

NAME

`argz_add`, `argz_add_sep`, `argz_append`, `argz_count`, `argz_create`, `argz_create_sep`, `argz_delete`, `argz_extract`, `argz_insert`, `argz_next`, `argz_replace`, `argz_stringify` – functions to handle an argz list

LIBRARY

Standard C library (*libc*, *-lc*)

SYNOPSIS

```
#include <argz.h>

error_t argz_add(char **restrict argz, size_t *restrict argz_len,
                const char *restrict str);

error_t argz_add_sep(char **restrict argz, size_t *restrict argz_len,
                    const char *restrict str, int delim);

error_t argz_append(char **restrict argz, size_t *restrict argz_len,
                   const char *restrict buf, size_t buf_len);

size_t argz_count(const char *argz, size_t argz_len);

error_t argz_create(char *const argv[], char **restrict argz,
                  size_t *restrict argz_len);

error_t argz_create_sep(const char *restrict str, int sep,
                      char **restrict argz, size_t *restrict argz_len);

void argz_delete(char **restrict argz, size_t *restrict argz_len,
                char *restrict entry);

void argz_extract(const char *restrict argz, size_t argz_len,
                 char **restrict argv);

error_t argz_insert(char **restrict argz, size_t *restrict argz_len,
                  char *restrict before, const char *restrict entry);

char *argz_next(const char *restrict argz, size_t argz_len,
               const char *restrict entry);

error_t argz_replace(char **restrict argz, size_t *restrict argz_len,
                   const char *restrict str, const char *restrict with,
                   unsigned int *restrict replace_count);

void argz_stringify(char *argz, size_t len, int sep);
```

DESCRIPTION

These functions are glibc-specific.

An argz vector is a pointer to a character buffer together with a length. The intended interpretation of the character buffer is an array of strings, where the strings are separated by null bytes (`'\0'`). If the length is nonzero, the last byte of the buffer must be a null byte.

These functions are for handling argz vectors. The pair `(NULL,0)` is an argz vector, and, conversely, argz vectors of length 0 must have null pointer. Allocation of nonempty argz vectors is done using `malloc(3)`, so that `free(3)` can be used to dispose of them again.

argz_add() adds the string *str* at the end of the array **argz*, and updates **argz* and **argz_len*.

argz_add_sep() is similar, but splits the string *str* into substrings separated by the delimiter *delim*. For example, one might use this on a UNIX search path with delimiter `'.'`.

argz_append() appends the argz vector (*buf*, *buf_len*) after (**argz*, **argz_len*) and updates **argz* and **argz_len*. (Thus, **argz_len* will be increased by *buf_len*.)

argz_count() counts the number of strings, that is, the number of null bytes (`'\0'`), in (*argz*, *argz_len*).

argz_create() converts a UNIX-style argument vector *argv*, terminated by (*char **) 0, into an argz vector (**argz*, **argz_len*).

argz_create_sep() converts the null-terminated string *str* into an argz vector (**argz*, **argz_len*) by breaking it up at every occurrence of the separator *sep*.

argz_delete() removes the substring pointed to by *entry* from the argz vector (**argz*, **argz_len*) and updates **argz* and **argz_len*.

argz_extract() is the opposite of **argz_create()**. It takes the argz vector (*argz*, *argz_len*) and fills the array starting at *argv* with pointers to the substrings, and a final NULL, making a UNIX-style argv vector. The array *argv* must have room for *argz_count(argz, argz_len) + 1* pointers.

argz_insert() is the opposite of **argz_delete()**. It inserts the argument *entry* at position *before* into the argz vector (**argz*, **argz_len*) and updates **argz* and **argz_len*. If *before* is NULL, then *entry* will be inserted at the end.

argz_next() is a function to step through the argz vector. If *entry* is NULL, the first entry is returned. Otherwise, the entry following is returned. It returns NULL if there is no following entry.

argz_replace() replaces each occurrence of *str* with *with*, reallocating argz as necessary. If *replace_count* is non-NULL, **replace_count* will be incremented by the number of replacements.

argz_stringify() is the opposite of **argz_create_sep()**. It transforms the argz vector into a normal string by replacing all null bytes ('\0') except the last by *sep*.

RETURN VALUE

All argz functions that do memory allocation have a return type of *error_t* (an integer type), and return 0 for success, and **ENOMEM** if an allocation error occurs.

ATTRIBUTES

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

Interface	Attribute	Value
argz_add() , argz_add_sep() , argz_append() , argz_count() , argz_create() , argz_create_sep() , argz_delete() , argz_extract() , argz_insert() , argz_next() , argz_replace() , argz_stringify()	Thread safety	MT-Safe

STANDARDS

These functions are a GNU extension.

BUGS

Argz vectors without a terminating null byte may lead to Segmentation Faults.

SEE ALSO

envz_add(3)