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

\$ man getservent_r.3

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

NAME

getservent_r, getservbyname_r, getservbyport_r - get service entry (reentrant)

SYNOPSIS

```
#include <netdb.h>

int getservent_r(struct servent *result_buf, char *buf,
                 size_t buflen, struct servent **result);

int getservbyname_r(const char *name, const char *proto,
                    struct servent *result_buf, char *buf,
                    size_t buflen, struct servent **result);

int getservbyport_r(int port, const char *proto,
                    struct servent *result_buf, char *buf,
                    size_t buflen, struct servent **result);
```

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

getservent_r(), getservbyname_r(), getservbyport_r():

Since glibc 2.19:

 _DEFAULT_SOURCE

Glibc 2.19 and earlier:

 _BSD_SOURCE || _SVID_SOURCE

DESCRIPTION

The getservent_r(), getservbyname_r(), and getservbyport_r() functions are the reentrant equivalents of, respectively, getservent(3), getservbyname(3), and getservbyport(3). They differ in the way that the servent structure is returned, and in the function calling sig?

nature and return value. This manual page describes just the differences from the non-reentrant functions.

Instead of returning a pointer to a statically allocated servent structure as the function result, these functions copy the structure into the location pointed to by `result_buf`.

The `buf` array is used to store the string fields pointed to by the returned servent structure. (The nonreentrant functions allocate these strings in static storage.) The size of this array is specified in `buflen`. If `buf` is too small, the call fails with the error `ERANGE`, and the caller must try again with a larger buffer. (A buffer of length 1024 bytes should be sufficient for most applications.)

If the function call successfully obtains a service record, then `*result` is set pointing to `result_buf`; otherwise, `*result` is set to `NULL`.

RETURN VALUE

On success, these functions return 0. On error, they return one of the positive error numbers listed in errors.

On error, record not found (`getservbyname_r()`, `getservbyport_r()`), or end of input (`getserv_r()`) result is set to `NULL`.

ERRORS

`ENOENT` (`getserv_r()`) No more records in database.

`ERANGE` `buf` is too small. Try again with a larger buffer (and increased `buflen`).

ATTRIBUTES

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

??

?Interface ? Attribute ? Value ?

??

?`getserv_r()`, ? Thread safety ? MT-Safe locale ?

?`getservbyname_r()`, ? ? ?

?`getservbyport_r()` ? ? ?

??

CONFORMING TO

These functions are GNU extensions. Functions with similar names exist on some other systems, though typically with different calling signatures.

EXAMPLES

The program below uses `getservbyport_r()` to retrieve the service record for the `port` and

protocol named in its first command-line argument. If a third (integer) command-line argument is supplied, it is used as the initial value for buflen; if getservbyport_r() fails with the error ERANGE, the program retries with larger buffer sizes. The following shell session shows a couple of sample runs:

```
$ ./a.out 7 tcp 1
ERANGE! Retrying with larger buffer
getservbyport_r() returned: 0 (success) (buflen=87)
s_name=echo; s_proto=tcp; s_port=7; aliases=
$ ./a.out 77777 tcp
getservbyport_r() returned: 0 (success) (buflen=1024)
Call failed/record not found
```

Program source

```
#define _GNU_SOURCE
#include <ctype.h>
#include <netdb.h>
#include <stdlib.h>
#include <stdio.h>
#include <errno.h>
#include <string.h>
#define MAX_BUF 10000
int
main(int argc, char *argv[])
{
    int buflen, erange_cnt, port, s;
    struct servent result_buf;
    struct servent *result;
    char buf[MAX_BUF];
    char *protop;
    if (argc < 3) {
        printf("Usage: %s port-num proto-name [buflen]\n", argv[0]);
        exit(EXIT_FAILURE);
    }
    port = htons(atoi(argv[1]));
```

```

protop = (strcmp(argv[2], "null") == 0 ||
    strcmp(argv[2], "NULL") == 0) ? NULL : argv[2];
buflen = 1024;
if (argc > 3)
    buflen = atoi(argv[3]);
if (buflen > MAX_BUF) {
    printf("Exceeded buffer limit (%d)\n", MAX_BUF);
    exit(EXIT_FAILURE);
}
erange_cnt = 0;
do {
    s = getservbyport_r(port, protop, &result_buf,
        buf, buflen, &result);
    if (s == ERANGE) {
        if (erange_cnt == 0)
            printf("ERANGE! Retrying with larger buffer\n");
        erange_cnt++;
        /* Increment a byte at a time so we can see exactly
            what size buffer was required */
        buflen++;
        if (buflen > MAX_BUF) {
            printf("Exceeded buffer limit (%d)\n", MAX_BUF);
            exit(EXIT_FAILURE);
        }
    }
} while (s == ERANGE);
printf("getservbyport_r() returned: %s (buflen=%d)\n",
    (s == 0) ? "0 (success)" : (s == ENOENT) ? "ENOENT" :
    strerror(s), buflen);
if (s != 0 || result == NULL) {
    printf("Call failed/record not found\n");
    exit(EXIT_FAILURE);
}

```

```

printf("s_name=%s; s_proto=%s; s_port=%d; aliases=",
      result_buf.s_name, result_buf.s_proto,
      ntohs(result_buf.s_port));
for (char **p = result_buf.s_aliases; *p != NULL; p++)
    printf("%s ", *p);
printf("\n");
exit(EXIT_SUCCESS);
}

```

SEE ALSO

getservent(3), services(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

2020-11-01

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