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).