

## Op:semaphore.h

semaphore.h - semaphores (**REALTIME**)

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

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### DESCRIPTION

The `<semaphore.h>` header shall define the `sem_t` type, used in performing semaphore operations. The semaphore may be implemented using a file descriptor, in which case applications are able to open up at least a total of `{OPEN_MAX}` files and semaphores. The symbol `SEM_FAILED` shall be defined (see `sem_open()`).

The following shall be declared as functions and may also be defined as macros. Function prototypes shall be provided.

```
int    sem_close(sem_t *);
int    sem_destroy(sem_t *);
int    sem_getvalue(sem_t *restrict, int *restrict);
int    sem_init(sem_t *, int, unsigned);
sem_t *sem_open(const char *, int, ...);
int    sem_post(sem_t *);

int    sem_timedwait(sem_t *restrict, const struct timespec
*restrict);

int    sem_trywait(sem_t *);
int    sem_unlink(const char *);
int    sem_wait(sem_t *);
```

Inclusion of the `<semaphore.h>` header may make visible symbols defined in the headers `<fcntl.h>` and `<sys/types.h>`.

*The following sections are informative.*

#### **APPLICATION USAGE**

None.

#### **RATIONALE**

None.

#### **FUTURE DIRECTIONS**

None.

#### **RELATED**

`<fcntl.h>` , `<sys/types.h>` , the System Interfaces volume of IEEE Std 1003.1-2001, `sem_destroy()`, `sem_getvalue()`, `sem_init()`, `sem_open()`, `sem_post()`, `sem_timedwait()`, `sem_trywait()`, `sem_unlink()`, `sem_wait()`

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