



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

\$ man setspent.3

getspnam(3) Library Functions Manual getspnam(3)

NAME

getspnam, getspnam_r, getspent, getspent_r, setspent, endspent, fgetspent, fgetspent_r, sgetspent, sgetspent_r, putspent, lckpword, ulckpword - get shadow password file entry

LIBRARY

Standard C library (libc, -lc)

SYNOPSIS

```
/* General shadow password file API */
#include <shadow.h>

struct spwd *getspnam(const char *name);
struct spwd *getspent(void);
void setspent(void);
void endspent(void);
struct spwd *fgetspent(FILE *stream);
struct spwd *sgetspent(const char *s);
int putspent(const struct spwd *p, FILE *stream);
int lckpword(void);
int ulckpword(void);

/* GNU extension */
#include <shadow.h>

int getspent_r(size_t size;
               struct spwd *spbuf,
               char buf[size], size_t size,
```

```

        struct spwd **spbufp);

int getspnam_r(size_t size;

        const char *name, struct spwd *spbuf,

        char buf[size], size_t size,

        struct spwd **spbufp);

int fgetspent_r(size_t size;

        FILE *stream, struct spwd *spbuf,

        char buf[size], size_t size,

        struct spwd **spbufp);

int sgetspent_r(size_t size;

        const char *s, struct spwd *spbuf,

        char buf[size], size_t size,

        struct spwd **spbufp);

```

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

`getspent_r()`, `getspnam_r()`, `fgetspent_r()`, `sgetspent_r()`:

Since glibc 2.19:

`_DEFAULT_SOURCE`

glibc 2.19 and earlier:

`_BSD_SOURCE` || `_SVID_SOURCE`

DESCRIPTION

Long ago it was considered safe to have encrypted passwords openly visible in the password file. When computers got faster and people got more security-conscious, this was no longer acceptable. Julianne Frances Haugh implemented the shadow password suite that keeps the encrypted passwords in the shadow password database (e.g., the local shadow password file `/etc/shadow`, NIS, and LDAP), readable only by root.

The functions described below resemble those for the traditional password database (e.g., see `getpwnam(3)` and `getpwent(3)`).

The `getspnam()` function returns a pointer to a structure containing the broken-out fields of the record in the shadow password database that matches the username name.

The `getspent()` function returns a pointer to the next entry in the shadow password database.

The position in the input stream is initialized by `setspent()`. When done reading, the program may call `endspent()` so that resources can be deallocated.

The `fgetspent()` function is similar to `getspent()` but uses the supplied stream instead of

the one implicitly opened by `setspent()`.

The `sgetspent()` function parses the supplied string `s` into a struct `spwd`.

The `putspent()` function writes the contents of the supplied struct `spwd *p` as a text line in the shadow password file format to stream. String entries with value `NULL` and numerical entries with value `-1` are written as an empty string.

The `lckpwordf()` function is intended to protect against multiple simultaneous accesses of the shadow password database. It tries to acquire a lock, and returns `0` on success, or `-1` on failure (lock not obtained within 15 seconds). The `ulckpwordf()` function releases the lock again. Note that there is no protection against direct access of the shadow password file. Only programs that use `lckpwordf()` will notice the lock.

These were the functions that formed the original shadow API. They are widely available.

Reentrant versions

Analogous to the reentrant functions for the password database, `glibc` also has reentrant functions for the shadow password database. The `getspnam_r()` function is like `getspnam()` but stores the retrieved shadow password structure in the space pointed to by `spbuf`. This shadow password structure contains pointers to strings, and these strings 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 `*spbufp`.

The functions `getspent_r()`, `fgetspent_r()`, and `sgetspent_r()` are similarly analogous to their nonreentrant counterparts.

Some non-`glibc` systems also have functions with these names, often with different prototypes.

Structure

The shadow password structure is defined in `<shadow.h>` as follows:

```
struct spwd {
    char *sp_namp;    /* Login name */
    char *sp_pwdp;    /* Encrypted password */
    long  sp_lstchg;   /* Date of last change
                       (measured in days since
                       1970-01-01 00:00:00 +0000 (UTC)) */
    long  sp_min;     /* Min # of days between changes */
    long  sp_max;     /* Max # of days between changes */
    long  sp_warn;    /* # of days before password expires
```

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