	S	0.0	0.1	0:00.06	gvfsd-trash
2534 paras	20	0	354400	3232	3232	S	0.0	0.1	0:00.00	indicator-messa
2535 paras	20	0	407128	1940	1940	S	0.0	0.0	0:00.00	indicator-bluet
2544 paras	20	0	423440	4352	3380	S	0.0	0.1	0:00.88	indicator-power
2545 paras	20	0	1691688	5924	4920		0.0	0.1		indicator-datet
2546 paras	20	0	649044	9980	8632		0.0	0.2		indicator-keybo
2547 paras	20	0	736980	5252	4500		0.0	0.1		indicator-sound
2548 paras	20	0	547188	8592	8000		0.0	0.1		indicator-print
2551 paras	20	0	625208	3184	2804	S	0.0	0.1	0:00.40	indicator-sessi
2602 paras	20		1242900	4712	4708		0.0	0.1		evolution-sourc
2633 paras	20	0	862852	4836	4836		0.0	0.1		evolution-calen
2650 paras	20	0	61164	3024	2968	S	0.0	0.1	0:00.03	gconfd-2
2668 paras	20	0	187420	4608	2960	S	0.0	0.1	0:02.50	gvfsd-metadata

3) Highlight Running Process in Top: Press 'z' option in running top command will display running process in color which may help you to identified running process easily

20:16:50 237 to	0 up 1 tal,	1 day	y, 20:58, running,	, 1 use 183 s le		averag O stop	e: 0. ped,	56, 1.08, 0 zombie	1.32
(s): 0.9		0.3	sy, 0.0			.4 wa,	0.0		st, 0.0 st
	39268 01404		al, 147:	3872 fre	e, 10880 e, 5129			377356 but	
			.,						
ID USER	PR	NI	VIRT	RES	SHR S	%CPU	%MEM	TIME+	COMMAND

4) Shows Absolute Path of Processes: Press 'c' option in running top command, it will display absolute path of running pro

- **5) Kill running process:** You can kill a process after finding PID of process by pressing 'k' option in running top command without exiting from top window as shown below.
- 6) Sort by CPU Utilisation: Press (Shift+P) to sort processes as per CPU utilization.
- 7) Shows top command syntax:

```
top -h
```

```
paras@paras:~$ top -h
procps-ng version 3.3.10
Usage:
top -hv | -bcHiOSs -d secs -n max -u|U user -p pid(s) -o field -w [cols]
paras@paras:~$ ■
```

8) Batch Mode: Send output from top to file or any other programs.

```
top -b
```

9) Secure Mode: Use top in Secure mode.

```
top -s
```

10) Command Line: The below command starts top with last closed state.

```
Top -c
```

11) Delay time: It tells delay time between screen updates.

Top -d seconds.tenths

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