System Calls mprotect(2)

NAME
mprotect - set protection of memory mapping

SYNOPSIS
```
#include <sys/mman.h>

int mprotect(void *addr, size_t len, int prot);
```

DESCRIPTION
The mprotect() function changes the access protections on the mappings specified by the range [addr, addr + len), rounding len up to the next multiple of the page size as returned by sysconf(3C), to be that specified by prot. Legitimate values for prot are the same as those permitted for mmap(2) and are defined in <sys/mman.h> as:

```
PROT_READ
      /* page can be read */

PROT_WRITE
      /* page can be written */

PROT_EXEC
      /* page can be executed */

PROT_NONE
      /* page can not be accessed */
```

When mprotect() fails for reasons other than EINVAL, the protections on some of the pages in the range [addr, addr + len) may have been changed. If the error occurs on some page at addr2, then the protections of all whole pages in the range [addr, addr2] will have been modified.

RETURN VALUES
Upon successful completion, mprotect() returns 0. Otherwise, it returns -1 and sets errno to indicate the error.

ERRORS
The mprotect() function will fail if:

EACCES
The prot argument specifies a protection that violates the access permission the process has to the underlying memory object.

EINVAL
The len argument has a value equal to 0, or addr is not a multiple of the page size as returned by sysconf(3C).

ENOMEM
Addresses in the range [addr, addr + len) are invalid for the address space of a process, or specify one or more pages which are not mapped.

The mprotect() function may fail if:

EAGAIN
The address range [addr, addr + len) includes one or more pages that have been locked in memory and that were mapped MAP_PRIVATE; prot includes PROT_WRITE; and the system has insufficient resources to reserve memory for the private pages that may be created. These private pages may be created by store operations in the now-writable address range.

SEE ALSO
mmap(2), plock(3C), mlock(3C), mlockall(3C), sysconf(3C)

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