chown (System Call)

NAME

chown – change owner and group of a file

SYNOPSIS
[crayon-6a9d57834cdc7584853422/]
DESCRIPTION

The chown() function shall change the user and group ownership of a file.

The path argument points to a pathname naming a file. The user ID and group ID of the named file shall be set to the numeric values contained in owner and group, respectively.

Only processes with an effective user ID equal to the user ID of the file or with appropriate privileges may change the ownership of a file. If _POSIX_CHOWN_RESTRICTED is in effect for path:

- Changing the user ID is restricted to processes with appropriate privileges.
- Changing the group ID is permitted to a process with an effective user ID equal to the user ID of the file, but without appropriate privileges, if and only if owner is equal to the file’s user ID or (uid_t)-1 and group is equal either to the calling process’ effective group ID or to one of its supplementary group IDs.

If the specified file is a regular file, one or more of the S_IXUSR, S_IXGRP, or S_IXOTH bits of the file mode are set, and the process does not have appropriate privileges, the set-user-ID (S_ISUID) and set-group-ID (S_ISGID) bits of the file mode shall be cleared upon successful return from chown(). If the specified file is a regular file, one or more of the S_IXUSR, S_IXGRP, or S_IXOTH bits of the file mode are set,

and the process has appropriate privileges, it is implementation-defined whether the set-user-ID and set-group-ID bits are altered. If the chown() function is successfully invoked on a file that is not a regular file and one or more of the S_IXUSR, S_IXGRP, or S_IXOTH bits of the file mode are set, the set-user-ID and set-group-ID bits may be cleared.

If owner or group is specified as (uid_t)-1 or (gid_t)-1, respectively, the corresponding ID of the file shall not be changed. If both owner and group are -1, the times need not be updated.

Upon successful completion, chown() shall mark for update the st_ctime field of the file.

RETURN VALUE

Upon successful completion, 0 shall be returned; otherwise, -1 shall be returned and errno set to indicate the error. If -1 is returned, no changes are made in the user ID and group ID of the file.

ERRORS

The chown() function shall fail if:

[EACCES]
Search permission is denied on a component of the path prefix.
[ELOOP]
A loop exists in symbolic links encountered during resolution of the path argument.
[ENAMETOOLONG]
The length of the path argument exceeds {PATH_MAX} or a pathname component is longer than {NAME_MAX}.
[ENOTDIR]
A component of the path prefix is not a directory.
[ENOENT]
A component of path does not name an existing file or path is an empty string.

[EPERM]
The effective user ID does not match the owner of the file, or the calling process does not have appropriate privileges and _POSIX_CHOWN_RESTRICTED indicates that such privilege is required.
[EROFS]
The named file resides on a read-only file system.
The chown() function may fail if:

[EIO]
An I/O error occurred while reading or writing to the file system.
[EINTR]
The chown() function was interrupted by a signal which was caught.
[EINVAL]
The owner or group ID supplied is not a value supported by the implementation.
[ELOOP]
More than {SYMLOOP_MAX} symbolic links were encountered during resolution of the path argument.
[ENAMETOOLONG]
As a result of encountering a symbolic link in resolution of the path argument, the length of the substituted pathname string exceeded {PATH_MAX}.