

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
pthread_attr_setschedparam() , pthread_attr_getschedparam()	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

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