NAME

lz4 - lz4, unlz4, lz4cat - Compress or decompress .lz4 files

SYNOPSIS

lz4 [*OPTIONS*] [-|INPUT-FILE] *OUTPUT-FILE*

unlz4 is equivalent to **lz4 -d**

lz4cat is equivalent to **lz4 -dcfm**

When writing scripts that need to decompress files, it is recommended to always use the name **lz4** with appropriate arguments (**lz4 -d** or **lz4 -dc**) instead of the names **unlz4** and **lz4cat**.

DESCRIPTION

lz4 is an extremely fast lossless compression algorithm, based on **byte-aligned LZ77** family of compression scheme. **lz4** offers compression speeds > 500 MB/s per core, linearly scalable with multi-core CPUs. It features an extremely fast decoder, offering speed in multiple GB/s per core, typically reaching RAM speed limit on multi-core systems. The native file format is the **.lz4** format.

Difference between lz4 and gzip

lz4 supports a command line syntax similar *but not identical* to **gzip(1)**. Differences are :

⊕   **lz4** compresses a single file by default (see **-m** for multiple files)

⊕   **lz4 file1 file2** means : compress file1 *into* file2

⊕   **lz4 file.lz4** will default to decompression (use **-z** to force compression)

⊕   **lz4** preserves original files (see **--rm** to erase source file on completion)

⊕   **lz4** shows real-time notification statistics during compression or decompression of a single file (use **-q** to silence them)

⊕   When no destination is specified, result is sent on implicit output, which depends on **stdout** status. When **stdout** *is Not the console*, it becomes the implicit output. Otherwise, if **stdout** is the console, the implicit output is **filename.lz4**.

⊕   It is considered bad practice to rely on implicit output in scripts. because the script's environment may change. Always use explicit output in scripts. **-c** ensures that output will be **stdout**. Conversely, providing a destination name, or using **-m** ensures that the output will be either the

specified name, or **filename.lz4** respectively.

Default behaviors can be modified by opt-in commands, detailed below.

⊕   **lz4 -m** makes it possible to provide multiple input filenames, which will be compressed into files
    using suffix **.lz4**. Progress notifications become disabled by default (use **-v** to enable them). This
    mode has a behavior which more closely mimics **gzip** command line, with the main remaining
    difference being that source files are preserved by default.

⊕   Similarly, **lz4 -m -d** can decompress multiple ***.lz4** files.

⊕   It's possible to opt-in to erase source files on successful compression or decompression, using
    --rm command.

⊕   Consequently, **lz4 -m --rm** behaves the same as **gzip**.

Concatenation of .lz4 files
It is possible to concatenate **.lz4** files as is. **lz4** will decompress such files as if they were a single **.lz4**
file. For example:

    lz4 file1 > foo.lz4
    lz4 file2 >> foo.lz4

Then **lz4cat foo.lz4** is equivalent to **cat file1 file2**.

OPTIONS
Short commands concatenation
In some cases, some options can be expressed using short command **-x** or long command **--long-word**.
Short commands can be concatenated together. For example, **-d -c** is equivalent to **-dc**. Long

commands cannot be concatenated. They must be clearly separated by a space.

Multiple commands

When multiple contradictory commands are issued on a same command line, only the latest one will be applied.

Operation mode

-z --compress

Compress. This is the default operation mode when no operation mode option is specified, no other operation mode is implied from the command name (for example, **unlz4** implies **--decompress**), nor from the input file name (for example, a file extension **.lz4** implies **--decompress** by default). **-z** can also be used to force compression of an already compressed **.lz4** file.

-d --decompress --uncompress

Decompress. **--decompress** is also the default operation when the input filename has an **.lz4** extension.

-t --test

Test the integrity of compressed **.lz4** files. The decompressed data is discarded. No files are created nor removed.

-b# Benchmark mode, using **#** compression level.

--list

List information about .lz4 files. note : current implementation is limited to single-frame .lz4 files.

Operation modifiers

-# Compression level, with # being any value from 1 to 12. Higher values trade compression speed for compression ratio. Values above 12 are considered the same as 12. Recommended values are 1 for fast compression (default), and 9 for high compression. Speed/compression trade-off will vary depending on data to compress. Decompression speed remains fast at all settings.

--fast[=#]

Switch to ultra-fast compression levels. The higher the value, the faster the compression speed, at the cost of some compression ratio. If =# is not present, it defaults to **1**. This setting overrides compression level if one was set previously. Similarly, if a compression level is set after **--fast**, it overrides it.

--best

Set highest compression level. Same as -12.

--favor-decSpeed
> Generate compressed data optimized for decompression speed. Compressed data will be larger as a consequence (typically by ~0.5%), while decompression speed will be improved by 5-20%, depending on use cases. This option only works in combination with very high compression levels (>=10).

-D dictionaryName
> Compress, decompress or benchmark using dictionary *dictionaryName*. Compression and decompression must use the same dictionary to be compatible. Using a different dictionary during decompression will either abort due to decompression error, or generate a checksum error.

-f --[no-]force
> This option has several effects:
>
> If the target file already exists, overwrite it without prompting.
>
> When used with **--decompress** and **lz4** cannot recognize the type of the source file, copy the source file as is to standard output. This allows **lz4cat --force** to be used like **cat (1)** for files that have not been compressed with **lz4**.

-c --stdout --to-stdout
> Force write to standard output, even if it is the console.

-m --multiple
> Multiple input files. Compressed file names will be appended a **.lz4** suffix. This mode also reduces notification level. Can also be used to list multiple files. **lz4 -m** has a behavior equivalent to **gzip -k** (it preserves source files by default).

-r   operate recursively on directories. This mode also sets **-m** (multiple input files).

-B# Block size [4-7](default : 7)
> **-B4**= 64KB ; **-B5**= 256KB ; **-B6**= 1MB ; **-B7**= 4MB

-BI Produce independent blocks (default)

-BD
> Blocks depend on predecessors (improves compression ratio, more noticeable on small blocks)

-BX
> Generate block checksums (default:disabled)

--[no-]frame-crc
    Select frame checksum (default:enabled)

--no-crc
    Disable both frame and block checksums

--[no-]content-size
    Header includes original size (default:not present)
    Note : this option can only be activated when the original size can be determined, hence for a file.
    It won't work with unknown source size, such as stdin or pipe.

--[no-]sparse
    Sparse mode support (default:enabled on file, disabled on stdout)

-l   Use Legacy format (typically for Linux Kernel compression)
    Note : **-l** is not compatible with **-m** (**--multiple**) nor **-r**

Other options
-v --verbose
    Verbose mode

-q --quiet
    Suppress warnings and real-time statistics; specify twice to suppress errors too

-h -H --help
    Display help/long help and exit

-V --version
    Display Version number and exit

-k --keep
    Preserve source files (default behavior)

--rm
    Delete source files on successful compression or decompression

--   Treat all subsequent arguments as files

Benchmark mode
-b# Benchmark file(s), using # compression level

-e# Benchmark multiple compression levels, from b# to e# (included)

-i# Minimum evaluation time in seconds [1-9] (default : 3)

BUGS

Report bugs at: https://github.com/lz4/lz4/issues

AUTHOR

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