

NAME

`pthread_attr_setschedparam`, `pthread_attr_getschedparam` – set/get scheduling parameter attributes in thread attributes object

SYNOPSIS

```
#include <pthread.h>
```

```
int pthread_attr_setschedparam(pthread_attr_t *attr,
                               const struct sched_param *param);
int pthread_attr_getschedparam(const pthread_attr_t *attr,
                               struct sched_param *param);
```

Compile and link with `-pthread`.

DESCRIPTION

The `pthread_attr_setschedparam()` function sets the scheduling parameter attributes of the thread attributes object referred to by `attr` to the values specified in the buffer pointed to by `param`. These attributes determine the scheduling parameters of a thread created using the thread attributes object `attr`.

The `pthread_attr_getschedparam()` returns the scheduling parameter attributes of the thread attributes object `attr` in the buffer pointed to by `param`.

Scheduling parameters are maintained in the following structure:

```
struct sched_param {
    int sched_priority;    /* Scheduling priority */
};
```

As can be seen, only one scheduling parameter is supported. For details of the permitted ranges for scheduling priorities in each scheduling policy, see `sched(7)`.

In order for the parameter setting made by `pthread_attr_setschedparam()` to have effect when calling `pthread_create(3)`, the caller must use `pthread_attr_setinheritsched(3)` to set the inherit-scheduler attribute of the attributes object `attr` to `PTHREAD_EXPLICIT_SCHED`.

RETURN VALUE

On success, these functions return 0; on error, they return a nonzero error number.

ERRORS

`pthread_attr_setschedparam()` can fail with the following error:

EINVAL

The priority specified in `param` does not make sense for the current scheduling policy of `attr`.

POSIX.1 also documents an `ENOTSUP` error for `pthread_attr_setschedparam()`. This value is never returned on Linux (but portable and future-proof applications should nevertheless handle this error return value).

ATTRIBUTES

For an explanation of the terms used in this section, see `attributes(7)`.

Interface	Attribute	Value
<code>pthread_attr_setschedparam()</code> , <code>pthread_attr_getschedparam()</code>	Thread safety	MT-Safe

CONFORMING TO

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

NOTES

See `pthread_attr_setschedpolicy(3)` for a list of the thread scheduling policies supported on Linux.

EXAMPLE

See `pthread_setschedparam(3)`.

SEE ALSO

sched_get_priority_min(2), **pthread_attr_init(3)**, **pthread_attr_setinheritsched(3)**,
pthread_attr_setschedpolicy(3), **pthread_create(3)**, **pthread_setschedparam(3)**,
pthread_setschedprio(3), **pthreads(7)**, **sched(7)**

COLOPHON

This page is part of release 5.05 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/>.