Creating a project in Visual C++ 2013 Express
CS1336

The following notes describe how to create a project in Visual C++ Express 2013 edition.

Creating a Project

In general, programs written in VC++ 2013 must be in a project in order to compile correctly. VC++ 2013 does not compile programs that are not part of a project.

In addition, when a project is created, a folder structure is created on your hard drive along with several files. You must understand that folder structure in order to use the compiler effectively, and we will look at it shortly.

It is best to create a different project for each of the homework assignments, or for any other program you are working on, including lab assignments.

The steps for creating a project are in Visual C++ 2013 Express are:

1) Choose "File | New | Project".
   a) This option can be reached through the "File" menu or the "New Project" icon in the upper left.
2) Under "Installed Templates" (left-hand window) choose "Visual C++ | General" (not CLR, not Win32).
3) In the right hand or middle window choose "Empty Project (Visual C++)".
4) Use the "Name" box at the bottom to give the project a name. This name will also be given to the folder that heads the folder structure of the project.
   a) Take note of the base location, and change it if necessary.
   b) We suggest creating a single folder for the base location that will house all of the projects you create this semester.
5) You can leave "Create directory for solution" either checked or unchecked.
   a) If it is checked, a folder will be created with the name of the project, and another folder will be created within that folder with the same name as the project.
      i) This folder, i.e., "...<project name>\<project name>", is where your source code files will reside (if created with defaults).
   b) If unchecked, then a folder will be created with the name of the project but the inner folder with the same name as the project will not be created.
      i) Source code files then will be in the folder with the project name.
6) Choose OK.
7) At that point, the project and the folder structure will be created, but there is no source file. To add the source file, either a new one or an existing one, do the following:
   a) If you don't see the "Solution Explorer" in the left hand window, choose "View | Solution Explorer" to make sure it is on.
   b) In the Solution Explorer, right click on "Source Files".

c) Choose "Add | New Item" or "Add | Existing Item", depending on the circumstances.

d) If you choose "Add New Item", a dialog box will appear asking for information about the source file. Make the following choices:
   i) Under "Installed", choose "Visual C++" or "Code".
   ii) In the middle window, choose "C++ File".
   iii) It is necessary to give the source file a name. Since most of the homework assignments this semester will consist of two separate programs, let's use the following naming convention to name our files: "HW<HW number>_Prog<Program number>.cpp".

   For example, let's say you are working on the second program in Homework 3. Then name your source code file as follows:

   HW3_Prog2.cpp

   iv) Make sure you explicitly specify ".cpp" as the extension. (This is very important, as the extension tells the compiler to use C++ rules, and not C rules, for the compilation.)

e) The source file to be edited will appear in the editing pane. If it does not, double click on the source file name.

f) Note that only files that are attached to the "Source Files" node in the Solution Explorer will be compiled. As a result, it is possible to have other files open in the IDE while you are working on your source code file.

Location of the files to be submitted for homework assignments:

You will be required to submit a source code file for all of the homework assignments this semester. These source code files must be submitted to the proper location on eLearning in order to receive credit for the assignment.

In VC++, the location of these ".cpp" files depends on whether the option "Create directory for solution" was checked or unchecked. If it was checked, your source code files will be in the <Project Name>\<Project Name> folder. This "<Project Name>" is the project name that you supplied in Step 4 above. Note that the project name is duplicated twice in the folder structure for the project. The ".cpp" file you need to submit is in the inner most folder with that same name.

If the "Create directory for solution" option was unchecked, then your source code files will be in the <Project Name> folder.

A common mistake is to submit one of the control files used by the compiler. Most often, that is the "`.sln`" file that is found in the main project folder. <u>This is not the correct file to submit</u>. We are interested in the source code file only. In our class, that will have an extension of "`.cpp`".

Location of Other Files

Some other files of interest during a compilation are the object files created by the compiler, and the final executable.

The object files have the same file name as the source file, but with an ".obj" extension. They are found in the <Project Name>\<Project Name>\Debug folder.

The executable files have the same name as the project name (not the source file name), but with an ".exe" extension. Those files are found in the <Project Name>\Debug folder.

Note that double clicking on an .exe file through the Windows Explorer will run your program.

Some configuration options in VC++:

As we work on our source code files this semester, we will generally use spaces instead of tabs. (This ensures that all source code files will display the same way regardless of the compiler that is being used to view them.) In addition, we will use an indentation of three spaces for embedded structures.

So that we're all using the same configuration, **please set VC++ to do these things automatically by implementing the following:**

1) Choose "Tools | Options".
2) Under "Text Editor | C/C++ | General", activate the display of line numbers by clicking the "Line Numbers" checkbox.
   a) This will be very useful when debugging programs.
3) Under "Text Editor | C/C++ | Tabs", set the following:
   a) Tab Size: 3
   b) Indent Size: 3
   c) Click on the "Insert Spaces" radio button.