

NAME

sched_setparam, sched_getparam – set and get scheduling parameters

LIBRARY

Standard C library (*libc*, *-lc*)

SYNOPSIS

```
#include <sched.h>
```

```
int sched_setparam(pid_t pid, const struct sched_param *param);
```

```
int sched_getparam(pid_t pid, struct sched_param *param);
```

```
struct sched_param {
    ...
    int sched_priority;
    ...
};
```

DESCRIPTION

sched_setparam() sets the scheduling parameters associated with the scheduling policy for the thread whose thread ID is specified in *pid*. If *pid* is zero, then the parameters of the calling thread are set. The interpretation of the argument *param* depends on the scheduling policy of the thread identified by *pid*. See **sched(7)** for a description of the scheduling policies supported under Linux.

sched_getparam() retrieves the scheduling parameters for the thread identified by *pid*. If *pid* is zero, then the parameters of the calling thread are retrieved.

sched_setparam() checks the validity of *param* for the scheduling policy of the thread. The value *param->sched_priority* must lie within the range given by **sched_get_priority_min(2)** and **sched_get_priority_max(2)**.

For a discussion of the privileges and resource limits related to scheduling priority and policy, see **sched(7)**.

POSIX systems on which **sched_setparam()** and **sched_getparam()** are available define **_POSIX_PRIORITY_SCHEDULING** in *<unistd.h>*.

RETURN VALUE

On success, **sched_setparam()** and **sched_getparam()** return 0. On error, *-1* is returned, and *errno* is set to indicate the error.

ERRORS**EINVAL**

Invalid arguments: *param* is NULL or *pid* is negative

EINVAL

(**sched_setparam()**) The argument *param* does not make sense for the current scheduling policy.

EPERM

(**sched_setparam()**) The caller does not have appropriate privileges (Linux: does not have the **CAP_SYS_NICE** capability).

ESRCH

The thread whose ID is *pid* could not be found.

STANDARDS

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

SEE ALSO

getpriority(2), **gettid(2)**, **nice(2)**, **sched_get_priority_max(2)**, **sched_get_priority_min(2)**, **sched_getaffinity(2)**, **sched_getscheduler(2)**, **sched_setaffinity(2)**, **sched_setattr(2)**, **sched_setscheduler(2)**, **setpriority(2)**, **capabilities(7)**, **sched(7)**