

# Visual Studio

Install **Visual Studio IDE** if you have not already done so.

<https://visualstudio.microsoft.com/>

The **Community** edition will work fine for this course.

Be sure to **Install Desktop development with C++**

(you may need to scroll down to find it)



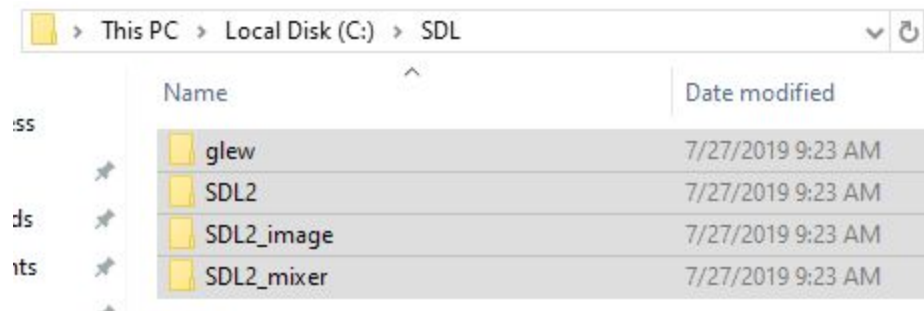
Don't create a project just yet, let's do the next step first.

## Install Libraries

Find the **WindowsLibraries** folder in the Libraries folder (downloaded from github).

Create a directory on your computer **C:\SDL** (use this **exact name** please)

Copy the contents inside of WindowsLibraries folder into the SDL folder:



## Create a New project

Open Visual Studio, Select "Create a new project" then choose "Empty Project"

Name your project: **SDLSimple**



## Setup Your Project

In Solution Explorer Right-Click on "Source Files" -> Add -> New Item -> C++ File (.cpp) Name: **main.cpp**  
Right-Click on the **Project** in Solution Explorer and select: **Properties**

Expand the C/C++ area and select: General

Double click in the **Additional Include Directories** area and paste the following:

```
C:\SDL\glew\include;C:\SDL\SDL2\include;C:\SDL\SDL2_image\include;C:\SDL\SDL2_mixer\include;%(AdditionalIncludeDirectories)
```

Under the C/C++ area, select: Preprocessor

Next to Preprocessor Definitions you can click a downward arrow and then <Edit...>

Paste the following into the top box and click OK

```
_WINDOWS
```

Expand the Linker area on the left and select: General

Double click in the **Additional Library Directories** area and paste the following:

```
C:\SDL\glew\lib\Release\Win32;C:\SDL\SDL2\lib\x86;C:\SDL\SDL2_image\lib\x86;C:\SDL\SDL2_mixer\lib\x86;%(AdditionalLibraryDirectories)
```

Under the Linker area on the left, select: Input

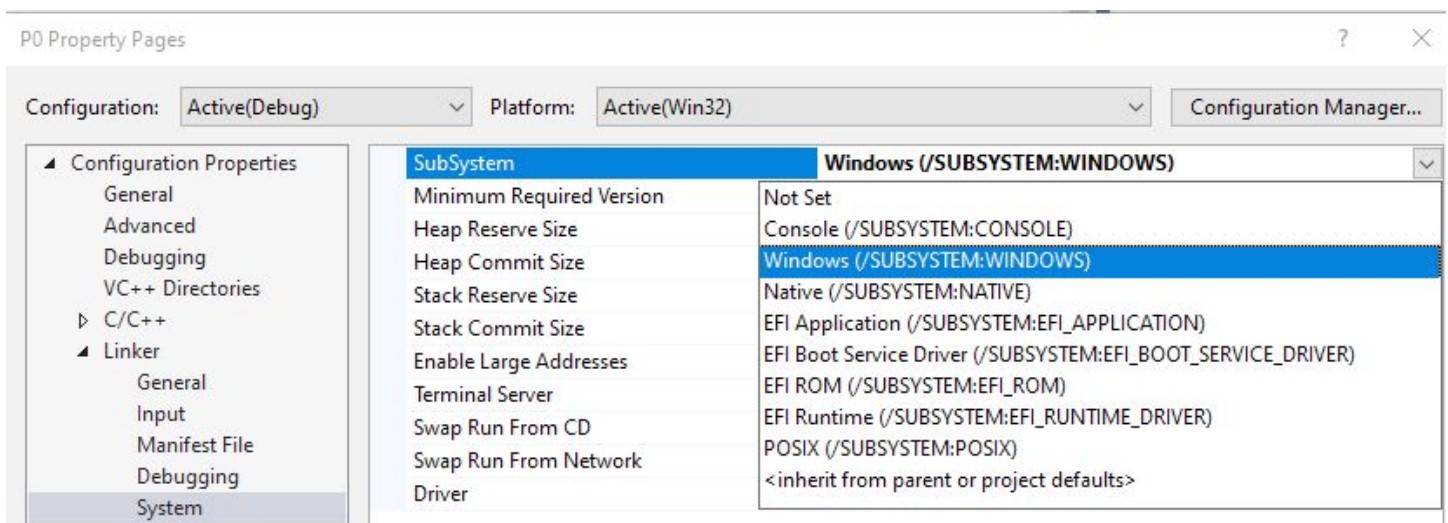
Next to **Additional Dependencies** you can click a downward arrow and then <Edit...>

Paste the following into the top box and click OK

```
opengl32.lib;glew32.lib;SDL2.lib;SDL2main.lib;SDL2_image.lib;SDL2_mixer.lib
```

Under the Linker area on the left, select: System

hit the downward arrow next to **SubSystem** and change from Console to Windows



Hit OK. You're done editing the properties.

## Add DLLs

Using the File Explorer (yes, File Explorer, do not do this from inside Visual Studio), navigate to C:\SDL\SDL2\lib\x86\

Right-click on **SDL2.dll** and select **Copy**

In Visual Studio, you can Right-Click on your project and choose: Open Folder in File Explorer  
Right-Click inside that folder (do this in File Explorer, not in Visual Studio), and select: Paste

Do the same for the following DLL:

C:\SDL\glew\bin\Release\Win32\glew32.dll

Copy the following from the Libraries folder in the GitHub Repository into the SDLSimple folder.

- glm (folder)
- shaders (folder)
- ShaderProgram.cpp
- ShaderProgram.h
- stb\_image.h

When you're done, the folder should look something like this:

Local Disk (C:) > Users > carmine > source > repos > SDLSimple > SDLSimple >				
Name	Date modified	Type	Size	
Debug	8/13/2019 12:12 PM	File folder		
glm	8/13/2019 11:17 AM	File folder		
shaders	8/13/2019 11:08 AM	File folder		
glew32.dll	7/29/2019 8:51 PM	Application exten...	383 KB	
main.cpp	8/13/2019 12:12 PM	C++ Source	1 KB	
SDL2.dll	8/13/2019 10:55 AM	Application exten...	1,044 KB	
SDLSimple.vcxproj	8/13/2019 11:39 AM	VC++ Project	7 KB	
SDLSimple.vcxproj.filters	8/13/2019 11:25 AM	VC++ Project Filte...	2 KB	
SDLSimple.vcxproj.user	8/13/2019 11:01 AM	Per-User Project O...	1 KB	
ShaderProgram.cpp	8/13/2019 11:32 AM	C++ Source	4 KB	
ShaderProgram.h	8/13/2019 11:30 AM	C/C++ Header	2 KB	
stb_image.h	8/16/2019 8:01 PM	C/C++ Header	228 KB	

Back to Visual Studio.

Inside Solution Explorer, Right-click on "Header Files" -> Add -> Existing Item -> Select ShaderProgram.h

Inside Solution Explorer, Right-click on "Source Files" -> Add -> Existing Item -> Select ShaderProgram.cpp

## Let's Code!

In the Source Files folder, Open your **main.cpp** file. In the GitHub repository, there is code to test your environment located inside Examples/Minimal

**Do not copy and paste! You will learn more typing it out.** The program should open up a window centered on the screen. It will stay open until you close the window.

After the code successfully runs, you can modify the values in **glClearColor**. The first 3 floats are the red, green and blue values. They can range from 0.0 to 1.0 and will set the background color drawn by **glClear**.

## That was ridiculous! Let's make a template!

Inside Visual Studio, highlight your project.

From the Visual Studio menu (on top), select Project -> Export Template

The current project should already be selected, click [Next >]

Name the template CS3113

Be sure "Automatically import the template into Visual Studio" is checked.

Click [Finish]

Here is all you need to do next time you start a project:

- Create New Project
- Select "CS3113" (might need to scroll to the bottom)
- Name your project something such as: P1
- Copy the glew32.dll and SDL2.dll using File Explorer (you can copy from a previous project).
- Happy Coding!