Rocky Enterprise Linux 9.2 Manual Pages on command 'pthread_attr_getstack.3'

C:\>man pthread_attr_getstack.3

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

NAME

pthread_attr_setstack, pthread_attr_getstack - set/get stack attributes in thread attributes object

SYNOPSIS

```
#include <pthread.h>
int pthread_attr_setstack(pthread_attr_t *attr,
                          void *stackaddr, size_t stacksize);
int pthread_attr_getstack(const pthread_attr_t *attr,
                          void **stackaddr, size_t *stacksize);
```

Compile and link with -pthread.

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

pthread_attr_getstack(), pthread_attr_setstack():

_POSIX_C_SOURCE >= 200112L

DESCRIPTION

The pthread_attr_setstack() function sets the stack address and stack size attributes of the thread attributes object referred to by attr to the values specified in stackaddr and stacksize, respectively. These attributes specify the location and size of the stack that should be used by a thread that is created using the thread attributes object attr.

stackaddr should point to the lowest addressable byte of a buffer of stacksize bytes that was allocated by the caller. The pages of the allocated buffer should

be both readable and writable.

The pthread_attr_getstack() function returns the stack address and stack size at? tributes of the thread attributes object referred to by attr in the buffers pointed to by stackaddr and stacksize, respectively.

RETURN VALUE

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

ERRORS

pthread_attr_setstack() can fail with the following error:

EINVAL stacksize is less than PTHREAD_STACK_MIN (16384) bytes. On some systems, this error may also occur if stackaddr or stackaddr + stacksize is not suit? ably aligned.

POSIX.1 also documents an EACCES error if the stack area described by stackaddr and stacksize is not both readable and writable by the caller.

VERSIONS

These functions are provided by glibc since version 2.2.

ATTRIBUTES

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

Interface	Attribute	Value
pthread_attr_setstack(), pthread_attr_getstack()	Thread safety	MT-Safe

CONFORMING TO

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

NOTES

These functions are provided for applications that must ensure that a thread's stack is placed in a particular location. For most applications, this is not nec? essary, and the use of these functions should be avoided. (Use pthread_attr_set? stacksize(3) if an application simply requires a stack size other than the de? fault.)

When an application employs pthread_attr_setstack(), it takes over the responsibil? ity of allocating the stack. Any guard size value that was set using

pthread_attr_setguardsize(3) is ignored. If deemed necessary, it is the applica? tion's responsibility to allocate a guard area (one or more pages protected against reading and writing) to handle the possibility of stack overflow.

The address specified in stackaddr should be suitably aligned: for full portabil? ity, align it on a page boundary (sysconf(_SC_PAGESIZE)). posix_memalign(3) may be useful for allocation. Probably, stacksize should also be a multiple of the system page size.

If attr is used to create multiple threads, then the caller must change the stack address attribute between calls to pthread_create(3); otherwise, the threads will attempt to use the same memory area for their stacks, and chaos will ensue.

EXAMPLE

See pthread_attr_init(3).

SEE ALSO

mmap(2), mprotect(2), posix_memalign(3), pthread_attr_init(3), pthread_attr_setguardsize(3), pthread_attr_setstackaddr(3), pthread_attr_setstacksize(3), pthread_create(3), pthreads(7)

COLOPHON

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