



## **Rocky Enterprise Linux 9.2 Manual Pages on command 'pthread\_cleanup\_push\_defer\_np.3'**

**C:\>man pthread\_cleanup\_push\_defer\_np.3**

PTHREAD\_CLEANUP\_PUSH\_DEFER\_NP(3) Linux Programmer's Manual PTHREAD\_CLEANUP\_PUSH\_DEFER\_NP(3)

### NAME

pthread\_cleanup\_push\_defer\_np, pthread\_cleanup\_pop\_restore\_np - push and pop thread cancellation clean-up handlers while saving cancelability type

### SYNOPSIS

```
#include <pthread.h>

void pthread_cleanup_push_defer_np(void (*routine)(void *),
                                   void *arg);

void pthread_cleanup_pop_restore_np(int execute);

Compile and link with -pthread.
```

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

```
pthread_cleanup_push_defer_np(), pthread_cleanup_pop_defer_np():
    _GNU_SOURCE
```

### DESCRIPTION

These functions are the same as pthread\_cleanup\_push(3) and pthread\_cleanup\_pop(3), except for the differences noted on this page.

Like pthread\_cleanup\_push(3), pthread\_cleanup\_push\_defer\_np() pushes routine onto the thread's stack of cancellation clean-up handlers. In addition, it also saves the thread's current cancelability type, and sets the cancelability type to "deferred" (see pthread\_setcanceltype(3)); this ensures that cancellation clean-up will occur even if the thread's cancelability type was "asynchronous" before the call.

Like `pthread_cleanup_pop(3)`, `pthread_cleanup_pop_restore_np()` pops the top-most clean-up handler from the thread's stack of cancellation clean-up handlers. In addition, it restores the thread's cancelability type to its value at the time of the matching `pthread_cleanup_push_defer_np()`.

The caller must ensure that calls to these functions are paired within the same function, and at the same lexical nesting level. Other restrictions apply, as described in `pthread_cleanup_push(3)`.

This sequence of calls:

```
pthread_cleanup_push_defer_np(routine, arg);
pthread_cleanup_pop_restore_np(execute);
```

is equivalent to (but shorter and more efficient than):

```
int oldtype;
pthread_cleanup_push(routine, arg);
pthread_setcanceltype(PTHREAD_CANCEL_DEFERRED, &oldtype);
...
pthread_setcanceltype(oldtype, NULL);
pthread_cleanup_pop(execute);
```

## CONFORMING TO

These functions are nonstandard GNU extensions; hence the suffix "\_np" (non-portable) in the names.

## SEE ALSO

`pthread_cancel(3)`, `pthread_cleanup_push(3)`, `pthread_setcancelstate(3)`,  
`pthread_testcancel(3)`, `threads(7)`

## COLOPHON

This page is part of release 5.05 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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