Visual C++ 2012 Tutorial

For Introduction to Programming with C++ By Y. Daniel Liang

1 Introduction

Visual C++ is a component of Microsoft Visual Studio 2012 for developing C++ programs. A free version named *Visual Studio Express* can be downloaded from Supplement II.A. This section introduces how to create a project, create a program, compile and run the program in Visual C++ Express 2012 Edition.

2 Getting Started with Visual C++

Visual C++ is easy to install. If you need help with installation, please refer to Supplement II.A on the Companion Website.

Suppose you have installed Visual C++ 2012 Express Edition. You can launch Visual C++ from the Windows Start button by choosing *VS Express for Desktop*. The Visual C++ 2012 Express user interface appears, as shown in Figure 1.



Figure 1

The Visual C++ user interface is a single window that performs editing, compiling, debugging, and running programs.

3 Creating a Project

To create C++ programs in Visual C++, you have to first create a project. A project is like a holder that ties all the files together. Here are the steps to create a project:

- 1. Choose File, New, Project to display the New Project window, as shown in Figure 2.
- 2. Choose C++ under the Template and select Win32 Console Application in the middle column. Type <u>bookexample</u> in the Name field and <u>c:\smith</u> in the Location field. Click OK to display the Win32 Application Wizard window, as shown in Figure 3.
- 3. Click *Next* to display the application settings window, as shown in Figure 4.
- 4. Select *Console application* in the Application type section and check *Empty project* in the Additional options section. Click *Finish* to create a project. You will see the project named <u>bookexample</u> in the Solution Explorer, as shown in Figure 5.

New Project				? ×
▶ Recent	Sort by:	Default 👻	III E	Search Installed Templates (Ctrl+E)
▲ Installed		Win32 Console Application	Visual C++	Type: Visual C++
▲ Templates ▲ Visual Basic Windows	Ē	Win32 Project	Visual C++	A project for creating a Win32 console application
Test	Z.	Empty Project	Visual C++	
 Visual C# Visual C++ Visual Studio Samples Online 	Solutions	Makefile Project	Visual C++	
<u>N</u> ame:	bookexample			
Location:	c:\smith		Browse	
Solution na <u>m</u> e:	bookexample			Create <u>d</u> irectory for solution Add to so <u>u</u> rce control OK Cancel

Figure 2

You need to create a project before creating programs.

Win32 Application Wizard - b	ookexample
Welco	ome to the Win32 Application Wizard
Overview Application Settings	These are the current project settings: • Console application Click Finish from any window to accept the current settings. After you create the project, see the project's readme.txt file for information about the project features and files that are generated.
	< Previous Next > Finish Cancel

Figure 3

Win32 Application Wizard creates a project for Win32 applications.

	Win32 Application Wizard - bookexample			? ×
	Application Settings			
Choose Empty	Overview Application Settings	Application type:	Add common header files for: ☐ ATL ☐ MFC	
		< Previous	Next > Finish	Cancel

Figure 4

Win32 Application Settings window lets you set the application type.



Figure 5

A project is created for C++ console applications.

4 Creating a C++ Program

After you create a project, you can create programs in it. Here are the steps to create a C++ program for Listing 1.1:

- Right-click the bookexample project in the Solution Explorer to display a context menu. Choose Add, Add New Item from the context menu of the bookexample project (see Figure 6) to display the Add New Item window, as shown in Figure 7.
- 2. Choose Code under Visual C++ on the left column and C++ File (.cpp) in the middle column. Enter <u>Welcome</u> in the Name field and <u>c:\smith\bookexample\bookexample</u> in the Location field. Click Add to create the file, as shown in Figure 8.
- 3. Enter the code for Welcome.cpp exactly from Listing 1.1, as shown in Figure 9.

bookexample - Microsoft Visual Studio Express 2012 for Windows	Desktop DOLS TEST WINDOW HELP	Quick Launch (Ctrl+ Q)	□ ×
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	<u>-</u>	Search Solution Explorer (Ctrl+;)	<i>р</i> -
	_	J Solution 'bookexample' (1 project)	
		Build Rebuild Project Only	,
		Scope to This New Solution Explorer View	
		Build Customizations	
	The New Item Ctrl+Shi	ift+A Add	
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	Class Shift+Al	It+C Ithingerrubberr	
		Projec Debug	
		Projec 🛃 Add Solution to Source Control	
		Root N X Cut	Ctrl+X
		🖞 Paste	Ctrl+V

Figure 6

You can open the Add New Item window from the project's context menu.

Add New Item - bo	okexample		CONC. CONTRA	?
▲ Installed		Sort by: Default		Search Installed Templates (Ctrl+E)
⊿ Visual C++ UI		C++ File (.cpp)	Visual C++	Type: Visual C++
Code Web		Header File (.h)	Visual C++	creates a me containing C++ source code
Test Utility		Component Class	Visual C++	
⊅ Online				
<u>N</u> ame:	Welcome.cpp			
<u>L</u> ocation:	c:\smith\bookexample\bookexample\ +			• <u>B</u> rowse <u>A</u> dd Cancel

Figure 7

You can specify the file type, name, and location to create a file.

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