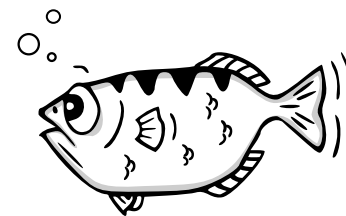


# GDB: The GNU Project Debugger



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## GDB: The GNU Project Debugger

### What is GDB?

GDB, the GNU Project debugger, allows you to see what is going on 'inside' another program while it executes -- or what another program was doing at the moment it crashed.

GDB can do four main kinds of things (plus other things in support of these) to help you catch bugs in the act:

- Start your program, specifying anything that might affect its behavior.
- Make your program stop on specified conditions.
- Examine what has happened, when your program has stopped.
- Change things in your program, so you can experiment with correcting the effects of one bug and go on to learn about another.

Those programs might be executing on the same machine as GDB (native), on another machine (remote), or on a simulator. GDB can run on most popular UNIX and Microsoft Windows variants, as well as on Mac OS X.

### What Languages does GDB Support?

GDB supports the following languages (in alphabetical order):

- Ada
- Assembly
- C
- C++
- D
- Fortran
- Go
- Objective-C
- OpenCL
- Modula-2
- Pascal
- Rust

### GDB version 8.2.1

Version [8.2.1](#) of GDB, the GNU Debugger, is now available for [download](#). See the [ANNOUNCEMENT](#) for details including changes in this release.

An errata list ([PROBLEMS](#)) and [documentation](#) are also available.

### News

December 23rd, 2018: **GDB 8.2.1 Released!**

The latest version of GDB, version 8.2.1, is available for [download](#).

This is a minor corrective release over GDB 8.2, fixing the following issues:

- [PR build/23516](#) (gdb build error under msys+mingw: strip can't handle gdb-add-index.exe)
- [PR build/23623](#) (install-strip fails)
- [PR rust/23626](#) (gdb crashes in upstream rust nil-enum test)
- [PR rust/23650](#) (rust field name access error mentions "foo")
- [PR gdb/23663](#) (gdb 8.1.1: undefined rpl\_stat function with musl toolchains)
- [PR python/23669](#) (gdb.execute("show commands") doesn't work)
- [PR python/23714](#) (Command repetition stops working after gdb.execute)
- [PR gdb/23838](#) (8.2 regression for invalid -data-directory)
- [PR gdb/23974](#) ("info os" crash when specifying invalid object)
- [PR gdb/23999](#) (SYMBOL\_LANGUAGE assertion failure on AIX)
- [PR gdb/24003](#) (Error when binary searching CUs for a specific DIE when using DWZ)

September 5th, 2018: **GDB 8.2 Released!**

The latest version of GDB, version 8.2, is available for [download](#).

This version of GDB includes the following changes and enhancements:

- Support for the following target has been added:
  - RiscV ELF (riscv\*-\*-elf)
- Support for following targets and native configurations has been removed:
  - m88k running OpenBSD (m88\*-\*-openbsd\*)
  - SH-5/SH64 ELF (sh64\*-\*-elf\*)
  - SH-5/SH64 (sh\*)
  - SH-5/SH64 running GNU/Linux (sh\*-\*-linux\*)
  - SH-5/SH64 running OpenBSD (sh\*-\*-openbsd\*)
- Various Python API enhancements
- Aarch64/Linux enhancements:
  - SVE support.
  - Hardware watchpoints improvements for entities stored at unaligned addresses.
    - New "c" response to disable the pager for the rest of the current command.
    - C expressions can now use \_Alignof, and C++ expressions can now use alignof.
    - Improved flexibility for loading symbol files.
    - The 'info proc' command nows works on running processes on FreeBSD systems as well as core files created on FreeBSD systems.
    - A new --enable-codesign=CERT configure option to automatically codesign GDB after build (useful on MacOS X).

See the [NEWS](#) file for a more complete and detailed list of what this release includes.

July 4th, 2018: **GDB 8.2 branch created**

The GDB 8.2 branch (gdb-8.2-branch) has been created. To check out a copy of the branch use:

```
git clone --branch gdb-8.2-branch ssh://sourceware.org/git/binutils-gdb.git
```

September 30, 2011: **Release Mistakes in GDB Versions 6.0 - 7.3**

A mistake has been detected in the release tar files for all GDB releases from version 6.0 to version 7.3 (included). The mistake has been corrected, and the FSF issued the following announcements:

- [Making up for a release mistake in GDB versions 6.0 - 6.6](#)
- [Making up for a release mistake in GDB versions 6.7 - 7.3](#)

Nov 28, 2006: **Reversible Debugging**

The GDB maintainers are looking for contributors interested in [reversible debugging](#).

Late breaking information, such as recently added features, can be found in the [NEWS](#) file in the gdb source tree. Old announcements are in the news [archive](#).

*Please send FSF & GNU inquiries & questions to [gnu@gnu.org](mailto:gnu@gnu.org). There are also [other ways to contact](#) the FSF.*

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