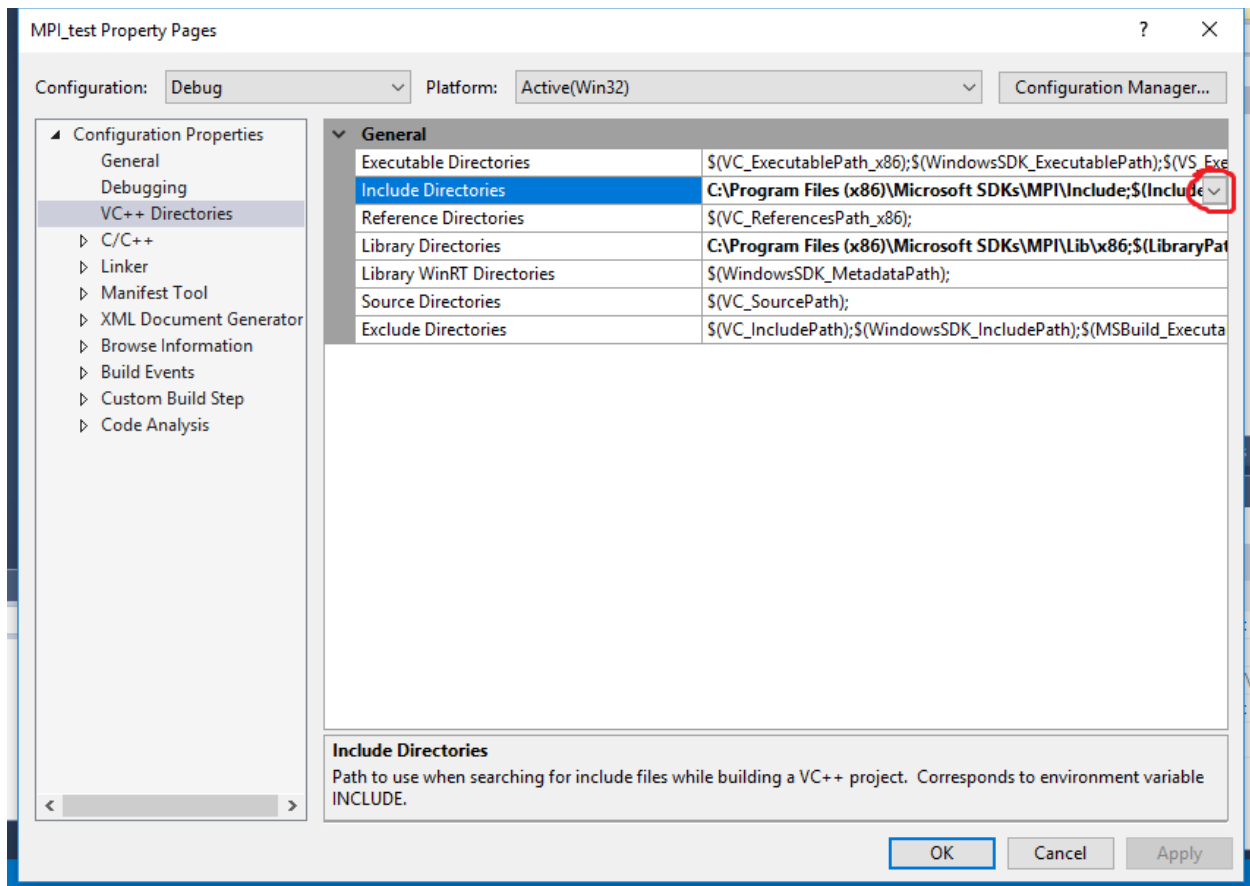


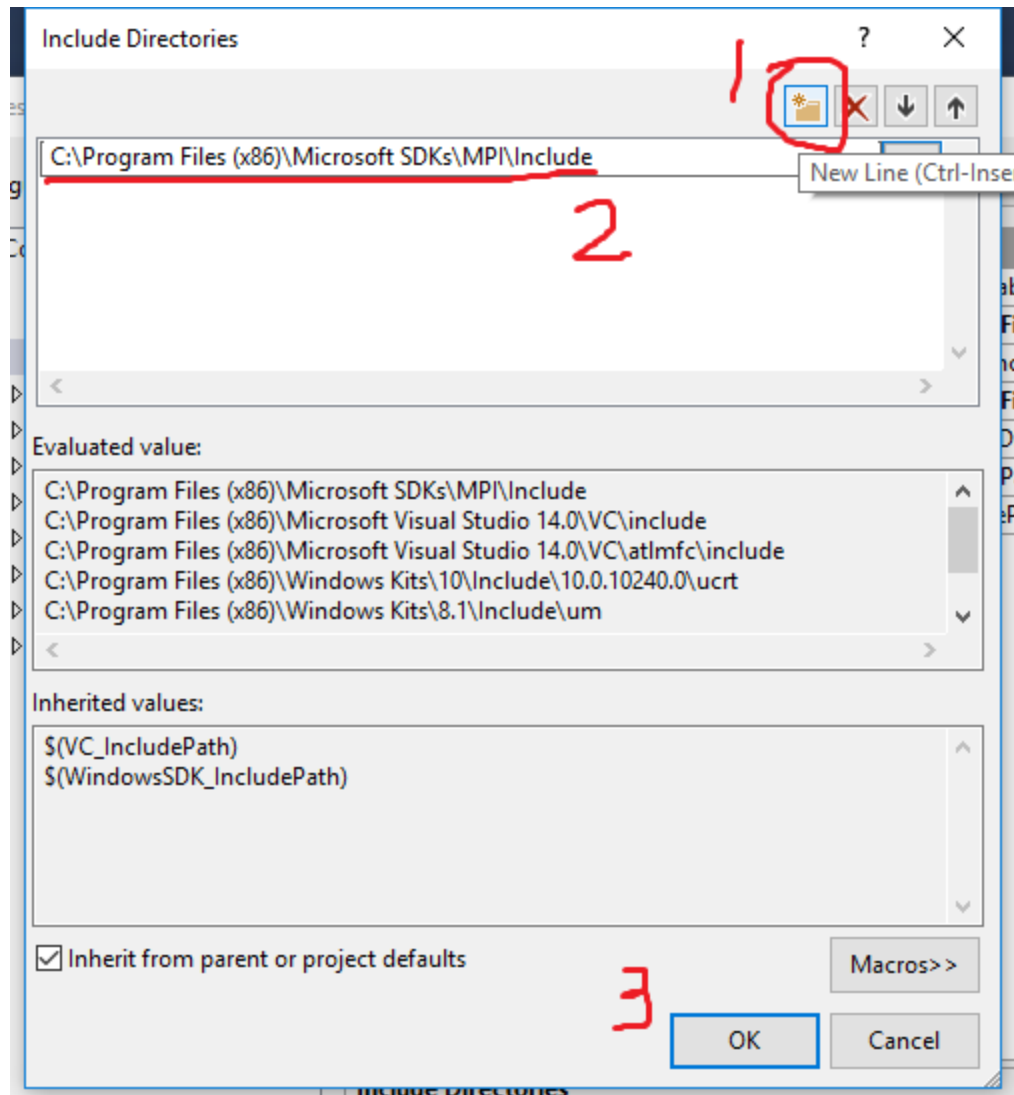
1. Download setup files (I uploaded a zip in eLearning). You will find 2 setup files.
2. Run them respectively
- 2.5 To verify MPI is successfully installed: see if these folders exist
 - C:\Program Files\Microsoft MPI
 - C:\Program Files(x86)\Microsoft SDKs\MPI
3. Create a new C/C++ (Win32 Console) project in VS (see tutorial slides for details)
4. Create a C code file
5. Configure the project: Click "Project -> (your project name) Options..." (the last item in Project menu)



- 5-1. Find "C/C++ directories" on the left
- 5-2. Click "Include Directories", and click the button on the right (marked by the red circle), and click "<Edit...>"

5-3. In the dialog below, first click "New Line" , and type in the folder of MPI include files:
C:\Program Files (x86)\Microsoft SDKs\MPI\Include

Press OK.



5-4. Back to the dialog in Step 5. Now click "Library Directories" , repeat 5-2 and 5-3, but the folder to input is slightly different:

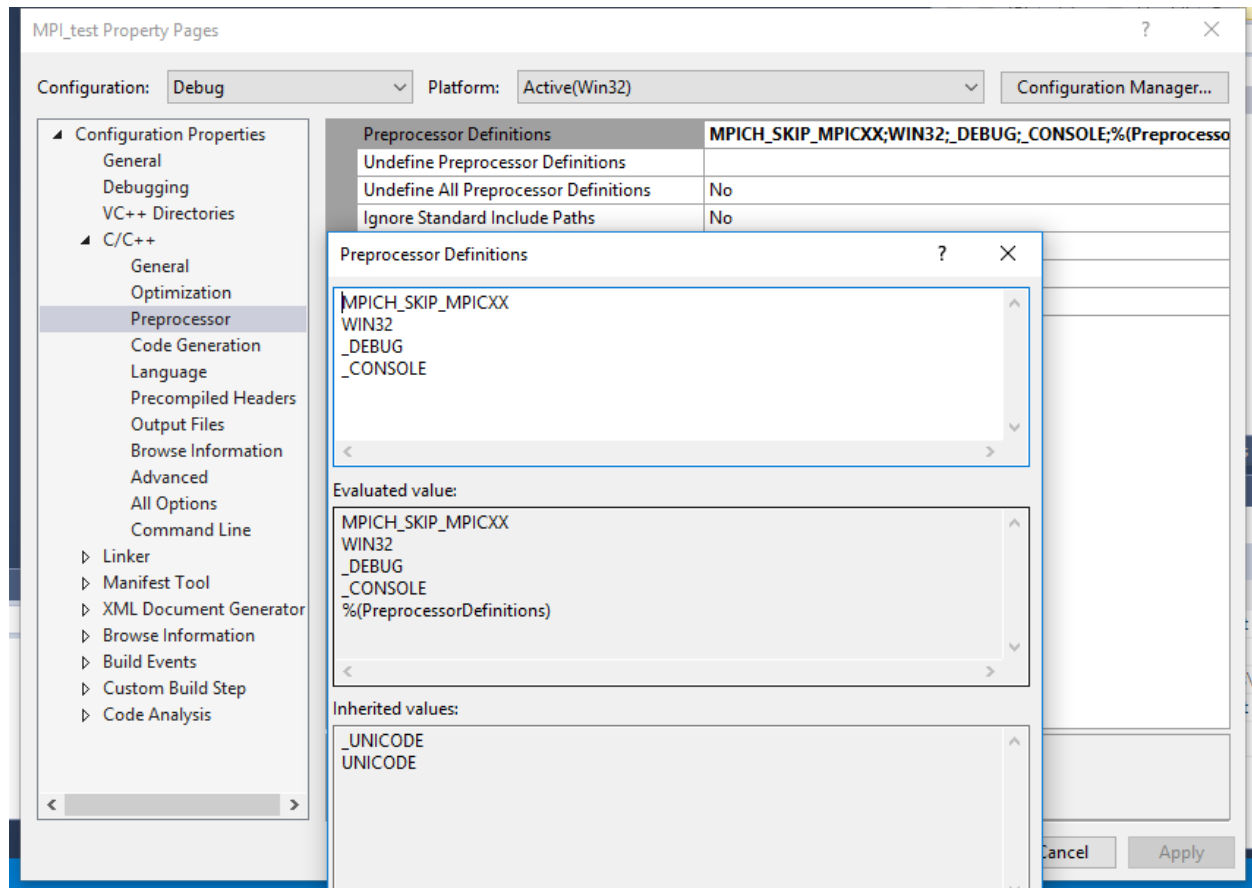
C:\Program Files (x86)\Microsoft SDKs\MPI\lib\x86

Press OK.

5-5. Back to the dialog in Step 5. Find "C/C++ -> Preprocessor" on the left, and click "Preprocessor Definitions" on the right. Repeat 5-2 to modify it. Add a line and type in:

MPICH_SKIP_MPICXX

And press OK.



5-6. Back to the dialog in Step 5. Now go to **"C/C++ -> Code Generation"** on the left, and click **"Runtime Library"** on the right. Change it to **"Multi-threaded Debug /MTd"**

5-7. Find **"Linker -> Input"** on the left, and click **"Additional Dependencies"** on the right. Repeat 5-2 to modify it. Add a line and type in:

msmpi.lib

And press OK.

5-8. We have just configured debug mode. Now we have to do that again for Release mode. Find **"Configuration"** on the top left of the dialog. And change it from **"Debug"** to **"Release"** .

5-9. Repeat 5-1~5-7 ☹

5-10. Press OK.

6. After everything in Step 5 is done, try using

```
#include <mpi.h>
```

In your C code file. VS will not report any error (like cannot find mpi.h) if MPI is successfully configured.

7. Coding.

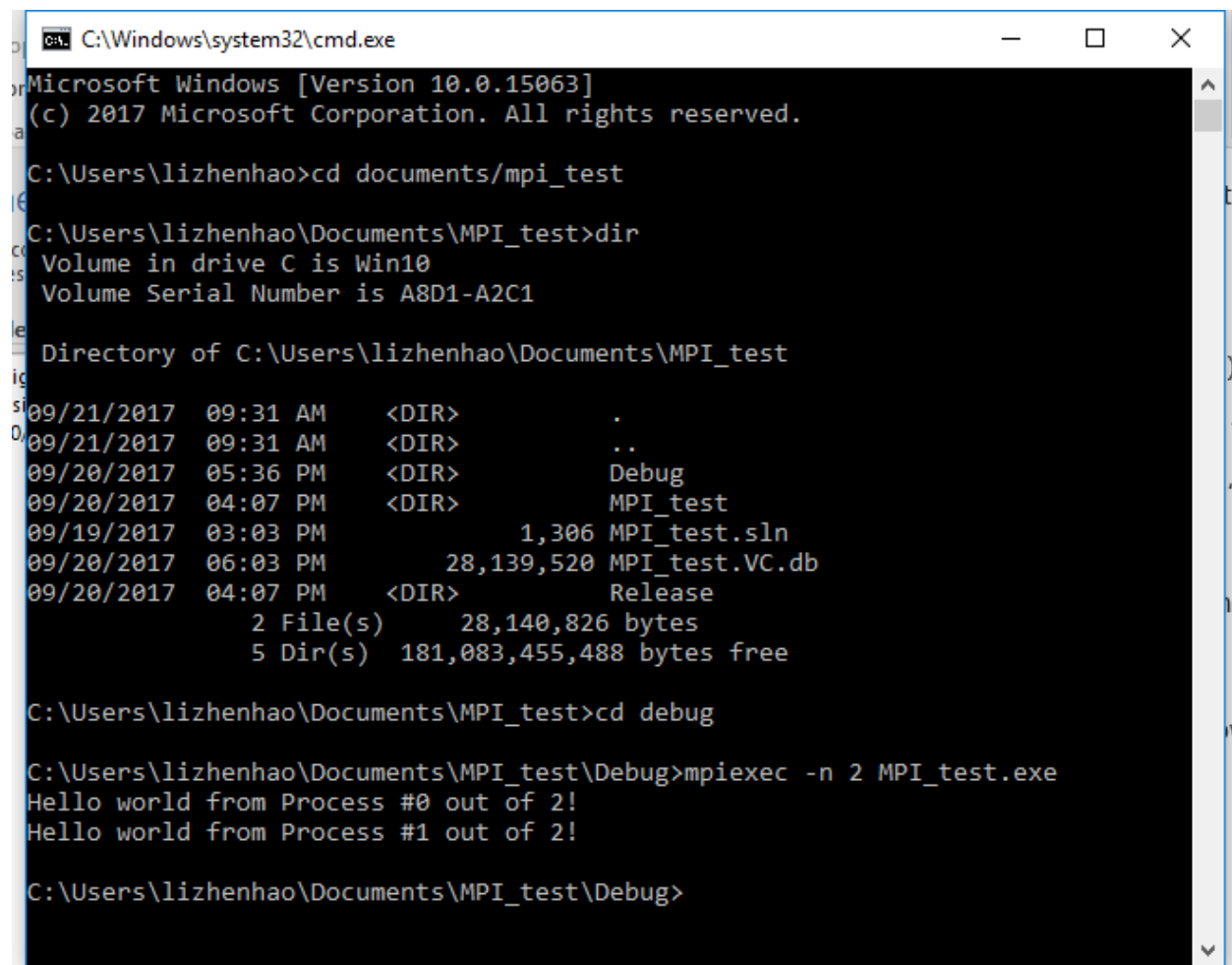
8. Press F5 (or the green play button) to compile your program.

9. Open cmd (Press Win+R, type in "cmd" , and press Enter)

10. Go to your project folder using "cd" command. There should be a "Debug" folder inside. Enter it using "cd" .

11. To run your MPI program (assuming the executable file is called "a.exe"): type in
mpiexec -n 4 a.exe

(-n <number> tells the computer how many processes there are.)



```
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 10.0.15063]
(c) 2017 Microsoft Corporation. All rights reserved.

C:\Users\lizzenhao>cd documents/mpi_test

C:\Users\lizzenhao\Documents\MPI_test>dir
Volume in drive C is Win10
Volume Serial Number is A8D1-A2C1

Directory of C:\Users\lizzenhao\Documents\MPI_test

09/21/2017  09:31 AM    <DIR>          .
09/21/2017  09:31 AM    <DIR>          ..
09/20/2017  05:36 PM    <DIR>          Debug
09/20/2017  04:07 PM    <DIR>          MPI_test
09/19/2017  03:03 PM                1,306 MPI_test.sln
09/20/2017  06:03 PM            28,139,520 MPI_test.VC.db
09/20/2017  04:07 PM    <DIR>          Release
               2 File(s)      28,140,826 bytes
               5 Dir(s)  181,083,455,488 bytes free

C:\Users\lizzenhao\Documents\MPI_test>cd debug

C:\Users\lizzenhao\Documents\MPI_test\Debug>mpiexec -n 2 MPI_test.exe
Hello world from Process #0 out of 2!
Hello world from Process #1 out of 2!

C:\Users\lizzenhao\Documents\MPI_test\Debug>
```