
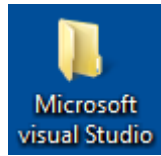

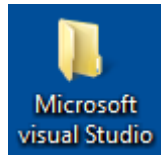


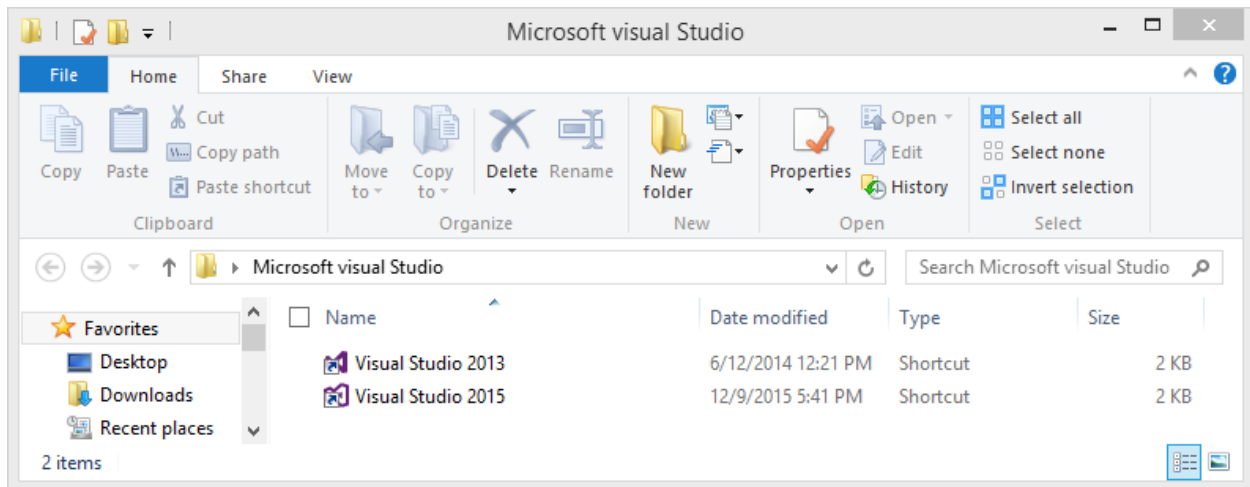
Show these notes on one side of your screen using Windows key  +  [right arrow]

Start Visual Studio...




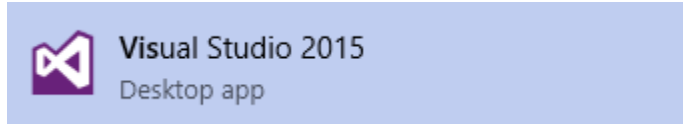
On the lab PC's Desktop ( + D), locate:  (typing an 'm' will help)

Open that folder



Double click Visual Studio 2015 to launch the Integrated Development Environment (IDE)

You could also press the Windows key  and start typing "Visual Studio" until you see



(click on this or press Enter to launch)

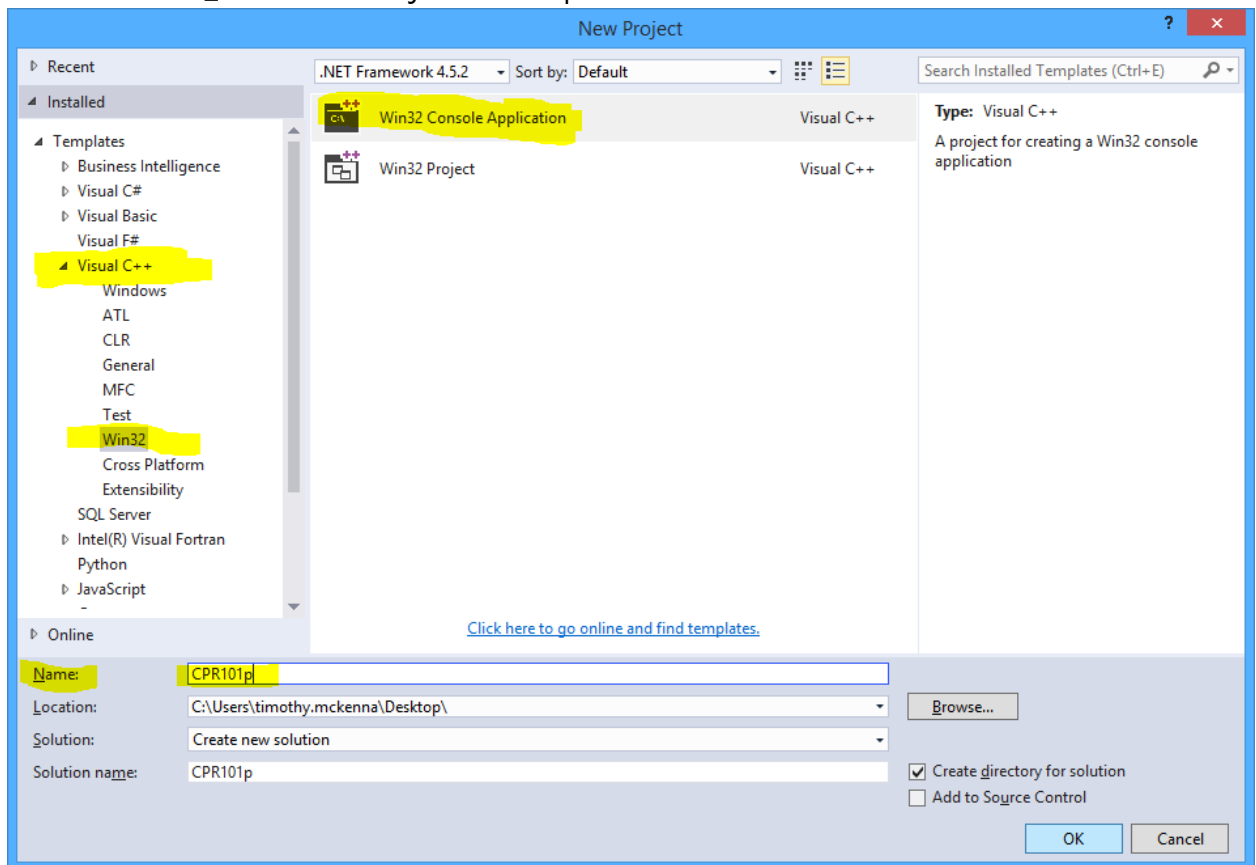
Show Visual Studio beside these notes with Windows key  +  [left arrow]

Because Visual Studio (VS) can manage various types of projects, it is one of the industry standards for systems development. As such, it is far more than just a code editor. Thus, the next few steps require your careful attention to set up the VS project for the type of program we will be creating.

Visual Studio Introductory Demonstration

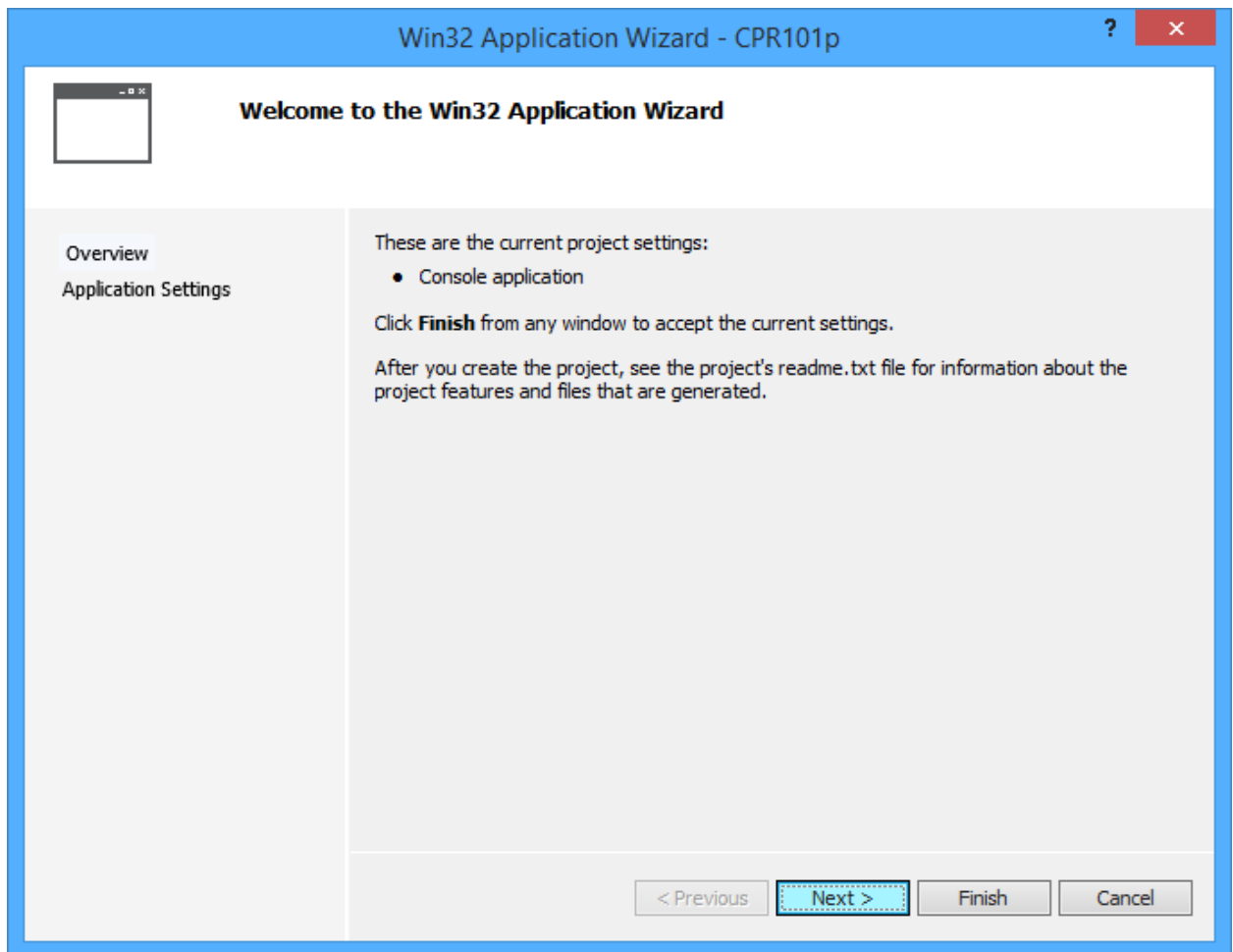
Create a new [project in Visual Studio...](#) (screen shot below)

- VS menu: select File | New | Project (Ctrl+Shift+N)
- Under Installed / Templates,
 - collapse Visual C# if it is expanded,
 - select and expand Visual C++
 - select Win32
- Ensure Win32 Console Application in the center pane is selected
- Enter **CPR101_w1** as the Project Name | Select OK



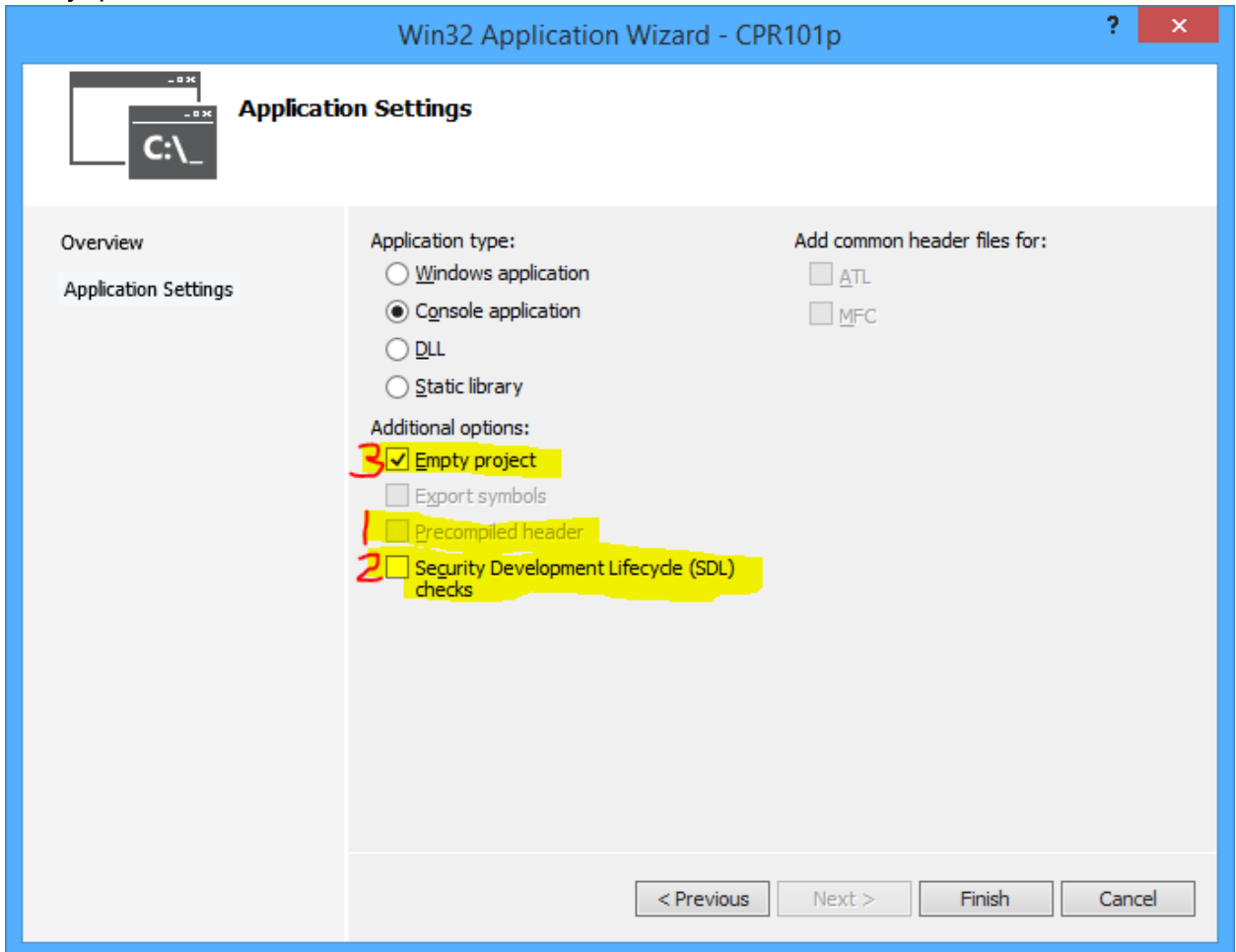
Visual Studio Introductory Demonstration

- Press Next



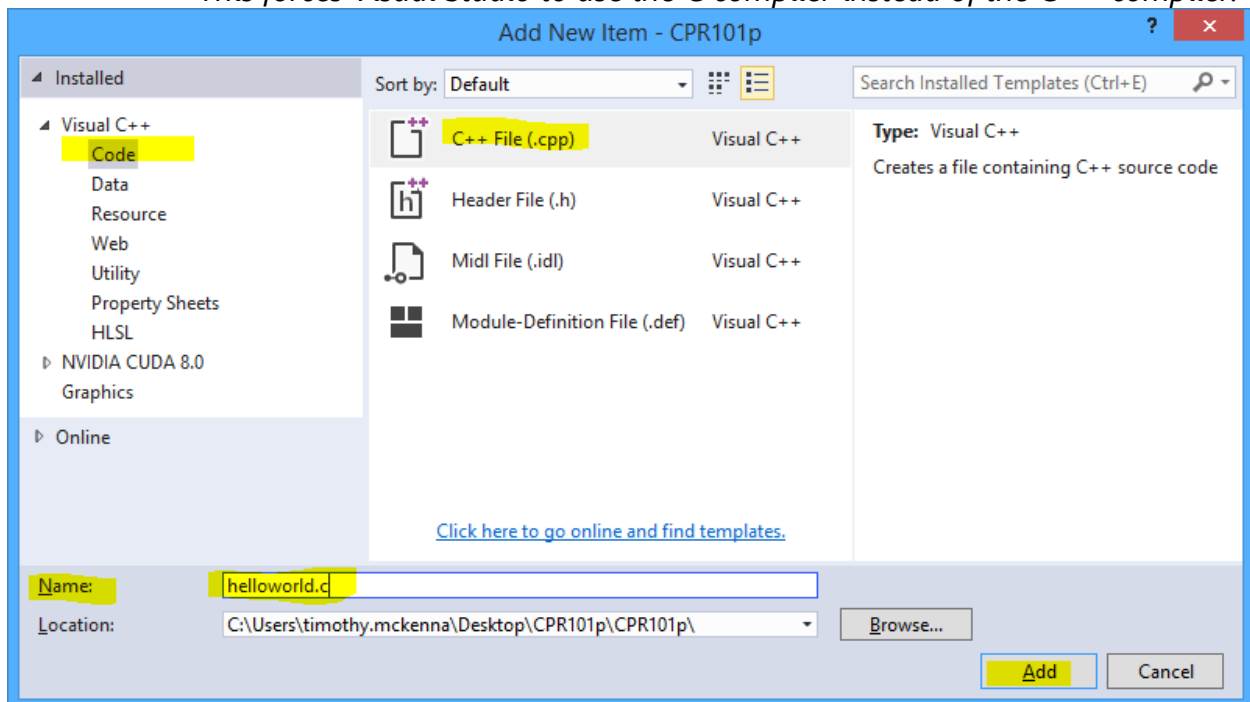
Visual Studio Introductory Demonstration

- Click on left to show Application Settings
- Firstly, uncheck Precompiled header and Security Development Lifecycle
- Then, check Empty Project
- Lastly, press Finish



Create a C language source code file...

- VS menu: select Project | Add new Item (Ctrl+Shift+A)
- Under Installed / Visual C++
 - select Code
- Ensure C++ File (.cpp) in the center pane is selected
- Enter **helloWorld.c** as the File Name | press Add
 - *Ensure that the file extension is ".c", not the default .cpp.*
This forces Visual Studio to use the C compiler instead of the C++ compiler.



- Enter or copy & paste the following source code for your "Hello World" program

```

/* Hello World program */

#include <stdio.h> // Standard Input/Output header

int main(void)
{
    printf("Hello World, ");
    printf("this is your_name.\n"); // replace "your_name" with your own name
    return 0;
}
    
```

- Save the source file (Ctrl+S)

Compile your C source code ...

- VS menu: select Build | Build Solution (Ctrl+Shift+B)

The Output pane below your source code should show

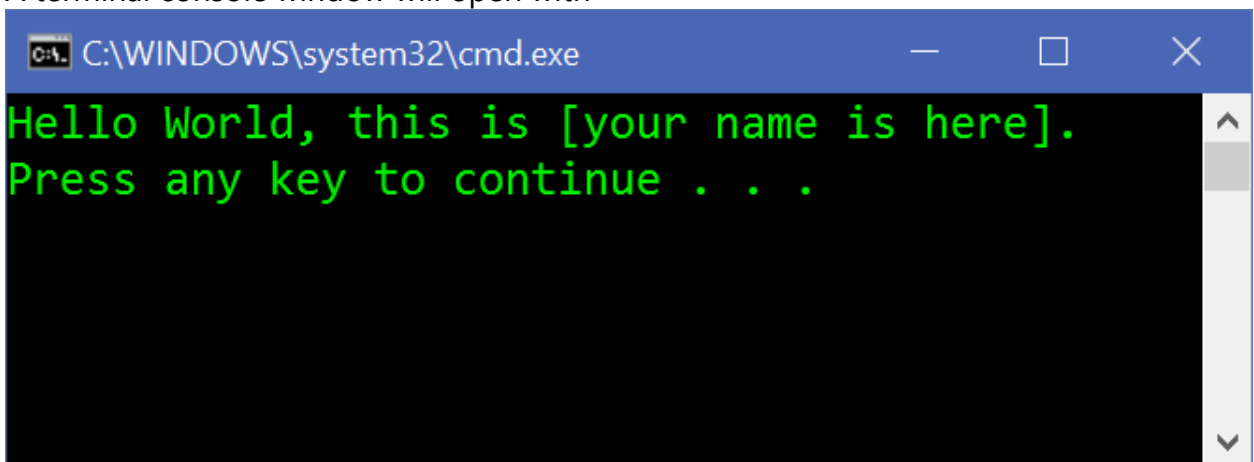
```
1>----- Build started: Project: CPR101_w1, Configuration: Debug Win32 -----
1> helloworld.c
1> [output of executable and debug files]
===== Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped =====
```

If your compilation did not succeed,

- Fix your source code to match the above and then Build Solution again.
- If your code *does* match the above, the problem may be due to VS trying to compile your source file (and other sources files, if present) with project or item options that are different from the ones described earlier in the setup.
 - At this point, it is best to start again by creating a new Project and using a different name. (To reuse the original name you would have to first find and delete the Project folder.)

Once successful, execute your program

- VS menu: select Debug | Start without Debugging (Ctrl+F5)
- A terminal console window will open with

A screenshot of a Windows command prompt window. The title bar shows the path 'C:\WINDOWS\system32\cmd.exe'. The window contains the following text in green: 'Hello World, this is [your name is here]. Press any key to continue . . .'. The text is displayed on a black background. There are standard window control buttons (minimize, maximize, close) in the top right corner.

- Close the window once you have sufficiently admired your work.

On your own machine, you can install Visual Studio Community 2015 from <https://www.visualstudio.com/vs/community/>. It is a "fully-featured, extensible, free IDE for creating modern applications for Android, iOS, Windows, as well as web applications and cloud services."

Now, where is that helloWorld.c source file? ...buried under the VS Project name's folder. Where is that?

There are a number of ways to find it.

You can use the File Explorer from the top of the folder structure down (🗂️ + E)

- File Explorer has a Search feature but if you search "This PC" for **file:helloWorld.c**, your patience will be tested.
- Windows usually stores your files under the Documents folder on your own machine or in the Desktop folder of Seneca lab PCs. Look under a folder name matching "Visual Studio 2015" and/or your VS Project name.

You can start from the file's location and work your way up the folder structure:

- Press the Windows key 🗄️ and type the filename **helloWorld.c**
- Right clicking on the file name, depending on your PC's configuration may give you a list of options including "Explore" or "Open File Location"

You can use VS Solution Explorer:

- Right click on the project name and select Open Folder in File Explorer

File Explorer's useful features:

- The left pane navigates the folder hierarchy
- The right pane shows files and folders in your current location

