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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'msgctl.3p' command

$ man msgctl.3p

MSGCTL(3P) POSIX Programmer's Manual MSGCTL(3P)

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.

NAME

msgctl ? XSI message control operations

SYNOPSIS

```
#include <sys/msg.h>
int msgctl(int msqid, int cmd, struct msqid_ds *buf);
```

DESCRIPTION

The msgctl() function operates on XSI message queues (see the Base Def? initions volume of POSIX.1?2017, Section 3.226, Message Queue). It is unspecified whether this function interoperates with the realtime in? terprocess communication facilities defined in Section 2.8, Realtime.

The msgctl() function shall provide message control operations as spec? ified by cmd. The following values for cmd, and the message control operations they specify, are:

IPC_STAT Place the current value of each member of the msqid_ds data structure associated with msqid into the structure pointed to by buf. The contents of this structure are defined in <sys/msg.h>.

IPC_SET Set the value of the following members of the msqid_ds data structure associated with msqid to the corresponding value found in the structure pointed to by buf:

msg_perm.uid

msg_perm.gid

msg_perm.mode

msg_qbytes

Also, the msg_ctime timestamp shall be set to the current time, as described in Section 2.7.1, IPC General Descrip? tion.

IPC_SET can only be executed by a process with appropriate privileges or that has an effective user ID equal to the value of msg_perm.cuid or msg_perm.uid in the msqid_ds data structure associated with msqid. Only a process with ap? propriate privileges can raise the value of msg_qbytes.

IPC_RMID Remove the message queue identifier specified by msqid from the system and destroy the message queue and msqid_ds data structure associated with it. IPC_RMD can only be executed by a process with appropriate privileges or one that has an effective user ID equal to the value of msg_perm.cuid or msg_perm.uid in the msqid_ds data structure associated with msqid.

RETURN VALUE

Upon successful completion, msgctl() shall return 0; otherwise, it shall return -1 and set errno to indicate the error.

ERRORS

The msgctl() function shall fail if:

EACCES The argument cmd is IPC_STAT and the calling process does not have read permission; see Section 2.7, XSI Interprocess Communi? cation.

EINVAL The value of msqid is not a valid message queue identifier; or the value of cmd is not a valid command.

EPERM The argument cmd is IPC_RMID or IPC_SET and the effective user

ID of the calling process is not equal to that of a process with appropriate privileges and it is not equal to the value of msg_perm.cuid or msg_perm.uid in the data structure associated with msqid.

EPERM The argument cmd is IPC_SET, an attempt is being made to in? crease to the value of msg_qbytes, and the effective user ID of the calling process does not have appropriate privileges.

The following sections are informative.

EXAMPLES

None.

APPLICATION USAGE

The POSIX Realtime Extension defines alternative interfaces for inter? process communication (IPC). Application developers who need to use IPC should design their applications so that modules using the IPC routines described in Section 2.7, XSI Interprocess Communication can be easily modified to use the alternative interfaces.

RATIONALE

None.

FUTURE DIRECTIONS

None.

SEE ALSO

Section 2.7, XSI Interprocess Communication, Section 2.8, Realtime, mq_close(), mq_getattr(), mq_notify(), mq_open(), mq_receive(), mq_send(), mq_setattr(), mq_unlink(), msgget(), msgrcv(), msgsnd()

The Base Definitions volume of POSIX.1?2017, Section 3.226, Message Queue, <sys_msg.h>

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