

Práce s knihovnamí

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Programování v C++, A7B36PJC

04/2016, Lekce 7

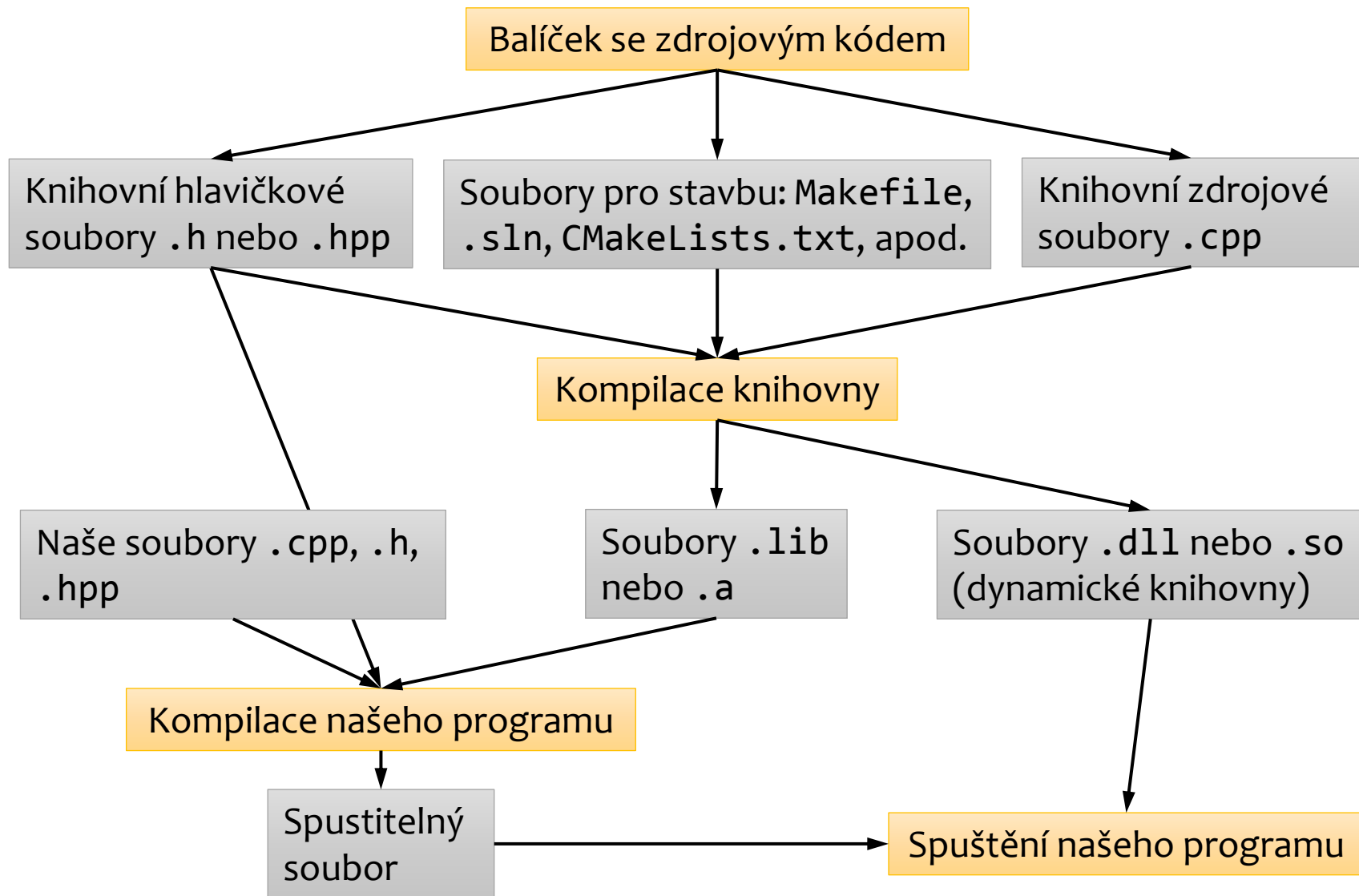
<https://cw.fel.cvut.cz/wiki/courses/a7b36pjc/start>



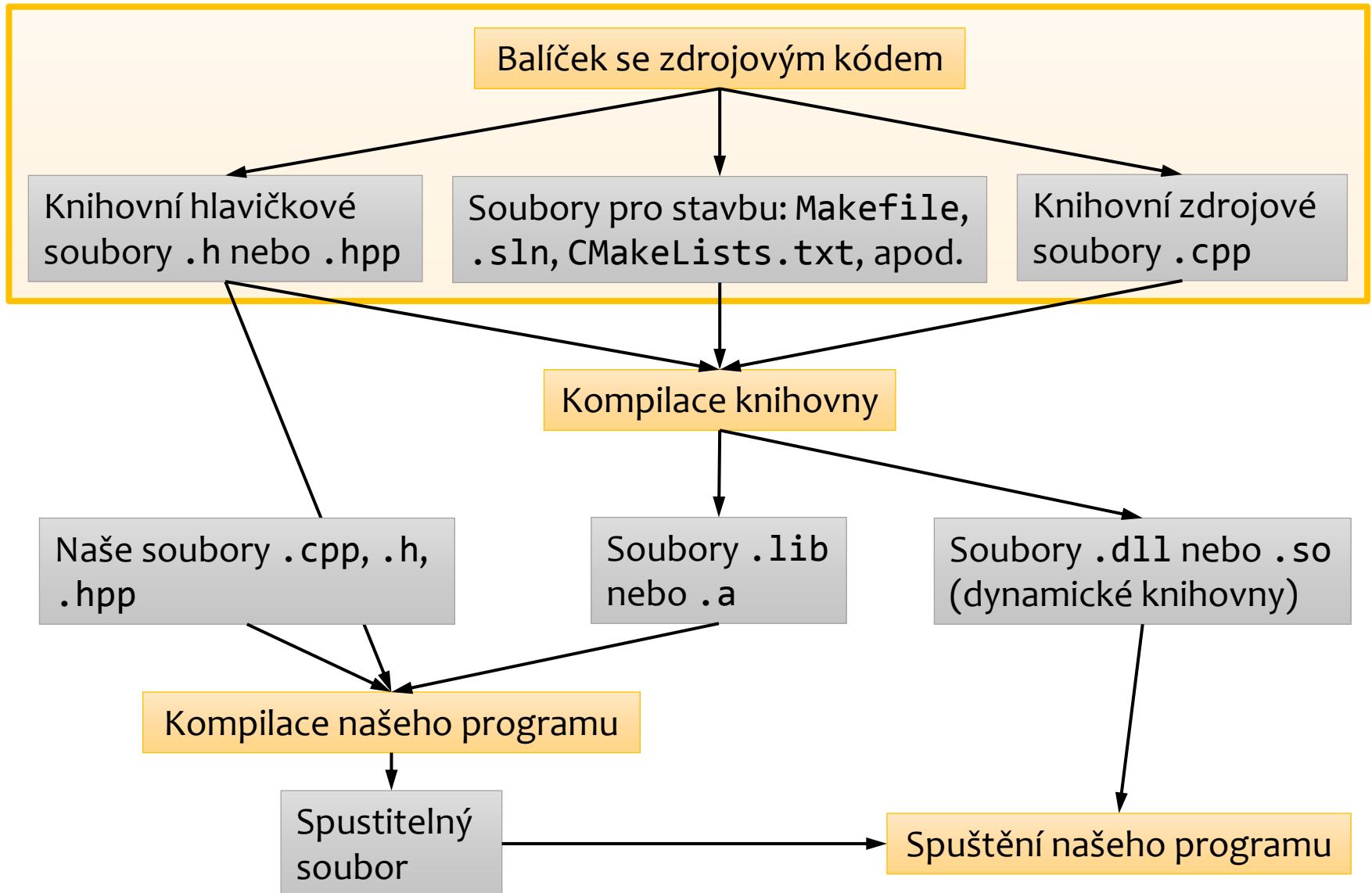
Knihovna Poco::Net

- Umožňuje snadný přístup k síti a webovým službám.
- Obsahuje třídy a funkce pro práci s technologiemi:
 - HTTP, FTP
 - SMTP, POP3
 - TCP/IP, UDP
- Instalace na Linuxu:
 - `sudo apt-get install libpococonet9` (nebo `libpococonet9-dbg`)
- Další knihovny z balíčku Poco:
 - Poco::Foundation – užitečné nástroje, např. práce se soubory, logování, datum a čas, systém událostí
 - Poco::XML, Poco::JSON – další webové technologie
 - Poco::Util – konfigurace programu ze souboru a z příkazové řádky
 - Poco::Crypto – kryptografie
 - Poco::Data – přístup k databázím (MySQL, SQLite)
 - Poco::Zip – komprese

Práce s knihovnou



Práce s knihovnou





Download and Get Started

Basic Edition

No external dependencies – start developing immediately

Complete Edition

Requires OpenSSL, MySQL Client and ODBC

Download

Sources for Windows



Download

Sources for Linux, OS X, etc.



Download

Sources for Windows



Download

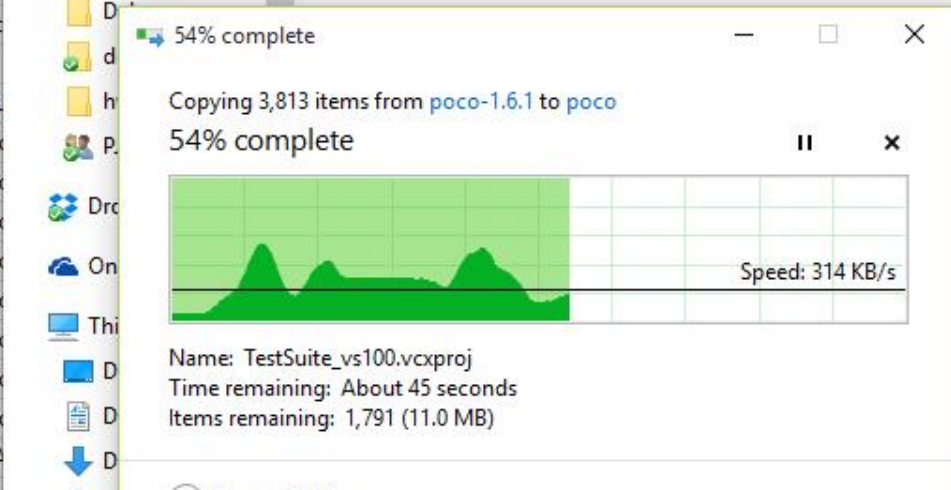
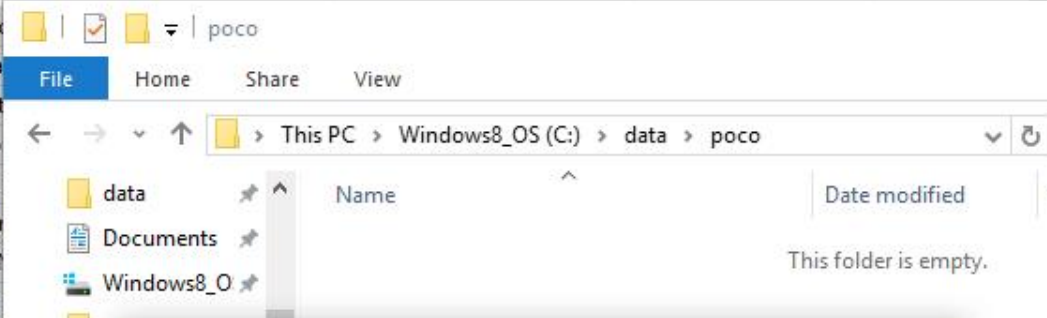
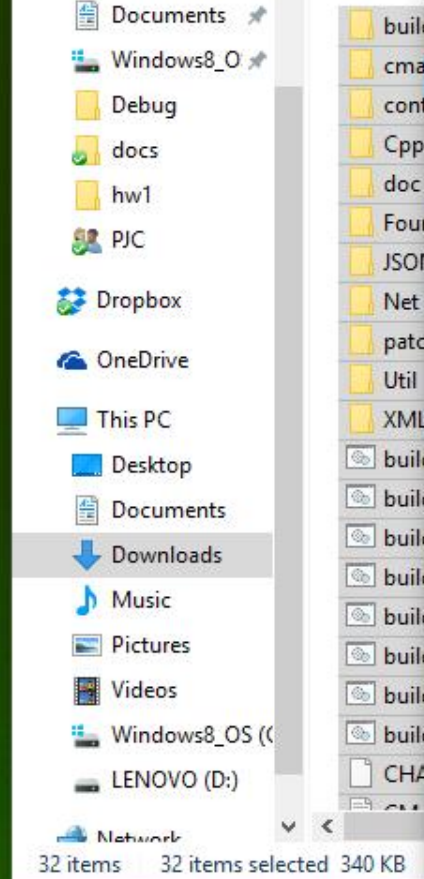
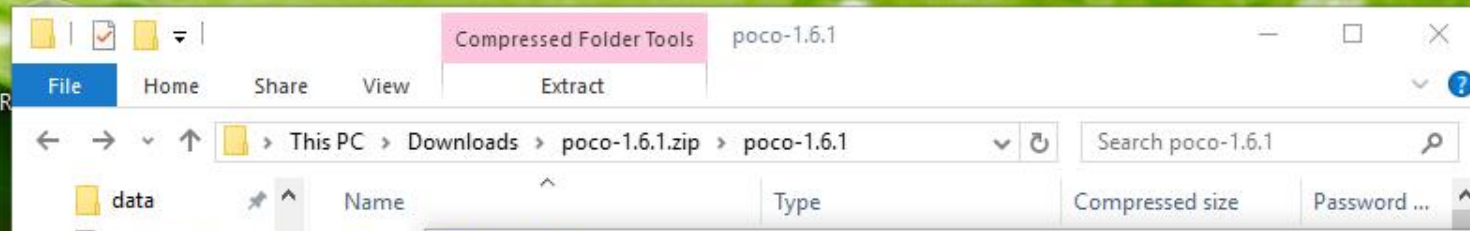
Sources for Linux, OS X, etc.



The current stable release is **1.6.1**. See the [CHANGELOG](#) for what's new. The POCO C++ Libraries are open source software, released under the [Boost Software License](#).

- POCO je ke stažení na stránce pocoproject.org.
- Zde je také k dispozici dokumentace, ve které naleznete podrobný popis tříd a funkcí, které knihovna poskytuje.

Commercial C++ libraries, frameworks and tools based on the POCO C++ Libraries from [Applied Informatics](#) – providing features like Remoting for RPC/IPC and SOAP/WSDL web services, Open Service Platform for building modular, extensible



- Rozbalte .zip soubor do nějaké dobře přístupné složky.
- Cestu k rozbaleným souborům budeme několikrát hledat a psát, takže se vyplatí, když bude krátká.
- Na obrázku: c : \data \poco

Práce s knihovnou

Balíček se zdrojovým kódem

Knihovní hlavičkové soubory .h nebo .hpp

Soubory pro stavbu: Makefile, .sln, CMakeLists.txt, apod.

Knihovní zdrojové soubory .cpp

Kompilace knihovny

Naše soubory .cpp, .h, .hpp

Soubory .lib nebo .a

Soubory .dll nebo .so (dynamické knihovny)

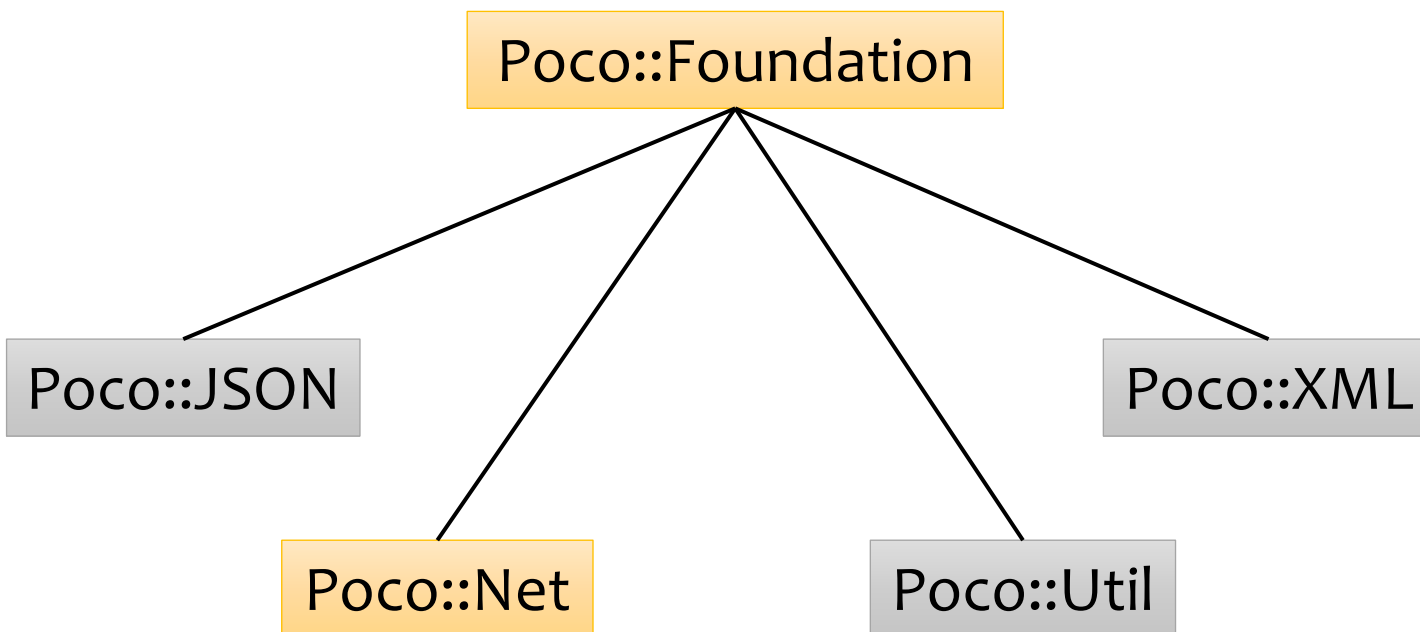
Kompilace našeho programu

Spustitelný soubor

Spuštění našeho programu

Poco Basic Edition

- V základním balíčku Poco nalezneme pět knihoven.
- Knihovna Foundation obsahuje funkce a typy, na nichž ostatní knihovny závisí.



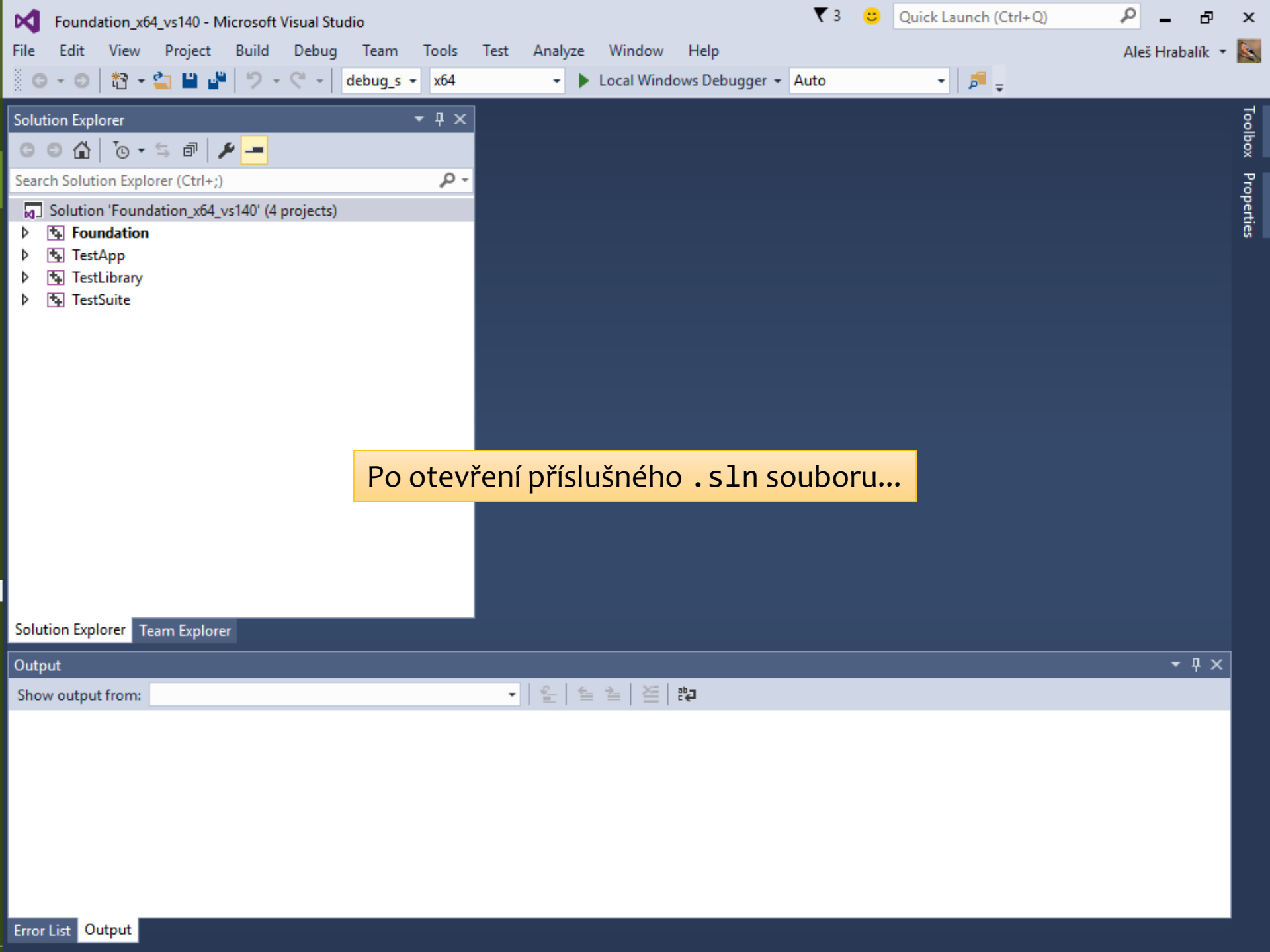


Recycle Bin

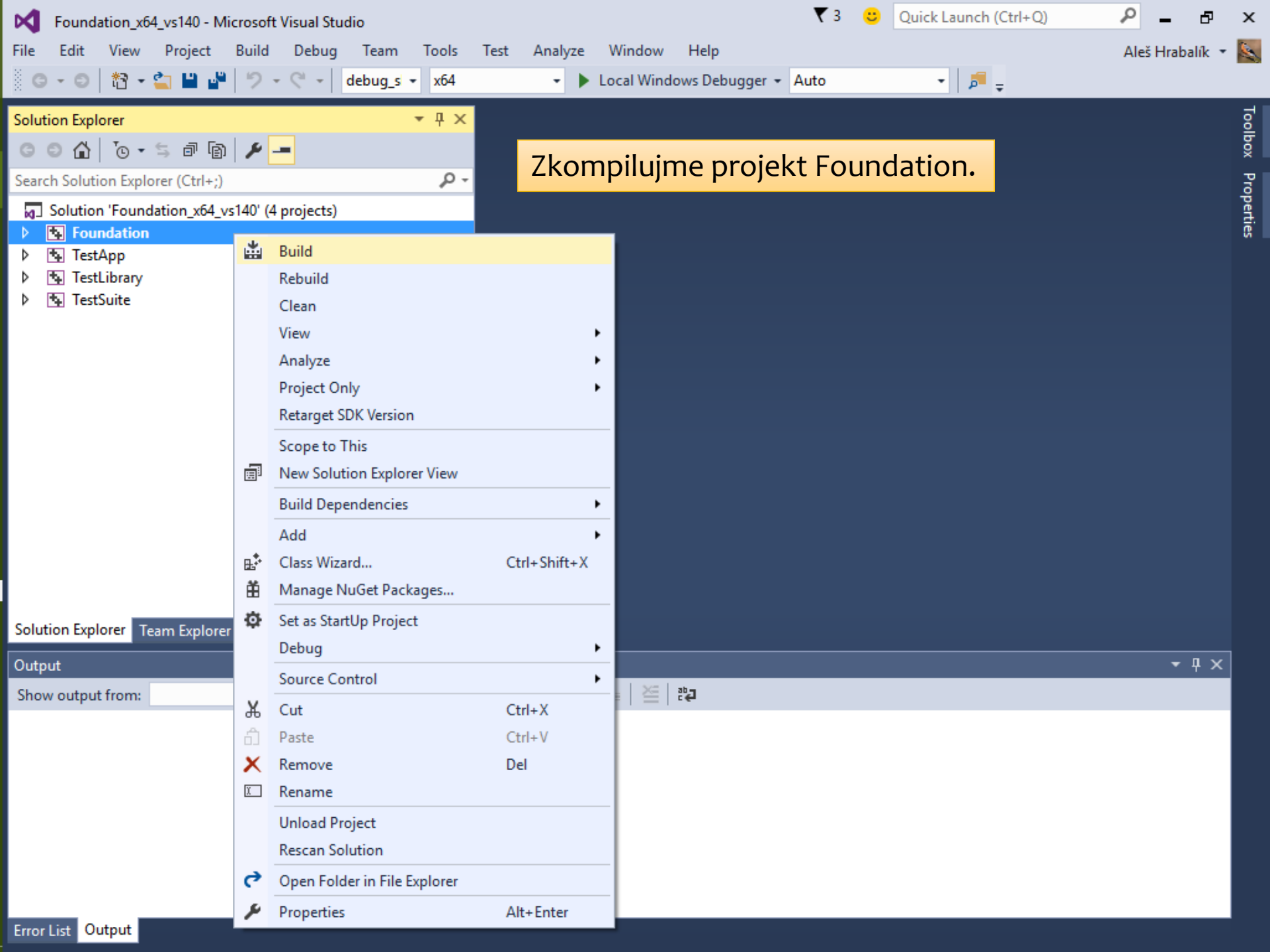
Windows Explorer window showing the 'Foundation' folder. The address bar indicates the path: <code>C:\Windows8_OS\data\poco\Foundation</code>. The left sidebar shows the folder structure, and the main pane displays a list of files and folders.

Name	Date modified	Type	Size
Foundation_vs140.vcxproj.filters	11/4/2015 9:52 AM	VC++ Project Filte...	73 KB
Foundation_WEC2013_vs110.sln	11/4/2015 9:52 AM	Microsoft Visual S...	10 KB
Foundation_WEC2013_vs110.vcxproj	11/4/2015 9:52 AM	VC++ Project	110 KB
Foundation_WEC2013_vs110.vcxproj.filters	11/4/2015 9:52 AM	VC++ Project Filte...	73 KB
Foundation_WEC2013_vs120.sln	11/4/2015 9:52 AM	Microsoft Visual S...	10 KB
Foundation_WEC2013_vs120.vcxproj	11/4/2015 9:52 AM	VC++ Project	110 KB
Foundation_WEC2013_vs120.vcxproj.filters	11/4/2015 9:52 AM	VC++ Project Filte...	73 KB
Foundation_x64_vs90.sln	11/4/2015 9:52 AM	Microsoft Visual S...	6 KB
Foundation_x64_vs120.vcxproj	11/4/2015 9:52 AM	VC++ Project	97 KB
Foundation_x64_vs120.vcxproj.filters	11/4/2015 9:52 AM	VC++ Project Filte...	72 KB
Foundation_x64_vs140.opensdf	11/4/2015 10:10 AM	OPENSDF File	0 KB
Foundation_x64_vs140.sdf	11/4/2015 10:11 AM	SQL Server Comp...	51,840 KB
Foundation_x64_vs140.sln	11/4/2015 9:52 AM	Microsoft Visual S...	7 KB
Foundation_x64_vs140.vcxproj	11/4/2015 9:52 AM	VC++ Project	97 KB

- V podsložce Foundation jsou k dispozici projektové soubory pro všechny podporované verze Visual Studia.
- vs120.sln – Visual Studio 2013
- vs140.sln – Visual Studio 2015



Po otevření příslušného .sln souboru...



Zkompilujme projekt Foundation.

- Build
- Rebuild
- Clean
- View
- Analyze
- Project Only
- Retarget SDK Version
- Scope to This
- New Solution Explorer View
- Build Dependencies
- Add
- Class Wizard... (Ctrl+Shift+X)
- Manage NuGet Packages...
- Set as StartUp Project
- Debug
- Source Control
- Cut (Ctrl+X)
- Paste (Ctrl+V)
- Remove (Del)
- Rename
- Unload Project
- Rescan Solution
- Open Folder in File Explorer
- Properties (Alt+Enter)

Solution Explorer

Search Solution Explorer (Ctrl+;)

Solution 'Foundation_x64_vs140' (4 projects)

- Foundation
 - TestApp
 - TestLibrary
 - TestSuite

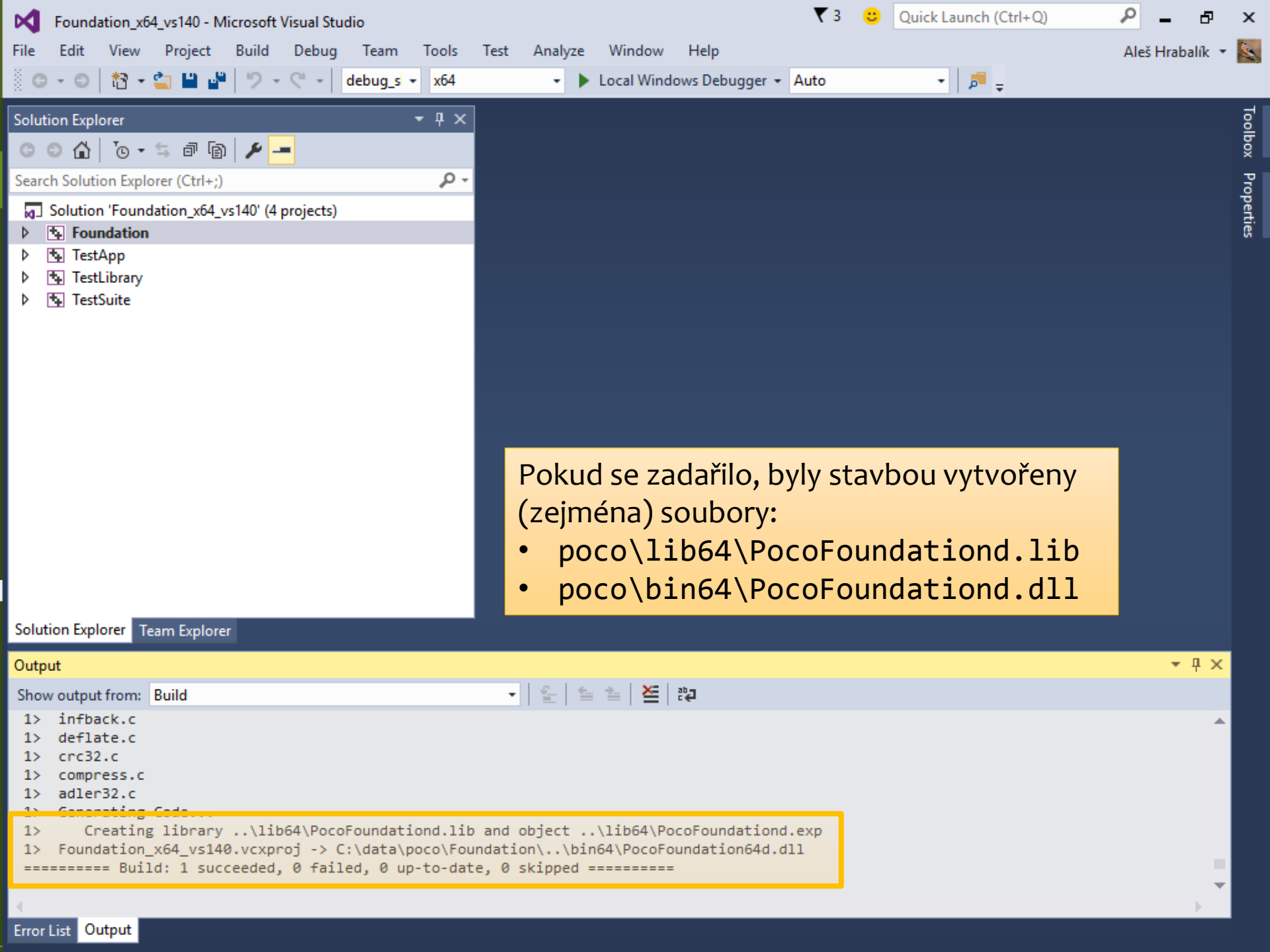
Solution Explorer Team Explorer

Output

Show output from:

Error List Output

Toolbox Properties



Pokud se zadařilo, byly stavbou vytvořeny (zejména) soubory:

- poco\lib64\PocoFoundationd.lib
- poco\bin64\PocoFoundationd.dll

```
Show output from: Build
1> infback.c
1> deflate.c
1> crc32.c
1> compress.c
1> adler32.c
1> Generating Code...
1> Creating library ..\lib64\PocoFoundationd.lib and object ..\lib64\PocoFoundationd.exp
1> Foundation_x64_vs140.vcxproj -> C:\data\poco\Foundation\..\bin64\PocoFoundation64d.dll
===== Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped =====
```



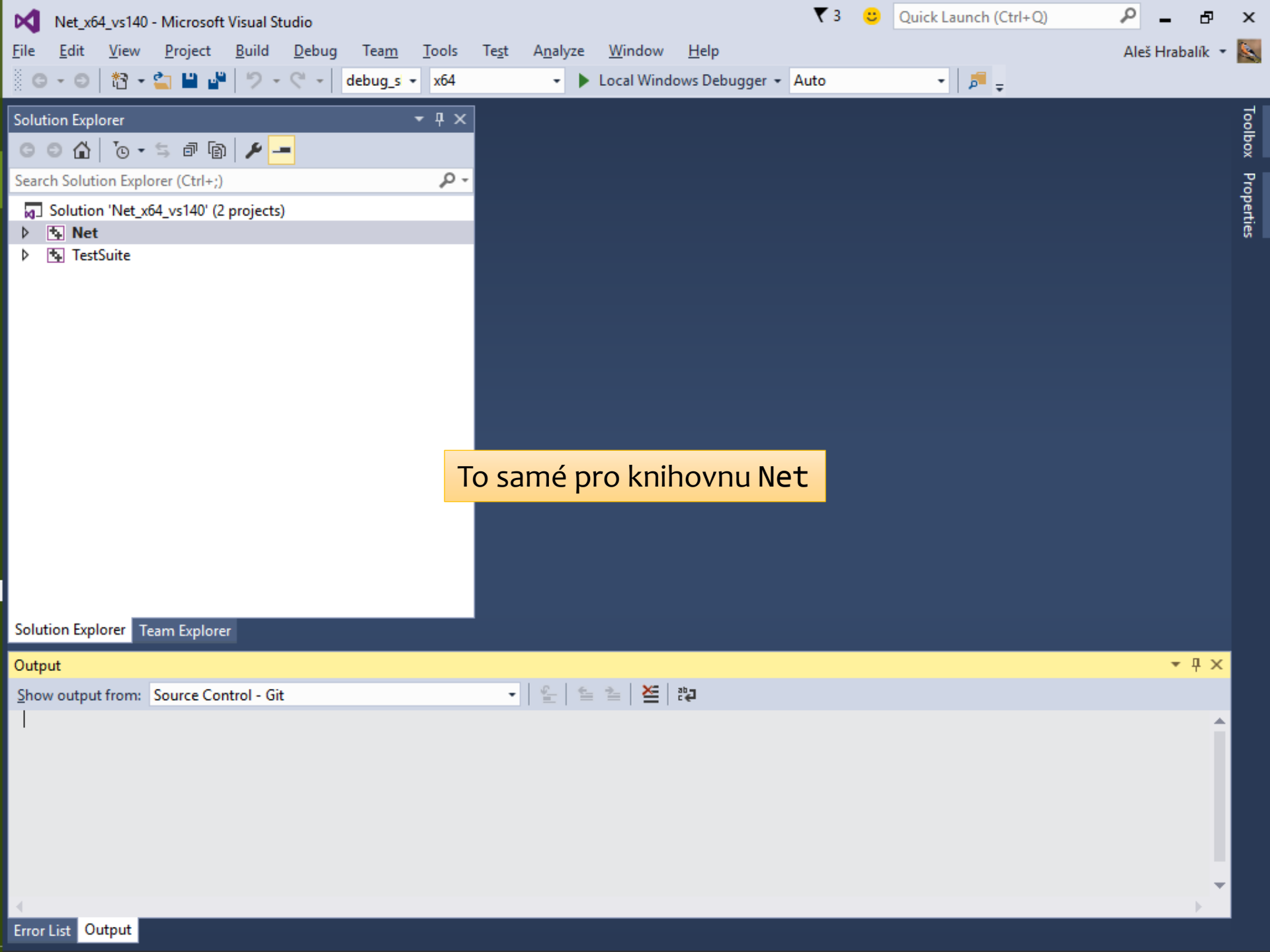
Recycle Bin

File Explorer window showing the contents of the 'Net' folder. The address bar shows the path: This PC > Windows8_OS (C:) > data > poco > Net. The left sidebar shows the folder structure, and the main pane displays a list of files and folders.

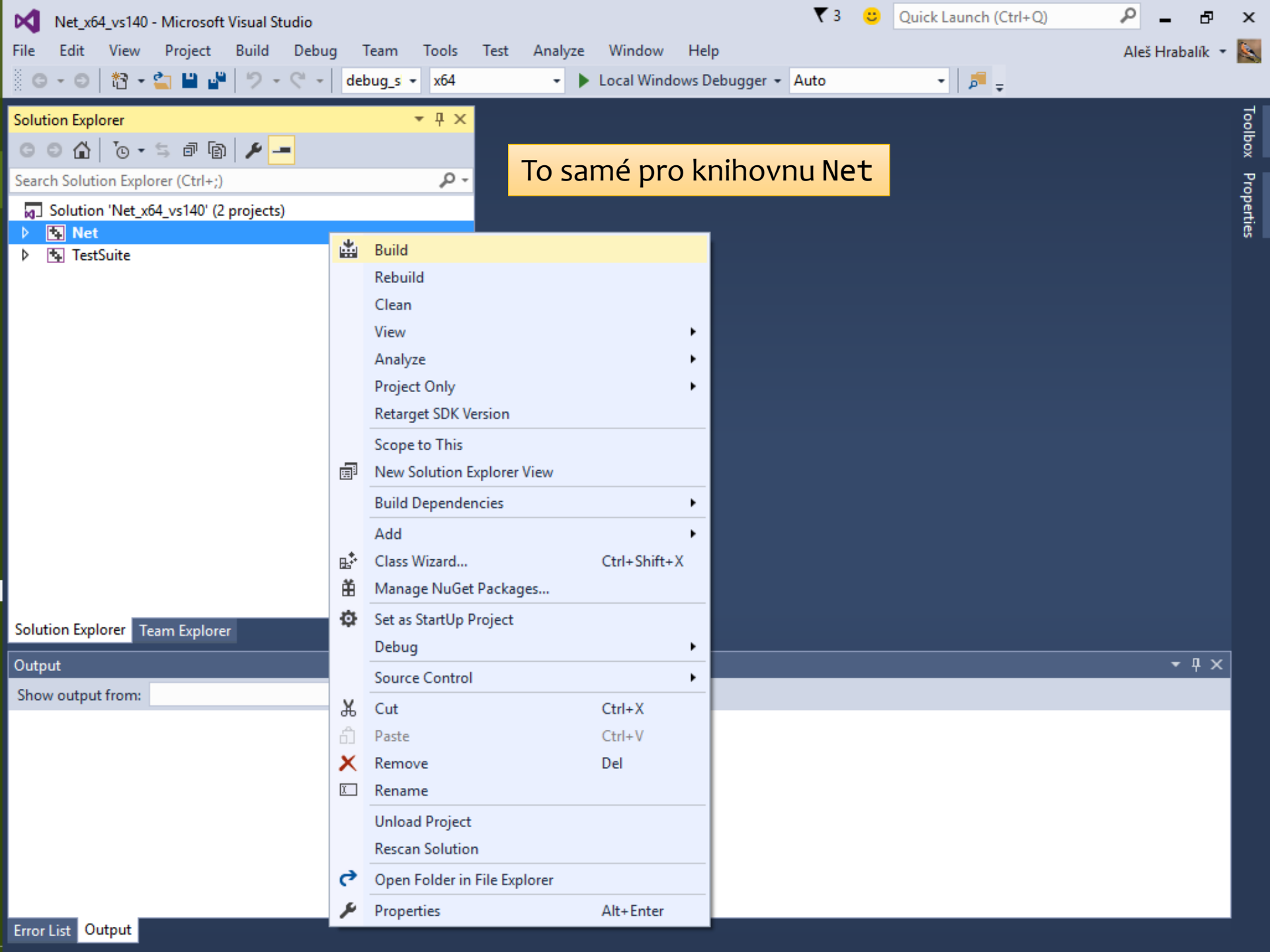
Name	Date modified	Type	Size
data			
Documents			
Windows8_O			
Debug			
docs			
hw1			
PJC			
Dropbox			
OneDrive			
This PC			
Desktop			
Documents			
Downloads			
Music			
Pictures			
Videos			
Windows8_OS (C:)			
LENOVO (D:)			
Network			
Net_vs140.vcxproj	11/4/2015 9:53 AM	VC++ Project	28 KB
Net_vs140.vcxproj.filters	11/4/2015 9:53 AM	VC++ Project Filte...	30 KB
Net_WEC2013_vs110.sln	11/4/2015 9:53 AM	Microsoft Visual S...	7 KB
Net_WEC2013_vs110.vcxproj	11/4/2015 9:53 AM	VC++ Project	28 KB
Net_WEC2013_vs110.vcxproj.filters	11/4/2015 9:53 AM	VC++ Project Filte...	30 KB
Net_WEC2013_vs120.sln	11/4/2015 9:53 AM	Microsoft Visual S...	7 KB
Net_WEC2013_vs120.vcxproj	11/4/2015 9:53 AM	VC++ Project	28 KB
Net_WEC2013_vs120.vcxproj.filters	11/4/2015 9:53 AM	VC++ Project Filte...	30 KB
Net_x64_vs90.sln	11/4/2015 9:53 AM	Microsoft Visual S...	5 KB
Net_x64_vs90.vcxproj	11/4/2015 9:53 AM	VC++ Project	26 KB
Net_x64_vs100.sln	11/4/2015 9:53 AM	Microsoft Visual S...	5 KB
Net_x64_vs100.vcxproj	11/4/2015 9:53 AM	VC++ Project	29 KB
Net_x64_vs100.vcxproj.filters	11/4/2015 9:53 AM	VC++ Project Filte...	30 KB
Net_x64_vs110.sln	11/4/2015 9:53 AM	Microsoft Visual S...	5 KB
Net_x64_vs110.vcxproj	11/4/2015 9:53 AM	VC++ Project	28 KB
Net_x64_vs110.vcxproj.filters	11/4/2015 9:53 AM	VC++ Project Filte...	30 KB
Net_x64_vs120.sln	11/4/2015 9:53 AM	Microsoft Visual S...	5 KB
Net_x64_vs120.vcxproj	11/4/2015 9:53 AM	VC++ Project	28 KB
Net_x64_vs120.vcxproj.filters	11/4/2015 9:53 AM	VC++ Project Filte...	30 KB
Net_x64_vs140.sln	11/4/2015 9:53 AM	Microsoft Visual S...	5 KB
Net_x64_vs140.vcxproj	11/4/2015 9:53 AM	VC++ Project	28 KB
Net_x64_vs140.vcxproj.filters	11/4/2015 9:53 AM	VC++ Project Filte...	30 KB

45 items | 1 item selected 4.26 KB

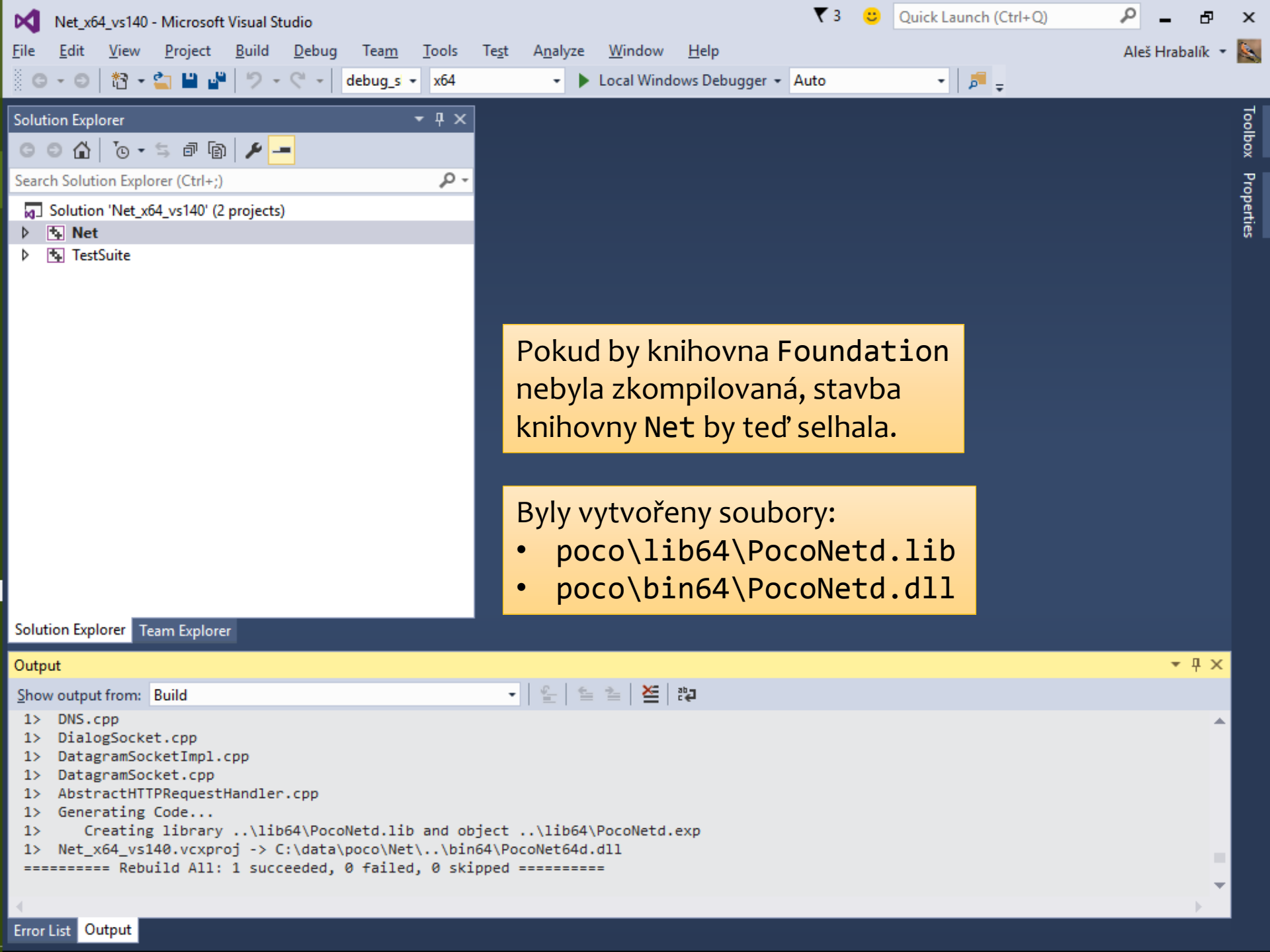
To samé pro knihovnu Net



To samé pro knihovnu Net



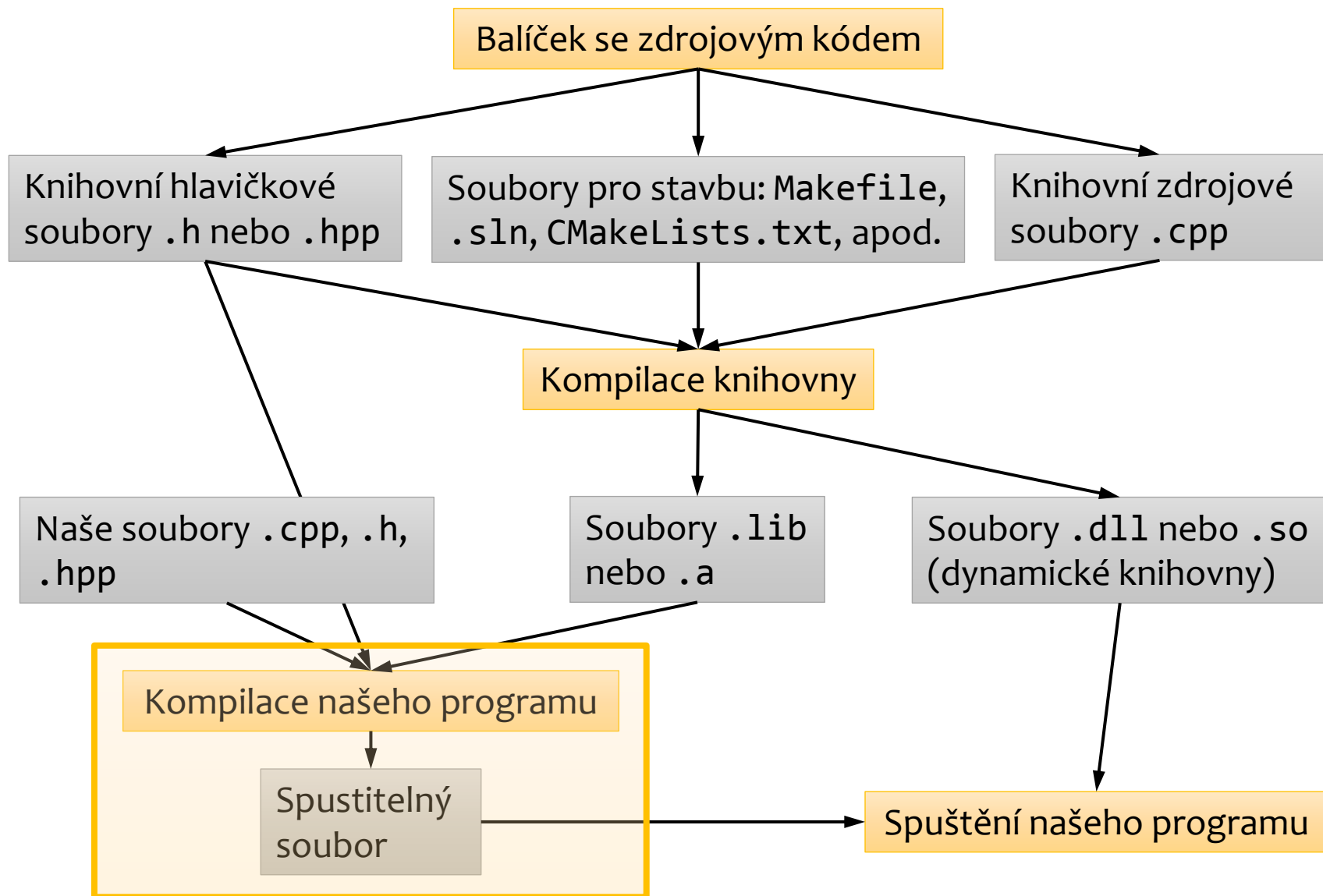
To samé pro knihovnu Net

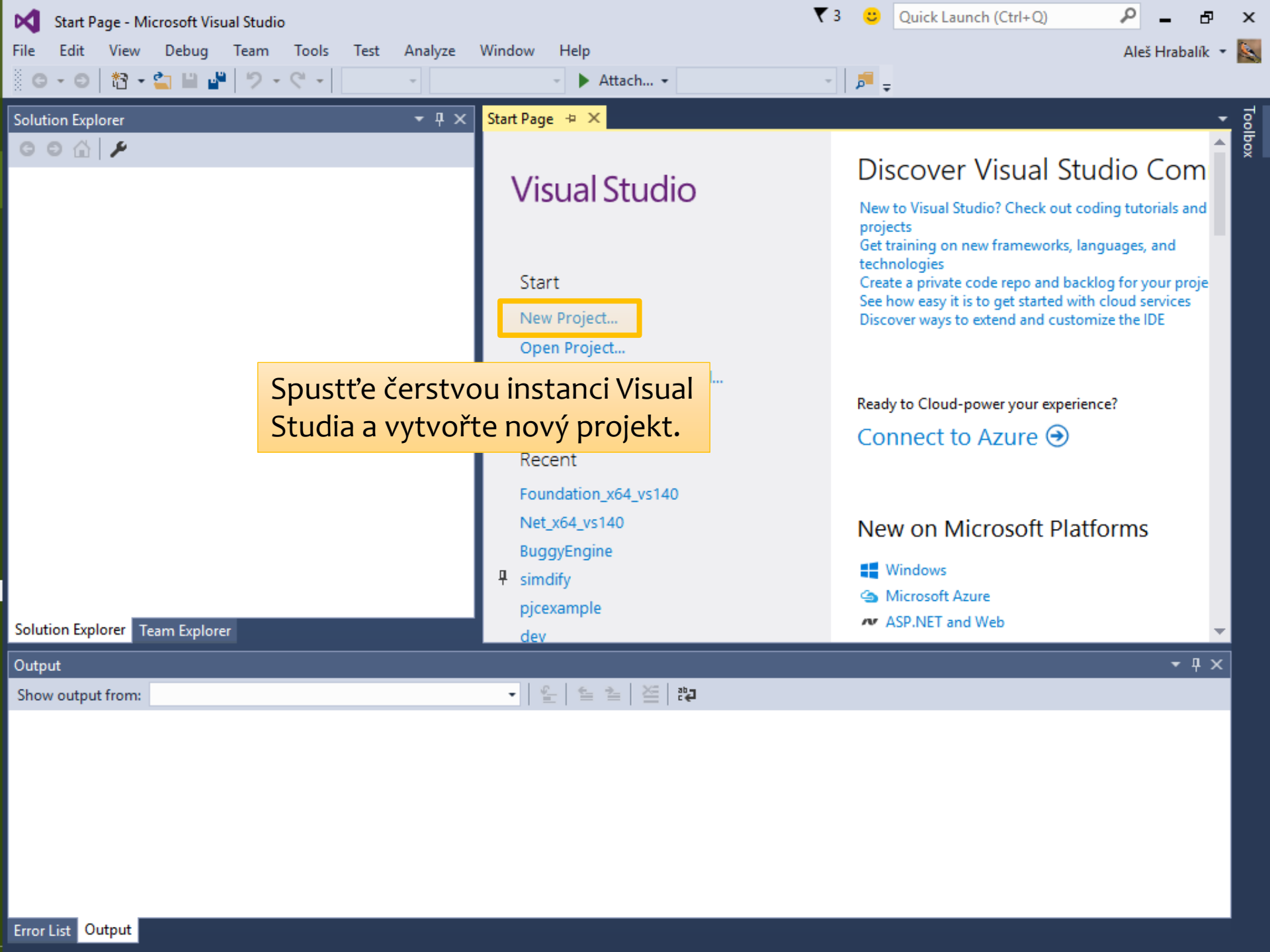


Pokud by knihovna Foundation nebyla zkompilovaná, stavba knihovny Net by teď selhala.

- Byly vytvořeny soubory:
- poco\lib64\PocoNetd.lib
 - poco\bin64\PocoNetd.dll

Práce s knihovnou





Spustte čerstvou instanci Visual Studia a vytvořte nový projekt.

Visual Studio

Start

New Project...

Open Project...

Recent

Foundation_x64_vs140

Net_x64_vs140

BuggyEngine

simdify

pjexample

dev

Discover Visual Studio Com

New to Visual Studio? Check out coding tutorials and projects

Get training on new frameworks, languages, and technologies

Create a private code repo and backlog for your proje

See how easy it is to get started with cloud services

Discover ways to extend and customize the IDE

Ready to Cloud-power your experience?

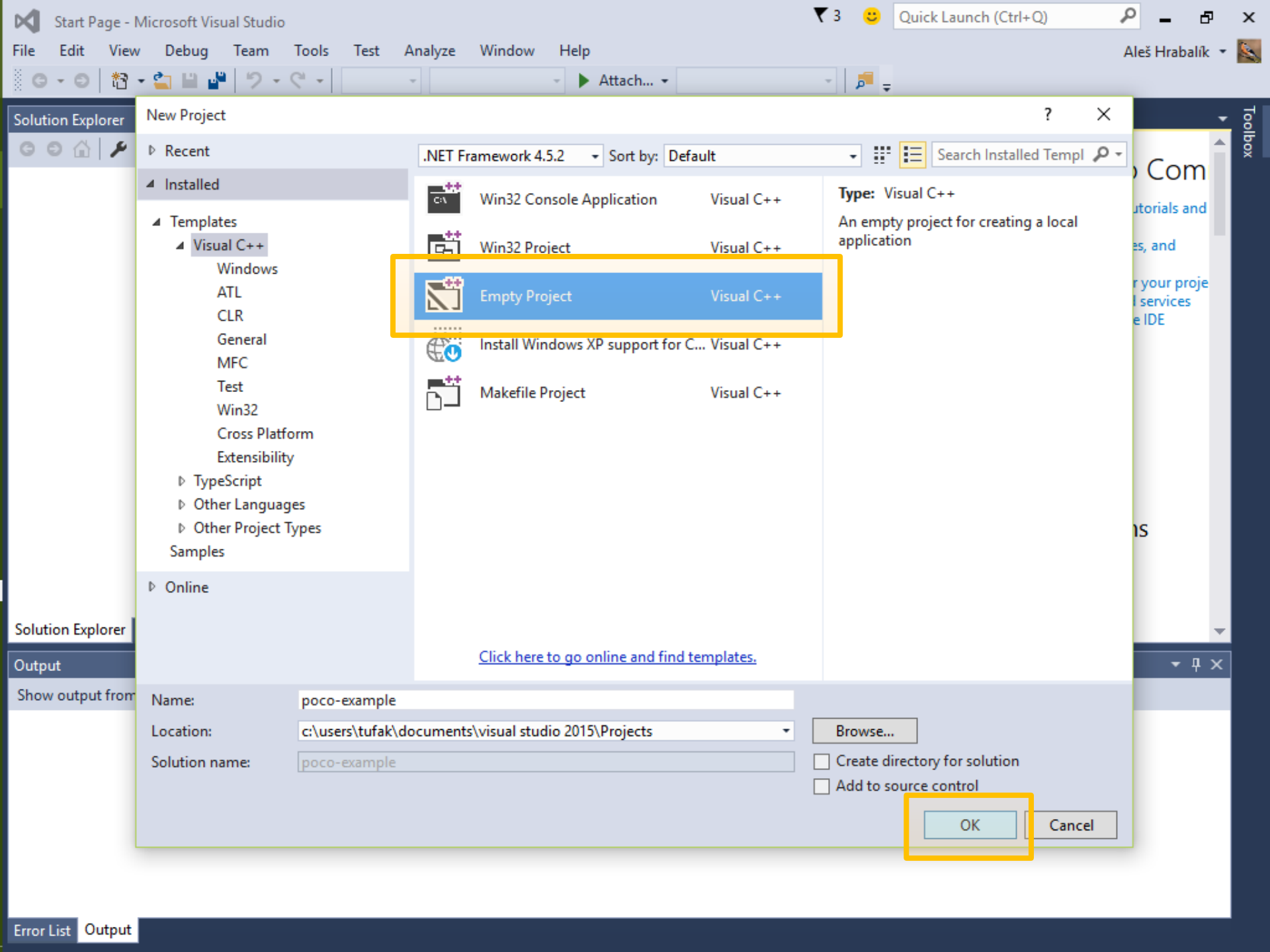
[Connect to Azure](#)

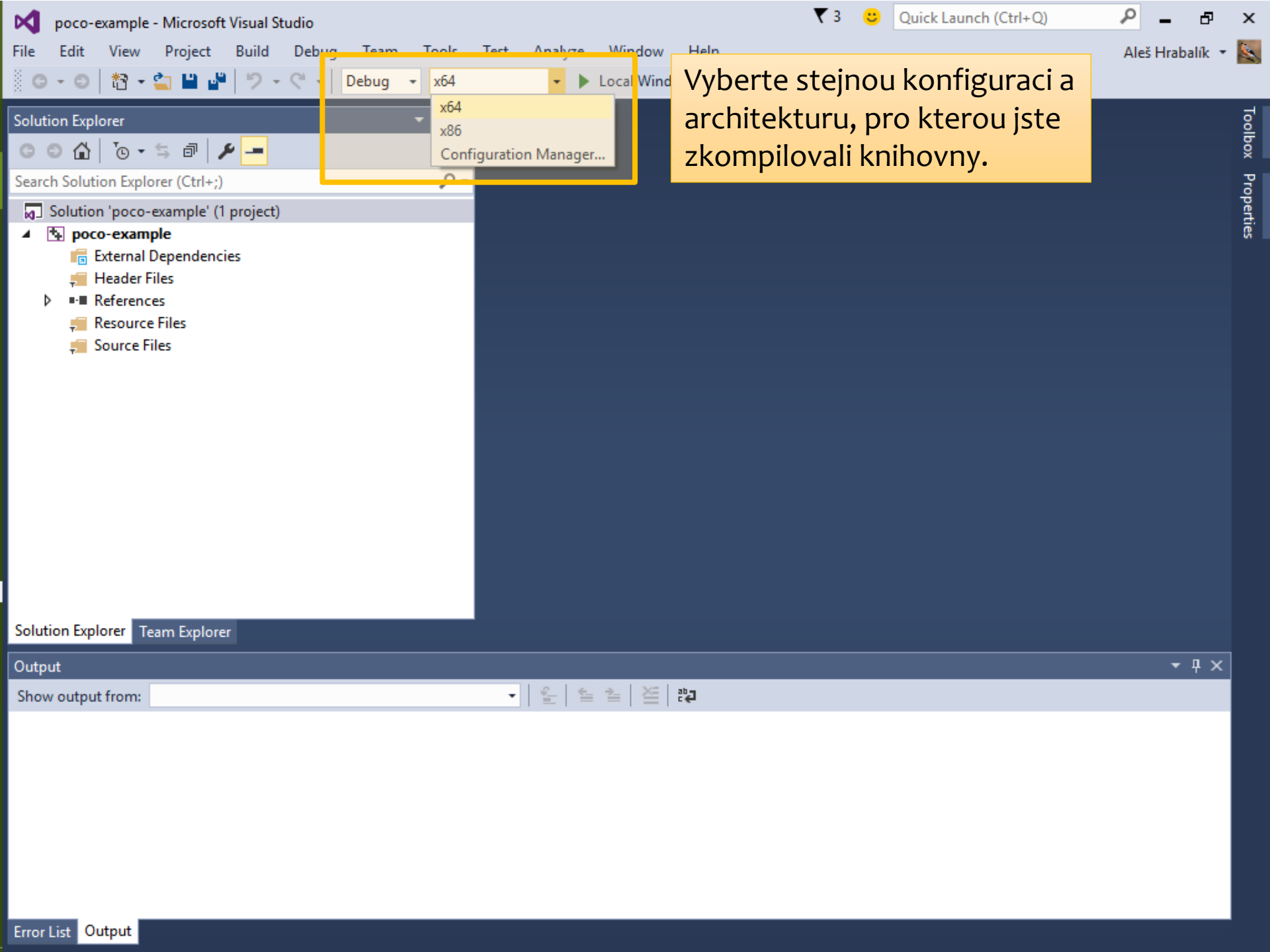
New on Microsoft Platforms

Windows

Microsoft Azure

ASP.NET and Web





Vyberte stejnou konfiguraci a architekturu, pro kterou jste zkompilevali knihovny.

Solution Explorer

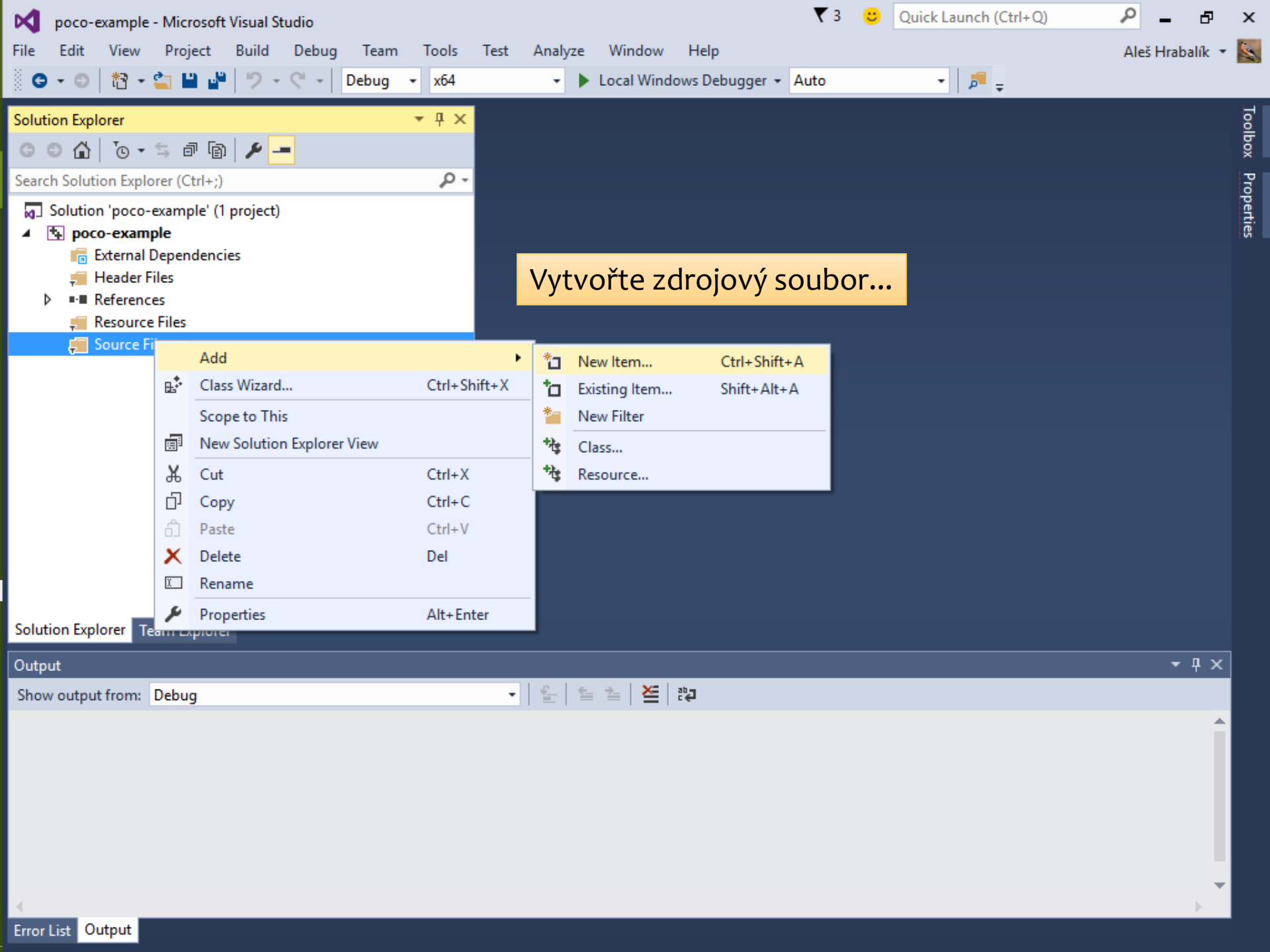
Solution 'poco-example' (1 project)

- ▲ **poco-example**
 - External Dependencies
 - Header Files
 - ▶ References
 - Resource Files
 - Source Files

Solution Explorer Team Explorer

Output

Show output from:



Vytvořte zdrojový soubor...

- Add
 - New Item... Ctrl+Shift+A
 - Existing Item... Shift+Alt+A
 - New Filter
 - Class...
 - Resource...
- Class Wizard... Ctrl+Shift+X
- Scope to This
- New Solution Explorer View
- Cut Ctrl+X
- Copy Ctrl+C
- Paste Ctrl+V
- Delete Del
- Rename
- Properties Alt+Enter

Output

Show output from: Debug

Error List Output

```
// adapted from: http://www.codeproject.com/Articles/252566/Learning-Poco-GET-with-HTTP
```

```
#include <Poco/Net/HTTPClientSession.h>
#include <Poco/Net/HTTPRequest.h>
#include <Poco/Net/HTTPResponse.h>
#include <Poco/StreamCopier.h>
#include <Poco/Path.h>
#include <Poco/URI.h>
#include <Poco/Exception.h>
#include <iostream>
#include <string>

using namespace Poco::Net;
using namespace Poco;

int main(int argc, char** argv) {
    std::string uriStr;

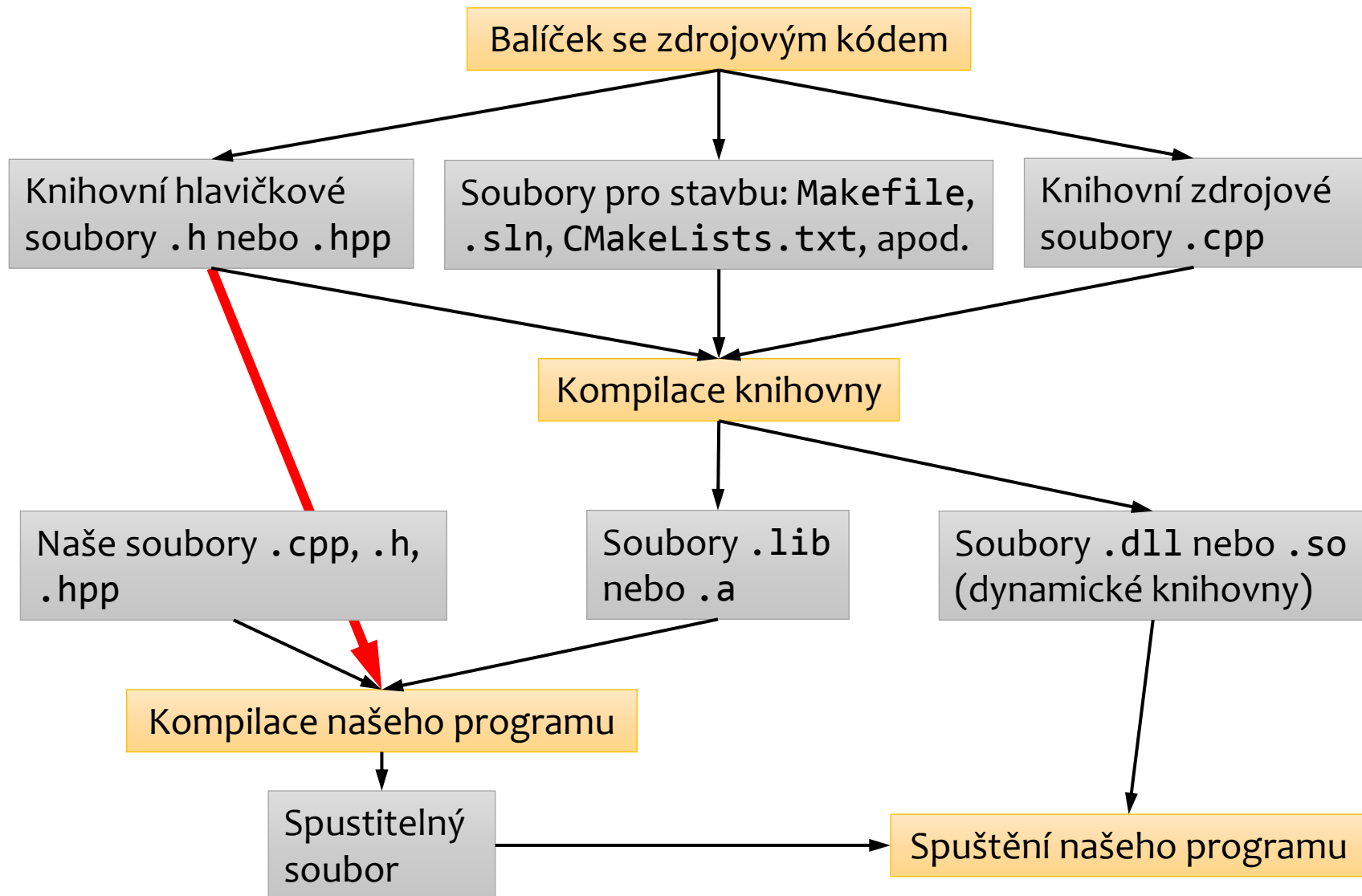
    if (argc >= 2) {
        uriStr = argv[1];
    }
    else {
        uriStr = "http://www.codingnest.com/";
    }

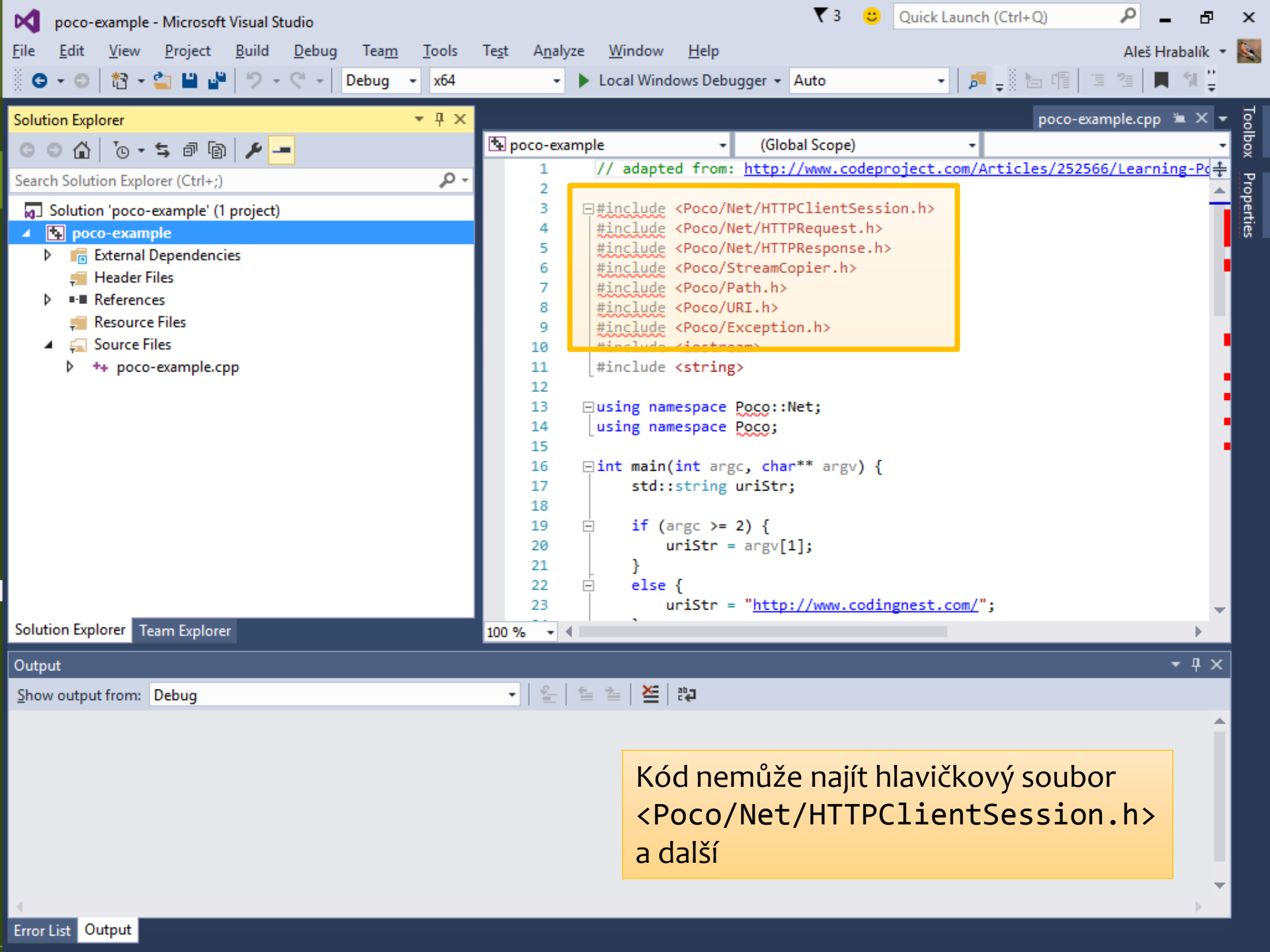
    try {
        // prepare session
        URI uri(uriStr);
        HTTPClientSession session(uri.getHost(), uri.getPort());
    }
    ...
}
```

Tento kód získá webovou stránku
a vypíše ji na standardní výstup.

```
...  
    // prepare path  
    std::string path = uri.getPathAndQuery();  
    if (path.empty()) path = "/";  
  
    // send request  
    HTTPRequest req(HTTPRequest::HTTP_GET, path, HTTPMessage::HTTP_1_1);  
    session.sendRequest(req);  
  
    // get response  
    HTTPResponse res;  
    std::cout << res.getStatus() << " " << res.getReason() << "\n";  
  
    // print response  
    auto& is = session.receiveResponse(res);  
    StreamCopier::copyStream(is, std::cout);  
  
    // wait  
    std::cin.get();  
}  
catch (Exception &ex) {  
    std::cerr << ex.displayText() << "\n";  
  
    // wait  
    std::cin.get();  
    return -1;  
}  
}
```

Práce s knihovnou





Kód nemůže najít hlavičkový soubor `<Poco/Net/HTTPClientSession.h>` a další



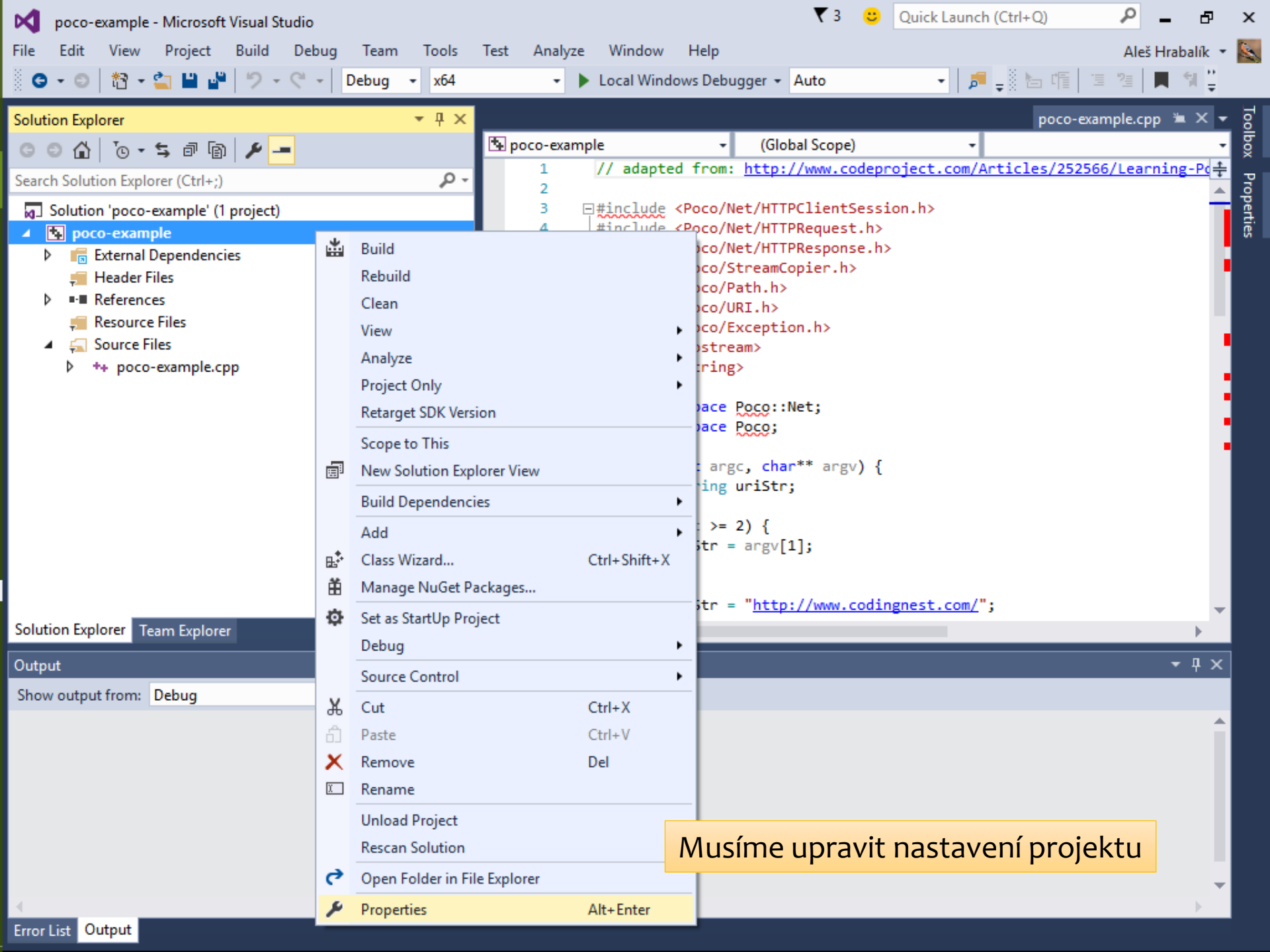
Recycle Bin

File Explorer window showing the directory structure: <code><< data > poco > Net > include > Poco > Net</code>. The file <code>HTTPClientSession.h</code> is selected.

Name	Date modified	Type	Size
AbstractHTTPRequestHandler.h	11/4/2015 9:53 AM	C Header File	4 KB
DatagramSocket.h	11/4/2015 9:53 AM	C Header File	4 KB
DatagramSocketImpl.h	11/4/2015 9:53 AM	C Header File	2 KB
DialogSocket.h	11/4/2015 9:53 AM	C Header File	7 KB
DNS.h	11/4/2015 9:53 AM	C Header File	5 KB
FilePartSource.h	11/4/2015 9:53 AM	C Header File	2 KB
FTPClientSession.h	11/4/2015 9:53 AM	C Header File	13 KB
FTPStreamFactory.h	11/4/2015 9:53 AM	C Header File	4 KB
HostEntry.h	11/4/2015 9:53 AM	C Header File	3 KB
HTMLForm.h	11/4/2015 9:53 AM	C Header File	7 KB
HTTPAuthenticationParams.h	11/4/2015 9:53 AM	C Header File	1 KB
HTTPBasicCredentials.h	11/4/2015 9:53 AM	C Header File	3 KB
HTTPBasicStreamBuf.h	11/4/2015 9:53 AM	C Header File	1 KB
HTTPBufferAllocator.h	11/4/2015 9:53 AM	C Header File	3 KB
HTTPChunkedStream.h	11/4/2015 9:53 AM	C Header File	3 KB
HTTPClientSession.h	11/4/2015 9:53 AM	C Header File	11 KB
HTTPCookie.h	11/4/2015 9:53 AM	C Header File	7 KB
HTTPCredentials.h	11/4/2015 9:53 AM	C Header File	6 KB
HTTPEntity.h	11/4/2015 9:53 AM	C Header File	6 KB
HTTPFixedLengthStream.h	11/4/2015 9:53 AM	C Header File	3 KB
HTTPHeaderStream.h	11/4/2015 9:53 AM	C Header File	3 KB

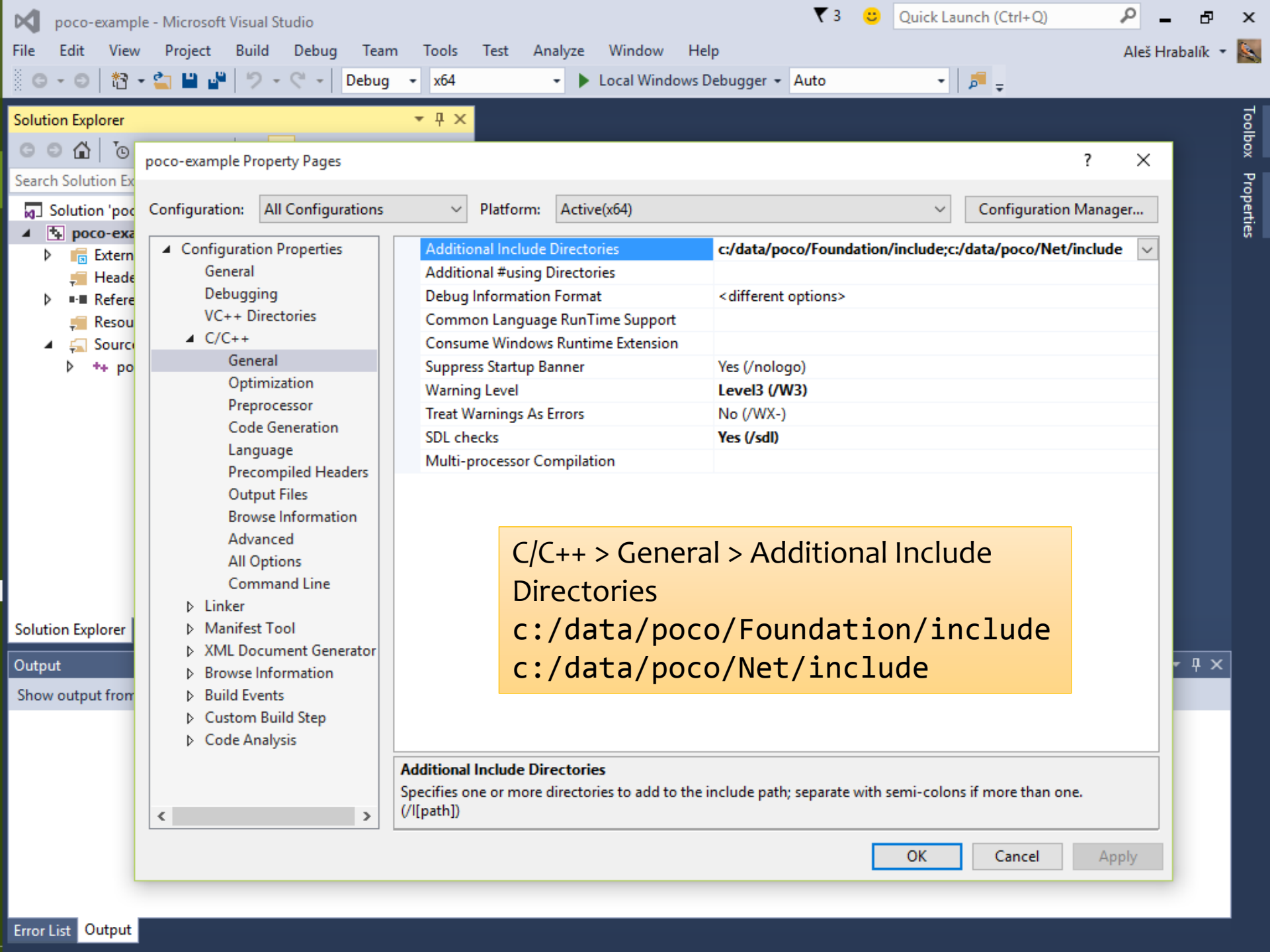
105 items 1 item selected 10.6 KB

Poco/Net/HTTPClientSession.h je ve složce <code>c:\data\poco\Net\include</code>



- Build
- Rebuild
- Clean
- View
- Analyze
- Project Only
- Retarget SDK Version
- Scope to This
- New Solution Explorer View
- Build Dependencies
- Add
- Class Wizard... Ctrl+Shift+X
- Manage NuGet Packages...
- Set as StartUp Project
- Debug
- Source Control
- Cut Ctrl+X
- Paste Ctrl+V
- Remove Del
- Rename
- Unload Project
- Rescan Solution
- Open Folder in File Explorer
- Properties Alt+Enter**

Musíme upravit nastavení projektu



poco-example Property Pages

Configuration: All Configurations

Platform: Active(x64)

Configuration Manager...

- Configuration Properties
 - General
 - Debugging
 - VC++ Directories
 - C/C++
 - General
 - Optimization
 - Preprocessor
 - Code Generation
 - Language
 - Precompiled Headers
 - Output Files
 - Browse Information
 - Advanced
 - All Options
 - Command Line
 - Linker
 - Manifest Tool
 - XML Document Generator
 - Browse Information
 - Build Events
 - Custom Build Step
 - Code Analysis

Additional Include Directories	c:/data/poco/Foundation/include;c:/data/poco/Net/include
Additional #using Directories	
Debug Information Format	<different options>
Common Language RunTime Support	
Consume Windows Runtime Extension	
Suppress Startup Banner	Yes (/nologo)
Warning Level	Level3 (/W3)
Treat Warnings As Errors	No (/WX-)
SDL checks	Yes (/sdl)
Multi-processor Compilation	

C/C++ > General > Additional Include Directories
c:/data/poco/Foundation/include
c:/data/poco/Net/include

Additional Include Directories

Specifies one or more directories to add to the include path; separate with semi-colons if more than one. (/I[path])

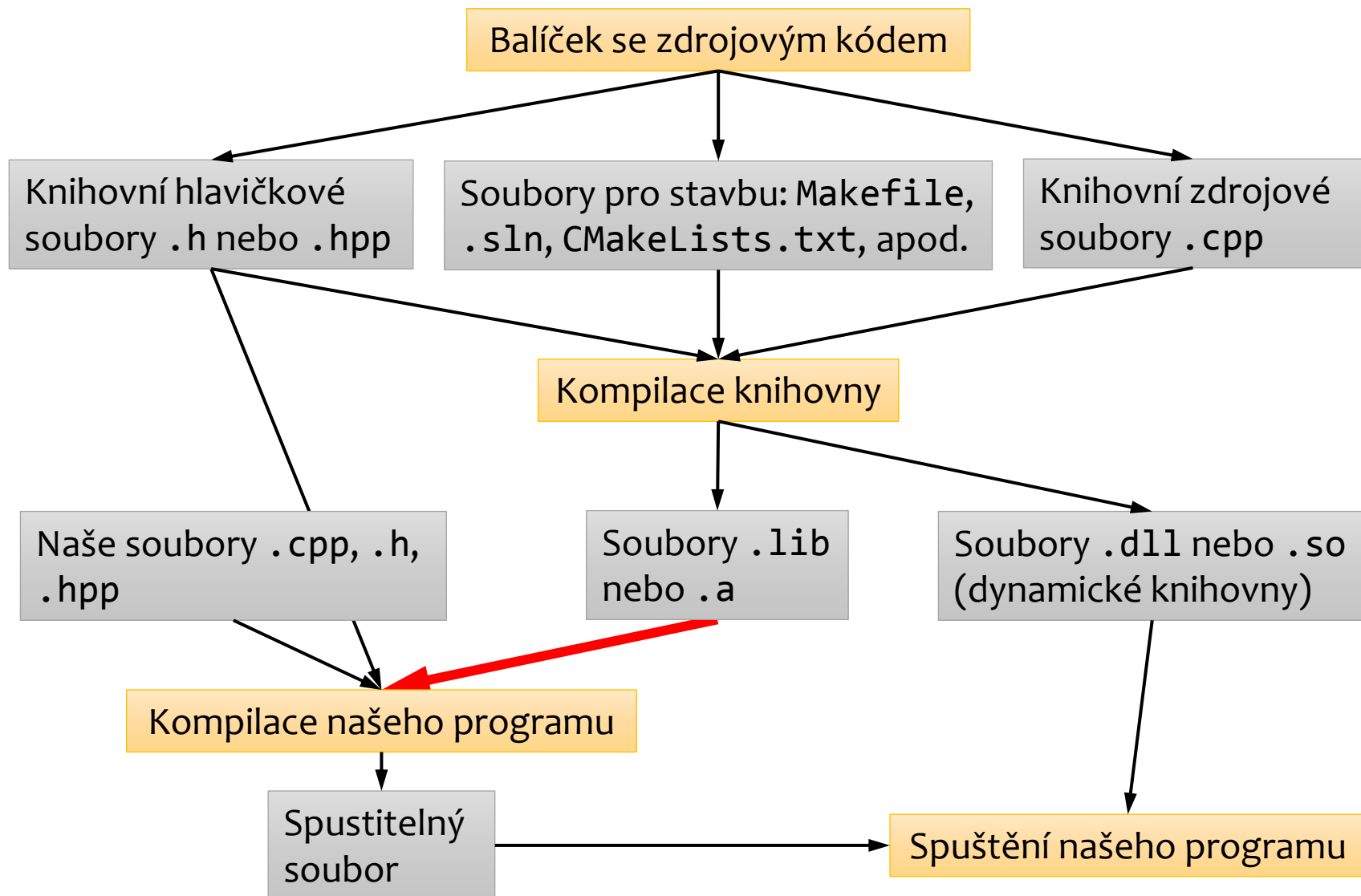
OK

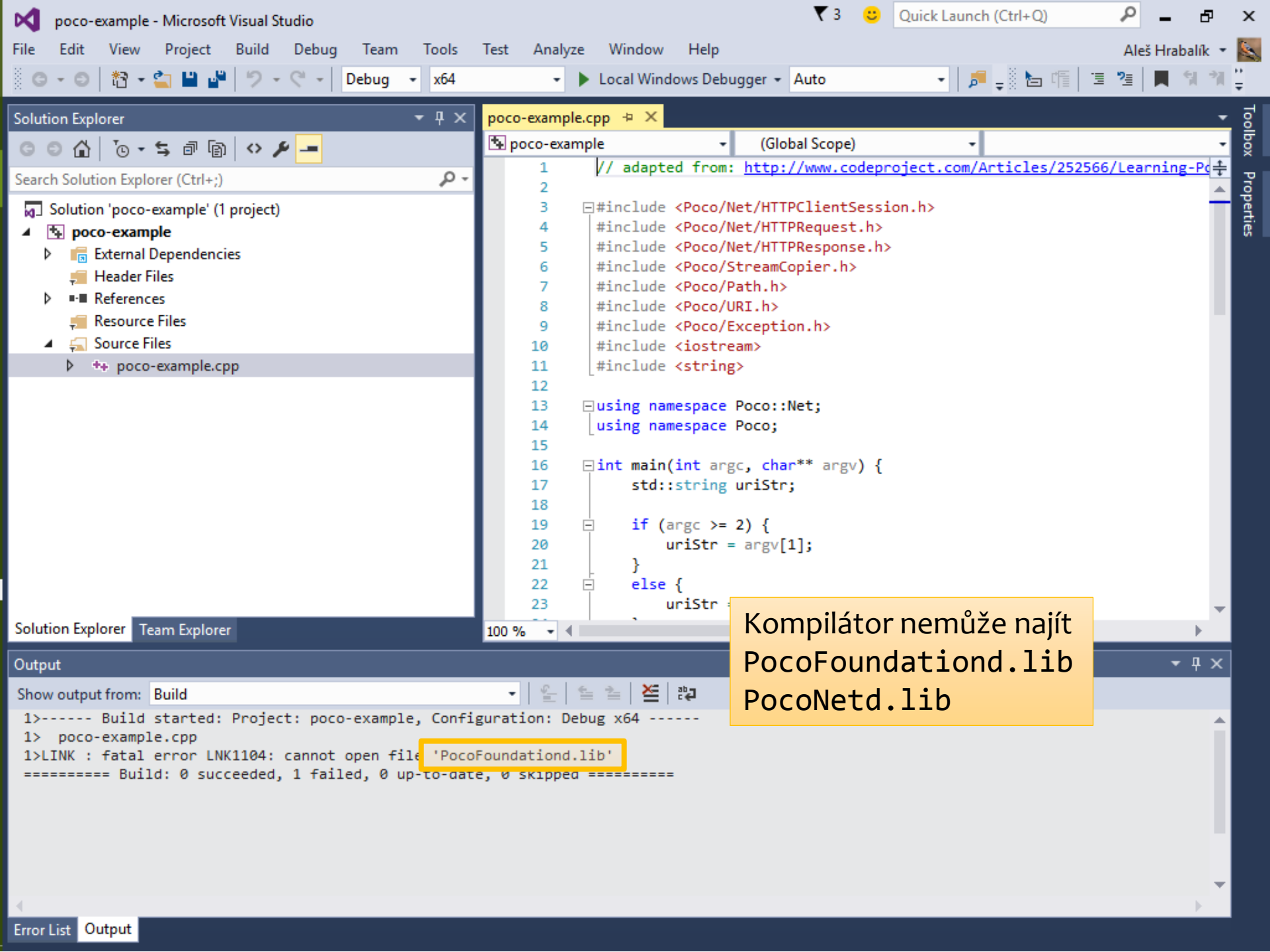
Cancel

Apply

Toolbox Properties

Práce s knihovnou





Solution Explorer

Search Solution Explorer (Ctrl+;)

- Solution 'poco-example' (1 project)
 - poco-example
 - External Dependencies
 - Header Files
 - References
 - Resource Files
 - Source Files
 - poco-example.cpp

```
poco-example.cpp (Global Scope)
1 // adapted from: http://www.codeproject.com/Articles/252566/Learning-Pc
2
3 #include <Poco/Net/HTTPClientSession.h>
4 #include <Poco/Net/HTTPRequest.h>
5 #include <Poco/Net/HTTPResponse.h>
6 #include <Poco/StreamCopier.h>
7 #include <Poco/Path.h>
8 #include <Poco/URI.h>
9 #include <Poco/Exception.h>
10 #include <iostream>
11 #include <string>
12
13 using namespace Poco::Net;
14 using namespace Poco;
15
16 int main(int argc, char** argv) {
17     std::string uriStr;
18
19     if (argc >= 2) {
20         uriStr = argv[1];
21     }
22     else {
23         uriStr =

```

Kompilátor nemůže najít
PocoFoundationd.lib
PocoNetd.lib

Output

Show output from: Build

```
1>----- Build started: Project: poco-example, Configuration: Debug x64 -----
1> poco-example.cpp
1>LINK : fatal error LNK1104: cannot open file 'PocoFoundationd.lib'
===== Build: 0 succeeded, 1 failed, 0 up-to-date, 0 skipped =====
```

File Home Share View

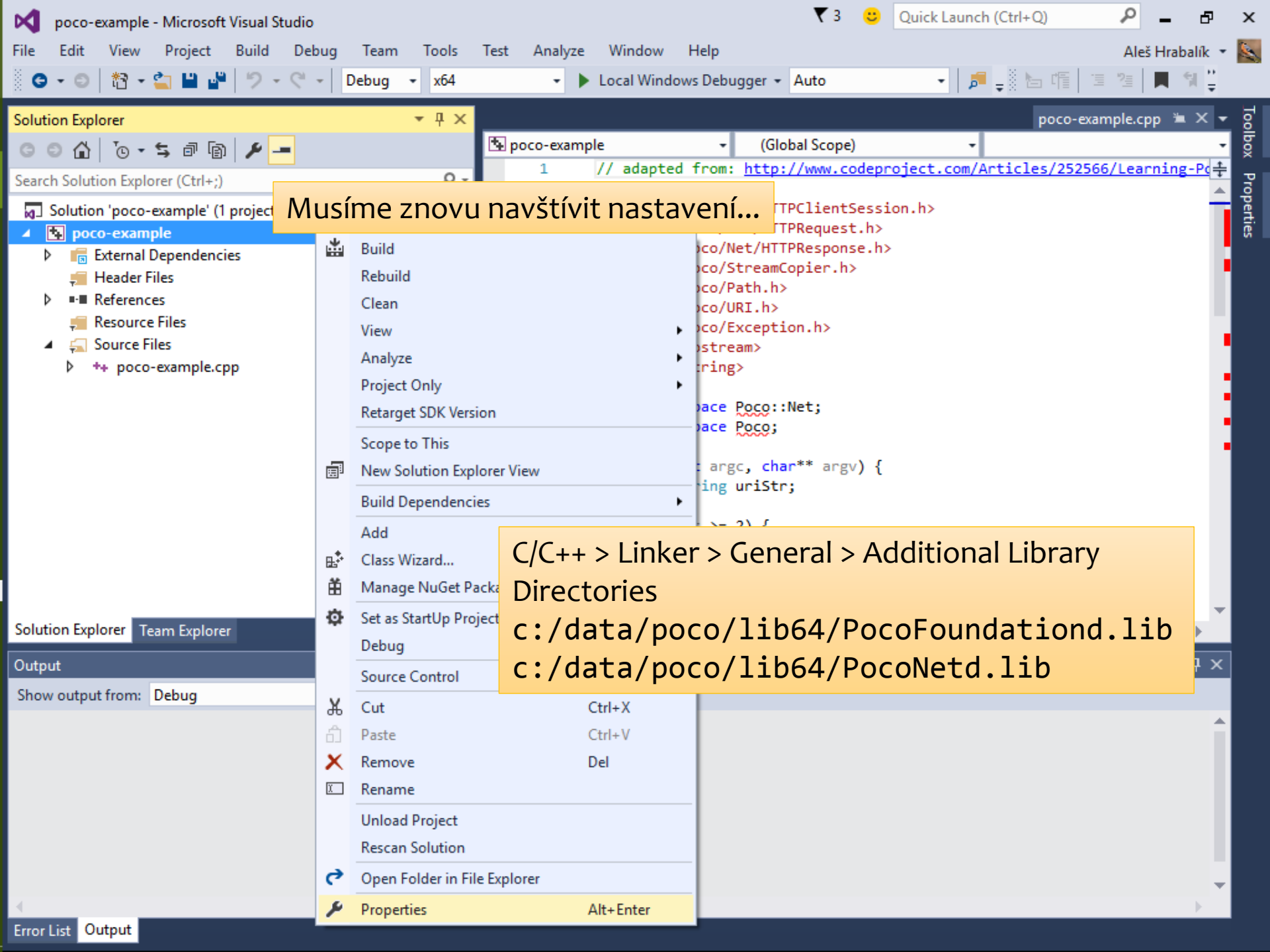
← → ↕ ↑ This PC > Windows8_OS (C:) > data > poco > lib64 Search lib64

Name	Date modified	Type	Size
PocoFoundationd.exp	11/4/2015 10:16 AM	Exports Library File	909 KB
PocoFoundationd.lib	11/4/2015 10:16 AM	Object File Library	1,503 KB
PocoNetd.exp	11/4/2015 10:21 AM	Exports Library File	622 KB
PocoNetd.lib	11/4/2015 10:21 AM	Object File Library	988 KB

data Documents Windows8_O build-tutorial Foundation Net poco-example Dropbox OneDrive This PC Desktop Documents Downloads Music Pictures Videos Windows8_OS (C:) LENOVO (D:) Network

4 items

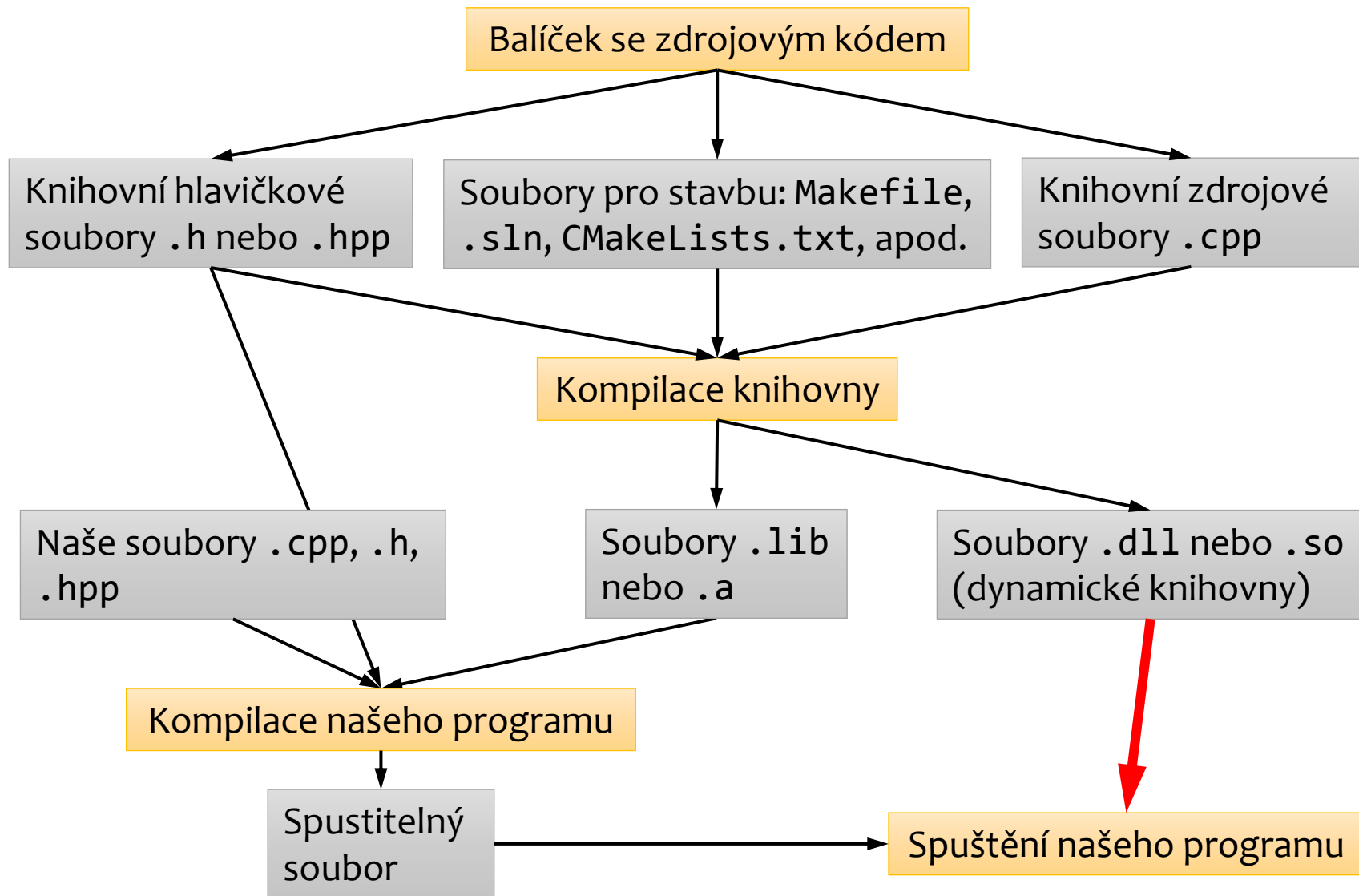
Tyto soubory jsou v
c:\data\poco\lib64

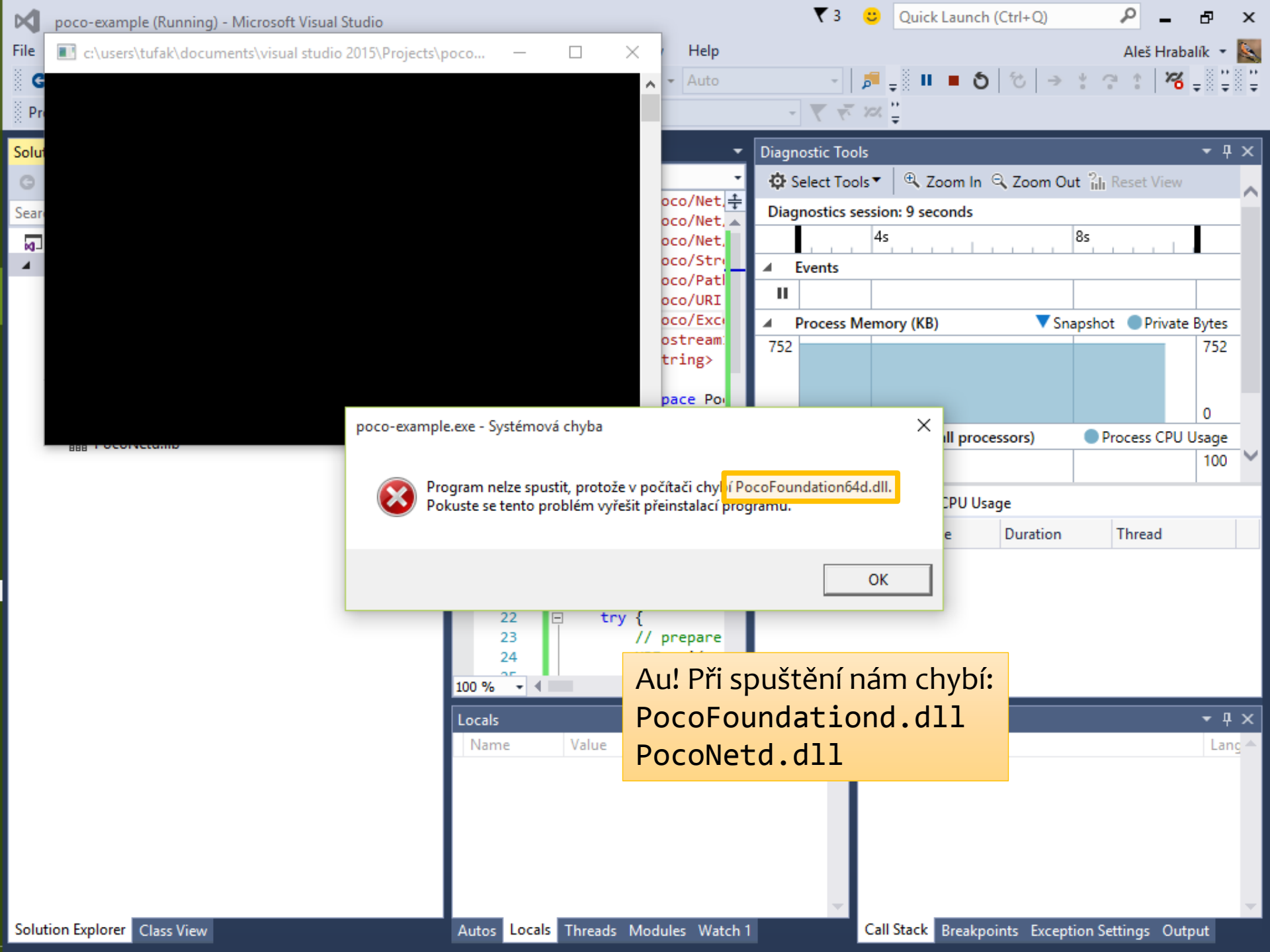


Musíme znovu navštívit nastavení...


C/C++ > Linker > General > Additional Library Directories
c:/data/poco/lib64/PocoFoundationd.lib
c:/data/poco/lib64/PocoNetd.lib

Práce s knihovnou





poco-example.exe - Systémová chyba

 Program nelze spustit, protože v počítači chybí PocoFoundation64d.dll. Pokuste se tento problém vyřešit přeinstalací programu.

OK

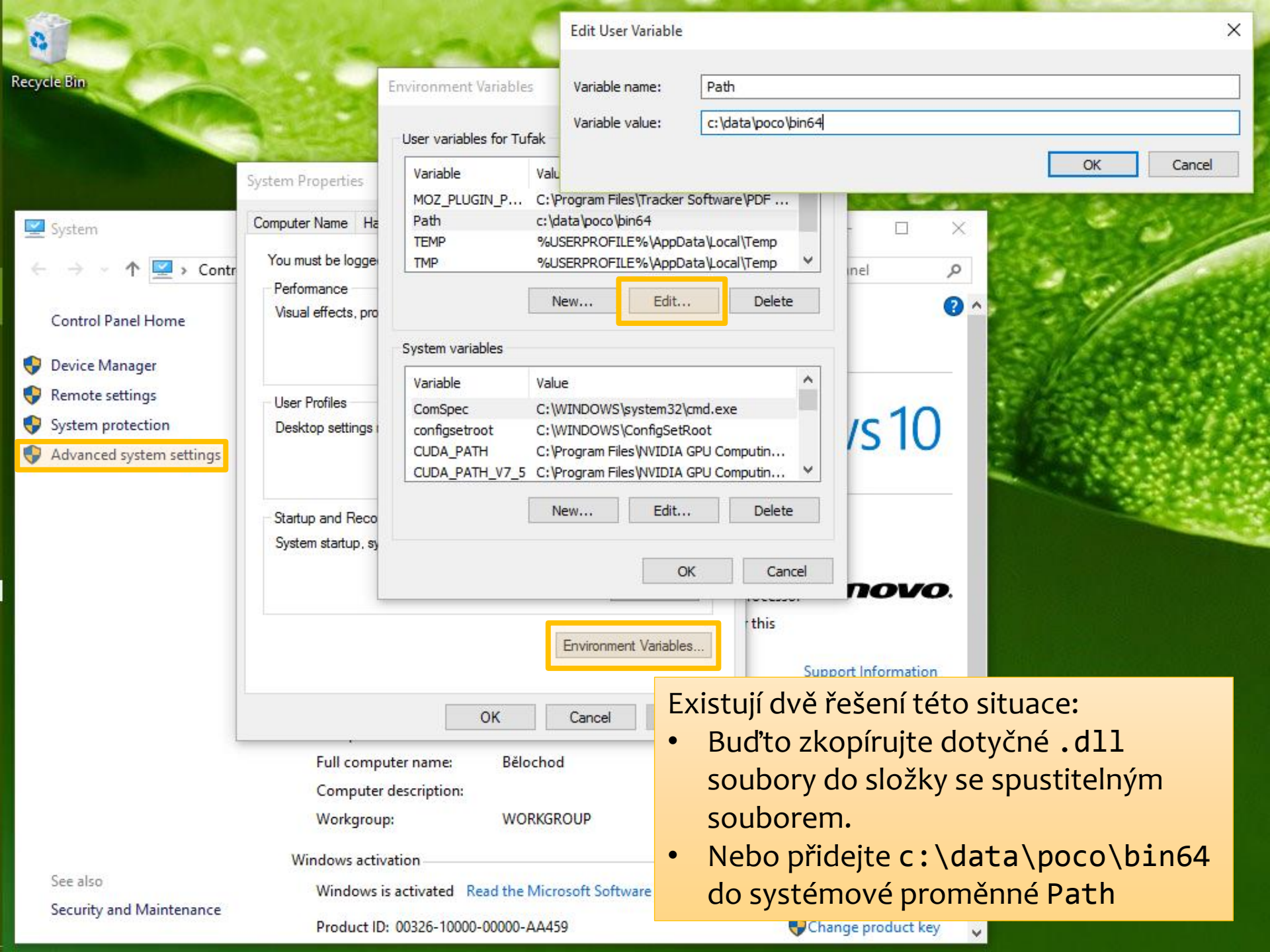
Au! Při spuštění nám chybí:
PocoFoundationd.dll
PocoNetd.dll



Recycle Bin

Name	Date modified	Type	Size
PocoFoundation64d.dll	11/4/2015 10:16 AM	Application extens...	4,598 KB
PocoFoundation64d.ilc	11/4/2015 10:16 AM	Incremental Linke...	21,151 KB
PocoFoundation64d.pdb	11/4/2015 10:16 AM	Program Debug D...	16,580 KB
PocoNet64d.dll	11/4/2015 10:21 AM	Application extens...	2,409 KB
PocoNet64d.ilc	11/4/2015 10:21 AM	Incremental Linke...	12,800 KB
PocoNet64d.pdb	11/4/2015 10:21 AM	Program Debug D...	10,452 KB

Tyto soubory jsou v
c:\data\poco\bin64



Environment Variables...

Variable	Value
MOZ_PLUGIN_P...	C:\Program Files\Tracker Software\PDF ...
Path	c:\data\poco\bin64
TEMP	%USERPROFILE%\AppData\Local\Temp
TMP	%USERPROFILE%\AppData\Local\Temp

Variable	Value
ComSpec	C:\WINDOWS\system32\cmd.exe
configsetroot	C:\WINDOWS\ConfigSetRoot
CUDA_PATH	C:\Program Files\NVIDIA GPU Computin...
CUDA_PATH_V7_5	C:\Program Files\NVIDIA GPU Computin...

Existují dvě řešení této situace:

- Buďto zkopírujte dotyčné .dll soubory do složky se spustitelným souborem.
- Nebo přidejte c:\data\poco\bin64 do systémové proměnné Path

Full computer name: Bělochod
Computer description:
Workgroup: WORKGROUP
Windows activation
Windows is activated [Read the Microsoft Software](#)
Product ID: 00326-10000-00000-AA459

- System
- Control Panel Home
- Device Manager
- Remote settings
- System protection
- Advanced system settings

Solution Explorer

Search Solution Explorer (Ctrl+;)

```
poco-example.cpp  
1 // adapted from: h  
2
```

Diagnostics Tools

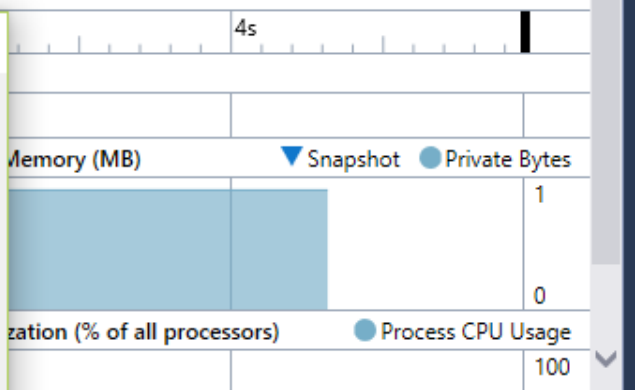
Select Tools Zoom In Zoom Out Reset View

Diagnostics session: 5 seconds

Solution 'poco-example' (1 p...)

- poco-example
 - External Dependencies
 - Header Files
 - References
 - Resource Files
 - PocoFoundationd...
 - PocoNetd.lib
 - Source Files
 - poco-example.cpp

```
<span class="restore-line-height">  
&copy; 2014-2015 Aleš Hrabal a Martin Hořevský.  
Použití svobodné technologie  
<a href="http://www.openshift.com">OpenShift</a>,  
<a href="http://nodejs.org/">node.js</a>,  
<a href="http://getbootstrap.com/">Bootstrap</a>  
<a href="http://ghost.org/">Ghost</a>.  
</span>  
</div>  
</footer>  
  
<input type="hidden" class="self-url" name="self-url" value="/" />  
  
<script src="https://ajax.googleapis.com/ajax/libs/jquery/1.11.1/jquery.min.  
></script>  
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.2.0/js/bootstra  
> p.min.js"></script>  
<script src="/assets/js/highlight.pack.js?v=98d34f5432"></script>  
<script src="/assets/js/menu-highlight.js?v=98d34f5432"></script>  
<script src="/assets/js/init-syntax.js?v=98d34f5432"></script>  
  
</body>  
</html>
```



A už to běží!

Locals

Name	Value	Type
------	-------	------

Call Stack

Name	Lang
------	------

Knihovna Cinder

- Umožňuje snadný přístup k rozhraním pro grafické a multimediální aplikace.
 - DirectX a OpenGL (rastrová grafika),
 - Cairo (vektorová grafika),
 - Box2D (fyzikální simulace),
 - OpenCV (počítačové vidění).
- Pozor: Cinder je k dispozici pouze pro Windows a Mac.
- Instalace:
 - Stáhněte na libcinder.org a rozbalte stažený .zip soubor.
 - V podsložce `samples` jsou umístěny ukázkové příklady.
 - V podsložce `tools` se nachází `TinderBox`, aplikace pro snadné vytvoření nového projektu.



Download Cinder

for OS X and Windows.

Cinder is available for OS X and Windows under the BSD License. The latest version is 0.9.0.

[Release Notes](#)

CINDER FOR OS X

CINDER FOR VISUAL C++ 2013

CINDER ON GITHUB

- Cinder je ke stažení na libcinder.org.
- Zde je také k dispozici dokumentace, ve které naleznete podrobný popis tříd a funkcí, které knihovna poskytuje.

Compressed Folder Tools cinder_0.8.6_vc2013

File Home Share View Extract

« Downloads » cinder_0.8.6_vc2013.zip » cinder_0.8.6_vc2013

Search cinder_0.8.6_vc2013

Name	Type	Compressed size	Password ...	Si
blocks	File folder			

cinder

File Home Share View

This PC » Windows8_OS (C:) » data » cinder

Search cinder

Name	Date modified	Type	Size
blocks	11/4/2015 1:10 PM	File folder	
boost	11/4/2015 1:10 PM	File folder	
vc2013	11/4/2015 1:07 PM	File folder	
README.md	11/4/2015 1:07 PM	MD File	1 KB
Welcome.html	11/4/2015 1:07 PM	Firefox HTML Doc...	2 KB

35% complete

Copying 24,420 items from cinder_0.8.6_vc2013 to cinder

35% complete

Speed: 131 KB/s

Name: channel.hpp
Time remaining: About 23 minutes
Items remaining: 16,142 (776 MB)

Fewer details

Stažený .zip soubor rozbalte do nějaké složky.

Desktop

Downloads

data

Documents

Windows8_OS

build-tutorial

Foundation

Net

poco-example

Dropbox

OneDrive

This PC

Desktop

Documents

Downloads

Music

Pictures

Videos

Windows8_OS (C:)

LENOVO (D:)

Network

13 items 13 items selected 2.33 KB

5 items



Recycle Bin

vc2013

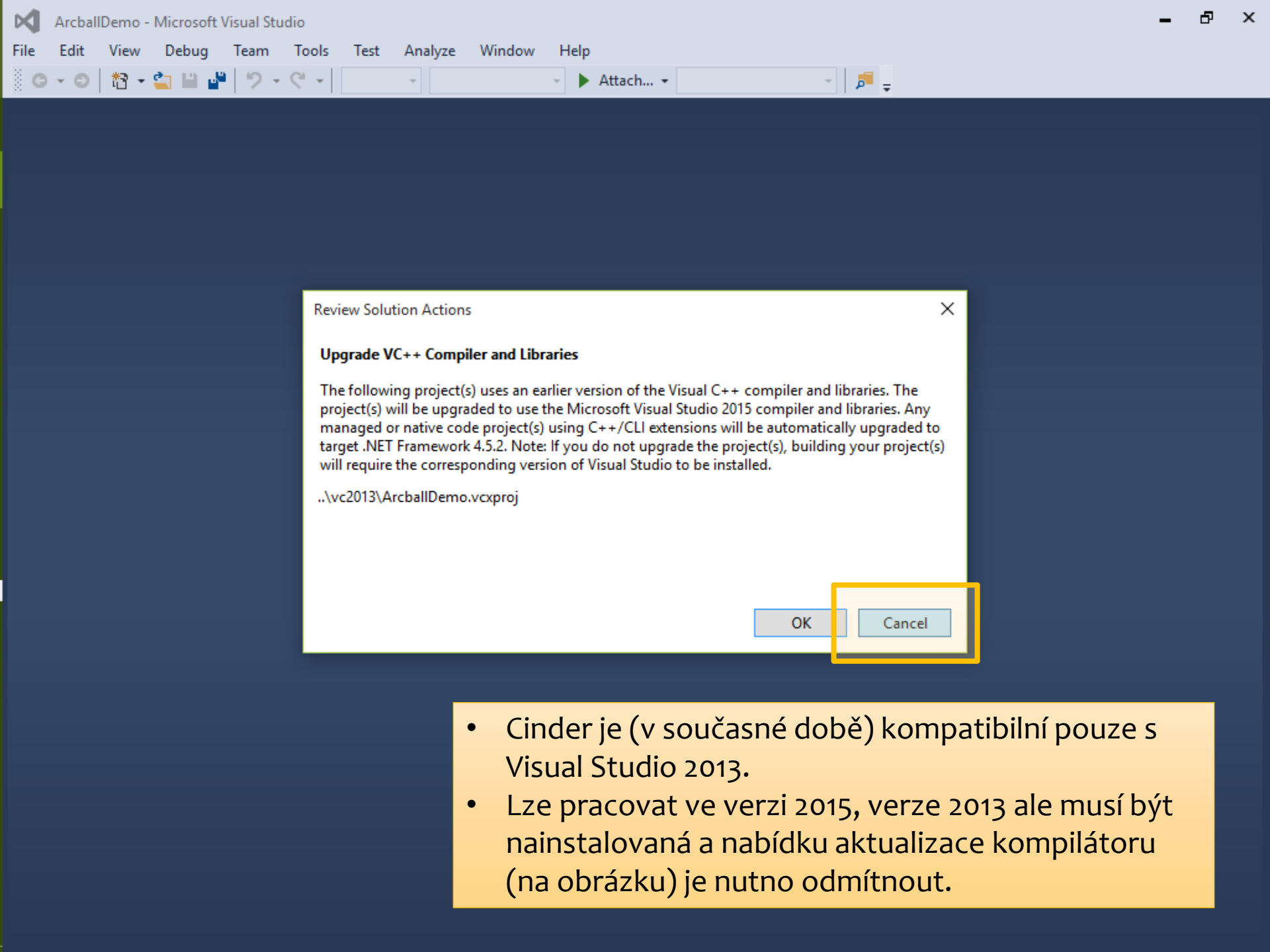
File Home Share view

< > > cinder > samples > ArcballDemo > vc2013

Name	Date modified	Type	Size
ArcballDemo.opensdf	11/4/2015 2:02 PM	OPENSDF File	0 KB
ArcballDemo.sdf	11/4/2015 2:02 PM	SQL Server Comp...	64 KB
ArcballDemo.sln	11/4/2015 1:20 PM	Microsoft Visual S...	1 KB
ArcballDemo.vcxproj	11/4/2015 1:20 PM	VC++ Project	10 KB
ArcballDemo.vcxproj.filters	11/4/2015 1:20 PM	VC++ Project Filte...	1 KB

5 items 1 item selected 916 bytes

V podsložce samples jsou umístěny ukázkové příklady, předem připravený projekt pro Visual Studio je vždy ve složce vc2013.



Review Solution Actions

Upgrade VC++ Compiler and Libraries

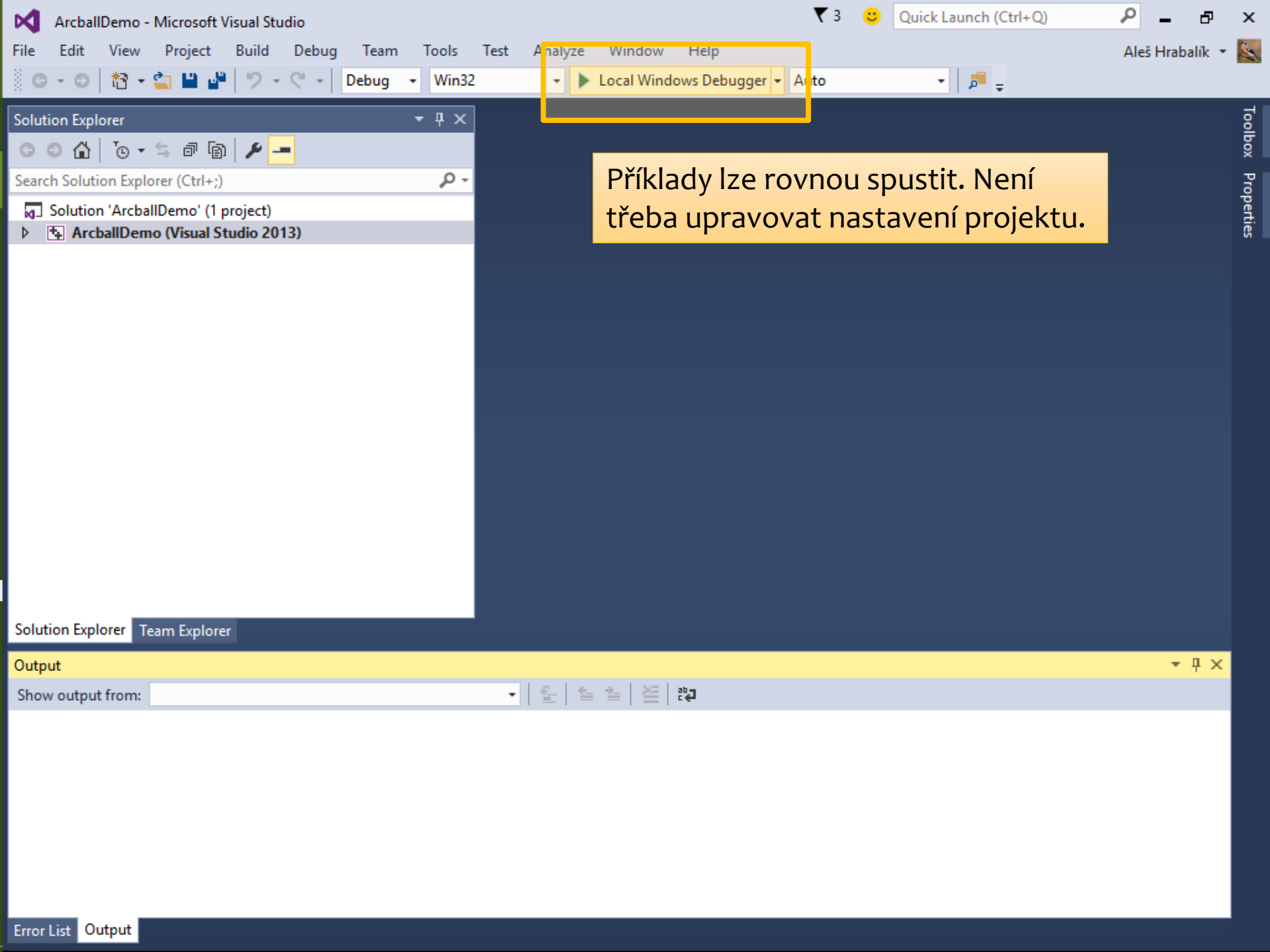
The following project(s) uses an earlier version of the Visual C++ compiler and libraries. The project(s) will be upgraded to use the Microsoft Visual Studio 2015 compiler and libraries. Any managed or native code project(s) using C++/CLI extensions will be automatically upgraded to target .NET Framework 4.5.2. Note: If you do not upgrade the project(s), building your project(s) will require the corresponding version of Visual Studio to be installed.

..\vc2013\ArcballDemo.vcxproj

OK

Cancel

- Cinder je (v současné době) kompatibilní pouze s Visual Studio 2013.
- Lze pracovat ve verzi 2015, verze 2013 ale musí být nainstalovaná a nabídku aktualizace kompilátoru (na obrázku) je nutno odmítnout.



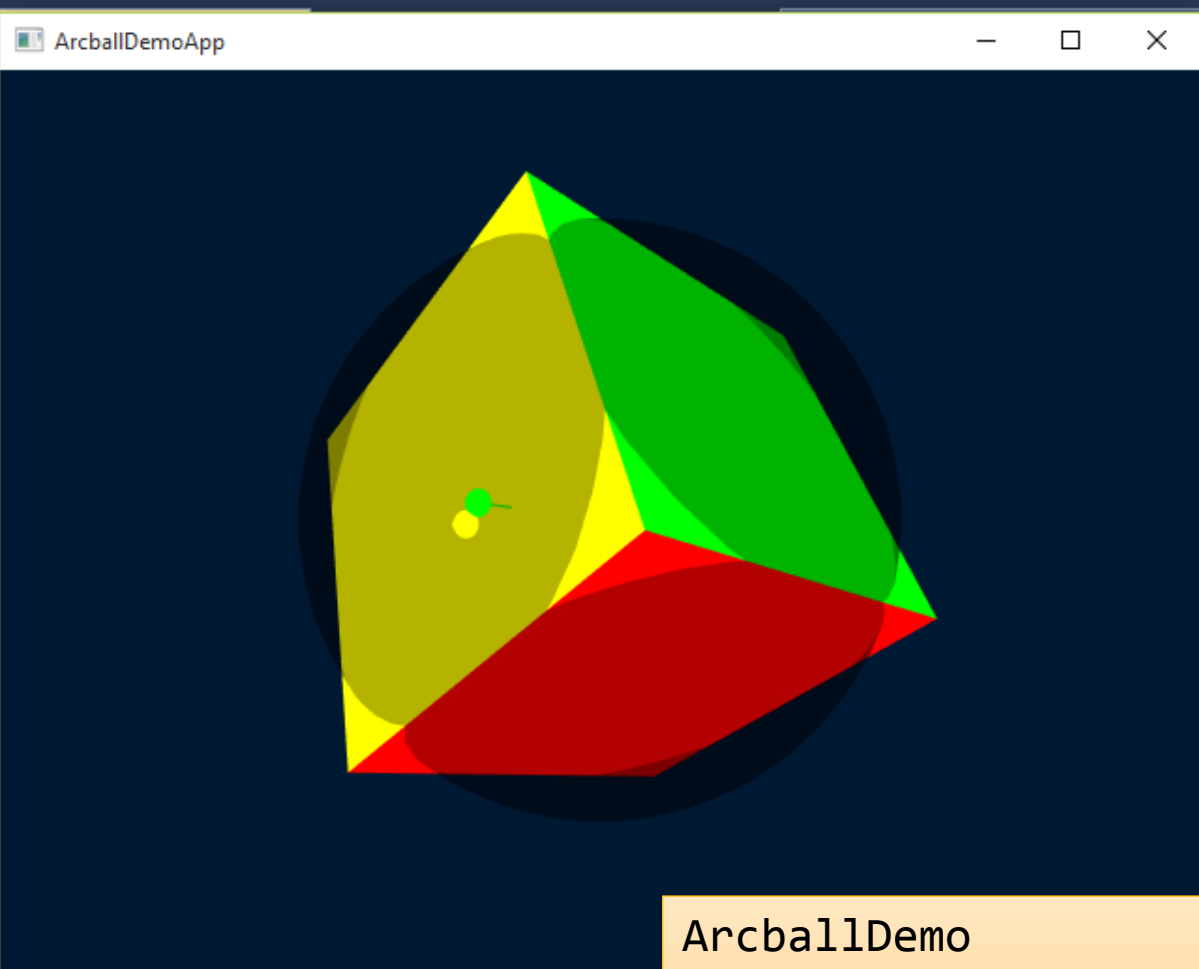
Příklady lze rovnou spustit. Není třeba upravovat nastavení projektu.

Solution Explorer

Search Solution Explorer (Ctrl+;)

Solution 'ArcballDemo' (1 project)

- ArcballDemo (Visual Studio)



Output Window

1:24min

Snapshot Private Bytes

22
0

Process CPU Usage

100

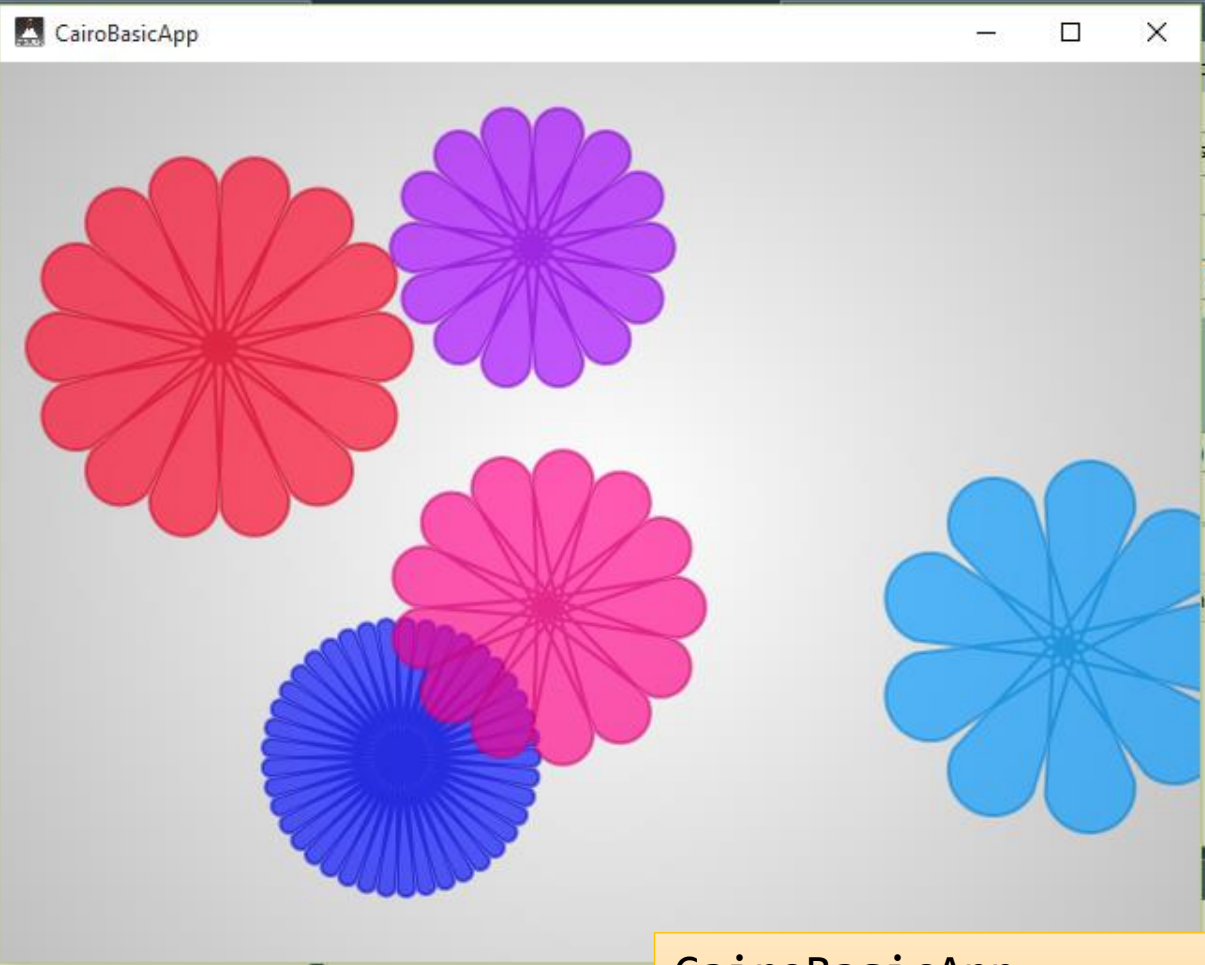
- ArcballDemo
- přístup k OpenGL
 - rasterizovaná grafika
 - ovládání 3D pohledu tažením myši

Solution Explorer

Search Solution Explorer (Ctrl+;)

Solution 'CairoBasic' (1 proje

- ▶ CairoBasic (Visual Studio
 - ▶ Blocks
 - ▶ External Dependencies
 - ▶ Header Files
 - ▶ References
 - ▶ Resource Files
 - ▶ Source Files
 - ▶ CairoBasicApp.cpp



Output Window

Reset View

Snapshot Private Bytes

5
0

Process CPU Usage

100

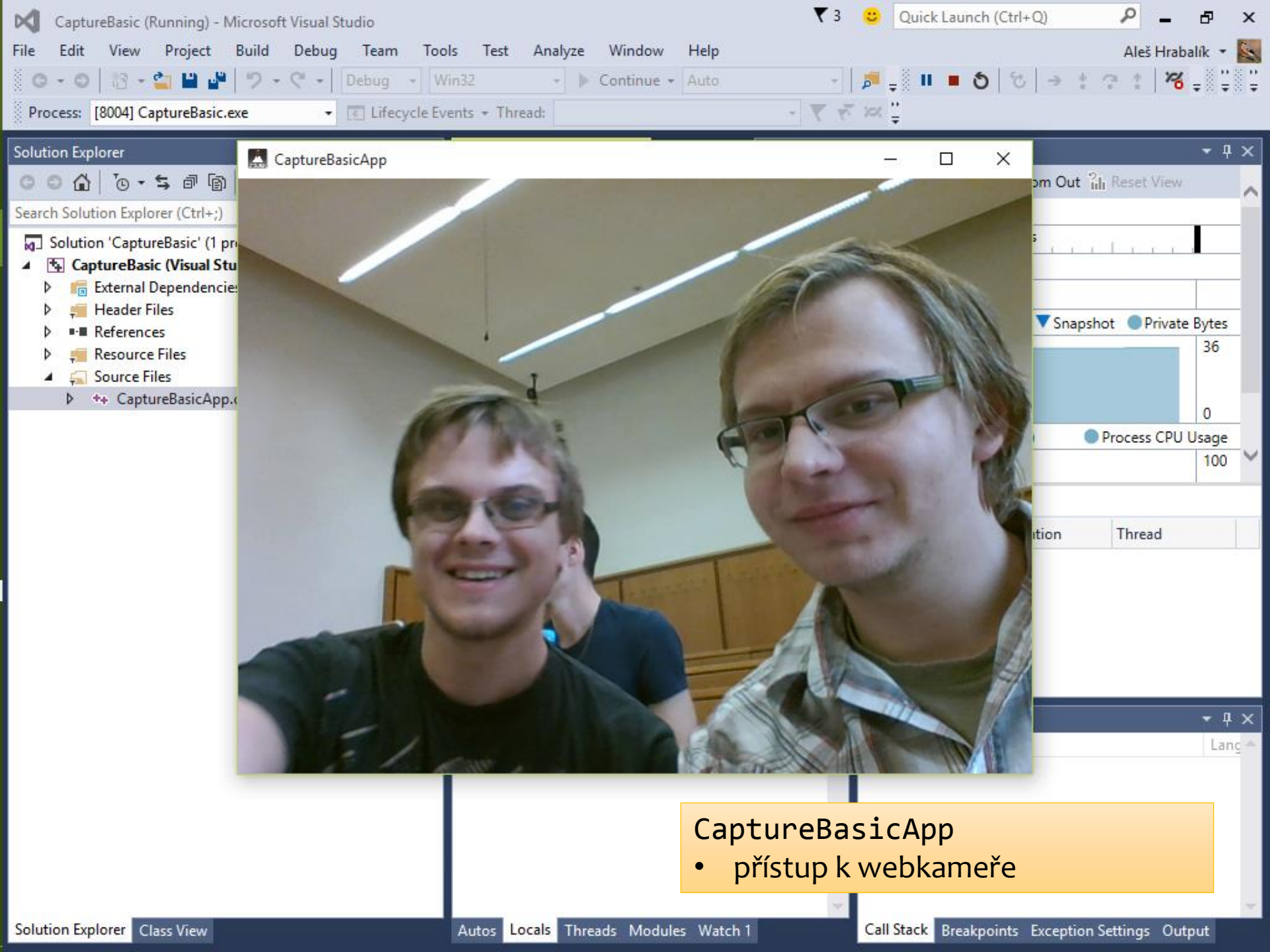
CairoBasicApp

- vektorová grafika
- program reaguje na kliknutí myši



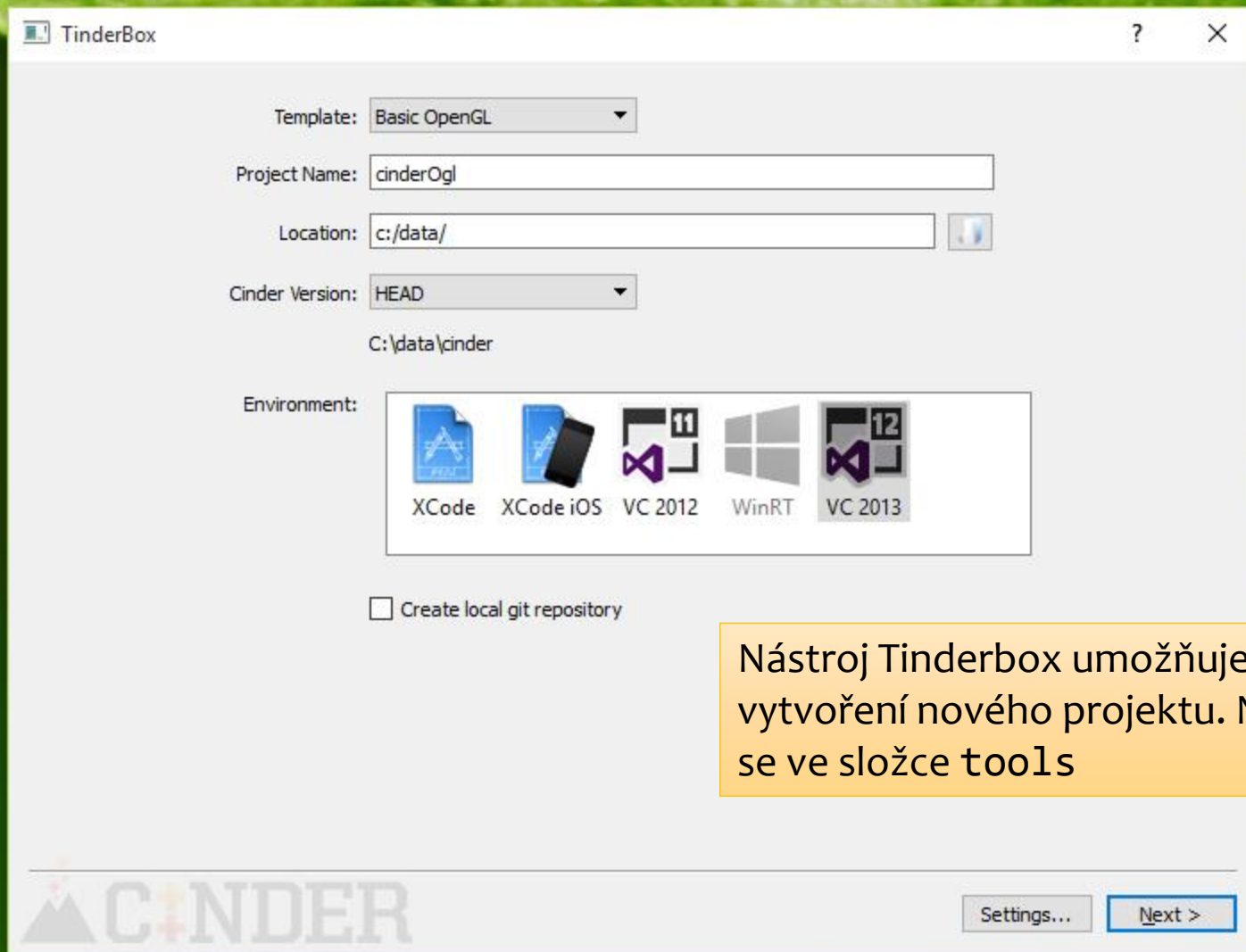
FalingGearsApp

- fyzikální simulace
- reaguje na kliknutí a podržení myši



CaptureBasicApp

- přístup k webkameře



Nástroj Tinderbox umožňuje snadné vytvoření nového projektu. Nachází se ve složce tools

Děkuji za pozornost.