

Op:sched.h

sched.h - execution scheduling (**REALTIME**)

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

Contents [1 DESCRIPTION](#) [2 APPLICATION USAGE](#) [3 RATIONALE](#) [4 FUTURE DIRECTIONS](#) [5 RELATED](#)
[6 COPYRIGHT](#) [7 CATEGORY](#)

DESCRIPTION

The `<sched.h>` header shall define the `sched_param` structure, which contains the scheduling parameters required for implementation of each supported scheduling policy. This structure shall contain at least the following member:

<code>int</code>	<code>sched_priority</code>	Process execution scheduling priority.
------------------	-----------------------------	--

In addition, if `_POSIX_SPORADIC_SERVER` or `_POSIX_THREAD_SPORADIC_SERVER` is defined, the `sched_param` structure defined in `<sched.h>` shall contain the following members in addition to those specified above:

<code>int</code>	<code>sched_ss_low_priority</code>	Low scheduling priority for sporadic server.
<code>struct timespec</code>	<code>sched_ss_repl_period</code>	Replenishment period for sporadic server.
<code>struct timespec</code>	<code>sched_ss_init_budget</code>	Initial budget for sporadic server.
<code>int</code>	<code>sched_ss_max_repl</code>	Maximum pending replenishments for sporadic server.

Each process is controlled by an associated scheduling policy and priority. Associated with each policy is a priority range. Each policy definition specifies the minimum priority range for that policy. The priority ranges for each policy may overlap the priority ranges of other policies.

Four scheduling policies are defined; others may be defined by the implementation. The four standard policies are indicated by the values of the following symbolic constants:

SCHED_FIFO

First in-first out (FIFO) scheduling policy.

SCHED_RR

Round robin scheduling policy.

SCHED_SPORADIC

Sporadic server scheduling policy.

SCHED_OTHER

Another scheduling policy.

The values of these constants are distinct.

The following shall be declared as functions and may also be defined as macros. Function prototypes shall be provided.

```
int    sched_get_priority_max(int);
int    sched_get_priority_min(int);

int    sched_getparam(pid_t, struct sched_param *);
int    sched_getscheduler(pid_t);

int    sched_rr_get_interval(pid_t, struct timespec *);

int    sched_setparam(pid_t, const struct sched_param *);
int    sched_setscheduler(pid_t, int, const struct sched_param *);

int    sched_yield(void);
```

Inclusion of the `<sched.h>` header may make visible all symbols from the `<time.h>` header.

The following sections are informative.

APPLICATION USAGE

None.

RATIONALE

None.

FUTURE DIRECTIONS

None.

RELATED

`<time.h>`

COPYRIGHT

Portions of this text are reprinted and reproduced in electronic form from IEEE Std 1003.1, 2003 Edition, Standard for Information Technology -- Portable Operating System Interface (POSIX), The Open Group Base Specifications Issue 6, Copyright (C) 2001-2003 by the Institute of Electrical and Electronics Engineers, Inc and The Open Group. In the event of any discrepancy between this version and the original IEEE and The Open Group Standard, the original IEEE and The Open Group Standard is the referee document. The original Standard can be obtained online at <http://www.opengroup.org/unix/online.html> .

IEEE/The Open Group 2003 `<sched.h>`(P)