

CSCI 1301 – Lab 01

January 8, 2019

1 Your First Program

1.1 Opening Your First Program

1. Download [Welcome.zip](#) and save it on your computer.
2. Extract (Right-click on the file, then click on “Extract all”) this archive. **Do not simply double-click on it, as that would only give you a preview of the archive without actually extracting it.**
3. Go in the “Welcome” folder that was created.
4. Double click on the “Welcome.sln” file.
5. Visual Studio (VS) should start, you don’t have to register to the “Visual Studio Team Services Organizations” (but you can, using your @augusta.edu account, if you want), discard the security warning if there is any.
6. In the “Solution Explorer”, to the right, expand all the items that can be expanded by clicking on the symbol.

1.2 Compiling and Executing Your First Program

1. In the Solution Explorer, double-click on `Program.cs`. This is the *source code* of the application you are actually considering.
2. Let’s compile this program, using `Build` → `Build solution`. What happened?
3. Let’s run this program, using `Debug` → `Start without Debugging`. What happened?

You will **extensively** compile and run programs in this class. Instead of having to click twice, I highly recommend that you start now memorizing shortcuts:

- Use `Ctrl + Shift + B` to build the solution,
- Use `Ctrl + F5` to start the program without debugging.

With `Alt + F4` (to exit any program), that makes 3 shortcuts already! You can find a complete list at <http://visualstudioshortcuts.com/>, I will try to introduce some of useful shortcuts as we progress.

2 Configuring Your Installation

1. You don’t need to install Visual Studio (VS), since it is already installed. If you want to install it on your own computer (which is recommended), go to “[Installing Visual Studio On Your Own Computer](#)” below.
2. Make Windows Explorer show the file extensions. Follow the instructions on microsoft’s page¹, on this website², or consult your textbook.
3. Launch VS, and make sure the line numbers are shown: “Tools” → “Options” → “Text Editor” → “All Languages” → “General” → “Line Numbers” (VS 15.5.2), or “Text Editor” → “Options” → “All languages” → “Line Numbers”.
4. Exit VS, using `ALT + F4`

¹https://answers.microsoft.com/en-us/windows/forum/windows_10-files/how-to-display-file-extensions-in-w-10/226d323d-978a-47de-bd1d-8780643897e3

²<http://kb.winzip.com/kb/entry/26/>

3 Backups

3.1 Finding The Right Tool

Since you can not store files permanently on the lab's computer, you will have to store them either

- On an external / removable data storage: USB flash drive, External hard disk drive, or any kind of USB mass storage device, or
- On a server: the University has a partnership³ with box.com⁴, and you can follow this tutorial⁵ to get started, but any service (Google Drive⁶, Dropbox⁷, OneDrive⁸, etc.) would do.

If you chose the “remote” option (i.e., using a server), **do not** install a synchronization software (like Google Drive and Sync⁹, Box's app¹⁰, etc.) on the lab computer: it will likely not work, due to University rules¹¹. Instead, create the structure / project / files on the computer during the lab, and upload them (using the web-interface) at the end of the lab. Make sure to always upload your files before unlogging from the computer.

3.2 Making Sure You Have the Right Files

Now that you know where to store your files, create a folder for this class, and a subfolder for the first lab. Your organization should look like the following:

```
csci1301
  01_lab
    Welcome.zip
    Welcome
      Welcome.sln
      Welcome
        Welcome.csproj
        Properties
          AssemblyInfo.cs
        Program.cs
      obj
        Debug
          Welcome.pdb
          Welcome.exe
          Welcome.csprojResolveAssemblyReference.cache
          Welcome.csproj.FileListAbsolute.txt
          TempPE
          TemporaryGeneratedFile_E7A71F73-0F8D-4B9B-B56E-8E70B10BC5D3.cs
          TemporaryGeneratedFile_5937a670-0e60-4077-877b-f7221da3dda1.cs
          TemporaryGeneratedFile_036C0B5B-1481-4323-8D20-8F5ADCB23D92.cs
          DesignTimeResolveAssemblyReferencesInput.cache
      bin
```

³<https://www.augusta.edu/its/box/>

⁴<https://box.com/>

⁵<https://www.augusta.edu/its/box/quickstart.php>

⁶<https://www.google.com/drive/>

⁷<https://www.dropbox.com/>

⁸<https://onedrive.live.com/>

⁹<https://www.google.com/drive/download/>

¹⁰<https://app.box.com/services/browse/official>

¹¹<https://augusta.policytech.com/dotNet/documents/?docid=5702>

```

Debug
  Welcome.vshost.exe.manifest
  Welcome.vshost.exe.config
  Welcome.vshost.exe
  Welcome.pdb
  Welcome.exe.config
  Welcome.exe
App.config

```

You do not need to check that everything is here, just note that you have multiple folders, and that there are many files in the `Welcome` folder, not only the `.sln` and the `.cs`: make sure you copy all the structure when you want to backup or share your program! In this case, copying the `Welcome` folder is enough.

4 Syllabus

Make sure you read the syllabus¹².

5 Installing Visual Studio On Your Own Computer

This part gathers some references for you to install Visual Studio on your own computer, regardless of your operating system. It is strongly encouraged that you do so, especially if you want to continue in a CS / IT degree, but not mandatory. The instructions are not really detailed: feel free to look on the Internet, ask your classmates or instructor for details or help.

1. Normally, you should have received a log-in for OnTheHub¹³ and should be able to download resources from them.
2. If you're not running Windows, there are two ways to proceed. You can jump to the next step if you're running Windows.
 - a) You are running MacOS: you can download a version of Visual Studio for MacOS on onthefhub. It differs a bit from the windows version, but that should not impact your experience in this class.
 - b) If your operating system is Debian, Android, MacOS, Red Hat, etc., you can do the following.
 - i. Install a Virtual Machine¹⁴. You can either get "VMware Fusion v8/10 for Mac" (only for MacOS), or download Virtual Box¹⁵ (any operating system) from their website.
 - ii. Download a version of "Microsoft Operating Systems".
 - iii. Install and run your version of Windows from your virtual machine, and go to the next step.
3. Download and install Visual Studio, leaving all the options on their default setting, but check the box next to "Workload" → "Windows" → ".NET-Desktop Development".
4. Configure the software as we did in "Configuring Your Installation".

There are plenty of ways this can go wrong, but make sure you read and followed those instructions carefully before asking for help.

¹²<http://spots.augusta.edu/caubert/pcp/>

¹³https://e5.onthefhub.com/WebStore/ProductsByMajorVersionList.aspx?cmi_mnuMain_child=5d1454c0-52a8-de11-886d-0030487d8897&cmi_mnuMain=4751da70-dd3c-df11-b4ab-0030487d8897&ws=2020165a-723a-de11-b696-0030485a8df0&vsro=8

¹⁴https://en.wikipedia.org/wiki/Virtual_machine

¹⁵<https://www.virtualbox.org/>