

**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 (inode) 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 *mask* contains both **IN\_MASK\_ADD** and **IN\_MASK\_CREATE**; 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.

**ENOTDIR**

*mask* contains **IN\_ONLYDIR** and *pathname* is not a directory.

**EEXIST**

*mask* contains **IN\_MASK\_CREATE** and *pathname* refers to a file already being watched by the same *fd*.

**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**

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