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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'pthread_attr_setsigmask_np.3' command

\$ man pthread_attr_setsigmask_np.3

PTHREAD_ATTR_SETSIGMASK_NP(Linux Programmer's ManPTHREAD_ATTR_SETSIGMASK_NP(3)

NAME

pthread_attr_setsigmask_np, pthread_attr_getsigmask_np - set/get signal mask attribute in thread attributes object

SYNOPSIS

```
#define _GNU_SOURCE      /* See feature_test_macros(7) */
#include <pthread.h>

int pthread_attr_setsigmask_np(pthread_attr_t *attr,
                               const sigset_t *sigmask);

int pthread_attr_getsigmask_np(const pthread_attr_t *attr,
                               sigset_t *sigmask);
```

Compile and link with -pthread.

DESCRIPTION

The pthread_attr_setsigmask_np() function sets the signal mask attribute of the thread attributes object referred to by attr to the value specified in *sigmask. If sigmask is specified as NULL, then any existing signal mask attribute in attr is unset.

The pthread_attr_getsigmask_np() function returns the signal mask attribute of the thread attributes object referred to by attr in the buffer pointed to by sigmask. If the signal mask attribute is currently unset, then this function returns the special value PTHREAD_ATTR_NO_SIGMASK_NP as its result.

RETURN VALUE

The `pthread_attr_setsigmask_np()` function returns 0 on success, or a nonzero error number on failure.

the `pthread_attr_getsigmask_np()` function returns either 0 or `PTHREAD_ATTR_NO_SIGMASK_NP`. When 0 is returned, the signal mask attribute is returned via `sigmask`. A return value of `PTHREAD_ATTR_NO_SIGMASK_NP` indicates that the signal mask attribute is not set in `attr`.

On error, these functions return a positive error number.

ERRORS

`ENOMEM` (`pthread_attr_setsigmask_np()`) Could not allocate memory.

VERSIONS

These functions are provided by `glibc` since version 2.32.

ATTRIBUTES

For an explanation of the terms used in this section, see [attributes\(7\)](#).

`attributes(7)`.

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?Interface ? Attribute ? Value ?

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?`pthread_attr_setsigmask_np()`, ? Thread safety ? MT-Safe ?

?`pthread_attr_getsigmask_np()` ? ? ?

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CONFORMING TO

These functions are nonstandard GNU extensions; hence the suffix "`_np`" (nonportable) in the names.

NOTES

The signal mask attribute determines the signal mask that will be assigned to a thread created using the thread attributes object `attr`. If this attribute is not set, then a thread created using `attr` will inherit a copy of the creating thread's signal mask.

For more details on signal masks, see [sigprocmask\(2\)](#). For a description of a set of macros that can be used to manipulate and inspect signals sets, see [sigsetops\(3\)](#).

In the absence of `pthread_attr_setsigmask_np()` it is possible to create a thread with a desired signal mask as follows:

? The creating thread uses `pthread_sigmask(3)` to save its current signal mask and set its mask to block all signals.

? The new thread is then created using `pthread_create()`; the new thread will inherit the creating thread's signal mask.

? The new thread sets its signal mask to the desired value using `pthread_sigmask(3)`.

? The creating thread restores its signal mask to the original value.

Following the above steps, there is no possibility for the new thread to receive a signal before it has adjusted its signal mask to the desired value.

SEE ALSO

`sigprocmask(2)`, `pthread_attr_init(3)`, `pthread_sigmask(3)`, `pthreads(7)`, `signals(7)`

COLOPHON

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