Being Productive with Open Source
Eclipse IDE and C/C++ Compiler

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Eclipse CDT: The Open Source IDE for C/C++

- What is CDT?
- Creating and Configuring Projects
- Navigate and Edit
- Debug and Run
- Conclusion
What is Eclipse CDT

• Advanced C/C++ Integrated Development Environment

Eclipse CDT (www.eclipse.org/cdt/) based IDEs, tool suites and plug-ins
Who am I?

• Jonah Graham @ Kichwa Coders
• Consultant specializing on helping companies leverage Open Source Software
  – Embedded Tools in the Cloud
  – Custom C/C++ Workbenches (CDT)
  – Multicore Debug
• Eclipse CDT project lead
Eclipse CDT: The Open Source IDE for C/C++

What is CDT?

Creating and Configuring Projects

Navigate and Edit

Debug and Run

Conclusion
Eclipse CDT is Project Based

• Where to start?
  – Import Existing Eclipse Project
    • For example, from the VEGA SDK
  – Create New Project
    • Use templates, e.g. Hello World
    • Vendor specific templates
  – Convert existing code to Eclipse Project
    • Add Eclipse CDT project information
Before & After
What is CDT?

Creating and Configuring Projects

Navigate and Edit

Debug and Run

Conclusion
CDT has a feature rich editor

- Much more than just Syntax Highlighting
- Indexer behind the magic
  - CDT’s indices hold a complete model of the code.
- Jump to definition
- Autocompletion
- Call Hierarchy
- Outline
- Refactoring
Macro Expansion

• Example (add to board.c)
  
  LED1_INIT(LOGIC_LED_OFF);

• Right-Click and choose Macro Expansion

• Use Alt-Left and Alt-Right to cycle

• Use F3 to jump to definition
Build Project

- Build project automatically, or manually
- Errors reported in the Build Console
- Highlighted lines can be clicked
Successfully Built Project

- Successfully built project collects executables (ELFs) into "Binaries" folder
What is CDT?

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Conclusion
CDT Makes Debugging Effective

• Target any board or simulator
• High level interface to GDB
• OpenOCD, SEGGER, etc too.
CDT views show rich debug information

- Variables, Breakpoints, Expressions & Hovers
- Disassembly
  - Instruction Stepping
  - Gradients to easily visualize stepping
- Memory Browsing with Annotations
Command Line Tool Integration

• Integrated Terminals and Consoles
  – Debugger Console View
    – Full GDB command line experience with all the niceties of an IDE
• Terminal View
  – Serial Connection target
  – Telnet/SSH (e.g. to openocd)
  – Local terminal (e.g. bash)
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Thank you!

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• Get involved:
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