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

C:\>man sem_open.3

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

NAME

sem_open - initialize and open a named semaphore

SYNOPSIS

```
#include <fcntl.h>          /* For O_* constants */
#include <sys/stat.h>       /* For mode constants */
#include <semaphore.h>
sem_t *sem_open(const char *name, int oflag);
sem_t *sem_open(const char *name, int oflag,
                mode_t mode, unsigned int value);
```

Link with -pthread.

DESCRIPTION

sem_open() creates a new POSIX semaphore or opens an existing semaphore. The sema? phore is identified by name. For details of the construction of name, see sem_overview(7).

The oflag argument specifies flags that control the operation of the call. (Defi? nitions of the flags values can be obtained by including <fcntl.h>.) If O_CREAT is specified in oflag, then the semaphore is created if it does not already exist.

The owner (user ID) of the semaphore is set to the effective user ID of the calling process. The group ownership (group ID) is set to the effective group ID of the calling process. If both O_CREAT and O_EXCL are specified in oflag, then an error is returned if a semaphore with the given name already exists.

If O_CREAT is specified in oflag, then two additional arguments must be supplied. The mode argument specifies the permissions to be placed on the new semaphore, as for open(2). (Symbolic definitions for the permissions bits can be obtained by in? cluding <sys/stat.h>.) The permissions settings are masked against the process umask. Both read and write permission should be granted to each class of user that will access the semaphore. The value argument specifies the initial value for the new semaphore. If O_CREAT is specified, and a semaphore with the given name al? ready exists, then mode and value are ignored.

RETURN VALUE

On success, sem_open() returns the address of the new semaphore; this address is used when calling other semaphore-related functions. On error, sem_open() returns SEM_FAILED, with errno set to indicate the error.

ERRORS

EACCES The semaphore exists, but the caller does not have permission to open it.

EEXIST Both O_CREAT and O_EXCL were specified in oflag, but a semaphore with this name already exists.

EINVAL value was greater than SEM_VALUE_MAX.

EINVAL name consists of just "/", followed by no other characters.

EMFILE The per-process limit on the number of open file descriptors has been reached.

ENAMETOOLONG

name was too long.

ENFILE The system-wide limit on the total number of open files has been reached.

ENOENT The O_CREAT flag was not specified in oflag and no semaphore with this name exists; or, O_CREAT was specified, but name wasn't well formed.

ENOMEM Insufficient memory.

ATTRIBUTES

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

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?Interface ? Attribute ? Value ?

??????????????????????????????????????

?sem_open() ? Thread safety ? MT-Safe ?

??????????????????????????????????????

CONFORMING TO

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

SEE ALSO

sem_close(3), sem_getvalue(3), sem_post(3), sem_unlink(3), sem_wait(3), sem_over?view(7)

COLOPHON

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