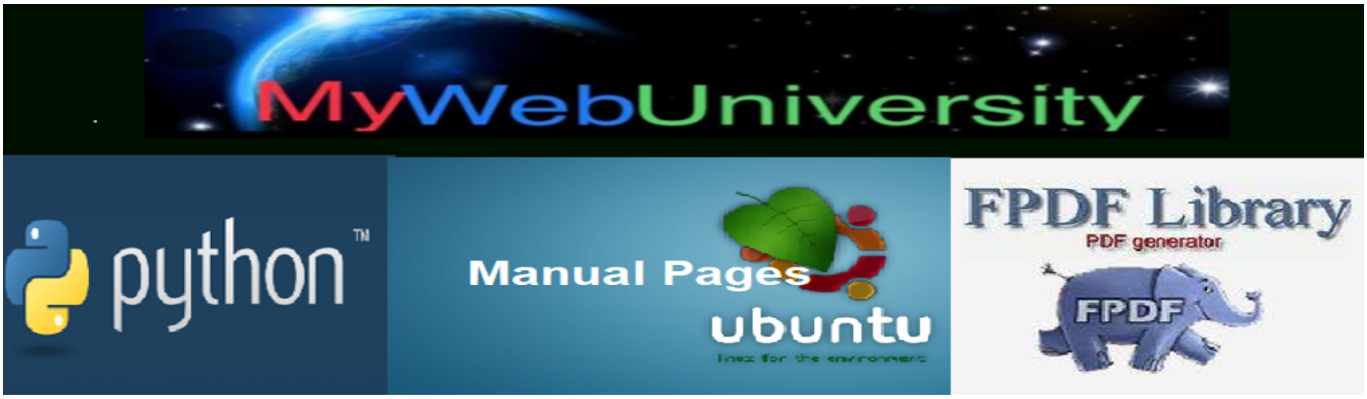

Rocky Enterprise Linux 9.2 Manual Pages on command 'aio_read.3'

$ man aio_read.3

AIO_READ(3) Linux Programmer's Manual AIO_READ(3)

NAME

aio_read - asynchronous read

SYNOPSIS

#include <aio.h>

int aio_read(struct aiocb *aiocbp);

Link with -lrt.

DESCRIPTION

The aio_read() function queues the I/O request described by the buffer pointed to by aiocbp. This function is the asynchronous analog of read(2). The arguments of the call

read(fd, buf, count)

correspond (in order) to the fields aio_fildes, aio_buf, and aio_nbytes of the structure pointed to by aiocbp. (See aio(7) for a description of the aiocb structure.)

The data is read starting at the absolute position aiocbp->aio_offset, regardless of the file offset. After the call, the value of the file offset is unspecified.

The "asynchronous" means that this call returns as soon as the request has been enqueued; the read may or may not have completed when the call returns. One tests for completion using aio_error(3). The return status of a completed I/O operation can be obtained by aio_return(3). Asynchronous notification of I/O completion can be obtained by setting aiocbp->aio_sigevent appropriately; see sigevent(7) for details.

If _POSIX_PRIORITIZED_IO is defined, and this file supports it, then the asynchronous operation is submitted at a priority equal to that of the calling process minus aiocbp->aio_reqprio.

The field aiocbp->aio_lio_opcode is ignored.

No data is read from a regular file beyond its maximum offset.

RETURN VALUE

On success, 0 is returned. On error, the request is not enqueued, -1 is returned, and er?rno is set appropriately. If an error is detected only later, it will be reported via aio_return(3) (returns status -1) and aio_error(3) (error status?whatever one would have gotten in errno, such as EBADF).

ERRORS

EAGAIN Out of resources.

EBADF aio_fildes is not a valid file descriptor open for reading.

EINVAL One or more of aio_offset, aio_reqprio, or aio_nbytes are invalid.

ENOSYS aio_read() is not implemented.

EOVERFLOW

The file is a regular file, we start reading before end-of-file and want at least one byte, but the starting position is past the maximum offset for this file.

VERSIONS

The aio_read() function is available since glibc 2.1.

ATTRIBUTES

For an explanation of the terms used in this section, see attributes(7).

Interface	Attribute	Value
aio_read()	Thread safety	MT-Safe

CONFORMING TO

POSIX.1-2001, POSIX.1-2008.

NOTES

It is a good idea to zero out the control block before use. The control block must not be changed while the read operation is in progress. The buffer area being read into must not be accessed during the operation or undefined results may occur. The memory areas in?volved must remain valid.

Simultaneous I/O operations specifying the same aiocb structure produce undefined results.

EXAMPLES

See aio(7).

SEE ALSO

aio_cancel(3), aio_error(3), aio_fsync(3), aio_return(3), aio_suspend(3), aio_write(3), lio_listio(3), aio(7)

COLOPHON

This page is part of release 5.10 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 https://www.kernel.org/doc/man-pages/.