Troubleshooting Debugger

This section lists some typical problems that you might encounter while debugging and solutions to them.

Cannot Launch Debugger

Some anti-virus applications do not allow debuggers to retrieve data. For example, on Windows, launching the debugger might fail with the following message if the Avira AntiVir is installed on the development PC: *The inferior stopped because it received a signal from the operating system. Signal name:? signal meaning: Unknown signal.*

Some versions of Avira AntiVir Desktop-Products contain known issues in various development environments, including Qt Creator. To fix the problem, Avira instructs you to update to version `avipbb.sys 10.0.22.22`. For more information, see Restricted Usability of IDE/Debuggers since 2010-12-08.

On some devices, such as Wacom Tablets, running processes might stop the debugger from launching. Stop all running processes and then relaunch the debugger.

Debugger Does Not Hit Breakpoints

You might have created a release build that does not contain debug information. A GNU Compiler Collection (GCC) debug build has the `-g` option on the compiler command line. Check that this option is present in the Compile Output. If it is not, adjust your build settings in the **Projects** mode.

Debugger Does Not Work

If the debugger does not work properly, try the following:

1. Make sure you use at least Qt Creator 3.0.1
2. Make sure the debugger is set up properly. For more information, see Setting Up Debugger.
3. In the **Debug** mode, select **View** > **Views** > **Debugger Log** to open the **Debugger Log** view. Browse the contents of the pane on the right hand side to find out what went wrong. Always attach the contents of the pane to debugger-related questions to the Qt Creator mailing list (qt-creator@qt-project.org) or paste them to a code pasting service before asking questions in the IRC (on the #qt-creator channel at Libera.Chat).

Pointer Variable Members Are Not Displayed Directly

When you use the **Locals** and **Expressions** views to inspect a pointer variable and expand the variable tree item, another tree item level is displayed. To directly display the members of the pointer variable, select **Dereference Pointers Automatically** in the context menu in the **Locals** and **Expressions** views.

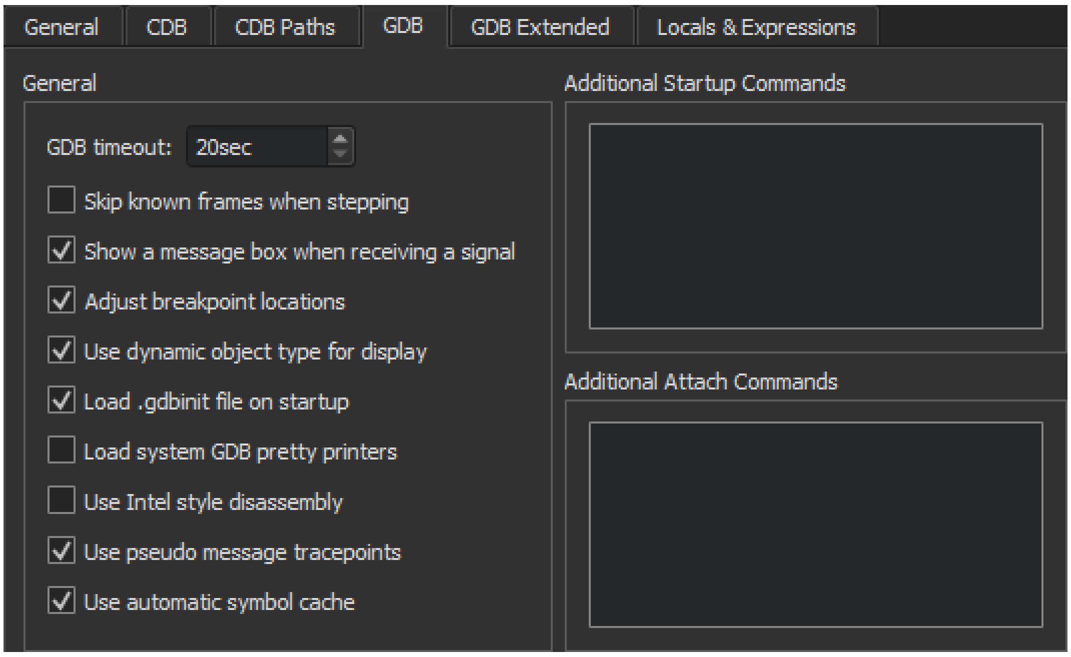
Structure Members Are Not Sorted According to Structure Layout

By default, structure members are displayed in alphabetic order. To inspect the real layout in memory, deselect **Sort Members of Classes and Structs Alphabetically** in the context menu in the **Locals** and **Expressions** views.

Built-in Debugger Is Slow During Startup and Runtime

Slowness that is related to the loading of debug information is hard to avoid.

When using GDB as backend, you can automatically save a copy of its symbol index in a cache on disk and retrieve it from there when loading the same binary in the future. Select **Edit** > **Preferences** > **Debugger** > **GDB** > **Use automatic symbol cache**.



GDB timeout: 20sec
- [ ] Skip known frames when stepping
- [✓] Show a message box when receiving a signal
- [✓] Adjust breakpoint locations
- [✓] Use dynamic object type for display
- [✓] Load .gdbinit file on startup
- [ ] Load system GDB pretty printers
- [ ] Use Intel style disassembly
- [✓] Use pseudo message tracepoints
- [✓] Use automatic symbol cache

Some slowness stems from maintaining breakpoints inside the debugger (under some circumstances all breakpoints need to be inserted and removed again for each step) and the evaluation of expressions after each step. We recommend that you minimize the number of breakpoints and watched expressions.

Debugger Cannot Attach to Running Process on Linux

GDB uses `ptrace` to attach to running processes. Some Linux distributions do not allow this, which stops all attempts to either directly attach to an existing process or use the **Run in terminal** option in Qt Creator.

The reasons for this are described in KernelHardening.

However, the usefulness of this security measure seems dubious because this feature can be easily disabled. With root permissions, you can disable the feature temporarily by writing 0 into `/proc/sys/kernel/yama/ptrace_scope` or permanently by changing the value in `/etc/sysctl.d/10-ptrace.conf`. Even if you do not have elevated permissions, you can disable the feature later by adding a library that calls `prctl(0x59616d61, getppid(), 0, 0, 0);`, such as the one in `$QTCREATORDIR/lib/libptracepreload.so` to the LD_PRELOAD environment.

‹ Debugging a Qt Quick Example Application Analyzing Code ›