



Linux Ubuntu 26.04 Manual Pages on command 'strip.1'

\$ man strip.1

STRIP(1)

GNU Development Tools

STRIP(1)

NAME

strip - discard symbols and other data from object files

SYNOPSIS

```
strip [-F bfdname [--target=bfdname]
      [-I bfdname [--input-target=bfdname]
      [-O bfdname [--output-target=bfdname]
      [-s|--strip-all]
      [-S|-g|-d|--strip-debug]
      [--strip-dwo]
      [-K symbolname|--keep-symbol=symbolname]
      [-M|--merge-notes][--no-merge-notes]
      [-N symbolname |--strip-symbol=symbolname]
      [-w|--wildcard]
      [-x|--discard-all] [-X |--discard-locals]
      [-R sectionname |--remove-section=sectionname]
      [--keep-section=sectionpattern]
      [--remove-relocations=sectionpattern]
      [--strip-section-headers]
      [-o file] [-p|--preserve-dates]
      [-D|--enable-deterministic-archives]
      [-U|--disable-deterministic-archives]
      [--keep-section-symbols]
```

`--keep-file-symbols`
`--only-keep-debug`
`--plugin name`
`-v | --verbose` `-V | --version`
`--help` `--info`
objfile...

DESCRIPTION

GNU strip discards all symbols from object files objfile. The list of object files may include archives. At least one object file must be given.

strip modifies the files named in its argument, rather than writing modified copies under different names.

OPTIONS

`-F bfdname`

`--target=bfdname`

Treat the original objfile as a file with the object code format bfdname, and rewrite it in the same format.

`--help`

Show a summary of the options to strip and exit.

`--info`

Display a list showing all architectures and object formats available.

`-I bfdname`

`--input-target=bfdname`

Treat the original objfile as a file with the object code format bfdname.

`-O bfdname`

`--output-target=bfdname`

Replace objfile with a file in the output format bfdname.

`-R sectionname`

`--remove-section=sectionname`

Remove any section named sectionname from the output file, in addition to whatever sections would otherwise be removed. This option may be given more than once. Note that using this option inappropriately may make the output file unusable. The wildcard character * may be given at the end of sectionname. If so, then any section starting with sectionname will be removed.

If the first character of sectionpattern is the exclamation point (!) then matching sections will not be removed even if an earlier use of --remove-section on the same command line would otherwise remove it. For example:

```
--remove-section=.text.* --remove-section=!text.foo
```

will remove all sections matching the pattern '.text.*', but will not remove the section 'text.foo'.

--keep-section=sectionpattern

When removing sections from the output file, keep sections that match sectionpattern.

--remove-relocations=sectionpattern

Remove relocations from the output file for any section matching sectionpattern. This option may be given more than once. Note that using this option inappropriately may make the output file unusable. Wildcard characters are accepted in sectionpattern. For example:

```
--remove-relocations=.text.*
```

will remove the relocations for all sections matching the pattern '.text.*'.

If the first character of sectionpattern is the exclamation point (!) then matching sections will not have their relocation removed even if an earlier use of --remove-relocations on the same command line would otherwise cause the relocations to be removed. For example:

```
--remove-relocations=.text.* --remove-relocations=!text.foo
```

will remove all relocations for sections matching the pattern '.text.*', but will not remove relocations for the section 'text.foo'.

--strip-section-headers

Strip section headers. This option is specific to ELF files. Implies --strip-all and --merge-notes.

-S

--strip-all

Remove all symbols.

-g

-S

-d

--strip-debug

Remove debugging symbols only.

`--strip-dwo`

Remove the contents of all DWARF .dwo sections, leaving the remaining debugging sections and all symbols intact. See the description of this option in the `objcopy` section for more information.

`--strip-unneeded`

Remove all symbols that are not needed for relocation processing in addition to debugging symbols and sections stripped by `--strip-debug`.

`-K symbolname`

`--keep-symbol=symbolname`

When stripping symbols, keep symbol `symbolname` even if it would normally be stripped.

This option may be given more than once.

`-M`

`--merge-notes`

`--no-merge-notes`

For ELF files, attempt (or do not attempt) to reduce the size of any SHT_NOTE type sections by removing duplicate notes. The default is to attempt this reduction unless stripping debug or DWO information.

`-N symbolname`

`--strip-symbol=symbolname`

Remove symbol `symbolname` from the source file. This option may be given more than once, and may be combined with strip options other than `-K`.

`-o file`

Put the stripped output in `file`, rather than replacing the existing `file`. When this argument is used, only one `objfile` argument may be specified.

`-p`

`--preserve-dates`

Preserve the access and modification dates of the file.

`-D`

`--enable-deterministic-archives`

Operate in deterministic mode. When copying archive members and writing the archive index, use zero for UIDs, GIDs, timestamps, and use consistent file modes for all files.

If `binutils` was configured with `--enable-deterministic-archives`, then this mode is on by default. It can be disabled with the `-U` option, below.

-U

--disable-deterministic-archives

Do not operate in deterministic mode. This is the inverse of the -D option, above: when copying archive members and writing the archive index, use their actual UID, GID, timestamp, and file mode values.

This is the default unless binutils was configured with --enable-deterministic-archives.

-W

--wildcard

Permit regular expressions in symbolnames used in other command line options. The question mark (?), asterisk (*), backslash (\) and square brackets ([]) operators can be used anywhere in the symbol name. If the first character of the symbol name is the exclamation point (!) then the sense of the switch is reversed for that symbol. For example:

`-w -K !foo -K fo*`

would cause strip to only keep symbols that start with the letters "fo", but to discard the symbol "foo".

-x

--discard-all

Remove non-global symbols.

-X

--discard-locals

Remove compiler-generated local symbols. (These usually start with L or ..)

--keep-section-symbols

When stripping a file, perhaps with --strip-debug or --strip-unneeded, retain any symbols specifying section names, which would otherwise get stripped.

--keep-file-symbols

When stripping a file, perhaps with --strip-debug or --strip-unneeded, retain any symbols specifying source file names, which would otherwise get stripped.

--only-keep-debug

Strip a file, emptying the contents of any sections that would not be stripped by --strip-debug and leaving the debugging sections intact. In ELF files, this preserves all the note sections in the output as well.

Note - the section headers of the stripped sections are preserved, including their

sizes, but the contents of the section are discarded. The section headers are preserved so that other tools can match up the debuginfo file with the real executable, even if that executable has been relocated to a different address space.

The intention is that this option will be used in conjunction with `--add-gnu-debuglink` to create a two part executable. One a stripped binary which will occupy less space in RAM and in a distribution and the second a debugging information file which is only needed if debugging abilities are required. The suggested procedure to create these files is as follows:

1. Link the executable as normal. Assuming that it is called "foo" then...
2. Run `"objcopy --only-keep-debug foo foo.dbg"` to create a file containing the debugging info.
3. Run `"strip --strip-debug foo"` to create a stripped executable.
4. Run `"objcopy --add-gnu-debuglink=foo.dbg foo"` to add a link to the debugging info into the stripped executable.

Note---the choice of ".dbg" as an extension for the debug info file is arbitrary. Also the "--only-keep-debug" step is optional. You could instead do this:

1. Link the executable as normal.
2. Copy "foo" to "foo.full".
3. Run `"strip --strip-debug foo"`.
4. Run `"objcopy --add-gnu-debuglink=foo.full foo"`.

i.e., the file pointed to by the `--add-gnu-debuglink` can be the full executable. It does not have to be a file created by the `--only-keep-debug` switch.

Note---this switch is only intended for use on fully linked files. It does not make sense to use it on object files where the debugging information may be incomplete. Besides the `gnu_debuglink` feature currently only supports the presence of one filename containing debugging information, not multiple filenames on a one-per-object-file basis.

`--plugin name`

Load the plugin called name to add support for extra target types. This option is only available if the toolchain has been built with plugin support enabled.

If `--plugin` is not provided, but plugin support has been enabled then strip iterates over the files in `$(libdir)/bfd-plugins` in alphabetic order and the first plugin that claims the object in question is used.

Please note that this plugin search directory is not the one used by ld's `-plugin`

option. In order to make strip use the linker plugin it must be copied into the `${libdir}/bfd-plugins` directory. For GCC based compilations the linker plugin is called `liblto_plugin.so.0.0.0`. For Clang based compilations it is called `LLVMgold.so`. The GCC plugin is always backwards compatible with earlier versions, so it is sufficient to just copy the newest one.

`-V`

`--version`

Show the version number for strip.

`-v`

`--verbose`

Verbose output: list all object files modified. In the case of archives, strip -v lists all members of the archive.

`@file`

Read command-line options from file. The options read are inserted in place of the original `@file` option. If file does not exist, or cannot be read, then the option will be treated literally, and not removed.

Options in file are separated by whitespace. A whitespace character may be included in an option by surrounding the entire option in either single or double quotes. Any character (including a backslash) may be included by prefixing the character to be included with a backslash. The file may itself contain additional `@file` options; any such options will be processed recursively.

SEE ALSO

the Info entries for binutils.

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