

**NAME**

pthread\_kill – send a signal to a thread

**SYNOPSIS**

```
#include <signal.h>
```

```
int pthread_kill(pthread_t thread, int sig);
```

Compile and link with `-pthread`.

Feature Test Macro Requirements for glibc (see **feature\_test\_macros(7)**):

```
pthread_kill():
```

```
_POSIX_C_SOURCE >= 199506L || _XOPEN_SOURCE >= 500
```

**DESCRIPTION**

The **pthread\_kill()** function sends the signal *sig* to *thread*, a thread in the same process as the caller. The signal is asynchronously directed to *thread*.

If *sig* is 0, then no signal is sent, but error checking is still performed.

**RETURN VALUE**

On success, **pthread\_kill()** returns 0; on error, it returns an error number, and no signal is sent.

**ERRORS****EINVAL**

An invalid signal was specified.

**ATTRIBUTES**

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

Interface	Attribute	Value
<b>pthread_kill()</b>	Thread safety	MT-Safe

**CONFORMING TO**

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

**NOTES**

Signal dispositions are process-wide: if a signal handler is installed, the handler will be invoked in the thread *thread*, but if the disposition of the signal is "stop", "continue", or "terminate", this action will affect the whole process.

The glibc implementation of **pthread\_kill()** gives an error (**EINVAL**) on attempts to send either of the real-time signals used internally by the NPTL threading implementation. See **nptl(7)** for details.

POSIX.1-2008 recommends that if an implementation detects the use of a thread ID after the end of its lifetime, **pthread\_kill()** should return the error **ESRCH**. The glibc implementation returns this error in the cases where an invalid thread ID can be detected. But note also that POSIX says that an attempt to use a thread ID whose lifetime has ended produces undefined behavior, and an attempt to use an invalid thread ID in a call to **pthread\_kill()** can, for example, cause a segmentation fault.

**SEE ALSO**

**kill(2)**, **sigaction(2)**, **sigpending(2)**, **pthread\_self(3)**, **pthread\_sigmask(3)**, **raise(3)**, **pthreads(7)**, **signal(7)**

**COLOPHON**

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