

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

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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.

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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

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