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

$ man set_tid_address.2

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

NAME

set_tid_address - set pointer to thread ID

SYNOPSIS

#include <linux/unistd.h>

pid_t set_tid_address(int *tidptr);

Note: There is no glibc wrapper for this system call; see NOTES.

DESCRIPTION

For each thread, the kernel maintains two attributes (addresses) called set_child_tid and clear_child_tid. These two attributes contain the value NULL by default.

set_child_tid

If a thread is started using clone(2) with the CLONE_CHILD_SET? TID flag, set_child_tid is set to the value passed in the ctid argument of that system call.

When set_child_tid is set, the very first thing the new thread does is to write its thread ID at this address.

clear_child_tid

If a thread is started using clone(2) with the CLONE_CHILD_CLEARTID flag, clear_child_tid is set to the value passed in the ctid argument of that system call.

The system call set_tid_address() sets the clear_child_tid value for the calling thread to tidptr.

When a thread whose clear_child_tid is not NULL terminates, then, if the thread is sharing memory with other threads, then 0 is written at the address specified in clear_child_tid and the kernel performs the following operation:

futex(clear_child_tid, FUTEX_WAKE, 1, NULL, NULL, 0);

The effect of this operation is to wake a single thread that is per? forming a futex wait on the memory location. Errors from the futex wake operation are ignored.

RETURN VALUE

set_tid_address() always returns the caller's thread ID.

ERRORS

set_tid_address() always succeeds.

VERSIONS

This call is present since Linux 2.5.48. Details as given here are valid since Linux 2.5.49.

CONFORMING TO

This system call is Linux-specific.

NOTES

Glibc does not provide a wrapper for this system call; call it using syscall(2).

SEE ALSO

clone(2), futex(2), gettid(2)

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/.