

Line number information

Line number information maps between machine code instructions and the source level location.

Encoding

The line number information is stored in the `.debug_line` section for ELF and `__debug_line` section of the `__DWARF` segment for Mach-O object files. The line number information contains a header followed by the line program. The line program is a program for a virtual machine with instructions like set line number for the current machine code instruction and advance the current machine code instruction.

Tips

You need to set either `DW_AT_low_pc` and `DW_AT_high_pc` **or** `DW_AT_ranges` of a `DW_TAG_compilation_unit` to the range of addresses in the compilation unit. After that you need to set `DW_AT_stmt_list` to the `.debug_line` section offset of the line program. Otherwise a debugger won't find the line number information. On macOS the debuginfo relocations **must** be section relative and not symbol relative. See [#303 \(comment\)](#) for more information.

Function debuginfo

Tips

`DW_TAG_subprogram` requires `DW_AT_name`, `DW_AT_low_pc` and `DW_AT_high_pc` **or** `DW_AT_ranges`. Otherwise gdb will silently skip it. When `DW_AT_high_pc` is a length instead of an address, the DWARF version must be at least 4.

► IRC log of #gdb on irc.freenode.org at 2020-04-23