

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)



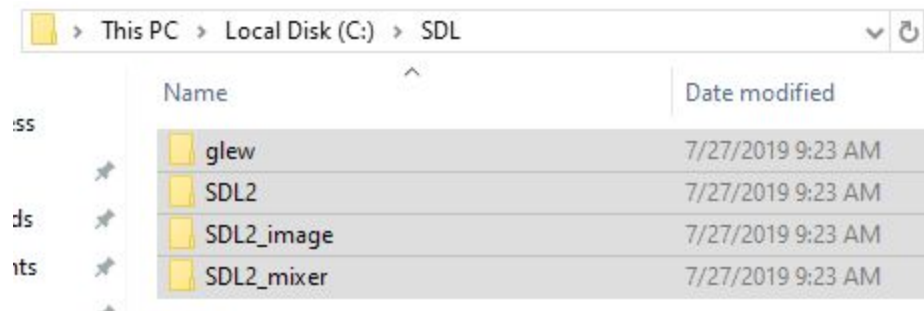
Don't create a project just yet, let's do the next step first.

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

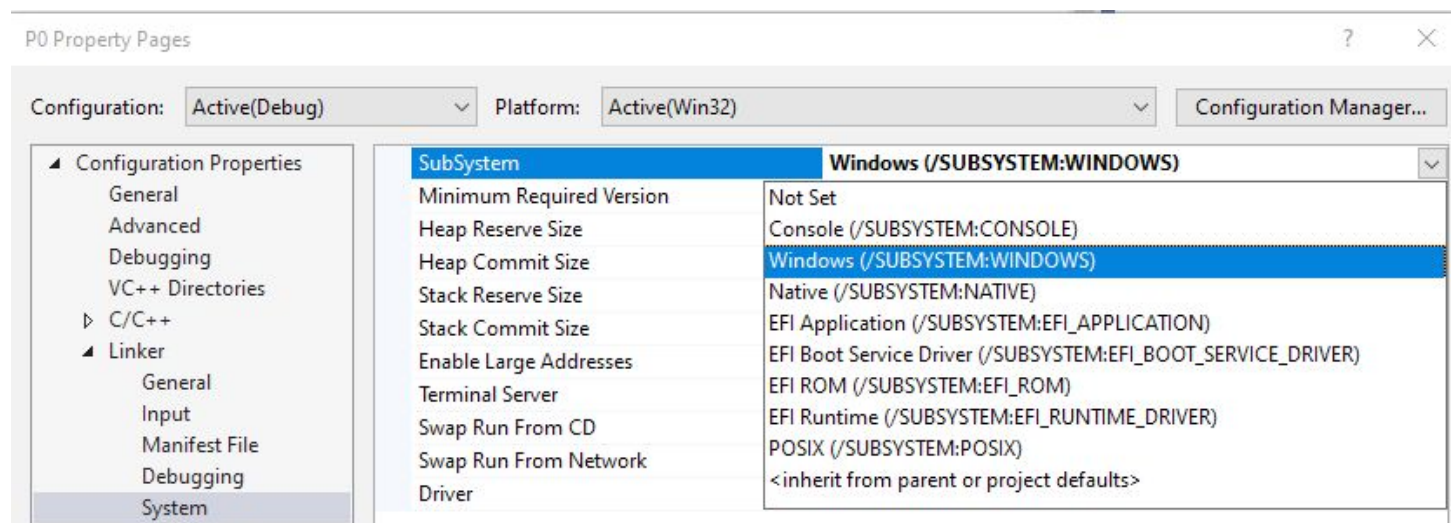
Next to **Additional Dependencies** you can click a downward arrow and then <Edit...>

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 is 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

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

| Local Disk (C:) > Users > carmine > source > repos > SDLSimple > SDLSimple | | | | |
|--|--------------------|-----------------------|----------|--|
| Name | Date modified | Type | Size | |
| 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 11:42 AM | C++ Source | 2 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 | |

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!