



Linux Ubuntu 26.04 Manual Pages on command 'pthread_attr_setinheritsched.3'

\$ man pthread_attr_setinheritsched.3

pthread_attr_setinheritsched(3) Library Functions Manual pthread_attr_setinheritsched(3)

NAME

pthread_attr_setinheritsched, pthread_attr_getinheritsched - set/get inherit-scheduler at?
tribute in thread attributes object

LIBRARY

POSIX threads library (libpthread, -lpthread)

SYNOPSIS

```
#include <pthread.h>

int pthread_attr_setinheritsched(pthread_attr_t *attr,
                                int inheritsched);

int pthread_attr_getinheritsched(const pthread_attr_t *restrict attr,
                                int *restrict inheritsched);
```

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 determines 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-scheduler attribute: sched? uling policy (pthread_attr_setschedpolicy(3)), scheduling priority (pthread_attr_setsched? param(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 attributes from the creating thread; the scheduling attributes in attr are ignored.

PTHREAD_EXPLICIT_SCHED

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

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

The `pthread_attr_getinheritsched()` returns the inherit-scheduler attribute 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_t` `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_setinheritsched()`.

ATTRIBUTES

For an explanation of the terms used in this section, see `attributes(7)`.

[illegible]

Interface	Attribute	Value
...	...	...

[illegible]

? pthread_attr_t setinheritsched(), pthread_attr_t getinheritsched() ? Thread safety ? MT-Safe ?

[illegible]

STANDARDS

POSIX.1-2008.

HISTORY

glibc 2.0. POSIX.1-2001.

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 object is set to `SCHED_OTHER` and the scheduling priority is set to 0. However, if the `inherit-scheduler` attribute is then set to `PTHREAD_EXPLICIT_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)`

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`pthread_attr_setinheritsched(3)`