

# C LIBRARY FUNCTION - MBSTOWCS

[http://www.tutorialspoint.com/c\\_standard\\_library/c\\_function\\_mbstowcs.htm](http://www.tutorialspoint.com/c_standard_library/c_function_mbstowcs.htm)

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## Description

The C library function **size\_t mbstowcs**(*schar\_t* \* *pwcs*, *const char* \* *str*, *size\_t* *n*) converts the string of multi-byte characters pointed to, by the argument **str** to the array pointed to by **pwcs**.

## Declaration

Following is the declaration for mbstowcs function.

```
size_t mbstowcs(schar_t *pwcs, const char *str, size_t n)
```

## Parameters

- **pwcs** -- This is the pointer to an array of *wchar\_t* elements that is long enough to store a wide string max characters long.
- **str** -- This is the C multi-byte character string to be interpreted.
- **n** -- This is the maximum number of *wchar\_t* characters to be interpreted.

## Return Value

This function returns the number of characters translated, excluding the ending null-character. If an invalid multi-byte character is encountered, a -1 value is returned.

## Example

The following example shows the usage of mbstowcs function.

```
#include<stdio.h>
#include<stdlib.h>
#include<string.h>

int main()
{
    int len;
    char *pmbnull = NULL;
    char *pmb = (char *)malloc( MB_CUR_MAX );
    wchar_t *pwc = L"Hi";
    wchar_t *pwcs = (wchar_t *)malloc( sizeof( wchar_t ) );

    printf("Converting to multibyte string\n");
    len = wcstombs( pmb, pwc, MB_CUR_MAX);
    printf("Characters converted %d\n", len);
    printf("Hex value of first multibyte character: %#.4x\n", pmb);

    printf("Converting back to Wide-Character string\n");
    len = mbstowcs( pwcs, pmb, MB_CUR_MAX);
    printf("Characters converted %d\n", len);
    printf("Hex value of first wide character %#.4x\n\n", pwcs);

    return(0);
}
```

Let us compile and run the above program that will produce the following result:

```
Converting to multibyte string
Characters converted 1
Hex value of first multibyte character: 0x19a60010
Converting back to Wide-Character string
```

Characters converted 1

Hex value of first wide character 0x19a60030

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