



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

\$ man pthread_tryjoin_np.3

pthread_tryjoin_np(3) Library Functions Manual pthread_tryjoin_np(3)

NAME

pthread_tryjoin_np, pthread_timedjoin_np - try to join with a terminated thread

LIBRARY

POSIX threads library (libpthread, -lpthread)

SYNOPSIS

```
#define _GNU_SOURCE          /* See feature_test_macros(7) */

#include <pthread.h>

int pthread_tryjoin_np(pthread_t thread, void **retval);

int pthread_timedjoin_np(pthread_t thread, void **retval,
                        const struct timespec *abstime);
```

DESCRIPTION

These functions operate in the same way as pthread_join(3), except for the differences described on this page.

The pthread_tryjoin_np() function performs a nonblocking join with the thread thread, returning the exit status of the thread in *retval. If thread has not yet terminated, then instead of blocking, as is done by pthread_join(3), the call returns an error.

The pthread_timedjoin_np() function performs a join-with-timeout. If thread has not yet terminated, then the call blocks until a maximum time, specified in abstime, measured against the CLOCK_REALTIME clock. If the timeout expires before thread terminates, the call returns an error. The abstime argument is a timespec(3) structure, specifying an absolute time measured since the Epoch (see time(2)).

RETURN VALUE

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

ERRORS

These functions can fail with the same errors as `pthread_join(3)`. `pthread_tryjoin_np()` can in addition fail with the following error:

EBUSY thread had not yet terminated at the time of the call.

`pthread_timedjoin_np()` can in addition fail with the following errors:

EINVAL abstime value is invalid (`tv_sec` is less than 0 or `tv_nsec` is greater than 1e9).

ETIMEDOUT

The call timed out before thread terminated.

`pthread_timedjoin_np()` never returns the error **EINTR**.

ATTRIBUTES

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

Interface	Attribute	Value
<code>pthread_tryjoin_np()</code> , <code>pthread_timedjoin_np()</code>	Thread safety	MT-Safe

STANDARDS

GNU; hence the suffix `"_np"` (nonportable) in the names.

HISTORY

glibc 2.3.3.

BUGS

The `pthread_timedjoin_np()` function measures time by internally calculating a relative sleep interval that is then measured against the `CLOCK_MONOTONIC` clock instead of the `CLOCK_REALTIME` clock. Consequently, the timeout is unaffected by discontinuous changes to the `CLOCK_REALTIME` clock.

EXAMPLES

The following code waits to join for up to 5 seconds:

```
struct timespec ts;
int s;
...
if (clock_gettime(CLOCK_REALTIME, &ts) == -1) {
    /* Handle error */
}
```

```
}  
  
ts.tv_sec += 5;  
  
s = pthread_timedjoin_np(thread, NULL, &ts);  
  
if (s != 0) {  
    /* Handle error */  
  
}
```

SEE ALSO

clock_gettime(2), pthread_exit(3), pthread_join(3), timespec(3), pthreads(7)

Linux man-pages 6.17

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pthread_tryjoin_np(3)