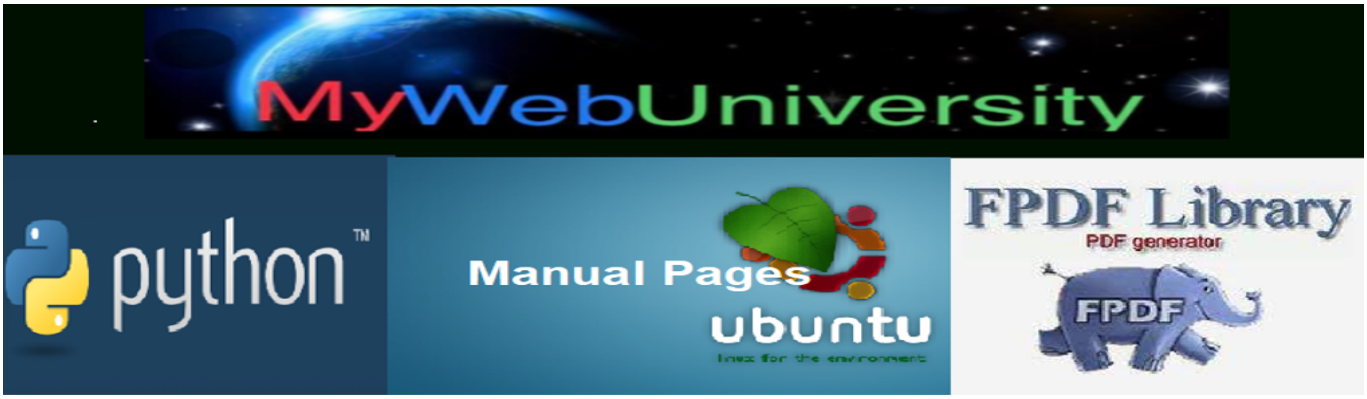

Rocky Enterprise Linux 9.2 Manual Pages on command 'getpgrp.2'

$ man getpgrp.2

SETPGID(2) Linux Programmer's Manual SETPGID(2)

NAME

setpgid, getpgid, setpgrp, getpgrp - set/get process group

SYNOPSIS

```
#include <sys/types.h>
#include <unistd.h>
int setpgid(pid_t pid, pid_t pgid);
pid_t getpgid(pid_t pid);
pid_t getpgrp(void);                /* POSIX.1 version */
pid_t getpgrp(pid_t pid);           /* BSD version */
int setpgrp(void);                  /* System V version */
int setpgrp(pid_t pid, pid_t pgid);  /* BSD version */
```

Feature Test Macro Requirements for glibc (see feature_test_macros(7)):

getpgid():

_XOPEN_SOURCE >= 500

|| /* Since glibc 2.12: */ _POSIX_C_SOURCE >= 200809L

setpgrp() (POSIX.1):

_XOPEN_SOURCE >= 500

|| /* Since glibc 2.19: */ _DEFAULT_SOURCE

|| /* Glibc versions <= 2.19: */ _SVID_SOURCE

setpgrp() (BSD), getpgrp() (BSD):

[These are available only before glibc 2.19]

_BSD_SOURCE &&

! (_POSIX_SOURCE || _POSIX_C_SOURCE || _XOPEN_SOURCE ||
_GNU_SOURCE || _SVID_SOURCE)

DESCRIPTION

All of these interfaces are available on Linux, and are used for getting and setting the process group ID (PGID) of a process. The preferred, POSIX.1-specified ways of doing this are: getpgrp(void), for retrieving the calling process's PGID; and setpgid(), for setting a process's PGID.

setpgid() sets the PGID of the process specified by pid to pgid. If pid is zero, then the process ID of the calling process is used. If pgid is zero, then the PGID of the process specified by pid is made the same as its process ID. If setpgid() is used to move a process from one process group to another (as is done by some shells when creating pipelines), both process groups must be part of the same session (see setsid(2) and credentials(7)). In this case, the pgid specifies an existing process group to be joined and the session ID of that group must match the session ID of the joining process.

The POSIX.1 version of getpgrp(), which takes no arguments, returns the PGID of the calling process.

getpgid() returns the PGID of the process specified by pid. If pid is zero, the process ID of the calling process is used. (Retrieving the PGID of a process other than the caller is rarely necessary, and the POSIX.1 getpgrp() is preferred for that task.)

The System V-style setpgrp(), which takes no arguments, is equivalent to setpgid(0, 0).

The BSD-specific setpgrp() call, which takes arguments pid and pgid, is a wrapper function that calls

setpgid(pid, pgid)

Since glibc 2.19, the BSD-specific setpgrp() function is no longer exposed by <unistd.h>; calls should be replaced with the setpgid() call shown above.

The BSD-specific getpgrp() call, which takes a single pid argument, is a wrapper function that calls

getpgid(pid)

Since glibc 2.19, the BSD-specific getpgrp() function is no longer exposed by <unistd.h>; calls should be replaced with calls to the POSIX.1 getpgrp() which takes no arguments (if the intent is to obtain the caller's PGID), or with the getpgid() call shown above.

RETURN VALUE

On success, setpgid() and setpgrp() return zero. On error, -1 is returned, and errno is

set appropriately.

The POSIX.1 getpgrp() always returns the PGID of the caller.

getpgid(), and the BSD-specific getpgrp() return a process group on success. On error, -1 is returned, and errno is set appropriately.

ERRORS

EACCES An attempt was made to change the process group ID of one of the children of the calling process and the child had already performed an execve(2) (setpgid(), setp? grp()).

EINVAL pgid is less than 0 (setpgid(), setpgrp()).

EPERM An attempt was made to move a process into a process group in a different session, or to change the process group ID of one of the children of the calling process and the child was in a different session, or to change the process group ID of a ses? sion leader (setpgid(), setpgrp()).

ESRCH For getpgid(): pid does not match any process. For setpgid(): pid is not the call? ing process and not a child of the calling process.

CONFORMING TO

setpgid() and the version of getpgrp() with no arguments conform to POSIX.1-2001.

POSIX.1-2001 also specifies getpgid() and the version of setpgrp() that takes no argu? ments. (POSIX.1-2008 marks this setpgrp() specification as obsolete.)

The version of getpgrp() with one argument and the version of setpgrp() that takes two ar? guments derive from 4.2BSD, and are not specified by POSIX.1.

NOTES

A child created via fork(2) inherits its parent's process group ID. The PGID is preserved across an execve(2).

Each process group is a member of a session and each process is a member of the session of which its process group is a member. (See credentials(7).)

A session can have a controlling terminal. At any time, one (and only one) of the process groups in the session can be the foreground process group for the terminal; the remaining process groups are in the background. If a signal is generated from the terminal (e.g., typing the interrupt key to generate SIGINT), that signal is sent to the foreground process group. (See termios(3) for a description of the characters that generate sig? nals.) Only the foreground process group may read(2) from the terminal; if a background process group tries to read(2) from the terminal, then the group is sent a SIGTTIN signal,

which suspends it. The tcgetpgrp(3) and tcsetpgrp(3) functions are used to get/set the foreground process group of the controlling terminal.

The setpgid() and getpgrp() calls are used by programs such as bash(1) to create process groups in order to implement shell job control.

If the termination of a process causes a process group to become orphaned, and if any mem? ber of the newly orphaned process group is stopped, then a SIGHUP signal followed by a SIGCONT signal will be sent to each process in the newly orphaned process group. An or? phaned process group is one in which the parent of every member of process group is either itself also a member of the process group or is a member of a process group in a different session (see also credentials(7)).

SEE ALSO

getuid(2), setsid(2), tcgetpgrp(3), tcsetpgrp(3), termios(3), credentials(7)

COLOPHON

This page is part of release 5.10 of the Linux man-pages project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at https://www.kernel.org/doc/man-pages/.