## NAME

**install** - install binaries

## SYNOPSIS

**install** [**-bCcpSsUv**] [**-B** *suffix*] [**-D** *destdir*] [**-f** *flags*] [**-g** *group*] [**-h** *hash*] [**-l** *linkflags*] [**-M** *metalog*] [**-m** *mode*] [**-N** *dbdir*] [**-o** *owner*] [**-T** *tags*] *file1 file2*

**install** [**-bCcpSsUv**] [**-B** *suffix*] [**-D** *destdir*] [**-f** *flags*] [**-g** *group*] [**-h** *hash*] [**-l** *linkflags*] [**-M** *metalog*] [**-m** *mode*] [**-N** *dbdir*] [**-o** *owner*] [**-T** *tags*] *file1 ... fileN directory*

**install -d** [**-Uv**] [**-D** *destdir*] [**-g** *group*] [**-h** *hash*] [**-M** *metalog*] [**-m** *mode*] [**-N** *dbdir*] [**-o** *owner*] [**-T** *tags*] *directory ...*

## DESCRIPTION

The file(s) are copied (or linked if the **-l** option is specified) to the target file or directory. If the destination is a directory, then the *file* is copied into *directory* with its original filename. If the target file already exists, it is either renamed to *file.old* if the **-b** option is given or overwritten if permissions allow. An alternate backup suffix may be specified via the **-B** option's argument.

The options are as follows:

**-B** *suffix*

Use *suffix* as the backup suffix if **-b** is given.

**-b** Back up any existing files before overwriting them by renaming them to *file.old*. See **-B** for specifying a different backup suffix.

**-C** Copy the file. If the target file already exists and the files are the same, then do not change the modification time of the target. If the target's file flags and mode need not to be changed, the target's inode change time is also unchanged.

**-c** Copy the file. This is actually the default. The **-c** option is only included for backwards compatibility.

**-D** *destdir*

Specify the DESTDIR (top of the file hierarchy) that the items are installed in to. If **-M** *metalog* is in use, a leading string of "*destdir*" will be removed from the file names logged to the *metalog*. This option does not affect where the actual files are installed.

**-d** Create directories. Missing parent directories are created as required.

**-f** *flags*

Specify the target's file flags; see chflags(1) for a list of possible flags and their meanings.

**-g** *group*

Specify a group. A numeric GID is allowed.

**-h** *hash*

When copying, calculate the digest of the files with *hash* to store in the **-M** *metalog*. When **-d** is given no hash is emitted. Supported digests:

**none** No hash. This is the default.

**md5** The MD5 cryptographic message digest.

**rmd160** The RMD-160 cryptographic message digest.

**sha1** The SHA-1 cryptographic message digest.

**sha256** The 256-bits SHA-2 cryptographic message digest of the file.

**sha512** The 512-bits SHA-2 cryptographic message digest of the file.

**-l** *linkflags*

Instead of copying the file make a link to the source. The type of the link is determined by the *linkflags* argument. Valid *linkflags* are: *a* (absolute), *r* (relative), *h* (hard), *s* (symbolic), *m* (mixed). Absolute and relative have effect only for symbolic links. Mixed links are hard links for files on the same filesystem, symbolic otherwise.

**-M** *metalog*

Write the metadata associated with each item installed to *metalog* in an mtree(8) "full path" specification line. The metadata includes: the file name and file type, and depending upon other options, the owner, group, file flags, modification time, and tags.

**-m** *mode*

Specify an alternate mode. The default mode is set to rwxr-xr-x (0755). The specified mode may be either an octal or symbolic value; see chmod(1) for a description of possible mode values.

**-N** *dbdir*

Use the user database text file *master.passwd* and group database text file *group* from *dbdir*, rather than using the results from the system's getpwnam(3) and getgrnam(3) (and related)

library calls.

**-o** *owner*
Specify an owner. A numeric UID is allowed.

**-p** Preserve the access and modification times. Copy the file, as if the **-C** (compare and copy) option is specified, except if the target file does not already exist or is different, then preserve the access and modification times of the source file.

**-S** Safe copy. Normally, **install** unlinks an existing target before installing the new file. With the **-S** flag a temporary file is used and then renamed to be the target. The reason this is safer is that if the copy or rename fails, the existing target is left untouched.

**-s** **install** exec's the command strip(1) to strip binaries so that **install** can be portable over a large number of systems and binary types. See below for how **install** can be instructed to use another program to strip binaries.

**-T** *tags*
Specify the mtree(8) tags to write out for the file when using **-M** *metalog*.

**-U** Indicate that install is running unprivileged, and that it should not try to change the owner, the group, or the file flags of the destination. The information that would have been updated can be stored in a log file with **-M** *metalog*.

**-v** Cause **install** to be verbose, showing files as they are installed or backed up.

By default, **install** preserves all file flags, with the exception of the "nodump" flag.

The **install** utility attempts to prevent moving a file onto itself.

Installing */dev/null* creates an empty file.

## ENVIRONMENT

The **install** utility checks for the presence of the STRIPBIN environment variable and if present, uses the assigned value as the program to run if and when the **-s** option has been specified.

If the DONTSTRIP environment variable is present, **install** will ignore any specification of the **-s** option. This is mainly for use in debugging the FreeBSD Ports Collection.

## FILES

*INS@XXXXXX* If either **-S** option is specified, or the **-C** or **-p** option is used in conjunction with the **-s** option, temporary files named *INS@XXXXXX*, where *XXXXXX* is decided by mkstemp(3), are created in the target directory.

## EXIT STATUS

The **install** utility exits 0 on success, and >0 if an error occurs.

## COMPATIBILITY

Historically **install** moved files by default. The default was changed to copy in FreeBSD 4.4.

## SEE ALSO

chflags(1), chgrp(1), chmod(1), cp(1), mv(1), strip(1), mmap(2), getgrnam(3), getpwnam(3), chown(8)

## HISTORY

The **install** utility appeared in 4.2BSD.

## BUGS

The meaning of the **-M** option has changed as of FreeBSD 9.2 and it now takes an argument. Command lines that used the old **-M** will get an error or in rare cases will append logs to the first of multiple source files rather than installing it.

Temporary files may be left in the target directory if **install** exits abnormally.

File flags cannot be set by fchflags(2) over a NFS file system. Other file systems do not have a concept of flags. The **install** utility will only warn when flags could not be set on a file system that does not support them.

The **install** utility with **-v** falsely says a file is copied when **-C** snaps hard links.