

shmctl (System Call)

NAME

shmctl – XSI shared memory control operations

SYNOPSIS

[crayon-6a9d5f7d2d234153956862/]

DESCRIPTION

The shmctl() function operates on XSI shared memory (see the Base Definitions volume of IEEE Std 1003.1-2001, Section 3.340, Shared Memory Object). It is unspecified whether this function interoperates with the realtime interprocess communication facilities defined in Realtime.

The shmctl() function provides a variety of shared memory control operations as specified by cmd. The following values for cmd are available:

IPC_STAT

Place the current value of each member of the shmid_ds data structure associated with shmid into the structure pointed to by buf. The contents of the structure are defined in .

IPC_SET

Set the value of the following members of the shmid_ds data structure associated with shmid to the corresponding value found in the structure pointed to by buf:

shm_perm.uid

shm_perm.gid

shm_perm.mode Low-order nine bits.

IPC_SET can only be executed by a process that has an effective user ID equal to either that of a process with appropriate privileges or to the value of shm_perm.cuid or shm_perm.uid in the shmid_ds data structure associated with shmid.

IPC_RMID

Remove the shared memory identifier specified by `shmid` from the system and destroy the shared memory segment and `shmid_ds` data structure associated with it. `IPC_RMID` can only be executed by a process that has an effective user ID equal to either that of a process with appropriate privileges or to the value of `shm_perm.cuid` or `shm_perm.uid` in the `shmid_ds` data structure associated with `shmid`.

RETURN VALUE

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

ERRORS

The `shmctl()` function shall fail if:

[EACCES]

The argument `cmd` is equal to `IPC_STAT` and the calling process does not have read permission; see XSI Interprocess Communication.

[EINVAL]

The value of `shmid` is not a valid shared memory identifier, or the value of `cmd` is not a valid command.

[EPERM]

The argument `cmd` is equal to `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 `shm_perm.cuid` or `shm_perm.uid` in the data structure associated with `shmid`.

The `shmctl()` function may fail if:

[EOVERFLOW]

The `cmd` argument is `IPC_STAT` and the `gid` or `uid` value is too large to be stored in the structure pointed to by the `buf`

argument.