

# ARGZ\_ADD(3)

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ARGZ\_ADD(3)   Linux Programmer's Manual   ARGZ\_ADD(3)

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## 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

## SYNOPSIS

```
#include <argz.h>

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

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

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

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

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

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

error_t argz_delete(char **argz, size_t *argz_len, char *entry);

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

```

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

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

error_t argz_replace(char **argz, size_t *argz_len, const char *str,
                     const char *with, unsigned int *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(argv, 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`, and return 0 for success, and **ENOMEM** if an allocation error occurs.

## CONFORMING TO

These functions are a GNU extension. Handle with care.

## BUGS

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

## SEE ALSO

**envz\_add(3)**

## COLOPHON

This page is part of release 3.54 of the Linux `man-pages` project. A description of the project, and information about reporting bugs, can be found at <http://www.kernel.org/doc/man-pages/>.

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