Rocky Enterprise Linux 9.2 Manual Pages on command 'setgid32.2'

$ man setgid32.2

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

NAME

setgid - set group identity

SYNOPSIS

#include <sys/types.h>

#include <unistd.h>

int setgid(gid_t gid);

DESCRIPTION

setgid() sets the effective group ID of the calling process. If the calling process is privileged (more precisely: has the CAP_SETGID capa? bility in its user namespace), the real GID and saved set-group-ID are also set.

Under Linux, setgid() is implemented like the POSIX version with the _POSIX_SAVED_IDS feature. This allows a set-group-ID program that is not set-user-ID-root to drop all of its group privileges, do some un- privileged work, and then reengage the original effective group ID in a secure manner.

RETURN VALUE

On success, zero is returned. On error, -1 is returned, and errno is set appropriately.

ERRORS

EINVAL The group ID specified in gid is not valid in this user name? space.

EPERM The calling process is not privileged (does not have the CAP_SETGID capability in its user namespace), and gid does not match the real group ID or saved set-group-ID of the calling process.

CONFORMING TO

POSIX.1-2001, POSIX.1-2008, SVr4.

NOTES

The original Linux setgid() system call supported only 16-bit group IDs. Subsequently, Linux 2.4 added setgid32() supporting 32-bit IDs. The glibc setgid() wrapper function transparently deals with the varia? tion across kernel versions.

C library/kernel differences

At the kernel level, user IDs and group IDs are a per-thread attribute. However, POSIX requires that all threads in a process share the same credentials. The NPTL threading implementation handles the POSIX re? quirements by providing wrapper functions for the various system calls that change process UIDs and GIDs. These wrapper functions (including the one for setgid()) employ a signal-based technique to ensure that when one thread changes credentials, all of the other threads in the process also change their credentials. For details, see nptl(7).

SEE ALSO

getgid(2), setegid(2), setregid(2), capabilities(7), credentials(7), user_namespaces(7)

COLOPHON

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