

# std::mbstowcs

Defined in header <cstdlib>

```
std::size_t mbstowcs( wchar_t* dst, const char* src, std::size_t len);
```

Converts a multibyte character string from the array whose first element is pointed to by `src` to its wide character representation. Converted characters are stored in the successive elements of the array pointed to by `dst`. No more than `len` wide characters are written to the destination array.

Each character is converted as if by a call to `std::mbtowc`, except that the `mbtowc` conversion state is unaffected. The conversion stops if:

- The multibyte null character was converted and stored.
- An invalid (in the current C locale) multibyte character was encountered.
- The next wide character to be stored would exceed `len`.

## Notes

In most implementations, this function updates a global static object of type `std::mbstate_t` as it processes through the string, and cannot be called simultaneously by two threads, `std::mbsrtowcs` should be used in such cases.

POSIX specifies a common extension: if `dst` is a null pointer, this function returns the number of wide characters that would be written to `dst`, if converted. Similar behavior is standard for `std::mbsrtowcs`.

## Parameters

**dst** - pointer to wide character array where the wide string will be stored  
**src** - pointer to the first element of a null-terminated multibyte string to convert  
**len** - number of wide characters available in the array pointed to by `dst`

## Return value

On success, returns the number of wide characters, excluding the terminating `L'\0'`, written to the destination array.

On conversion error (if invalid multibyte character was encountered), returns `static_cast<std::size_t> (-1)`.

## Example

Run this code

```
#include <iostream>
#include <locale>
#include <cstdlib>
int main()
{
    std::setlocale(LC_ALL, "en_US.utf8");
    std::wcout.imbue(std::locale("en_US.utf8"));
    const char* mbstr = "z\u00df\u6c34\u0001f34c"; // or u8"zß水👉"
                                     // or "\x7a\xc3\x9f\xe6\xb0\xb4\xf0\x9f\x8d\x8c";
    wchar_t wstr[5];
    std::mbstowcs(wstr, mbstr, 5);
    std::wcout << "wide string: " << wstr << '\n';
}
```

Output:

wide string: zß水👉

## See also

<b>mbsrtowcs</b>	converts a narrow multibyte character string to wide string, given state (function)
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<b>wcstombs</b>	converts a wide string to narrow multibyte character string (function)
<b>do_in</b> [virtual]	converts a string from externT to internT, such as when reading from file (virtual protected member function of std::codecvt<InternT,ExternT,State>)

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**C documentation for mbstowcs**

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