NAME

shmget – get shared memory segment identifier

SYNOPSIS

```
#include <sys/types.h>
#include <sys/ipc.h>
#include <sys/shm.h>
int shmget(key_t key, int size, int shmflg);
```

DESCRIPTION

shmget( ) returns the shared memory identifier associated with *key*.

A shared memory identifier and associated data structure and shared memory segment of at least *size* bytes (see **intro**(2)) are created for *key* if one of the following are true:

key is equal to **IPC_PRIVATE**.

key does not already have a shared memory identifier associated with it, and (*shmflg***&IPC_CREAT**) is true.

Upon creation, the data structure associated with the new shared memory identifier is initialized as follows:

shm_perm.cuid, **shm_perm.uid**, **shm_perm.cgid**, and **shm_perm.gid** are set equal to the effective user ID and effective group ID, respectively, of the calling process.

The access permission bits of **shm_perm.mode** are set equal to the access permission bits of *shmflg*. **shm_segsz** is set equal to the value of *size*.

shm_lpid, **shm_nattch shm_atime**, and **shm_dtime** are set equal to 0.

shm_ctime is set equal to the current time.

RETURN VALUES

Upon successful completion, a non-negative integer, namely a shared memory identifier is returned. Otherwise, a value of –1 is returned and **errno** is set to indicate the error.

ERRORS

shmget( ) fails if one or more of the following are true:

EACCES	A shared memory identifier exists for *key* but operation permission (see **intro**(2)) as specified by the low-order 9 bits of *shmflg* would not be granted.
EEXIST	A shared memory identifier exists for *key* but both (*shmflg***&IPC_CREAT**) and (*shmflg***&IPC_EXCL**) are true.
EINVAL	*size* is less than the system-imposed minimum or greater than the system-imposed maximum.
EINVAL	A shared memory identifier exists for *key* but the size of the segment associated with it is less than *size* and *size* is not equal to zero.
ENOENT	A shared memory identifier does not exist for *key* and (*shmflg***&IPC_CREAT**) is false.

ENOMEM A shared memory identifier and associated shared memory segment are to be created but the amount of available memory is not sufficient to fill the request.

ENOSPC A shared memory identifier is to be created but the system-imposed limit on the maximum number of allowed shared memory identifiers system wide would be exceeded.

SEE ALSO

intro(2), **shmctl**(2), **shmop**(2), **stdipc**(3C)

NOTES

The user must explicitly remove shared memory segments after the last reference to them has been removed.