

Standard C Library Functions

getpriority(3C)

NAME

getpriority, setpriority - get or set process scheduling priority

SYNOPSIS

```
#include <sys/resource.h>

int getpriority(int which, id_t who);

int setpriority(int which, id_t who, int priority);
```

DESCRIPTION

The getpriority() function obtains the current scheduling priority of a process, process group, or user. The setpriority() function sets the scheduling priority of a process, process group, or user.

Target processes are specified by the values of the which and who arguments. The which argument may be one of the following values: PRIO_PROCESS, PRIO_PGRP, PRIO_USER, PRIO_GROUP, PRIO_SESSION, PRIO_LWP, PRIO_LWP, or PRIO_PROJECT, indicating that the who argument is to be interpreted as a process ID, a process group ID, a user ID, a group ID, a session ID, an lwp ID, a task ID, or a project ID, respectively. A 0 value for the who argument specifies the current process, process group, or user. A 0 value for the who argument is treated as valid group ID, session ID, lwp ID, task ID, or project ID. A P_MYID value for the who argument can be used to specify the current group, session, lwp, task, or project, respectively.

If more than one process is specified, getpriority() returns the highest priority (lowest numerical value) pertaining to any of the specified processes, and setpriority() sets the priorities of all of the specified processes to the specified value.

The default priority is 0; negative priorities cause more favorable scheduling. While the range of valid priority values is [-20, 20], implementations may enforce more restrictive limits. If the value specified to setpriority() is less than the system's lowest supported priority value, the system's lowest supported value is used. If it is greater than the system's highest supported value, the system's highest supported value is used.

Only a process with appropriate privileges can raise its priority (that is, assign a lower numerical priority value).

RETURN VALUES

Upon successful completion, getpriority() returns an integer in the range from -20 to 20. Otherwise, -1 is returned and errno is set to indicate the error.

Upon successful completion, setpriority() returns 0. Otherwise, -1 is returned and errno is set to indicate the error.

ERRORS

The getpriority() and setpriority() functions will fail if:

ESRCH No process could be located using the which and who argument values specified.

EINVAL

The value of the which argument was not recognized, or the value of the who argument is not a valid process ID, process group ID, user ID, group ID, session ID, lwp ID, task ID, or project ID.

In addition, setpriority() may fail if:

EPERM A process was located, but neither the real nor effective user ID of the executing process is the privileged user or match the effective user ID of the process whose priority is being changed.

EACCESS

A request was made to change the priority to a lower numeric value (that is, to a higher priority) and the current process does not have appropriate privileges.

USAGE

The effect of changing the scheduling priority can vary depending on the process-scheduling algorithm in effect.

Because `getpriority()` can return -1 on successful completion, it is necessary to set `errno` to 0 prior to a call to `getpriority()`. If `getpriority()` returns -1, then `errno` can be checked to see if an error occurred or if the value is a legitimate priority.

ATTRIBUTES

See `attributes(5)` for descriptions of the following attributes:

ATTRIBUTE TYPE	ATTRIBUTE VALUE
Interface Stability	Standard

SEE ALSO

`nice(1)`, `renice(1)`, `fork(2)`, `attributes(5)`

SunOS 5.9

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