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

\$ 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* >= 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/lps ?

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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

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