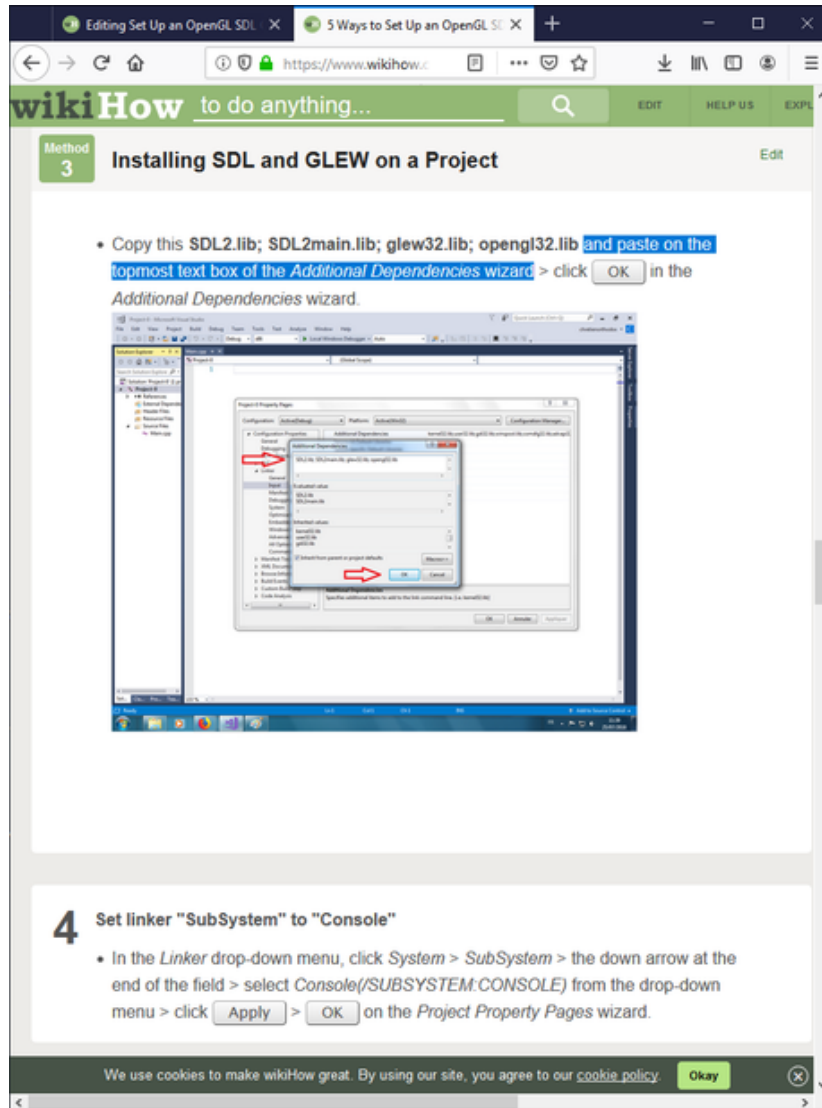


How to Set Up an OpenGL SDL GLEW Template Project in Visual Studio

Many programmers prefer OpenGL for graphics. If you are one of them, you are strongly advised by its producer, to use a window toolkit (such as SDL) and an OpenGL loading libraries (such as GLEW). This guide will help you get over the...

Method 1 of 8:

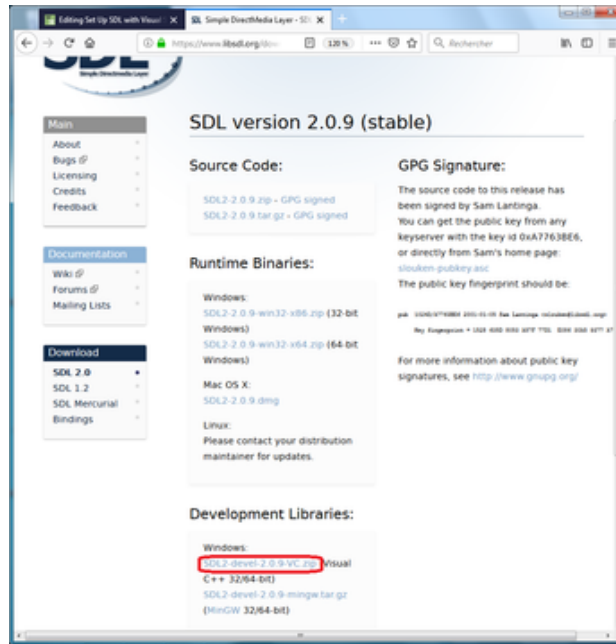
Downloading SDL and GLEW



Highlight what you expect to do. Highlight step or sub-step or part of it and then do it. For example see picture above.

2. **Create folder *GL*.** In directory (disk) C:, right click > select **New** > **Folder** > type **GL** > hit Enter.

3.



Download the SDL2. Right click on following link and select *Open Link in New Window* <https://www.libsdl.org/download-2.0.php>. Scroll to the bottom of the page and find *Development Libraries* (see picture above) .

1. Download the version for Visual C++. Today it is the *SDL2-devel-2.0.10-VC.zip (Visual C++ 32/64-bit)*.
2. In the window where it is downloaded, click **SDL2-2.0.10** (or the latest) > right click > select **Copy**.
3. Navigate (always by double click) to C: > GL > select **Paste**.
 1. Click on name *SDL2-2.0.10* and rename it to *SDL2*.
4. If the folder *SDL2-devel-2.0.10-VC* is downloaded, double click it to get *SDL2-2.0.10*.
4. **Download the GLEW.** Right click on following link and select *Open Link in New Window* <http://glew.sourceforge.net/>. Below **Downloads** find **Binaries** and click *Windows 32-bit and 64-bit*.
 1. In the window where it is downloaded, click folder **glew-2.1.0** > right click > select **Copy**.
 2. Navigate to C: > GL > right click > select **Paste**. Rename **glew-2.1.0** to **glew**.
 3. If folder *glew-2.1.0-win32* is downloaded, double click it for get *glew-2.1.0*.

Method 2 of 8:

Creating a Visual Studio Project

1. **Create an empty project.**
 1. With Visual Studio 2017
 1. In V.S. main menu, click *File*. Then go to *New > Project...*
 2. In the left part of the new project window, click *Visual C++* if it is not clicked.
 3. In the center of the screen click *Empty Project*.
 4. Below that, find the *Name* text box, type *Project-0*.
 5. Next to *Location* text box, click *Browse...* and navigate to C: > GL.
 6. Click *Select a folder*. The *Location* in *New Project* window is C:GL.
 7. Make sure the *Create directory for solution* box is not checked.
 8. Click .

2. With Visual Studio 2019

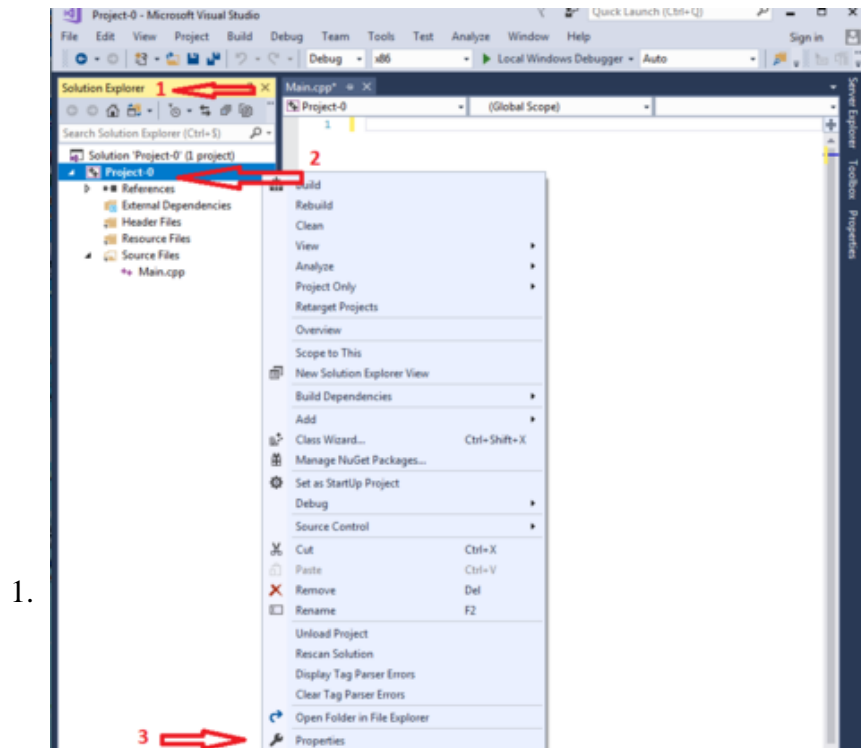
1. **If it's not opened.** Open it > Click > > .
2. In **Configure your new project** wizard, for "Project name", type: *Project-0*. Next to "Location" text field click .
3. Navigate to C: > GL > click . Now "Location" is **C:GL**.
4. Check "Place solution and project in the same directory" > click .
5. Wait till *Visual Studio 2019* instance appears.
6. **If it has already been opened.** Click File > New > Project... > > . The rest as above.

2. **Add your source file to the Project.**

1. In the *Solution Explorer* window, right click the *Source Files* entry (the last one) > select *Add > New Item...*
2. In the *Add New Item - Project-0* window, click *C++ File (.cpp)* (the first one) from the middle of the window. In *Name* text box type *Main.cpp*.
3. The *Location* is C:GLProject-0.
4. Click the button. The file will open in the main text editor but leave the file blank for now.

Method 3 of 8:

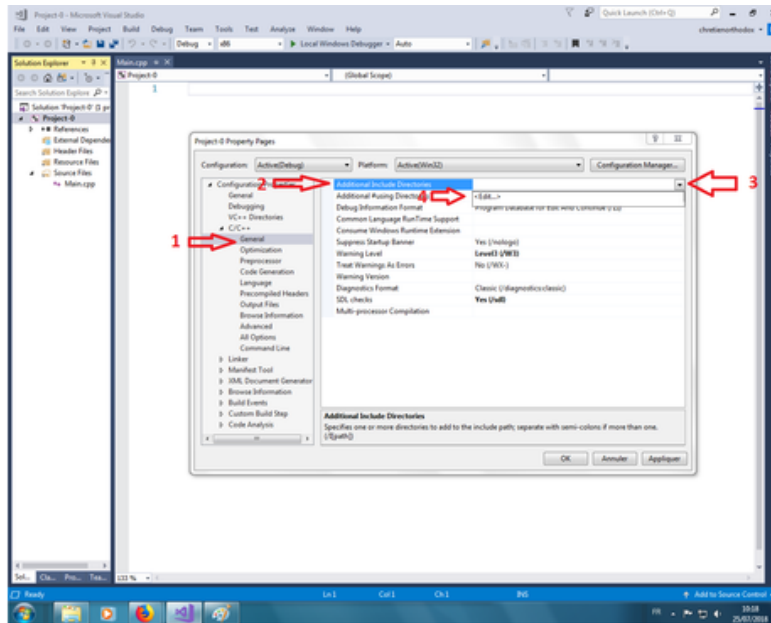
Installing SDL and GLEW in Project



1.

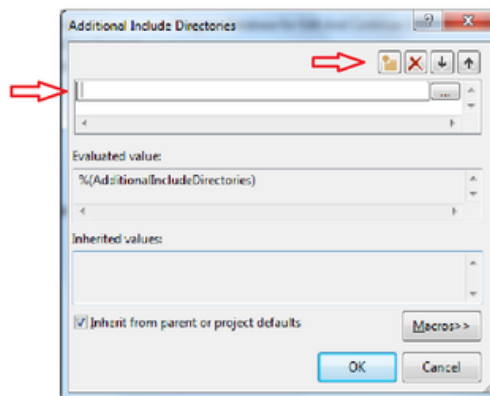
Configure project's Properties. In *Solution Explorer* right click on the name of your project, that is *Project-0*, and select *Properties*. Leave default settings: Configuration: , and Platform: .

1. **Additional Include Directories.**

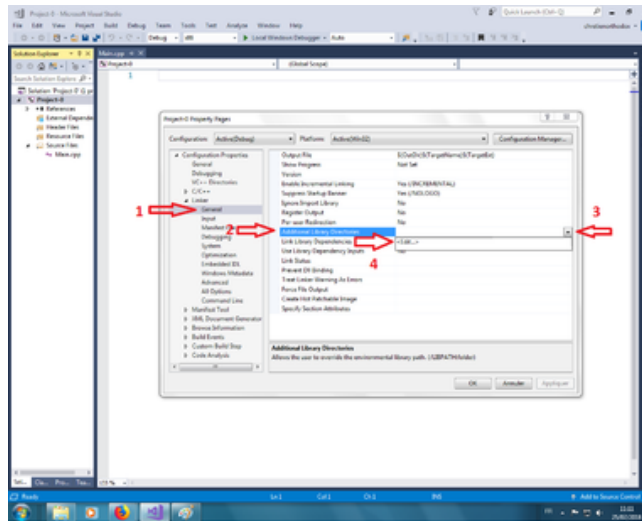


Open the C/C++ drop-down menu. Click *General > Additional Include Directories* > down arrow at the right of the field > *click* in the drop down menu.

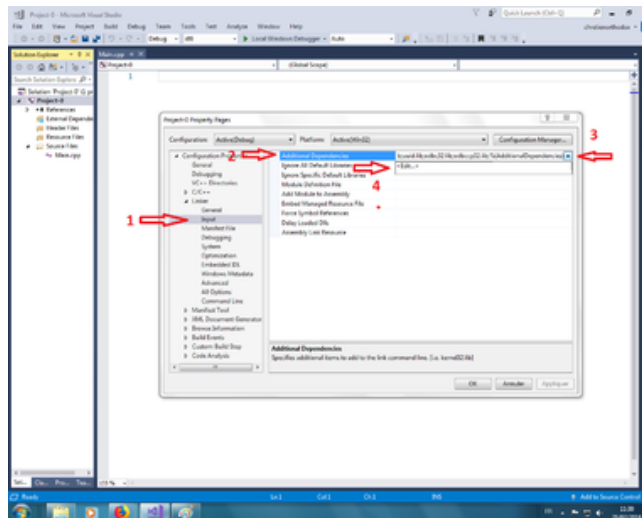
1. Copy **C:GLSDL2include** > in *Additional Include Directories* wizard click first icon > paste.
2. Copy **C:GLglewinclude** > click again the first icon > paste > click on *Additional Include Directories* wizard.



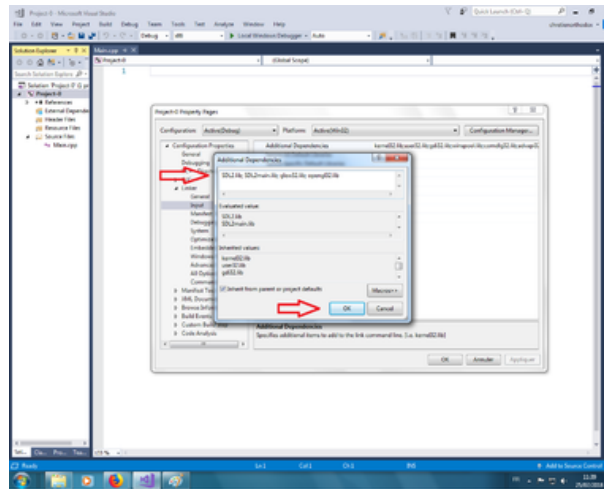
2. **Additional Library Directories.** Open the "Linker" drop-down menu, and click "General". Click "Additional Library Directories" entry > down arrow at the end of the field > "Edit" in the drop-down menu.



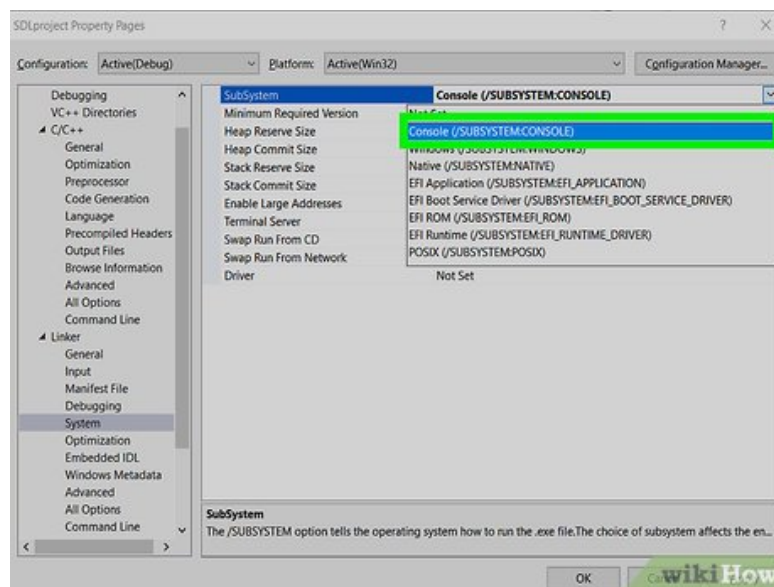
1. Copy this **C:GLSDL2libx86** > in *Additional Library Directories* click first icon > paste.
2. Copy this **C:GLglewlibReleaseWin32** > click first icon > paste > click .
3. **Additional Dependencies.** In the "Linker" drop-down menu, click "Input" > the "Additional Dependencies" entry > down arrow at the right of the field > "Edit" in the drop-down menu.



1. Copy this **SDL2.lib; SDL2main.lib; glew32.lib; opengl32.lib** and paste on the topmost text box of the *Additional Dependencies* wizard > click in the *Additional Dependencies* wizard.



4. **SubSystem.**In the "Linker" drop-down menu, click "System" > "SubSystem" > down arrow > select "Windows (/SUBSYSTEM:WINDOWS)" from the dropdown menu. Click > on the "SDLproject Property Pages" wizard.



2. Put "dll" files in the project-folder.

1. Copy *SDL2.dll* file and paste to *Project-0* folder.

1. Navigate to C: > GL > SDL2 > lib > x86. Inside *x86* folder click *SDL2.dll* file > right-click > *Copy*.
2. Navigate to C: > GL > Project-0. Right-click an empty area in *Project-0* folder, and select *Paste*.
3. The *SDL2.dll* file should now be in your project directory along with your *Main.cpp* file and 4 other files created by Visual Studio.

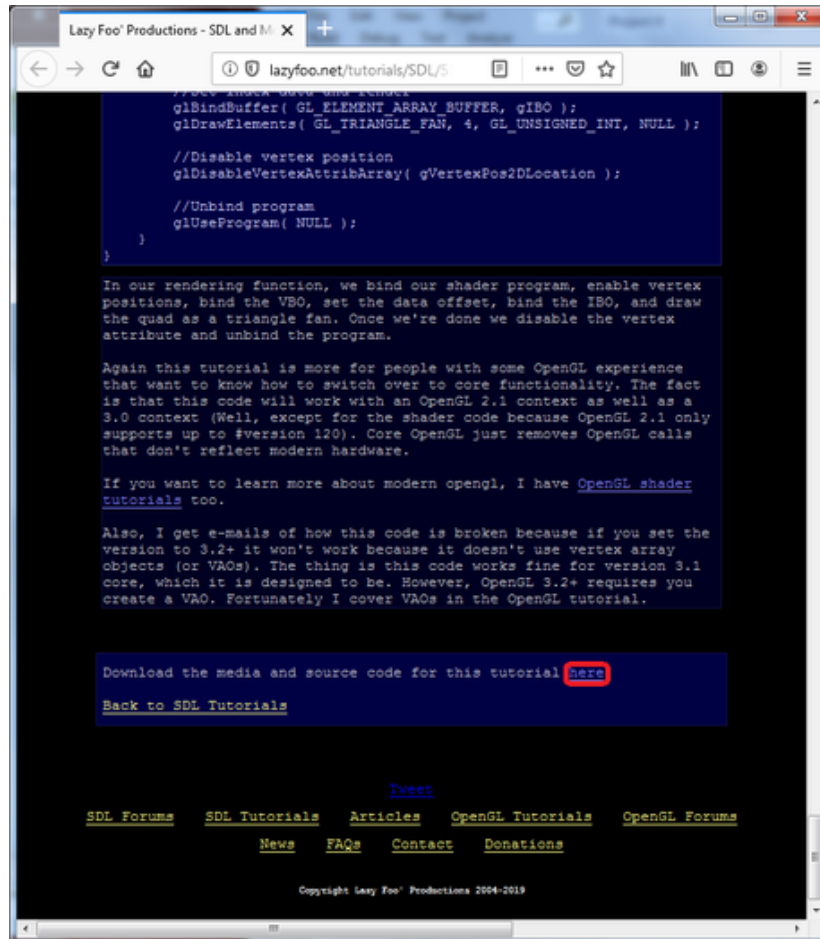
2. Copy *glew32.dll* file and paste to *Project* folder

1. Navigate to C: > GL > glew > bin > Release > Win32. Click *glew32.dll* > right-click > *Copy*.

2. Navigate to C: > GL > Project-0. Right-click an empty area in *Project-0* folder, and select *Paste*.
3. The *glew32.dll* file should now be in Project-0 folder along with *Main.cpp*, *SDL2.dll*, and 4 other files created by Visual Studio.

Method 4 of 8:

Testing your Project



1.

Download the code. Right click on following link and select Open Link in New Window
http://lazyfoo.net/tutorials/SDL/51_SDL_and_modern_opengl/index.php > Scroll down to last sentence "Download the media and source code for this tutorial **here**". Click **here** > download *51_SDL_and_modern_opengl.cpp* folder. Double click it > double click file of same name. Its code will appear in Visual Studio by the side of *Main.cpp* file or in new Visual Studio instance. Copy code (413 lines) and paste on *Main.cpp* code area > hit **Ctrl + F5**. If everything is gone well two windows appear: one black and one with title: *SDL Tutorial* and inside a white square with black background.

2. **Correct errors if any.** In "Error List" if you see error about
 1. file with extension *.h* go to part (Method) 3, step 1, "Configure the "Additional Include Directories"" and follow instructions.
 2. file with extension *.lib* go to sub-step "Configure the linker "Additional Library Directories"", and follow instructions. Also to "Additional Dependencies"".

3. "entry point must be defined" go to sub-step "SubSystem" and follow instructions.
4. file .dll go to step 2, "Put "dll" files in the project-folder" and follow instructions.
5. For other errors, if you cannot correct them, close Visual Studio > delete project folder *Project-0* which lives in C:GL > open Visual Studio > repeat set up from part **Method 2**. Good job.

Method 5 of 8:

Creating Project with OpenGL-SDL-GLEW Template

1. Create template.

1. Go to main menu and, **while Project-0 is open**, click *Project > Export Template....*
2. On *Export template Wizard* check *Project Template*, if it's not checked. Click .
3. On *Select Template Options*, in *Template name* text box type: *OpenGL-SDL-GLEW*. Click .
4. Template has been created.

2. Create project

1. **With V.S. 2017**. Click *File > New > Project....*
 1. On the *New Project* window, click template: *OpenGL-SDL-GLEW*.
 2. In *Name* text field, type: *Project-1*.
 3. Next to *Location* text field click > navigate C:GL. Folder text box should be C:GL. Click .
 4. Be sure *Create directory for solution* is unchecked. Click .
2. **With V.S. 2019**. Click *File > New > Project....*
 1. In **Create a new project** wizard scroll down the list of templates and select *OpenGL-SDL-GLEW* > click .
 2. In **Configure your new project** wizard, in "Project name" text field type *Project-1*.
 3. Next to *Location* text field click > navigate C:GL. Folder text box should be C:GL. Click .
 4. Be sure *Place solution and project in the same directory* is checked. Click .
3. On *Solution Explorer*, double click *Source Files* > double click *++Main.cpp*.
 1. If its code appears, it's okay. If does not, right click on it > click *Exclude From Project*, and create new *Main.cpp* file.
 2. If a Wizard appears saying: *File 'C:GLProject-1Main.cpp' already exists in the project*, go to this path and delete the file *Main.cpp*. Click on the Wizard and then click on the *Add New Item - Project-1* window. Now on *Solution Explore*, below *Source Files*, you have the new *++Main.cpp* file.

3. Add *SDL2.dll* file to new project-folder

1. Navigate to C: > GL > Project-0 > click file *SDL2.dll* > right click > click *Copy*.
2. Navigate to C: > GL > Project-1 > click on empty area > right click > click *Paste*.
3. Now file *SDL2.dll* is in folder *Project-1* among *Main.cpp* and other 4 files.

4. Add *glew32.dll* file to new project-folder

1. Navigate to C: > GL > Project-0 > click file *glew32.dll* > right click > click *Copy*.
2. Navigate to C: > GL > Project-1 > click on empty area > right click > click *Paste*.
3. Now file *glew32.dll* is in folder *Project-1* among with *SDL2.dll*, *Main.cpp* and other 4 files.

5. Test your project as above. Good job.

6. TIP: Remember copy dll files from previous project and paste in new one.

Method 6 of 8:

Creating project to target x64 platform

1. **Create empty project as above with name *Project-2*, and add *Main.cpp* file.**
2. **SDLproject's Properties settings.** Go to "Solution Explorer" > right click on the name of your project that is *Project-2* > select "Properties". In *Platform:* entry, choose *x64* > Click
 1. In *Active solution platform:* select *x64*
 2. In *Platform* entry select *x64*
 3. Click
3. **Additional Include Directories.** As with targeting x86 platform, see Method 3 step 1.
4. **Additional Library Directories.** Open the "Linker" drop-down menu, and click "General". Click "Additional Library Directories" entry > down arrow at the end of the field > "Edit" in the drop-down menu.
 1. Copy this **C:GLSDL2libx64** > in *Additional Library Directories* click first icon > paste.
 2. Copy this **C:GLglewlibReleasex64** > click first icon > paste > click .
5. **Additional Dependencies.** As with targeting x86 platform, see Method 3, step 1.
6. **Subsystem.** As with targeting x86 platform, see Method 3, step 1.
7. **Copy dll files and paste into *Project-2*.**
 1. **Copy SDL2.dll file and paste into *Project-2*.** In Windows's "File Explorer" navigate to
 1. C: > GL > SDL2 > lib > x64. In "x64" folder click "SDL2.dll" file > right-click > "Copy".
 2. C: > GL > Project-2. Right-click on empty area in "Project-2" folder, and select "Paste".
 2. **Copy glew32.dll file and paste into *Project-2*.** In Windows's "File Explorer" navigate to
 1. C: > GL > glew > bin > Release > x64. In "x64" folder click "glew32.dll" file > right-click > "Copy".
 2. C: > GL > Project-2. Right-click on empty area in "Project-2" folder, and select "Paste".
8. **Test project and correct errors if any.** As with targeting x86 platform, see Method 4.
 1. Tip: Even if in *Property Pages* main settings it is *Platform:* , click and in *Active solution platform:* select *x64*.
9. **Create template.** As above.
 1. TIP: In every project you create with it, select *x64* (next to Debug) in Visual Studio's GUI.

Method 7 of 8:

Setting up Built SDL and Built GLEW

1. **In directory C, create folder *GL*.** If folder with this name exists, close Visual Studio > in *File Explorer* > directory C > right click *GL* folder > select *Delete* > again right click > select *New* > *Folder* > type: *GL* > hit ? .
2. **Install CMake.** Right-click on following link and select *Open Link in New Window* Use CMake to Get Binaries from Source Code. Follow Method 1 **Installing CMake**.
3. **Download SDL source.** Right-click on following address and select *Open Link in New Window* <https://www.libsdl.org/download-2.0.php>. Below **Source Code:** click *SDL2-2.0.10.zip* or latest version.
 1. In downloading window click zip folder *SDL2-2.0.10.zip* (or latest version) > right click > select *Copy*.
 2. In File Explorer navigate to C: > GL > right click > select *Paste*. Click twice on folder's name > delete name > type: *SDL* > hit ? .

4. **Download GLEW source.** Right-click on following address and select Open Link in New Window <http://glew.sourceforge.net/>. Beside **Source** click ZIP.
 1. In download in window click folder glew-2.1.0 (or latest) > right click > Copy.
 2. Navigate to C: > GL. Right click > Paste. Click twice on folder's name and rename **glew** > hit ? . Now in folder GL you have folders *SDL* and *glew*.
5. **Build SDL by CMake and Visual Studio.** Go to CMake GUI.
 1. Copy **C:/GL/SDL** and paste in first text field.
 2. Copy **C:/GL/SDL/build** and paste in second text field.
 3. Configure and generate. In CMake GUI, click > in wizard *Create Directory* click > select *Visual Studio 16 2019* > click .
 1. When, in CMake GUI, you read: "Configuring done", click . You should read: "Generating done".
 4. Build your solution.
 1. Navigate to C: > GL > SDL > build. Double click "SDL2.sln", or "SDL2", or "ALL_BUILD.vcxproj". An instance of Visual Studio appears. Wait until in main menu *Build* entry appears. Click it > "Build Solution".
 2. Wait till you read the last line in "Output" window: ===== Build: XX succeeded, 0 failed, 0 up-to-date, 2 skipped" =====
 1. Number XX of "succeeded" changes in freeglut versions. Today (11-Feb-2020) is 5.
 5. Navigate to C:GLSDLbuildDebug. Inside you should see file *SDL2d.lib*.
6. **Build GLEW by CMake and Visual Studio.** Follow above step but
 1. In first text field paste **C:/GL/glew/build/cmake**
 2. In second paste **C:/GL/glew/build**
 3. Navigate to C: > GL > glew > build. Double click "glew.sln", or "glew", or "ALL_BUILD.vcxproj".
 4. In V.S. Output wizard, number of *succeeded* today (31-1-2020) is 6, may change in later version though.
 5. Navigate to C: > GL > glew > build > lib > Debug. Inside you should see file *glew32d.lib* among two other files.
7. **Set up built SDL and built GLEW in project.**
 1. Create empty project and add source file according to Method 2.
 2. Configure project's *Properties*. In *Solution Explorer* wizard, right click Project's name that is *Project-0* > select *Properties*.
 1. **(1) Project-0 Property Pages main menu.** In *Platform* entry select *x64* > click .
 1. In *Active solution platform*: select *x64*.
 2. In *Platform* entry, *x64* is automatically selected.
 3. Click .
 2. **(2) Additional Include Directories.** Click *C/C++ > General* > In beside menu select the first one, *Additional Include Directories* > click the down arrow at the end of the field > click *Edit...* > first icon > three dots .
 1. Navigate to C: > GL > SDL > include > click include > click .
 2. Click again first icon > three dots > navigate to C: > GL > glew > include > click include > click > click .
 3. **(3) Additional Library Directories.** Double click *Linker* > click *General > Additional Library Directories* > click the down arrow at the end of the field > click *Edit...* > first icon.
 1. Copy **C:GLSDLbuildDebug** and paste in upper-most text field.
 2. Copy **C:GLglewbuildlibDebug** > click again first icon > paste in upper-most text field > click .

4. **(4) Additional Dependencies.** In *Linker* drop-down menu select *Input* > in beside menu select the first one, *Additional Dependencies* > click the down arrow at the end of the field > *Edit...* > copy **opengl32.lib; SDL2d.lib; SDL2maind.lib; glew32d.lib** and paste in *Additional Dependencies* wizard's upper-most text box > click .
5. **(5) Set System to SubSystem CONSOLE.** In *Linker* drop-down menu select *System* > in beside menu select the first one, *SubSystem* > click the down arrow at the end of the field > select *Console (/SUBSYSTEM:CONSOLE)*. Click and .
3. Copy files *SDL2d.dll* and *glew32d.dll*, and paste into *Project-0* folder.
 1. Navigate to C:GLSDLbuildDebug. Click *SDL2d.dll* > right-click > *Copy*.
 2. Navigate to C: > GL > Project-0. Right-click an empty area in *Project-0* folder, and select *Paste*.
 3. Navigate to C:GLglewbuildbinDebug. Click *glew32d.dll* > right-click > *Copy*.
 4. Navigate to C: > GL > Project-0. Right-click an empty area in *Project-0* folder, and select *Paste*.
 5. Files *SDL2d.dll* and *glew32d.dll* should now be in *Project-0* folder along with *Main.cpp*, and 4 other files created by Visual Studio.
8. **Test your project and correct errors if any.** As above, Method 4.
9. **Create Template.** As above Method 5, but in Visual Studio GUI main menu, select x64. Remember copy and paste dll files.

Method 8 of 8:

Choosing Set Up

1. **In this tutorial you learn 3 was to set up SDL and GLEW in Project with Visual Studio.**
 1. **Set up binaries x86 (32 bits).** It's the easiest. You should *start* learning set up from here.
 2. **Set up binaries x64 (64 bits).** It targets x64 platform. Choose it *only* when you have specific reason for doing so.
 3. **Compile SDL source, GLEW source, and set up them in project.** Targets x64 too. The most difficult. The *best* though.

You finished reading the article "**How to Set Up an OpenGL SDL GLEW Template Project in Visual Studio**" edited by the [TipsMake](#) team. We hope this article has provided you with many useful tech tips and tricks. You can search for similar articles on tips and guides. Thank you for reading and for following us regularly.