top Live process monitor

CONCEPTS

Keys are case sensitive: P and p are different commands. Top answers to what you type, so there is no Enter after a single key.

Load average is runnable plus waiting tasks over 1, 5 and 15 minutes; compare it with your CPU count, not with 1.

CPU line

Field	Time spent on
us / ni	user code / niced user code
sy	kernel code
id	idle
wa	waiting for disk I/O
hi / si	hardware / software interrupts
st	stolen by the hypervisor

S column (task state)

Code	Meaning
R	running or runnable
S	sleeping, interruptible
D	uninterruptible sleep (usually I/O)
I	idle kernel thread
T / t	stopped by job control / by a debugger
Z	zombie, waiting for its parent

Memory: judge by avail Mem, not free. Buff/cache is reclaimable and normally large.

%CPU above 100 is normal for a multi-threaded task in Irix mode (I on); in Solaris mode (I off) it is divided by the CPU count.

SORTING

P Sort by CPU

M Sort by memory

T Sort by cumulative CPU time

N Sort by PID

R Reverse sort order

< / **>**
Move sort column left / right

f
Choose sort field and columns

FILTERING AND VIEW

u Show one user's tasks

FILTERING AND VIEW (cont.)

c
Toggle command name / full line

i Hide idle tasks

V Forest (process tree) view

v Collapse / expand children

H Show threads

o Add filter, ignore case

O Add filter, case sensitive

Ctrl + **O** Show active filters

= Clear filters and limits

n Limit number of rows

L Find text in window

& Find next match

0 Hide zero values

SUMMARY AREA

1 One line per CPU

t
Cycle CPU summary: text, bar, blocks, off

m
Cycle memory summary: text, bar, blocks, off

l Toggle load / uptime line

4 Show CPUs side by side

E
Cycle summary memory units

e Cycle task memory units

I Toggle Irix / Solaris %CPU

SIGNALS AND PRIORITY

k Kill a task (asks PID, signal)

r Renice a task

NAVIGATION AND CONTROL

Arrows Scroll tasks / columns

PgUp / **PgDn** Scroll a page

NAVIGATION AND CONTROL (cont.)

Home / **End**
Jump to start / end

d / **s** Change refresh delay

Space / **Enter** Refresh now

? / **h** Help

W Save settings to your toprc

q Quit

x Highlight sort column

COMMAND LINE

top -b -n 1
One snapshot, no UI

top -d *<secs>*
Set refresh delay

top -p *<pid,pid>*
Watch only these PIDs

top -u *<user>*
Only this user's tasks

top -H
Start in threads mode

top -c
Toggle full command lines

top -o *<FIELD>*
Sort by a field name

top -w *<cols>*
Set output width

RECIPES

Log a process over time

```
top -b -d 5 -n 120 -p <pid> > top.log
# 10 minutes at 5s steps, one block per sample
```

Top 10 memory users

```
top -b -n 1 -o %MEM -w 200 | head -n 17
# 5 summary lines, a blank line and the header, then 10 rows
```

Thread view of one process

```
top -H -p <pid>
# then P for CPU; c shows the command line
```

Find what a busy box is doing

```
top
# 1 shows per-CPU load, wa shows I/O wait
# M then P compare memory and CPU; V shows who forked what
```