

# Generate Makefiles from Command Line Support in Eclipse-Based CodeWarrior Software

by *Devtech Customer Engineering*  
*Freescal Semiconductor, Inc.*  
*Austin, TX*

As the New Project wizard in the CodeWarrior software creates a project, the Eclipse IDE generates makefiles that are used in the build process. However, in certain cases—such as automated project build scripts—only the makefiles are required. To support this use case, a `-generateMakefiles` switch in the `ecd.exe` tool has been implemented.

This document describes how to use the `-generateMakefiles` switch. The makefiles generated by this switch can then be used from command line without performing a complete project build or using the Eclipse IDE.

## Contents

1	Introduction .....	2
2	The generateMakefiles Switch .....	2
3	Example Use of generateMakefiles in Windows .....	3
4	Revision History .....	4

# 1 Introduction

## 1.1 Definition: Makefiles

Makefiles are a set of files used by the `make.exe` utility or other build tool variants such as `mingw32-make.exe`. Generally, the term *makefiles* comprises the `makefile` file and the `*.mk` files. However, it also includes all make-related support files, such as the `.args` and `.d` files. This file set does *not* include any of the persistent data files, such as source and header files, linker command files, persistent build settings (stored in the `.cproject` file), and project information.

## 1.2 ecd.exe

The `ecd.exe` tool gives the user the ability to automate the building of Eclipse projects through the command line. To use it, the following steps are required:

- The `ecd.exe` tool is present as part of the Freescale Extension Eclipse plugin archive, located in the `eclipse/plugins` directory. For example, it can be located in the directory `C:\Program Files\Freescale\CW SC v10.1\eclipse\plugins\com.freescale.core.ide.commandLineDriver_2.0.1.FSL_{build_number}\ecd.exe`.

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

- Copy `ecd.exe` to eclipse folder. That is, it should be located in `C:\Program Files\Freescale\CW SC v10.1\eclipse\ecd.exe`.

To view the list of commands `ecd.exe` supports, type `ecd.exe -help` in the Command Prompt window.

## 2 The generateMakefiles Switch

A `-generateMakefiles` switch in the `ecd.exe` command line tool has been implemented that generates makefiles without invoking a project build. The resulting makefiles allow a build to be managed with a third-party build tool, or used in situations where the makefiles have to be massaged to support automated build processes.

When the `-generateMakefiles` switch is invoked, a new set of makefiles is generated in the normal build configuration location. This location is defined by the active build configuration, or by the build configuration specified with the `-config` switch in the command line.

The `generateMakefiles` switch supports the following arguments:

```
ecd.exe -generateMakefiles [-data workspace ] parameters
```

Where `workspace` is a path to a workspace directory on the local file system, and can be an empty directory.

The `parameters` argument has the following format:

```
[ -project path [ -config name ] [-allConfigs] ]
```

The `project path` argument can be either the path of the project directory, or the path to the `.project` or `.cproject` file contained in the directory itself.

The `[ -config name ]` argument specifies a particular build configuration.

For example, supposed there are two build configurations, `Debug` and `Release`, for a demo project that was generated by the New Project wizard. Further assume that the wizard's default settings were used. If a `-config` switch is not specified on the command line, the tool uses the default build configuration to generate the makefiles. If the `-allConfigs` switch is specified, the tool generates makefiles for all of the project's build configurations. If `-config Debug` is specified, makefiles are made only for the `Debug` build configuration.

Upon completion of the command, a status text is output to the `stdout` stream: `Makefiles generated successfully for build configuration <configuration name> in project <project name>`, and the error code returned is either `0` for success, or `-1` for failure.

If a failure occurs, the message: `Error while generating makefiles for build configuration <configuration name> in project <project name>` is output to the `stdout` stream.

#### NOTE

For the tool to work properly, ensure that the following two plugins are present in the `{CW_installation}\CW SC v10.1\eclipse\plugins` directory:

```
com.freescale.core.ide.generateMakefiles_1.0.0.FSL_{build_number}
```

```
com.freescale.core.ide.generateMakefiles.n11_1.0.0.FSL_{build_number}
```

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.

## 3 Example Use of generateMakefiles in Windows

- Example 1: Generate makefiles for the launch configuration `C_Release_8156_HW`. Note that
  - The workspace is `D:\Work\IDE\workspace`
  - The project is at `D:\Work\IDE\workspace\demo`, where `.project` and `.cproject` are located
  - The project has two launch configurations: `C_Release_8156_HW` and `C_Debug_8156_HW`
  - The tool `ecd.exe` is located in `D:\Work\IDE\CW SC v10.1\eclipse`

Invoke the following commands in a **Command Prompt** window:

```
D:\Work\IDE\CW SC v10.1\eclipse>ecd.exe -generateMakefiles -project D:\Work\IDE\workspace\demo -config C_Release_8156_HW
```

It takes about ten seconds for the CodeWarrior IDE to launch. After it generates the makefiles, the CodeWarrior software quits automatically. The interval that CodeWarrior software is active is short, around several seconds. The time may vary due to the size and complexity of the project.

After the command is finished, the makefiles (makefile, \*.mk, demo.args, ...) are located in D:\Work\IDE\workspace\demo\C\_Release\_8156\_HW and its subfolders.

**Example 2:** Generate makefiles for all of the project launch configurations. This example assumes the same workspace and project location as in example 1.

Invoke the following commands in a **Command Prompt** window:

```
D:\Work\IDE\CW SC v10.1\eclipse>ecd.exe -generateMakefiles -project D:\Work\IDE\workspace\demo -allConfigs
```

After the command is finished, the makefiles for the two configurations are located in the subfolders C\_Release\_8156\_HW and C\_Debug\_8156\_HW, respectively.

## 4 Revision History

**Table 1. Revision History**

Rev. Number	Date	Substantive Change
0	03/01/2011	Public release

**How to Reach Us:****Home Page:**

[www.freescale.com](http://www.freescale.com)

**Web Support:**

<http://www.freescale.com/support>

**USA/Europe or Locations Not Listed:**

Freescale Semiconductor  
Technical Information Center, EL516  
2100 East Elliot Road  
Tempe, Arizona 85284  
+1-800-521-6274 or +1-480-768-2130  
[www.freescale.com/support](http://www.freescale.com/support)

**Europe, Middle East, and Africa:**

Freescale Halbleiter Deutschland GmbH  
Technical Information Center  
Schatzbogen 7  
81829 Muenchen, Germany  
+44 1296 380 456 (English)  
+46 8 52200080 (English)  
+49 89 92103 559 (German)  
+33 1 69 35 48 48 (French)  
[www.freescale.com/support](http://www.freescale.com/support)

**Japan:**

Freescale Semiconductor Japan Ltd.  
Headquarters  
ARCO Tower 15F  
1-8-1, Shimo-Meguro, Meguro-ku,  
Tokyo 153-0064, Japan  
0120 191014 or +81 3 5437 9125  
[support.japan@freescale.com](mailto:support.japan@freescale.com)

**Asia/Pacific:**

Freescale Semiconductor China Ltd.  
Exchange Building 23F  
No. 118 Jianguo Road  
Chaoyang District  
Beijing 100022  
China  
+86 010 5879 8000  
[support.asia@freescale.com](mailto:support.asia@freescale.com)

**For Literature Requests Only:**

Freescale Semiconductor Literature Distribution  
Center  
1-800-441-2447 or 303-675-2140  
Fax: 303-675-2150  
[LDCForFreescaleSemiconductor@hibbertgroup.com](mailto:LDCForFreescaleSemiconductor@hibbertgroup.com)

Information in this document is provided solely to enable system and software implementers to use Freescale Semiconductor products. There are no express or implied copyright licenses granted hereunder to design or fabricate any integrated circuits or integrated circuits based on the information in this document.

Freescale Semiconductor reserves the right to make changes without further notice to any products herein. Freescale Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Freescale Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. "Typical" parameters that may be provided in Freescale Semiconductor data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals", must be validated for each customer application by customer's technical experts. Freescale Semiconductor does not convey any license under its patent rights nor the rights of others. Freescale Semiconductor products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Freescale Semiconductor product could create a situation where personal injury or death may occur. Should Buyer purchase or use Freescale Semiconductor products for any such unintended or unauthorized application, Buyer shall indemnify and hold Freescale Semiconductor and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Freescale Semiconductor was negligent regarding the design or manufacture of the part.

Freescale, the Freescale logo and CodeWarrior are trademarks of Freescale Semiconductor, Inc. Reg. U.S. Pat. & Tm. Off. All other product or service names are the property of their respective owners.

© 2011 Freescale Semiconductor, Inc.