

NAME

getgrent, getgrent_r, getgrnam, getgrnam_r, getgrgid, getgrgid_r, setgroupent, setgrent, endgrent - group database operations

LIBRARY

Standard C Library (libc, -lc)

SYNOPSIS

#include <grp.h>

struct group *
getgrent(void);

int
getgrent_r(*struct group* *grp, *char* *buffer, *size_t* bufsize, *struct group* **result);

struct group *
getgrnam(*const char* *name);

int
getgrnam_r(*const char* *name, *struct group* *grp, *char* *buffer, *size_t* bufsize, *struct group* **result);

struct group *
getgrgid(*gid_t* gid);

int
getgrgid_r(*gid_t* gid, *struct group* *grp, *char* *buffer, *size_t* bufsize, *struct group* **result);

int
setgroupent(*int* stayopen);

void
setgrent(void);

void
endgrent(void);

DESCRIPTION

These functions operate on the group database file */etc/group* which is described in *group(5)*. Each line of the database is defined by the structure *group* found in the include file <grp.h>:

```
struct group {
    char    *gr_name;        /* group name */
    char    *gr_passwd;     /* group password */
    gid_t   gr_gid;         /* group id */
    char    **gr_mem;       /* group members */
};
```

The functions **getgrnam()** and **getgrgid()** search the group database for the given group name pointed to by *name* or the group id pointed to by *gid*, respectively, returning the first one encountered. Identical group names or group gids may result in undefined behavior.

The **getgrent()** function sequentially reads the group database and is intended for programs that wish to step through the complete list of groups.

The functions **getgrent_r()**, **getgrnam_r()**, and **getgrgid_r()** are thread-safe versions of **getgrent()**, **getgrnam()**, and **getgrgid()**, respectively. The caller must provide storage for the results of the search in the *grp*, *buffer*, *bufsize*, and *result* arguments. When these functions are successful, the *grp* argument will be filled-in, and a pointer to that argument will be stored in *result*. If an entry is not found or an error occurs, *result* will be set to NULL.

These functions will open the group file for reading, if necessary.

The **setgroupent()** function opens the file, or rewinds it if it is already open. If *stayopen* is non-zero, file descriptors are left open, significantly speeding functions subsequent calls. This functionality is unnecessary for **getgrent()** as it does not close its file descriptors by default. It should also be noted that it is dangerous for long-running programs to use this functionality as the group file may be updated.

The **setgrent()** function is identical to **setgroupent()** with an argument of zero.

The **endgrent()** function closes any open files.

RETURN VALUES

The functions **getgrent()**, **getgrnam()**, and **getgrgid()**, return a pointer to a group structure on success or NULL if the entry is not found or if an error occurs. If an error does occur, *errno* will be set. Note that programs must explicitly set *errno* to zero before calling any of these functions if they need to distinguish between a non-existent entry and an error. The functions **getgrent_r()**, **getgrnam_r()**, and **getgrgid_r()** return 0 if no error occurred, or an error number to indicate failure. It is not an error if a matching entry is not found. (Thus, if *result* is set to NULL and the return value is 0, no matching entry exists.)

The function **setgroupent()** returns the value 1 if successful, otherwise the value 0 is returned. The functions **endgrent()**, **setgrent()** and **setgrfile()** have no return value.

FILES

/etc/group group database file

COMPATIBILITY

The historic function **setgrfile()**, which allowed the specification of alternate password databases, has been deprecated and is no longer available.

SEE ALSO

getpwent(3), group(5), nsswitch.conf(5), yp(8)

STANDARDS

The **getgrent()**, **getgrnam()**, **getgrnam_r()**, **getgrgid()**, **getgrgid_r()** and **endgrent()** functions conform to ISO/IEC 9945-1:1996 ("POSIX.1"). The **setgrent()** function differs from that standard in that its return type is *int* rather than *void*.

HISTORY

The functions **endgrent()**, **getgrent()**, **getgrnam()**, **getgrgid()**, and **setgrent()** appeared in Version 7 AT&T UNIX. The functions **setgrfile()** and **setgroupent()** appeared in 4.3BSD-Reno. The functions **getgrent_r()**, **getgrnam_r()**, and **getgrgid_r()** appeared in FreeBSD 5.1.

BUGS

The functions **getgrent()**, **getgrnam()**, **getgrgid()**, **setgroupent()** and **setgrent()** leave their results in an internal static object and return a pointer to that object. Subsequent calls to the same function will modify the same object.

The functions **getgrent()**, **getgrent_r()**, **endgrent()**, **setgroupent()**, and **setgrent()** are fairly useless in a networked environment and should be avoided, if possible. The **getgrent()** and **getgrent_r()** functions make no attempt to suppress duplicate information if multiple sources are specified in *nsswitch.conf(5)*.