

NAME

`inotify_add_watch` - add a watch to an initialized inotify instance

SYNOPSIS

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

```
int inotify_add_watch(int fd, const char *pathname, uint32_t mask);
```

DESCRIPTION

`inotify_add_watch()` adds a new watch, or modifies an existing watch, for the file whose location is specified in *pathname*; the caller must have read permission for this file. The *fd* argument is a file descriptor referring to the inotify instance whose watch list is to be modified. The events to be monitored for *pathname* are specified in the *mask* bit-mask argument. See [inotify\(7\)](#) for a description of the bits that can be set in *mask*.

A successful call to `inotify_add_watch()` returns a unique watch descriptor for this inotify instance, for the filesystem object that corresponds to *pathname*. If the filesystem object was not previously being watched by this inotify instance, then the watch descriptor is newly allocated. If the filesystem object was already being watched (perhaps via a different link to the same object), then the descriptor for the existing watch is returned.

The watch descriptor is returned by later [read\(2\)](#)s from the inotify file descriptor. These reads fetch *inotify_event* structures (see [inotify\(7\)](#)) indicating filesystem events; the watch descriptor inside this structure identifies the object for which the event occurred.

RETURN VALUE

On success, `inotify_add_watch()` returns a nonnegative watch descriptor. On error, -1 is returned and *errno* is set appropriately.

ERRORS**EACCES**

Read access to the given file is not permitted.

EBADF

The given file descriptor is not valid.

EFAULT

pathname points outside of the process's accessible address space.

EINVAL

The given event mask contains no valid events; or *fd* is not an inotify file descriptor.

ENAMETOOLONG

pathname is too long.

ENOENT

A directory component in *pathname* does not exist or is a dangling symbolic link.

ENOMEM

Insufficient kernel memory was available.

ENOSPC

The user limit on the total number of inotify watches was reached or the kernel failed to allocate a needed resource.

VERSIONS

Inotify was merged into the 2.6.13 Linux kernel.

CONFORMING TO

This system call is Linux-specific.

SEE ALSO

[inotify_init\(2\)](#), [inotify_rm_watch\(2\)](#), [inotify\(7\)](#)

COLOPHON

This page is part of release 3.74 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 <http://www.kernel.org/doc/man-pages/>.