



Linux Ubuntu 26.04 Manual Pages on command 'sem_init.3'

\$ man sem_init.3

sem_init(3) Library Functions Manual sem_init(3)

NAME

sem_init - initialize an unnamed semaphore

LIBRARY

POSIX threads library (libpthread, -lpthread)

SYNOPSIS

```
#include <semaphore.h>
```

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

DESCRIPTION

sem_init() initializes the unnamed semaphore at the address pointed to by sem. The value argument specifies the initial value for the semaphore.

The pshared argument indicates whether this semaphore is to be shared between the threads of a process, or between processes.

If pshared has the value 0, then the semaphore is shared between the threads of a process, and should be located at some address that is visible to all threads (e.g., a global variable, or a variable allocated dynamically on the heap).

If pshared is nonzero, then the semaphore is shared between processes, and should be located in a region of shared memory (see shm_open(3), mmap(2), and shmget(2)). (Since a child created by fork(2) inherits its parent's memory mappings, it can also access the semaphore.)

Any process that can access the shared memory region can operate on the semaphore using sem_post(3), sem_wait(3), and so on.

Initializing a semaphore that has already been initialized results in undefined behavior.

RETURN VALUE

