

Finally ‘**nolto-rel**’ configures the compiler for incremental linking where code generation is forced, a final binary is produced, and the intermediate code for later link-time optimization is stripped. When multiple object files are linked together the resulting code is better optimized than with link-time optimizations disabled (for example, cross-module inlining happens), but most of benefits of whole program optimizations are lost.

During the incremental link (by ‘**-r**’) the linker plugin defaults to ‘**rel**’. With current interfaces to GNU Binutils it is however not possible to incrementally link LTO objects and non-LTO objects into a single mixed object file. If any of object files in incremental link cannot be used for link-time optimization, the linker plugin issues a warning and uses ‘**nolto-rel**’. To maintain whole program optimization, it is recommended to link such objects into static library instead. Alternatively it is possible to use H.J. Lu’s binutils with support for mixed objects.

-fuse-ld=bfd

Use the **bfd** linker instead of the default linker.

-fuse-ld=gold

Use the **gold** linker instead of the default linker.

-fuse-ld=lld

Use the LLVM **lld** linker instead of the default linker.

-llibrary

-l library

Search the library named *library* when linking. (The second alternative with the library as a separate argument is only for POSIX compliance and is not recommended.)

The ‘**-l**’ option is passed directly to the linker by GCC. Refer to your linker documentation for exact details. The general description below applies to the GNU linker.

The linker searches a standard list of directories for the library. The directories searched include several standard system directories plus any that you specify with ‘**-L**’.

Static libraries are archives of object files, and have file names like ‘**liblibrary.a**’. Some targets also support shared libraries, which typically have names like ‘**liblibrary.so**’. If both static and shared libraries are found, the linker gives preference to linking with the shared library unless the ‘**-static**’ option is used.

It makes a difference where in the command you write this option; the linker searches and processes libraries and object files in the order they are specified. Thus, ‘**foo.o -lz bar.o**’ searches library ‘**z**’ after file ‘**foo.o**’ but before ‘**bar.o**’. If ‘**bar.o**’ refers to functions in ‘**z**’, those functions may not be loaded.

-lobjc

You need this special case of the ‘**-l**’ option in order to link an Objective-C or Objective-C++ program.