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

$ man pthread_attr_setinheritsched.3

PTHREAD_ATTR_SETINHERITSCHELinux Programmer's MPTHREAD_ATTR_SETINHERITSCHED(3)

NAME

pthread_attr_setinheritsched, pthread_attr_getinheritsched - set/get inherit-scheduler attribute in thread attributes object

SYNOPSIS

```
#include <pthread.h>
int pthread_attr_setinheritsched(pthread_attr_t *attr,
                                 int inheritsched);
int pthread_attr_getinheritsched(const pthread_attr_t *attr,
                                 int *inheritsched);
```

Compile and link with -pthread.

DESCRIPTION

The pthread_attr_setinheritsched() function sets the inherit-scheduler attribute of the thread attributes object referred to by attr to the value specified in inheritsched. The inherit-scheduler attribute de? termines whether a thread created using the thread attributes object attr will inherit its scheduling attributes from the calling thread or whether it will take them from attr.

The following scheduling attributes are affected by the inherit-sched? uler attribute: scheduling policy (pthread_attr_setschedpolicy(3)), scheduling priority (pthread_attr_setschedparam(3)), and contention scope (pthread_attr_setscope(3)).

The following values may be specified in inheritsched:

PTHREAD_INHERIT_SCHED

Threads that are created using attr inherit scheduling at? tributes from the creating thread; the scheduling attributes in attr are ignored.

PTHREAD_EXPLICIT_SCHED

Threads that are created using attr take their scheduling at? tributes from the values specified by the attributes object.

The default setting of the inherit-scheduler attribute in a newly ini? tialized thread attributes object is PTHREAD_INHERIT_SCHED.

The pthread_attr_getinheritsched() returns the inherit-scheduler attri? bute of the thread attributes object attr in the buffer pointed to by inheritsched.

RETURN VALUE

On success, these functions return 0; on error, they return a nonzero error number.

ERRORS

pthread_attr_setinheritsched() can fail with the following error:

EINVAL Invalid value in inheritsched.

POSIX.1 also documents an optional ENOTSUP error ("attempt was made to set the attribute to an unsupported value") for pthread_attr_setinher? itsched().

ATTRIBUTES

For an explanation of the terms used in this section, see at? tributes(7).

Interface	Attribute	Value
pthread_attr_setinheritsched(), pthread_attr_getinheritsched()	Thread safety	MT-Safe

CONFORMING TO

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

BUGS

As at glibc 2.8, if a thread attributes object is initialized using pthread_attr_init(3), then the scheduling policy of the attributes ob? ject is set to SCHED_OTHER and the scheduling priority is set to 0. However, if the inherit-scheduler attribute is then set to PTHREAD_EX? PLICIT_SCHED, then a thread created using the attribute object wrongly inherits its scheduling attributes from the creating thread. This bug does not occur if either the scheduling policy or scheduling priority attribute is explicitly set in the thread attributes object before calling pthread_create(3).

EXAMPLES

See pthread_setschedparam(3).

SEE ALSO

pthread_attr_init(3), pthread_attr_setschedparam(3), pthread_attr_setschedpolicy(3), pthread_attr_setscope(3), pthread_create(3), pthread_setschedparam(3), pthread_setschedprio(3), pthreads(7), sched(7)

COLOPHON

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