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## SCHED\_SETPARAM(2)

## Linux Programmer's Manual

## SCHED\_SETPARAM(2)

### NAME [top](#)

`sched_setparam`, `sched_getparam` - set and get scheduling parameters

### SYNOPSIS [top](#)

```
#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 [top](#)

`sched_setparam()` sets the scheduling parameters associated with the scheduling policy for the process identified by `pid`. If `pid` is zero, then the parameters of the calling process are set. The interpretation of the argument `param` depends on the scheduling policy of the process identified by `pid`. See [sched\(7\)](#) for a description of the scheduling policies supported under Linux.

`sched_getparam()` retrieves the scheduling parameters for the process identified by `pid`. If `pid` is zero, then the parameters of the calling process 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 [top](#)

On success, `sched_setparam()` and `sched_getparam()` return 0. On error, -1 is returned, and `errno` is set appropriately.

### ERRORS [top](#)

**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 calling process does not have appropriate privileges (Linux: does not have the `CAP_SYS_NICE`

capability).

**ESRCH** The process whose ID is *pid* could not be found.

**CONFORMING TO** [top](#)

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

**NOTES** [top](#)

Scheduling parameters are in fact per-thread attributes on Linux; see [sched\(7\)](#).

**SEE ALSO** [top](#)

[getpriority\(2\)](#), [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\(7\)](#)

**COLOPHON** [top](#)

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