



SystemC Library Installation

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Outline

- Windows Visual Studio (or Express)
- Linux (Our test environment)



Windows SystemC Setup

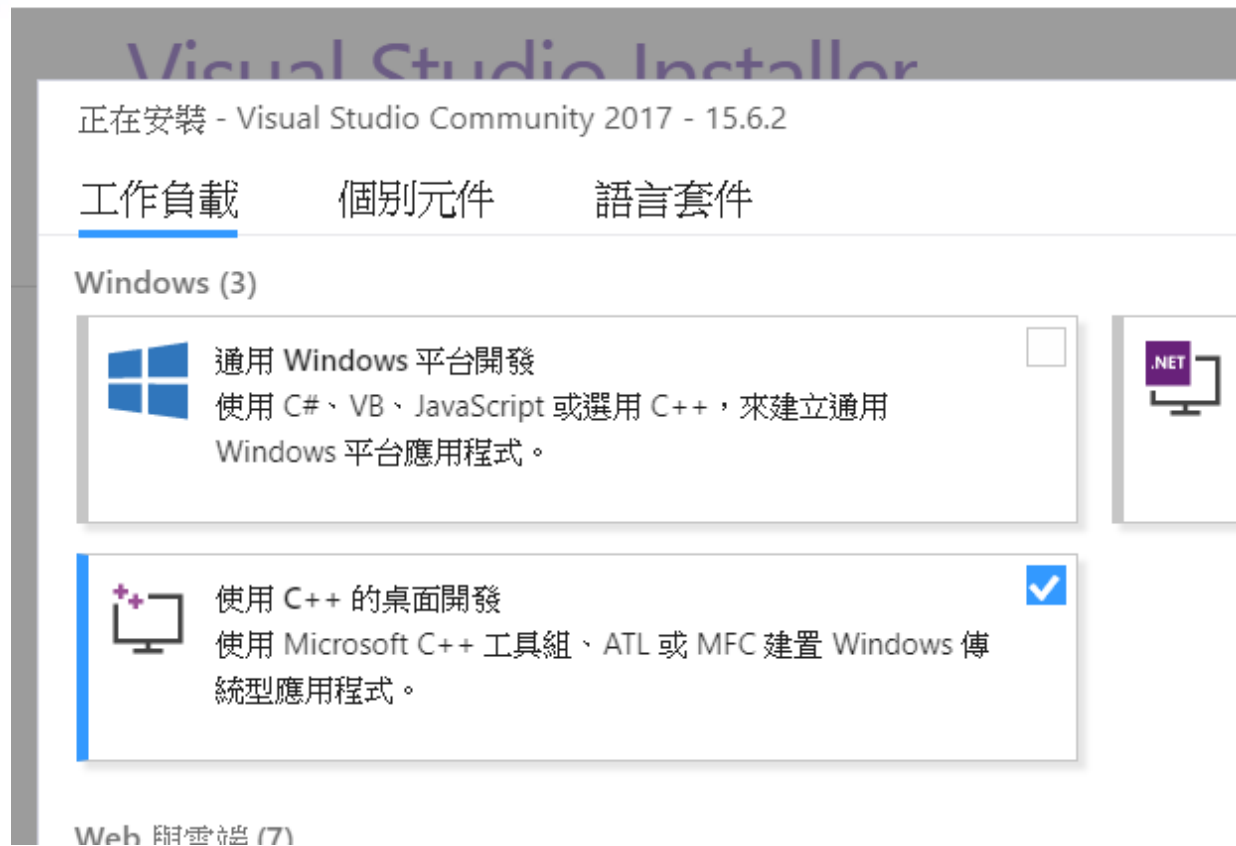
Install Microsoft VC Express

- Install Microsoft VC Express
 - Note: we recommend 2015 or 2017
- <http://www.microsoft.com/visualstudio/en-us/products/2010-editions/visual-cpp-express>



The screenshot shows the Microsoft Visual Studio website for Visual C++ 2010 Express. The page features a navigation bar with links for PRODUCTS, STRATEGIES, SCENARIOS, PARTNERS, TRY VISUAL STUDIO, and BUY VISUAL STUDIO. The main content area is titled "VISUAL C++ 2010 EXPRESS" and includes a sub-header "Free tools to create applications on Windows using Visual C++." Below this is a prominent blue button labeled "INSTALL NOW - ENGLISH". A smaller text block below the button says "See below to download Visual C++ 2010 Express in a different language." To the right, there is a graphic of the Visual C++ 2010 Express logo. At the bottom, there is a section titled "UNLEASH YOUR CREATIVITY" with a paragraph of text describing the product. On the right side of this section, there is a dropdown menu set to "English" and another "INSTALL NOW" button. On the left side, there is a sidebar with links for OVERVIEW, SYSTEM REQUIREMENTS, and RESOURCES.

Install Microsoft VC Express (2017)



MSVS is Also Fine

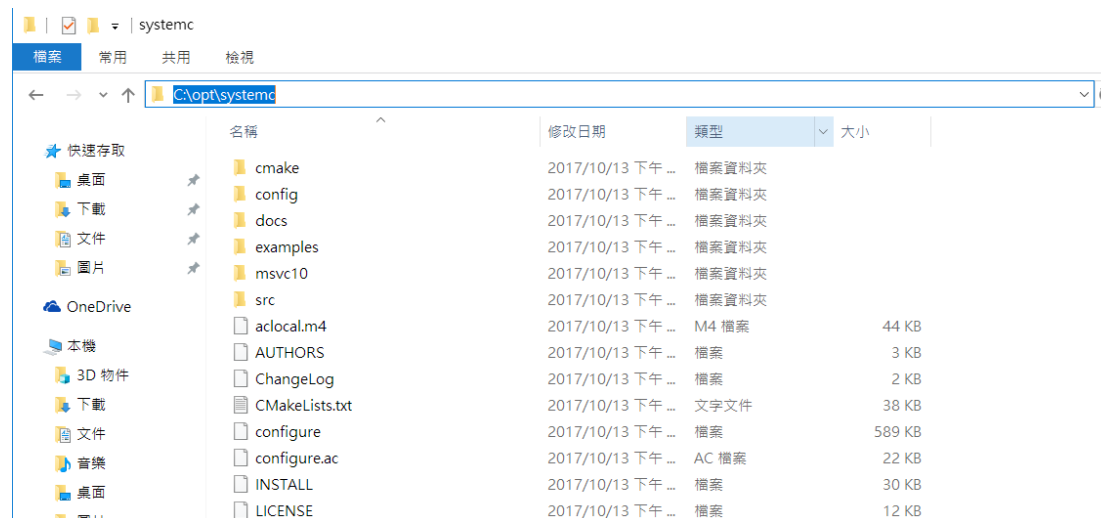
- As an NTU student, we can download that from *myNTU*
 - <https://my.ntu.edu.tw>



Visual Studio Pro 2010 DVD		2011/03/17
Visual Studio Pro 2010		
English	Filesize: 2.2G	download 下載
繁體中文	Filesize: 2.5G	download 下載

SystemC Library Installation (1)

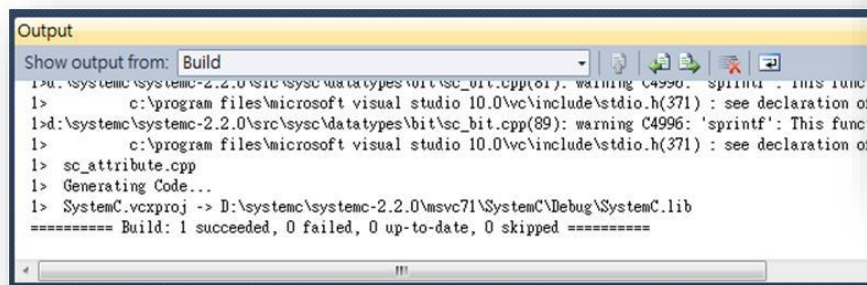
- Download OSCI SystemC 2.3.2
 - <http://www.accellera.org/downloads/standards/systemc>
- Unzip the package to whatever you want
 - Ex: D:\systemc
- The same step applies for Linux



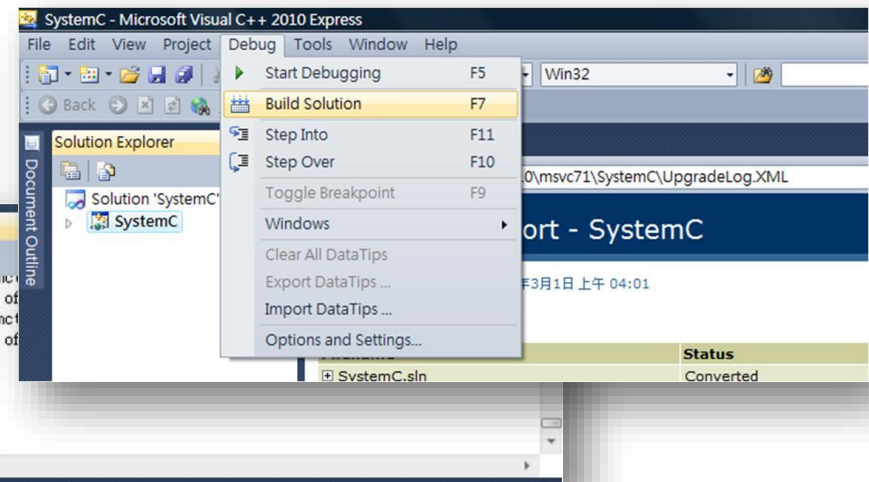
SystemC Library Installation (2)

- Use MSVC File → Open → Project
msvc10\SystemC\SystemC.sln
Solution “SystemC” will appear
 - The Visual Studio Conversion Wizard will help you to convert the file to the new VS version

- Build the SystemC library:
Debug → Build Solution



```
Output
Show output from: Build
1> c:\systemc\systemc-2.2.0\src\sysc\datatypes\bit\sc_bit.cpp(89) : warning C4996: 'sprintf': This function is deprecated.
1> c:\program files\microsoft visual studio 10.0\vc\include\stdio.h(371) : see declaration of sprintf
1> c:\systemc\systemc-2.2.0\src\sysc\datatypes\bit\sc_bit.cpp(89) : warning C4996: 'sprintf': This function is deprecated.
1> c:\program files\microsoft visual studio 10.0\vc\include\stdio.h(371) : see declaration of sprintf
1> sc_attribute.cpp
1> Generating Code...
1> SystemC.vcxproj -> D:\systemc\systemc-2.2.0\msvc71\SystemC\Debug\SystemC.lib
----- Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped -----
```



- File -> Close Solution

SystemC Library Installation (3)

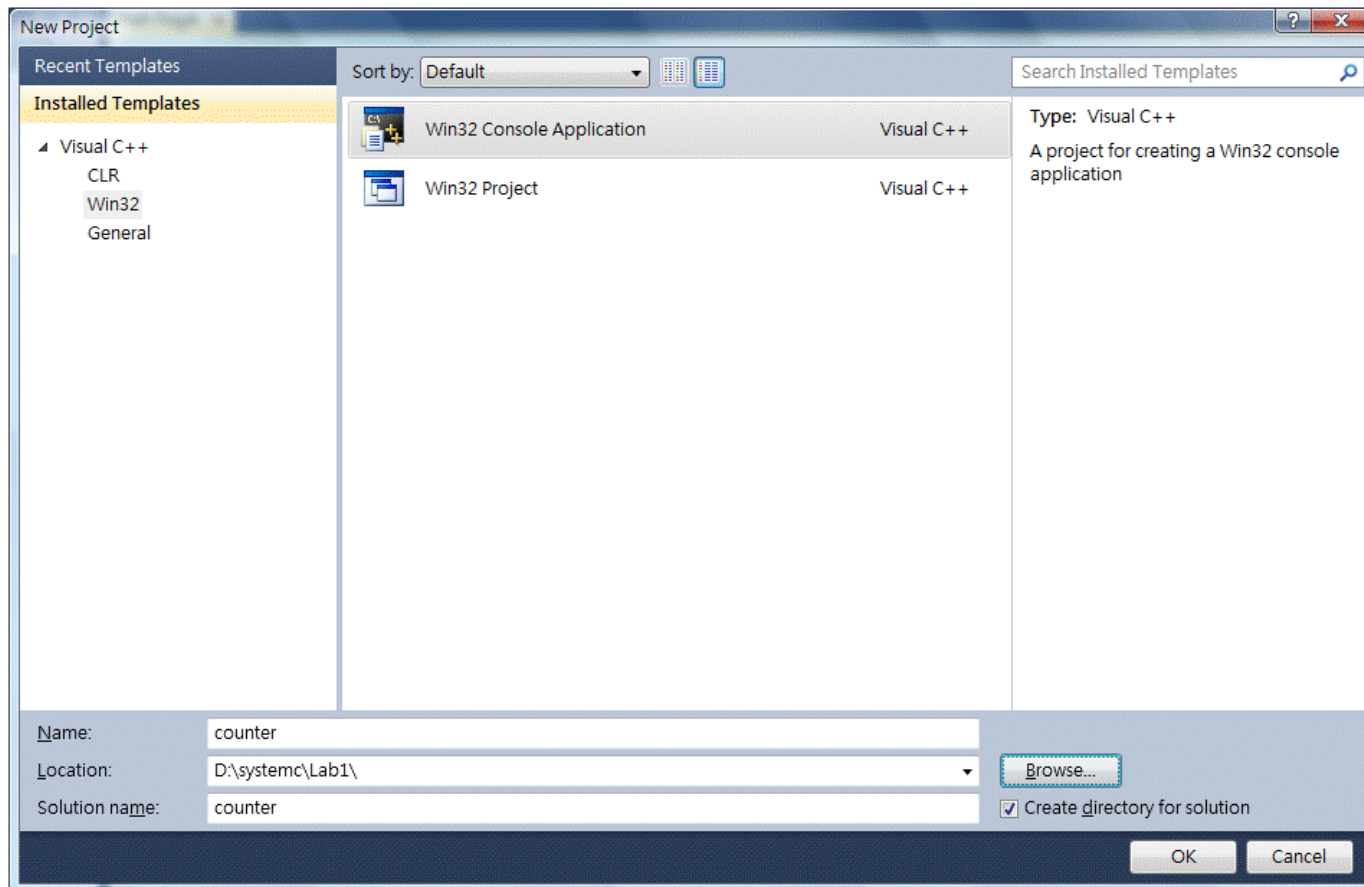
- We recommend x64 for 2017.

```
1>sc_attribute.cpp
1>正在產生程式碼...
1>SystemC-core.vcxproj -> C:\opt\systemc\msvc10\SystemC\x64\Debug\
1>專案 "SystemC-core.vcxproj" 建置完成。
2>----- 已開始建置: 專案: SystemC, 組態: Debug x64 -----
2>sc_main_main.cpp
2>sc_main.cpp
2>正在產生程式碼...
2>SystemC.vcxproj -> C:\opt\systemc\msvc10\SystemC\x64\Debug\SystemC.lib
===== 建置: 2 成功、0 失敗、0 最新、0 略過 =====
```



Create a New Project

- File->New->Project

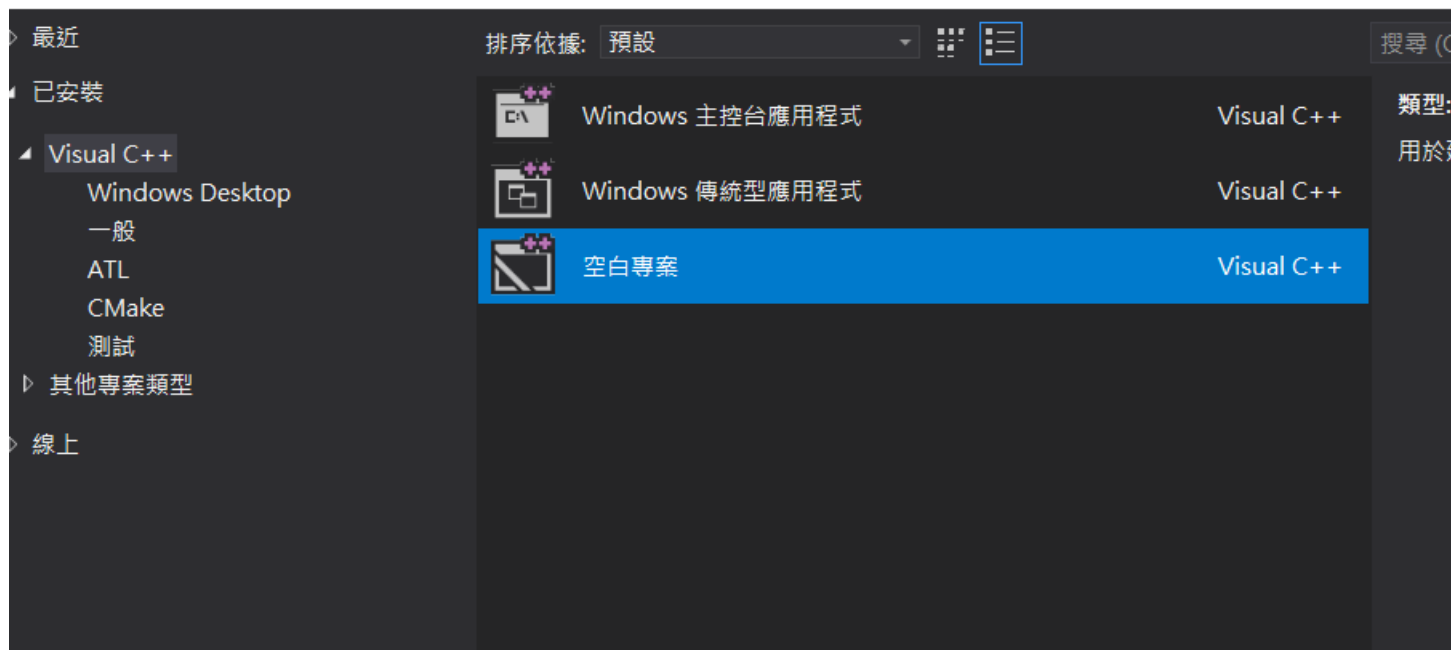




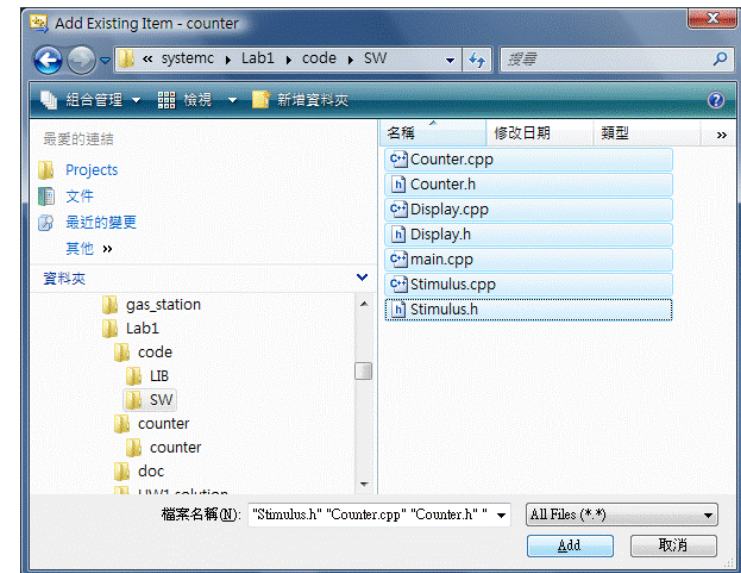
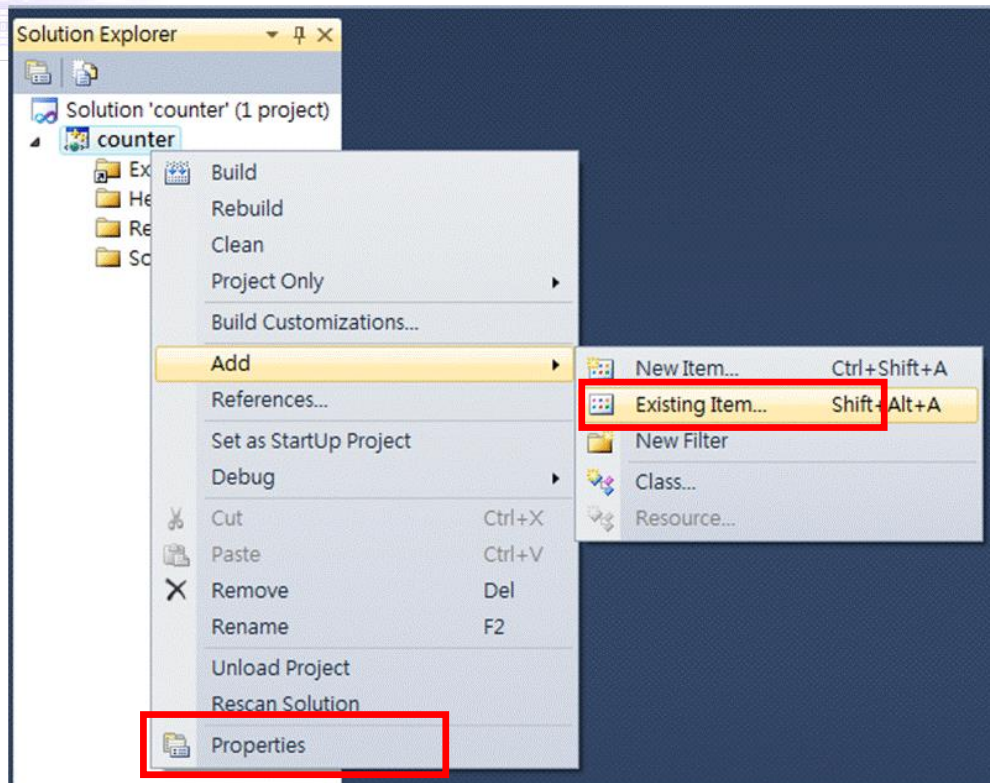
Create a New Project (2017)

- File->New->Project

新增專案

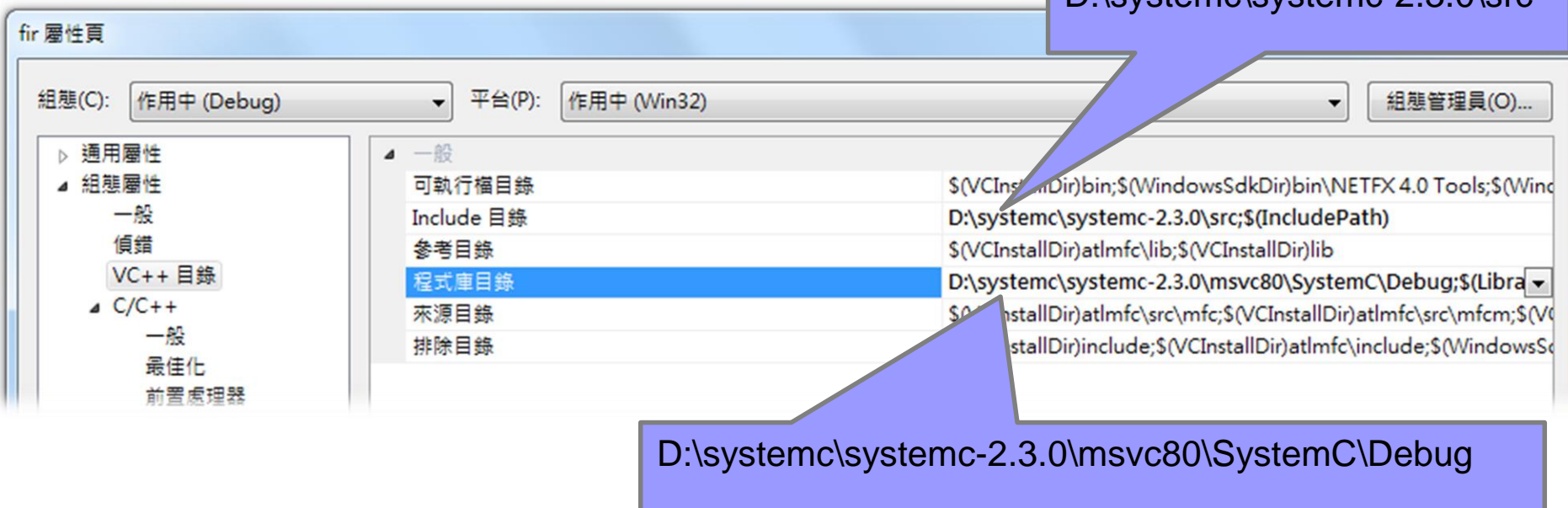


Add Existing Files to Project and Setup Project Properties



Add Include Path and Library Path

- Project → Property



Important: Choose paths according to your installation!!!



counter Property Pages

Configuration: Active(Debug) Platform: Active(Win32) Configuration Manager...

- Common Properties
- Configuration Properties
 - General
 - Debugging
 - VC++ Directories
 - C/C++
 - Linker
 - General
 - Input**
 - Manifest File
 - Debugging
 - System
 - Optimization
 - Embedded IDL
 - Advanced
 - Command Line
 - Manifest Tool
 - XML Document Generator
 - Browse Information
 - Build Events
 - Custom Build Step

Additional Dependencies: **systemc.lib;%(AdditionalDependencies)**

Ignore All Default Libraries

Ignore Specific Default Libraries

Module Definition File

Add Module to Assembly

Embed Managed Resource File

Force Symbol References

Delay Loaded DLLs

Assembly Link Resource

systemc.lib

Additional Dependencies
Specifies additional items to add to the link command line [i.e. kernel32.lib]

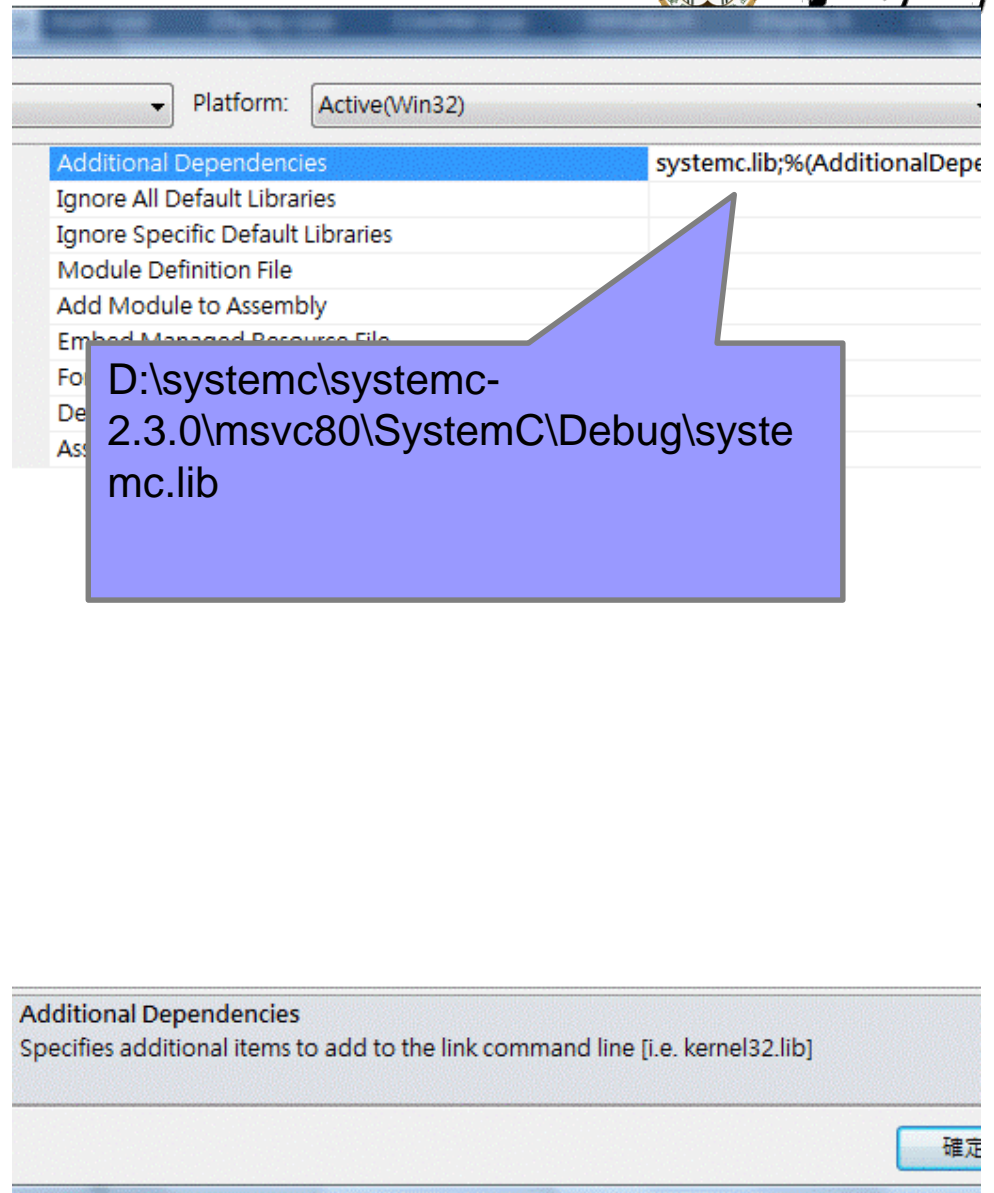
確定 取消 套用(A)

Or...

D:\systemc\systemc-2.3.0\src

D:\systemc\systemc-2.3.0\msvc80\SystemC\Debug\systemc.lib

Don't modify



Platform: Active(Win32)

Additional Dependencies: systemc.lib;%(AdditionalDepe

Ignore All Default Libraries

Ignore Specific Default Libraries

Module Definition File

Add Module to Assembly

Embed Managed Resource File

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Additional Dependencies

Specifies additional items to add to the link command line [i.e. kernel32.lib]

確定



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Configuration: Active(Debug) Platform: Active(Win32) Configuration Manager...

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Enable String Pooling	
Enable Minimal Rebuild	Yes (/Gm)
Enable C++ Exceptions	Yes (/EHsc)
Smaller Type Check	No
Basic Runtime Checks	Both (/RTC1 equiv to /RTCsu) (/RTC1)
Runtime Library	Multi-threaded Debug (/MTd)
Struct Member Alignment	Default
Buffer Security Check	Yes (/GS)
Enable Function-Level Linking	
Enable Enhanced Instruction Set	Not Set
Floating Point Model	Precise (/fp:precise)
Enable Floating Point Exceptions	
Create Hotpatchable Image	

Runtime Library
Specify runtime library for linking. (/MT, /MTd, /MD, /MDd)

確定 取消 套用(A)

MTd for ~2015
MDd for 2017



counter Property Pages

Configuration: Active(Debug) Platform: Active(Win32) Configuration Manager...

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All Options

```
/ZI /nologo /W3 /WX- /Od /Oy- /D "WIN32" /D "_DEBUG" /D "_CONSOLE" /D "_UNICODE" /D "UNICODE" /Gm /EHsc /RTC1 /MTd /GS /fp:precise /Zc:wchar_t /Zc:forScope /Fp"Debug\counter.pch" /Fa"Debug\" /Fo"Debug\" /Fd"Debug\vc100.pdb" /Gd /analyze- /errorReport:queue
```

Additional Options Inherit from parent or project defaults

`/vmg /Za`

確定 取消 套用(A)

For 2017!

hello 屬性頁

組態(C): 作用中 (Debug) 平台(P): 作用中 (x64)

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Linux SystemC Setup



Linux Installation

- ArchLinux (Our test environment)
 - `yaourt -Ss systemc`
- Other Linux Distro
 - Normal library with only library and header
 - `./configure --prefix=/opt/systemc`
`make -j4 install`



Linux Compilation

■ Compile flag

- `--std=c++11 -I/opt/systemc/include`

■ Linker flag

- `-lsystemc -L/opt/systemc/lib64`