How to build & compile a wxWidgets Application using Visual Studio?

Step 1 – Install Visual Studio Community 2022

1. If you don't have it, get it from here:

   https://visualstudio.microsoft.com/

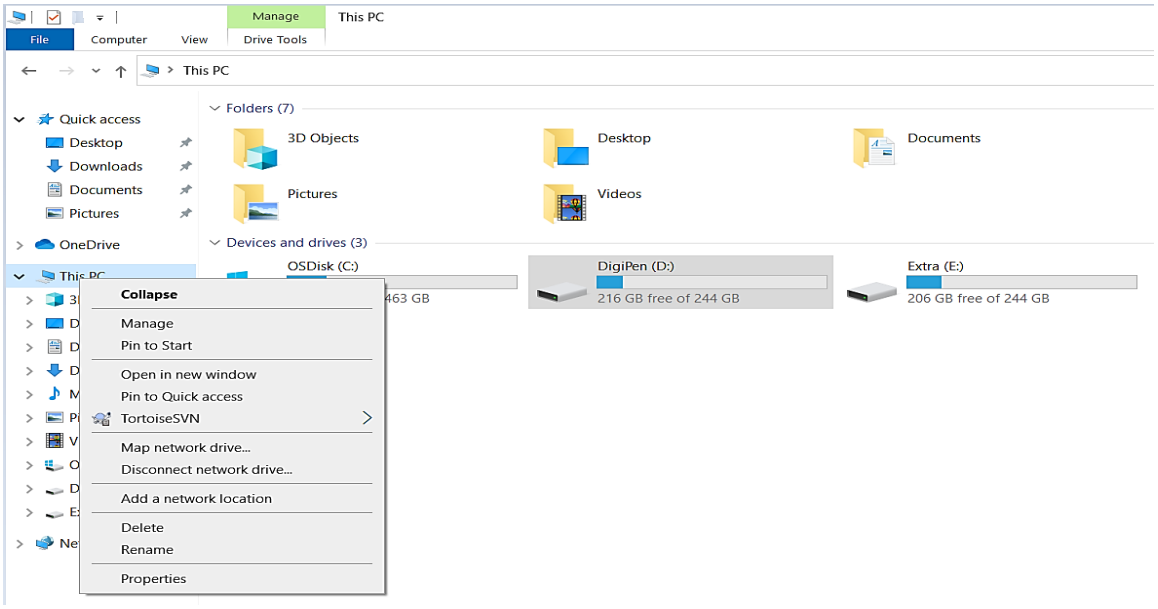
2. Run through the installer, not much else to do.

Step 2 – Install wxWidgets

1. Download and install the stable Release of **wxWidgets-3.0.5** from here: **http://www.wxwidgets.org/downloads/**
2. I choose to install it in **"C:\"** but you can choose a different path if you want. Maybe, you will find a different latest stable version of wxWidgets at your time. Download it and install it.
3. You can also download the archive and extract it in **C:** drive if you like.
4. **Important**: You must install/extract it directly in C:\ drive and not within any sub-folders in C:\ drive. This will not lead to any path related issues later.

Step 3 – Create an environment variable for the wxWidgets path

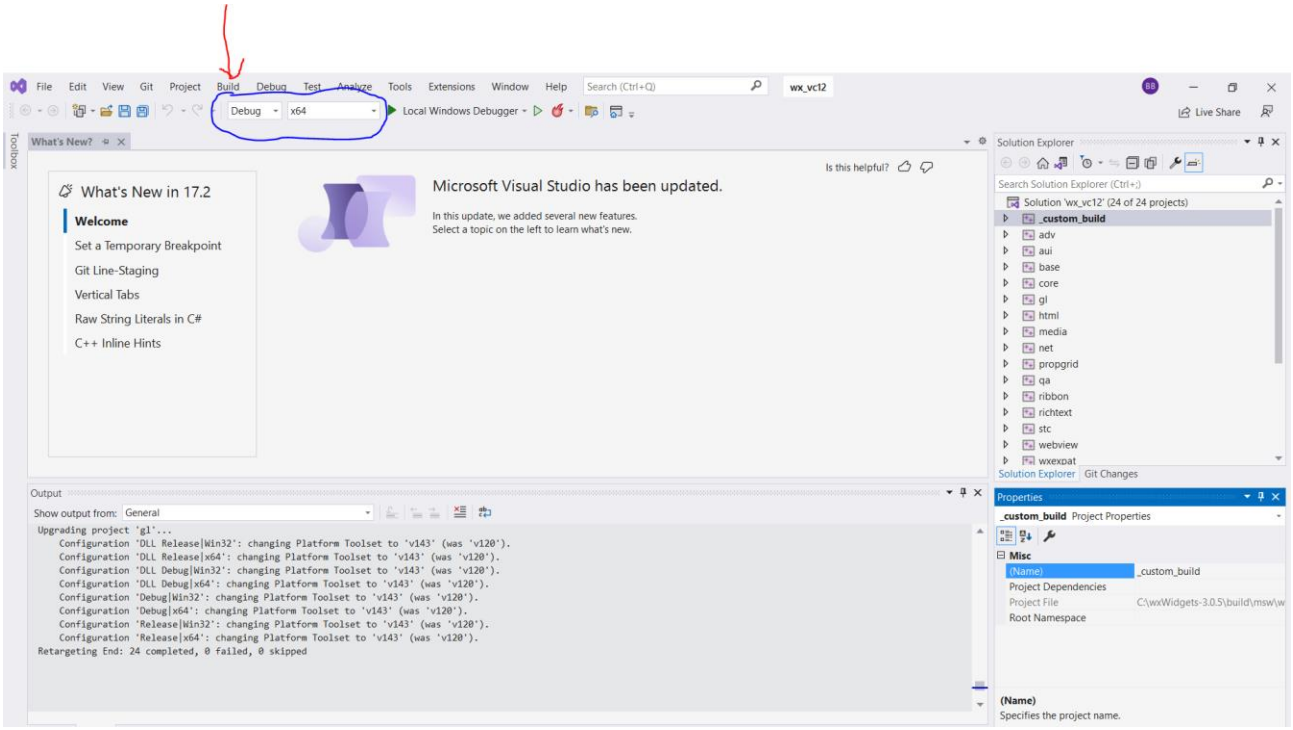
1. On windows, navigate to **This PC→Right click→choose Properties**.



2. Click **Advanced system settings**.
3. Click the **Environment variables** button.
4. Under **System Variables**, click **New**.
5. Enter the **Variable name**: **WXWIN**
6. Enter the **Variable Value**: **C:\wxWidgets-3.0.5**
7. Click **OK**, click **OK**, click **OK** (yes three times).

Step 4 – Compile the wxWidgets Libraries

1. Browse to the following folder: **C:\wxWidgets-3.0.5\build\msw**
2. Locate the file called **wx_vc12.sln** and open it with **Visual Studio**.
3. Choose **OK** / **Yes to all** if Visual Studio prompts you to **Retarget/convert** the project.
4. **Build this solution** (preferably selecting **Debug** mode and **x64** platform (each build process needs may be 1~2 min). (Note: If you need DLL, just build the DLL Debug and DLL Release).

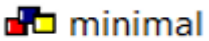


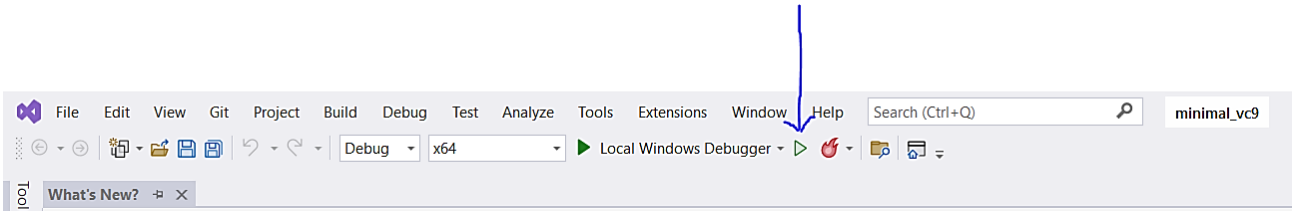
5. It should build without error and show something like:

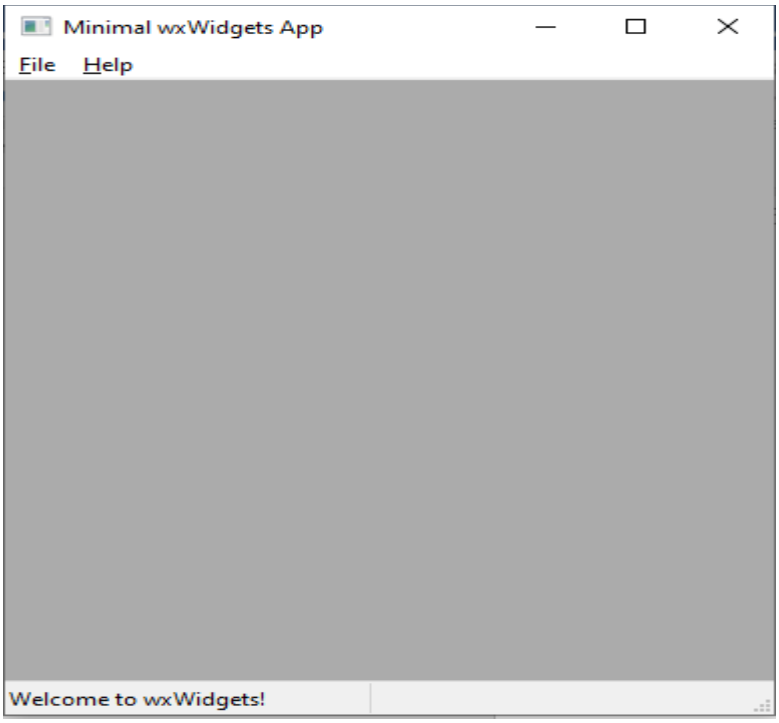
"========== Build: 24 succeeded, 0 failed, 0 up-to-date, 0 skipped ==========".

6. If it fails to build all 24 solutions successfully, try to rebuild it again. It should work in two or more attempts to build.
7. **Close Visual Studio.**

Step 5 – <u>Compiling the minimal project</u>

1. Now go to your **C:\wxWidgets-3.0.5** folder and open **\samples\minimal\minimal_vc9.vcproj** with **visual studio**. Again, if prompted with some update/upgrade of the files, just hit **OK**. Then **build solution** from the **Build menu** to test it works OK or not. It should build without error pretty quickly and now you have a new folder called **"vc_mswud_x64"** under **"\samples\minimal"**, where you would find an application file called  .**Double click** this application file, and it should POP-UP the following window. You can also click on the **run button** as shown below, and it will also POP-UP the same following window. This means everything is fine until now.



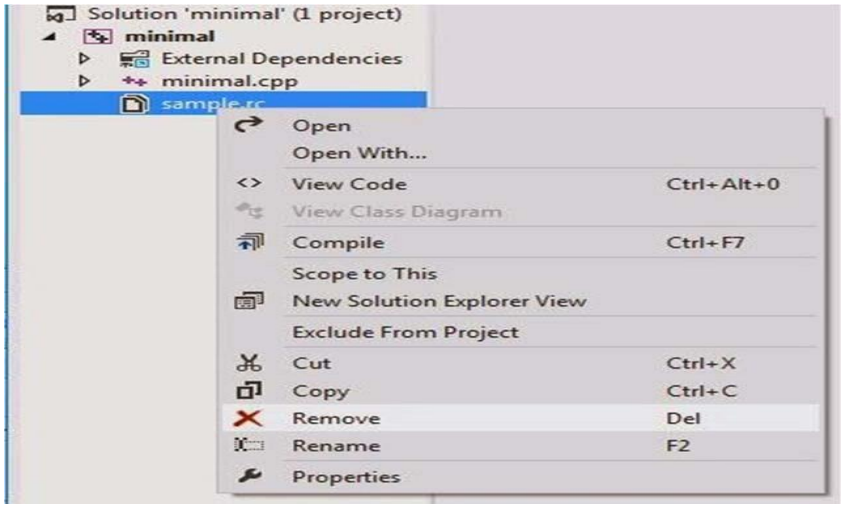


2. **Close** the **Visual studio**, it will ask you to save the change or not, just click **Yes** and **save it** to the same folder **C:\wxWidgets-3.0.5\samples\minimal.**

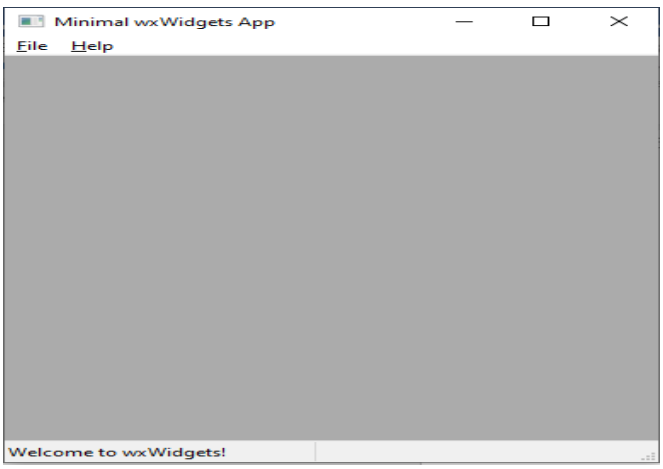
Step 6 – Build your own project

Now you can just develop your own code by modify this **minimal** example. But usually, you might want your project in other places, for example, I'd like my project in my **Documents** folder. We could copy only those files we need to start a new project. After **Step 5**, you may notice that there are several new files generated in the **minimal** folder, among them just copy: **minimal_vc9.vcxproj, minimal_vc9.sln** and **minimal.cpp** (this .cpp file you will modify later to implement your assignments) files in the folder you wish (in my case the **Documents** folder). After this from your folder:

1. Open the **minimal_vc9.vcxproj** with **notepad** and replace (In the notepad, got to **Edit menu** and select **Replace** option) **.\..\..** with **C:\wxWidgets-3.0.5** (where you installed your wxWidgets). In my case, I got **80** places replaced. **Save** the file after replacing.
2. Then open the **.vcxproj** file with **Visual studio** and **delete** the **sample.rc** file using **Solution Explorer window** (We don't need it. You get compilation errors if you keep it.).



3. Select and **build solution** from the **Build menu** and you should see no problem with it. Now, **run** the project and it should POP-UP the following window. This will serve as your basic widget and **you can start your own project by adding the relevant code in minimal.cpp file**.



4. **EXTRA:** if you want to **change the project name** (for example，`MyApp`), you do it **this way**:
    a. **Change file names:**
        1) **minimal_vc9.vcxproj → MyApp.vcxproj**
        2) **minimal.sln → MyApp.sln**
        3) **minimal.cpp → MyApp.cpp**
    b. Open **.vcxproj** file with notepad and replace all **"minimal"** with **"MyApp**".
    c. Open **.sln** file with notepad and replace all **"minimal"** with **"MyApp"**.
    d. If you want, you can change the widget window name by modifying parameter in MyFrame *frame = new MyFrame("**MyApp** wxWidgets App") in **MyApp.cpp** file.

Resources:

Refer to the following resources for information about wxWidgets:

- **Tutorials**: http://www.wxwidgets.org/docs/tutorials.htm
- **wxWiki:** https://wiki.wxwidgets.org/Main_Page
- **Forums:** https://forums.wxwidgets.org/
- **wxWiki (Microsoft Visual C++ Guide):** Microsoft Visual C++ Guide - WxWiki (wxwidgets.org)

Important Note:

Always rebuild the solution whenever there is modification in the code. For the course assignments, you should submit all source files, a readme file and an executable file for the grading. The instructor should be able to rebuild/execute your project on any computer at DigiPen having the following software installed:

1. **Visual Studio Community 2022**
2. **wxWidgets-3.0.5**

Summary:

With all these mentioned above, the idea is rather simple: After installing the WxWidgets, we run the **"wx_vc12.sln"** to have it build the necessary library for us, then we can build the sample which is in the "workspace" of wxWidget. If we want to our own project on a different place(workspace), we have to configure the settings to connect to the library, which is saved in the vcxproj file. So we just simply change the path in it to avoid configuring from the scratch.