

Lab 1 - CMPS 1044, Computer Science I

Introduction to Projects and Solutions in Visual Studio 2019

(Revised from <https://docs.microsoft.com/en-us/cpp/ide/walkthrough-working-with-projects-and-solutions-cpp>)

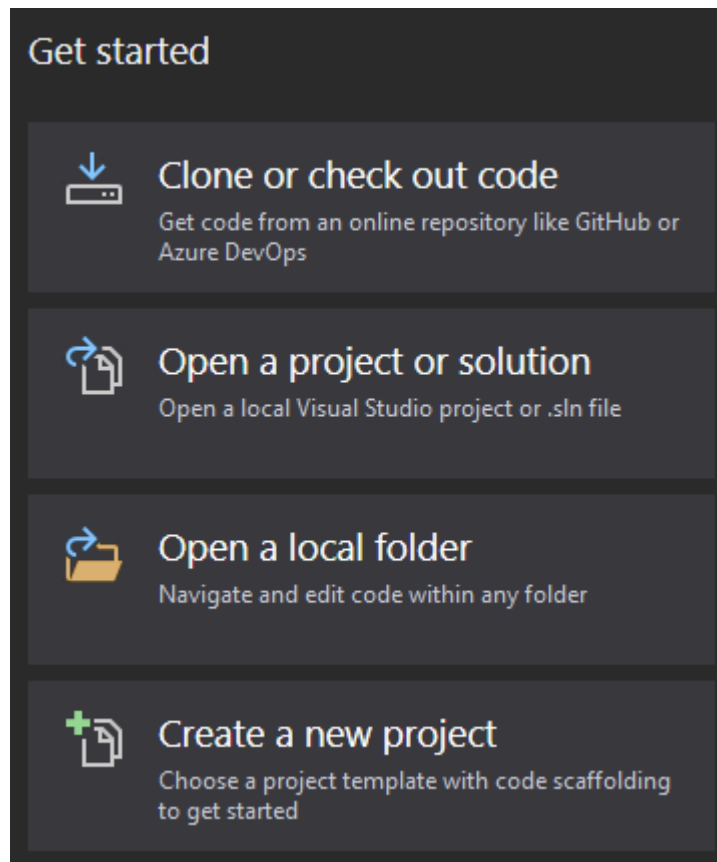
In Visual Studio, you organize your work in projects and solutions. A solution can contain more than one project.

Working with Projects and Solutions

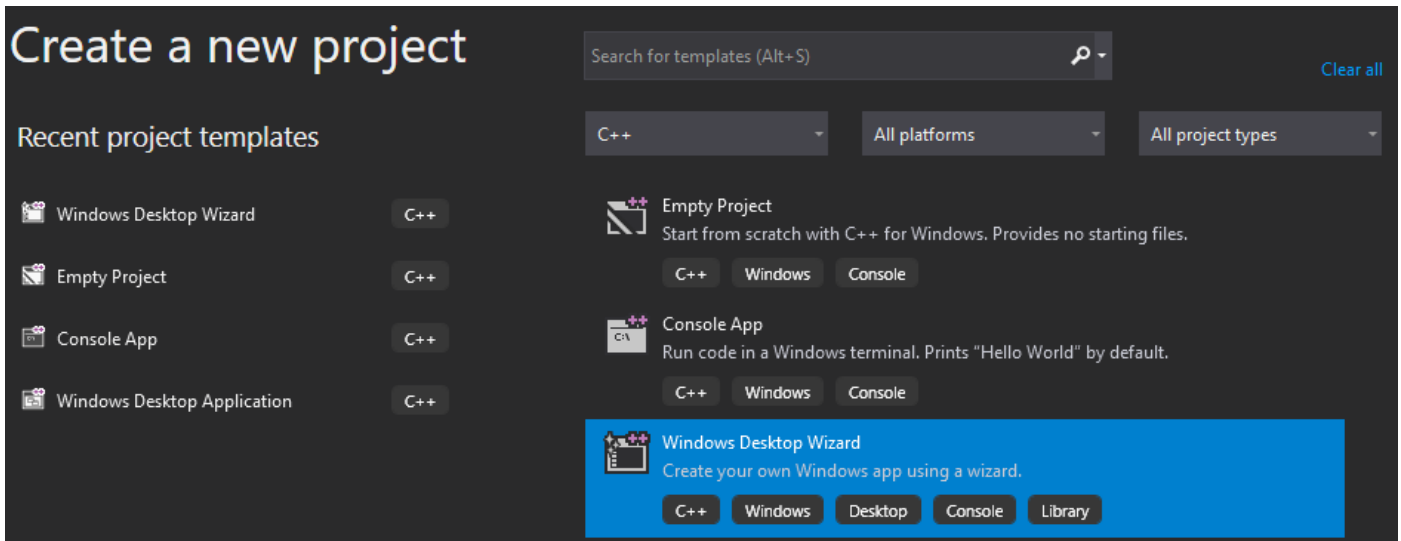
The first step in writing a Visual C++ program with Visual Studio is to choose the type of project. For each project type, Visual Studio sets compiler settings and generates starter code for you.

To create a new project

1. From the **Get Started** menu, click **Create a new project...**

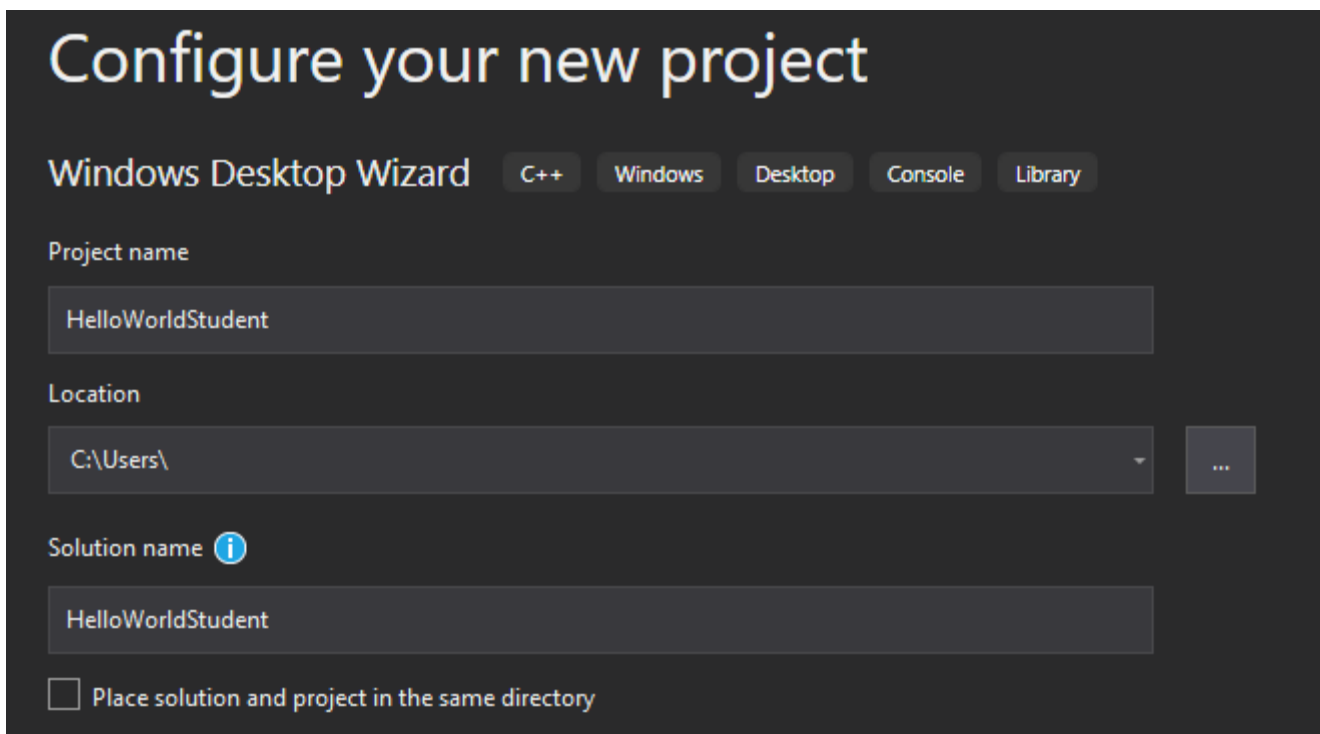


2. On the right side of the **Create a new project** menu, select **Windows Desktop Wizard** and click **Next**.



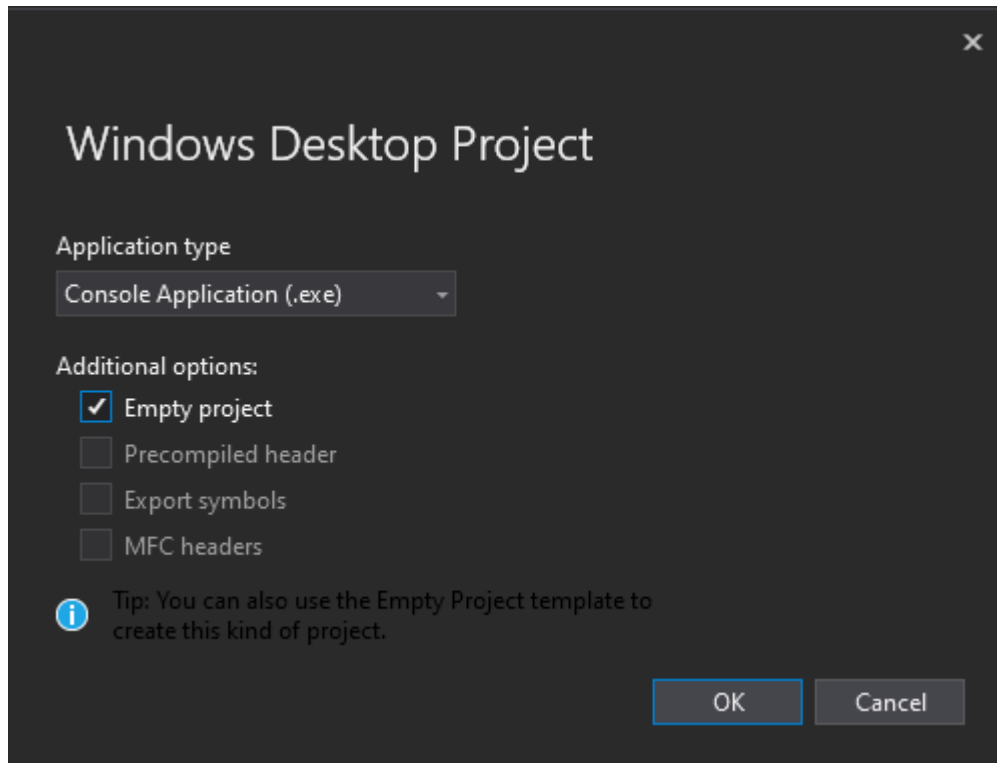
3. Enter a name for the project in the **Project name** box. For this example, enter **HelloWorldYourName**.
You can accept the default location in the **Location** drop-down list, enter a different location, or choose the ... button to browse to a directory where you want to save the project. **If you want to save your project to a flash drive, you must do so now.** There isn't a way to move your project in Visual Studio once it has been created.

When you create a project, Visual Studio puts the project in a solution. By default, the solution has the same name as the project. You can change the name in the **Solution name** box, but for this example, keep the default name.



4. Choose the **Create** button in the bottom right corner to configure the project.

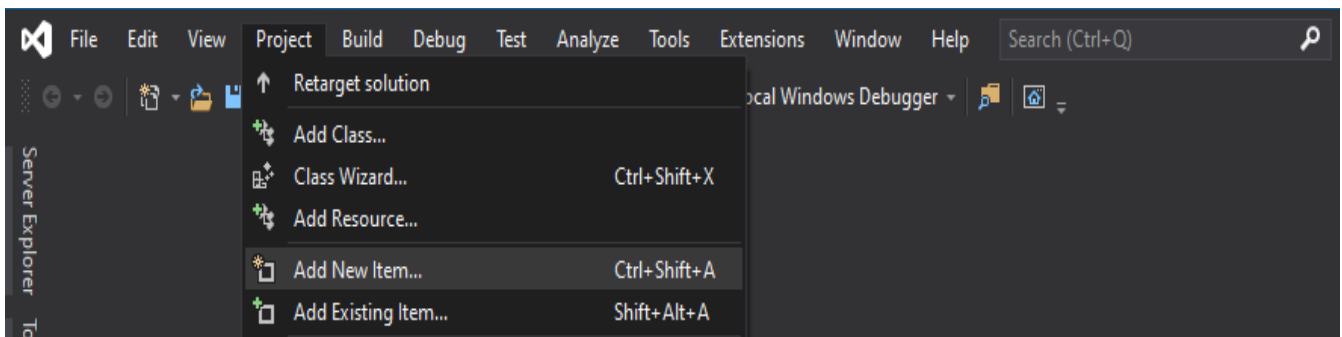
A new window will pop up. Check the **Empty project** box. Select **OK**.



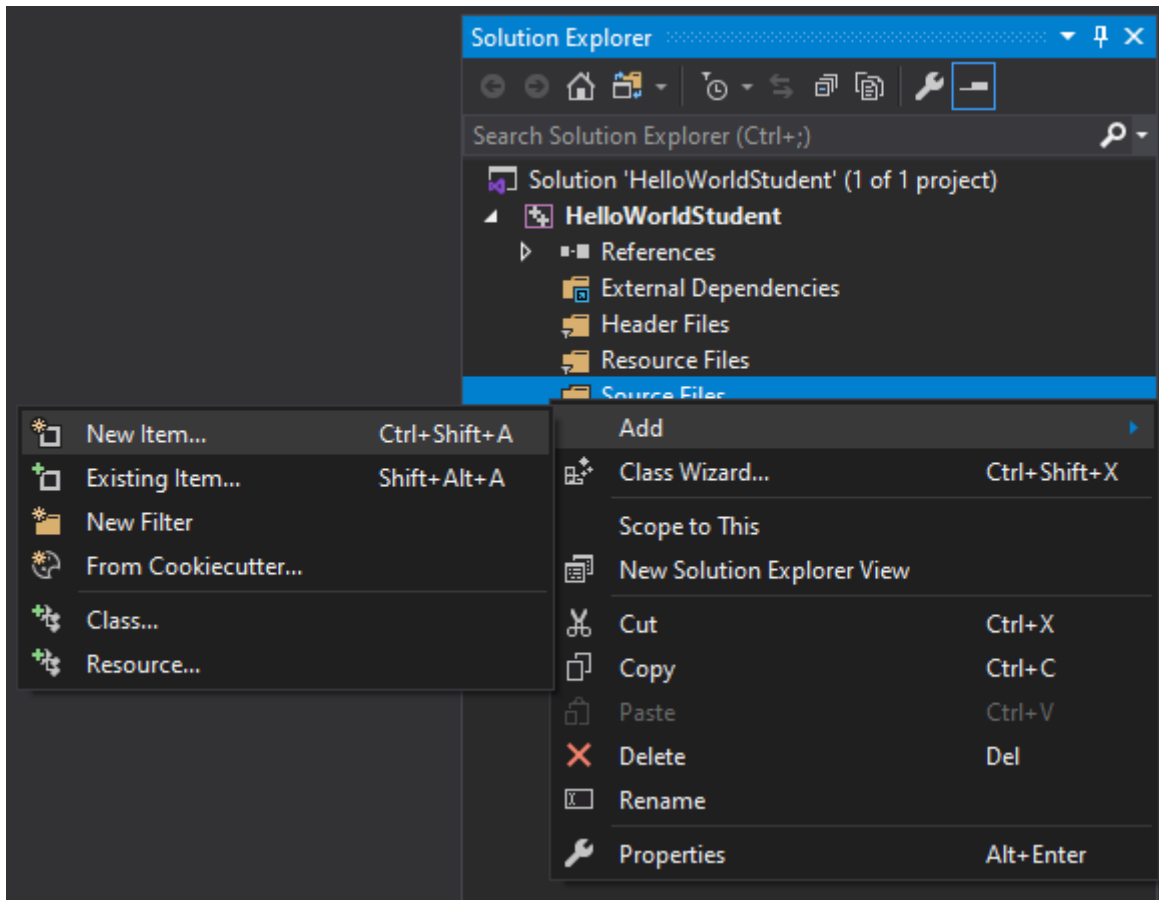
You now have a project without source code files.

To add a new source file (program)

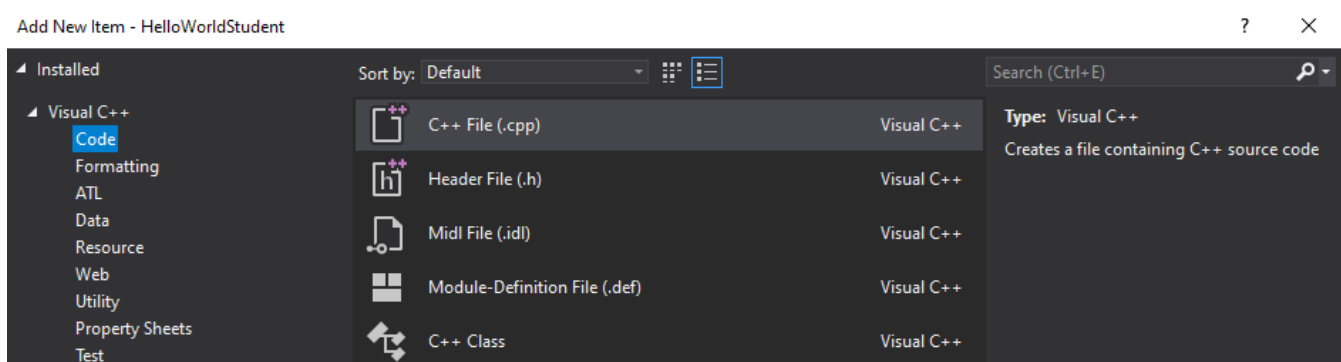
1. From the **Project** menu, click **Add New Item**.



Alternatively, to use **Solution Explorer** to add a new file, right click on **Source Files**, hover over **Add**, then choose **New Item....**



In the **Visual C++** area, select **Code**. Then click **C++ File (.cpp)**.



2. Type the **Name** of the file to be added (for example, type **HelloWorldYourName**) and click **Add**. The source file **HelloWorldYourName.cpp** will be added to the project.
3. In the **HelloWorldYourName.cpp** editing window, type the code below for the **HelloWorldYourName** program. In this example, **HelloWorldYourName.cpp** will be the main function. Note: spacing and indention are important!!

```
#include <iostream>

using namespace std;

int main()
{
    cout << "Hello <Your Name>!\n";
    system("pause");
    return 0;
}
```

4. To compile the program, on the **Build** menu, click **Build Solution**.

You should see output from the build in the **Output** window indicating that the project compiled without errors. If not, correct the errors indicated in the **Output** window.

To execute the program

CTRL + F5 will compile and execute your program and will display your results in the display window. The window remains open until you close it.

Alternatively - On the **Debug** menu, select **Start Without Debugging**.

Documentation

Good programming practice insists that all program files must contain documentation. That is, comments from the programmer providing basic information about the program. Documentation lines begin with the **//** symbols. All programs should have at least the following documentation at the beginning of EVERY program. Your instructor may require additional documentation be included.

```
// Your First and Last Name
// Computer Science I - Instructor name
// Project # - Project Name
// Date
// Additional information as required by your instructor
```

The documented sample program from earlier in the lab is shown below.

```
// Your First and Last Name
// Computer Science I - Instructor name
// Lab 1 - Intro to Visual Studio
// Date
// Description of what the program does

#include <iostream>

using namespace std;

int main()
{
    cout << "Hello YourName!!!\n";
    system("pause");
    return 0;
}
```

LAB 1 – Assignment

After the lab instructor has walked you through the above material, close Visual Studio and start over.

- Open Visual Studio and redo the program above ON YOUR OWN, but ask questions of the lab assistants as necessary.
- Complete the documented program above (with your name & current date).
- Compile and execute, correcting any errors.
- Save on your flash drive OFTEN! Once a project is created, it cannot be moved to a flash drive using Visual Studio; you must move it using File Explorer. A project can be re-opened by double-clicking the .sln file for that project.
- Show your lab instructor that your program works correctly.

It is recommended that you try this exercise on your computer at home.