++ C/C++ Development Tooling



The Leading IDE for C/C++ Development Tooling

The C/C++ Development Tooling (CDT) provides a fully open source commercial grade C/C++ IDE based on the Eclipse platform. It runs on all major OS's and supports development for many target platforms. The CDT integrates with major compilers and debuggers including GCC, Clang, and GDB. It is the de facto standard used by the large majority of chipmakers and RTOS vendors to support their various tool chains.



CDT offers rich refactorings and an extensible static analyzer with customizable pre-defined rules and checkers. It leads innovation in multicore debugging as well as integrating with cutting-edge tracing tools.

Benefits

- Highly-customizable industrial-strength C/C++ IDE
- Consolidates all development tasks into one tool
- · Improves developers' productivity
- Allows the creation of better code, faster bug fixing
- De-facto IDE for Embedded Systems companies
- High popularity with developers eases learning curve, supports quick ramp-up
- GNU Toolchain Integration as well as others
- Embedded Linux, RTOS, bare metal support
- Easily extensible through open source, home-grown, or commercial plugins
- Over 1800 plugins available in Eclipse Marketplace
- Debugging tools for highly complex problems
- Advanced Multicore Debugging tools
- As-you-type Static Code Analysis
- Allows the enforcement of project or company coding standards
- Extremely fast navigation and refactoring
- Highly integrated with source management software such as Git

Modular and Extensible

Being an Eclipse project itself, the CDT is in the best position to leverage the incredible wealth of functionality available through the Eclipse marketplace. Tap into the vast list of plugins available to extend your IDE and support your developers in tackling the wide variety of problems they may face. Or turn to commercial plugins to address specific issues pertinent to your situation - or even develop plugins inhouse to solve problems with a proprietary dimension.



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Static Analysis

CDT provides a customizable and extensible code analysis framework that includes out of-the-box rules and checkers. It allows users to flag coding errors upon request, during compilation, or even as the user types. Results are integrated with compilation errors, highlighted in the editor and complemented with quick-fix support wherever available.

Debugger

The integration of GDB into CDT provides leading edge technologies including multicore support such as:

- All-stop and Non-stop execution modes
- Multi-process debug within a single session, multi-target with different sessions
- Pretty-printing of STL structures
- · Enhanced-expressions using pattern matching and grouping
- Reverse debugging
- Project-less debugging
- Linux Kernel resource display
- Multicore Visualizer view to monitor and control target graphically
- Dynamic-printf technology allows adding printouts to processes with no recompilation or redeployment
- Stand-alone Debugger provides CDT's debugging features in a lightweight package, usable without any previous configuration
- Full GDB console: now get the all the features of GDB, including command completion and history, without leaving CDT

Unit Testing

With the CDT, developers can perform their unit test activities directly in the IDE. The C/C++ unit test integrations provide the ability to develop, run and examine the results of tests. Full code navigation is provided, as well as time measurements, statistics, selective test execution, execution history, and more. The currently supported frameworks are Boost.Test, Qt Test, and Google Testing Framework, and more can be added.





What is Eclipse?

Eclipse is a community for individuals and organizations who wish to collaborate on commercially-friendly open source software. Its projects are focused on building an open development platform comprised of extensible frameworks, tools and runtimes for building, deploying and managing software across the lifecycle. The Eclipse Foundation is a not-for-profit, member supported corporation that hosts open source projects and helps cultivate both an open source community and an ecosystem of complementary products and services.

Resources

CDT Eclipse project: Multicore Debug WG: https://www.eclipse.org/cdt/ https://wiki.eclipse.org/CDT/MultiCoreDebugWorkingGroup CDT Developers Summits: https://wiki.eclipse.org/CDT/summits