



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

\$ man timespec_get.3

timespec_get(3) Library Functions Manual timespec_get(3)

NAME

timespec_get, timespec_getres - ISO C interface to clock and time functions

LIBRARY

Standard C library (libc, -lc)

SYNOPSIS

```
#include <time.h>
```

```
int timespec_get(struct timespec *res, int base);
```

```
int timespec_getres(struct timespec *tp, int base);
```

Feature Test Macro Requirements for glibc (see feature_test_macros(7)):

timespec_get(), TIME_UTC:

```
_ISOC11_SOURCE
```

timespec_getres(), TIME_MONOTONIC, TIME_ACTIVE, TIME_THREAD_ACTIVE:

```
_ISOC23_SOURCE
```

DESCRIPTION

The `timespec_get()` function stores the current time, based on the specified time base, in the `timespec(3type)` structure pointed to by `res`.

The `timespec_getres()` function stores the resolution of times retrieved by `timespec_get()` with the specified time base in the `timespec(3type)` structure pointed to by `tp`, if `tp` is non-NULL. For a particular time base, the resolution is constant for the lifetime of the calling process.

The time base `base` is one of the following:

TIME_UTC

A system-wide time base that measures real (i.e., wall-clock) time. The time and resolution in this time base are the same as those retrieved by `clock_gettime(CLOCK_REALTIME, res)` and `clock_getres(CLOCK_REALTIME, tp)`, respectively.

TIME_MONOTONIC

A time base that measures time since an unspecified point in the past, where the time within a process will not decrease even if the system's real time clock is set or adjusted. The time and resolution in this time base are the same as those retrieved by `clock_gettime(CLOCK_MONOTONIC, res)` and `clock_getres(CLOCK_MONOTONIC, tp)`, respectively.

TIME_ACTIVE

A process-specific time base that measures CPU time consumed by the calling process. The time and resolution in this time base are the same as those retrieved by `clock_gettime(CLOCK_PROCESS_CPUTIME_ID, res)` and `clock_getres(CLOCK_PROCESS_CPUTIME_ID, tp)`, respectively.

TIME_THREAD_ACTIVE

A thread-specific time base that measures CPU time consumed by the calling thread. The time and resolution in this time base are the same as those retrieved by `clock_gettime(CLOCK_THREAD_CPUTIME_ID, res)` and `clock_getres(CLOCK_THREAD_CPUTIME_ID, tp)`, respectively.

RETURN VALUE

`timespec_get()` returns the nonzero base if it is a supported time base and the current time was successfully retrieved, or 0 otherwise.
`timespec_getres()` returns the nonzero base if it is a supported time base, or 0 otherwise.

ATTRIBUTES

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

Interface	Attribute	Value
<code>timespec_get()</code> , <code>timespec_getres()</code>	Thread safety	MT-Safe

STANDARDS

`timespec_get()`

TIME_UTC

C23 (though ISO C doesn't specify the time epoch), POSIX.1-2024.

timespec_getres()

TIME_MONOTONIC

TIME_ACTIVE

TIME_THREAD_ACTIVE

C23.

HISTORY

timespec_get()

TIME_UTC

C11, POSIX.1-2024, glibc 2.16, musl 1.1.10.

timespec_getres()

C23, glibc 2.34.

TIME_MONOTONIC

TIME_ACTIVE

TIME_THREAD_ACTIVE

C23, glibc 2.43.

SEE ALSO

clock_gettime(2), clock_getres(2)

Linux man-pages 6.17

2026-02-11

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