

# How to compile OpenGL programs on Visual Studio?

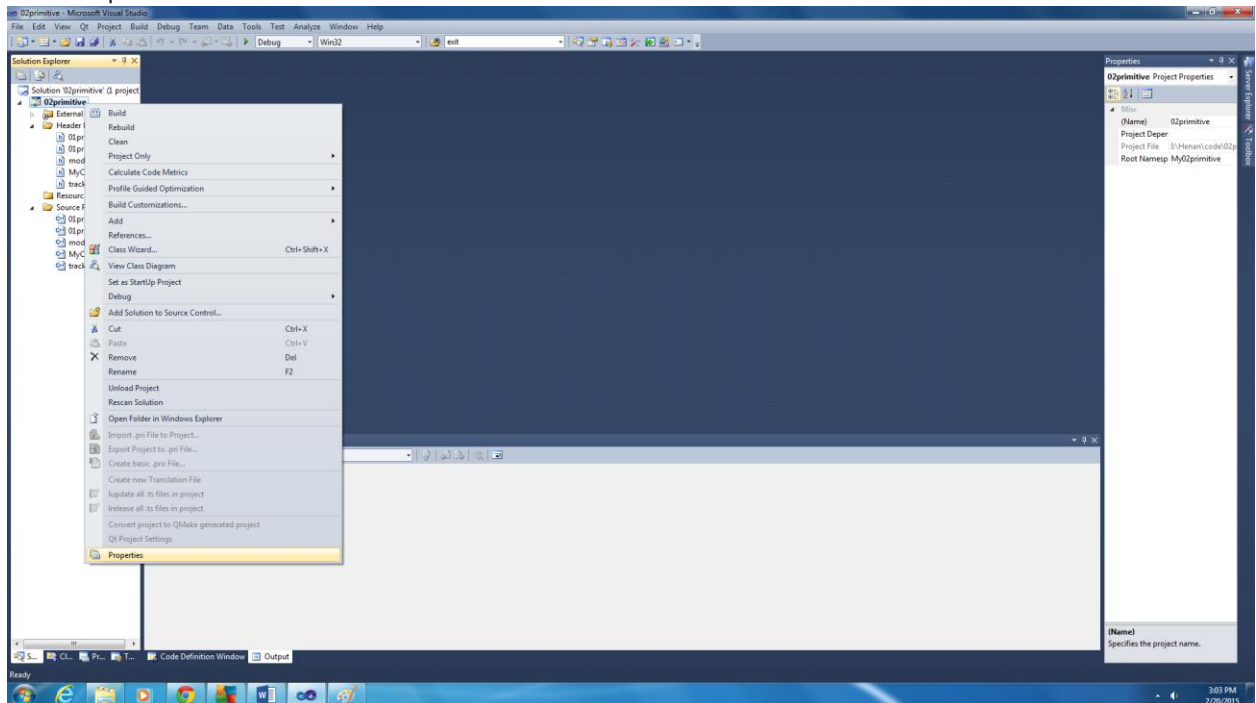
## Environment

- Visual Studio 2010
- Windows 7

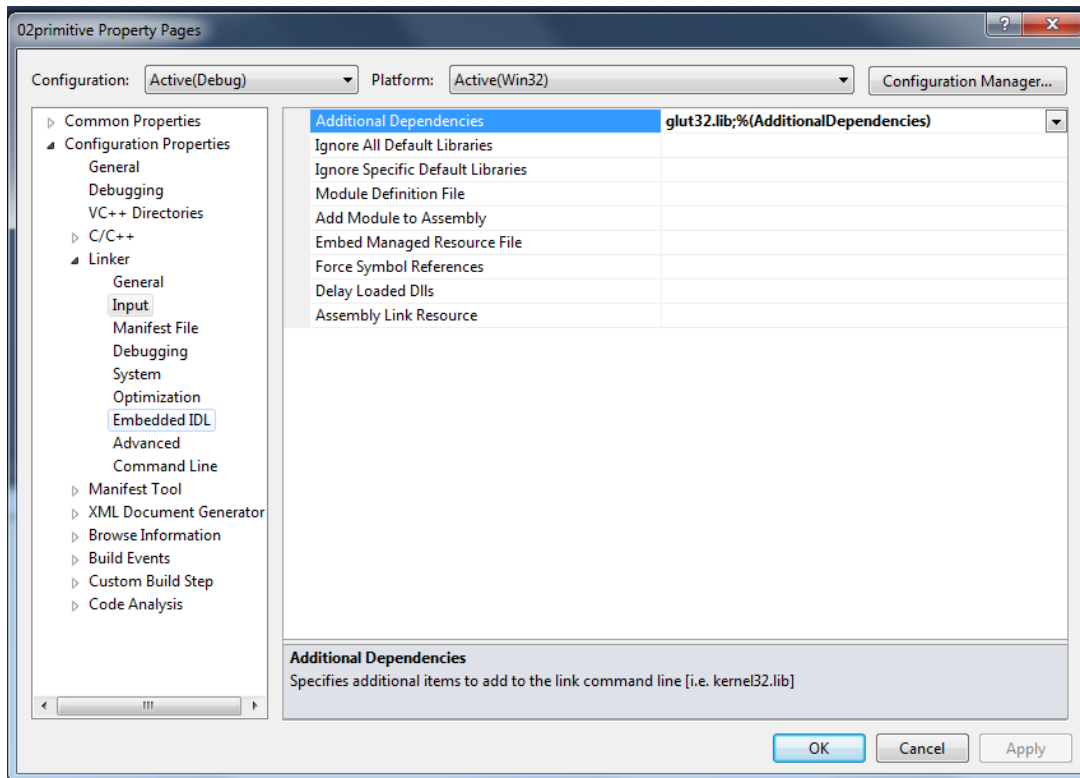
## Install glut

This part is mainly based on the website. <http://stackoverflow.com/questions/3871130/opengl-config-in-visual-studio-2010>

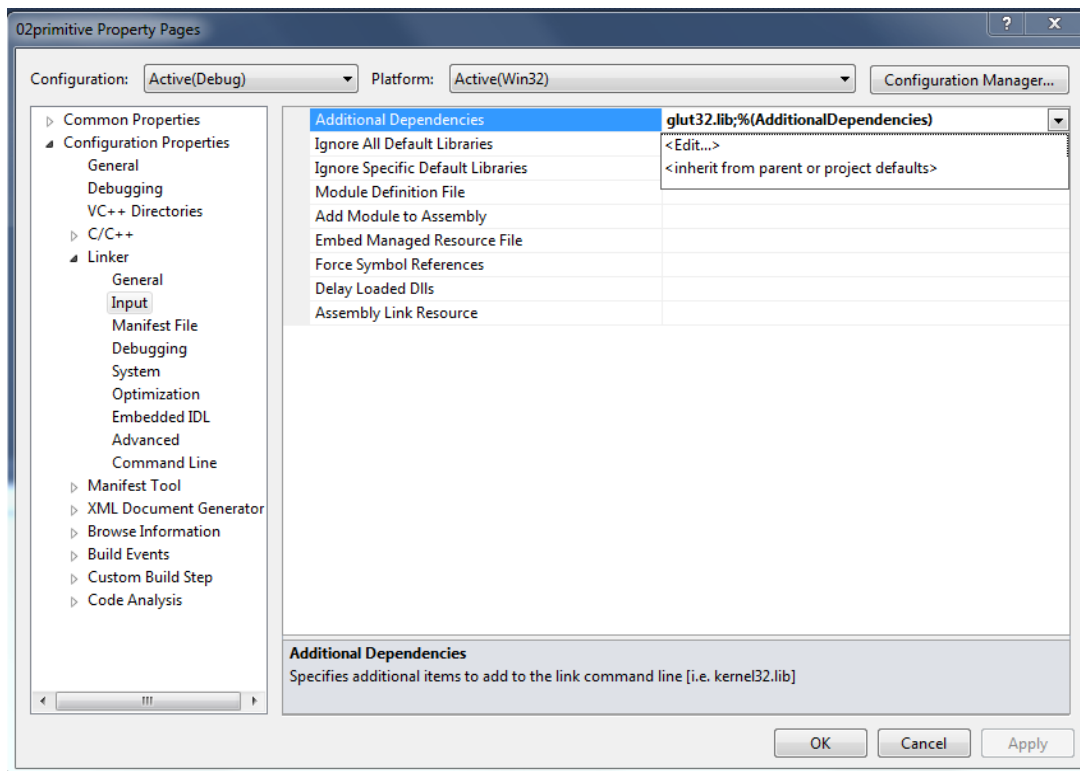
1. Download glut  
Please download glut-3.7.6.-bin.zip <http://user.xmission.com/~nate/glut.html>
2. Copy glut32.dll to C:\Windows\SysWOW64
3. Copy glut32.lib in C:/Program Files(x86)/Microsoft Visual Studio 10.0/VC/lib  
(The directory depends on the version of VS in your computer. 10.0 may be replaced by 9.0 or 12.0)
4. Create a folder C:/Program Files(x86)/Microsoft Visual Studio 10.0/VC/include/GL, and copy glut.h there
5. Create a new project in VS, and add .c and .h files. (Please don't add .\_ files in the project, such as .\_trackball.c.)  
Click Properties.



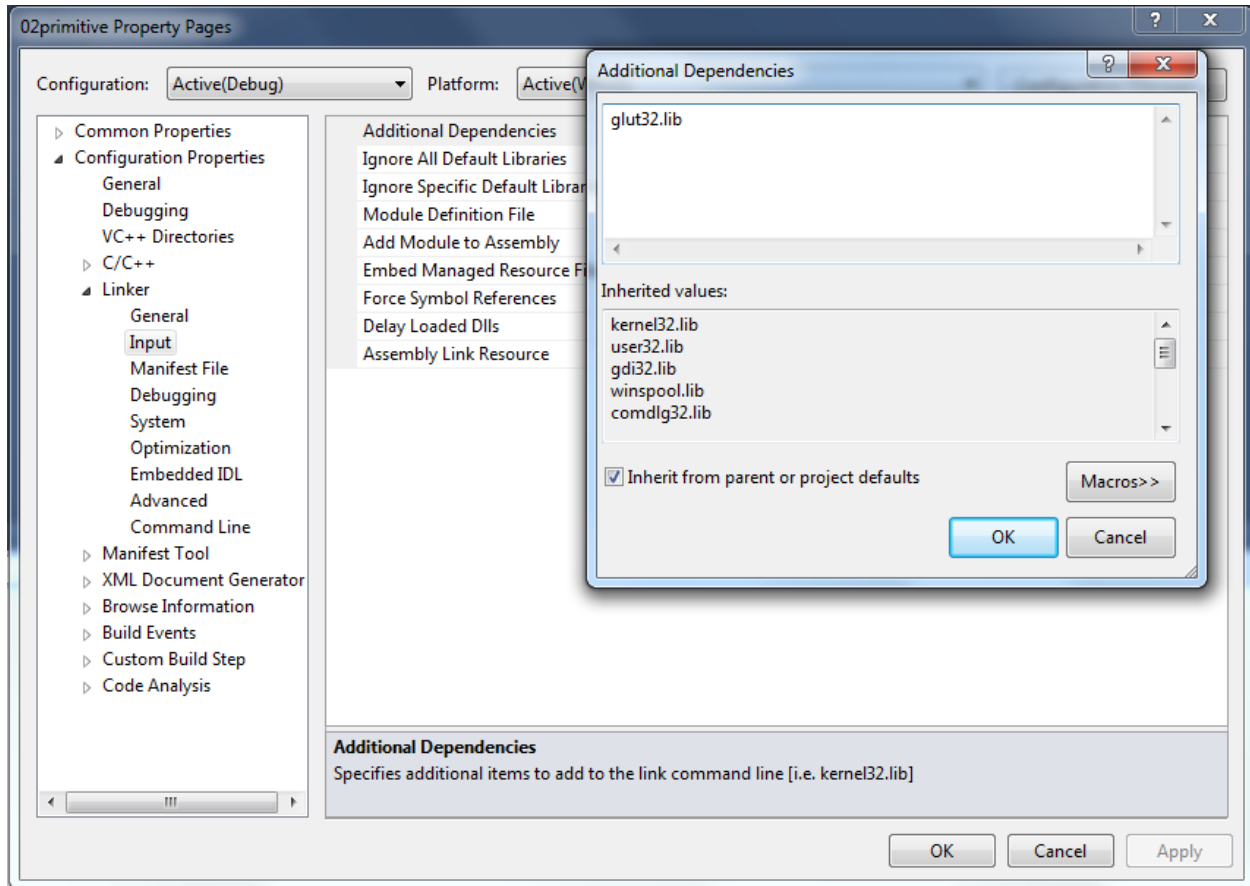
Choose Configuration Properties->Linker->Input, and open Additional Dependencies.



Click "Edit"



Enter "glut32.lib" then click OK.



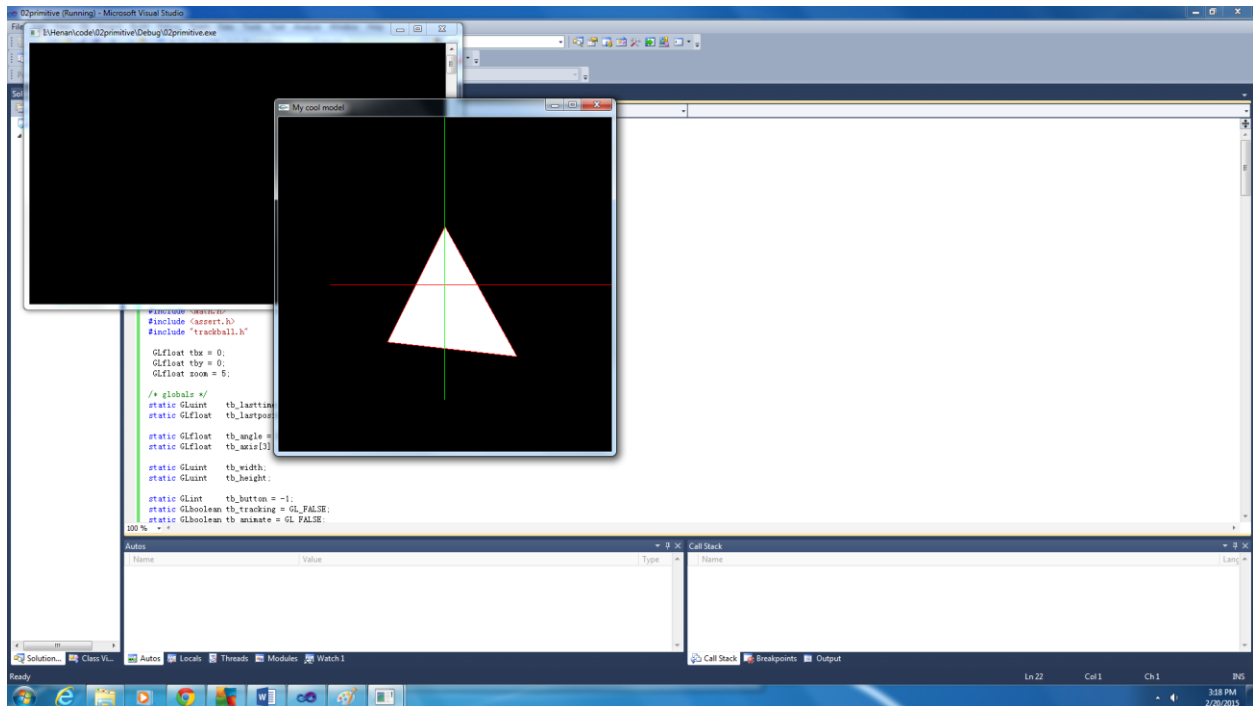
## Compile Program

Now we start compiling the supporting code of the first project, but we may meet some errors to compile it on Windows.

```
Output
Show output from: [dropdown]
1>----- Build started: Project: O2primitive, Configuration: Debug Win32 -----
1>Build started 2/20/2015 3:10:27 PM.
1>InitializeBuildStatus:
1> Creating "Debug\O2primitive.unsuccessfulbuild" because "AlwaysCreate" was specified.
1>ClCompile:
1> trackball.c
1>c:\program files (x86)\microsoft visual studio 10.0\vc\include\stdlib.h(353): error C2381: 'exit' : redefinition; __declspec(noreturn) differs
1>      c:\program files (x86)\microsoft visual studio 10.0\vc\include\gl\glut.h(146) : see declaration of 'exit'
1> MyCoolModel.c
1>c:\program files (x86)\microsoft visual studio 10.0\vc\include\stdlib.h(353): error C2381: 'exit' : redefinition; __declspec(noreturn) differs
1>      c:\program files (x86)\microsoft visual studio 10.0\vc\include\gl\glut.h(146) : see declaration of 'exit'
1> Generating Code...
1>
1>Build FAILED.
1>
1>Time Elapsed 00:00:00.77
===== Build: 0 succeeded, 1 failed, 0 up-to-date, 0 skipped =====
```

Let's find a solution. Here it is. <http://stackoverflow.com/questions/14402/glut-exit-redefinition-error>

Then, we place `stdio.h` and `stdlib.h` line above `glut.h` line in `MyCoolModel.c` and `trackball.c`.  
Let's try to compile it again.



Now we succeed!