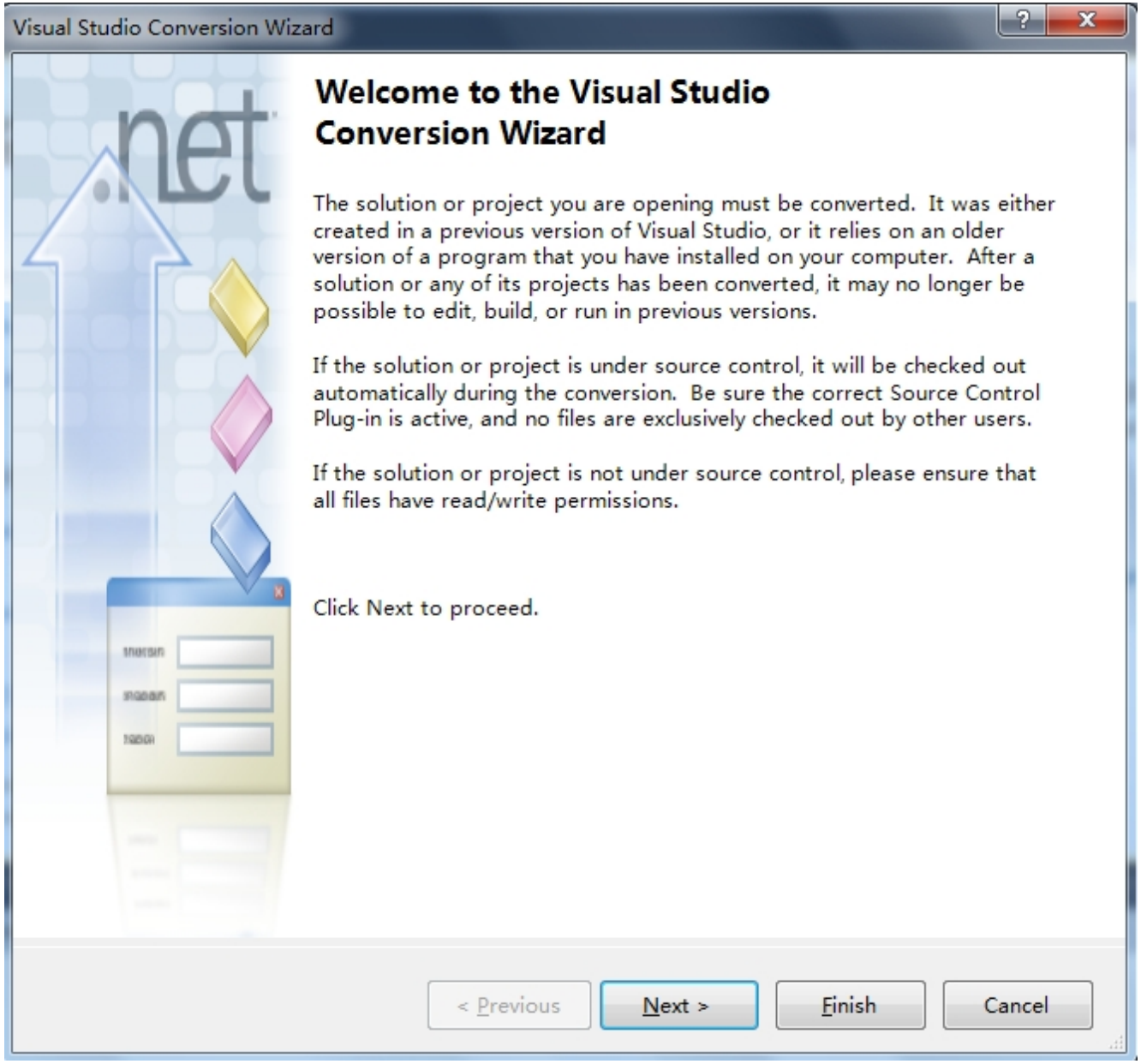
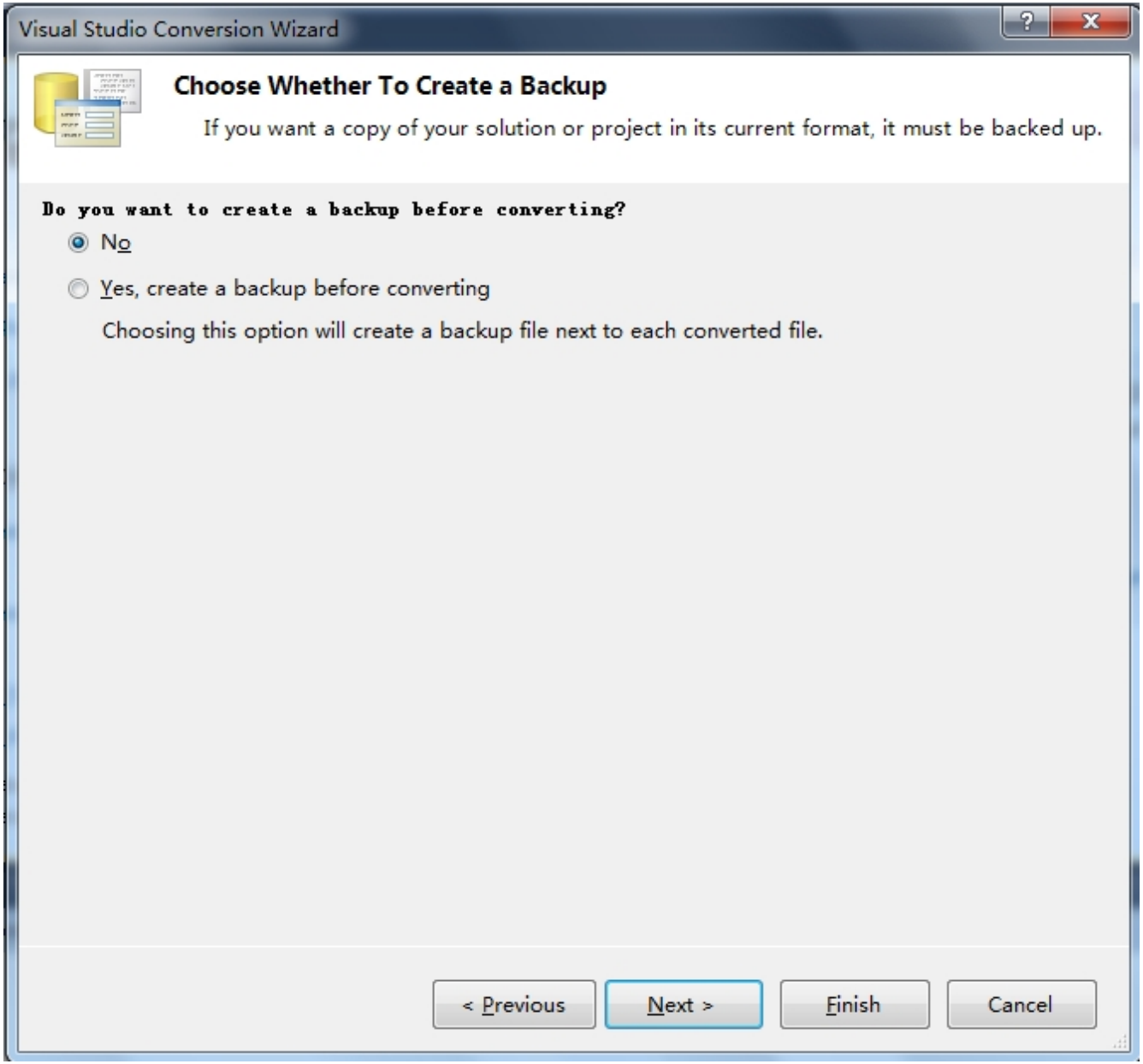
安装SystemC

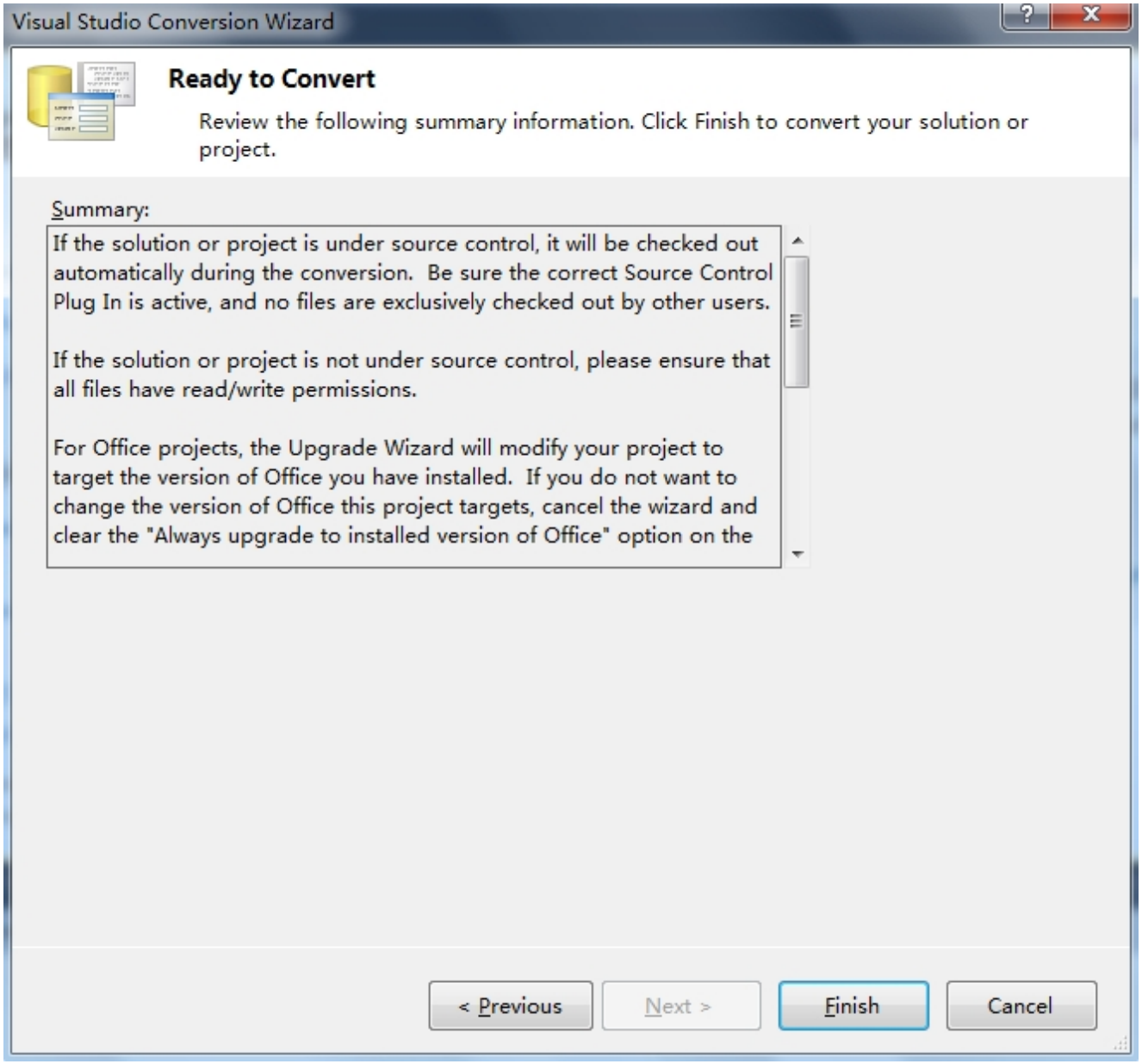
下载

- Microsoft Visual Studio 2010
- SystemC 2.3.0: http://www.accellera.org/downloads/standards/systemc. (systemc-2.3.0.tgz)

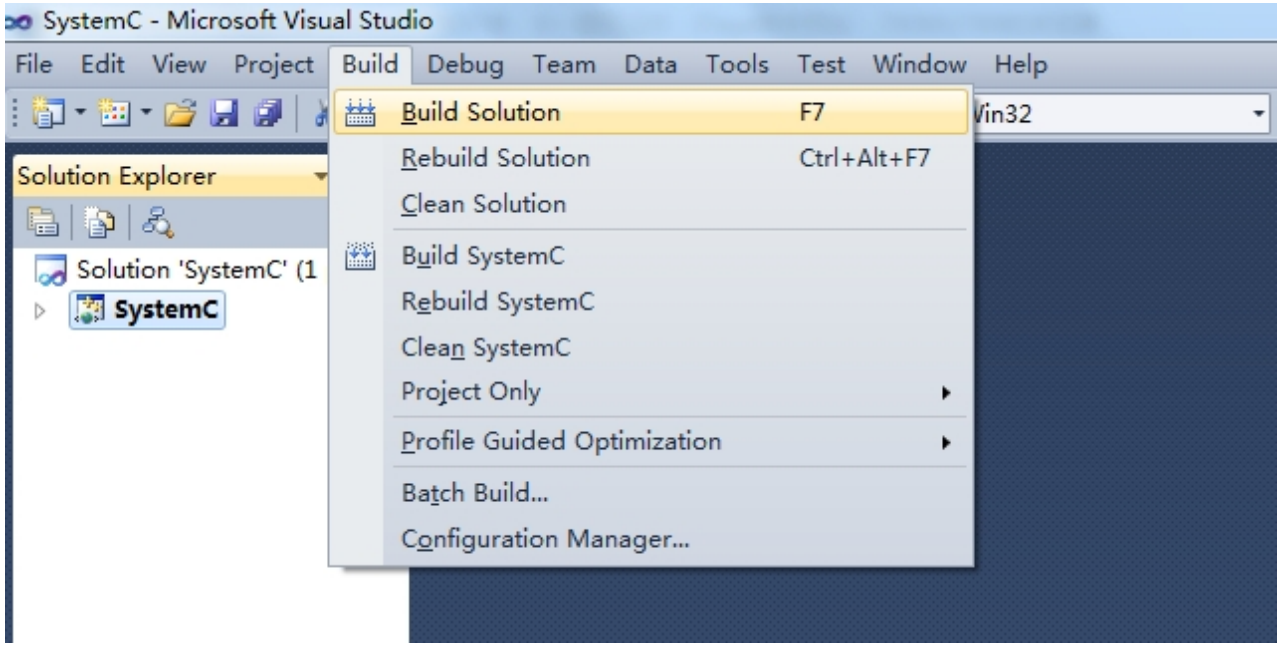
解压缩systemc-2.3.0.tgz，打开D:\systemc-2.3.0\msvc80\SystemC\SystemC.sln,会转成2010格式



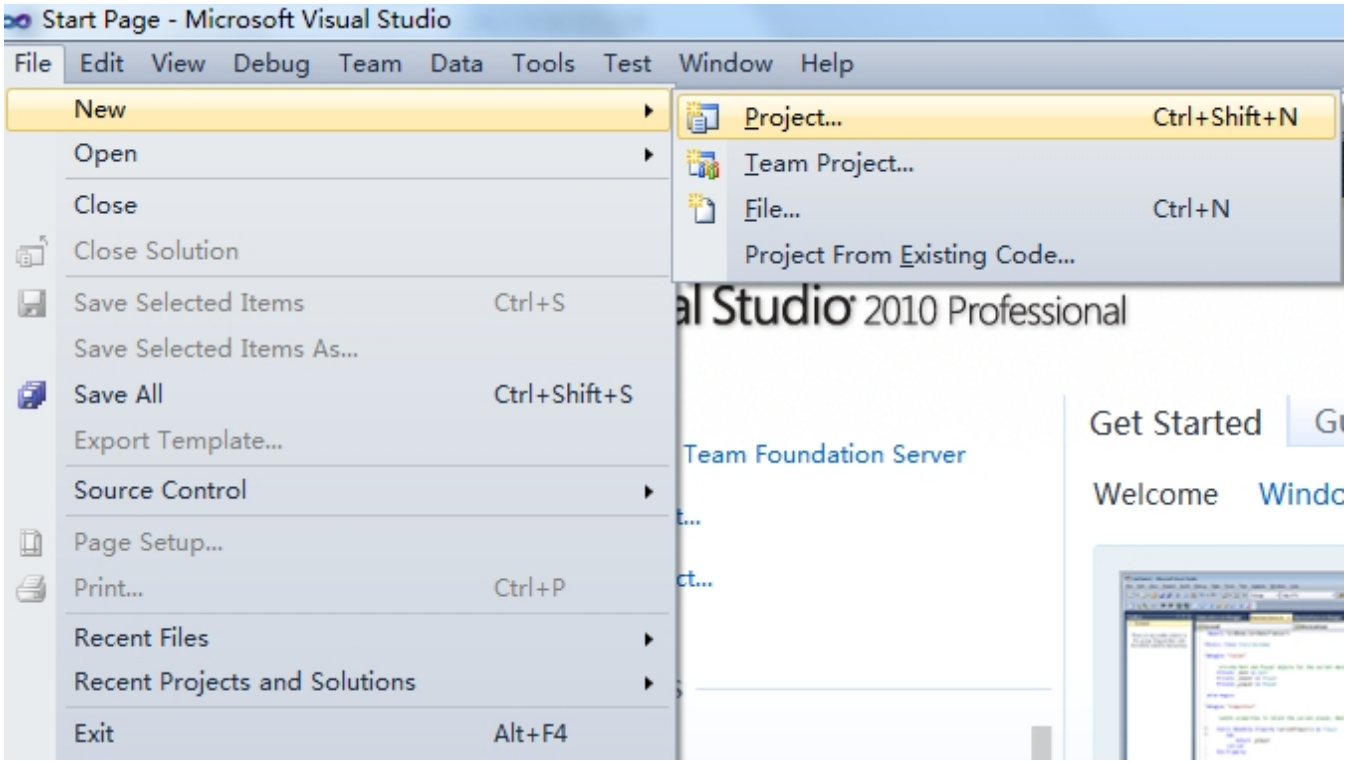

Visual Studio Conversion Wizard
Choose Whether To Create a Backup
If you want a copy of your solution or project in its current format, it must be backed up.
Do you want to create a backup before converting?
No
Yes, create a backup before converting
Choosing this option will create a backup file next to each converted file.
< Previous
Next >
Finish
Cancel


Visual Studio Conversion Wizard
Ready to Convert
Review the following summary information. Click Finish to convert your solution or project.
Summary:
If the solution or project is under source control, it will be checked out automatically during the conversion. Be sure the correct Source Control Plug In is active, and no files are exclusively checked out by other users.
If the solution or project is not under source control, please ensure that all files have read/write permissions.
For Office projects, the Upgrade Wizard will modify your project to target the version of Office you have installed. If you do not want to change the version of Office this project targets, cancel the wizard and clear the "Always upgrade to installed version of Office" option on the
< Previous
Next >
Finish
Cancel

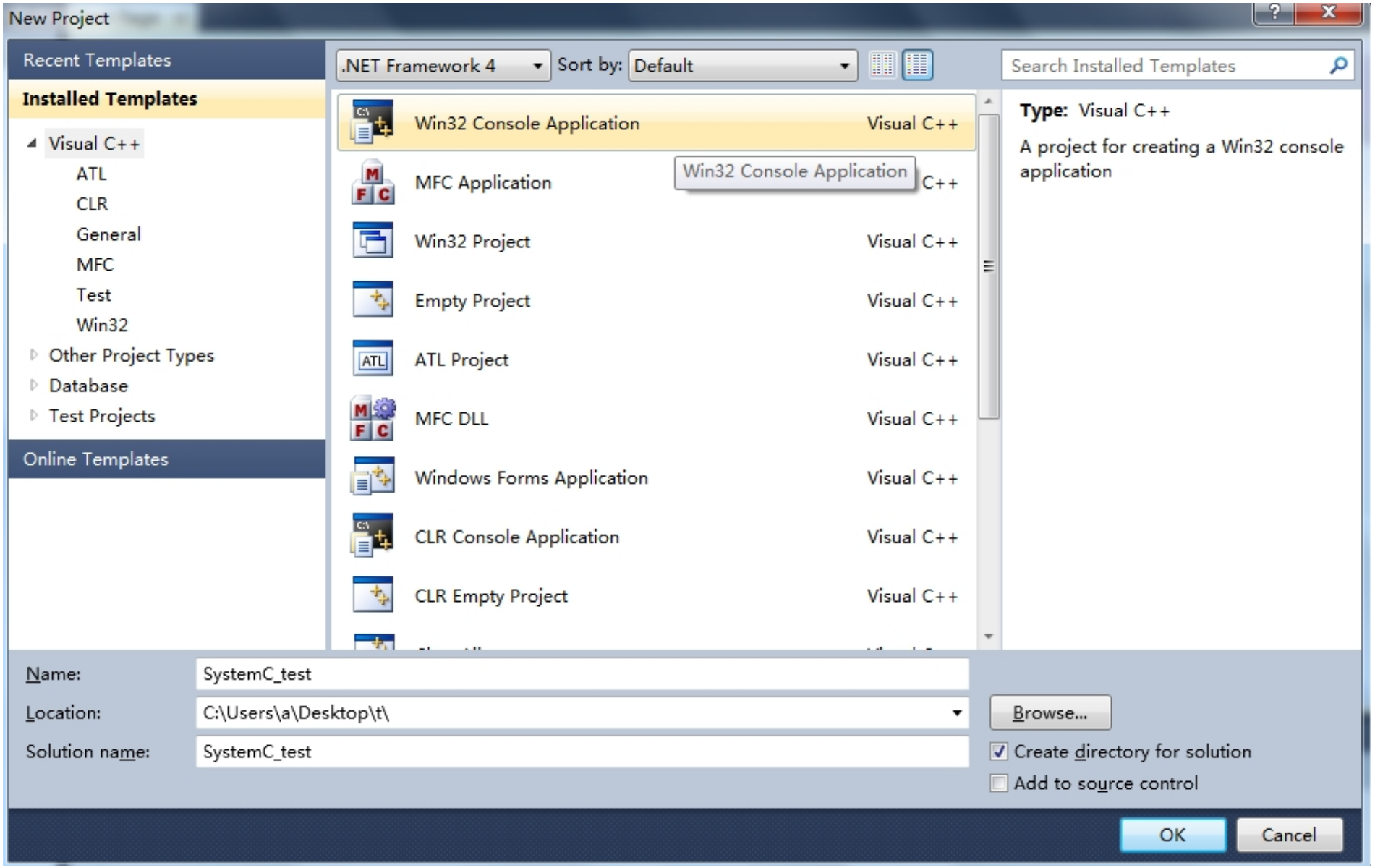
编译SystemC这个项目

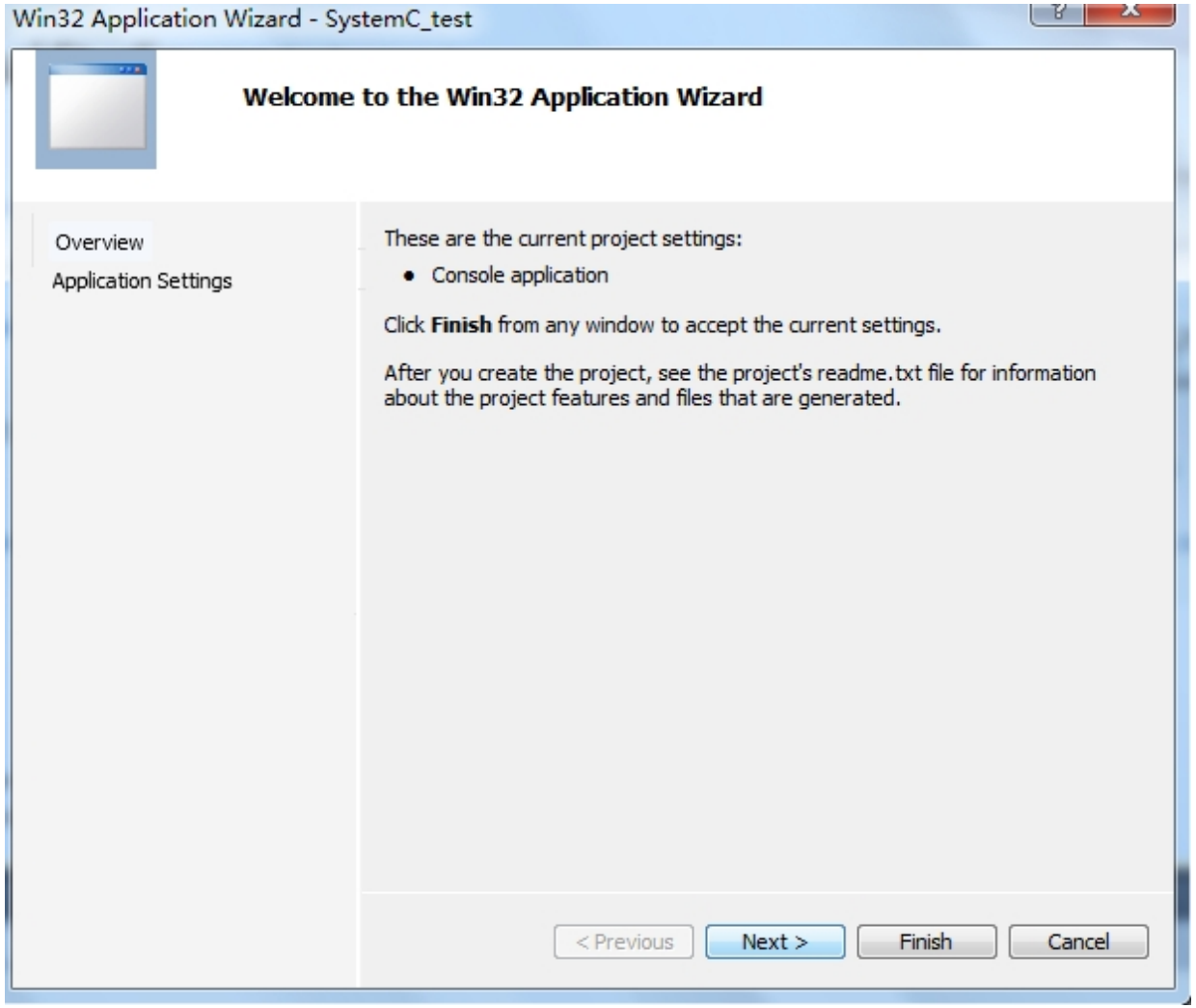


新建一个工程

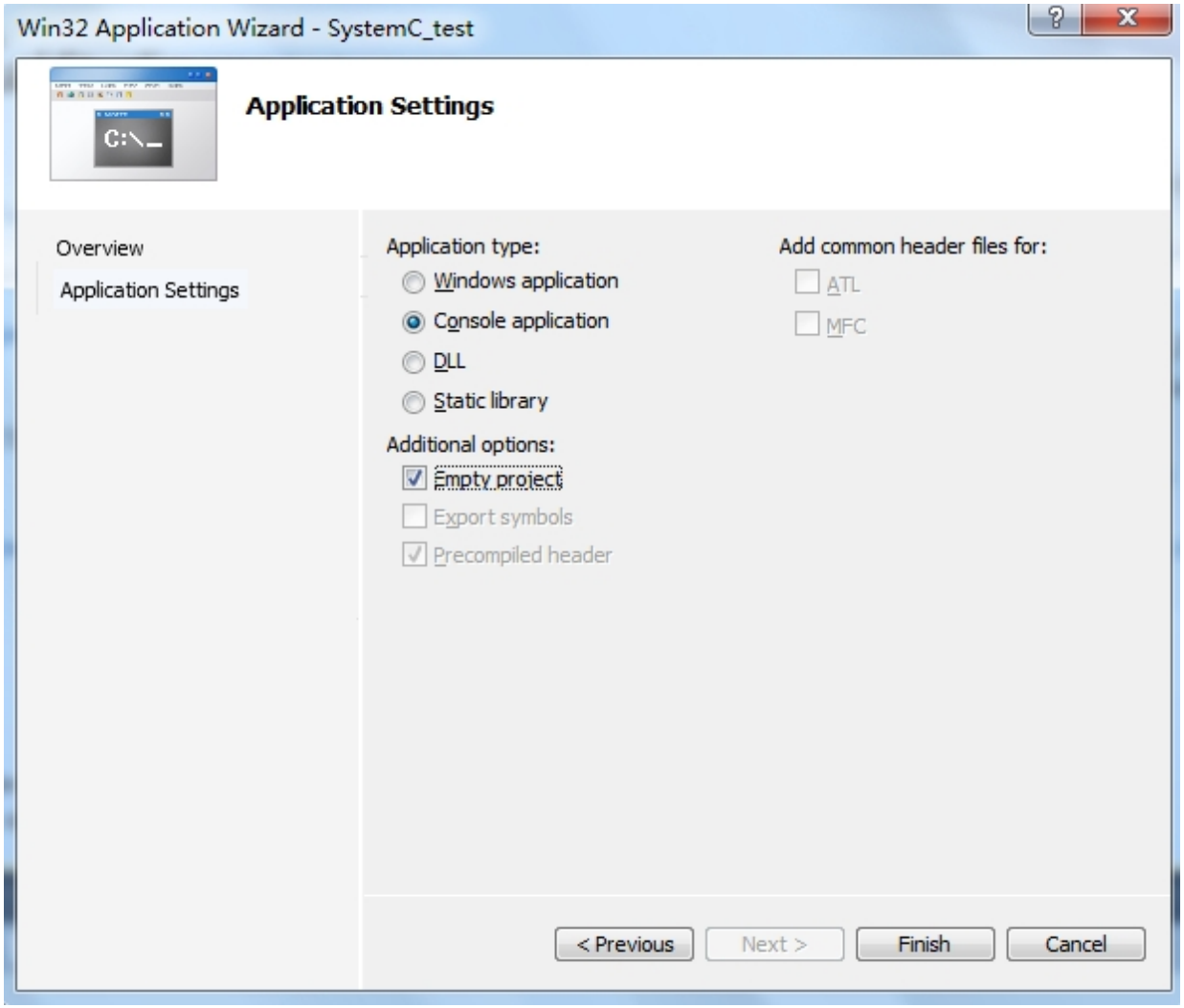

Start Page - Microsoft Visual Studio
File Edit View Debug Team Data Tools Test Window Help
New
Open
Close
Close Solution
Save Selected Items Ctrl+S
Save Selected Items As...
Save All Ctrl+Shift+S
Export Template...
Source Control
Page Setup...
Print... Ctrl+P
Recent Files
Recent Projects and Solutions
Exit Alt+F4
Project... Ctrl+Shift+N
Team Project...
File... Ctrl+N
Project From Existing Code...
Studio 2010 Professional
Team Foundation Server
Get Started
Welcome

选择Win32 Console Application

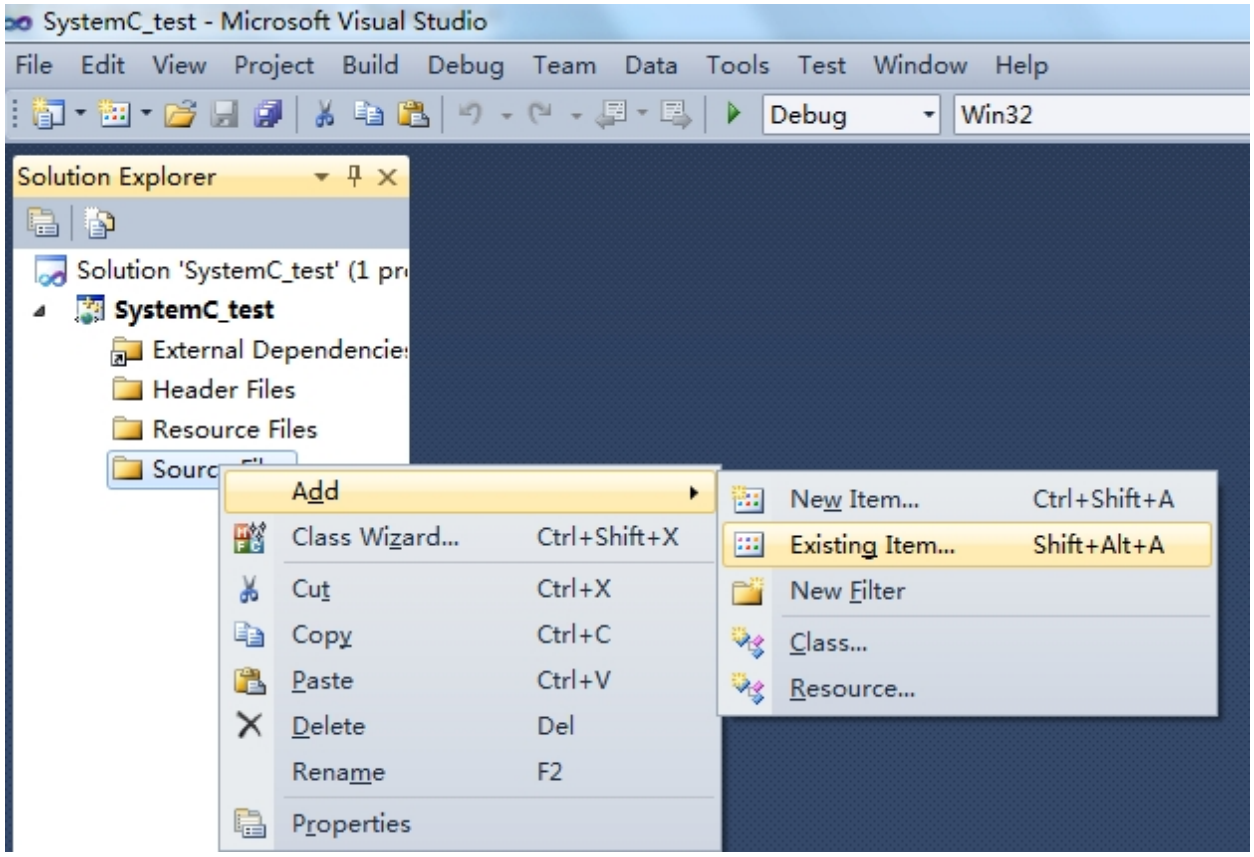



Win32 Application Wizard - SystemC_test
Welcome to the Win32 Application Wizard
Overview
Application Settings
These are the current project settings:
Console application
Click Finish from any window to accept the current settings.
After you create the project, see the project's readme.txt file for information about the project features and files that are generated.
< Previous
Next >
Finish
Cancel

选择空工程


Win32 Application Wizard - SystemC_test
Application Settings
Overview
Application Settings
Application type:
Windows application
Console application
DLL
Static library
Additional options:
Empty project
Export symbols
Precompiled header
Add common header files for:
ATL
MFC
< Previous
Next >
Finish
Cancel

在项目中添加源文件

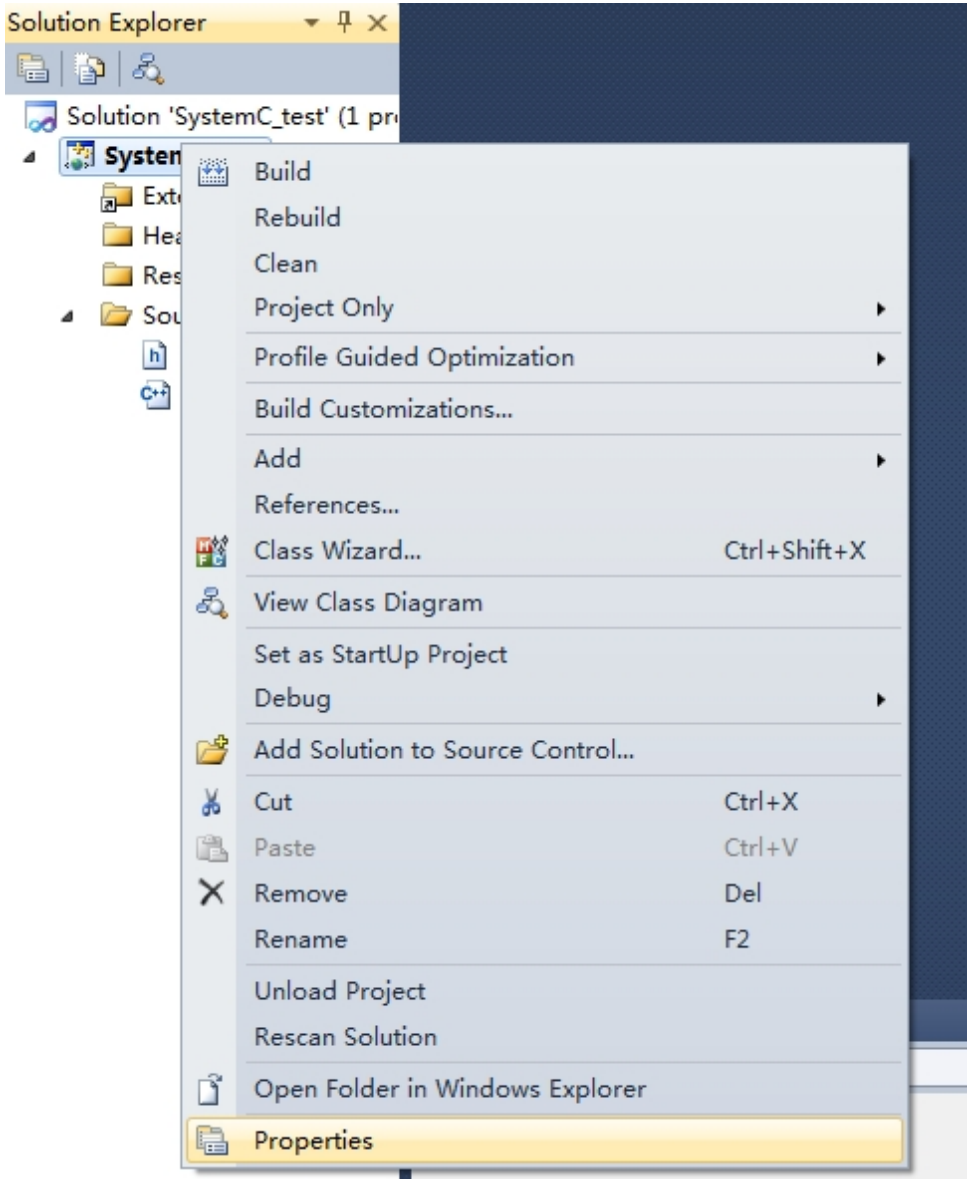

SystemC_test - Microsoft Visual Studio
File Edit View Project Build Debug Team Data Tools Test Window Help
Debug
Win32
Solution Explorer
Solution 'SystemC_test' (1 pr
SystemC_test
External Dependencie
Header Files
Resource Files
Add
Class Wizard... Ctrl+Shift+X
Cut Ctrl+X
Copy Ctrl+C
Paste Ctrl+V
Delete Del
Rename F2
Properties
New Item... Ctrl+Shift+A
Existing Item... Shift+Alt+A
New Filter
Class...
Resource...

```
//main.cpp
#include <systemc.h>
#include "nand2.h"
#include "tb.h"
int sc_main(int, char**){
sc_signal<bool> a,b,f;
sc_clock clk("Clk",20,SC_NS);
nand2 N2("Nand2");
    N2.A(a);
    N2.B(b);
    N2.F(f);
    tb tb1("tb");
tb1.clk(clk);
tb1.a(a);
    tb1.b(b);
tb1.f(f);
   // trace file creation
   sc_trace_file *tf =
sc_create_vcd_trace_file("Nand
2");
   sc_trace(tf,N2.A, "A");
   sc_trace(tf,N2.B, "B");
   sc_trace(tf,N2.F, "F");
   sc_start(200,SC_NS);
   sc_close_vcd_trace_file(tf);
return 0;
}
```

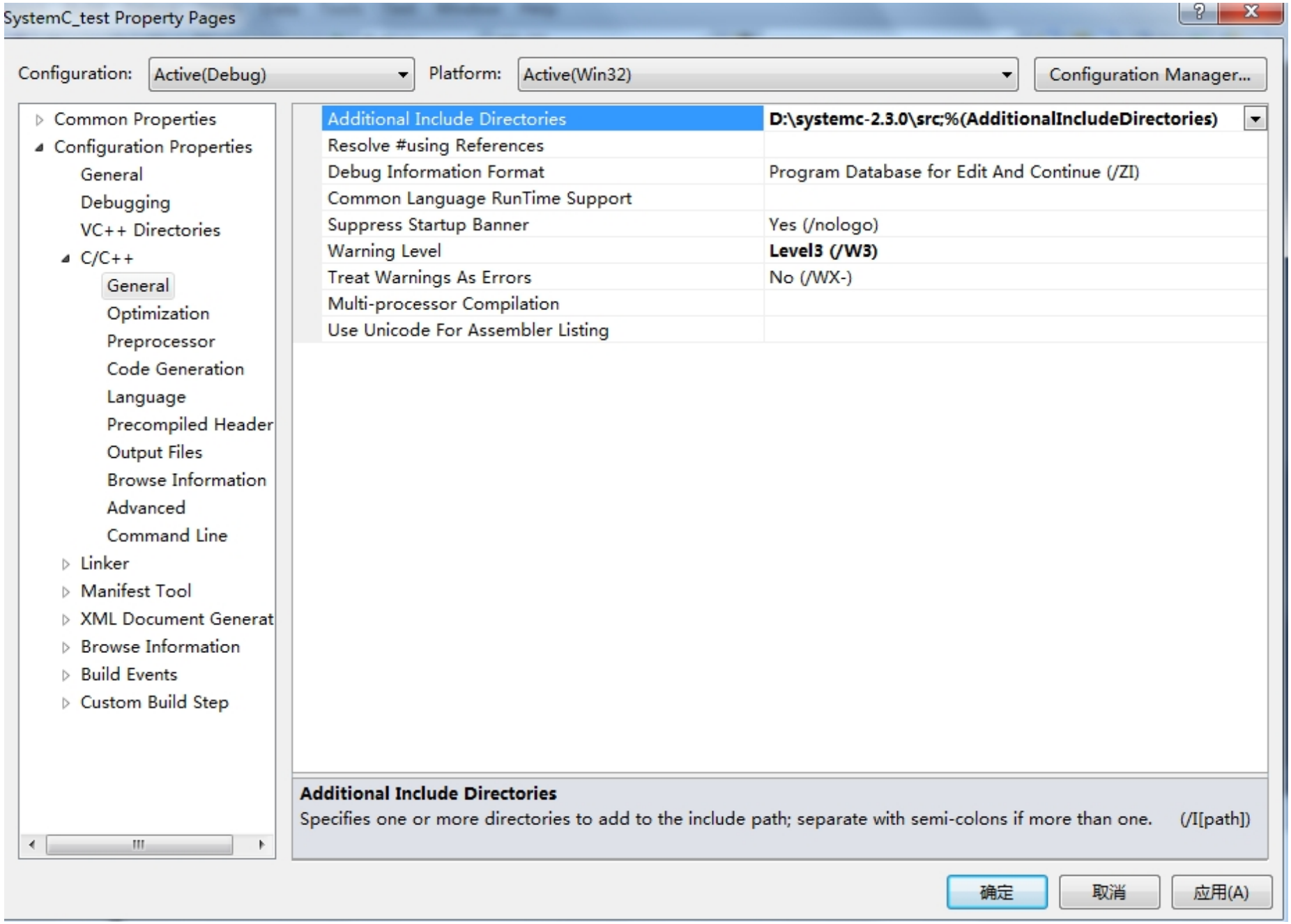
```
//nand2.h
//Designed By
Chenxi,2003.3.22
//a systemc description of 2-
input nand gate
#ifndef _NAND2_H
#define _NAND2_H
#include <systemc.h>
#include <math.h>
SC_MODULE(nand2){
sc_in<bool> A;
sc_in<bool> B;
sc_out<bool> F;
void do_nand(){
F=!( A & B);
};
SC_CTOR(nand2){
SC_METHOD(do_nand);
sensitive<<A<<B;
}
};
#endif
```

```
//tb.h
//testbench of nand2,By chenxi ,all rights
reserved
#ifndef _TB_H
#define _TB_H
SC_MODULE(tb){
sc_out<bool> a,b;
    sc_in<bool> f;
sc_in_clk clk;
void gen_input(){
      wait(); a=0; b=0;
  wait(); a=0; b=1;
      wait(); a=1; b=0;
  wait(); a=1; b=1;
  wait(); a=0; b=0;
  wait(); a=0; b=0;
}
void display_variable(){
cout<<"a="<<a<<",b="<<b<<",f="<<f<<end
l;
}
SC_CTOR(tb){
SC_CTHREAD(gen_input,clk.pos());
       SC_METHOD(display_variable);
sensitive<<f<<a<<b;
dont_initialize();
}
};
#endif;
```

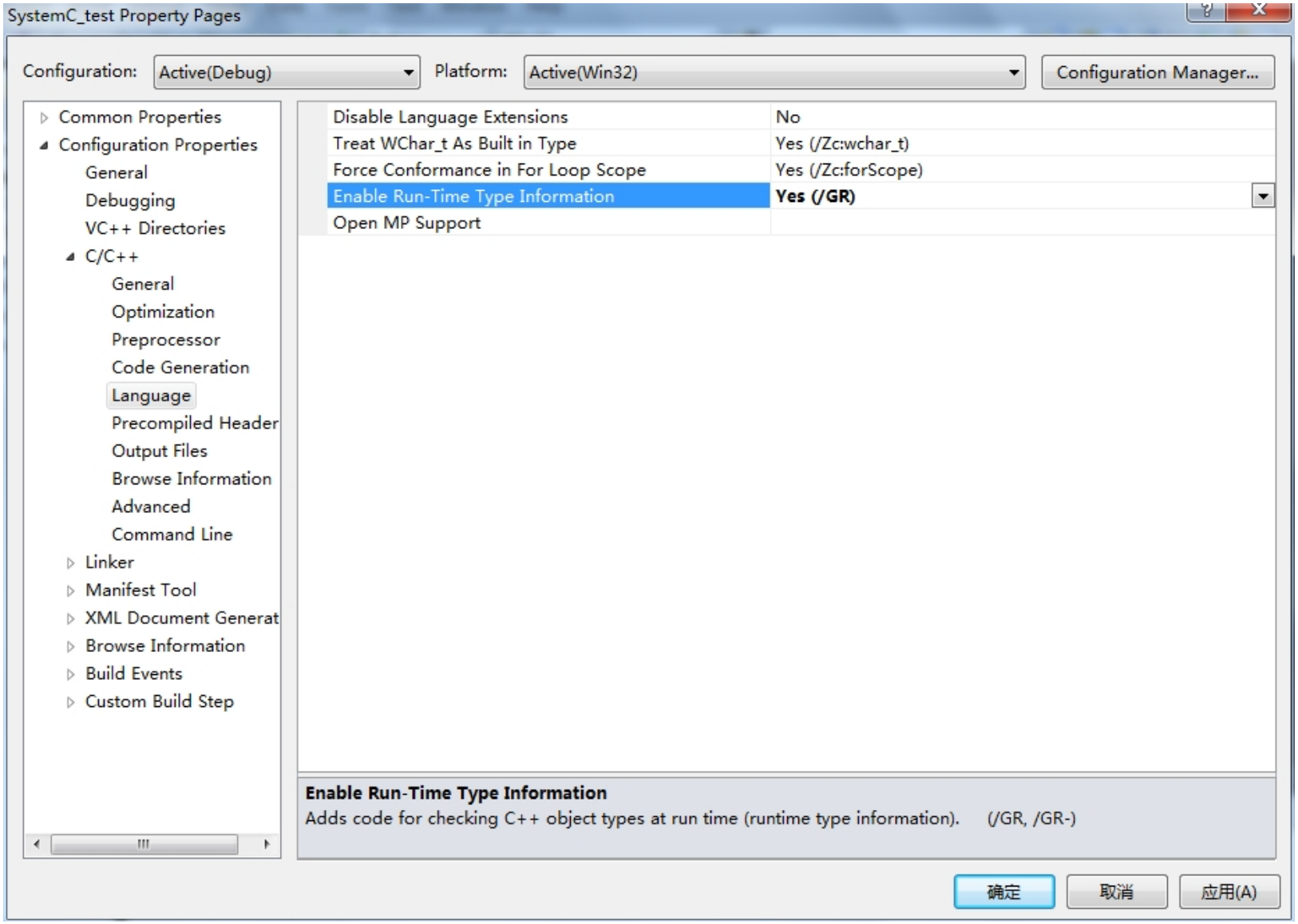
右击工程名，选择Properties



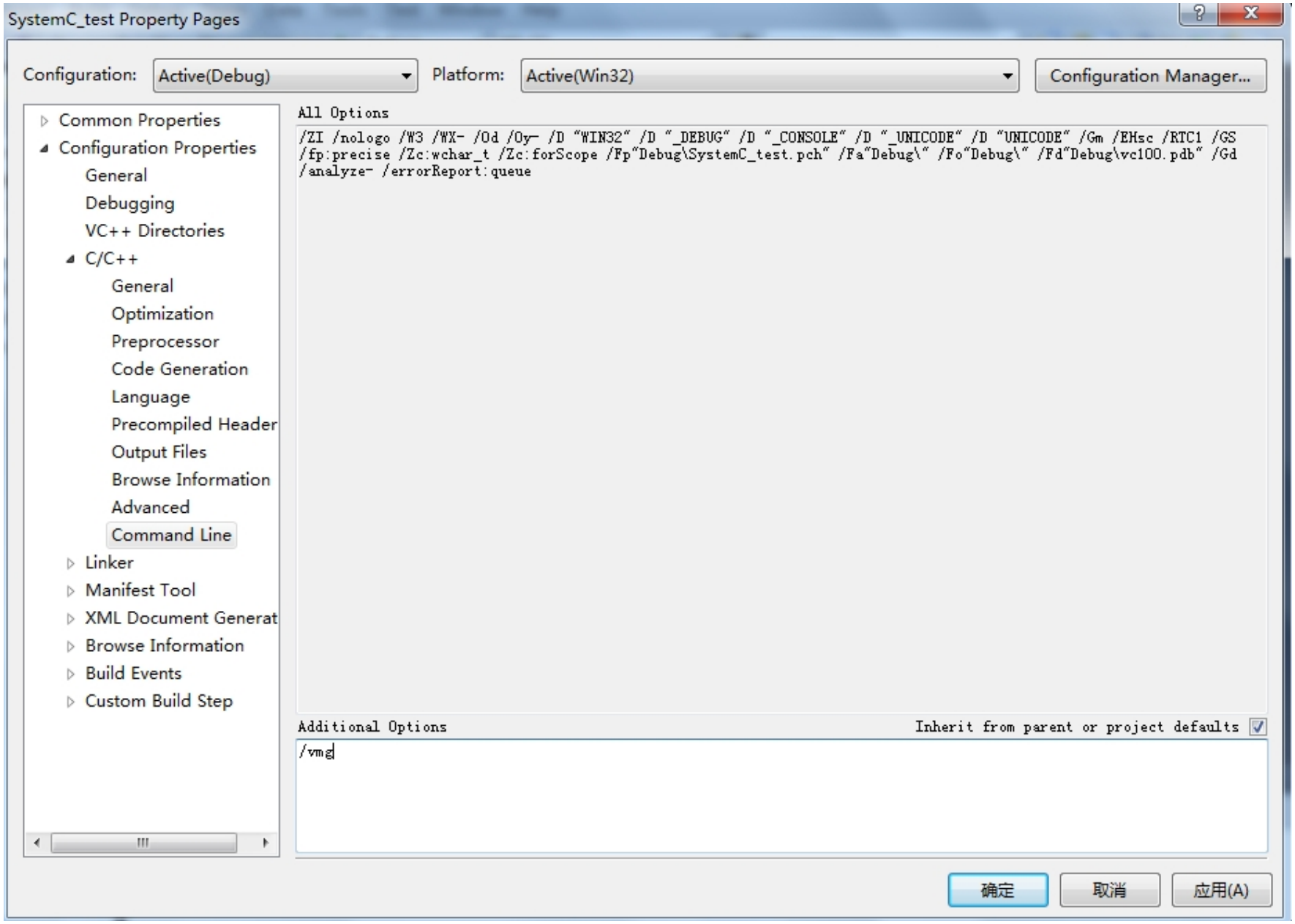
C/C++→General →Additional Include Directories (D:\systemc-2.3.0\src)



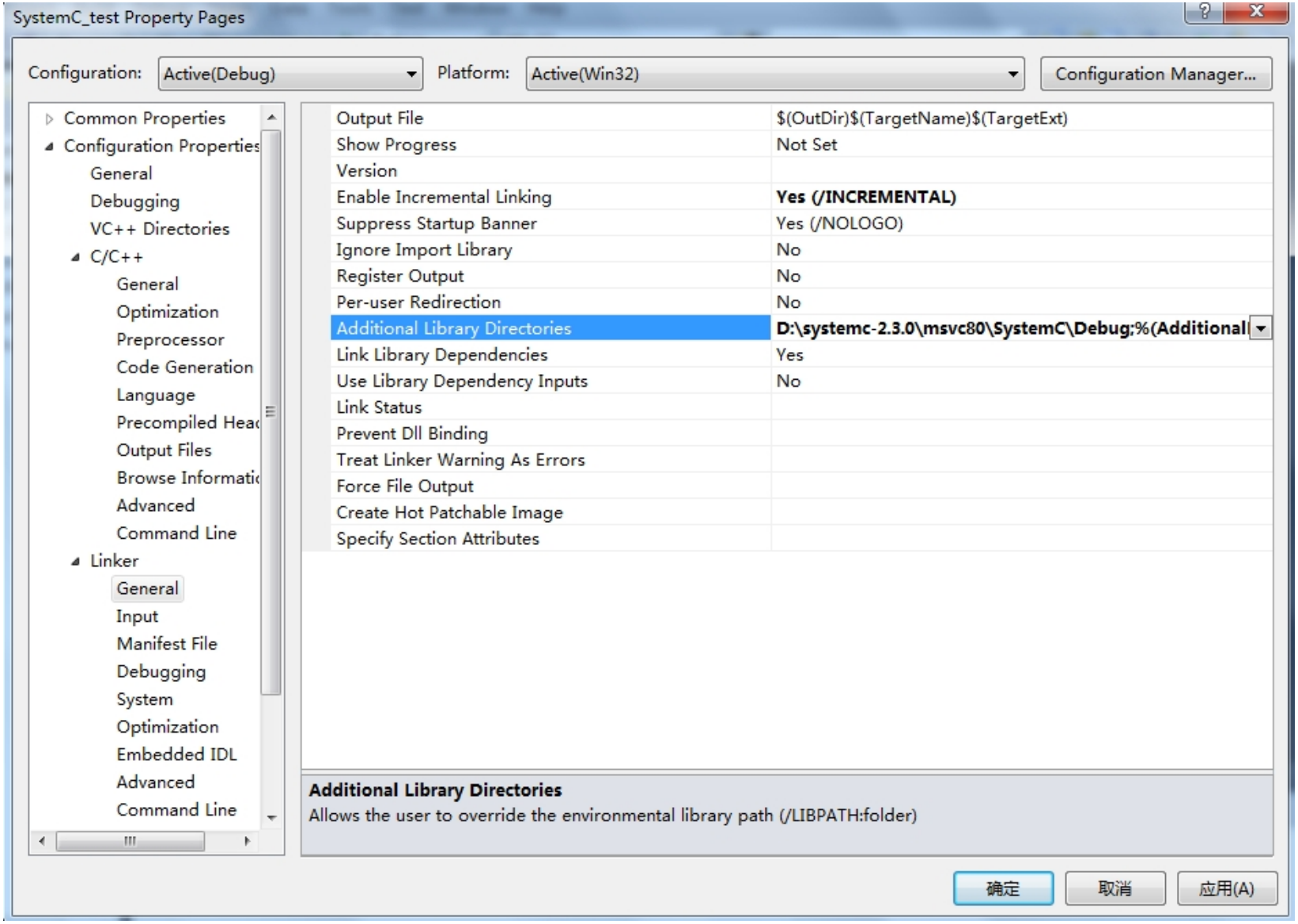
C/C++ →Language →Enable Run-Time Type Info→Yes



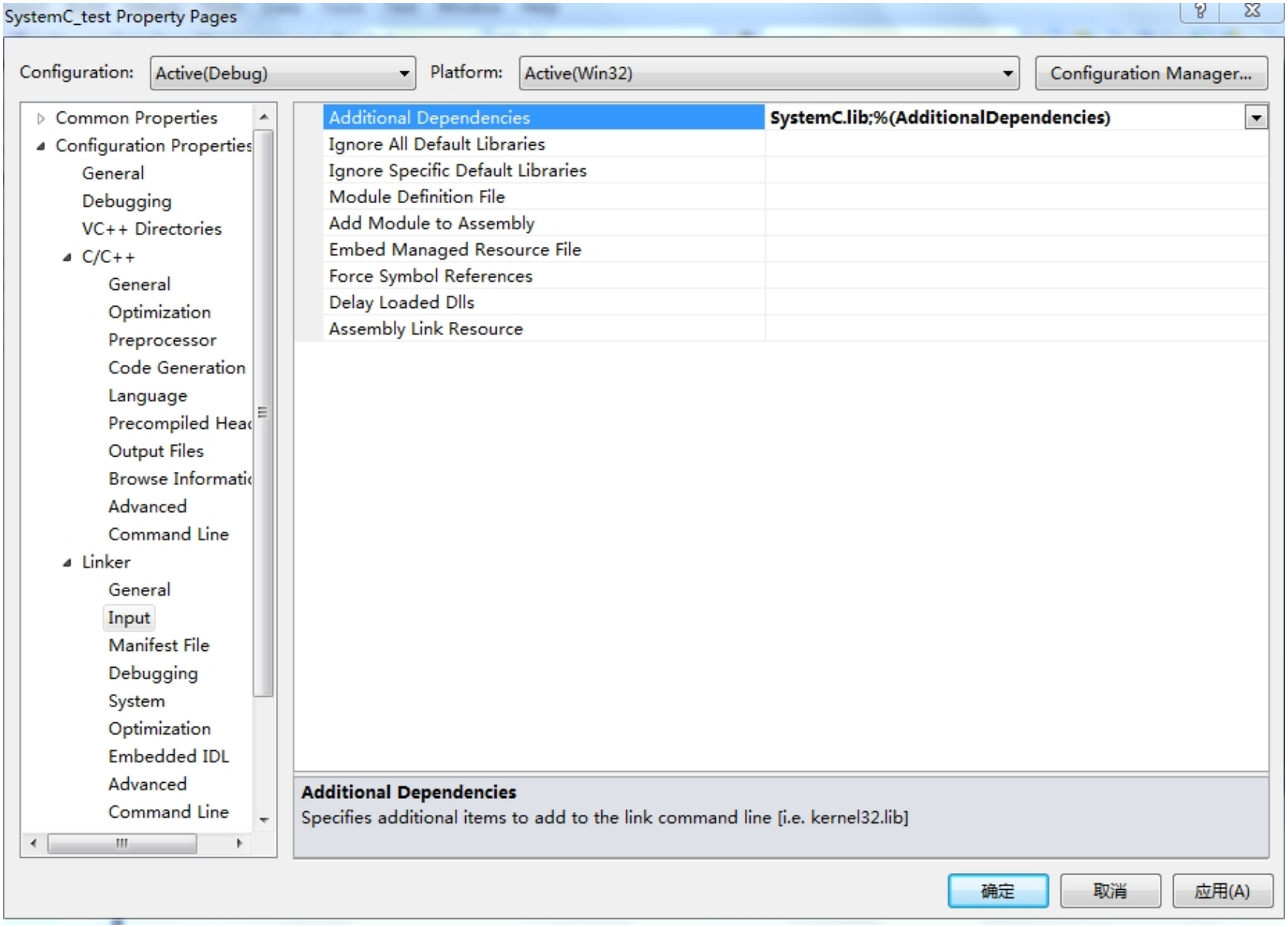
Command Line→ Additional Options加上/vmg



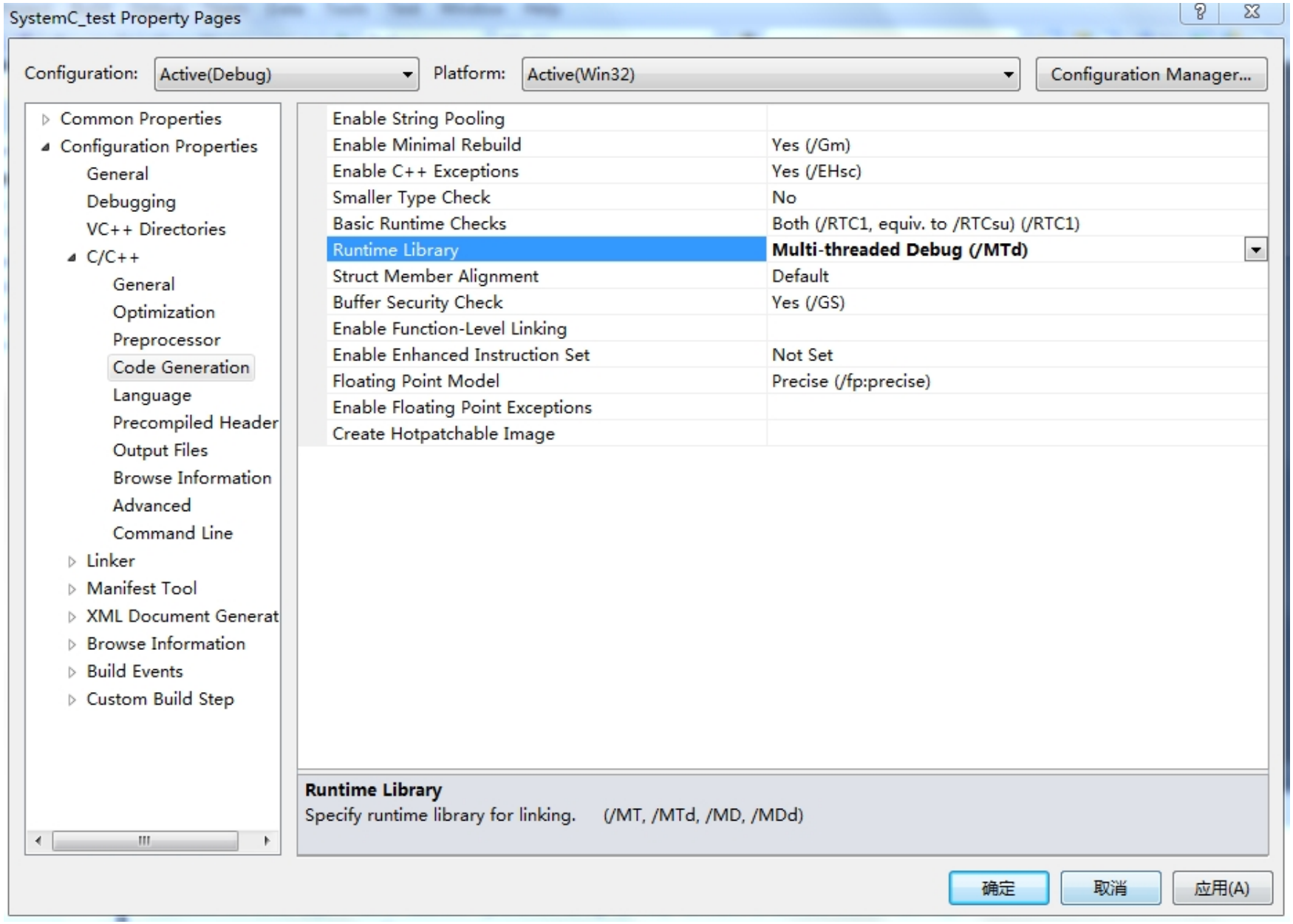
Linker →General→Additional Library Directories (D:\systemc-2.3.0\msvc80\SystemC\Debug)



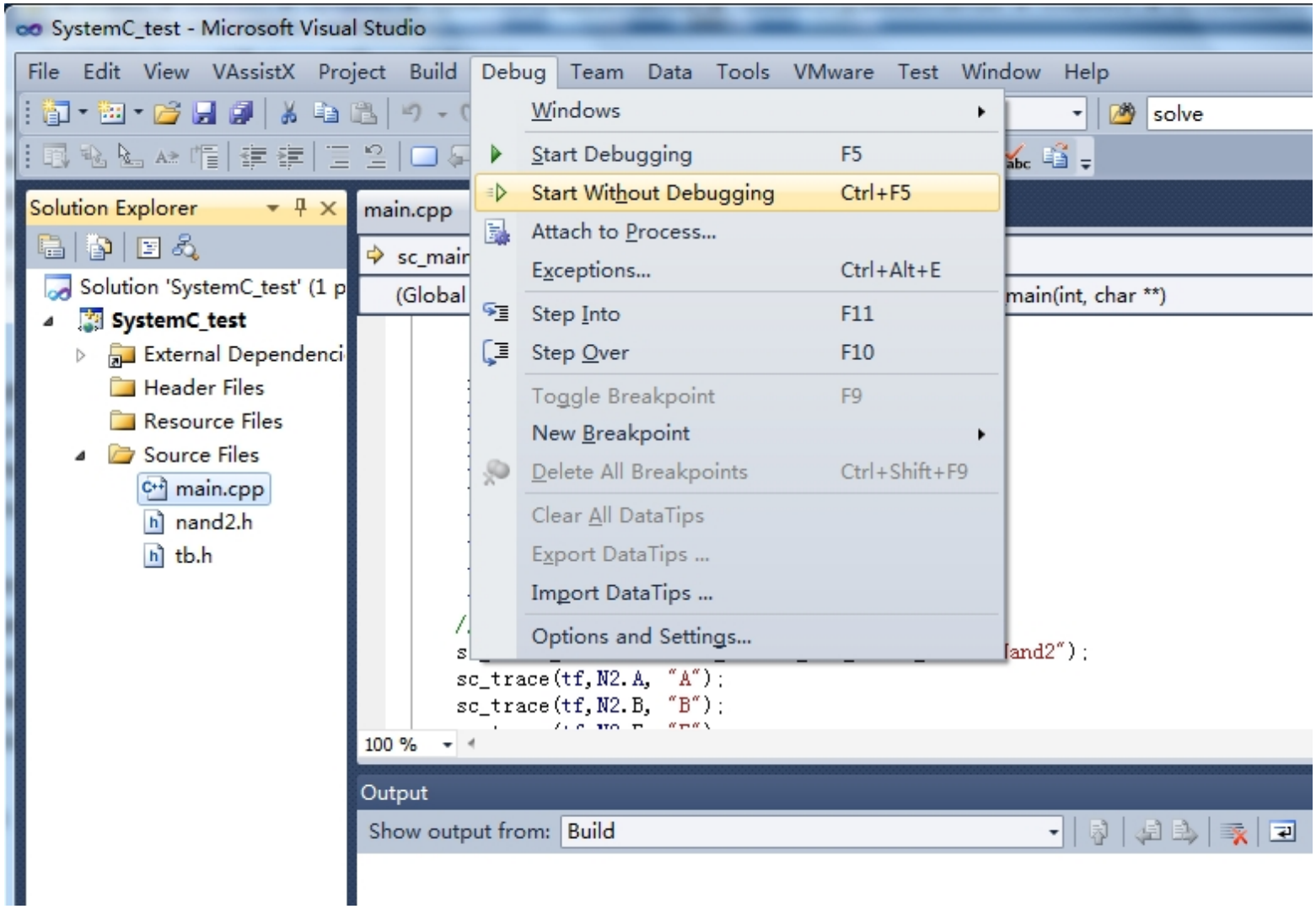
Linker →Input→Additional Dependencies (SystemC.lib)



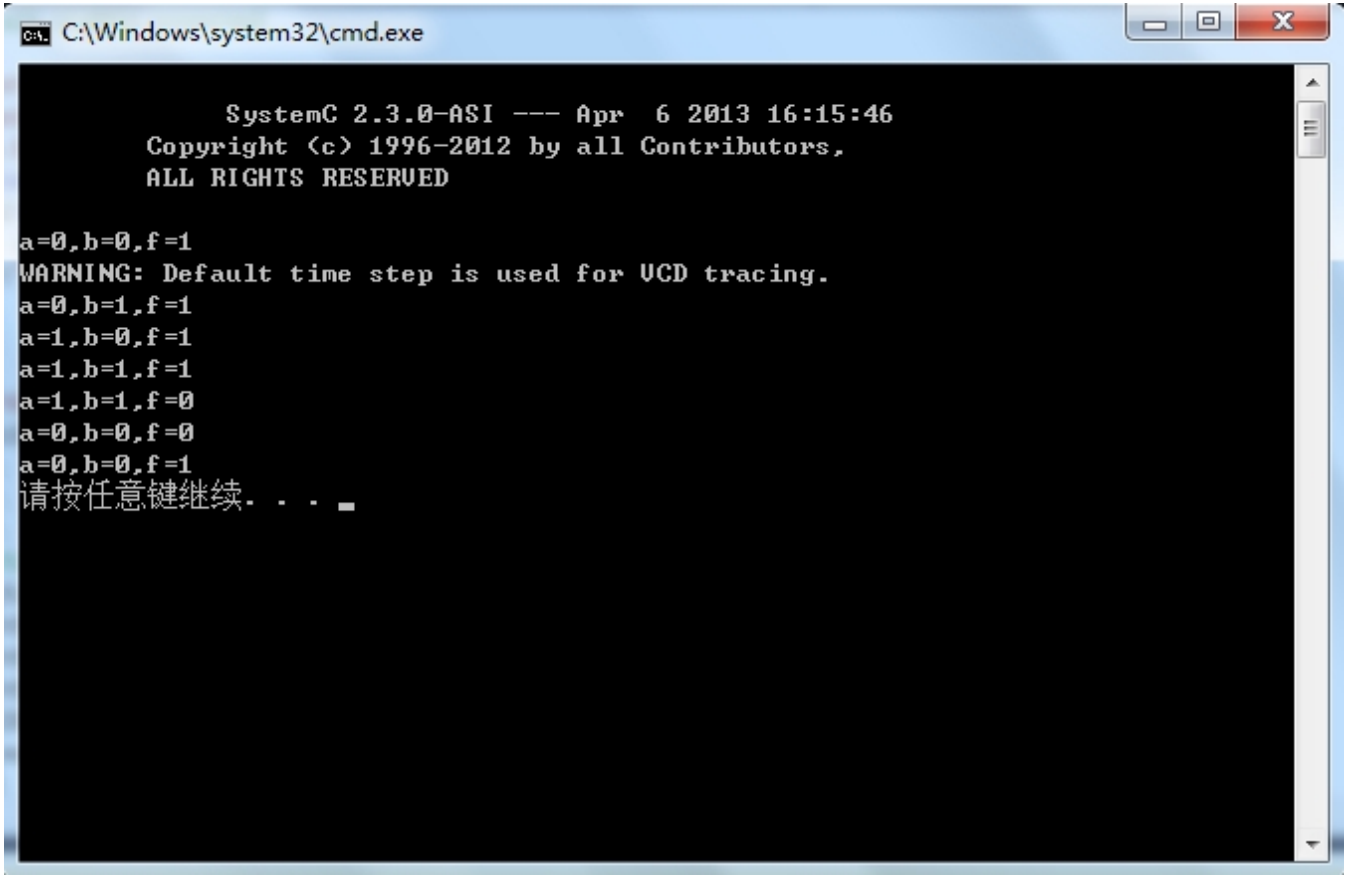
C/C++→Code Generation→Runtime Library→Multi-thread Debug(/MTd)



编译运行


SystemC_test - Microsoft Visual Studio
File Edit View VAssistX Project Build Debug Team Data Tools VMware Test Window Help
Windows
Start Debugging F5
Start Without Debugging Ctrl+F5
Attach to Process...
Exceptions... Ctrl+Alt+E
Step Into F11
Step Over F10
Toggle Breakpoint F9
New Breakpoint
Delete All Breakpoints Ctrl+Shift+F9
Clear All DataTips
Export DataTips ...
Import DataTips ...
Options and Settings...
solve
Solution Explorer
Solution 'SystemC_test' (1 p
SystemC_test
External Dependenci
Header Files
Resource Files
Source Files
main.cpp
nand2.h
tb.h
main.cpp
(Global
main(int, char **)
sc_trace(tf,N2.A, "A");
sc_trace(tf,N2.B, "B");
100 %
Output
Show output from: Build

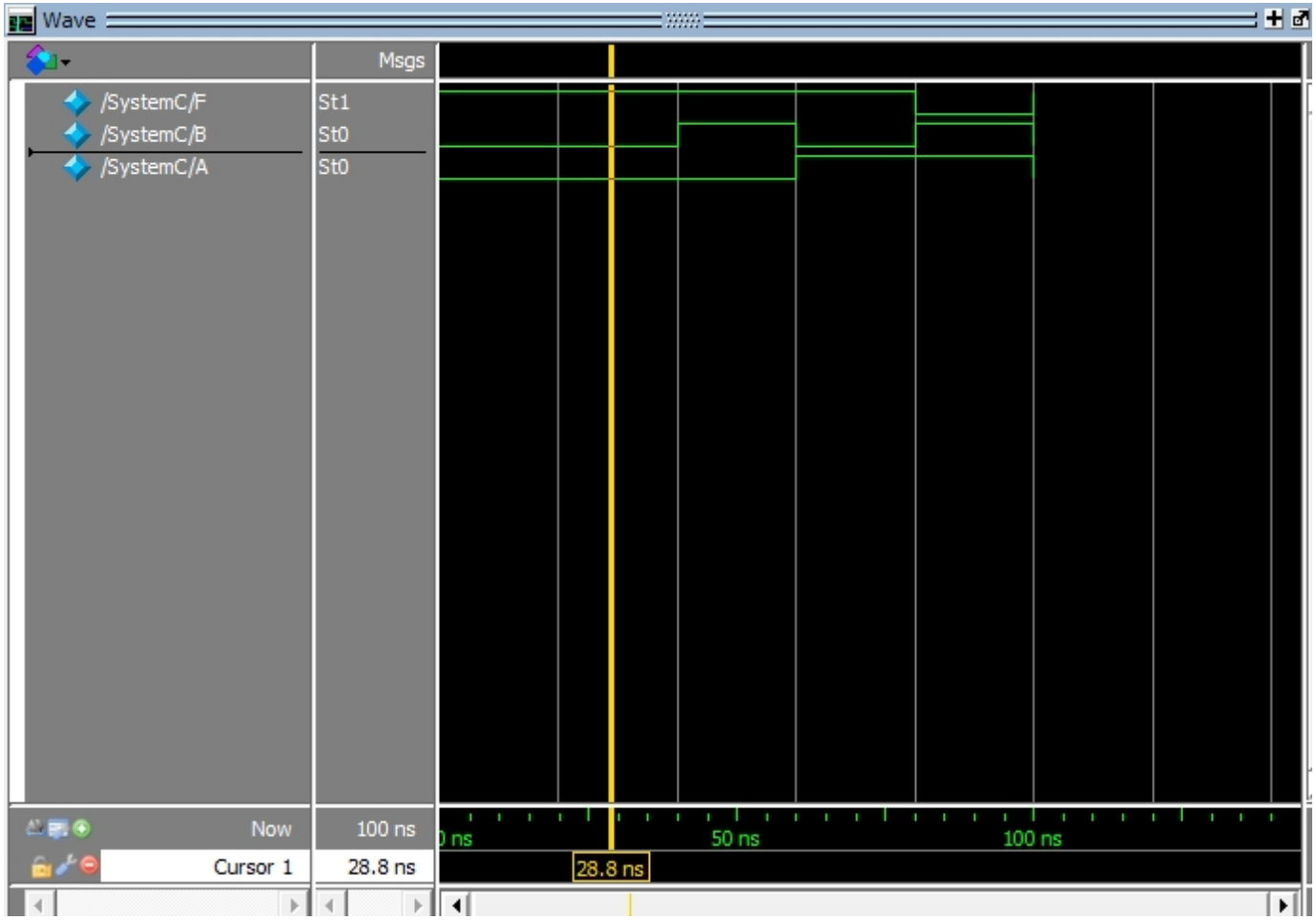
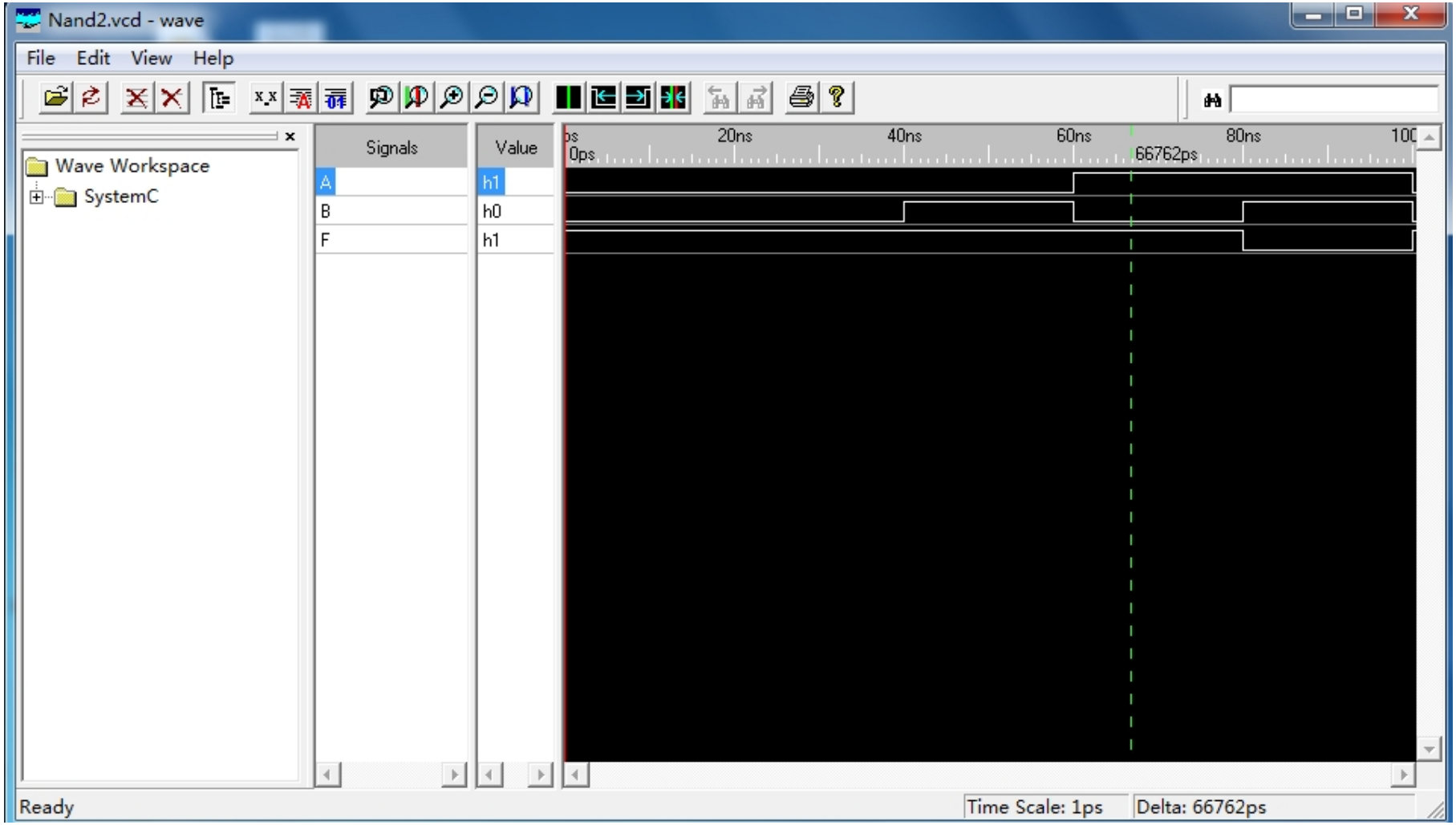
结果


C:\Windows\system32\cmd.exe
SystemC 2.3.0-ASI --- Apr 6 2013 16:15:46
Copyright (c) 1996-2012 by all Contributors,
ALL RIGHTS RESERVED
a=0,b=0,f=1
WARNING: Default time step is used for VCD tracing.
a=0,b=1,f=1
a=1,b=0,f=1
a=1,b=1,f=1
a=1,b=1,f=0
a=0,b=0,f=0
a=0,b=0,f=1
请按任意键继续. . .

用ModelSim转换生成的vcd波形文件，生成wlf波形文件并打开

vcd2wlf <source.vcd> <target.wlf>

命令：vcd2wlf Nand2.vcd Nand2.wlf



用Wave 1.20(Wave VCD Viewer)打开