NAME

chmod − change mode of file

SYNOPSIS

#include <sys/types.h>
#include <sys/stat.h>

int chmod(const char ****path*, mode_t** *mode***)**

DESCRIPTION

The file whose name is given by *path* has its mode changed to *mode*. Modes are constructed by *or*'ing together some combination of the following, defined in *<sys/stat.h>*:

S_ISUID	04000	set user ID on execution
S_ISGID	02000	set group ID on execution
S_ISVTX	01000	'sticky bit' (see below)
S_IRWXU	00700	read, write, execute by owner
S_IRUSR	00400	read by owner
S_IWUSR	00200	write by owner
S_IXUSR	00100	execute (search on directory) by owner
S_IRWXG	00070	read, write, execute by group
S_IRGRP	00040	read by group
S_IWGRP	00020	write by group
S_IXGRP	00010	execute (search on directory) by group
S_IRWXO	00007	read, write, execute by others
S_IROTH	00004	read by others
S_IWOTH	00002	write by others
S_IXOTH	00001	execute (search on directory) by others

If mode ISVTX (the 'sticky bit') is set on a directory, an unprivileged user may not delete or rename files of other users in that directory. (Minix-vmd)

Only the owner of a file (or the super-user) may change the mode.

Writing or changing the owner of a file turns off the set-user-id and set-group-id bits unless the user is the super-user. This makes the system somewhat more secure by protecting set-user-id (set-group-id) files from remaining set-user-id (set-group-id) if they are modified, at the expense of a degree of compatibility.

RETURN VALUE

Upon successful completion, a value of 0 is returned. Otherwise, a value of −1 is returned and **errno** is set to indicate the error.

ERRORS

Chmod will fail and the file mode will be unchanged if:

[ENOTDIR] A component of the path prefix is not a directory.

[ENAMETOOLONG]
The path name exceeds PATH_MAX characters.

[ENOENT] The named file does not exist.

[EACCES] Search permission is denied for a component of the path prefix.

[ELOOP] Too many symbolic links were encountered in translating the pathname. (Minix-vmd)

[EPERM] The effective user ID does not match the owner of the file and the effective user ID is not the super-user.

[EROFS] The named file resides on a read-only file system.

[EFAULT] *Path* points outside the process's allocated address space.

[EIO] An I/O error occurred while reading from or writing to the file system.

SEE ALSO

chmod(1), **open**(2), **chown**(2), **stat**(2).

NOTES

The sticky bit was historically used to lock important executables into memory.