**Cobber is a protector/obfuscator for .NET, providing great security to .NET Applications.**

<http://cobber.sourceforge.net>

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### Project File Format

The Cobber Project (\*.cobber) is a xml document. Here is an example:

|  |
| --- |
| <project outputDir="D:\Program Files\Paint.NET\Obf" snKey="" preset="none" xmlns="http://cobber.codeplex.com">  <settings name="common" preset="aggressive">  </settings>  <settings name="excludeRename">  <confusion id="rename" action="remove"/>  </settings>  <assembly path="D:\Program Files\Paint.NET\PaintDotNet.Core.dll">  <config id="common" applytomembers="true"/>  <module name="PaintDotNet.Core.dll">  <type fullname="PaintDotNet.IndirectUI.PropertyControl">  <member sig="String Description" type="property">  <config id="excludeRename" inherit="true"/>  </member>  <member sig="String DisplayName" type="property">  <config id="excludeRename" inherit="true"/>  </member>  </type>  </module>  </assembly>  </project> |

For the detail format, please refer to the Cobber.Core/CobberPrj.xsd schema in the source code.

### Usage: Get Started

Console version  
Syntax : Cobber.Console.exe <project file>

project file is a Cobber Project file (\*.crproj)

### Obfuscations

|  |  |  |
| --- | --- | --- |
| **Obfuscations** | **Descriptions** | **Parameters** |
| Anti Debug  ID : anti debug | prevent the assembly from debugging/profiling.  Preset : Normal  Compatible with Standard : When win32 set, only for > windows 2000 | win32 : Use windows api to detect debugger, only work on > windows 2000 |
| Anti Dumping ID : anti dump | prevent the assembly from dumping from memory.  Preset : Aggressive  Compatible with Standard : No, use of unmanaged pointers | None |
| Anti IL Dasm  ID : anti ildasm | mark the assembly with a attribute that prevent ILDasm disassemble the assembly.  Preset : Minimum  Compatible with Standard : Yes | *None* |
| Anti Tampering  ID : anti tamper | provide a better protection than strong name for maintain integration.  Preset : Maximum  Compatible with Standard : No, framework dependent and use of unmanaged pointers | type : jit or normal, indicate the type of code encryption. |
| Control Flow Obfuscation  ID : ctrl flow | obfuscate the code in the methods so that decompilers cannot decompile the methods.  Preset : Aggressive  Compatible with Standard : Yes | Parameters:  level : level of mangling  genJunk : generate junk code  fakeBranch : generate fake branches |
| Constructor Proxy  ID : ctor proxy | create proxies between references of constructors and methods code.  Preset : Normal  Compatible with Standard : Yes | type : native or normal, indicate the decrypter type.  onlyExternal : default true, only protect external reference. |
| Constant Encryption  ID : const encrypt | obfuscate the constants in the code and store them in a encrypted and compressed form.  Preset : Minimum  Compatible with Standard : Yes | type : native or dynamic or normal, indicate the decrypter type.  numeric : default false, protect the numerical constants. |
| Add Invalid Metadata  ID : invalid md | add invalid metadata into assembly to prevent disassembler/decompiler to open the assembly.  Preset : Maximum  Compatible with Standard : No, invalid metadata | hasReflection : Stop use some invalid metadata as these would stop reflection from working. |
| Reduce Metadata  ID : reduce md | reduce the metadata carried by the assembly by removing unnecessary metadata.  \*\*\*If your application relys on Reflection, you should not apply this confusion\*\*\*  Preset : Maximum  Compatible with Standard : Yes | None |
| Method Proxy  ID : mtd proxy | create proxies between references of methods and methods code.  Preset : Normal  Compatible with Standard : Yes | type : native or normal, indicate the decrypter type.  onlyExternal : default true, only protect external reference. |
| Renaming  ID : rename | rename the members to unprintable name thus the decompiled source code can neither be compiled nor read.  Preset : Minimum  Compatible with Standard : Yes | None |
| Resource Encryption  ID : res encrypt | encrypt the embededd resources in the assembly and dynamically decrypt in runtime.  Preset : Normal  Compatible with Standard : Yes | None |

### Compressing Packer

Name : Compressing Packer   
ID : compressor   
Description : Reduce the size of output   
Compatible with Standard : Yes

Parameters:   
None

### Plugins

Cobber supports plugins, so you can write plugin to implement different protections. Please note that most of the time the plugins isn't updated with the latest version of Cobber, so you might need to patch it or recompile it from the source.

* [Sample Virtualizer](http://confuser.codeplex.com/releases/view/58911) By Me: Ki.Virtualization\_src.zip and Ki.Virtualization\_bin.zip (downloaded).
* [Memory Optimizer](http://download-codeplex.sec.s-msft.com/Download?ProjectName=confuser&DownloadId=748758) By Rue: MemoryOptimizer.dll downloaded

|  |  |
| --- | --- |
| **Plugins** | **Descriptions** |
| Ki.Virtualization | Ki.Virtualization is a sample of plugin system of Cobber. It is a simple .NET implementation of famous virtual machine protection. It is only a sample, not recommend for production use. |
| MemoryOptimizer | Rue decided to code a MemoryOptimizer plugin for it. The plugin is very similar to the SmartAssembly memory optimizations. This version (2013 Oct 24) works on Cobber 1.9.0.0 and up, until the plugin API changes. And the code can be seen in reflector.  If want to use with Cobber, need to rebuild plugin dll. |

### Bug Report

**If you got any problem with Cobber, try:**

1. Ensure all dependencies are put in the same directory
2. Use a lesser preset, like Aggressive/Normal
3. Silverlight and WinRT are not supported, you may have luck getting it work but it is not guaranteed.

Please provide the following items in order to trace down the bugs:

* **The Cobber Project file (\*.cobber):** This describe the protection applied to your assemblies. Alternately, you can tell how you set the protections.
* **The sample files:** Sample assemblies are essential for reproducing the bugs. The sample assemblies do not need to be identical to the your assemblies, it can be just a small test that make the issue occured.
* **The Cobber Database file (\*.log):** This file contains the information of the protection applied, such as the random seed, encryption key, etc. Since the obfuscation process is randomized, this file is required to reproduce the bug stablely.

### Compatibility

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | .NET 2.0 x86 | .NET 2.0 x64 | .NET 3.5 x86 | .NET 3.5 x64 | .NET 4.0 x86 | .NET 4.0 x64 | Mono x86 | Mono x64 |
| Windows 98 | --- | --- | --- | --- | --- | --- | --- | --- |
| Windows ME | --- | --- | --- | --- | --- | --- | --- | --- |
| Windows 2000 | --- | --- | --- | --- | --- | --- | --- | --- |
| Windows XP | Y | --- | Y | Y | Y | Y | --- | --- |
| Windows Vista | --- | --- | --- | --- | --- | --- | --- | --- |
| Windows 7 | --- | --- | Y | Y | Y | Y | --- | --- |

**Y** : Supported   
**N** : Not supported   
**---** : Not tested

### System Requirements

**For Use**

* .NET Framework 3.5

**For Development**

* VS 2008
* CFF Explorer(for Assembly Inspection)

# Appendix A: Confuser and ConfuserEx

Confuser website:

<http://confuser.codeplex.com/>

ConfuserEx is a open-source protector for .NET applications. It is the successor of [Confuser](http://confuser.codeplex.com) project. Preliminary release of new version of Confuser can be found at <https://github.com/yck1509/ConfuserEx>, many features not finished!

## Features

* Supports .NET Framework 2.0/3.0/3.5/4.0/4.5
* Symbol renaming
* Protection against debuggers/profilers
* Protection against memory dumping
* Control flow obfuscation
* Reference hiding proxies
* Extensible plugin API
* Many more are coming!

## Usage

Confuser.CLI <path to project file>

The project file is a ConfuserEx Project (\*.crproj). The format of project file can be found in ProjectFormat.md

## Bug Report

If you decided to submit a bug report, please include the following information:

1. The version of ConfuserEx you are using.
2. The protection and packer settings you used.
3. The input and output sample files that does not work.  
   If you can't disclose the application, you can try reducing it to a minimum case that does not work in ConfuserEx,  
   or you can sent it to me through email to [confuser.net@gmail.com](mailto:confuser.net@gmail.com) if you prefer not to disclose it publicly.
4. If it sometimes works and sometimes does not work, it might be better to include the seed since ConfuserEx uses random mechanism in protection.

# Appendix B: Cobber Screenshots!!! [1](https://dl.dropbox.com/u/75431285/confuser/1.png) [1](https://dl.dropbox.com/u/75431285/confuser/2.png) [3](https://dl.dropbox.com/u/75431285/confuser/3.png) [4](https://dl.dropbox.com/u/75431285/confuser/4.png) [5](https://dl.dropbox.com/u/75431285/confuser/5.png) [6](https://dl.dropbox.com/u/75431285/confuser/6.png) [7](https://dl.dropbox.com/u/75431285/confuser/7.png)