



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

\$ man flockfile.3

FLOCKFILE(3) Linux Programmer's Manual FLOCKFILE(3)

NAME

flockfile, ftrylockfile, funlockfile - lock FILE for stdio

SYNOPSIS

```
#include <stdio.h>

void flockfile(FILE *filehandle);

int ftrylockfile(FILE *filehandle);

void funlockfile(FILE *filehandle);
```

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

All functions shown above:

```
/* Since glibc 2.24: */ _POSIX_C_SOURCE >= 199309L

|| /* Glibc versions <= 2.23: */ _POSIX_C_SOURCE

|| /* Glibc versions <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE
```

DESCRIPTION

The stdio functions are thread-safe. This is achieved by assigning to each FILE object a lockcount and (if the lockcount is nonzero) an owning thread. For each library call, these functions wait until the FILE object is no longer locked by a different thread, then lock it, do the requested I/O, and unlock the object again.

(Note: this locking has nothing to do with the file locking done by functions like flock(2) and lockf(3).)

All this is invisible to the C-programmer, but there may be two reasons to wish for more detailed control. On the one hand, maybe a series of

I/O actions by one thread belongs together, and should not be interrupted by the I/O of some other thread. On the other hand, maybe the locking overhead should be avoided for greater efficiency.

To this end, a thread can explicitly lock the FILE object, then do its series of I/O actions, then unlock. This prevents other threads from coming in between. If the reason for doing this was to achieve greater efficiency, one does the I/O with the nonlocking versions of the stdio functions: with `getc_unlocked(3)` and `putc_unlocked(3)` instead of `getc(3)` and `putc(3)`.

The `flockfile()` function waits for `*filehandle` to be no longer locked by a different thread, then makes the current thread owner of `*filehandle`, and increments the lockcount.

The `funlockfile()` function decrements the lock count.

The `ftrylockfile()` function is a nonblocking version of `flockfile()`.

It does nothing in case some other thread owns `*filehandle`, and it obtains ownership and increments the lockcount otherwise.

RETURN VALUE

The `ftrylockfile()` function returns zero for success (the lock was obtained), and nonzero for failure.

ERRORS

None.

ATTRIBUTES

For an explanation of the terms used in this section, see [attributes\(7\)](#).

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?Interface ? Attribute ? Value ?

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?`flockfile()`, `ftrylockfile()`, ? Thread safety ? MT-Safe ?

?`funlockfile()` ? ? ?

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CONFORMING TO

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

These functions are available when `_POSIX_THREAD_SAFE_FUNCTIONS` is defined.

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SEE ALSO

`unlocked_stdio(3)`

COLOPHON

This page is part of release 5.10 of the Linux man-pages project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at <https://www.kernel.org/doc/man-pages/>.

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