



Linux Ubuntu 22.4.5 Manual Pages on command 'fstatvfs.2'

\$ man fstatvfs.2

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

NAME

statvfs, fstatvfs - get filesystem statistics

SYNOPSIS

```
#include <sys/statvfs.h>

int statvfs(const char *path, struct statvfs *buf);

int fstatvfs(int fd, struct statvfs *buf);
```

DESCRIPTION

The function statvfs() returns information about a mounted filesystem. path is the pathname of any file within the mounted filesystem. buf is a pointer to a statvfs structure defined approximately as follows:

```
struct statvfs {

    unsigned long f_bsize; /* Filesystem block size */

    unsigned long f_frsize; /* Fragment size */

    fsblkcnt_t f_blocks; /* Size of fs in f_frsize units */

    fsblkcnt_t f_bfree; /* Number of free blocks */

    fsblkcnt_t f_bavail; /* Number of free blocks for
                          unprivileged users */

    fsfilcnt_t f_files; /* Number of inodes */

    fsfilcnt_t f_ffree; /* Number of free inodes */

    fsfilcnt_t f_favail; /* Number of free inodes for
                          unprivileged users */
```

```

unsigned long f_fsid; /* Filesystem ID */
unsigned long f_flag; /* Mount flags */
unsigned long f_namemax; /* Maximum filename length */
};

```

Here the types `fsblkcnt_t` and `fsfilcnt_t` are defined in `<sys/types.h>`. Both used to be unsigned long.

The field `f_flag` is a bit mask indicating various options that were employed when mounting this filesystem. It contains zero or more of the following flags:

ST_MANDLOCK

Mandatory locking is permitted on the filesystem (see `fcntl(2)`).

ST_NOATIME

Do not update access times; see `mount(2)`.

ST_NODEV

Disallow access to device special files on this filesystem.

ST_NODIRATIME

Do not update directory access times; see `mount(2)`.

ST_NOEXEC

Execution of programs is disallowed on this filesystem.

ST_NOSUID

The `set-user-ID` and `set-group-ID` bits are ignored by `exec(3)` for executable files on this filesystem

ST_RDONLY

This filesystem is mounted read-only.

ST_RELATIME

Update atime relative to mtime/ctime; see `mount(2)`.

ST_SYNCHRONOUS

Writes are synched to the filesystem immediately (see the description of `O_SYNC` in `open(2)`).

It is unspecified whether all members of the returned struct have meaningful values on all filesystems.

`fstatvfs()` returns the same information about an open file referenced by descriptor `fd`.

On success, zero is returned. On error, -1 is returned, and errno is set appropriately.

ERRORS

EACCES (`statvfs()`) Search permission is denied for a component of the path prefix of path. (See also `path_resolution(7)`.)

EBADF (`fstatvfs()`) fd is not a valid open file descriptor.

EFAULT Buf or path points to an invalid address.

EINTR This call was interrupted by a signal; see `signal(7)`.

EIO An I/O error occurred while reading from the filesystem.

ELOOP (`statvfs()`) Too many symbolic links were encountered in translating path.

ENAMETOOLONG

(`statvfs()`) path is too long.

ENOENT (`statvfs()`) The file referred to by path does not exist.

ENOMEM Insufficient kernel memory was available.

ENOSYS The filesystem does not support this call.

ENOTDIR

(`statvfs()`) A component of the path prefix of path is not a directory.

EOVERFLOW

Some values were too large to be represented in the returned struct.

ATTRIBUTES

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

??

?Interface ? Attribute ? Value ?

??

?`statvfs()`, `fstatvfs()` ? Thread safety ? MT-Safe ?

??

CONFORMING TO

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

Only the `ST_NOSUID` and `ST_RDONLY` flags of the `f_flag` field are specified in POSIX.1. To obtain definitions of the remaining flags, one must define `_GNU_SOURCE`.

NOTES

The Linux kernel has system calls `statfs(2)` and `fstatfs(2)` to support this library

call.

In glibc versions before 2.13, `statvfs()` populated the bits of the `f_flag` field by scanning the mount options shown in `/proc/mounts`. However, starting with Linux 2.6.36, the underlying `statfs(2)` system call provides the necessary information via the `f_flags` field, and since glibc version 2.13, the `statvfs()` function will use information from that field rather than scanning `/proc/mounts`.

The glibc implementations of

```
pathconf(path, _PC_REC_XFER_ALIGN);
```

```
pathconf(path, _PC_ALLOC_SIZE_MIN);
```

```
pathconf(path, _PC_REC_MIN_XFER_SIZE);
```

respectively use the `f_rsize`, `f_rsize`, and `f_bsize` fields returned by a call to `statvfs()` with the argument `path`.

SEE ALSO

`statfs(2)`

COLOPHON

This page is part of release 5.05 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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