



FX Batch Compiler

Version 1.1 February 2011

Introduction

FX Batch Compiler is a Windows application for graphics and game programmers. It supports compilation of FX effect files and HLSL shader files using *fxc* command line compiler included in DirectX SDK. You can compile many files at time or one file with different settings.

This is not a shader IDE, just a front-end for *fxc* compiler. A document for this application is called compilation script. Its syntax is very simple. Each line of the script contains command line parameters passed to compiler and it is called task. File names can be relative to the directory where the script is saved.

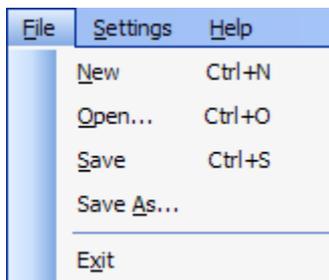
Minimum Requirements

- PC with Windows
- .NET Framework 4.0
- Microsoft DirectX SDK

Interface Overview

The main application window has main menu at the top and status bar at the bottom. The rest of its area is occupied by one of two tabs – Script Tab or Build Tab, which can be switched using buttons on the yellow bar.

File Menu



These menu commands are designed to manage documents. FX Batch Compiler has SDI – Single Document Interface, which means you can have only one document opened at time. If you want to open more documents, you have to run second instance of the application. For this application, document is a compilation script. It is just a text file with *fxbc* extension.

New – creates new, empty script.

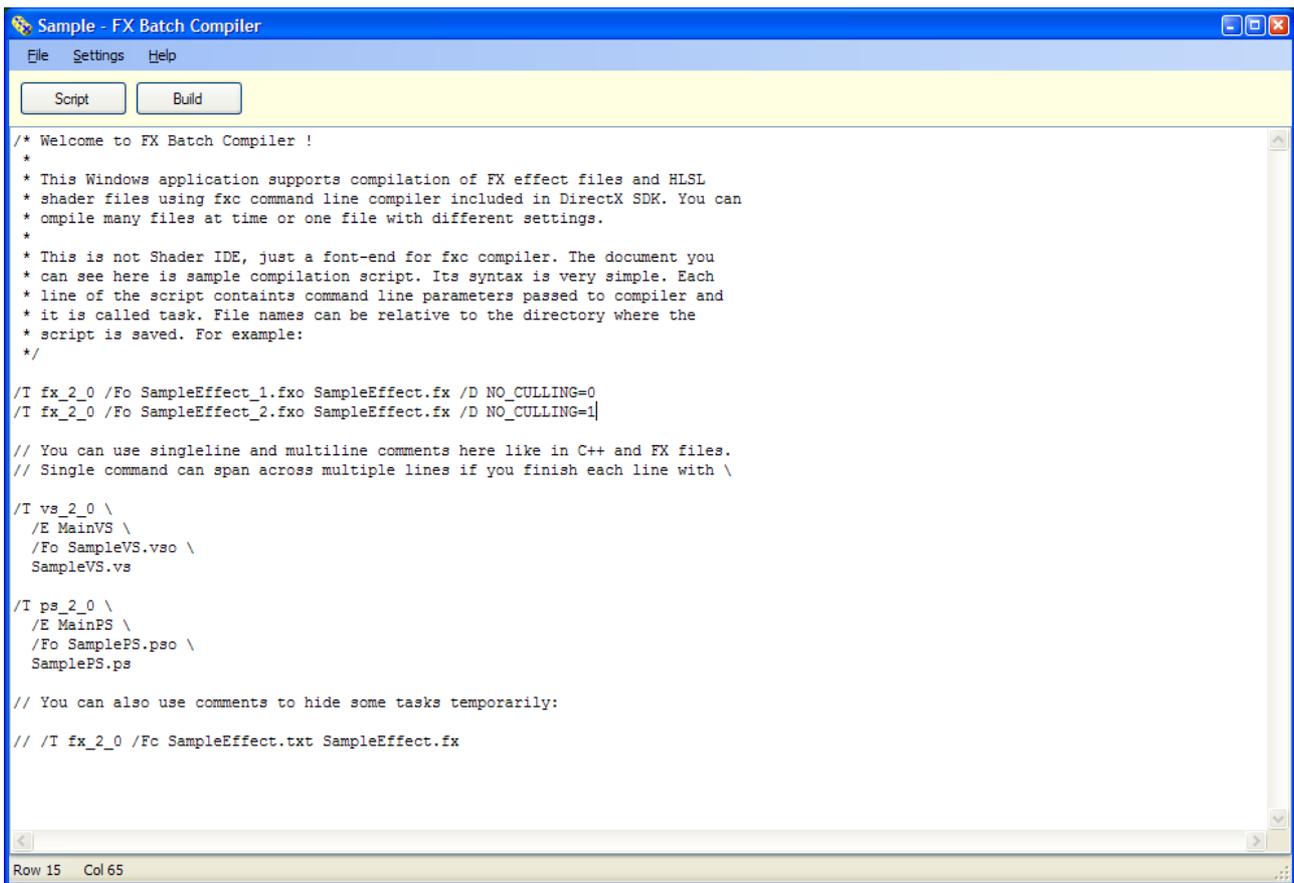
Open – allows you to open script from existing file.

Save – saves current script to file. If there is no file name assigned to the current script yet, it asks for file name before saving.

Save As – allows you to save current script under new file name.

Exit – closes the application.

Script Tab



The screenshot shows a window titled "Sample - FX Batch Compiler" with a menu bar (File, Settings, Help) and two buttons: "Script" and "Build". The main area is a text editor containing the following text:

```
/* Welcome to FX Batch Compiler !
 *
 * This Windows application supports compilation of FX effect files and HLSL
 * shader files using fxc command line compiler included in DirectX SDK. You can
 * compile many files at time or one file with different settings.
 *
 * This is not Shader IDE, just a font-end for fxc compiler. The document you
 * can see here is sample compilation script. Its syntax is very simple. Each
 * line of the script contains command line parameters passed to compiler and
 * it is called task. File names can be relative to the directory where the
 * script is saved. For example:
 */

/T fx_2_0 /Fo SampleEffect_1.fxo SampleEffect.fx /D NO_CULLING=0
/T fx_2_0 /Fo SampleEffect_2.fxo SampleEffect.fx /D NO_CULLING=1

// You can use singleline and multiline comments here like in C++ and FX files.
// Single command can span across multiple lines if you finish each line with \

/T vs_2_0 \
  /E MainVS \
  /Fo SampleVS.vso \
  SampleVS.vs

/T ps_2_0 \
  /E MainPS \
  /Fo SamplePS.pso \
  SamplePS.ps

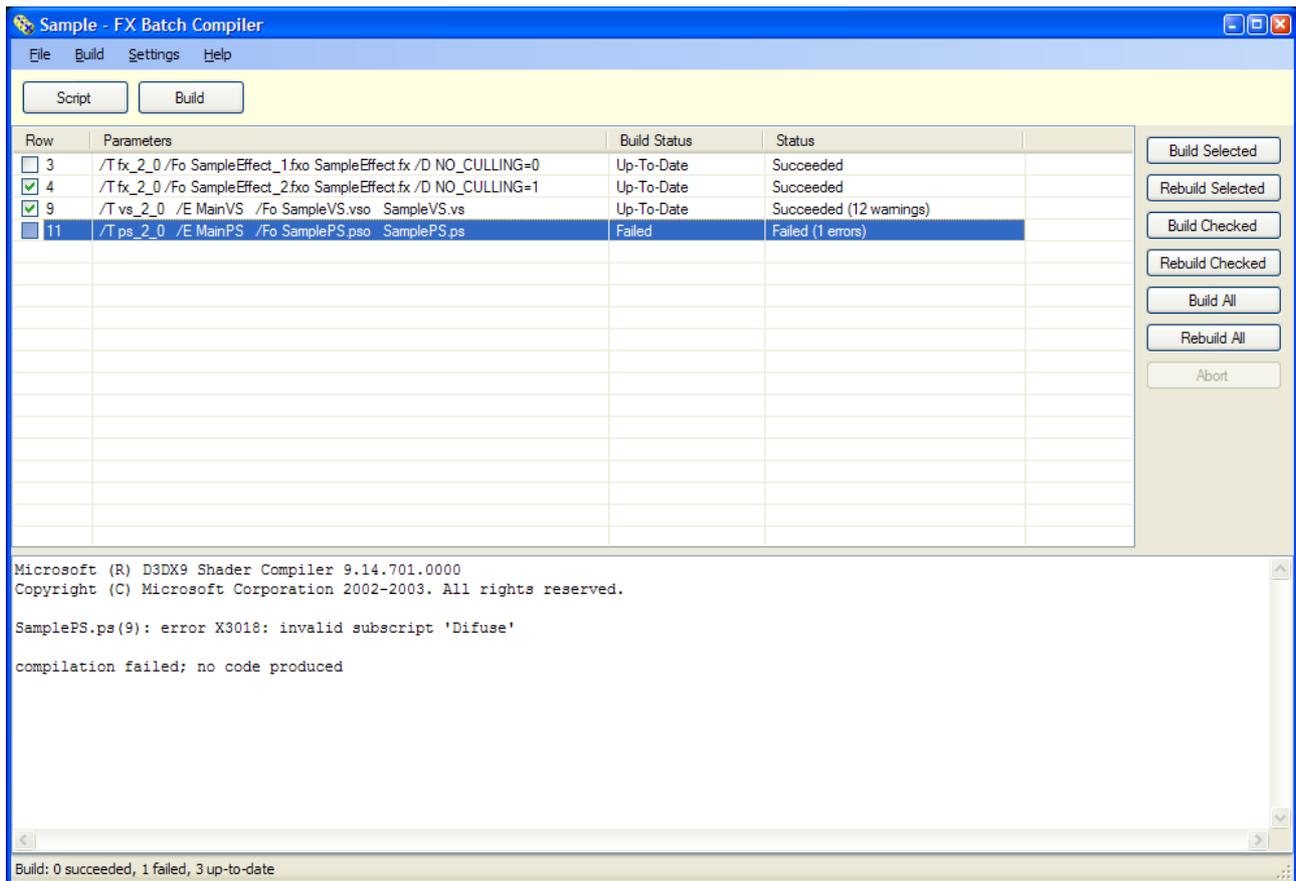
// You can also use comments to hide some tasks temporarily:
// /T fx_2_0 /Fc SampleEffect.txt SampleEffect.fx
```

At the bottom left of the editor, it says "Row 15 Col 65".

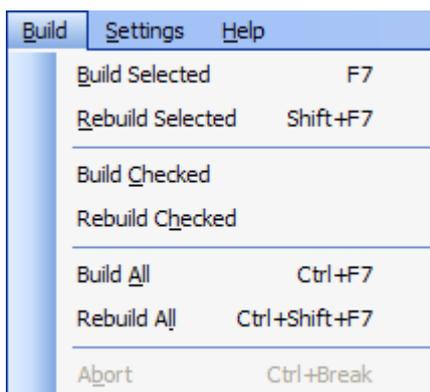
This tab allows you to edit your script using standard Windows multiline text editing control. You can also see the row and column number of the current caret position in text.

Script syntax is very simple. Each line contains command line parameters passed to compiler and it is called task. File names can be relative to the directory where the script is saved. You can use singleline and multiline comments like in C++ and HLSL files. Single command can span across multiple lines if you finish each line with backslash (\). You can also use comments to temporarily hide some tasks.

Build Tab, Build Menu



When you switch to Build Tab using Build button, the script is parsed and converted to a task list. As you can see on the screenshot above, tasks contain single command line parameter strings for separate compilations. Commands are parsed further and the application tries to obtain the name of the source and destination file.



You can run compilation using Build commands from buttons on the right or from the Build menu.

Build – compiles only tasks that changed since last build – if the source or destination file has changed.

Rebuild – compiles all tasks chosen for build.

Selected – compiles tasks that are selected (highlighted) on the task list.

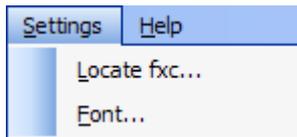
Checked – compiles tasks with tick mark in the selection checkbox.

All – compiles all tasks on the task list.

Abort – interrupts compilation if it is currently in progress.

After build process is finished, you can see summary of the whole process on the status bar, as well as status of each single task in the task list. You can select a task to see the output generated by the compiler in the output textarea at the bottom.

Settings Menu

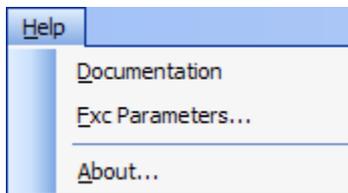


This menu allows you to change some of the application configuration settings. Configuration is kept in the *Config.dat* file located in your user *Application Data* directory, in *FX Batch Compiler* subdirectory.

Locate fxc – shows dialog window that allows you to enter a directory and file name where the application can find *fxc.exe* compiler. You can also press **Find automatically** button to try to locate it by searching your registry and hard disk with a smart algorithm. You have to enter correct path to *fxc* compiler before you can use this application to run compilation tasks. FXC Batch Compiler also tries to locate the compiler automatically on first startup.

Font – allows you to change the font used for script edit textarea, compilation output textarea and other similar controls. *Courier New* is selected by default, but I encourage you to change it to *Consolas* if only you have it installed in your system.

Help Menu



Documentation – opens this documentation file.

Fxc Parameters – executes *fxc* compiler with */?* parameter and shows its output in the dialog window. Use this command to review the syntax of the compiler command line arguments.

About – shows about dialog box with information about the author and links to Internet locations.

Version History

Version 1.1 (February 2011)

- Fixed bugs in recognition whether compilation succeeded or failed. Used new code for executing *fxc* compiler and capturing its output – should be more robust.
- Program configuration and samples are now placed in user's *Application Data* directory, not in the program directory.
- Fixed *Help / Fxc Parameters* so it now uses */?* parameter, as required by new *fxc* compiler versions.
- Project have been converted to Visual C# 2010 and it now uses .NET Framework 4.
- Program now tries to automatically locate *fxc.exe* compiler by looking at the Registry (for key like *HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\DirectX\Microsoft DirectX SDK (June 2010)*), on failure backs to searching disk.
- Fixed bugs in the code of example shaders.
- License changed to GNU GPL version 3.
- New About window :)

Version 1.0 (March 2007)

First version.

License

This program is free software: you can redistribute it and/or modify it under the terms of the GNU

General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <<http://www.gnu.org/licenses/>>.

Author

Adam Sawicki

Homepage: <http://www.asawicki.info>

E-mail: adam@asawicki.info