

Using the Eclipse IDE and the GCC toolchain for Mulle SW development.

Tested on Windows XP



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1 NECESSARY FILES:

First, download the following components:

- The Eclipse IDE for C/C++ development¹
- The gcc toolchain, for example the MinGW distribution² (used in this guide)
- The gcc compiler for M16C, available after creating a free account at KPIT GNU Tools.³
- ftJam⁴ (only necessary for the tutorials)

Install all the programs. During installation of the M16C compiler, you will be asked to install HEW, the Renesas IDE, as well. Ignore this warning and go on with installation. Copy the file jam.exe to the “MinGW/bin” directory.

2 SYSTEM SETUP:

After installation, a few system variables have to be added in windows. Open “System Properties”, the “Advanced” tab, and click on “Environment Variables” (shown in Figure 1).

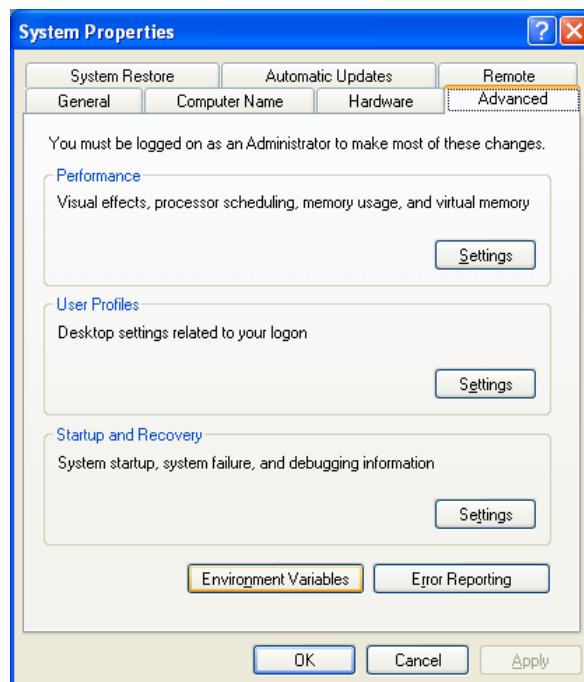


Figure 1: System properties

¹ <http://www.eclipse.org/downloads/>

² http://sourceforge.net/project/showfiles.php?group_id=2435&package_id=240780

³ <http://www.kpitudtools.com/latestToolchain.php> (GNUM16C v0803 Windows Tool Chain)

⁴ http://sourceforge.net/project/showfiles.php?group_id=3157&package_id=19789 (win32)

Find and select the System Variable “PATH” and click “Edit”, see Figure 2. Add to the text already displayed in “Value” the location of the “MinGW/bin” directory and the “GNUM16CM32Cv0803-ELF/m32c-elf/bin” directory, separated by a semicolon.

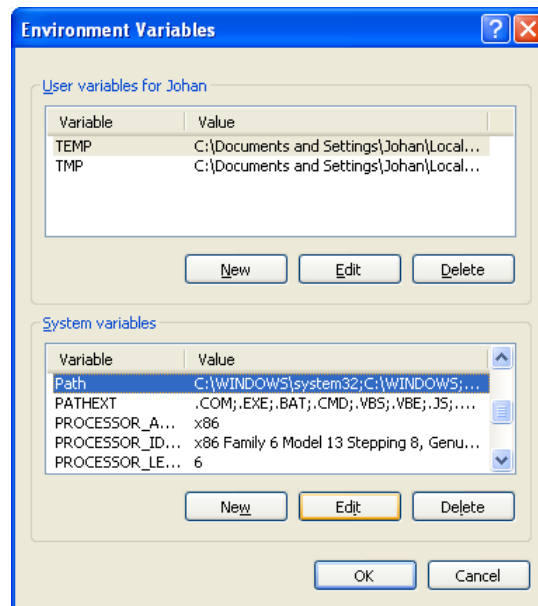


Figure 2: Environment Variables

In my case I add `C:\Program Files\MinGW\bin;C:\Program Files\KPIT Cummins\GNUM16CM32Cv0803-ELF\m32c-elf\bin\.`

Click on “New” and add as variable name “JAM_TOOLSET”, and value “MINGW”. (See Figure 3.)



Figure 3: New System Variable

Copy the file `rm.exe` and its associated DLL-file (`msys-1.0.dll`) from the “GNUM16CM32Cv0803-ELF/Other Utilities” directory to any of the directories previously added to the PATH variable.

2.1 CHECK YOUR INSTALLATION:

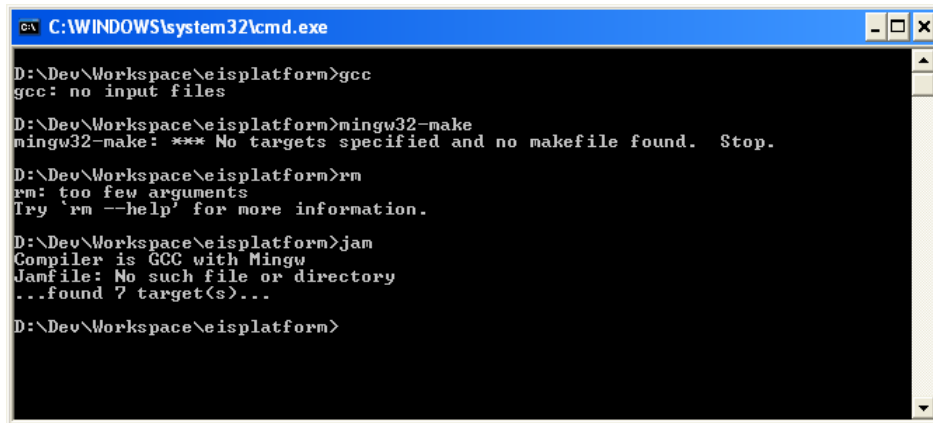
Open a command prompt.

Type `gcc`. The text in Figure 4 should appear.

Type `mingw32-make`. The text in Figure 4 should appear.

Type `rm`. The text in Figure 4 should appear.

Type `jam`. The text in Figure 4 should appear.



```
C:\WINDOWS\system32\cmd.exe
D:\Dev\Workspace\eisplatform>gcc
gcc: no input files
D:\Dev\Workspace\eisplatform>mingw32-make
mingw32-make: *** No targets specified and no makefile found. Stop.
D:\Dev\Workspace\eisplatform>rm
rm: too few arguments
Try 'rm --help' for more information.
D:\Dev\Workspace\eisplatform>jan
Compiler is GCC with Mingw
Jamfile: No such file or directory
...found 7 target(s)...
D:\Dev\Workspace\eisplatform>
```

Figure 4: Command window. Installation test

If any other message appears, your installation may be incomplete. The system can probably not locate the correct executables. Check the environment variables by typing `path`. If the paths to the executables are not displayed, add them as described above.

3 SET UP ECLIPSE

Create a new empty C project (“Makefile Project” in the wizard). Select the MinGW GCC Toolchain. If any Makefile or c-file is created, delete them.

Right click on the project and choose “Import...”. In the wizard, select “General-> File System”, then next. Browse to the base directory of the Mulle SW project you want to import, and select it. Tick the box in front of the base directory in order to import all files.

Right click again on the project and choose “Properties”. Select the “C/C++ Build page”. In order to work with your toolchain, the build command must be set to “mingw32-make”, as shown in Figure 5. The makefiles in the project then specifies the compiler and linker to m32c-elf-gcc.

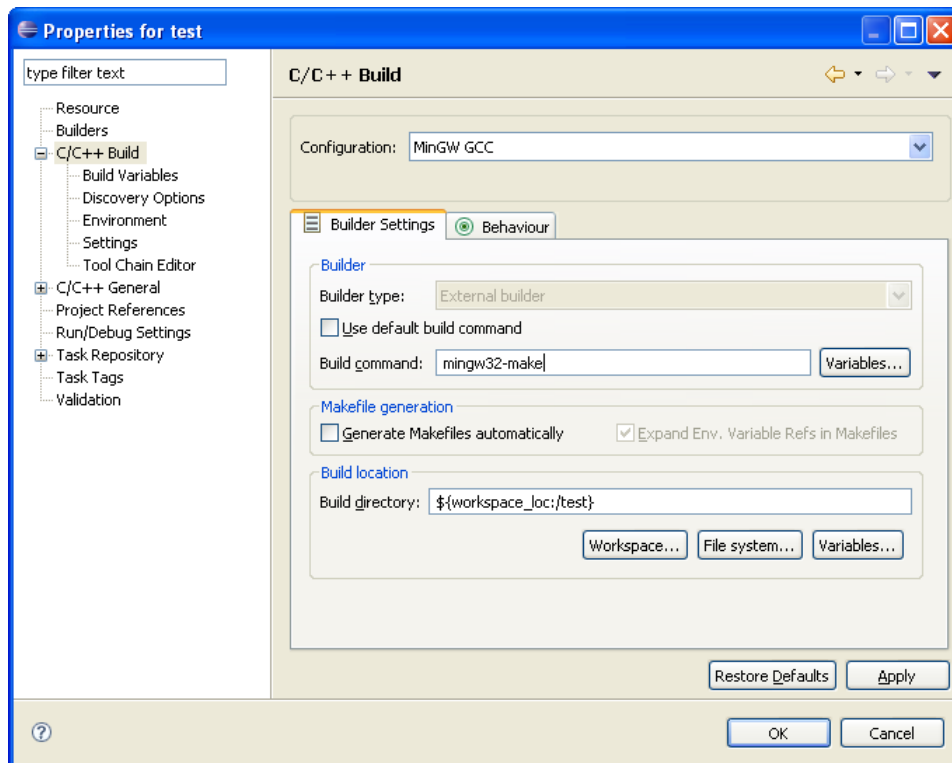


Figure 5: Eclipse project properties window

3.1 ADD MAKE TARGETS

On the right hand side of the eclipse window, in the “Make Targets” tab, right click on the project and select “Add”. In the dialog (Figure 6) choose a name for the target, e.g All. As make target type “-C ./contrib/proj/m16c/intro_2A -f Makefile.jam all”. Create two more targets, one named “Clean”, with the make target “-C ./contrib/proj/m16c/intro_2A -f Makefile.jam clean”, and another one named “mot-converter” with the make target: “-C ./contrib/proj/m16c/intro_2A -f Makefile.jam srec”

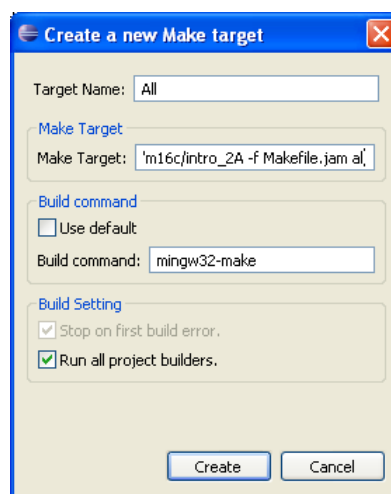


Figure 6: Eclipse create new make target dialogue

It could also be a good idea to uncheck the option “Build Automatically” in the Project menu.