Programming Fundamentals I

Visual C++ 2019

Downloading and Using the Software

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Visual C++ 2019

- The Visual C++ language and development tools help you develop native Windows Store apps, native Windows desktop apps, and managed apps that run on the .NET Framework.
- Part of Visual Studio 2019
- Visual Studio 2019 is a Windows software and you cannot install it on an Apple or Linux machine. You can stop by Richland College and use the open lab computers that have the software

Visual Studio 2019 System Requirements

Supported Operating Systems

- Visual Studio 2019 will install and run on the following operating systems (64 bit recommended):
- Windows 10 version 1703 or higher: Home, Professional, Education, and Enterprise (LTSC and S are not supported)
- Windows Server 2019: Standard and Datacenter
- Windows Server 2016: Standard and Datacenter
- Windows 8.1 (with Update 2919355): Core, Professional, and Enterprise
- Windows Server 2012 R2 (with Update 2919355): Essentials, Standard, Datacenter
- Windows 7 SP1 (with latest Windows Updates): Home Premium, Professional, Enterprise, Ultimate

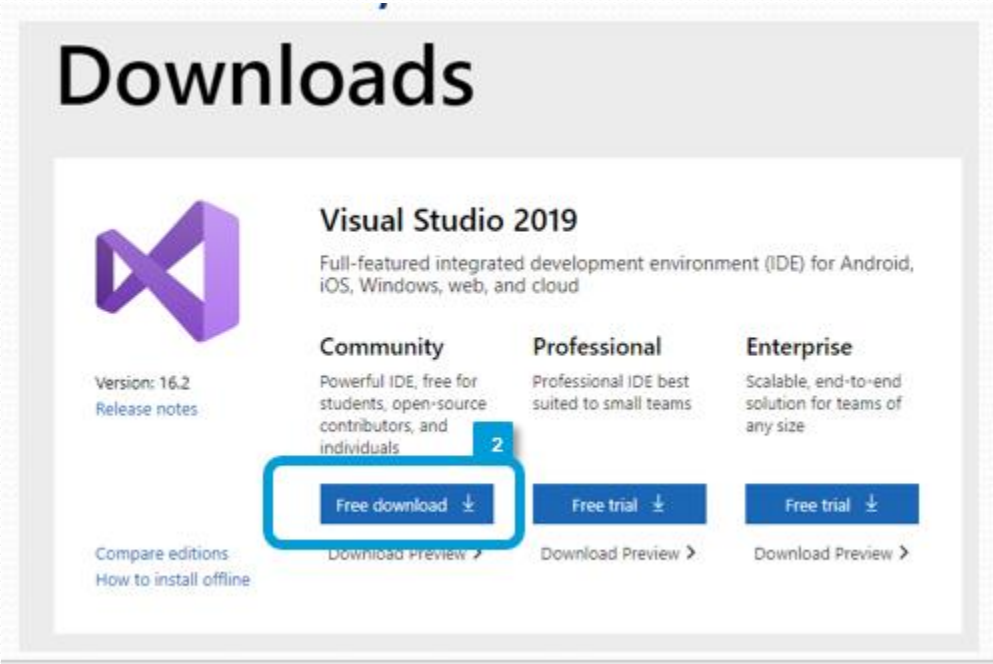
Hardware

- 1.8 GHz or faster processor. Quad-core or better recommended
- 2 GB of RAM; 8 GB of RAM recommended (2.5 GB minimum if running on a virtual machine)
- Hard disk space: Minimum of 800MB up to 210 GB of available space, depending on features installed; typical installations require 20-50 GB of free space.
- Hard disk speed: to improve performance, install Windows and Visual Studio on a solid state drive (SSD).
- Video card that supports a minimum display resolution of 720p (1280 by 720); Visual Studio will work best at a resolution of WXGA (1366 by 768) or higher.

See https://docs.microsoft.com/en-us/visualstudio/releases/2019/system-requirements for the complete list

Downloading and Installing the Software

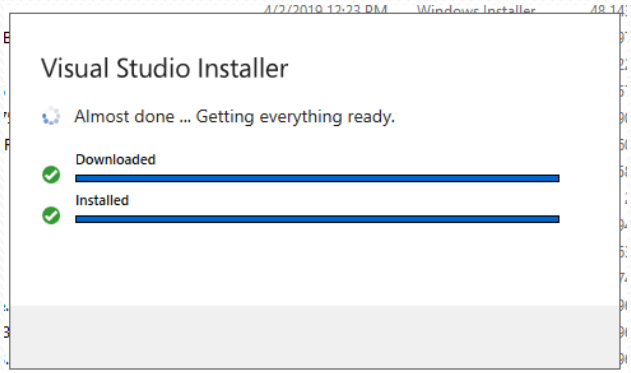
1. Open a browser and type on the address bar: https://www.visualstudio.com/downloads/
2. Click on Free download under Visual Studio 2019 **Community**
3. Save the installation file to your computer and run it

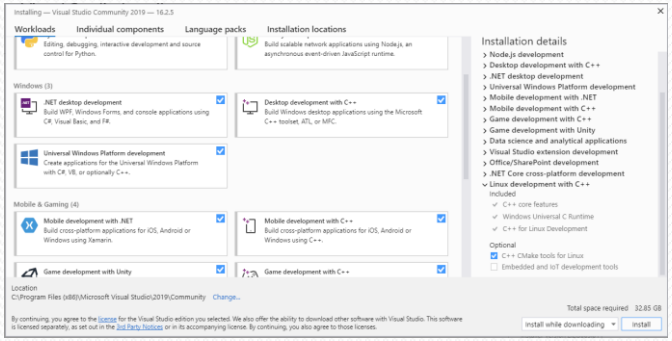


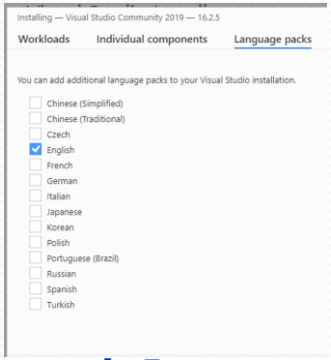
Downloading and Installing the Software

- Run the Visual Studio Installer file you have just downloaded to install the software on your computer
- During the install make sure you select all the C++ packages (to ensure you have the Windows Console Applications needed for this class) and the default English Language Pack (to ensure ASCII characters)
- If you need assistance with the install, type this in a browser window:

  https://docs.microsoft.com/en-us/visualstudio/install/install-visual-studio?view=vs-2019

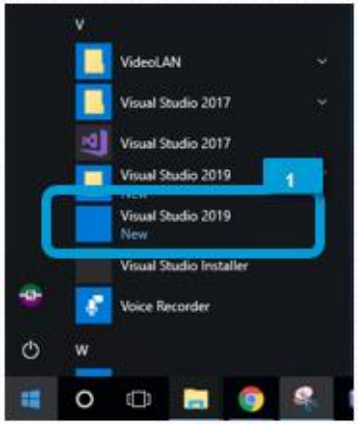






Opening the Software

1. Click on Visual Studio 2019 under the START menu to start the software
2. First time you open the software, you need to register it. So, click on Sign In.
3. Sign in using your DCCCD login (your student email as user name and eConnect password)



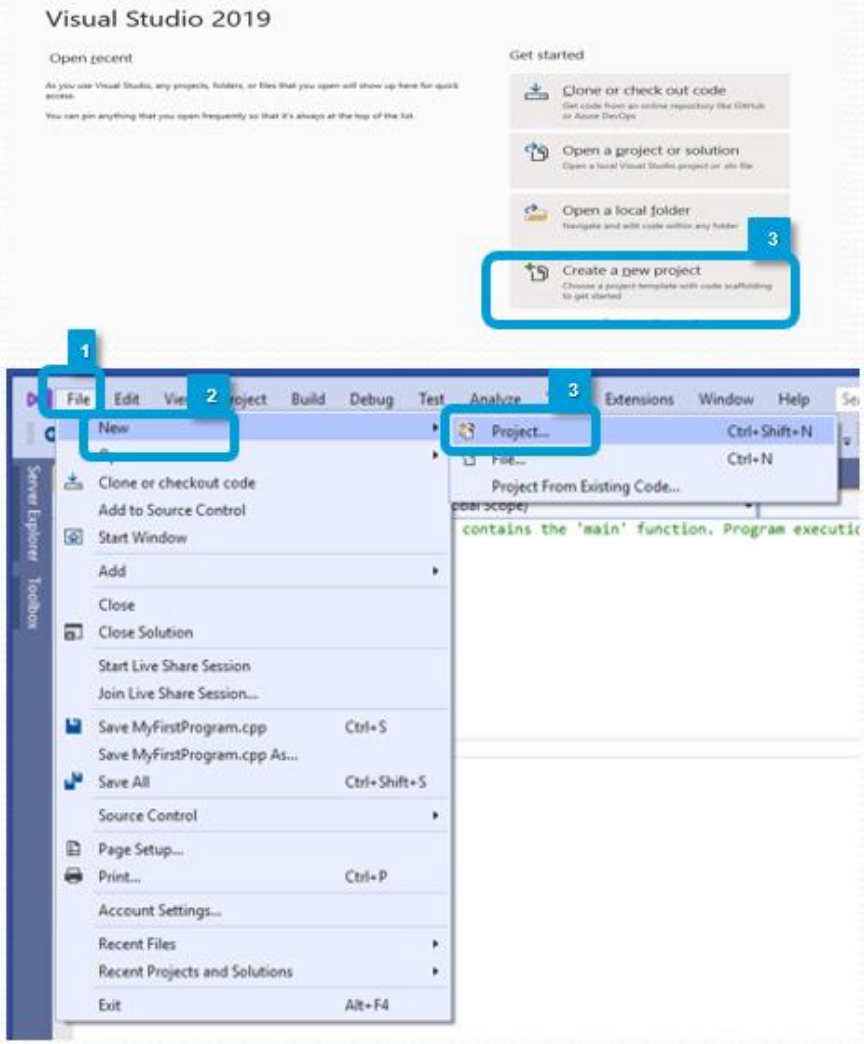
Creating a New Project

1. Select the Create a new project option from the Start Screen

OR

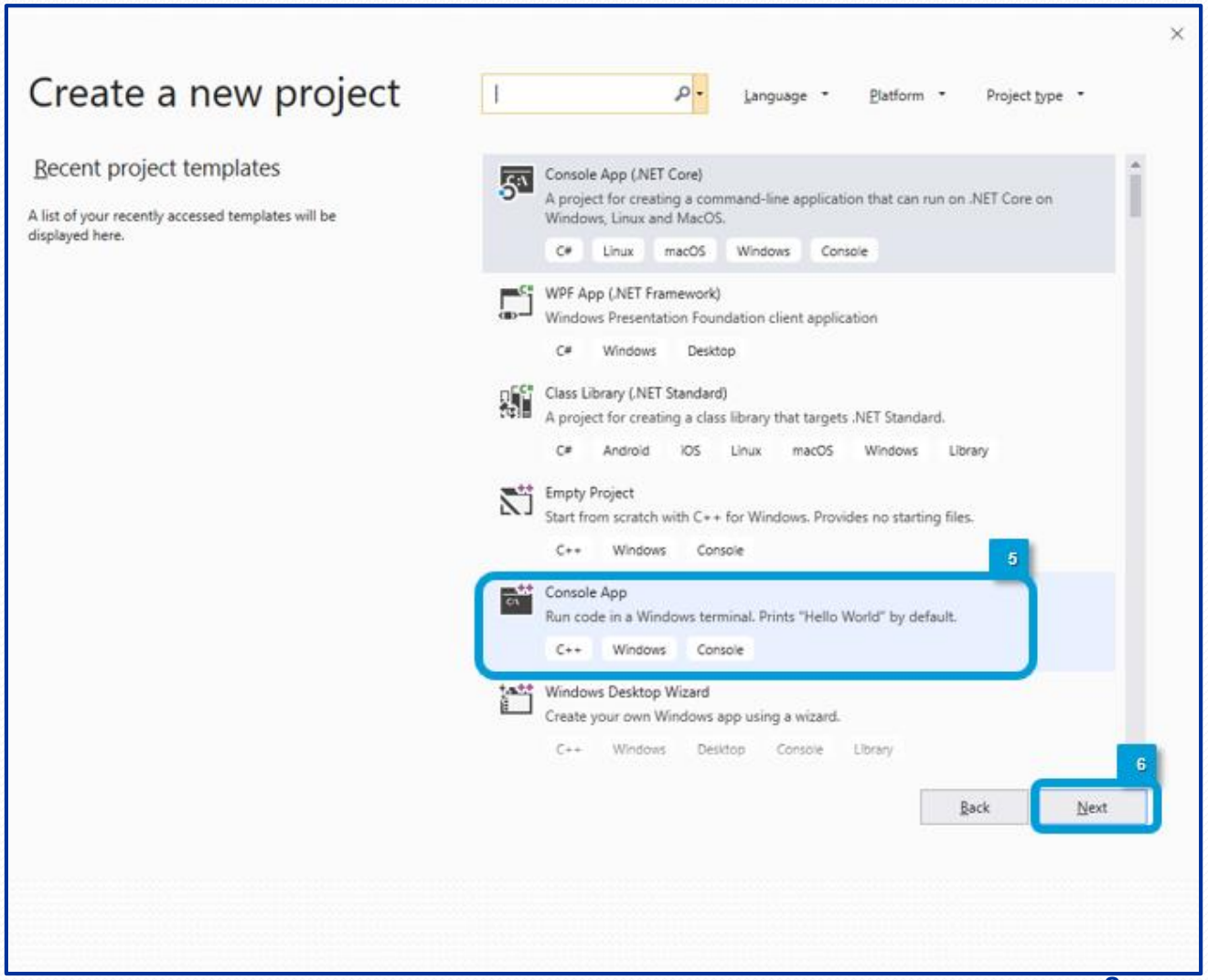
2. Open the File menu
3. Select the New option
4. Select Project

This will start the New Project wizard



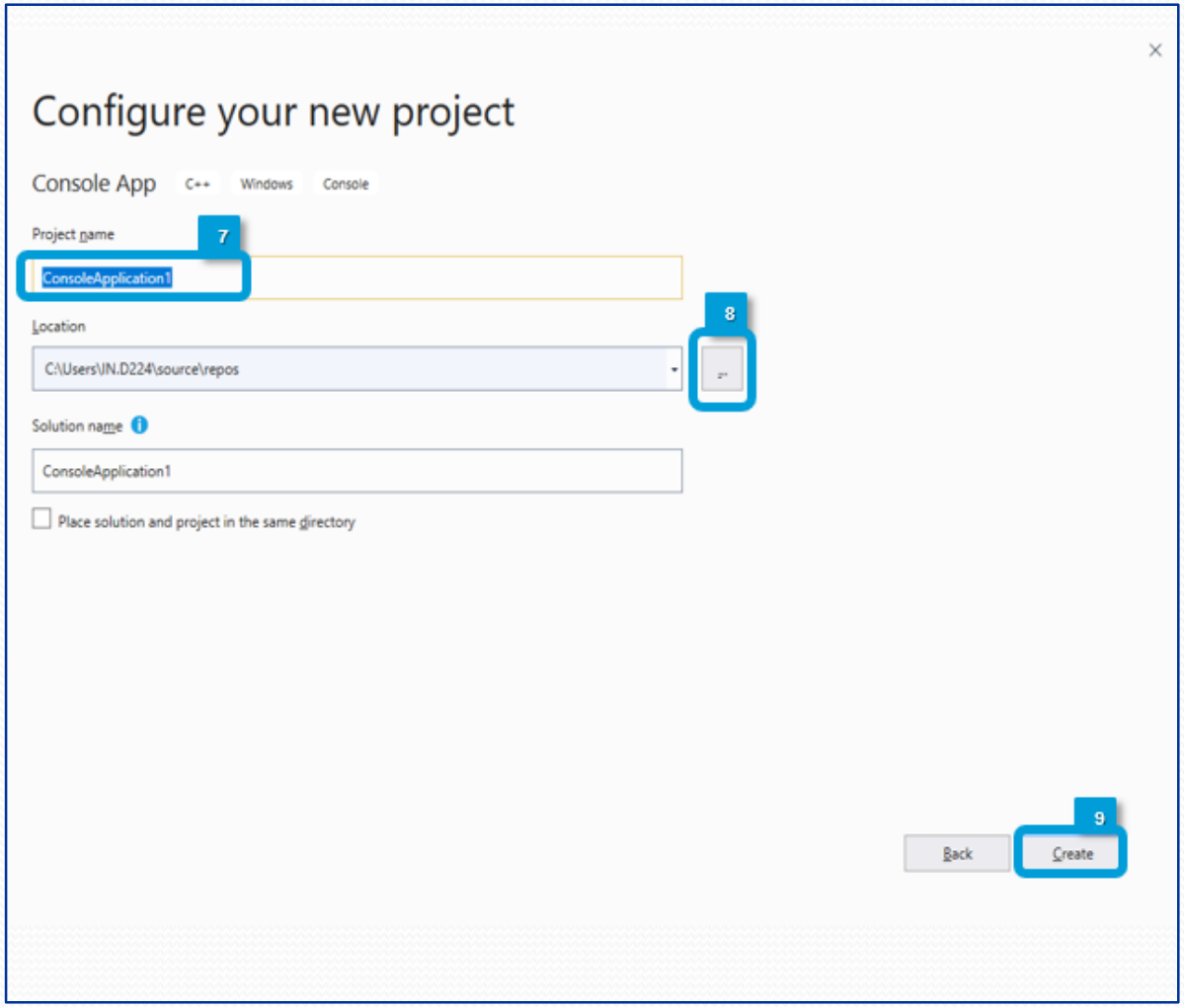
Creating a Project

5. Choose the **C++** Console Application. Make sure you do not pick other type of C++ project or console applications
6. Click Next to go to the next New Project configuration screen



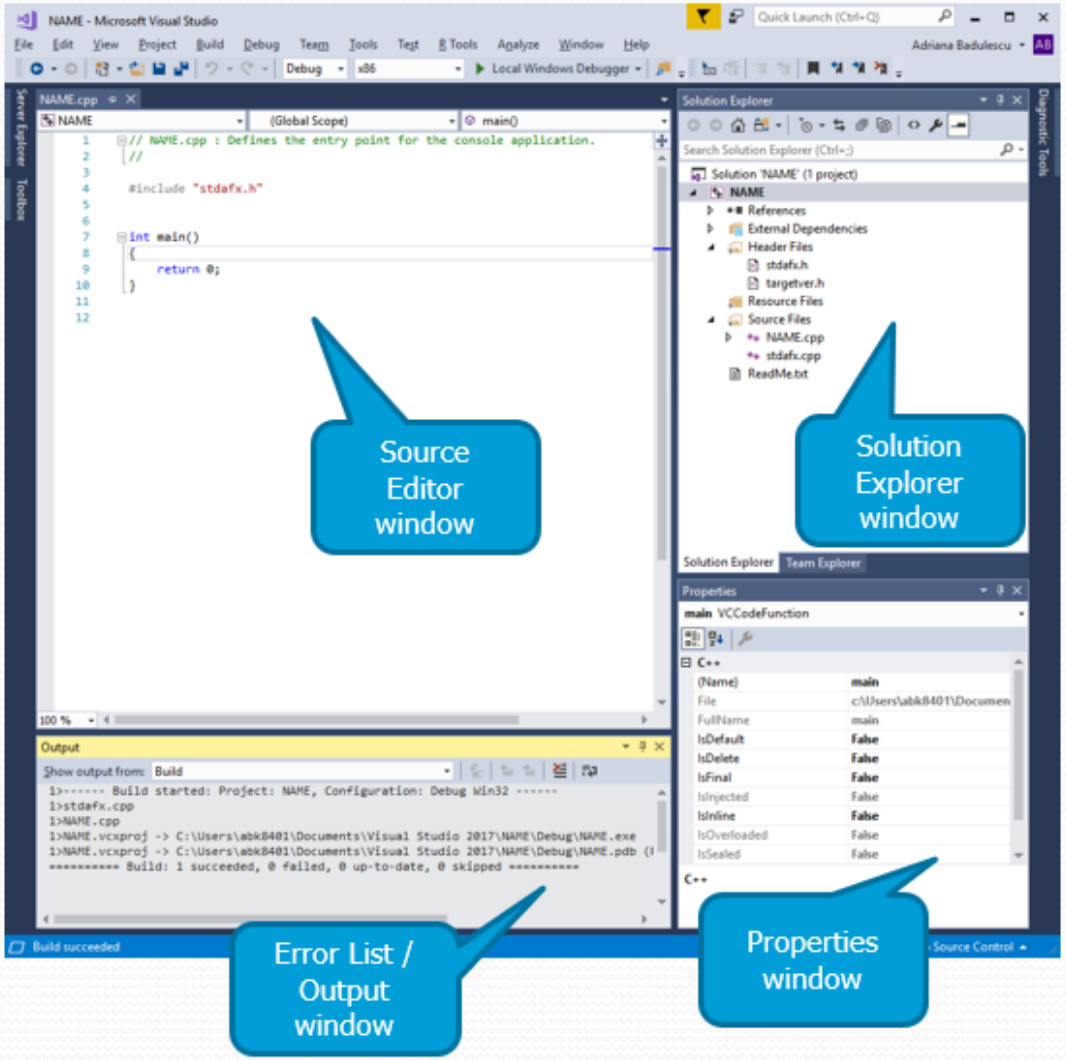
Creating a Project

7. Enter a name for your project
8. Use the … near the Location textbox to enter/select a location
9. Click Create to finish



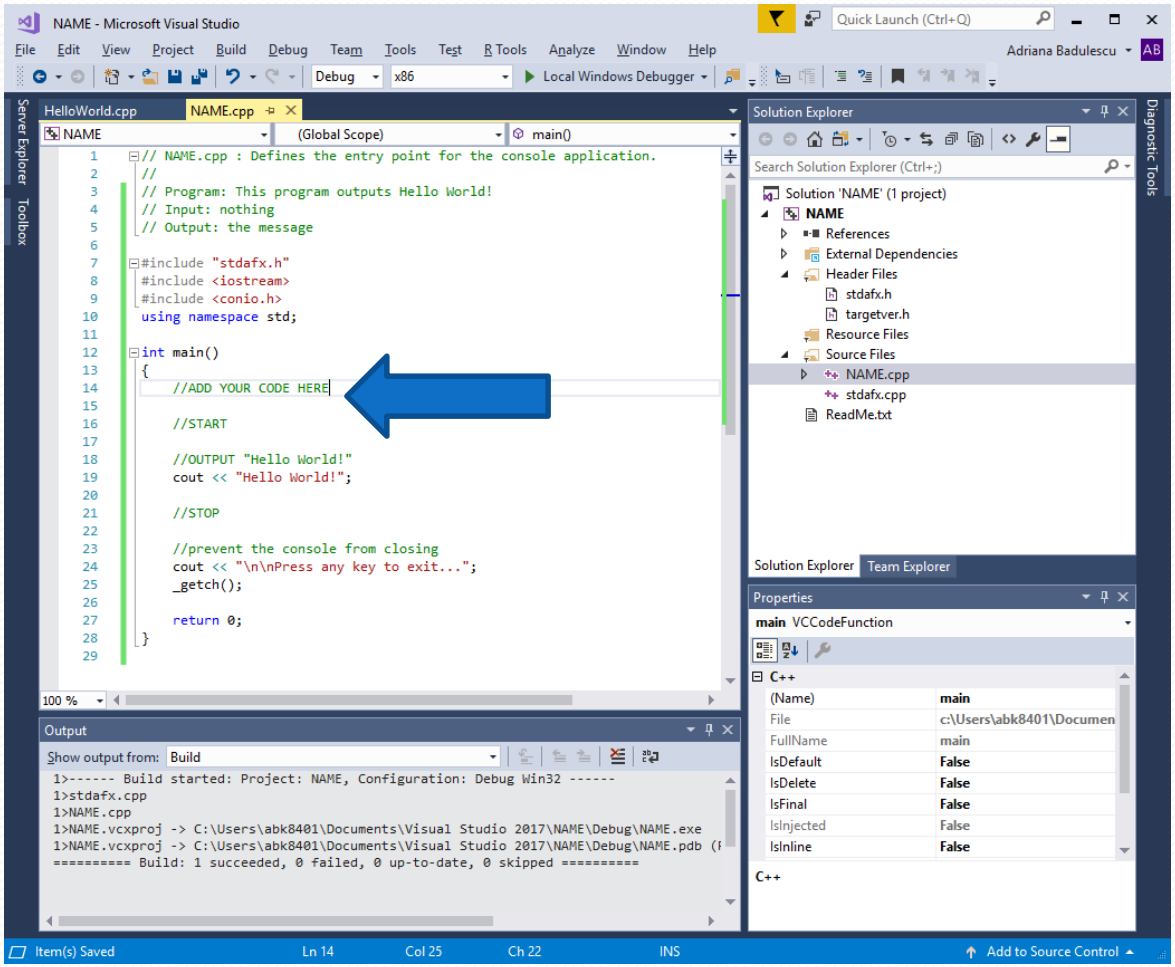
Creating a Project

- When finished, Visual Studio will open the project solution
- The Solution Explorer shows your project structure and files
- The Source Editor shows your code (if you do not see it, click on NAME.cpp in the Solution Explorer window)
- The Error List/Output shows your error or successful build messages



Adding the Code

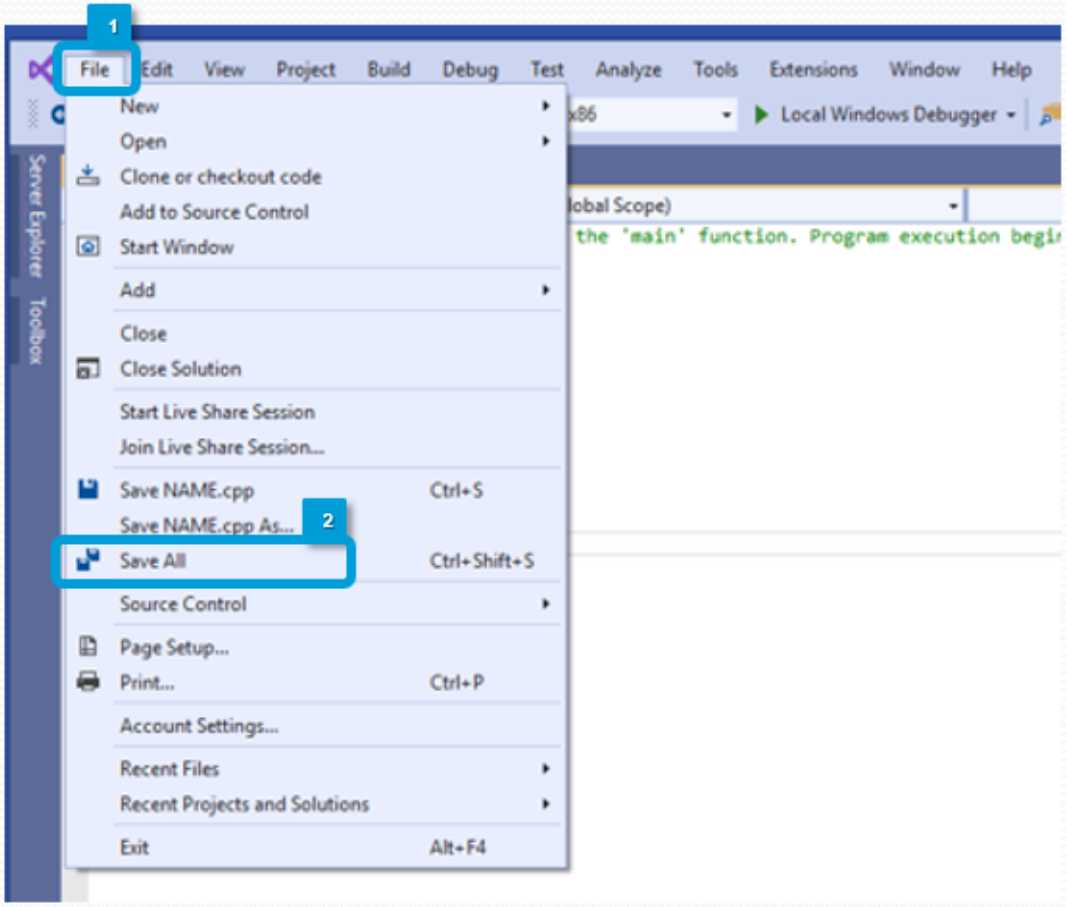
- The New Project wizard creates a skeleton program
- You should add your code between the open curly bracket ({) and `return 0;` inside the `main` function

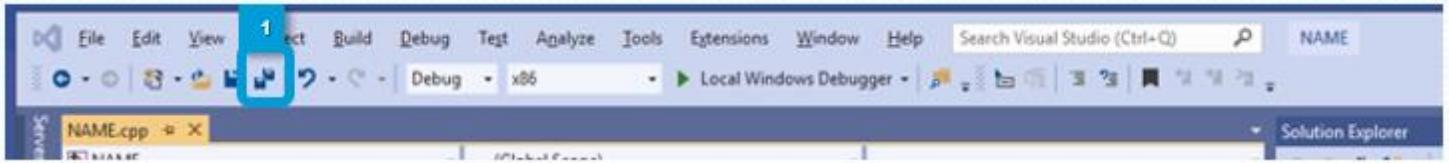


Saving the Code

- You should save your code regularly

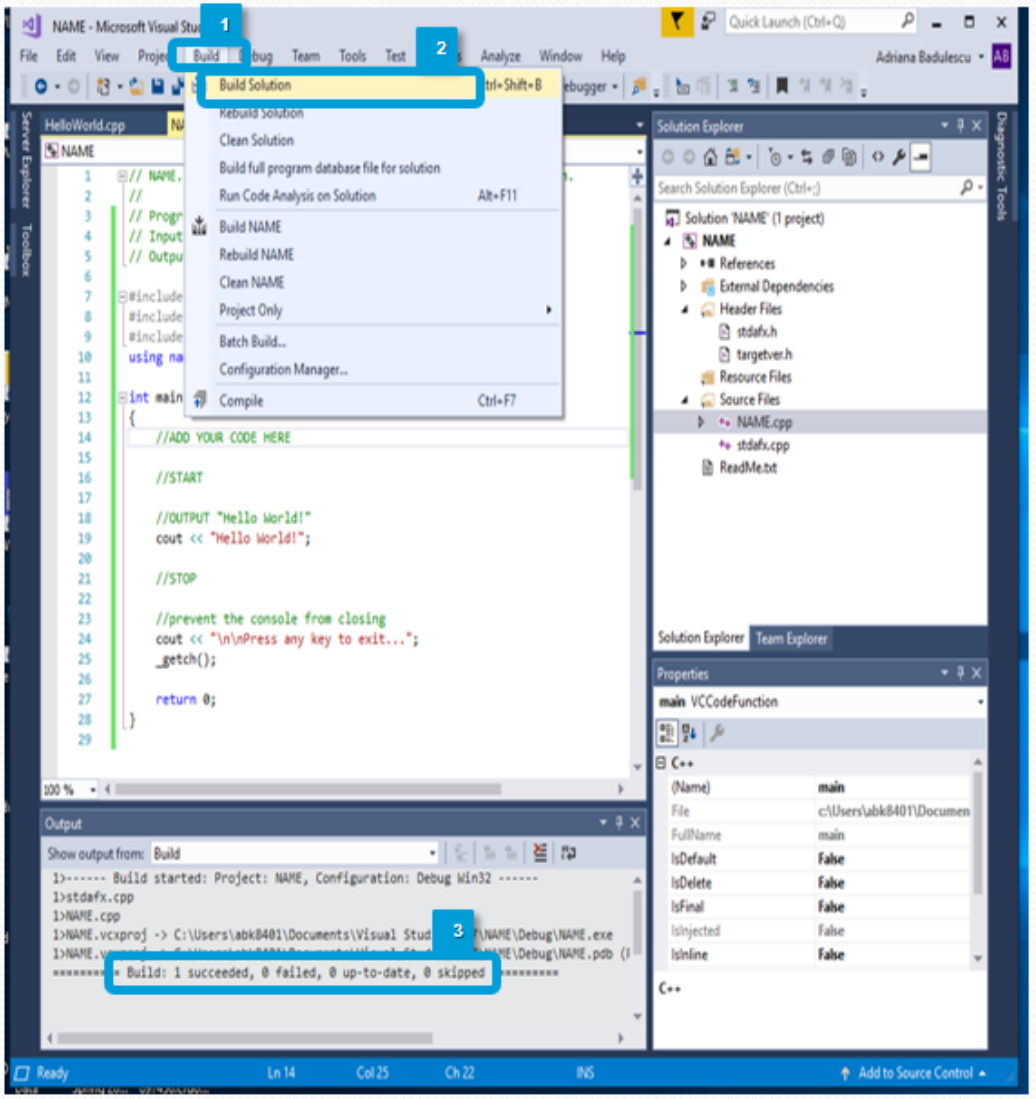
1. Open File menu
2. Select Save All menu option or
3. Click the Save All icon on the toolbar





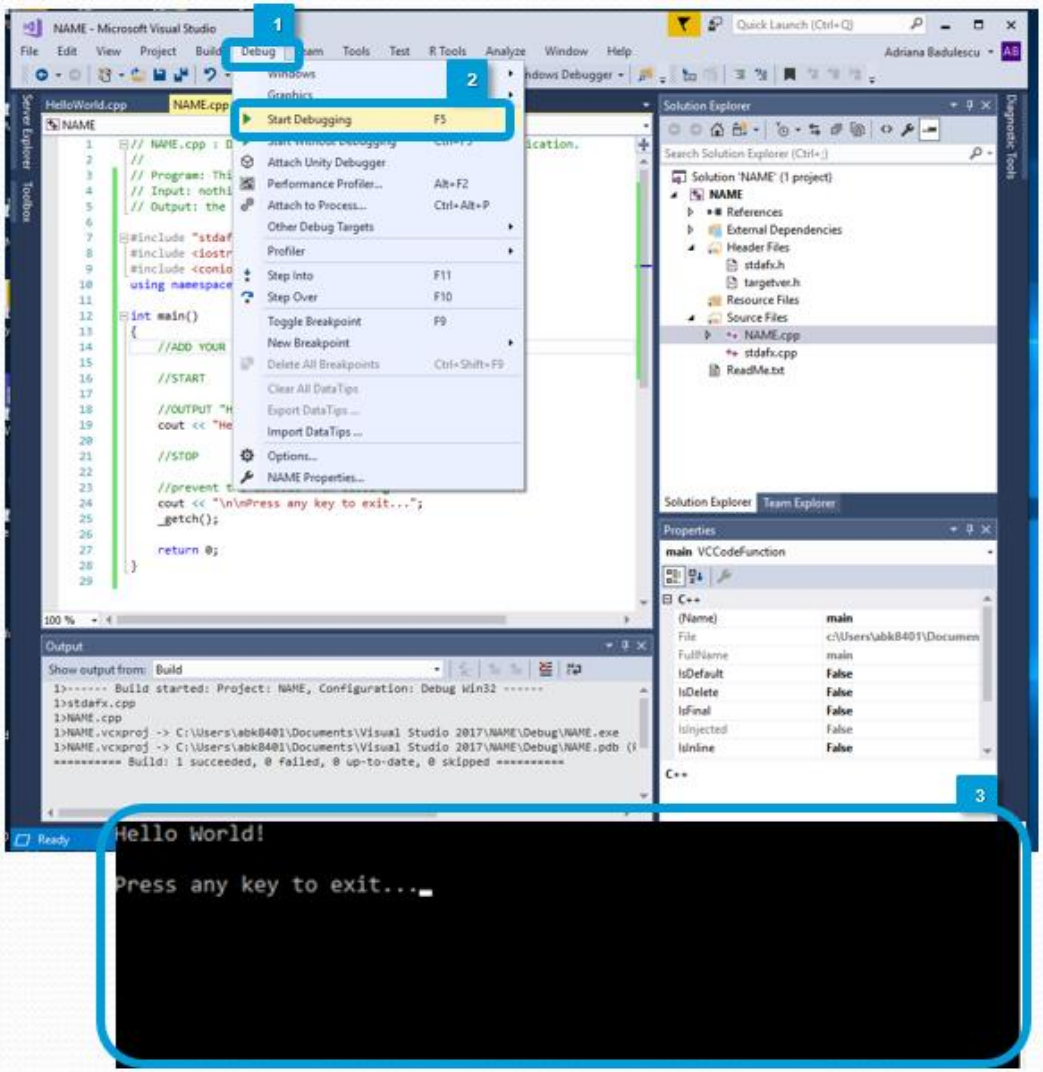
Compiling the Code

1. Open Build menu
2. Select Build Solution menu option
3. Fix all the errors from the Error List/Output window and compile/build again, until you get the `Build: 1 succeeded` confirmation



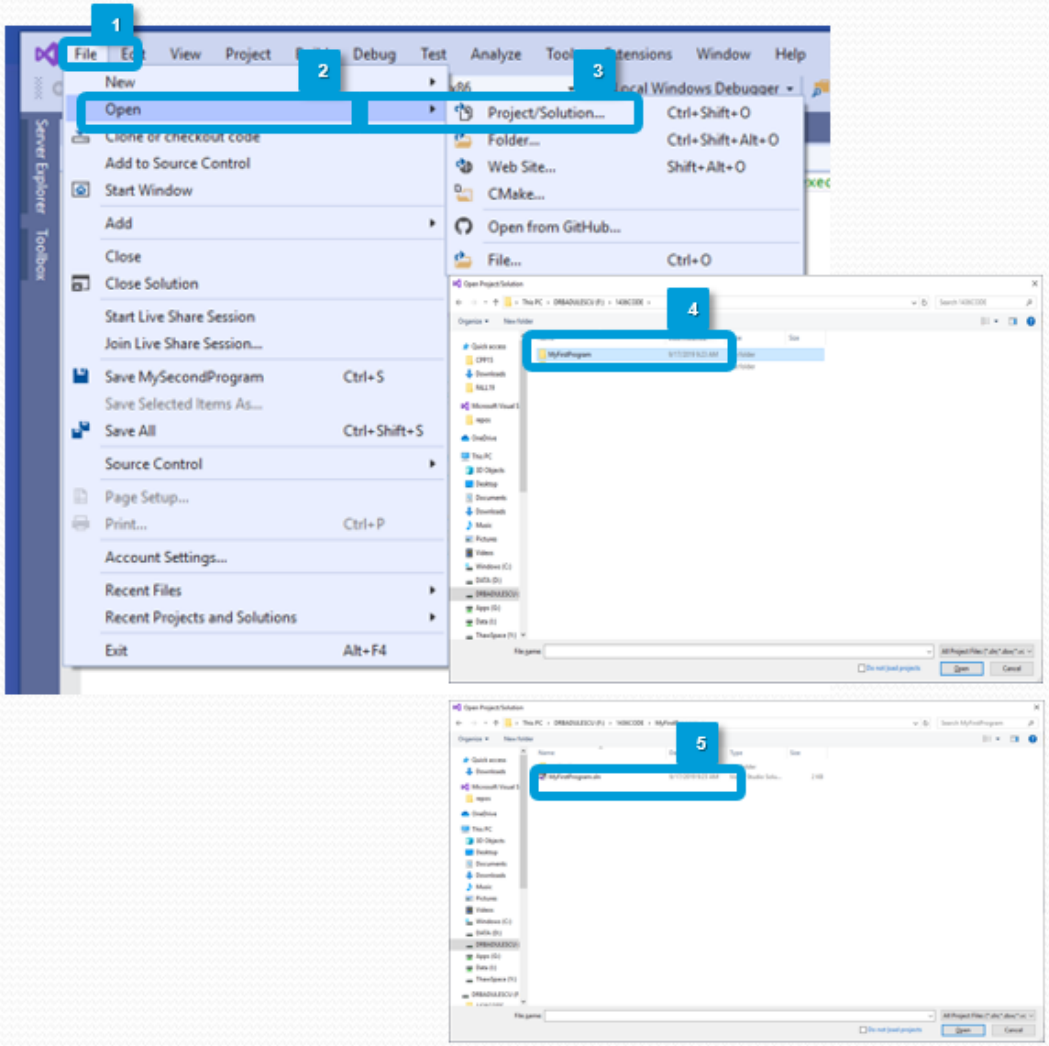
Running the Code

1. Open Debug menu
2. Select Start Debugging menu option
3. You are going to see the **output** in the Console window



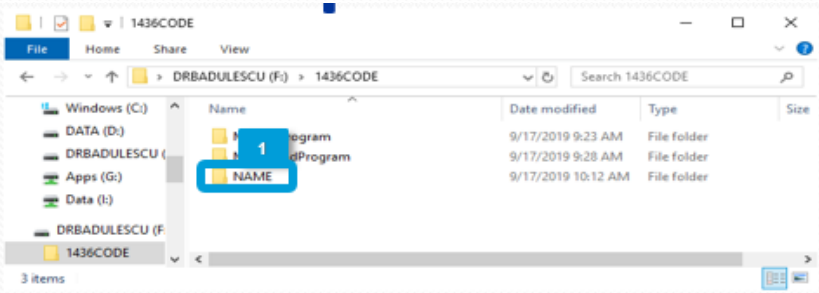
Opening Project from Visual Studio

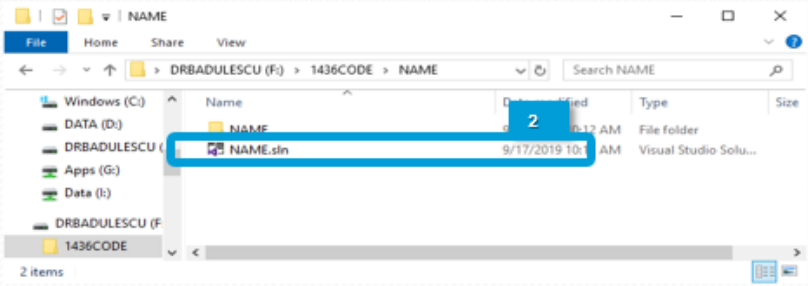
1. Open File menu
2. Select Open menu option
3. Select Project/Solution
4. Locate the folder where you saved the project and open it (go inside)
5. Select and open the SLN (Visual Studio Solution) file for the project

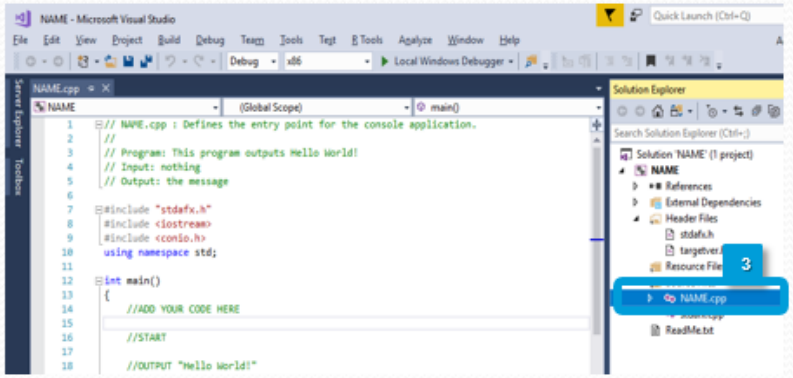


Opening Project from File Explorer

1. Open Windows File Explorer software and locate the folder where you save the project and open it (go inside)
2. Select and open the SLN (Visual Studio Solution) file for the project
3. If you do not see the code under Source Editor window, open/double click the CPP file (from Solution Explorer window)







Important Project Files and Folders

1. Project Folder – you need to save it (entirely) if you want to build and run code later
2. Project Inner Folder (located in Project Folder)
3. Project Solution Explorer – use to open/build/run the project (located in Project Folder)
4. Project Source Code/ CPP file – what you are going to submit for assignments (located in Project Inner Folder)

- If you choose to not create A Directory structure (checked `Folder for solution` in the New Project wizard), you are not going to have a Project Inner Folder and you can find the CPP file in the Project Folder