NAME

pgrep, pkill, pidwait − look up, signal, or wait for processes based on name and other attributes

SYNOPSIS

pgrep [options] pattern
pkill [options] pattern
pidwait [options] pattern

DESCRIPTION

pgrep looks through the currently running processes and lists the process IDs which match the selection criteria to stdout. All the criteria have to match. For example,

$ pgrep −u root sshd

will only list the processes called **sshd** AND owned by **root**. On the other hand,

$ pgrep −u root,daemon

will list the processes owned by **root** OR **daemon**.

pkill will send the specified signal (by default **SIGTERM**) to each process instead of listing them on stdout.

pidwait will wait for each process instead of listing them on stdout.

OPTIONS

−*signal*
−−signal *signal*
Defines the signal to send to each matched process. Either the numeric or the symbolic signal name can be used. In **pgrep** or **pidwait** mode only the long option can be used and has no effect unless used in conjunction with **−−require−handler** to filter to processes with a userspace signal handler present for a particular signal.

−c, **−−count**
Suppress normal output; instead print a count of matching processes. When count does not match anything, e.g. returns zero, the command will return non-zero value. Note that for pkill and pidwait, the count is the number of matching processes, not the processes that were successfully signaled or waited for.

−d, **−−delimiter** *delimiter*
Sets the string used to delimit each process ID in the output (by default a newline). (**pgrep** only.)

−e, **−−echo**
Display name and PID of the process being killed. (**pkill** only.)

−f, **−−full**
The *pattern* is normally only matched against the process name. When **−f** is set, the full command line is used.

−g, **−−pgroup** *pgrp,...*
Only match processes in the process group IDs listed. Process group 0 is translated into **pgrep**'s, **pkill**'s, or **pidwait**'s own process group.

−G, **−−group** *gid,...*
Only match processes whose real group ID is listed. Either the numerical or symbolical value may be used.

−i, **−−ignore−case**
Match processes case-insensitively.

−l, **−−list−name**
List the process name as well as the process ID. (**pgrep** only.)

−a, **−−list−full**
List the full command line as well as the process ID. (**pgrep** only.)

−n, **−−newest**
Select only the newest (most recently started) of the matching processes.

−o, **−−oldest**
Select only the oldest (least recently started) of the matching processes.

−O, **−−older** *secs*
Select processes older than secs.

−P, **−−parent** *ppid,...*
Only match processes whose parent process ID is listed.

−s, **−−session** *sid,...*
Only match processes whose process session ID is listed. Session ID 0 is translated into **pgrep**'s, **pkill**'s, or **pidwait**'s own session ID.

−t, **−−terminal** *term,...*
Only match processes whose controlling terminal is listed. The terminal name should be specified without the "/dev/" prefix.

−u, **−−euid** *euid,...*
Only match processes whose effective user ID is listed. Either the numerical or symbolical value may be used.

−U, **−−uid** *uid,...*
Only match processes whose real user ID is listed. Either the numerical or symbolical value may be used.

−v, **−−inverse**
Negates the matching. This option is usually used in **pgrep**'s or **pidwait**'s context. In **pkill**'s context the short option is disabled to avoid accidental usage of the option.

−w, **−−lightweight**
Shows all thread ids instead of pids in **pgrep**'s or **pidwait**'s context. In **pkill**'s context this option is disabled.

−x, **−−exact**
Only match processes whose names (or command lines if **−f** is specified) **exactly** match the *pattern*.

−F, **−−pidfile** *file*
Read *PID*s from *file*. This option is more useful for **pkill** or **pidwait** than **pgrep**.

−L, **−−logpidfile**
Fail if pidfile (see **−F**) not locked.

−r, **−−runstates** *D,R,S,Z,...*
Match only processes which match the process state.

−A, **−−ignore-ancestors**
Ignore all ancestors of **pgrep**, **pkill**, or **pidwait**. For example, this can be useful when elevating with **sudo** or similar tools.

−H, **−−require−handler**
Only match processes with a userspace signal handler present for the signal to be sent.

−−cgroup *name***,...**
Match on provided control group (cgroup) v2 name. See **cgroups**(8)

−−ns *pid*
Match processes that belong to the same namespaces. Required to run as root to match processes from other users. See **−−nslist** for how to limit which namespaces to match.

−−nslist *name*,...
Match only the provided namespaces. Available namespaces: ipc, mnt, net, pid, user, uts.

−q, **−−queue** *value*
Use **sigqueue**(3) rather than **kill**(2) and the value argument is used to specify an integer to be sent with the signal. If the receiving process has installed a handler for this signal using the SA_SIGINFO flag to **sigaction**(2), then it can obtain this data via the si_value field of the siginfo_t structure.

−V, **−−version**
Display version information and exit.

−h, **−−help**
Display help and exit.

OPERANDS

pattern Specifies an Extended Regular Expression for matching against the process names or command lines.

EXAMPLES

Example 1: Find the process ID of the **named** daemon:

$ pgrep −u root named

Example 2: Make **syslog** reread its configuration file:

$ pkill −HUP syslogd

Example 3: Give detailed information on all **xterm** processes:

$ ps −fp $(pgrep −d, −x xterm)

Example 4: Make all **chrome** processes run nicer:

$ renice +4 $(pgrep chrome)

EXIT STATUS

0 One or more processes matched the criteria. For **pkill** and **pidwait**, one or more processes must also have been successfully signalled or waited for.
1 No processes matched or none of them could be signalled.
2 Syntax error in the command line.
3 Fatal error: out of memory etc.

NOTES

The process name used for matching is limited to the 15 characters present in the output of /proc/*pid*/stat. Use the **−f** option to match against the complete command line, /proc/*pid*/cmdline. Threads may not have the same process name as the parent process but will have the same command line.

The running **pgrep**, **pkill**, or **pidwait** process will never report itself as a match.

The **−O −−older** option will silently fail if */proc* is mounted with the *subset=pid* option.

BUGS

The options **−n** and **−o** and **−v** can not be combined. Let me know if you need to do this.

Defunct processes are reported.

pidwait requires the **pidfd_open**(2) system call which first appeared in Linux 5.3.

SEE ALSO

ps(1), **regex**(7), **signal**(7), **sigqueue**(3), **killall**(1), **skill**(1), **kill**(1), **kill**(2), **cgroups**(8).

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REPORTING BUGS

Please send bug reports to ⟨procps@freelists.org⟩