The Eclipse C/C++ IDE Projects and Ecosystem

EclipseCon 2011

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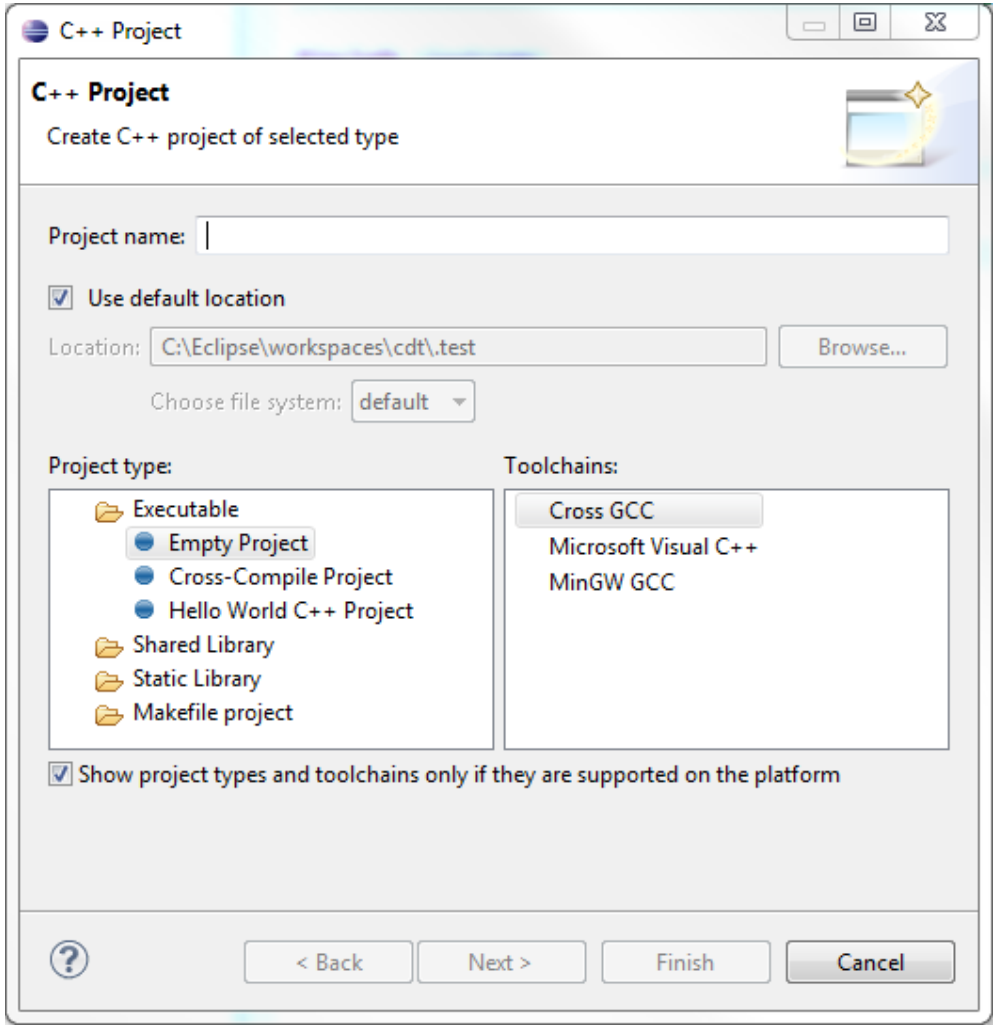
Where did the CDT come from?

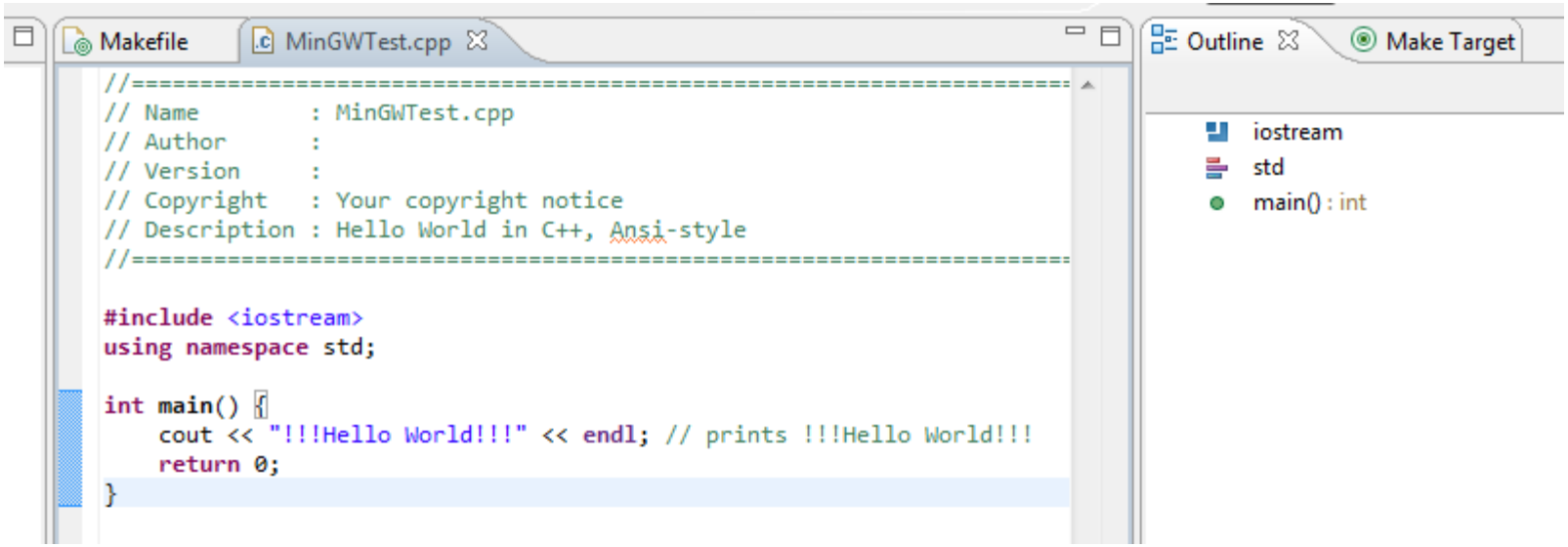
- Started as a fork of JDT but for C/C++
- QNX contributed initial code and started community in 2002
- Focus on enabling integration with external tools
  - Compilers and debuggers
- JDT set the bar for functionality and usability
- Java Native debugging the holy grail

What is CDT? - C and C++ Projects



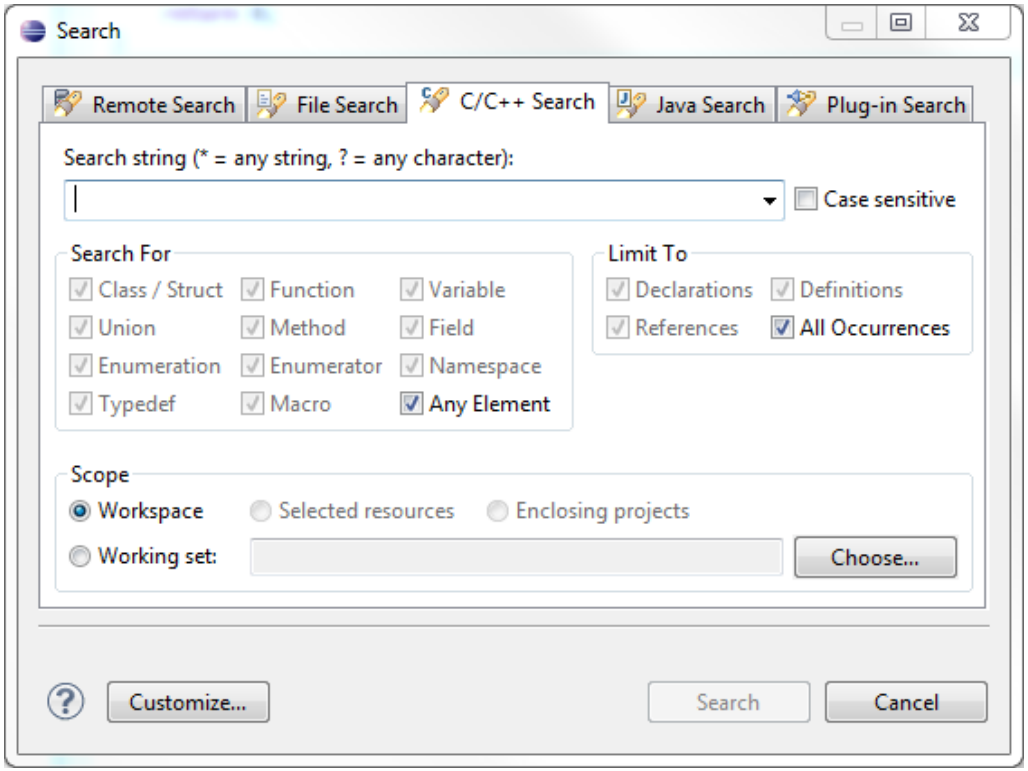
What is CDT? Editor

- Keyword highlighting, bracket matching
- Outline View, Content assist

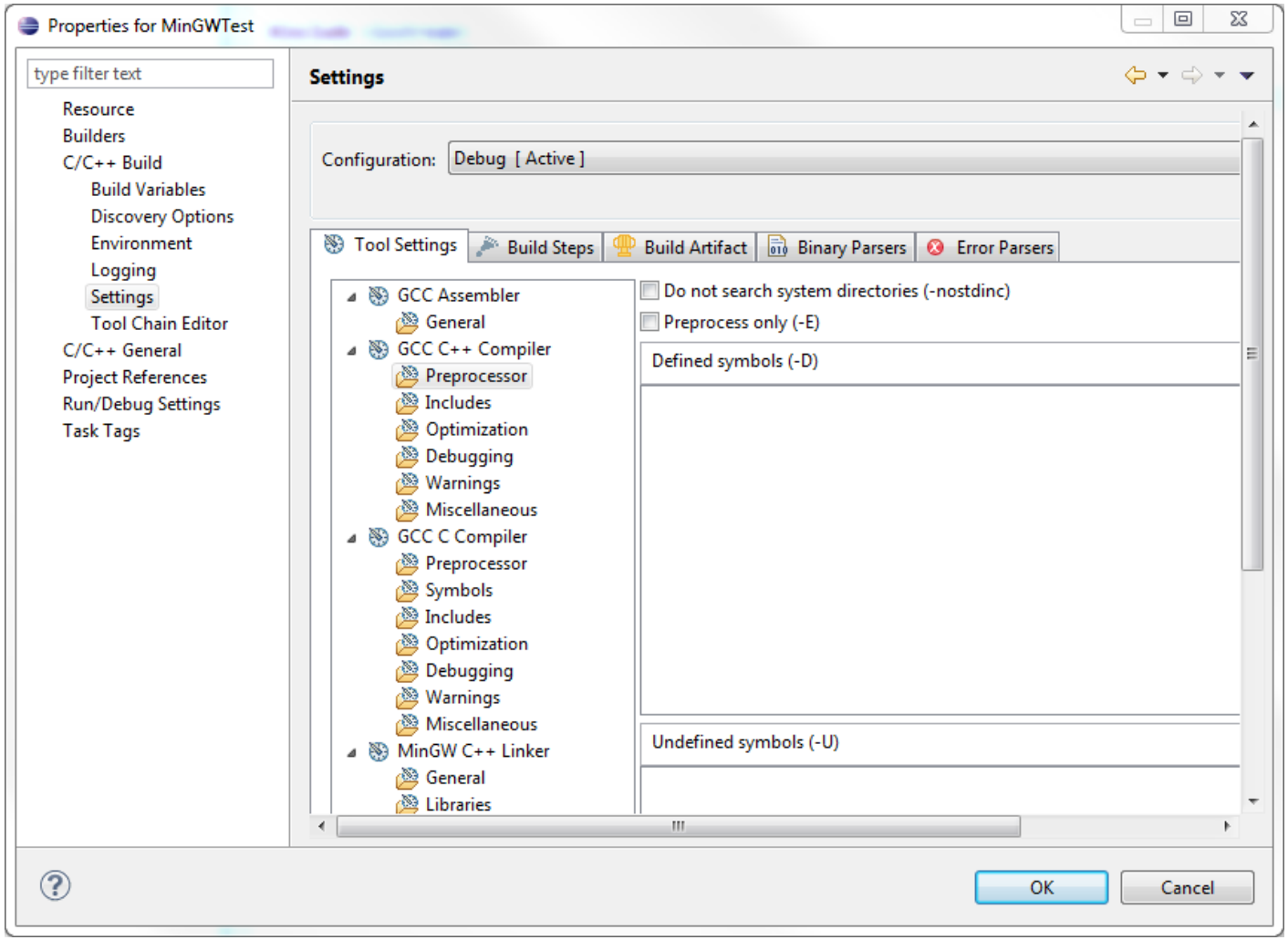


What is CDT? Source Navigation

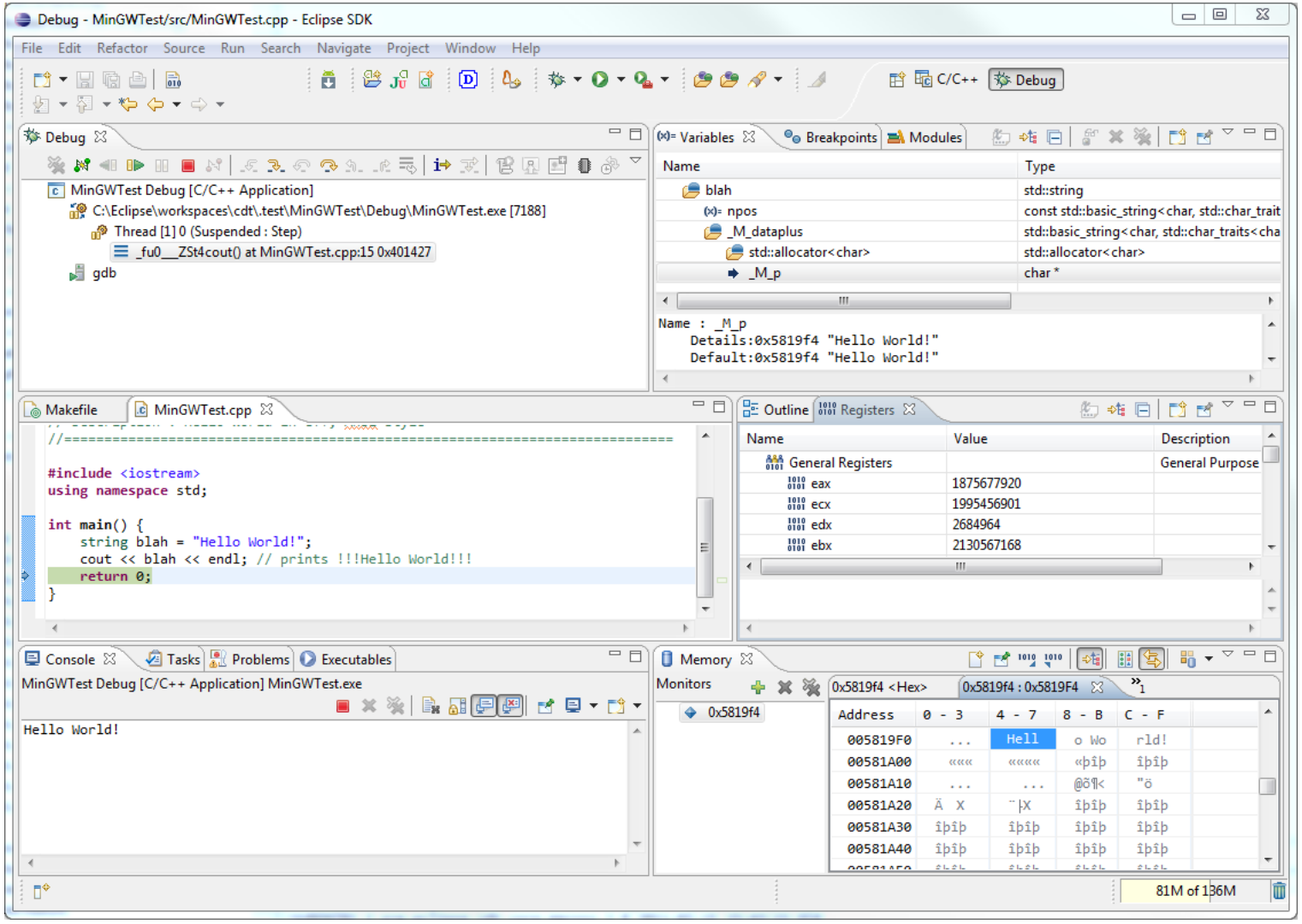
- Open Declaration, C/C++ Search
- Call hierarchy, Type Hierarchy, Includes browser



What is CDT? Build



What is CDT? Debug



GNU Tools as Exemplary Integration

- Available for almost all platforms
- Show the proper way to do tool integrations
- Many ecosystem companies leverage this integration
  - Especially in embedded world
- As CDT evolved, so did GNU tools
  - Now a world class combination with gcc and gdb
  - A first class IDE for Linux
  - But can also be used with Windows (MinGW or Cygwin)
  - Apple (more on that later)

Eclipse C/C++ IDE

Eclipse IDE for C/C++ Developers

Package Details

An IDE for C/C++ developers with Mylyn integration.

Feature List

org.eclipse.cdt	7.0.0
org.eclipse.cdt.debug.ui.memory	
org.eclipse.cdt.mylyn	
org.eclipse.cdt.p2	
org.eclipse.cdt.platform	7.0.0
org.eclipse.cvs	1.1.0
org.eclipse.epp.package.common.feature	
org.eclipse.equinox.p2.user.ui	1.1.0
org.eclipse.help	1.1.0
org.eclipse.mylyn.bugzilla_feature	
org.eclipse.mylyn.context_feature	
org.eclipse.mylyn.ide_feature	
org.eclipse.mylyn.team_feature	
org.eclipse.mylyn.wikitext_feature	
org.eclipse.mylyn_feature	
org.eclipse.platform	3.6.0
org.eclipse.rcp	3.6.0

Download Links

Windows 32-bit
Windows 64-bit
Mac OS X(Cocoa 32)
Mac OS X(Cocoa 64)
Linux 32-bit
Linux 64-bit

Downloaded 609,340 Times

▸ Checksums...

Bugzilla

▸ Open Bugs: 17

▸ Resolved Bugs: 15

File a Bug on this Package

New and Noteworthy

Eclipse CDT
Eclipse Platform
Eclipse Mylyn

Eclipse C/C++ IDE

- C/C++ IDE for Linux Developers also available
  - Adds autoconf, Linux profiling tools

- Indigo additions for C/C++ IDE Package
  - Microsoft Visual C++ toolchain support
  - Embedded development support
    - including RSE, TCF, cross gnu tools integration

C/C++ Family at Eclipse

- Linux Tools Project
  - Tools for Linux Developers
- Target Communication Framework
  - Protocol and Service Framework for Targets
- Target Management
  - Terminal View, Remote Systems Explorer
- Parallel Tools Project
  - Tools for High Performance computing
- Sequoyah Tools for Mobile Project
  - Native tools for mobile platforms

The Greater Ecosystem

- Embedded Platform Vendors
  - Wind River Workbench
  - QNX Momentics
  - Texas Instruments Code Composer
  - Nokia Carbide
  - Montavista Dev Rocket
  - and many, many more
- Open Source Platforms
  - Linux Distros
  - Yocto Embedded Linux
  - Android

And the Ecosystem keeps Growing!

IAR Systems addresses growing user community with Eclipse integration

Embedded World 2011, Nuremberg, Germany, March 1st – 3rd – Hall 10.209

The Rise of the User

- User contributions to CDT on the rise
  - Ericsson
  - Google
  - Broadcom
  - A handful of small independents
- Focused mainly on improving quality
  - Make sure CDT works for their users
- Hugely important to the Eclipse ecosystem

What's happening in CDT today?

- Codan static analysis
- Multi-core Debug
  - Pin and clone views to debug contexts
  - Debug element grouping
  - Gdb multi-context support
- General quality improvements
  - Scanner Discovery clean-up
  - Build scalability
  - Platform build configurations
  - Refactoring improvements

What cool things could we do?

- Java native debugging still holy grail
  - Should be important for Android, Eclipse
- Apple platform support
  - As alternative to Xcode
  - Support for Objective-C
- Windows Platform
  - Debugging to go along with Visual C++ build support
  - C#?
- External builders support
  - CMake, SCons, Jam

Areas that need work

- Build UI and Workflows
- Refactoring coverage and quality
- Codan code checkers and quick fix
- Scalability to massive projects

C/C++ Alive and Well at Eclipse

- To the 25+ committers and countless contributors who bring the C/C++ IDE to you.

Thank you!

