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Rocky Enterprise Linux 9.2 Manual Pages on command 'versionsort.3'

\$ man versionsort.3

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

NAME

scandir, scandirat, alphasort, versionsort - scan a directory for

matching entries

SYNOPSIS

#include <dirent.h>

int scandir(const char *dirp, struct dirent ***namelist,

int (*filter)(const struct dirent *),

int (*compar)(const struct dirent **, const struct dirent **));

int alphasort(const struct dirent **a, const struct dirent **b);

int versionsort(const struct dirent **a, const struct dirent **b);

#include <fcntl.h> /* Definition of AT_* constants */

#include <dirent.h>

int scandirat(int dirfd, const char *dirp,

struct dirent ***namelist,

int (*filter)(const struct dirent *),

int (*compar)(const struct dirent **, const struct dirent **));

Feature Test Macro Requirements for glibc (see feature_test_macros(7)):

scandir(), alphasort():

/* Since glibc 2.10: */ _POSIX_C_SOURCE >= 200809L

|| /* Glibc versions <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE
versionsort(): _GNU_SOURCE</pre>

scandirat(): _GNU_SOURCE

DESCRIPTION

The scandir() function scans the directory dirp, calling filter() on each directory entry. Entries for which filter() returns nonzero are stored in strings allocated via malloc(3), sorted using qsort(3) with the comparison function compar(), and collected in array namelist which is allocated via malloc(3). If filter is NULL, all entries are se? lected.

The alphasort() and versionsort() functions can be used as the compari? son function compar(). The former sorts directory entries using str? coll(3), the latter using strverscmp(3) on the strings (*a)->d_name and

(*b)->d_name.

scandirat()

The scandirat() function operates in exactly the same way as scandir(), except for the differences described here.

If the pathname given in dirp is relative, then it is interpreted rela? tive to the directory referred to by the file descriptor dirfd (rather than relative to the current working directory of the calling process, as is done by scandir() for a relative pathname). If dirp is relative and dirfd is the special value AT_FDCWD, then dirp is interpreted relative to the current working directory of the calling

process (like scandir()).

If dirp is absolute, then dirfd is ignored.

See openat(2) for an explanation of the need for scandirat().

RETURN VALUE

The scandir() function returns the number of directory entries se? lected. On error, -1 is returned, with errno set to indicate the cause of the error.

The alphasort() and versionsort() functions return an integer less

than, equal to, or greater than zero if the first argument is consid?

ered to be respectively less than, equal to, or greater than the sec?

ond.

ERRORS

ENOENT The path in dirp does not exist.

ENOMEM Insufficient memory to complete the operation.

ENOTDIR

The path in dirp is not a directory.

The following additional errors can occur for scandirat():

EBADF dirfd is not a valid file descriptor.

ENOTDIR

dirp is a relative path and dirfd is a file descriptor referring

to a file other than a directory.

VERSIONS

versionsort() was added to glibc in version 2.1.

scandirat() was added to glibc in version 2.15.

ATTRIBUTES

For an explanation of the terms used in this section, see at?

tributes(7).

?Interface ? Attribute ? Value ?

?scandir(), scandirat() ? Thread safety ? MT-Safe ?

?alphasort(), versionsort() ? Thread safety ? MT-Safe locale ?

CONFORMING TO

alphasort(), scandir(): 4.3BSD, POSIX.1-2008.

versionsort() and scandirat() are GNU extensions.

NOTES

Since glibc 2.1, alphasort() calls strcoll(3); earlier it used str?

cmp(3).

Before glibc 2.10, the two arguments of alphasort() and versionsort()

were typed as const void *. When alphasort() was standardized in POSIX.1-2008, the argument type was specified as the type-safe const struct dirent **, and glibc 2.10 changed the definition of alphasort() (and the nonstandard versionsort()) to match the standard.

EXAMPLES

The program below prints a list of the files in the current directory in reverse order.

Program source

#define _DEFAULT_SOURCE

#include <dirent.h>

#include <stdio.h>

#include <stdlib.h>

int

main(void)

```
{
```

```
struct dirent **namelist;
```

int n;

```
n = scandir(".", &namelist, NULL, alphasort);
```

```
if (n == -1) {
```

perror("scandir");

exit(EXIT_FAILURE);

}

while (n--) {

printf("%s\n", namelist[n]->d_name);

free(namelist[n]);

}

free(namelist);

exit(EXIT_SUCCESS);

}

SEE ALSO

closedir(3), fnmatch(3), opendir(3), readdir(3), rewinddir(3),

seekdir(3), strcmp(3), strcoll(3), strverscmp(3), telldir(3)

This page is part of release 5.10 of the Linux man-pages project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at https://www.kernel.org/doc/man-pages/.

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