



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

\$ man pthread_getattr_default_np.3

PTHREAD_GETATTR_DEFAULT_NP(Linux Programmer's ManPTHREAD_GETATTR_DEFAULT_NP(3)

NAME

pthread_getattr_default_np, pthread_setattr_default_np, - get or set
default thread-creation attributes

SYNOPSIS

```
#define _GNU_SOURCE          /* See feature_test_macros(7) */  
  
#include <pthread.h>  
  
int pthread_getattr_default_np(pthread_attr_t *attr);  
  
int pthread_setattr_default_np(pthread_attr_t *attr);  
  
Compile and link with -pthread.
```

DESCRIPTION

The pthread_setattr_default_np() function sets the default attributes used for creation of a new thread?that is, the attributes that are used when pthread_create(3) is called with a second argument that is NULL.

The default attributes are set using the attributes supplied in *attr, a previously initialized thread attributes object. Note the following details about the supplied attributes object:

- * The attribute settings in the object must be valid.
- * The stack address attribute must not be set in the object.
- * Setting the stack size attribute to zero means leave the default stack size unchanged.

The pthread_getattr_default_np() function initializes the thread attributes object referred to by attr so that it contains the default attributes.

tributes used for thread creation.

ERRORS

EINVAL (pthread_setattr_default_np()) One of the attribute settings in attr is invalid, or the stack address attribute is set in attr.

ENOMEM (pthread_setattr_default_np()) Insufficient memory.

VERSIONS

These functions are available in glibc since version 2.18.

ATTRIBUTES

For an explanation of the terms used in this section, see at?

tributes(7).

??

?Interface ? Attribute ? Value ?

??

?pthread_getattr_default_np(), ? Thread safety ? MT-Safe ?

?pthread_setattr_default_np() ? ? ?

??

CONFORMING TO

These functions are nonstandard GNU extensions; hence the suffix "_np" (nonportable) in their names.

EXAMPLES

The program below uses pthread_getattr_default_np() to fetch the default thread-creation attributes and then displays various settings from the returned thread attributes object. When running the program, we see the following output:

```
$ ./a.out
```

```
Stack size:      8388608
```

```
Guard size:      4096
```

```
Scheduling policy:  SCHED_OTHER
```

```
Scheduling priority: 0
```

```
Detach state:      JOINABLE
```

```
Inherit scheduler:  INHERIT
```

Program source

```
#define _GNU_SOURCE
```

```

#include <pthread.h>

#include <stdio.h>

#include <stdlib.h>

#include <errno.h>

#define errExitEN(en, msg) \
    do { errno = en; perror(msg); \
        exit(EXIT_FAILURE); } while (0)

static void
display_thread_attr(pthread_attr_t *attr)
{
    int s;
    size_t stacksize;
    size_t guardsize;
    int policy;
    struct sched_param schedparam;
    int detachstate;
    int inheritsched;

    s = pthread_attr_getstacksize(attr, &stacksize);
    if (s != 0)
        errExitEN(s, "pthread_attr_getstacksize");
    printf("Stack size:      %zd\n", stacksize);
    s = pthread_attr_getguardsize(attr, &guardsize);
    if (s != 0)
        errExitEN(s, "pthread_attr_getguardsize");
    printf("Guard size:        %zd\n", guardsize);
    s = pthread_attr_getschedpolicy(attr, &policy);
    if (s != 0)
        errExitEN(s, "pthread_attr_getschedpolicy");
    printf("Scheduling policy:  %s\n",
        (policy == SCHED_FIFO) ? "SCHED_FIFO" :
        (policy == SCHED_RR) ? "SCHED_RR" :
        (policy == SCHED_OTHER) ? "SCHED_OTHER" : "[unknown]");
    s = pthread_attr_getschedparam(attr, &schedparam);

```

```

if (s != 0)
    errExitEN(s, "pthread_attr_getschedparam");

printf("Scheduling priority: %d\n", schedparam.sched_priority);

s = pthread_attr_getdetachstate(attr, &detachstate);

if (s != 0)
    errExitEN(s, "pthread_attr_getdetachstate");

printf("Detach state:      %s\n",
       (detachstate == PTHREAD_CREATE_DETACHED) ? "DETACHED" :
       (detachstate == PTHREAD_CREATE_JOINABLE) ? "JOINABLE" :
       "???");

s = pthread_attr_getinheritsched(attr, &inheritsched);

if (s != 0)
    errExitEN(s, "pthread_attr_getinheritsched");

printf("Inherit scheduler:  %s\n",
       (inheritsched == PTHREAD_INHERIT_SCHED) ? "INHERIT" :
       (inheritsched == PTHREAD_EXPLICIT_SCHED) ? "EXPLICIT" :
       "???");

}

int
main(int argc, char *argv[])
{
    int s;

    pthread_attr_t attr;

    s = pthread_getattr_default_np(&attr);

    if (s != 0)
        errExitEN(s, "pthread_getattr_default_np");

    display_pthread_attr(&attr);

    exit(EXIT_SUCCESS);
}

```

SEE ALSO

[pthread_attr_getaffinity_np\(3\)](#), [pthread_attr_getdetachstate\(3\)](#),
[pthread_attr_getguardsize\(3\)](#), [pthread_attr_getinheritsched\(3\)](#),
[pthread_attr_getschedparam\(3\)](#), [pthread_attr_getschedpolicy\(3\)](#),

pthread_attr_getscope(3), pthread_attr_getstack(3),
pthread_attr_getstackaddr(3), pthread_attr_getstacksize(3),
pthread_attr_init(3), pthread_create(3), pthreads(7)

COLOPHON

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<https://www.kernel.org/doc/man-pages/>.

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