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Rocky Enterprise Linux 9.2 Manual Pages on command 'getgrent_r.3'

\$ man getgrent_r.3

GETGRENTR(3) Linux Programmer's Manual GETGRENTR(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 buffer.

ATTRIBUTES

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

?Interface ? Attribute ? Value

?getparent_r() ? Thread safety ? MT-Unsafe race:parent locale ?

?fgetrent 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 `func?`

tions 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 `getgrent_r()` function 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 BUFSIZE 4096  
  
int  
  
main(void)  
{  
    struct group grp;  
    struct group *grpp;  
    char buf[BUFSIZE];  
    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

This page is part of release 5.10 of the Linux man-pages project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at <https://www.kernel.org/doc/man-pages/>.

GNU

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