NAME

fallocate - preallocate or deallocate space to a file

SYNOPSIS

fallocate [**-n**] [**-p**] [**-c**] [**-z**] [**-o** *offset*] **-l** *length filename*

fallocate -d [**-o** *offset*] [**-l** *length*] *filename*

DESCRIPTION

fallocate is used to manipulate the allocated disk space for a file, either to deallocate or preallocate it. For filesystems which support the fallocate system call, preallocation is done quickly by allocating blocks and marking them as uninitialized, requiring no IO to the data blocks. This is much faster than creating a file by filling it with zeros.

The exit code returned by **fallocate** is 0 on success and 1 on failure.

OPTIONS

The *length* and *offset* arguments may be followed by the multiplicative suffixes KiB=1024, MiB=1024*1024, and so on for GiB, TiB, PiB, EiB, ZiB and YiB (the iB is optional, e.g. K has the same meaning as KiB) or the suffixes KB=1000, MB=1000*1000, and so on for GB, TB, PB, EB, ZB and YB.

The options **--collapse-range**, **--dig-holes**, **--punch-hole** and **--zero-range** are mutually exclusive.

-n, --keep-size

> Do not modify the apparent length of the file. This may effectively allocate blocks past EOF, which can be removed with a truncate.

-p, --punch-hole

> Deallocates space (i.e., creates a hole) in the byte range starting at *offset* and continuing for *length* bytes. Within the specified range, partial filesystem blocks are zeroed, and whole filesystem blocks are removed from the file. After a successful call, subsequent reads from this range will return zeroes. This option may not be specified at the same time as the **--zero-range** option. Also, when using this option, **--keep-size** is implied.

> Supported for XFS (since Linux 2.6.38), ext4 (since Linux 3.0), Btrfs (since Linux 3.7) and tmpfs (since Linux 3.5).

-d, --dig-holes

> Detect and dig holes. Makes the file sparse in-place, without using extra disk space. The minimal size of the hole depends on filesystem I/O block size (usually 4096 bytes). Also, when using this option, **--keep-size** is implied. If no range is specified by **--offset** and **--length**, then all file is analyzed for holes.

> You can think of this as doing a **cp --sparse** and renaming the dest file as the original, without the need for extra disk space.

> See **--punch-hole** for list of the supported filesystems.

-c, --collapse-range

> Removes a byte range from a file, without leaving a hole. The byte range to be collapsed starts at *offset* and continues for *length* bytes. At the completion of the operation, the contents of the file starting at the location offset+length will be appended at the location offset, and the file will be *length* bytes smaller. The option **--keep-size** may not be specified for colapse range operation.

> Available since Linux 3.15 for ext4 (only for extent-based files) and XFS.

-z, --zero-range

> Zeroes space in the byte range starting at *offset* and continuing for *length* bytes. Within the specified range, blocks are preallocated for the regions that span the holes in the file.

After a successful call, subsequent reads from this range will return zeroes.

Zeroing is done within the filesystem preferably by converting the range into unwritten extents. This approach means that the specified range will not be physically zeroed out on the device (except for partial blocks at the either end of the range), and I/O is (otherwise) required only to update metadata.

Option **--keep-size** can be specified to prevent file length modification.

Available since Linux 3.14 for ext4 (only for extent-based files) and XFS.

-o, --offset *offset*
> Specifies the beginning offset of the range, in bytes.

-l, --length *length*
> Specifies the length of the range, in bytes.

-h, --help
> Display help text and exit.

-v, --verbose
> Enable verbose mode.

-V, --version
> Display version information and exit.

AUTHORS
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SEE ALSO
fallocate(2), posix_fallocate(3), truncate(1)

AVAILABILITY
The fallocate command is part of the util-linux package and is available from Linux Kernel Archive.