NAME

waitpid − wait for child process to change state

SYNOPSIS

#include <sys/types.h>
#include <sys/wait.h>

pid_t waitpid(pid_t *pid***, int ****stat_loc***, int** *options***);**

MT-LEVEL

Async-Signal-Safe

DESCRIPTION

waitpid( ) suspends the calling process until one of its children changes state; if a child process changed state prior to the call to **waitpid( )**, return is immediate. *pid* specifies a set of child processes for which status is requested.

> If *pid* is equal to **(pid_t)−1**, status is requested for any child process.
>
> If *pid* is greater than **(pid_t)0**, it specifies the process ID of the child process for which status is requested.
>
> If *pid* is equal to **(pid_t)0** status is requested for any child process whose process group ID is equal to that of the calling process.
>
> If *pid* is less than **(pid_t)−1**, status is requested for any child process whose process group ID is equal to the absolute value of *pid*.

If **waitpid( )** returns because the status of a child process is available, then that status may be evaluated with the macros defined by **wstat**(5)**.** If the calling process had specified a non-zero value of *stat_loc*, the status of the child process will be stored in the location pointed to by *stat_loc*.

The *options* argument is constructed from the bitwise inclusive OR of zero or more of the following flags, defined in the header **<sys/wait.h>**:

WCONTINUED The status of any continued child process specified by *pid*, whose status has not been reported since it continued, is also reported to the calling process.

WNOHANG **waitpid( )** will not suspend execution of the calling process if status is not immediately available for one of the child processes specified by *pid*.

WNOWAIT Keep the process whose status is returned in *stat_loc* in a waitable state. The process may be waited for again with identical results.

WUNTRACED The status of any child processes specified by *pid* that are stopped, and whose status has not yet been reported since they stopped, is also reported to the calling process.

waitpid( ) with *options* equal to **0** and *pid* equal to **(pid_t)−1** is identical to a call to **wait**(2).

RETURN VALUES

If **waitpid( )** returns because the status of a child process is available, this function returns a value equal to the process ID of the child process for which status is reported. If **waitpid( )** returns due to the delivery of a signal to the calling process, a value of −1 is returned and **errno** is set to **EINTR**. If this function was invoked with **WNOHANG** set in *options*, it has at least one child process specified by *pid* for which status is not available, and status is not available for any process specified by *pid*, a value of 0 is returned. Otherwise, a value of −1 is returned, and **errno** is set to indicate the error.

ERRORS

waitpid( ) will fail if one or more of the following is true:

ECHILD The process or process group specified by *pid* does not exist or is not a child of the calling process or can never be in the states specified by *options*.

EINTR **waitpid( )** was interrupted due to the receipt of a signal sent by the calling process.

EINVAL An invalid value was specified for *options*.

SEE ALSO

intro(2), **exec**(2), **exit**(2), **fork**(2), **pause**(2), **ptrace**(2), **sigaction**(2), **signal**(3C), **siginfo**(5), **wstat**(5)