

Lab 3: "Generate makefiles and run from command line"

Goals:

- Be able to generate makefiles
- Using make files in and outside of Eclipse

Generate Makefiles

1) Go to the CodeWarrior installation folder eclipse/plugins

Search and open:

com.freescale.core.ide.commandLineDriver_
2.0.1.FSL_{build_number}

***Note:** This tool is available with the CodeWarrior IDE version 10.1.1 or higher.

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2) Copy ecd.exe to eclipse folder

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3) For the tool to work properly, ensure that the following two plugins are present in the eclipse/plugins directory

com.freescale.core.ide.generateMakefiles_
1.0.0.FSL_{build_number}

com.freescale.core.ide.generateMakefiles.
nl1_1.0.0.FSL_{build_number}



File Edd View Favorites Tools Help	C:\Program Files\Freescale\CW MCU v10.1\eclipse\plugins
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***Note:** These two plugins are available in CodeWarrior IDE 10.1.8 and newer versions, but can also be used in old CodeWarrior IDE versions like 10.1.5.

For earlier CodeWarrior IDE versions, the user should copy the plugins to the correct locations as described above.

4) Create a New Project "K60_Make" Go to File->New Bareboard Project

File Edit Refactor	Navigate Search	Project Run	MQX Tools Profiler PEMicro Processor Expert	Wir
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Open Path		Ctrl+Shift+A	MQX 3.7 Project	
Open File			🙉 Bareboard Project	
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Save As			Folder	
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Revert			h Header File	
Move			🞯 Class	
Rename		F2	= the children childr	_
🗞 Refresh		F5		

5) Select name and location





6) Select device

🔑 New Bareboard Project			
Devices Select the derivative or board you would like to use			
 ColdFire Vx Tower Boards HCS08 K10 Family K20 Family K30 Family K40 Family K60 Family K60 Family MK60N256VMD100 MK60X256VMD100 			
? < Back Next > Finish			

7) Select connection and click Finish

🏴 New Bareboard Project	
Connections Choose the connection to use for this project	
New System Connection to be used: PRE USB MultiLink PRE Open Source JTAG Segger J-Link Choose an Existing System Connect to PRE Open Source JTAG.	
? < Back	Cancel

*Note: Notice that for this project we have two configurations The one selected by default is MK60N512VMD100_INTERNAL_RAM

CodeWarrior Projects 🛛	
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😑 😂 K60_Make : MK60N512VMD100_INTERNAL_RAM 👻 👘	
 MK60N512VMD100_INTERNAL_RAM MK60N512 MK60N512VMD100_INTERNAL_FLASH MK60N512VMD100_INTERNAL_FLASH Project_Headers Project_Settings Sources 	



8) Generate makefiles for the launch configuration MK60N512VMD100_INTERNAL_FLASH

*Note:

- The workspace is C:\TEMP\FTF Workspace
- The project is at C:\TEMP\FTF Workspace\K60_Make, where .project and .cproject are located
- The project has two launch configurations: MK60N512VMD100_INTERNAL_FLASH and MK60N512VMD100_INTERNAL_RAM
- The tool ecd.exe is located in C:\Program Files\Freescale\CW MCU v10.1\eclipse
- **9)** Open **Command prompt** and enter the directory where ecd.exe file is located

Type the following:

Cd C:\Program Files\Freescale\CW MCU v10.1\eclipse

🗪 Command Prompt

licrosoft Windows XP [Version 5.1.2600] (C) Copyright 1985-2001 Microsoft Corp.

C:\>cd C:\Program Files\Freescale\CW MCU v10.1\eclipse

:\Program Files\Freescale\CW MCU v10.1\eclipse>

10) Invoke the following commands

ecd.exe -generateMakefiles -project
"C:\TEMP\FTF Workspace\K60_Make" -config
MK60N512VMD100_INTERNAL_FLASH

*Note:

If you get the following error:

C:\Program Files\Freescale\CW MCU v10.1\eclipse>ecd.exe -generateMakefiles -pro ect "C:\TEMP\FIF Workspace\K60_Make" -config MK60N512UMD100_INTERNAL_FLASH Warning: Unknown argument: Workspace\K60_Makeö Error: No project was found in ôC:/TEMP/FIF

You probably copied and pasted the line above. To fix it you need to delete and retype the quotation marks in the path, they are not recognized correctly when copied and pasted.

It takes some seconds for the IDE to launch:





Command prompt message:

"Makefiles generated successfully for build configuration MK60N512VMD100_INTERNAL_FLASH"



11) After the command is finished, the makefiles (makefile, *.mk) are located in

 $\texttt{C:\TEMP\FTF}$

Workspace\K60_Make\MK60N512VMD100_INTERNA L_FLASH



12) Generate makefiles for all of the project launch configurations (use –allConfigs)

***Note:** This example assumes the same workspace and project location as in the previous example

13) Invoke the following command in a Command Prompt window:

```
ecd.exe -generateMakefiles -project
"C:\TEMP\FTF Workspace\K60_Make" -allConfigs
```

***Note**: to avoid any copy and paste errors it is recommended to retype the line above

Generating Makefiles for build configuration MK60N512UMD100_INTERNAL_RAM in proj ect K60_Make... Makefiles generated successfully for build configuration MK60N512UMD100_INTERNAL _RAM in project K60_Make Generating Makefiles for build configuration MK60N512UMD100_INTERNAL_FLASH in pr oject K60_Make... Makefiles generated successfully for build configuration MK60N512UMD100_INTERNAL _FLASH in project K60_Make



14) After the command is finished, the makefiles for the two configurations are located in the respective subfolders

MK60N512VMD100_INTERNAL_FLASH



MK60N512VMD100_INTERNAL_RAM



15) Makefile.local

In CW MCU v10.1 this file was introduced so that we can have portable make files.

If you need to move the project folder/path or if you want to use another CodeWarrior installation folder you can edit this file by opening it in Notepad.

📮 makefile. local - Notepad	
File Edit Format View Help	
<pre>####################################</pre>	:he bes
export Gnu_Make_Install_DirEnv=\$(CWInstallLocationEnv)/gnu/bin export ProjDirPath=C:/TEMP/FTF Workspace/K60_Make export CWInstallLocationEnv=C:/Program Files/Freescale/CW MCU v10.1 export MCUToolsBaseDirEnv=\$(CWInstallLocationEnv)/MCU export ARM_ToolsDirEnv=\$(CWInstallLocationEnv)/MCU/ARM_Tools/Command_Line_Tools	



Run Makefiles from command line

1) Open a Command Prompt

You can go to Start->Run Type: cmd

Run	? 🔀
-	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
Open:	cmd 🗸
	OK Cancel Browse

Command prompt should open



2) Go to the workspace folder where the project's makefiles are located

Type:

Cd C:\TEMP\FTF Workspace\K60_Make\MK60N512VMD100_INTERNA L_FLASH



Export an environment variable for

"{CW INSTALL PATH}\gnu\bin" path

Example: MCU_BIN= C:\Program Files\Freescale\CW MCU v10.1\gnu\bin

3) On the command prompt type:

Set MCU_BIN= "C:\Program Files\Freescale\CW MCU v10.1\gnu\bin"

C:\TEMP\FTF Workspace\K60_Make\MK60N512UMD100_INTERNAL_FLASH>Set MCU_BIN= "C:\Pı ogram Files\Freescale\CW MCU v10.1\gnu\bin"



4) Go to the workspace folder where the project's makefiles are located and run the following commands:

 $MCU BIN \make.exe clean \rightarrow$ to clean the project C:\TEMP\FIF Workspace\K60_Make\MK60N512UMD100_INTERNAL_FLASH>Set MCU_BIN= "C:\Pr ogram Files\Freescale\CW MCU v10.1\gnu\bin" C:\TEMP\FTF_Workspace\K60_Make\MK60N512UMD100_INTERNAL_FLASH>%MCU_BIN%\make.exe clean Clean "C:/Program Files/Freescale/CW MCU v10.1/gnu/bin/rm" -f ./Sources/main.obj ./P roject_Settings/Startup_Code/kinetis_sysinit.obj ./Sources/main.obj" ./Project_Se ttings/Startup_Code/kinetis_sysinit.d K60_Make.afx "./Sources/main.obj" "./Pr oject_Settings/Startup_Code/kinetis_sysinit.obj" "K60_Make.afx" K60_Make.afx ./Sources/main.obj ./Project_Settings/Startup_Code/kinetis_sysinit.obj K60_Mak .afx %MCU BIN%\make.exe \rightarrow to build the project C:\TEMP\FTF_Workspace\K60_Make\MK60N512UMD100_INTERNAL_FLASH>%MCU_BIN%\make.exe Regenerating dependency file: Project_Settings/Startup_Code/kinetis_sysinit.d' Regenerating dependency file: Sources/main.d' Building file: ../Sources/main.c' Invoking: ARM Compiler' (C:/Program Files/Freescale/CW MCU v10.1/MCU/ARM_Tools/Command_Line_Tools/mwccar (" -gccinc @@"Sources/main.args" -o "Sources/main.obj" -c "../Sources/main.c" -M -gccdep Finished building: ../Sources/main.c' , ' Building file: ../Project_Settings/Startup_Code/kinetis_sysinit.c' 'Invoking: ARM Compiler' "C:/Program Files/Freescale/CW MCU v10.1/MCU/ARM_Tools/Command_Line_Tools/mwccar m" -gccinc @@"Project_Settings/Startup_Code/kinetis_sysinit.args" -o "Project_Se ttings/Startup_Code/kinetis_sysinit.obj" -c "../Project_Settings/Startup_Code/ki netis_sysinit.c" -MD -gccdep 'Finished building: ../Project_Settings/Startup_Code/kinetis_sysinit.c'

netis_sysinit.c" -HW -gccdep 'Finished building: ../Project_Settings/Startup_Code/kinetis_sysinit.c' 'Building target: K60_Make.afx' 'Invoking: ARM Linker'

"C:/Program Files/Freescale/CW MCU v10.1/MCU/ARM_Tools/Command_Line_Tools/mwldar m" Q@"KKM_Make_awgs"--o_"K60_Make.afx" "Finished building target: K60_Make.afx"

C:\TEMP\FTF_Workspace\K60_Make\MK60N512UMD100<u>_INTERNAL_FLASH></u>

5) Go to the project path and confirm that the binary file was created



We have finished this lab.