# How do I decompile a .NET EXE into readable C# source code?

Asked 11 years ago Active 3 years, 4 months ago Viewed 492k times

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I wrote a C# application for a client a couple of years ago, but I no longer have the source code. All I have is the EXE that I deployed on the client's PC. Is there a way I can generate C# source code from the EXE?

c# .net reverse-engineering decompiling

edited May 2 '10 at 2:49

asked Oct 7 '08 at 18:27
MusiGenesis
62.4k 35 173 314

1 Ok. Look here ... Teleriks JustDecompile actually decompiled the DLL's that Red Gates Reflector completely screwed up ... there were numerous issues with Reflector ... JustDecompile ... flawless so far ... – Marc Johnston Jul 3 '15 at 3:48

1 I have been using JustDecompile for quite a long time and it is really good at decompiling and package the source files as a ready to compile csproject. It is really active in development and there seems to be no open issues in their repo github.com/telerik/JustDecompileEngine – David Chelliah May 29 '16 at 15:40

## 7 Answers

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Reflector and its add-in FileDisassembler.

Reflector will allow to see the source code. FileDisassembler will allow you to convert it into a VS solution.

edited Apr 30 '14 at 15:50
Umar Farooq Khawaja
3,585 1 26 47

answered Oct 7 '08 at 18:28
GEOCHET
19k 15 68 94

4 Your post on FileDisassembler appeared as the page refreshed when I made my answer on FileDisassembler :-) You win. – ProfK Oct 7 '08 at 18:33

His Reflector link works, too, which is what took it. Thanks for helping me look less stupid to the client. – MusiGenesis Oct 7 '08 at 18:35

4 @musigenesis: No prob, that is what we are here for... I think... – GEOCHET Oct 7 '08 at 18:37

4 My copy of Reflector has an "Export..." option and I have no plug-ins installed. It creates a VS project with all the source code and resources. So why is everyone suggesting FileDisassembler? It is better? – Lucas Oct 7 '08 at 22:10

Lucas: Out of the box, I have not seen reflector able to do this. FileDisassembler has always been the only way. This may have changed in recent history though I guess. I will check it out. – GEOCHET Oct 8 '08 at 11:49

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When Red Gate said there would no longer be a free version of .Net Reflector, I started using ILSpy and Telerik's JustDecompile. I have found ILSpy to decompile more accurately than JustDecompile (which is still in Beta). Red Gate has changed their decision and still have a free version of .Net Reflector, but now I like ILSpy.

From the ILSpy website (http://www.ilspy.net/):

ILSpy is the open-source .NET assembly browser and decompiler.

## ILSpy Features

- Assembly browsing
- IL Disassembly
- Decompilation to C#
- Supports lambdas and 'yield return'
- Shows XML documentation
- Saving of resources
- Search for types/methods/properties (substring)
- Hyperlink-based type/method/property navigation
- Base/Derived types navigation
- Navigation history
- BAML to XAML decompiler
- Save Assembly as C# Project
- Find usage of field/method
- Extensible via plugins (MEF)

**Update:**

April 15, 2012, ILSpy 2.0 was released. New features compared with version 1.0:

- Assembly Lists
- Support for decompiling Expression trees
- Support for lifted operatores on nullables
- Decompile to Visual Basic
- Search for multiple strings separated by space (searching for "Assembly manager" in ILSpy.exe would find AssemblyListManager)
- Clicking on a local variable will highlight all other occurrences of that variable
- Ctrl+F can be used to search within the decompiled code view

**Update:**

- ILSpy 2.1 supports async/await decompilation

edited Jun 6 '12 at 18:20

answered Oct 5 '11 at 16:38
Daniel
**4,931** 4 28 35

1 I'm using 2.2 and it supports decompiling to IL, VB.NET, and C#. I found this very useful. – VoteCoffee Oct 30 '14 at 14:45

1 It seems Telerik is interested in collecting questionable information from the computer running on it and ILSpy cannot be compiled from sources. Also ILSpy binary mixes up variable names and puts some strange characters in the source code. – AaA Apr 27 '16 at 3:00

1 Note that ILSpy includes a Visual Studio add-in. For ILSpy 2.4 I added the ability to navigate from your Visual Studio source code direct to the decompiled output. Unfortunately there were some late-breaking fixes that are now merged to the ILSpy mainline but did not make the 2.4 release. – yoyo Jul 20 '16 at 18:01

Brilliant! There's a software company that charge people £100 a time for them to use a "special" tool on your sever in order to fix issues. Managed to get a copy of the tool they used while connected, and then managed to use ILSpy very easily to get the tool unlocking password. No more ripping off customers! – user2924019 Jan 19 '17 at 13:39 ✎

ILSpy is the best one – Pritam Oct 3 at 5:40

Reflector is no longer free in general, but they do offer it for free to open source developers: http://reflectorblog.red-gate.com/2013/07/open-source/

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But a few companies like DevExtras and JetBrains have created free alternatives:

DevExtras CodeReflect

JetBrains DotPeek

edited Oct 30 '14 at 15:31

VoteCoffee
**2,647** 23 30

answered Jun 7 '11 at 13:40

arc
**751** 5 3

5 Reflector is like 35$. Breaking the bank I know, but its worth 10x that. – StingyJack Oct 5 '11 at 16:55

7 It's worth adding Telerik JustDecompile to the list of free .NET assembly decompilers, too. telerik.com/justdecompile – Todd Oct 13 '11 at 21:12

3 @StingyJack: Great, looks like they heard you! It's now actually 10 the price at $368 if you want the VS2012 disassembler. :/ – DeepSpace101 Feb 9 '13 at 20:13

1 I dont hold it against them for making money, but ILSpy (mentioned) in @Daniel's answer is what I am using now. – StingyJack Feb 11 '13 at 14:29

1 It now costs $100 for the standard version and $200 for the version that integrates with Visual Studios. That's a heck of an inflation rate. Although they do offer stuff for free to open source developers: reflectorblog.red-gate.com/2013/07/open-source – VoteCoffee Oct 30 '14 at 14:57

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Reflector and the File Disassembler add-in from Denis Bauer. It actually produces source projects from assemblies, where Reflector on its own only displays the disassembled source.

ADDED: My latest favourite is JetBrains' dotPeek.

edited Jun 13 '14 at 14:02

answered Oct 7 '08 at 18:32

ProfK
**14.3k** 96 332 663

I like that dotPeek allows working with an entire folder easily, but as of today they only decompile to c#. Most other decompilers also do vb and IL. It also only supports up to Net 4.5 whereas Telerik supports 4.5.1 – VoteCoffee Oct 30 '14 at 15:04

updated link: denisbauer.com/home/reflectorfiledisassembler – WernerCD Mar 23 '17 at 15:58

so dotPeek is totally free or they have restrictions for paid version?. i couldnt see any information on jetbrains website regarding it. – batmaci Jan 5 at 15:33

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Telerik JustDecompile is free and has a feature to create projects from .NET assemblies.

answered Aug 15 '11 at 19:16

kodefuguru
**538** 4 4

Telerik offers the ability to decompile to VB.NET, IL, or C#.NET which I found useful. It also auto-selects the framework and has a plug-in available for deobfuscicating. Also, it support .NET 4.5.1. Seems pretty good. – VoteCoffee Oct 30 '14 at 14:54

1 I tried all the solutions here in this post and JustDecompile was the only one that works perfectly for me. – Alvaro Pereira Jan 17 '17 at 14:41

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I'm surprised no one has mentioned **Microsoft's** ildasm. It may not be as pretty as ILSpy or Reflector, but it comes with Visual Studio so many developers already have it.

To run it (assuming VS 2013, should be similar for other versions):

1. Select Start > All Programs > Visual Studio 2013 > Visual Studio Tools.
2. Double-click on Developer Command Prompt for VS2013.
3. Run "ildasm" from the resulting command prompt.
4. In the tool, select File > Open and open your executable or DLL.

Now you can navigate the DLL structure. Double-click on class members to see the IL. Use File > Dump to export IL to a file.

answered Mar 24 '15 at 17:24

yoyo
**5,728** 2 44 44

I find IL DASM to be a bit barbaric. It shows the tree , but when right clicking does nothing I find that insane. Plus the Dump of the export to file is basically garbage. Look at it, how it that even remotely helpful? – Tom Stickel Nov 3 '15 at 6:10

4 I never claimed ildasm was the best option out there, only that it's available and it works. ¯_(ツ)_/¯ – yoyo Nov 4 '15 at 0:41

It doesn't compile back to C# code, I presume? – Jack Jan 10 '17 at 22:11

Nope, 'fraid not. – yoyo Jan 11 '17 at 1:34

I was really surprised that dotPeek would not let me search the whole Assembly for a string I knew was in there. ildasm may not be pretty but at least it has a dump option that helped me locate the class that contained the string I was looking for. – Gabe Halsmer Nov 19 '18 at 19:11

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You want reflector.

answered Oct 7 '08 at 18:28
Luke Halliwell
**5,468** 6 26 30

**protected** by Raghav Sood Feb 11 '13 at 18:55

Thank you for your interest in this question. Because it has attracted low-quality or spam answers that had to be removed, posting an answer now requires 10 reputation on this site (the association bonus does not count).

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