Rocky Enterprise Linux 9.2 Manual Pages on command 'mq_timedreceive.2'

$ man mq_timedreceive.2

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

NAME

mq_receive, mq_timedreceive - receive a message from a message queue

SYNOPSIS

#include <mqueue.h>

ssize_t mq_receive(mqd_t mqdes, char *msg_ptr,

size_t msg_len, unsigned int *msg_prio);

#include <time.h>

#include <mqueue.h>

ssize_t mq_timedreceive(mqd_t mqdes, char *msg_ptr,

size_t msg_len, unsigned int *msg_prio,

const struct timespec *abs_timeout);

Link with -lrt.

Feature Test Macro Requirements for glibc (see feature_test_macros(7)):

mq_timedreceive():

_POSIX_C_SOURCE >= 200112L

DESCRIPTION

mq_receive() removes the oldest message with the highest priority from

the message queue referred to by the message queue descriptor mqdes, and places it in the buffer pointed to by msg_ptr. The msg_len argu? ment specifies the size of the buffer pointed to by msg_ptr; this must be greater than or equal to the mq_msgsize attribute of the queue (see mq_getattr(3)). If msg_prio is not NULL, then the buffer to which it points is used to return the priority associated with the received mes? sage.

If the queue is empty, then, by default, mq_receive() blocks until a message becomes available, or the call is interrupted by a signal han? dler. If the O_NONBLOCK flag is enabled for the message queue descrip? tion, then the call instead fails immediately with the error EAGAIN.

mq_timedreceive() behaves just like mq_receive(), except that if the queue is empty and the O_NONBLOCK flag is not enabled for the message queue description, then abs_timeout points to a structure which speci? fies how long the call will block. This value is an absolute timeout in seconds and nanoseconds since the Epoch, 1970-01-01 00:00:00 +0000 (UTC), specified in the following structure:

```
struct timespec {
    time_t tv_sec;        /* seconds */
    long   tv_nsec;       /* nanoseconds */
};
```

If no message is available, and the timeout has already expired by the time of the call, mq_timedreceive() returns immediately.

RETURN VALUE

On success, mq_receive() and mq_timedreceive() return the number of bytes in the received message; on error, -1 is returned, with errno set to indicate the error.

ERRORS

EAGAIN The queue was empty, and the O_NONBLOCK flag was set for the message queue description referred to by mqdes.

EBADF The descriptor specified in mqdes was invalid or not opened for reading.

EINTR The call was interrupted by a signal handler; see signal(7).

EINVAL The call would have blocked, and abs_timeout was invalid, either because tv_sec was less than zero, or because tv_nsec was less than zero or greater than 1000 million.

EMSGSIZE

msg_len was less than the mq_msgsize attribute of the message queue.

ETIMEDOUT

The call timed out before a message could be transferred.

ATTRIBUTES

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

Interface	Attribute	Value
mq_receive(), mq_timedreceive()	Thread safety	MT-Safe

CONFORMING TO

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

NOTES

On Linux, mq_timedreceive() is a system call, and mq_receive() is a li? brary function layered on top of that system call.

SEE ALSO

mq_close(3), mq_getattr(3), mq_notify(3), mq_open(3), mq_send(3), mq_unlink(3), mq_overview(7), time(7)

COLOPHON

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