



Red Hat Enterprise Linux Release 9.2 Manual Pages on 'dirname.3' command

\$ man dirname.3

BASENAME(3) Linux Programmer's Manual BASENAME(3)

NAME

basename, dirname - parse pathname components

SYNOPSIS

```
#include <libgen.h>

char *dirname(char *path);

char *basename(char *path);
```

DESCRIPTION

Warning: there are two different functions `basename()` - see below.

The functions `dirname()` and `basename()` break a null-terminated pathname string into directory and filename components. In the usual case, `dirname()` returns the string up to, but not including, the final '/', and `basename()` returns the component following the final '/'. Trailing '/' characters are not counted as part of the pathname.

If `path` does not contain a slash, `dirname()` returns the string "." while `basename()` returns a copy of `path`. If `path` is the string "/", then both `dirname()` and `basename()` return the string "/". If `path` is a null pointer or points to an empty string, then both `dirname()` and `basename()` return the string ".".

Concatenating the string returned by `dirname()`, a "/", and the string returned by `basename()` yields a complete pathname.

Both `dirname()` and `basename()` may modify the contents of `path`, so it may be desirable to pass a copy when calling one of these functions.

These functions may return pointers to statically allocated memory which may be overwritten by subsequent calls. Alternatively, they may return a pointer to some part of path, so that the string referred to by path should not be modified or freed until the pointer returned by the function is no longer required.

The following list of examples (taken from SUSv2) shows the strings returned by `dirname()` and `basename()` for different paths:

path	dirname	basename
/usr/lib	/usr	lib
/usr/	/	usr
usr	.	usr
/	/	/
.	.	.
..	.	..

RETURN VALUE

Both `dirname()` and `basename()` return pointers to null-terminated strings. (Do not pass these pointers to `free(3)`.)

ATTRIBUTES

For an explanation of the terms used in this section, see [attributes\(7\)](#).

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?Interface ? Attribute ? Value ?

????????????????????????????????????????????????????????????

?`basename()`, `dirname()` ? Thread safety ? MT-Safe ?

????????????????????????????????????????????????????????????

CONFORMING TO

POSIX.1-2001, POSIX.1-2008.

NOTES

There are two different versions of `basename()` - the POSIX version described above, and the GNU version, which one gets after

```
#define _GNU_SOURCE        /* See feature_test_macros(7) */
#include <string.h>
```

The GNU version never modifies its argument, and returns the empty

string when path has a trailing slash, and in particular also when it is "/". There is no GNU version of `dirname()`.

With glibc, one gets the POSIX version of `basename()` when `<libgen.h>` is included, and the GNU version otherwise.

BUGS

In the glibc implementation, the POSIX versions of these functions modify the `path` argument, and segfault when called with a static string such as `"/usr/"`.

Before glibc 2.2.1, the glibc version of `dirname()` did not correctly handle pathnames with trailing '/' characters, and generated a segfault if given a NULL argument.

EXAMPLES

The following code snippet demonstrates the use of `basename()` and `dirname()`:

```
char *dirc, *basec, *bname, *dname;
char *path = "/etc/passwd";
dirc = strdup(path);
basec = strdup(path);
dname = dirname(dirc);
bname = basename(basec);
printf("dirname=%s, basename=%s\n", dname, bname);
```

SEE ALSO

`basename(1)`, `dirname(1)`

COLOPHON

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