

NAME

getgrnam, getgrnam_r, getgrgid, getgrgid_r - get group file entry

SYNOPSIS

```
#include <sys/types.h>
#include <grp.h>

struct group *getgrnam(const char *name);

struct group *getgrgid(gid_t gid);

int getgrnam_r(const char *name, struct group *grp,
               char *buf, size_t buflen, struct group **result);

int getgrgid_r(gid_t gid, struct group *grp,
               char *buf, size_t buflen, struct group **result);
```

Feature Test Macro Requirements for glibc (see [feature_test_macros\(7\)](#)):

```
getgrnam_r(), getgrgid_r():
    _POSIX_C_SOURCE >= 1 || _XOPEN_SOURCE || _BSD_SOURCE || _SVID_SOURCE ||
    _POSIX_SOURCE
```

DESCRIPTION

The **getgrnam()** function returns a pointer to a structure containing the broken-out fields of the record in the group database (e.g., the local group file */etc/group*, NIS, and LDAP) that matches the group name *name*.

The **getgrgid()** function returns a pointer to a structure containing the broken-out fields of the record in the group database that matches the group ID *gid*.

The *group* structure is defined in *<grp.h>* as follows:

```
struct group {
    char *gr_name; /* group name */
    char *gr_passwd; /* group password */
    gid_t gr_gid; /* group ID */
    char **gr_mem; /* NULL-terminated array of pointers
to names of group members */
};
```

For more information about the fields of this structure, see [group\(5\)](#).

The **getgrnam_r()** and **getgrgid_r()** functions obtain the same information as **getgrnam()** and **getgrgid()**, but store the retrieved *group* structure in the space pointed to by *grp*. The string fields pointed to by the members of the *group* structure are stored in the buffer *buf* of size *buflen*. A pointer to the result (in case of success) or NULL (in case no entry was found or an error occurred) is stored in **result*.

The call

```
sysconf(_SC_GETGR_R_SIZE_MAX)
```

returns either -1, without changing *errno*, or an initial suggested size for *buf*. (If this size is too small, the call fails with **ERANGE**, in which case the caller can retry with a larger buffer.)

RETURN VALUE

The **getgrnam()** and **getgrgid()** functions return a pointer to a *group* structure, or NULL if the matching entry is not found or an error occurs. If an error occurs, *errno* is set appropriately. If one wants to check *errno* after the call, it should be set to zero before the call.

The return value may point to a static area, and may be overwritten by subsequent calls to [getgrent\(3\)](#), [getgrgid\(\)](#), or [getgrnam\(\)](#). (Do not pass the returned pointer to [free\(3\)](#).)

On success, **getgrnam_r()** and **getgrgid_r()** return zero, and set **result* to *grp*. If no matching

group record was found, these functions return 0 and store NULL in **result*. In case of error, an error number is returned, and NULL is stored in **result*.

ERRORS

0 or **ENOENT** or **ESRCH** or **EBADF** or **EPERM** or ...

The given *name* or *gid* was not found.

EINTR

A signal was caught.

EIO I/O error.

EMFILE

The maximum number (**OPEN_MAX**) of files was open already in the calling process.

ENFILE

The maximum number of files was open already in the system.

ENOMEM

Insufficient memory to allocate *group* structure.

ERANGE

Insufficient buffer space supplied.

FILES

/etc/group

local group database file

ATTRIBUTES

Multithreading (see pthreads(7))

The **getgrnam()** and **getgrgid()** functions are not thread-safe.

The **getgrnam_r()** and **getgrgid_r()** functions are thread-safe.

CONFORMING TO

SVr4, 4.3BSD, POSIX.1-2001.

NOTES

The formulation given above under RETURN VALUE is from POSIX.1-2001. It does not call not found an error, hence does not specify what value *errno* might have in this situation. But that makes it impossible to recognize errors. One might argue that according to POSIX *errno* should be left unchanged if an entry is not found. Experiments on various UNIX-like systems shows that lots of different values occur in this situation: 0, ENOENT, EBADF, ESRCH, EWOULDBLOCK, EPERM, and probably others.

SEE ALSO

[endgrent\(3\)](#), [fgetgrent\(3\)](#), [getgrent\(3\)](#), [getpwnam\(3\)](#), [setgrent\(3\)](#), [group\(5\)](#)

COLOPHON

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