# Lab 6

System monitoring commands

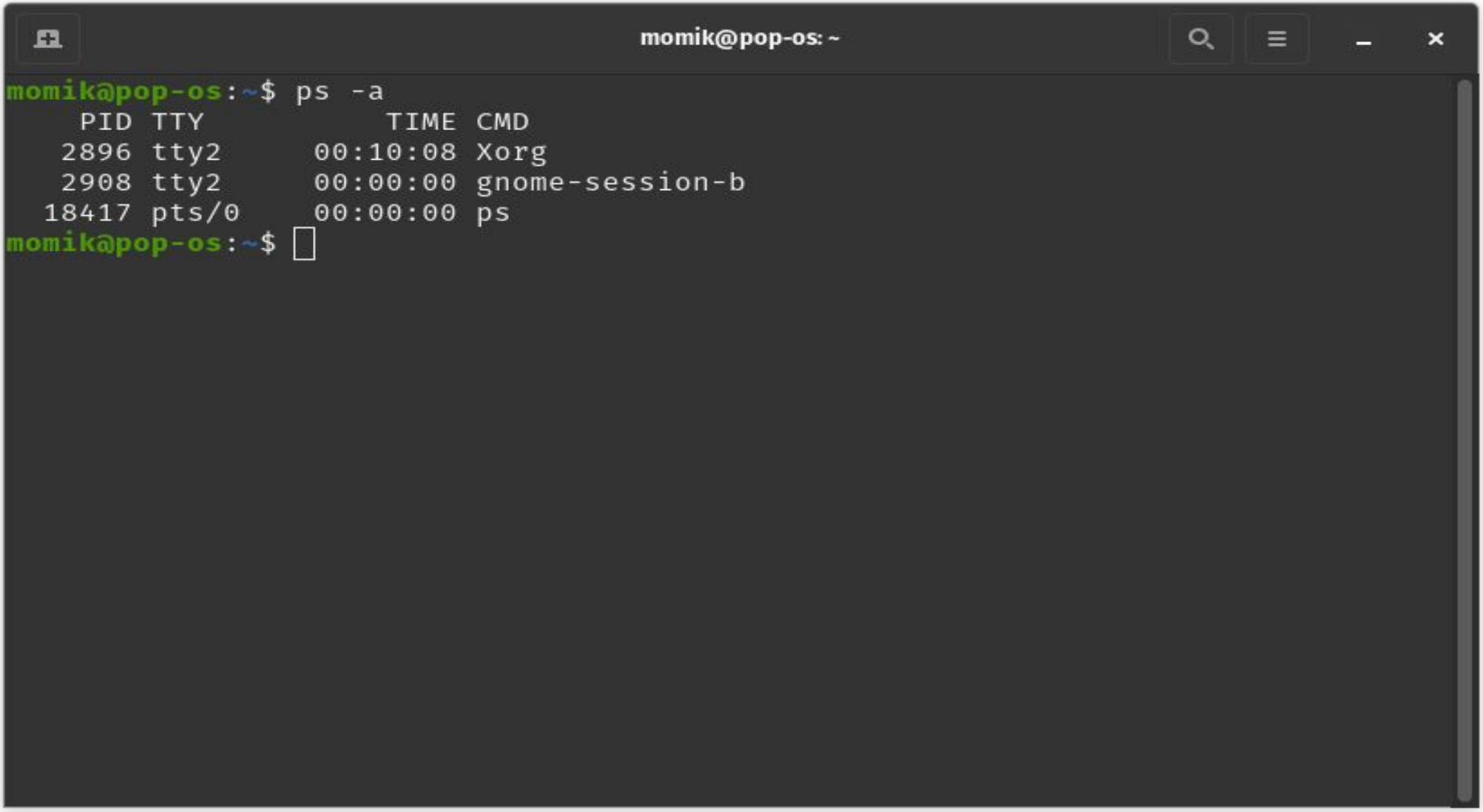
# Commands:

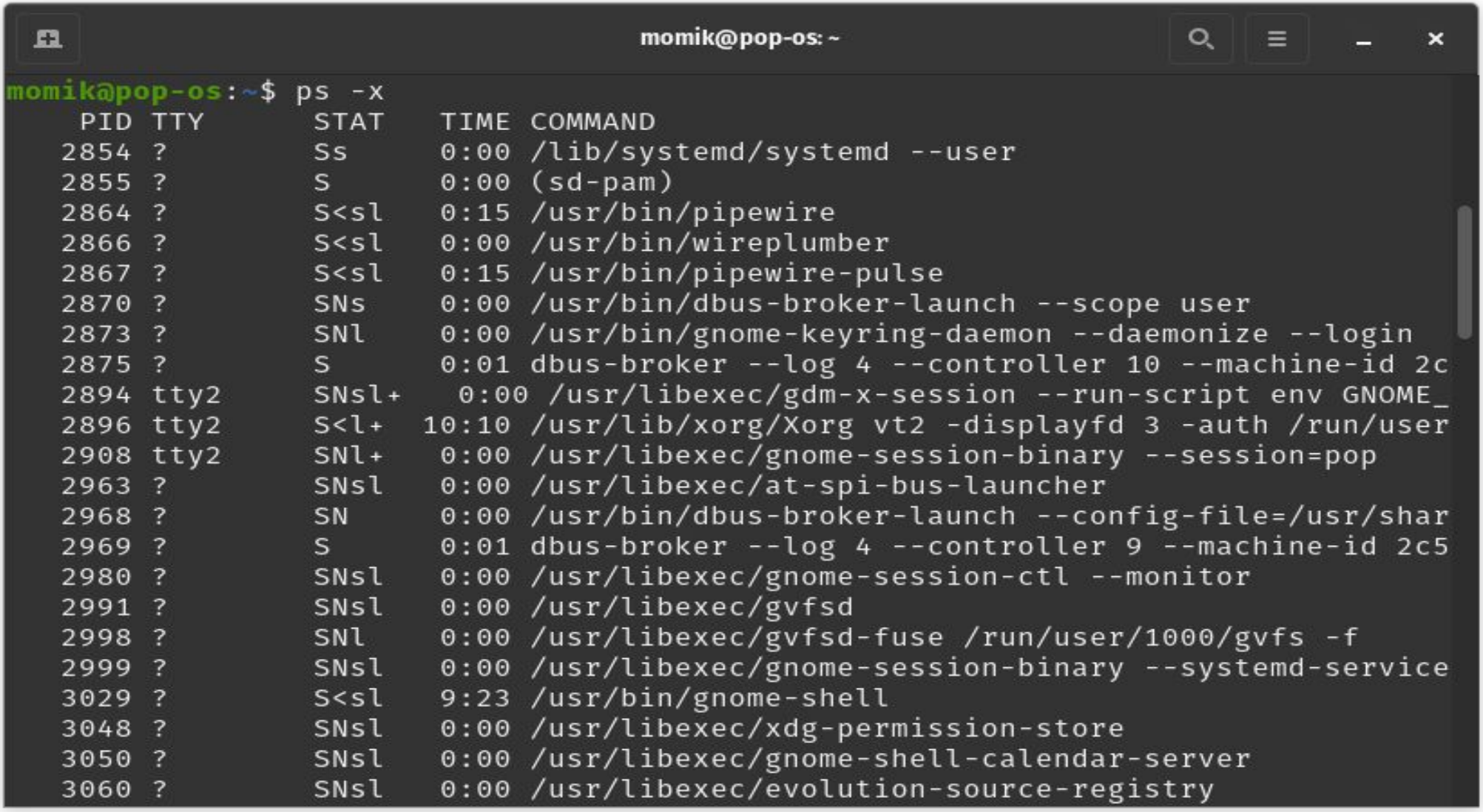
## 1. ps Command

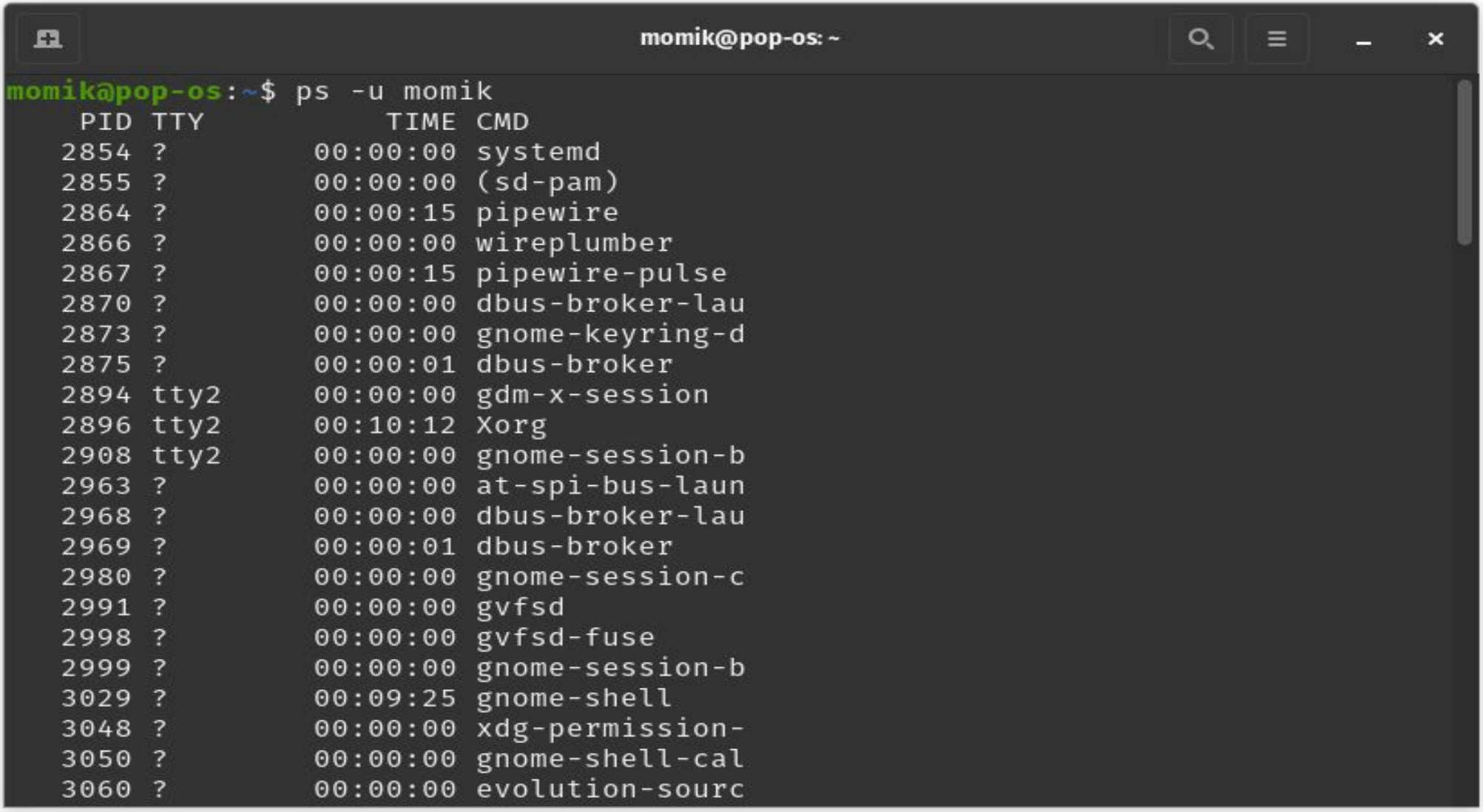
**Syntax:**
ps [options]

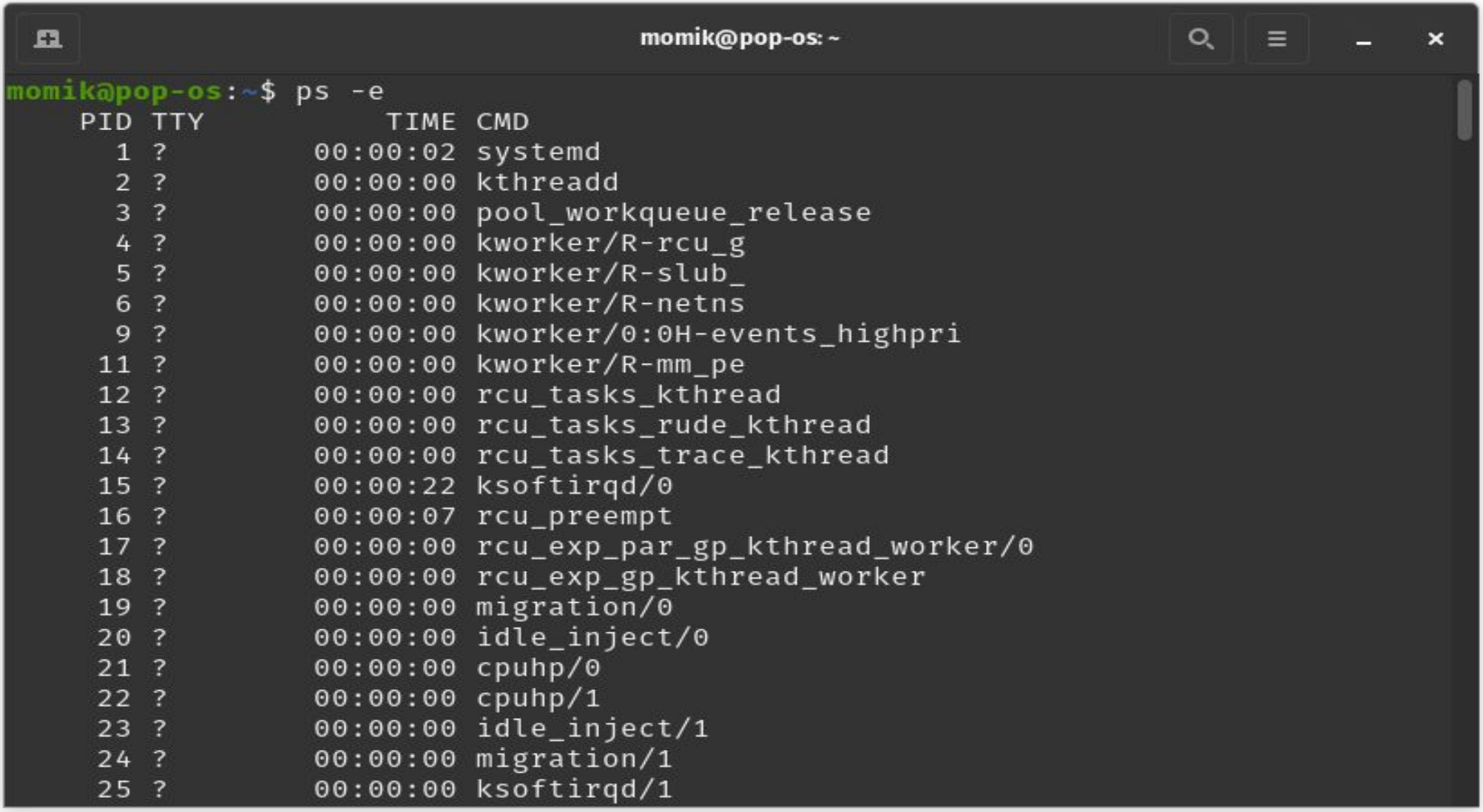
**Description:**
The ps command is used to display information about active processes. It provides a snapshot of the current processes along with details such as process ID (PID), user, CPU usage, memory usage, and more.

**Example:**
ps -aux
This command displays detailed information about all processes, including those not associated with a terminal.


momik@pop-os: ~
momik@pop-os:~$ ps -a
PID TTY TIME CMD
2896 tty2 00:10:08 Xorg
2908 tty2 00:00:00 gnome-session-b
18417 pts/0 00:00:00 ps
momik@pop-os:~$


momik@pop-os: ~
momik@pop-os:~$ ps -x
PID TTY STAT TIME COMMAND
2854 ? Ss 0:00 /lib/systemd/systemd --user
2855 ? S 0:00 (sd-pam)
2864 ? S<sl 0:15 /usr/bin/pipewire
2866 ? S<sl 0:00 /usr/bin/wireplumber
2867 ? S<sl 0:15 /usr/bin/pipewire-pulse
2870 ? SNs 0:00 /usr/bin/dbus-broker-launch --scope user
2873 ? SNl 0:00 /usr/bin/gnome-keyring-daemon --daemonize --login
2875 ? S 0:01 dbus-broker --log 4 --controller 10 --machine-id 2c
2894 tty2 SNsl+ 0:00 /usr/libexec/gdm-x-session --run-script env GNOME_
2896 tty2 S<l+ 10:10 /usr/lib/xorg/Xorg vt2 -displayfd 3 -auth /run/user
2908 tty2 SNl+ 0:00 /usr/libexec/gnome-session-binary --session=pop
2963 ? SNsl 0:00 /usr/libexec/at-spi-bus-launcher
2968 ? SN 0:00 /usr/bin/dbus-broker-launch --config-file=/usr/shar
2969 ? S 0:01 dbus-broker --log 4 --controller 9 --machine-id 2c5
2980 ? SNsl 0:00 /usr/libexec/gnome-session-ctl --monitor
2991 ? SNsl 0:00 /usr/libexec/gvfsd
2998 ? SNl 0:00 /usr/libexec/gvfsd-fuse /run/user/1000/gvfs -f
2999 ? SNsl 0:00 /usr/libexec/gnome-session-binary --systemd-service
3029 ? S<sl 9:23 /usr/bin/gnome-shell
3048 ? SNsl 0:00 /usr/libexec/xdg-permission-store
3050 ? SNsl 0:00 /usr/libexec/gnome-shell-calendar-server
3060 ? SNsl 0:00 /usr/libexec/evolution-source-registry


momik@pop-os: ~
momik@pop-os:~$ ps -u momik
PID TTY TIME CMD
2854 ? 00:00:00 systemd
2855 ? 00:00:00 (sd-pam)
2864 ? 00:00:15 pipewire
2866 ? 00:00:00 wireplumber
2867 ? 00:00:15 pipewire-pulse
2870 ? 00:00:00 dbus-broker-lau
2873 ? 00:00:00 gnome-keyring-d
2875 ? 00:00:01 dbus-broker
2894 tty2 00:00:00 gdm-x-session
2896 tty2 00:10:12 Xorg
2908 tty2 00:00:00 gnome-session-b
2963 ? 00:00:00 at-spi-bus-laun
2968 ? 00:00:00 dbus-broker-lau
2969 ? 00:00:01 dbus-broker
2980 ? 00:00:00 gnome-session-c
2991 ? 00:00:00 gvfsd
2998 ? 00:00:00 gvfsd-fuse
2999 ? 00:00:00 gnome-session-b
3029 ? 00:09:25 gnome-shell
3048 ? 00:00:00 xdg-permission-
3050 ? 00:00:00 gnome-shell-cal
3060 ? 00:00:00 evolution-sourc


momik@pop-os: ~
momik@pop-os:~$ ps -e
PID TTY TIME CMD
1 ? 00:00:02 systemd
2 ? 00:00:00 kthreadd
3 ? 00:00:00 pool_workqueue_release
4 ? 00:00:00 kworker/R-rcu_g
5 ? 00:00:00 kworker/R-slub_
6 ? 00:00:00 kworker/R-netns
9 ? 00:00:00 kworker/0:0H-events_highpri
11 ? 00:00:00 kworker/R-mm_pe
12 ? 00:00:00 rcu_tasks_kthread
13 ? 00:00:00 rcu_tasks_rude_kthread
14 ? 00:00:00 rcu_tasks_trace_kthread
15 ? 00:00:22 ksoftirqd/0
16 ? 00:00:07 rcu_preempt
17 ? 00:00:00 rcu_exp_par_gp_kthread_worker/0
18 ? 00:00:00 rcu_exp_gp_kthread_worker
19 ? 00:00:00 migration/0
20 ? 00:00:00 idle_inject/0
21 ? 00:00:00 cpuhp/0
22 ? 00:00:00 cpuhp/1
23 ? 00:00:00 idle_inject/1
24 ? 00:00:00 migration/1
25 ? 00:00:00 ksoftirqd/1

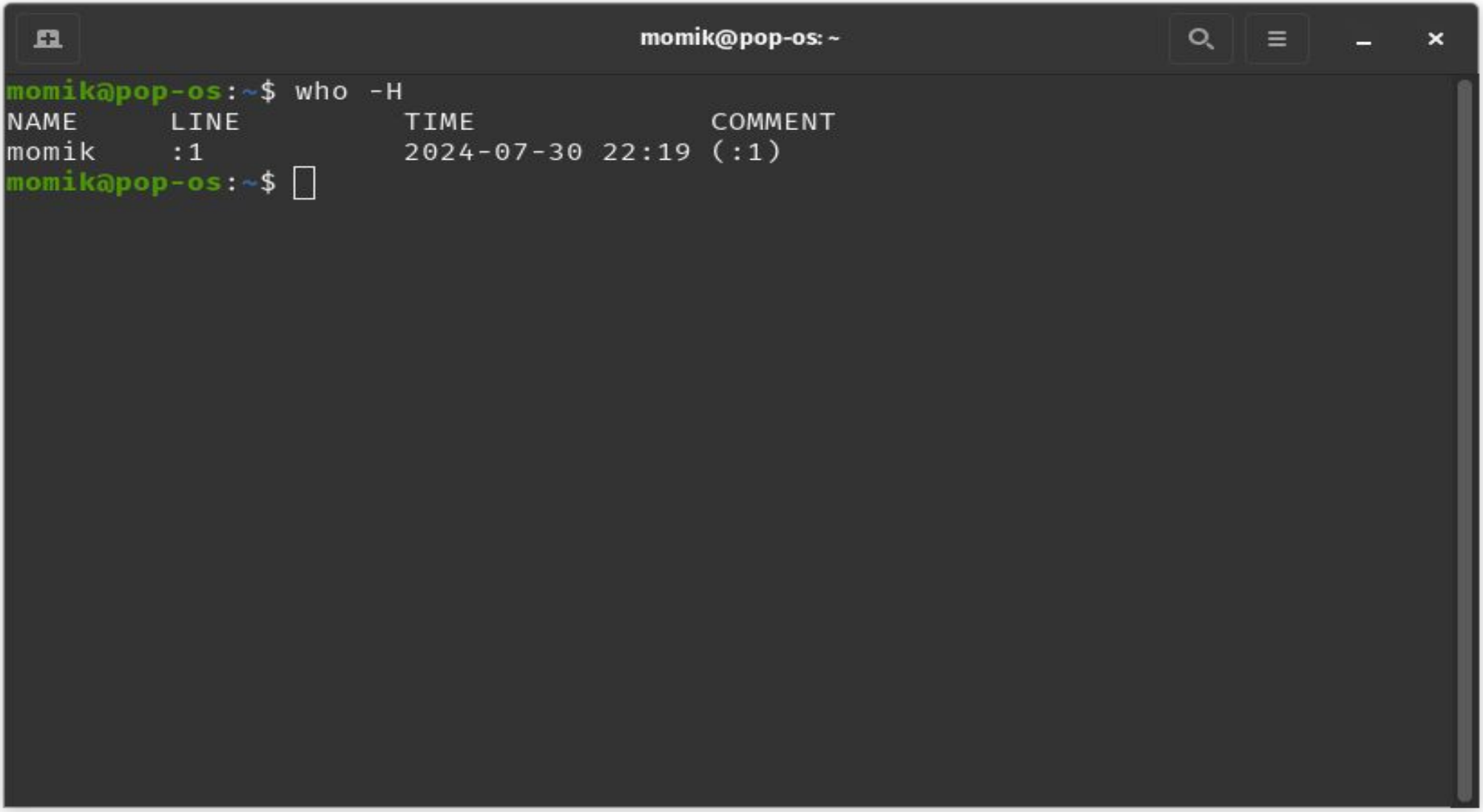
# Commands:

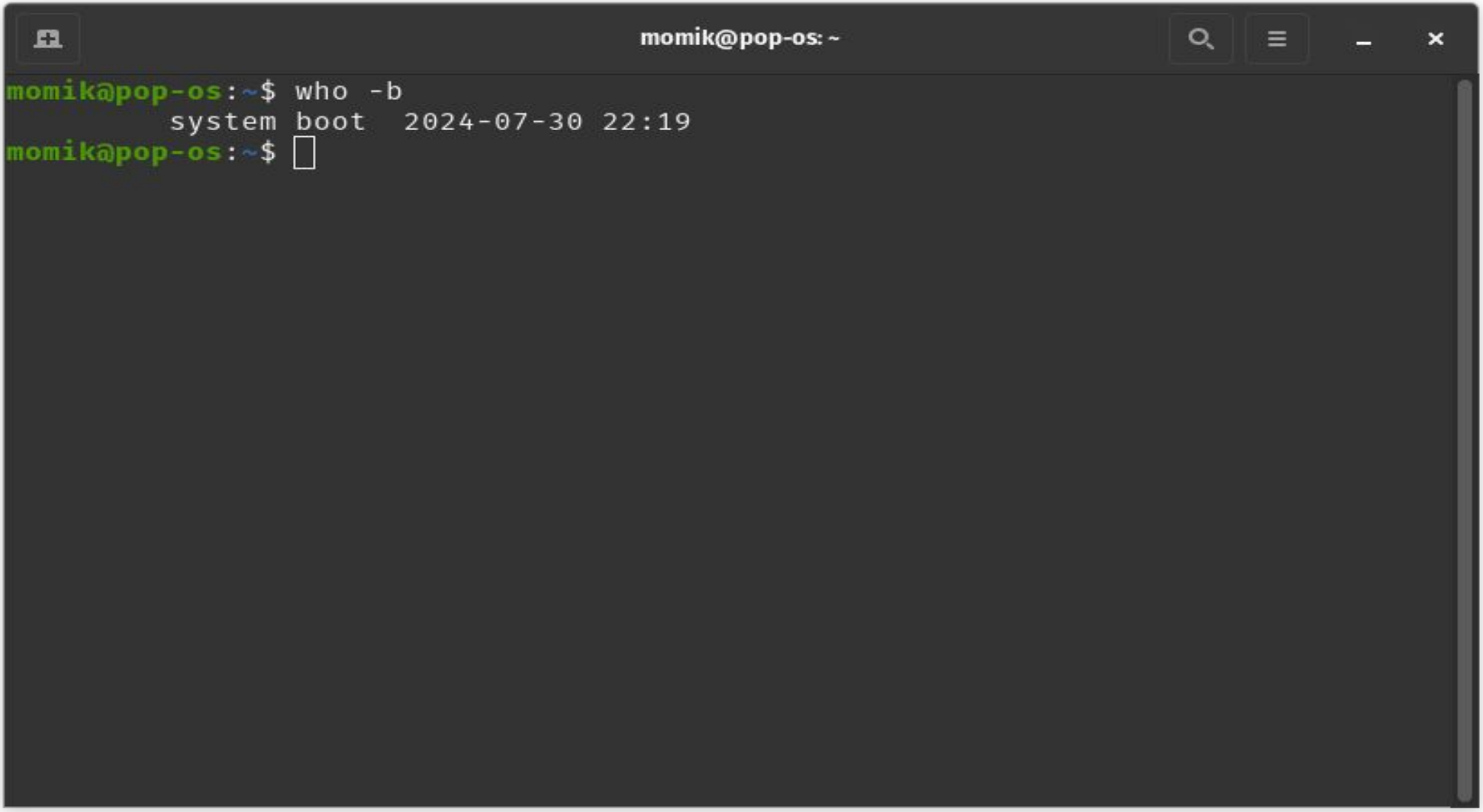
## 2. who Command

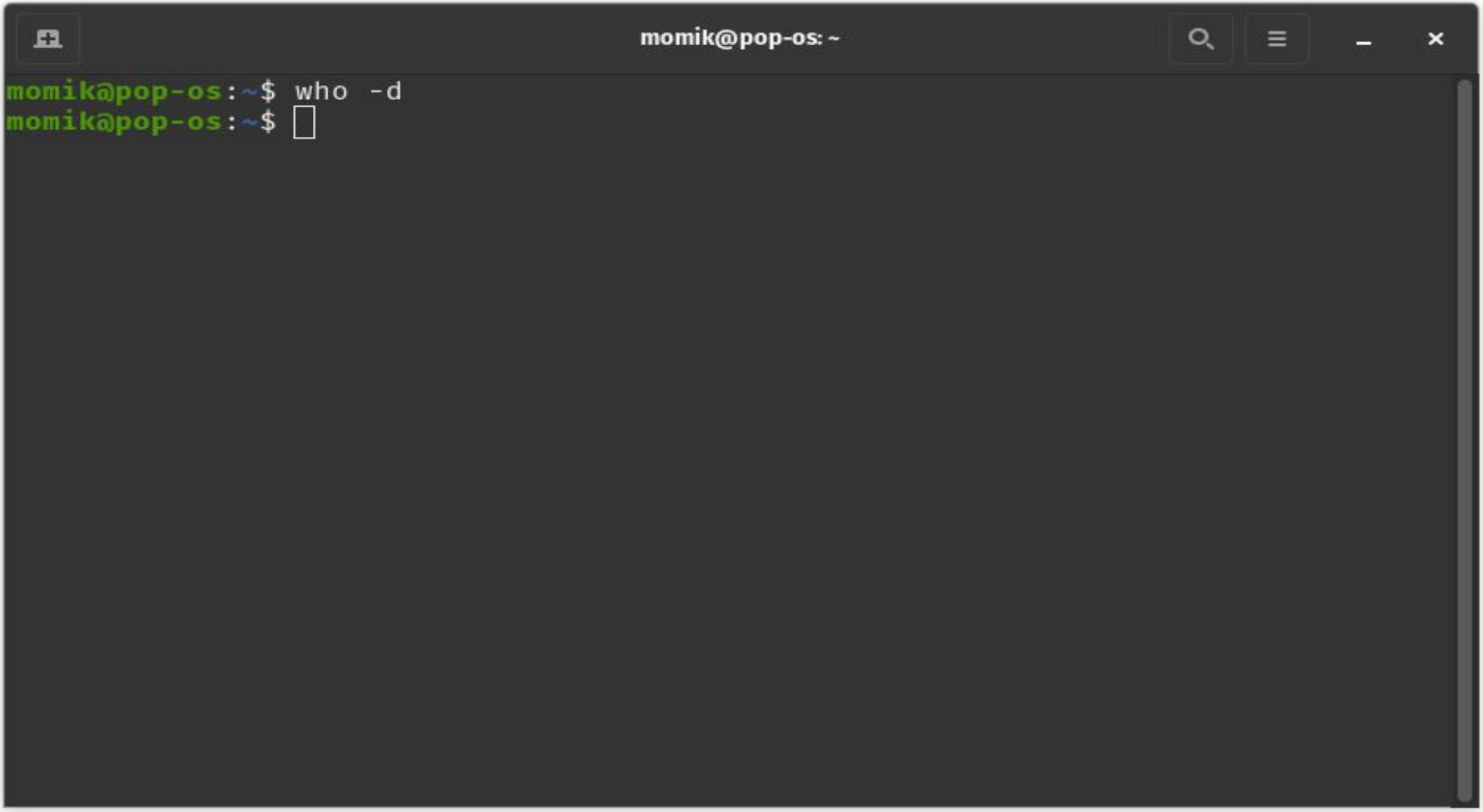
**Syntax:**
who [options]

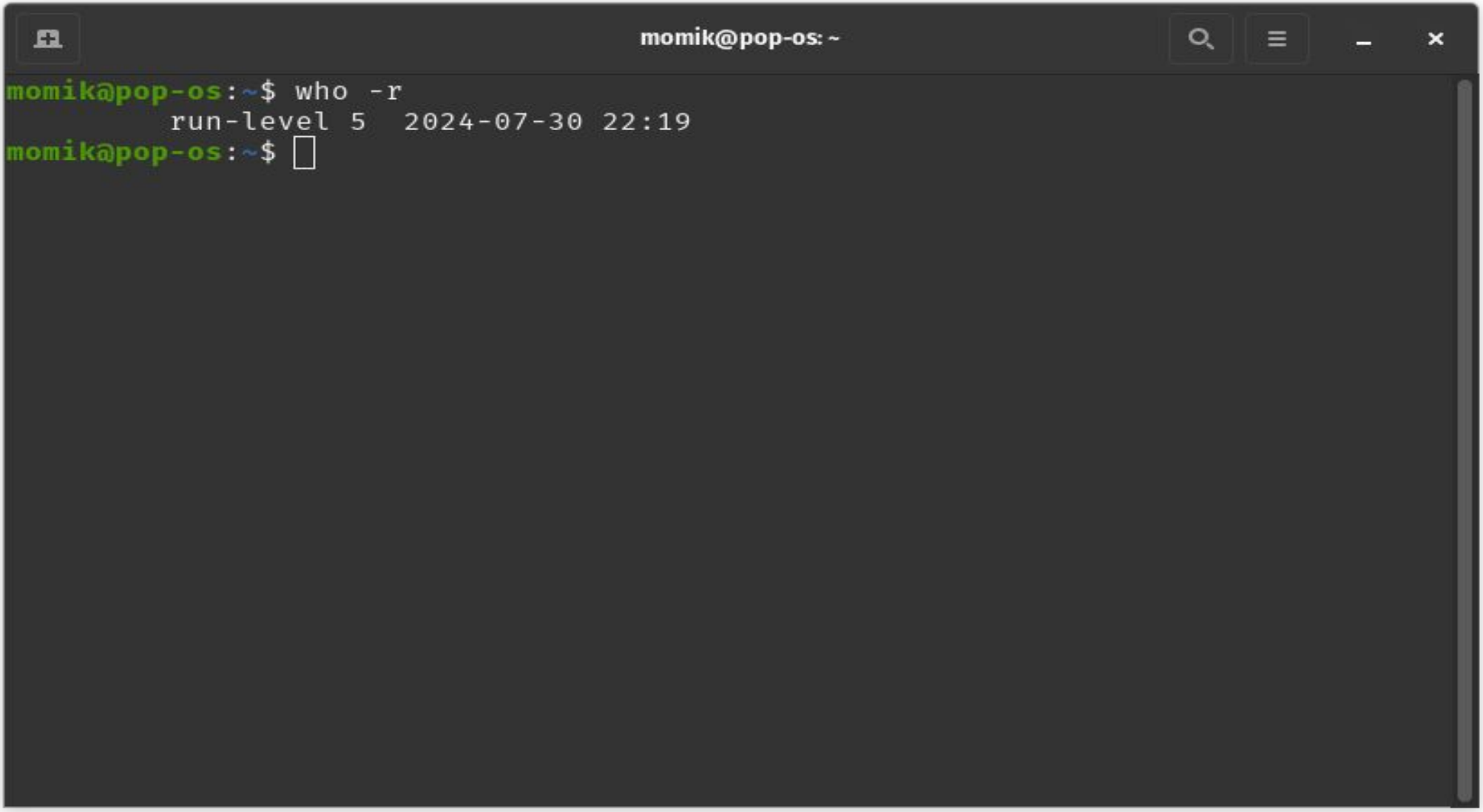
**Description:**
The who command shows who is currently logged into the system. It can display various details about user sessions such as login name, terminal line, login time, and remote host.

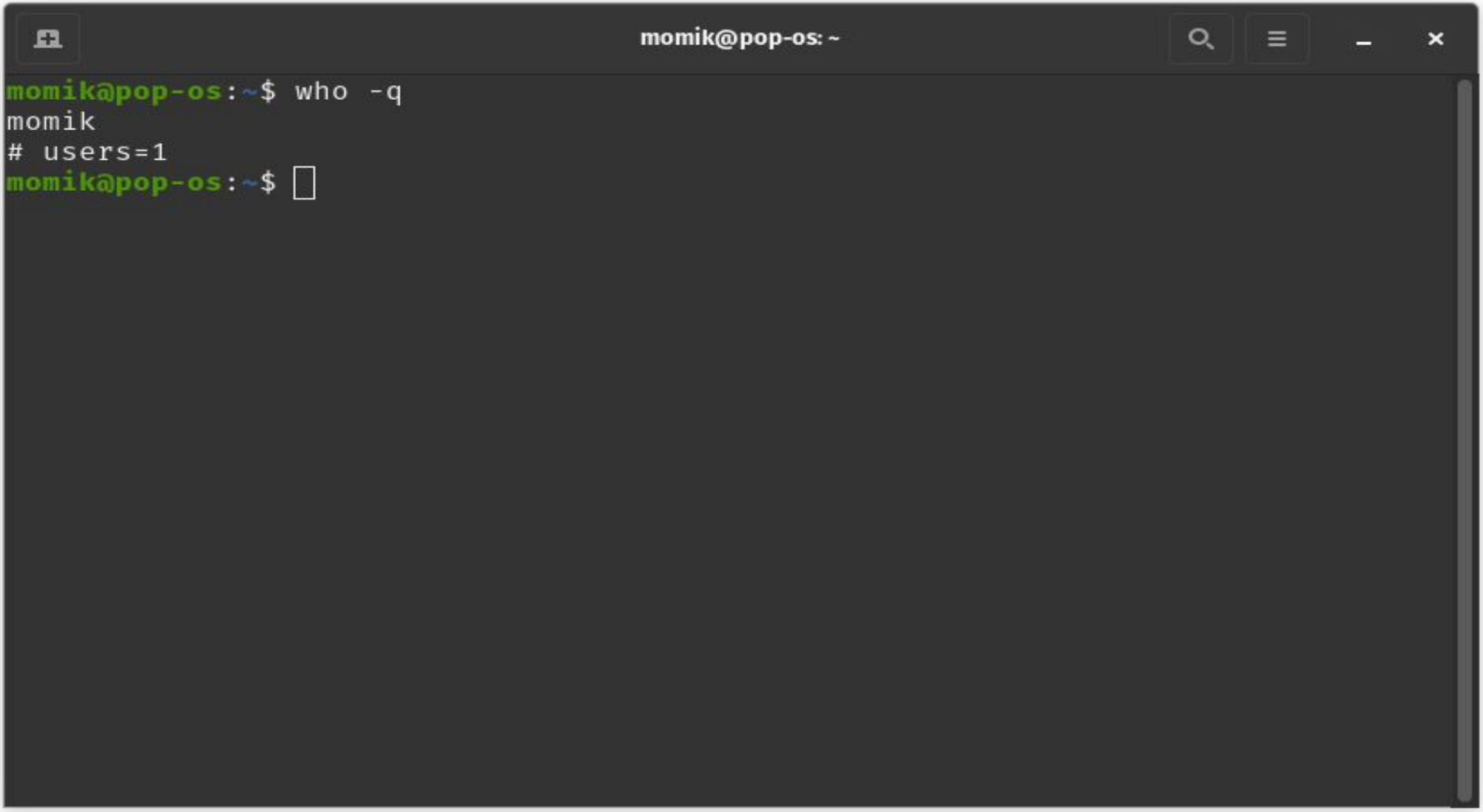
**Example:**
who -H -b
This command displays the headers and the last system boot time.

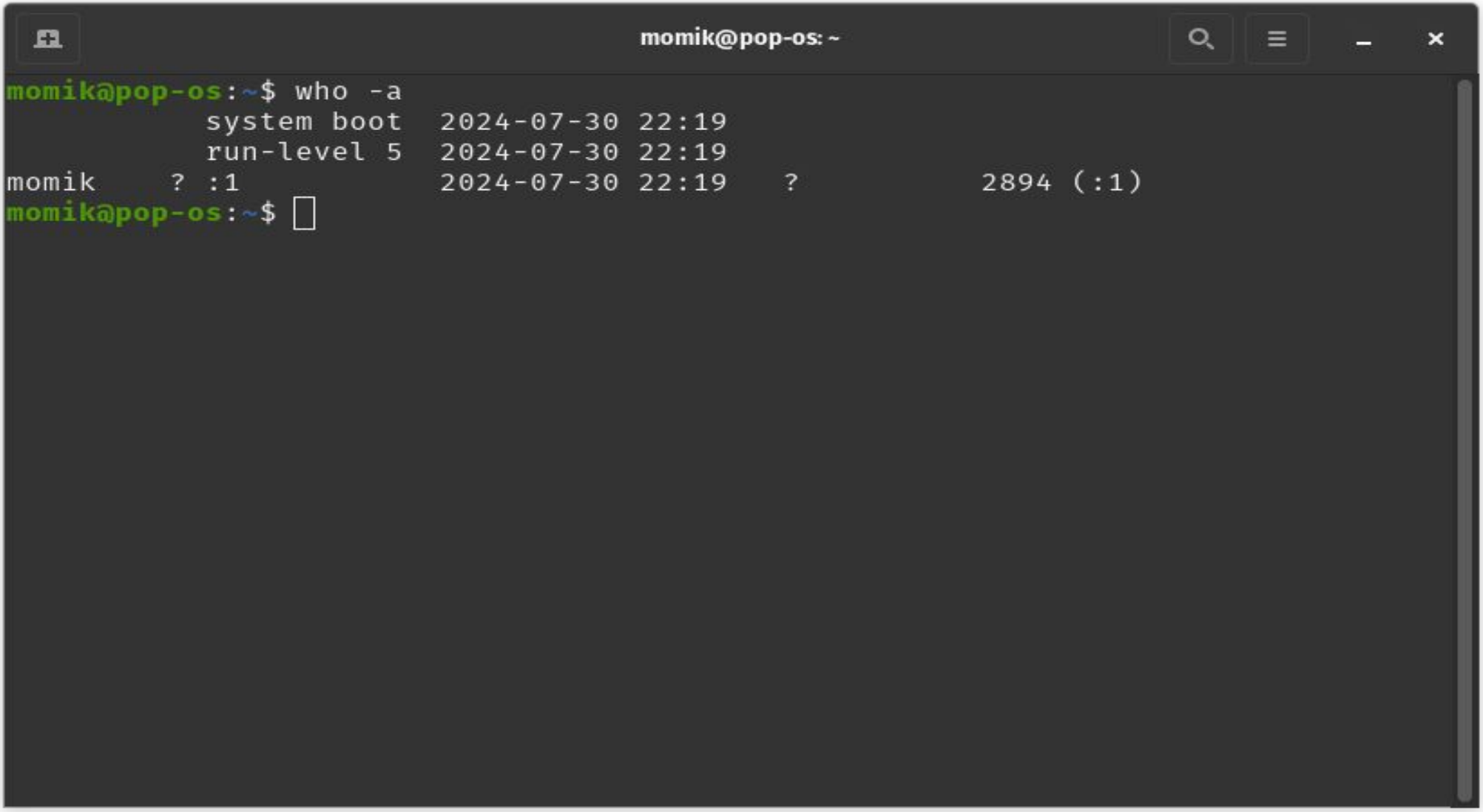

momik@pop-os: ~
momik@pop-os:~$ who -H
NAME LINE TIME COMMENT
momik :1 2024-07-30 22:19 (:1)
momik@pop-os:~$

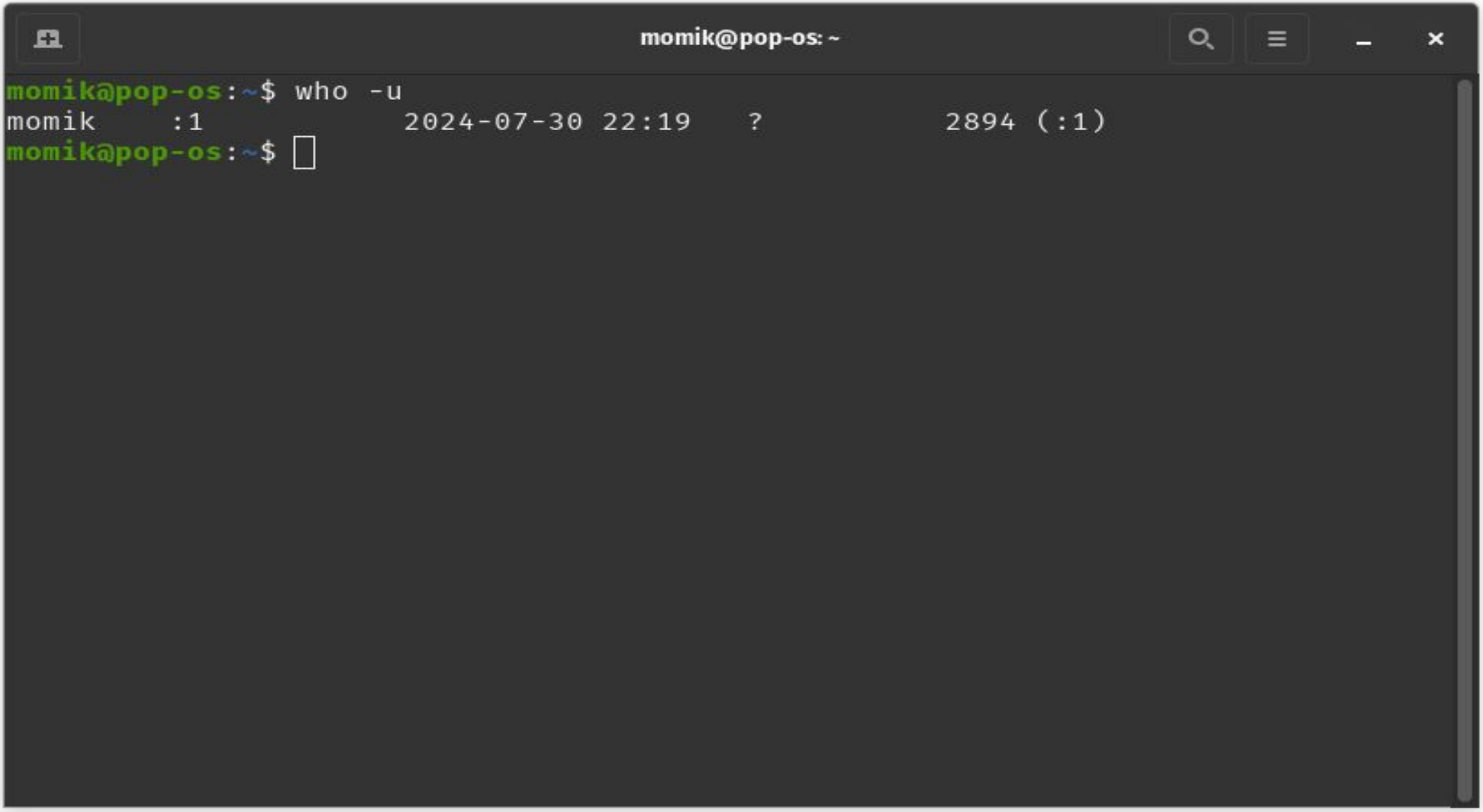

momik@pop-os: ~
momik@pop-os:~$ who -b
system boot 2024-07-30 22:19
momik@pop-os:~$

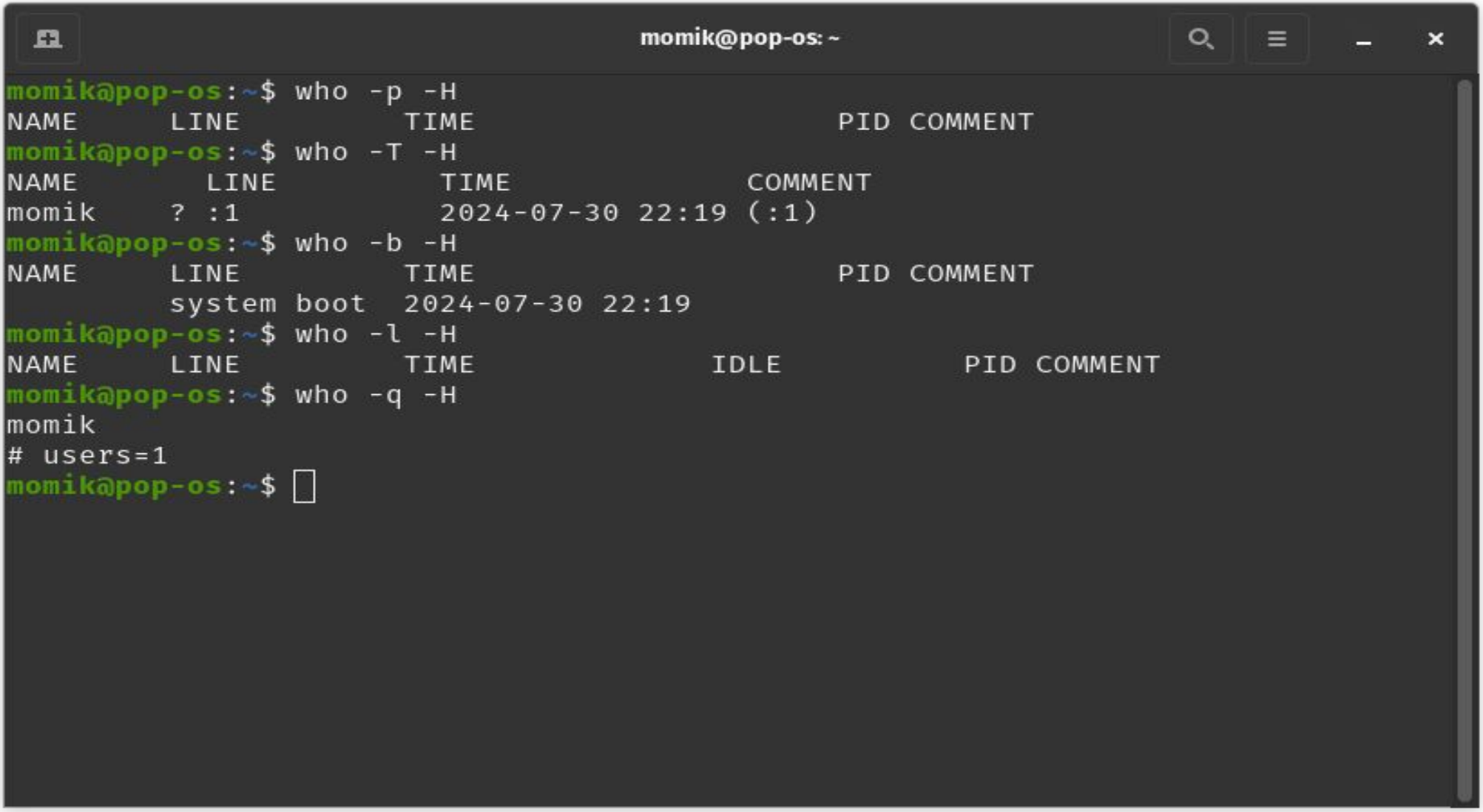

momik@pop-os: ~
momik@pop-os:~$ who -d
momik@pop-os:~$


momik@pop-os: ~
momik@pop-os:~$ who -r
run-level 5 2024-07-30 22:19
momik@pop-os:~$


momik@pop-os: ~
momik@pop-os:~$ who -q
momik
# users=1
momik@pop-os:~$


momik@pop-os: ~
momik@pop-os:~$ who -a
system boot 2024-07-30 22:19
run-level 5 2024-07-30 22:19
momik ? :1 2024-07-30 22:19 ? 2894 (:1)
momik@pop-os:~$


momik@pop-os: ~
momik@pop-os:~$ who -u
momik    :1           2024-07-30 22:19   ?          2894 (:1)
momik@pop-os:~$


momik@pop-os: ~
momik@pop-os:~$ who -p -H
NAME LINE TIME PID COMMENT
momik@pop-os:~$ who -T -H
NAME LINE TIME COMMENT
momik ? :1 2024-07-30 22:19 (:1)
momik@pop-os:~$ who -b -H
NAME LINE TIME PID COMMENT
system boot 2024-07-30 22:19
momik@pop-os:~$ who -l -H
NAME LINE TIME IDLE PID COMMENT
momik@pop-os:~$ who -q -H
momik
# users=1
momik@pop-os:~$

# Commands:

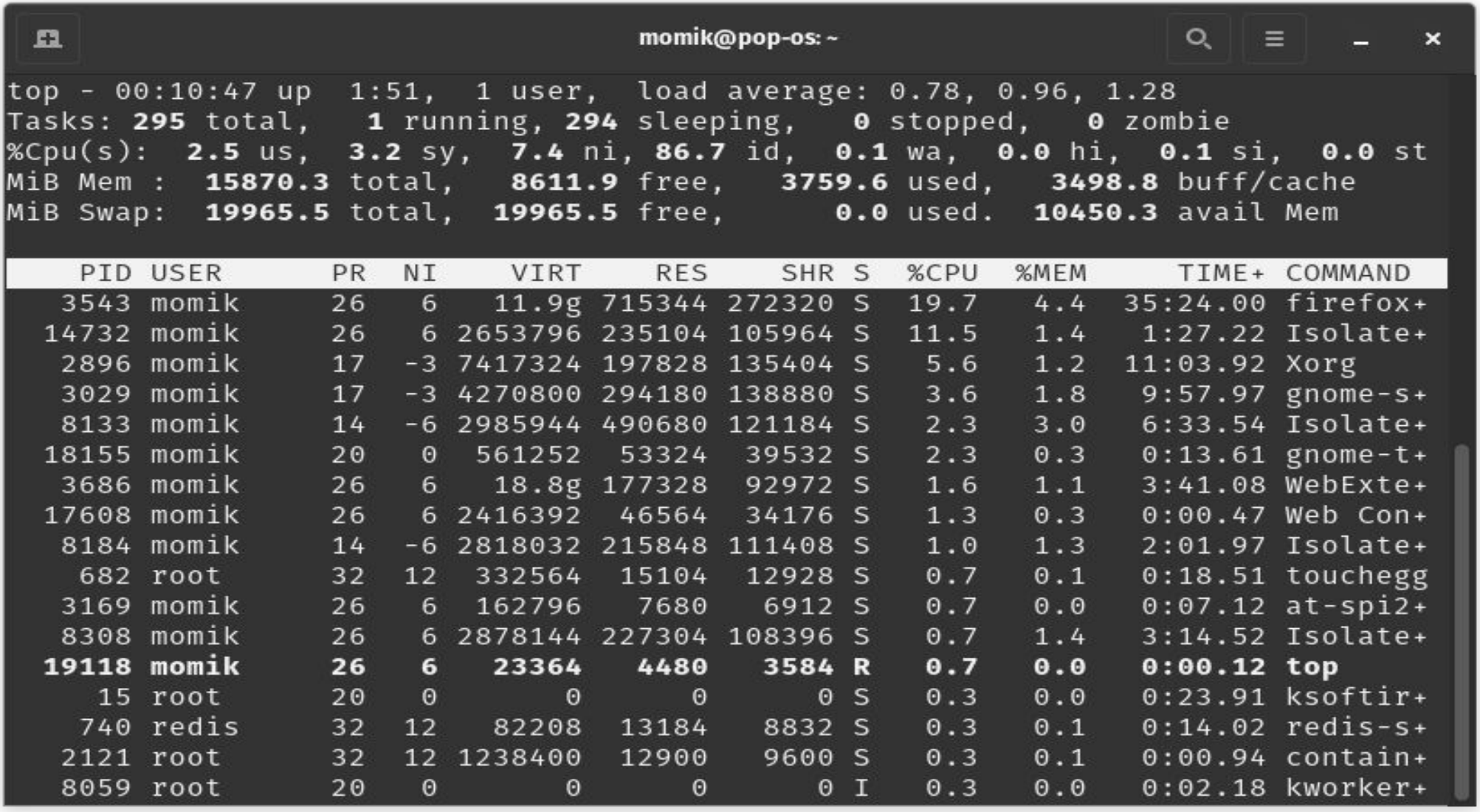
## 3. top Command

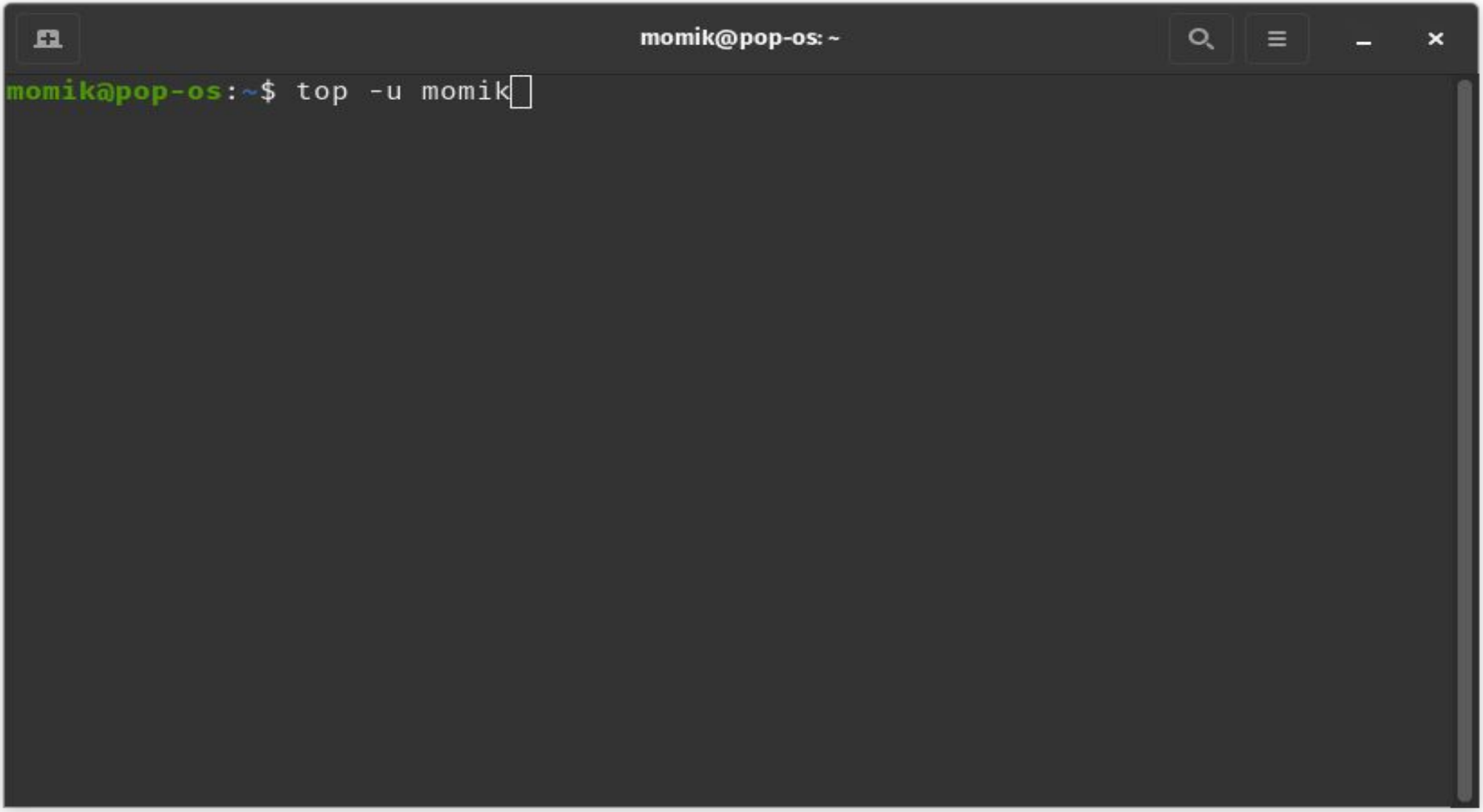
**Syntax:**
top [options]

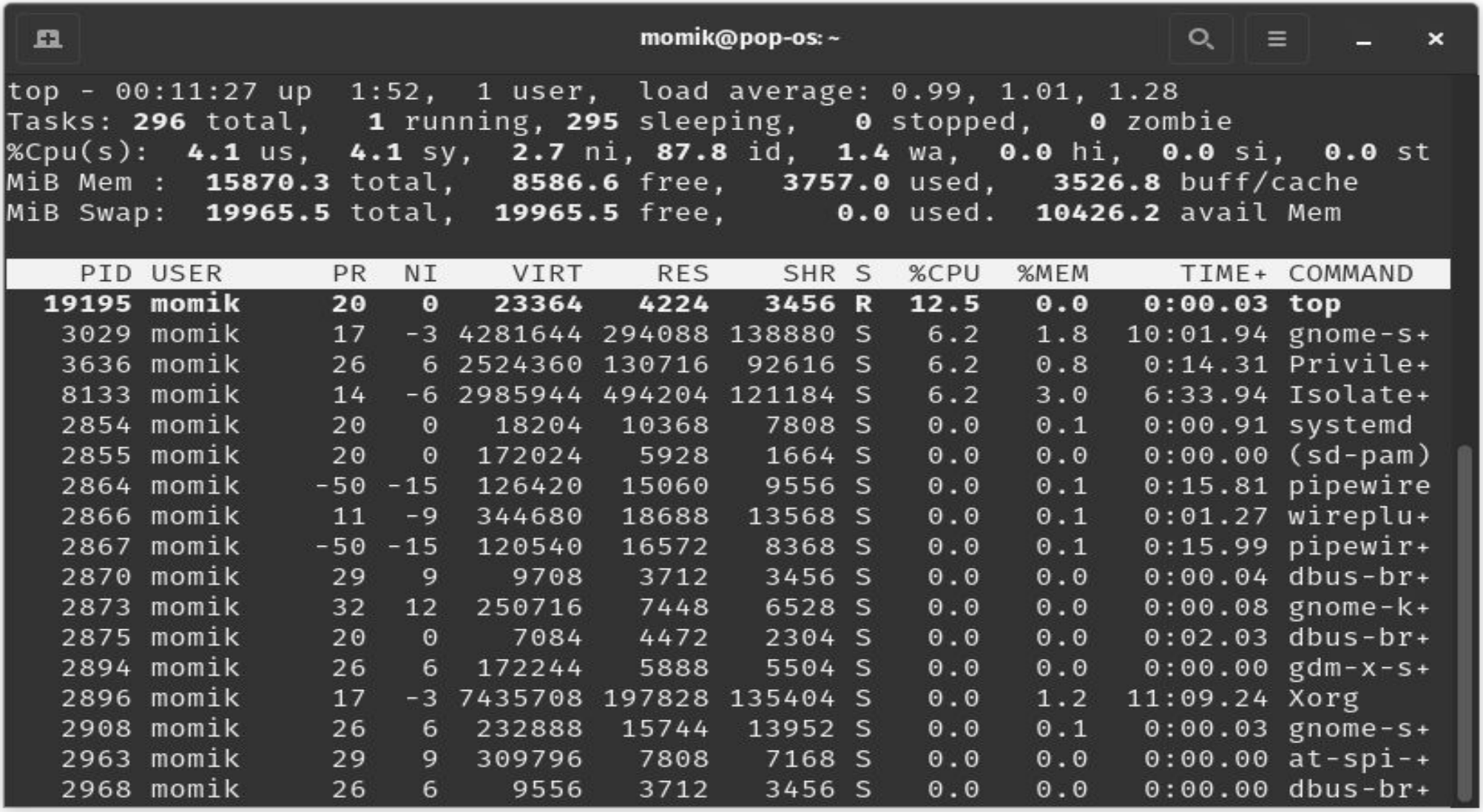
**Description:**
The top command provides a dynamic, real-time view of running system processes. It displays system summary information as well as a list of tasks currently being managed by the Linux kernel.

**Example:**
top -n 10
This command updates the display 10 times and then exits.


momik@pop-os: ~
momik@pop-os:~$ top -n 10


momik@pop-os: ~
top - 00:10:47 up 1:51, 1 user, load average: 0.78, 0.96, 1.28
Tasks: 295 total, 1 running, 294 sleeping, 0 stopped, 0 zombie
%Cpu(s): 2.5 us, 3.2 sy, 7.4 ni, 86.7 id, 0.1 wa, 0.0 hi, 0.1 si, 0.0 st
MiB Mem : 15870.3 total, 8611.9 free, 3759.6 used, 3498.8 buff/cache
MiB Swap: 19965.5 total, 19965.5 free, 0.0 used. 10450.3 avail Mem
PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND
3543 momik 26 6 11.9g 715344 272320 S 19.7 4.4 35:24.00 firefox+
14732 momik 26 6 2653796 235104 105964 S 11.5 1.4 1:27.22 Isolate+
2896 momik 17 -3 7417324 197828 135404 S 5.6 1.2 11:03.92 Xorg
3029 momik 17 -3 4270800 294180 138880 S 3.6 1.8 9:57.97 gnome-s+
8133 momik 14 -6 2985944 490680 121184 S 2.3 3.0 6:33.54 Isolate+
18155 momik 20 0 561252 53324 39532 S 2.3 0.3 0:13.61 gnome-t+
3686 momik 26 6 18.8g 177328 92972 S 1.6 1.1 3:41.08 WebExte+
17608 momik 26 6 2416392 46564 34176 S 1.3 0.3 0:00.47 Web Con+
8184 momik 14 -6 2818032 215848 111408 S 1.0 1.3 2:01.97 Isolate+
682 root 32 12 332564 15104 12928 S 0.7 0.1 0:18.51 touchegg
3169 momik 26 6 162796 7680 6912 S 0.7 0.0 0:07.12 at-spi2+
8308 momik 26 6 2878144 227304 108396 S 0.7 1.4 3:14.52 Isolate+
19118 momik 26 6 23364 4480 3584 R 0.7 0.0 0:00.12 top
15 root 20 0 0 0 0 S 0.3 0.0 0:23.91 ksoftir+
740 redis 32 12 82208 13184 8832 S 0.3 0.1 0:14.02 redis-s+
2121 root 32 12 1238400 12900 9600 S 0.3 0.1 0:00.94 contain+
8059 root 20 0 0 0 0 I 0.3 0.0 0:02.18 kworker+


momik@pop-os: ~
momik@pop-os:~$ top -u momik


momik@pop-os: ~
top - 00:11:27 up 1:52, 1 user, load average: 0.99, 1.01, 1.28
Tasks: 296 total, 1 running, 295 sleeping, 0 stopped, 0 zombie
%Cpu(s): 4.1 us, 4.1 sy, 2.7 ni, 87.8 id, 1.4 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 15870.3 total, 8586.6 free, 3757.0 used, 3526.8 buff/cache
MiB Swap: 19965.5 total, 19965.5 free, 0.0 used. 10426.2 avail Mem
PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND
19195 momik 20 0 23364 4224 3456 R 12.5 0.0 0:00.03 top
3029 momik 17 -3 4281644 294088 138880 S 6.2 1.8 10:01.94 gnome-s+
3636 momik 26 6 2524360 130716 92616 S 6.2 0.8 0:14.31 Privile+
8133 momik 14 -6 2985944 494204 121184 S 6.2 3.0 6:33.94 Isolate+
2854 momik 20 0 18204 10368 7808 S 0.0 0.1 0:00.91 systemd
2855 momik 20 0 172024 5928 1664 S 0.0 0.0 0:00.00 (sd-pam)
2864 momik -50 -15 126420 15060 9556 S 0.0 0.1 0:15.81 pipewire
2866 momik 11 -9 344680 18688 13568 S 0.0 0.1 0:01.27 wireplu+
2867 momik -50 -15 120540 16572 8368 S 0.0 0.1 0:15.99 pipewir+
2870 momik 29 9 9708 3712 3456 S 0.0 0.0 0:00.04 dbus-br+
2873 momik 32 12 250716 7448 6528 S 0.0 0.0 0:00.08 gnome-k+
2875 momik 20 0 7084 4472 2304 S 0.0 0.0 0:02.03 dbus-br+
2894 momik 26 6 172244 5888 5504 S 0.0 0.0 0:00.00 gdm-x-s+
2896 momik 17 -3 7435708 197828 135404 S 0.0 1.2 11:09.24 Xorg
2908 momik 26 6 232888 15744 13952 S 0.0 0.1 0:00.03 gnome-s+
2963 momik 29 9 309796 7808 7168 S 0.0 0.0 0:00.00 at-spi-+
2968 momik 26 6 9556 3712 3456 S 0.0 0.0 0:00.00 dbus-br+