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

C:\>man getpwnam.3

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

NAME

getpwnam, getpwnam_r, getpwuid, getpwuid_r - get password file entry

SYNOPSIS

```
#include <sys/types.h>
#include <pwd.h>
struct passwd *getpwnam(const char *name);
struct passwd *getpwuid(uid_t uid);
int getpwnam_r(const char *name, struct passwd *pwd,
        char *buf, size_t buflen, struct passwd **result);
int getpwuid_r(uid_t uid, struct passwd *pwd,
        char *buf, size_t buflen, struct passwd **result);
```

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

getpwnam_r(), getpwuid_r():

_POSIX_C_SOURCE

|| /* Glibc versions <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE

DESCRIPTION

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

The getpwuid() function returns a pointer to a structure containing the broken-out fields of the record in the password database that matches the user ID uid.

The passwd structure is defined in <pwd.h> as follows:

```
struct passwd {
    char   *pw_name;       /* username */
    char   *pw_passwd;     /* user password */
    uid_t   pw_uid;        /* user ID */
    gid_t   pw_gid;        /* group ID */
    char   *pw_gecos;      /* user information */
    char   *pw_dir;        /* home directory */
    char   *pw_shell;      /* shell program */
};
```

See passwd(5) for more information about these fields.

The getpwnam_r() and getpwuid_r() functions obtain the same information as getpw?nam() and getpwuid(), but store the retrieved passwd structure in the space pointed to by pwd. The string fields pointed to by the members of the passwd 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_GETPW_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 getpwnam() and getpwuid() functions return a pointer to a passwd 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 getpwent(3), getpwnam(), or getpwuid(). (Do not pass the returned pointer to free(3).)

On success, getpwnam_r() and getpwuid_r() return zero, and set *result to pwd. If no matching password 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 *re?

sult.

ERRORS

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

The given name or uid 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 passwd structure.

ERANGE Insufficient buffer space supplied.

NOTE

The user password database mostly refers to /etc/passwd. However, with recent systems it also refers to network wide databases using NIS, LDAP and other local files as configured in /etc/nsswitch.conf.

FILES

/etc/passwd

local password database file

/etc/nsswitch.conf

System Databases and Name Service Switch configuration file

ATTRIBUTES

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

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?Interface ? Attribute ? Value ?

??

?getpwnam() ? Thread safety ? MT-Unsafe race:pwnam locale ?

??

?getpwuid() ? Thread safety ? MT-Unsafe race:pwuid locale ?

??

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

?getpwuid_r() ? ? ?

??

CONFORMING TO

POSIX.1-2001, POSIX.1-2008, SVr4, 4.3BSD. The pw_gecos field is not specified in POSIX, but is present on most implementations.

NOTES

The formulation given above under "RETURN VALUE" is from POSIX.1-2001. It does not call "not found" an error, and 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, EWOULDBLOCK, EPERM, and probably others.

The pw_dir field contains the name of the initial working directory of the user. Login programs use the value of this field to initialize the HOME environment vari? able for the login shell. An application that wants to determine its user's home directory should inspect the value of HOME (rather than the value getpwuid(ge? tuid())->pw_dir) since this allows the user to modify their notion of "the home di? rectory" during a login session. To determine the (initial) home directory of an? other user, it is necessary to use getpwnam("username")->pw_dir or similar.

EXAMPLE

The program below demonstrates the use of getpwnam_r() to find the full username and user ID for the username supplied as a command-line argument.

```
#include <pwd.h>
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include <errno.h>
int
main(int argc, char *argv[])
{
    struct passwd pwd;
    struct passwd *result;
    char *buf;
    size_t bufsize;
    int s;
```

```
        if (argc != 2) {
            fprintf(stderr, "Usage: %s username\n", argv[0]);
            exit(EXIT_FAILURE);
        }
        bufsize = sysconf(_SC_GETPW_R_SIZE_MAX);
        if (bufsize == -1)          /* Value was indeterminate */
            bufsize = 16384;        /* Should be more than enough */
        buf = malloc(bufsize);
        if (buf == NULL) {
            perror("malloc");
            exit(EXIT_FAILURE);
        }
        s = getpwnam_r(argv[1], &pwd, buf, bufsize, &result);
        if (result == NULL) {
            if (s == 0)
                printf("Not found\n");
            else {
                errno = s;
                perror("getpwnam_r");
            }
            exit(EXIT_FAILURE);
        }
        printf("Name: %s; UID: %ld\n", pwd.pw_gecos, (long) pwd.pw_uid);
        exit(EXIT_SUCCESS);
    }
```

SEE ALSO

endpwent(3), fgetpwent(3), getgrnam(3), getpw(3), getpwent(3), getspnam(3), putp?went(3), setpwent(3), nsswitch.conf(5), passwd(5)

COLOPHON

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