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## *Red Hat Enterprise Linux Release 9.2 Manual Pages on 'sem_init.3p' command*

***$ man sem_init.3p***

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

sem_init ? initialize an unnamed semaphore

SYNOPSIS

#include <semaphore.h>

int sem_init(sem_t *sem, int pshared, unsigned value);

DESCRIPTION

The sem_init() function shall initialize the unnamed semaphore referred to by sem. The value of the initialized semaphore shall be value. Following a successful call to sem_init(), the semaphore may be used in subsequent calls to sem_wait(), sem_timedwait(), sem_trywait(), sem_post(), and sem_destroy(). This semaphore shall remain usable un? til the semaphore is destroyed.

If the pshared argument has a non-zero value, then the semaphore is shared between processes; in this case, any process that can access the semaphore sem can use sem for performing sem_wait(), sem_timedwait(), sem_trywait(), sem_post(), and sem_destroy() operations.

If the pshared argument is zero, then the semaphore is shared between

threads of the process; any thread in this process can use sem for per?
forming sem_wait(), sem_timedwait(), sem_trywait(), sem_post(), and
sem_destroy() operations.

See Section 2.9.9, Synchronization Object Copies and Alternative Map?
pings for further requirements.

Attempting to initialize an already initialized semaphore results in
undefined behavior.

RETURN VALUE

Upon successful completion, the sem_init() function shall initialize
the semaphore in sem and return 0. Otherwise, it shall return -1 and
set errno to indicate the error.

ERRORS

The sem_init() function shall fail if:

EINVAL The value argument exceeds {SEM_VALUE_MAX}.

ENOSPC A resource required to initialize the semaphore has been ex?
hausted, or the limit on semaphores ({SEM_NSEMS_MAX}) has been
reached.

EPERM The process lacks appropriate privileges to initialize the sema?
phore.

The following sections are informative.

EXAMPLES

None.

APPLICATION USAGE

None.

RATIONALE

None.

FUTURE DIRECTIONS

None.

SEE ALSO

sem_destroy(), sem_post(), sem_timedwait(), sem_trywait()

The Base Definitions volume of POSIX.1?2017, <semaphore.h>

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