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Linux Ubuntu 26.04 Manual Pages on command 'getgrnam_r.3'

\$ man getgrnam_r.3

getgrnam(3) Library Functions Manual getgrnam(3)

NAME

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

LIBRARY

Standard C library (libc, -lc)

SYNOPSIS

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

```
#include <grp.h>
```

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

```
struct group *getgrgid(gid_t gid);
```

```
int getgrnam_r(size_t size;
```

```
    const char *restrict name, struct group *restrict grp,
```

```
    char buf[restrict size], size_t size,
```

```
    struct group **restrict result);
```

```
int getgrgid_r(size_t size;
```

```
    gid_t gid, struct group *restrict grp,
```

```
    char buf[restrict size], size_t size,
```

```
    struct group **restrict result);
```

Feature Test Macro Requirements for glibc (see feature_test_macros(7)):

```
getgrnam_r(), getgrgid_r():
```

```
    _POSIX_C_SOURCE
```

```
    || /* glibc <= 2.19: */ _BSD_SOURCE || _SVID_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 `size`. 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 to indicate the error. 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; see signal(7).

EIO I/O error.

EMFILE The per-process limit on the number of open file descriptors has been reached.

ENFILE The system-wide limit on the total number of open files has been reached.

ENOMEM Insufficient memory to allocate group structure.

ERANGE Insufficient buffer space supplied.

FILES

/etc/group

local group database file

ATTRIBUTES

For an explanation of the terms used in this section, see attributes(7).

??

? Interface ? Attribute ? Value ?

??

? getgrnam() ? Thread safety ? MT-Unsafe race:grnam locale ?

??

? getgrgid() ? Thread safety ? MT-Unsafe race:grgid locale ?

??

? getgrnam_r(), ? Thread safety ? MT-Safe locale ?

? getgrgid_r() ? ? ?

??

VERSIONS

The formulation given above under "RETURN VALUE" is from POSIX.1. 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 show that lots of different values occur in this situation: 0, ENOENT, EBADF, ESRCH, EWOULD? BLOCK, EPERM, and probably others.

STANDARDS

POSIX.1-2008.

HISTORY

POSIX.1-2001, SVr4, 4.3BSD.

SEE ALSO

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

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