

(POSIX) Threads

package for man pages: manpages-posix-dev glibc-doc

sudo apt-get install manpages-posix-dev glibc-doc

setting cores:

taskset -c 0 <program> -> execute program only with core 0

```
#include <pthread.h>
gcc/g++ -pthread
```

defensive programming -> int functions returning success (0) ou failure (!= 0)

```
--
THREADS:
opaque type: pthread_t
```

```
pthread_create
pthread_detach
pthread_equal -> returns int (C boolean)
pthread_self -> returns pthread_t
pthread_exit
pthread_join
```

```
--
MUTEX:
opaque type: pthread_mutex_t
```

```
PTHREAD_MUTEX_INITIALIZER
or
pthread_mutex_init
pthread_mutex_destroy
```

```
pthread_mutex_lock(mtx)
pthread_mutex_trylock(mtx)
pthread_mutex_unlock(mtx)
```

```
--
CONDITION VARIABLE:
opaque type: pthread_cond_t
```

```
PTHREAD_COND_INITIALIZER
or
pthread_cond_init
pthread_cond_destroy
```

```
pthread_cond_wait(cvar, mtx)
pthread_cond_signal(cvar)
pthread_cond_broadcast(cvar)
```

```
--
C-Library
```

Beware of Thread-safe functions!

```
usleep
nanosleep
rand_r
```