



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

C:\>man mbrtowc.3

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

NAME

mbrtowc - convert a multibyte sequence to a wide character

SYNOPSIS

```
#include <wchar.h>
```

```
size_t mbrtowc(wchar_t *pwc, const char *s, size_t n, mbstate_t *ps);
```

DESCRIPTION

The main case for this function is when *s* is not NULL and *pwc* is not NULL. In this case, the `mbrtowc()` function inspects at most *n* bytes of the multibyte string starting at *s*, extracts the next complete multibyte character, converts it to a wide character and stores it at **pwc*. It updates the shift state **ps*. If the converted wide character is not `L'\0'` (the null wide character), it returns the number of bytes that were consumed from *s*. If the converted wide character is `L'\0'`, it resets the shift state **ps* to the initial state and returns 0.

If the *n* bytes starting at *s* do not contain a complete multibyte character, `mbrtowc()` returns `(size_t) -2`. This can happen even if $n \geq \text{MB_CUR_MAX}$, if the multibyte string contains redundant shift sequences.

If the multibyte string starting at *s* contains an invalid multibyte sequence before the next complete character, `mbrtowc()` returns `(size_t) -1` and sets `errno` to `EILSEQ`. In this case, the effects on **ps* are undefined.

A different case is when *s* is not NULL but *pwc* is NULL. In this case, the `mbrtowc()` function behaves as above, except that it does not store the converted wide

character in memory.

A third case is when s is NULL. In this case, pwc and n are ignored. If the conversion state represented by *ps denotes an incomplete multibyte character conversion, the mbrtowc() function returns (size_t) -1, sets errno to EILSEQ, and leaves *ps in an undefined state. Otherwise, the mbrtowc() function puts *ps in the initial state and returns 0.

In all of the above cases, if ps is NULL, a static anonymous state known only to the mbrtowc() function is used instead. Otherwise, *ps must be a valid mbstate_t object. An mbstate_t object can be initialized to the initial state by zeroing it, for example using

```
memset(&a, 0, sizeof(a));
```

RETURN VALUE

The mbrtowc() function returns the number of bytes parsed from the multibyte sequence starting at s, if a non-L'\0' wide character was recognized. It returns 0, if a L'\0' wide character was recognized. It returns (size_t) -1 and sets errno to EILSEQ, if an invalid multibyte sequence was encountered. It returns (size_t) -2 if it couldn't parse a complete multibyte character, meaning that n should be increased.

ATTRIBUTES

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

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?Interface ? Attribute ? Value ?

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?mbrtowc() ? Thread safety ? MT-Unsafe race:mbrtowc/!ps ?

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CONFORMING TO

POSIX.1-2001, POSIX.1-2008, C99.

NOTES

The behavior of mbrtowc() depends on the LC_CTYPE category of the current locale.

SEE ALSO

mbsinit(3), mbsrtowcs(3)

COLOPHON

This page is part of release 5.05 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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