

aio.h - Man Page

asynchronous input and output

Prolog

This manual page is part of the POSIX Programmer's Manual. The Linux implementation of this interface may differ (consult the corresponding Linux manual page for details of Linux behavior), or the interface may not be implemented on Linux.

Synopsis

```
#include <aio.h>
```

Description

The `<aio.h>` header shall define the **aiocb** structure, which shall include at least the following members:

int	aio_fildes	File descriptor.
off_t	aio_offset	File offset.
volatile void	*aio_buf	Location of buffer.
size_t	aio_nbytes	Length of transfer.
int	aio_reqprio	Request priority offset.
struct sigevent	aio_sigevent	Signal number and value.
int	aio_lio_opcode	Operation to be performed.

The `<aio.h>` header shall define the **off_t**, **pthread_attr_t**, **size_t**, and **ssize_t** types as described in `<sys/types.h>`.

The `<aio.h>` header shall define the **struct timespec** structure as described in `<time.h>`.

The `<aio.h>` header shall define the **sigevent** structure and **signal** union as described in `<signal.h>`.

The `<aio.h>` header shall define the following symbolic constants:

AIO_ALLDONE

A return value indicating that none of the requested operations could be canceled since they are already complete.

AIO_CANCELED

A return value indicating that all requested operations have been canceled.

AIO_NOTCANCELED

A return value indicating that some of the requested operations could not be canceled since they are in progress.

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requested.

LIO_NOWAIT

A *lio_listio()* synchronization operation indicating that the calling thread is to continue execution while the *lio_listio()* operation is being performed, and no notification is given when the operation is complete.

LIO_READ

A *lio_listio()* element operation option requesting a read.

LIO_WAIT

A *lio_listio()* synchronization operation indicating that the calling thread is to suspend until the *lio_listio()* operation is complete.

LIO_WRITE

A *lio_listio()* element operation option requesting a write.

The following shall be declared as functions and may also be defined as macros. Function prototypes shall be provided.

```
int      aio_cancel(int, struct aiocb *);
int      aio_error(const struct aiocb *);
int      aio_fsync(int, struct aiocb *);
int      aio_read(struct aiocb *);
ssize_t  aio_return(struct aiocb *);
int      aio_suspend(const struct aiocb *const [], int,
                    const struct timespec *);
int      aio_write(struct aiocb *);
int      lio_listio(int, struct aiocb *restrict const [restrict], int,
                    struct sigevent *restrict);
```

Inclusion of the *<aio.h>* header may make visible symbols defined in the headers *<fcntl.h>*, *<signal.h>*, and *<time.h>*.

The following sections are informative.

Application Usage

None.

Rationale

None.

Future Directions

None.

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`<fcntl.h>`, `<signal.h>`, `<sys_types.h>`, `<time.h>`

The System Interfaces volume of POSIX.1-2017, `aio_cancel()`, `aio_error()`, `aio_fsync()`, `aio_read()`, `aio_return()`, `aio_suspend()`, `aio_write()`, `fsync()`, `lio_listio()`, `lseek()`, `read()`, `write()`

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Any typographical or formatting errors that appear in this page are most likely to have been introduced during the conversion of the source files to man page format. To report such errors, see https://www.kernel.org/doc/man-pages/reporting_bugs.html .

Referenced By

`aio_cancel(3p)`, `aio_error(3p)`, `aio_fsync(3p)`, `aio_read(3p)`, `aio_return(3p)`, `aio_suspend(3p)`, `aio_write(3p)`, `lio_listio(3p)`.

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