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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'getgrent_r.3' command

$ man getgrent_r.3

GETGRENT_R(3) Linux Programmer's Manual GETGRENT_R(3)

NAME

getgrent_r, fgetgrent_r - get group file entry reentrantly

SYNOPSIS

```
#include <grp.h>

int getgrent_r(struct group *gbuf, char *buf,
               size_t buflen, struct group **gbufp);

int fgetgrent_r(FILE *stream, struct group *gbuf, char *buf,
                size_t buflen, struct group **gbufp);
```

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

getgrent_r(): _GNU_SOURCE

fgetgrent_r():

Since glibc 2.19:

_DEFAULT_SOURCE

Glibc 2.19 and earlier:

_SVID_SOURCE

DESCRIPTION

The functions getgrent_r() and fgetgrent_r() are the reentrant versions of getgrent(3) and fgetgrent(3). The former reads the next group entry from the stream initialized by setgrent(3). The latter reads the next group entry from stream.

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 nonreentrant functions return a pointer to static storage, where this static storage contains further pointers to group name, password and members. The reentrant functions described here return all of that in caller-provided buffers. First of all there is the buffer gbuf that can hold a struct group. And next the buffer buf of size buflen that can hold additional strings. The result of these functions, the struct group read from the stream, is stored in the provided buffer *gbuf, and a pointer to this struct group is returned in *gbufp.

RETURN VALUE

On success, these functions return 0 and *gbufp is a pointer to the struct group. On error, these functions return an error value and *gbufp is NULL.

ERRORS

ENOENT No more entries.

ERANGE Insufficient buffer space supplied. Try again with larger buf?
fer.

ATTRIBUTES

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

```
????????????????????????????????????????????????????????????????
?Interface     ? Attribute     ? Value                     ?
????????????????????????????????????????????????????????????????
?getgrent_r()  ? Thread safety ? MT-Unsafe race:grent locale ?
????????????????????????????????????????????????????????????????
?fgetgrent_r() ? Thread safety ? MT-Safe                   ?
????????????????????????????????????????????????????????????????
```

In the above table, grent in race:grent signifies that if any of the functions setgrent(3), getgrent(3), endgrent(3), or getgrent_r() are used in parallel in different threads of a program, then data races could occur.

CONFORMING TO

These functions are GNU extensions, done in a style resembling the POSIX version of functions like getpwnam_r(3). Other systems use the prototype

```
struct group *getgrent_r(struct group *grp, char *buf,
                         int buflen);
```

or, better,

```
int getgrent_r(struct group *grp, char *buf, int buflen,
               FILE **gr_fp);
```

NOTES

The function getgrent_r() is not really reentrant since it shares the reading position in the stream with all other threads.

EXAMPLES

```
#define _GNU_SOURCE
#include <grp.h>
#include <stdio.h>
#include <stdint.h>
#include <stdlib.h>
#define BUFLEN 4096
int
main(void)
{
    struct group grp;
    struct group *grpp;
    char buf[BUFLEN];
    int i;
    setgrent();
    while (1) {
        i = getgrent_r(&grp, buf, sizeof(buf), &grpp);
```

```
            if (i)
                break;
            printf("%s (%jd):", grpp->gr_name, (intmax_t) grpp->gr_gid);
            for (int j = 0; ; j++) {
                if (grpp->gr_mem[j] == NULL)
                    break;
                printf(" %s", grpp->gr_mem[j]);
            }
            printf("\n");
        }
        endgrent();
        exit(EXIT_SUCCESS);
    }
```

SEE ALSO

fgetgrent(3), getgrent(3), getgrgid(3), getgrnam(3), putgrent(3), group(5)

COLOPHON

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