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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'pthread_attr_getschedparam.3p' command

\$ man pthread_attr_getschedparam.3p

PTHREAD_ATTR_GETSCHEDPARAM(POSIX Programmer's Manual PTHREAD_ATTR_GETSCHEDPARAM(3P))

PROLOG

This manual page is part of the POSIX Programmer's Manual. The Linux implementation of this interface may differ (consult the corresponding Linux manual page for details of Linux behavior), or the interface may not be implemented on Linux.

NAME

pthread_attr_getschedparam, pthread_attr_setschedparam ? get and set the schedparam attribute

SYNOPSIS

```
#include <pthread.h>

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

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

DESCRIPTION

The pthread_attr_getschedparam() and pthread_attr_setschedparam() functions, respectively, shall get and set the scheduling parameter attributes in the attr argument. The contents of the param structure are defined in the <sched.h> header. For the SCHED_FIFO and SCHED_RR policies, the only required member of param is sched_priority. For the SCHED_SPORADIC policy, the required members of the param structure are sched_priority, sched_ss_low_priority, sched_ss_repl_period,

sched_ss_init_budget, and sched_ss_max_repl. The specified sched_ss_repl_period must be greater than or equal to the specified sched_ss_init_budget for the function to succeed; if it is not, then the function shall fail. The value of sched_ss_max_repl shall be within the inclusive range [1, {SS_REPL_MAX}] for the function to succeed; if not, the function shall fail. It is unspecified whether the sched_ss_repl_period and sched_ss_init_budget values are stored as provided by this function or are rounded to align with the resolution of the clock being used.

The behavior is undefined if the value specified by the attr argument to pthread_attr_getschedparam() or pthread_attr_setschedparam() does not refer to an initialized thread attributes object.

RETURN VALUE

If successful, the pthread_attr_getschedparam() and pthread_attr_setschedparam() functions shall return zero; otherwise, an error number shall be returned to indicate the error.

ERRORS

The pthread_attr_setschedparam() function shall fail if:

ENOTSUP

An attempt was made to set the attribute to an unsupported value.

The pthread_attr_setschedparam() function may fail if:

EINVAL The value of param is not valid.

These functions shall not return an error code of [EINTR].

The following sections are informative.

EXAMPLES

None.

APPLICATION USAGE

After these attributes have been set, a thread can be created with the specified attributes using pthread_create(). Using these routines does not affect the current running thread.

RATIONALE

If an implementation detects that the value specified by the attr argu?

ment to `pthread_attr_getschedparam()` or `pthread_attr_setschedparam()` does not refer to an initialized thread attributes object, it is recommended that the function should fail and report an [EINVAL] error.

FUTURE DIRECTIONS

None.

SEE ALSO

`pthread_attr_destroy()`, `pthread_attr_getscope()`, `pthread_attr_getinheritsched()`, `pthread_attr_getschedpolicy()`, `pthread_create()`

The Base Definitions volume of POSIX.1-2017, `<pthread.h>`, `<sched.h>`

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