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Developing in C/C++ with Eclipse Indigo on Windows

This article illustrates how to use Eclipse Indigo IDE to cross compiling your C/C++ code on a Windows PC and run it on a FOX Boa



Eclipse is a multi-language software development environment comprising an IDE and a plug-in system to e written primarily in Java and can be used to develop applications in Java and, by means of the various plug languages as well, including C, C++, Python, Perl, PHP, and others (read more...).

Install Eclipse Indigo

Download Eclipse IDE for C/C++ Developers for Windows from the Eclipse website:

• Eclipse IDE for C/C++ Developers

Uncompress the ZIP file directly in the working directory (i.e. c:\eclipse) and execute eclipse.exe to run Eclipse on your desktop.

The welcome screen will appear:

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Project Window Help	
evelopers	
	Project Window Help

Install the ARM plugins

To make the cross compilation procedure simple, install a plugin called GNU ARM Eclipse Plug-in.

Open the install form selecting the "Help -> Install New Software..." menu item then copy in the "Work with:" field this URL: "http://gnuarmeclipse.sourceforge.net/updates".



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Old products FOX Board LX832 Beeboard Uncheck the "Group items by category" to display the ARM plugins available.

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Available Software		
Check the items that you wish to install.		Ø
Work with: http://gnuarmeclipse.sourceforge.net/updat	es	Add.
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Check the GNU ARM C/C++ Development Support item and press the Next button.

Sourcery CodeBench Lite 2011.09-70 for ARM GNU/Linux

Sourcery CodeBench Lite 2011.09-70 for ARM GNU/Linux is a complete C/C++ development environment based on the GNU Toold freely available and has a quick installer that also manages the path variables to simplify the calls to the executable everywhere insi computer.

Go to https://sourcery.mentor.com/sgpp/lite/arm/portal/release2029 and download the IA32 Windows Installer version (about

Run the executable file to install it and select the Typical installation.



When the message box "Chose Install Folder" appears, type a simple path like c:\codesourcery avoid using the default path. On rr XP for example the default path is C:\Program Files\CodeSourcery\Sourcery_CodeBench_Lite_for_ARM_GNU_Linux that Eclipse v not manage.

e for ARM GNU/Linux	
	Choose Install Folde
Where Would Y	ou Like to Install?
C:\codesourcery	
	Restore Default Folder Choose
Sourcery CodeBench Lite fo	r ARM GNU/Linux 📃 🗖 🖻
	Install Complete
Velcomel Important Information Choose Install Set Choose Install Folder Add to PATH? Choose Shortcut Folder Pre-Installation Summary Installing Install Complete CocolectourCerve	Congratulations! Sourcery CodeBench Lite for ARM GNU/Linux has been successfully installed to: C:toodesourcery Press "Done" to quit the installer.
nstallAnywhere	Previous Done

The last step to carry out is to remove the part "linux-gnu" in the filename of some executable files located in c:\codesourcery\bin.

For example arm-none-linux-gnueabi-gcc.exe must become arm-none-eabi-gcc.exe used by default by the Eclipse ARM plugin.

List of renaming to do:

Original name	New name
arm-none-linux-gnueabi-gcc.exe	arm-none-eabi-gcc.exe
arm-none-linux-gnueabi-gdb.exe	arm-none-eabi-gdb.exe
arm-none-linux-gnueabi-ld.exe	arm-none-eabi-ld.exe
arm-none-linux-gnueabi-objcopy.exe	arm-none-eabi-objcopy.exe
arm-none-linux-gnueabi-objdump.exe	arm-none-eabi-objdump.exe
arm-none-linux-gnueabi-size.exe	arm-none-eabi-size.exe

Eclipse should be able now to call the xcross executables needed to deploy the FOXG20 ARM processor.

Create your first project

Create a new C Project in Eclipse starting from the menu:



🖨 C Project	
C Project Create C project of selected type	
Project name: hello	
Location: C:\foxg20\hello	Browse
Choose file system: default 💽	Toolchains:
ARM Cross Target Application Empty Project ARM Cross Target Static Library	ARM Windows GCC (GNUARM, WinARM) ARM Windows GCC (Sourcery G++ Lite) ARM Windows GCC (Yagarto)

Insert your project name (for example hello) and select the toolchains ARM Windows GCC (Sourcery G++ Lite) then press the Nex

On the next form press Advanced setting... button.

The project properties form will appear.

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Resource Builders C/C++ Build Build Variables Discovery Options Environment Longing	Configuration: Debug [Active] Tool Settings Puild Steps Duild Artifact	Binary Parsers 😣 Error Parsers
Cogang Settings Tool Chain Editor C/C++ General Project References Run/Debug Settings Task Repository WikiText	Target Processor Debugging Additional Tools Start Sourcery Windows GCC Assembler Preprocessor Directories Warnings Miscellaneous Start Sourcery Windows GCC C Compiler	Processor arm926e)-s ✓ Thumb (-mthumb) Thumb interwork (-mthumb-interwork)
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pe the OK button an	d Finish button to save and continue.	
	e:	
reate a new source fi		

#include "stdio.h"
int main(void) {
 printf("Hello world !\n");
 return 0;
}

Compile the source selecting Project -> Build project

Run on the FOX Board G20

After a build, you will obtain a file called hello.elf. Copy this file on the FOX Board G20 and set it as executable with the command:

	debarm:~# chmod +x hello.elf	
ie	e run it:	

debarm:~# ./hello.elf Hello world !	
L	

Related links

- Sourcery CodeBench Lite Edition
- GNU ARM Eclipse Plug-in web site

Credits

Thanks to Andrea Leganza for the original contents of this article.





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