Tutorial: Creating a simple application

In this tutorial, you will use the CDT to create a simple 'Hello World' application. This tutorial describes the process of creating a new C++ project where the build is automatically managed by the CDT, and running the program.

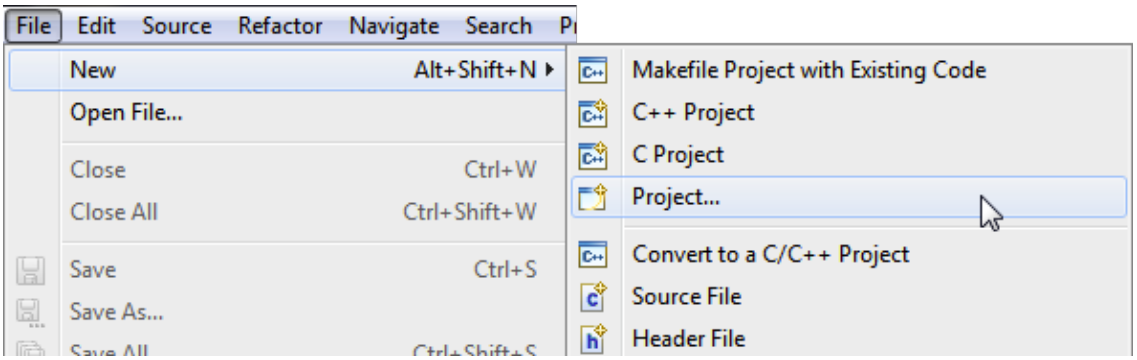
NOTE: In earlier versions of the CDT, there were two separate project types: Managed make (automatically generated a makefile) and Standard make (required the user's makefile to build). Now with CDT, you just select a project type, and that determines what build system to use.

To create a simple "Hello World" application using CDT, perform the following general steps:

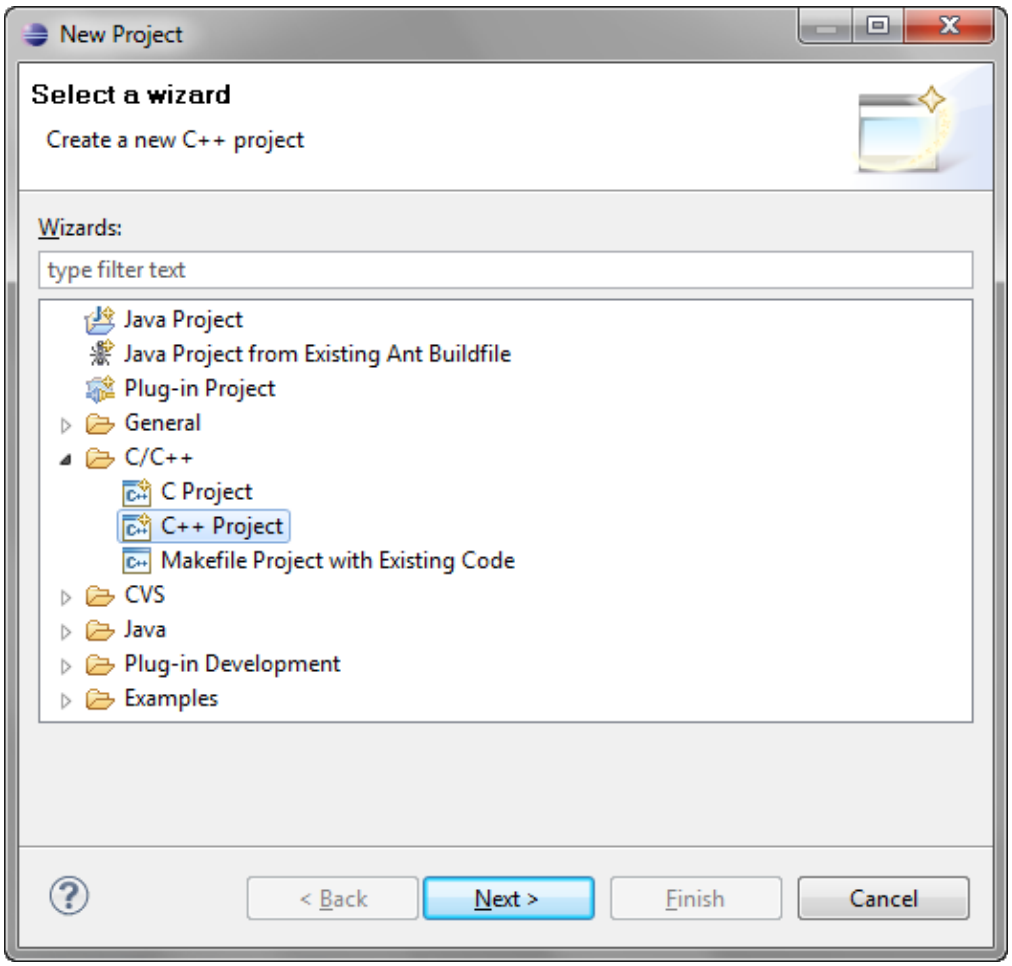
1. Creating a project
2. Reviewing the code and building the project
3. Running the application

Step 1: Creating a project

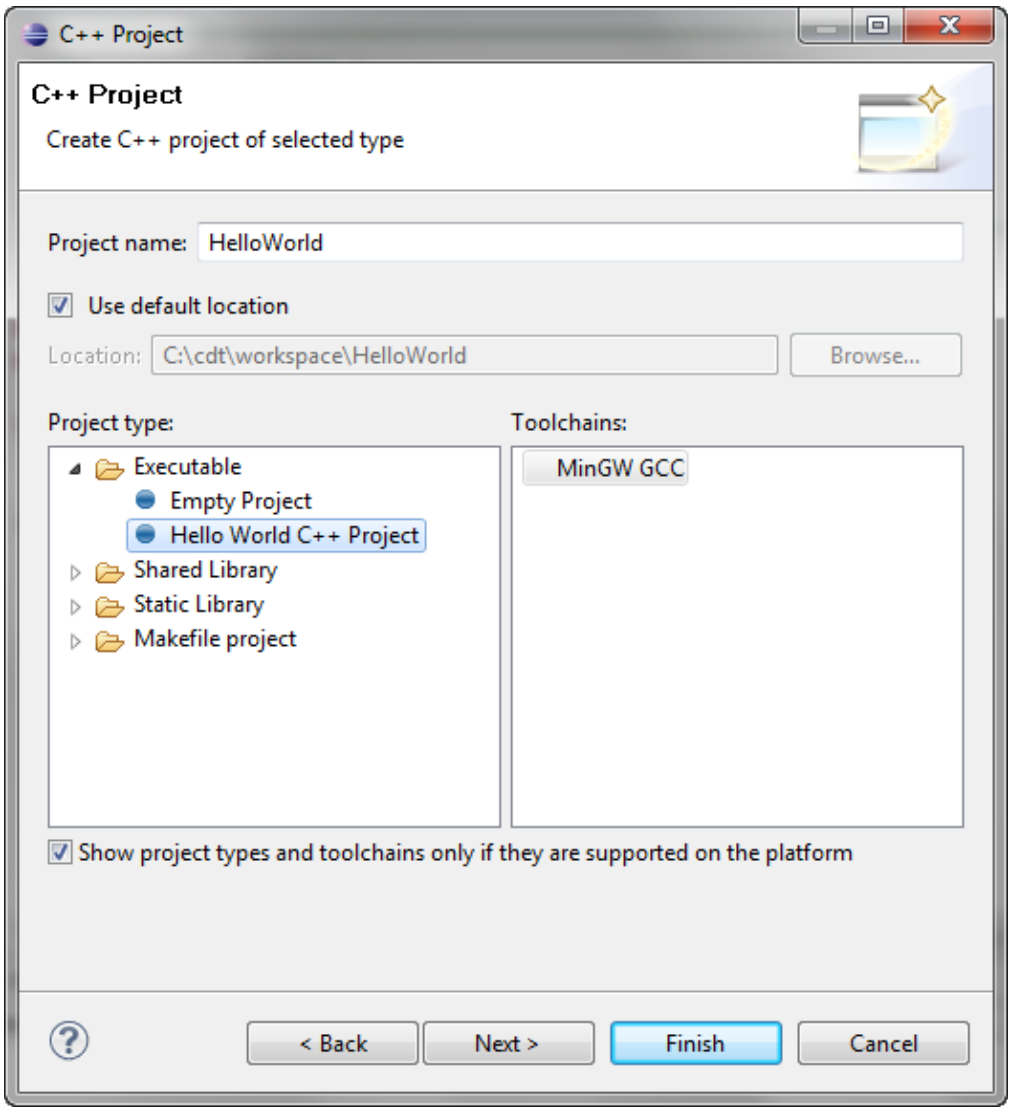
1. Select **File > New > Project**.



2. Select the type of project to create. For this tutorial, expand the **C++** folder and select **C++ Project** and click **Next**.



3. The **C++ Project** wizard opens.



By default, the CDT filters the **Toolchain** and **Project types** that it displays in those lists based on the language support for the C++ Project wizard you selected for this tutorial.

a. In the **Project name** field, type a name for the project, such as **HelloWorld**.

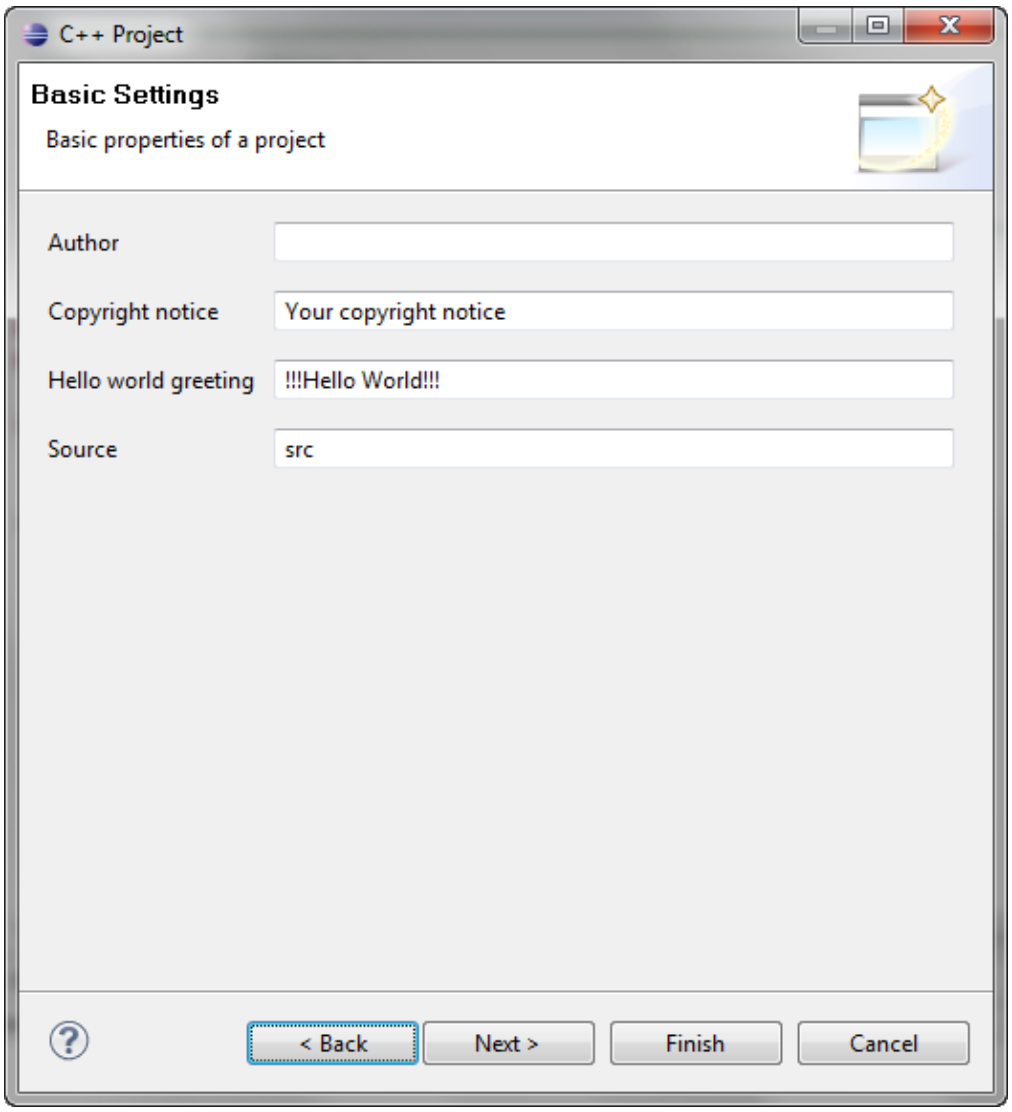
b. From the **Project type** list, expand **Executable** and select **Hello World C++ Project**. This project type provides a simple Hello World application in C++, and the makefile is automatically created by the CDT.

c. Select a required toolchain from the **Toolchain** list.

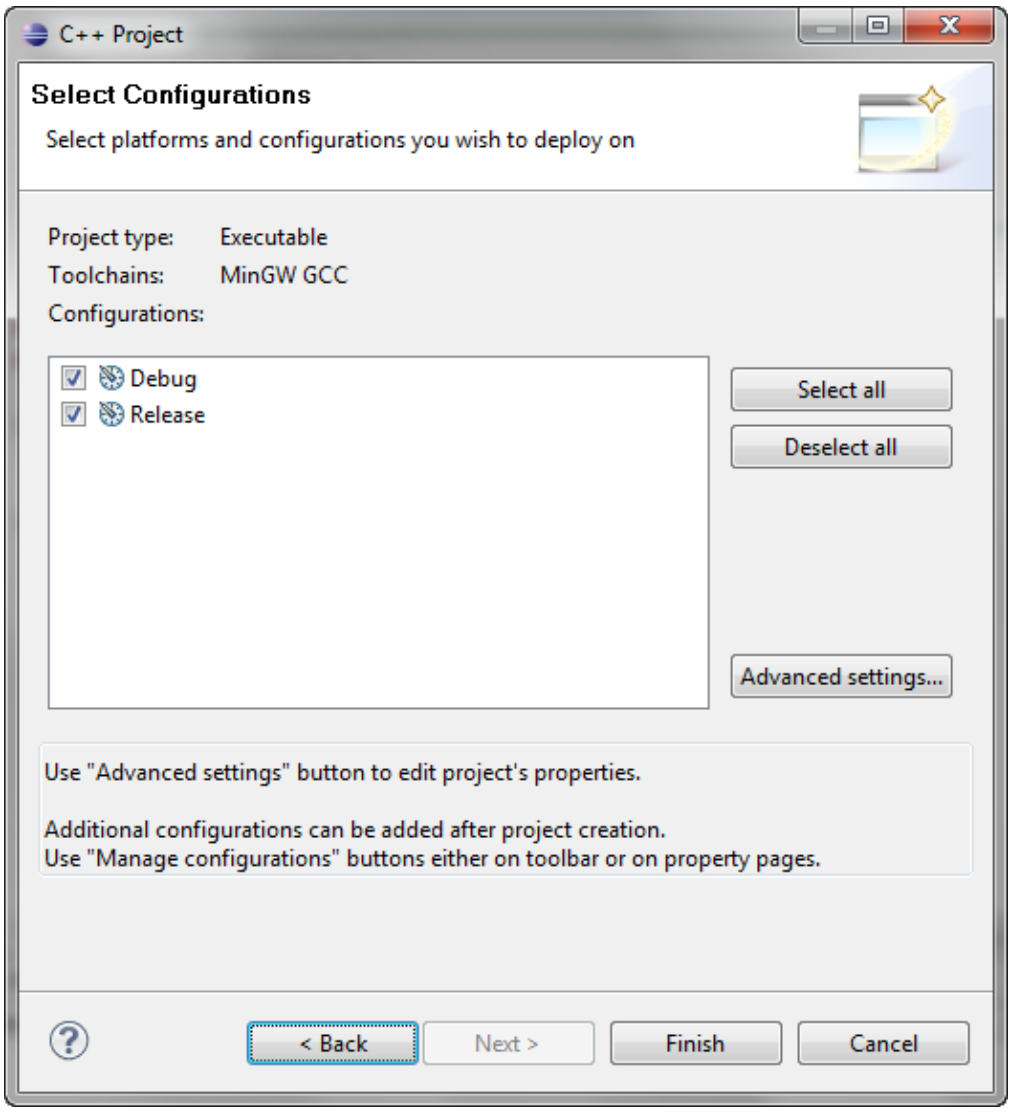
   A toolchain is a set of tools (such as a compiler, linker, and assembler) intended to build your project. Additional tools, such as a debugger, can be associated with a toolchain. There can be several toolchains available, depending on the compilers installed on your system.

d. Click **Next**.

4. Specify the **Basic Properties** for the new project, such as your author, copyright, and source information, then click **Next**.



5. The **Select Configurations** page displays a list of configurations based on the project type and toolchain(s) selected earlier.

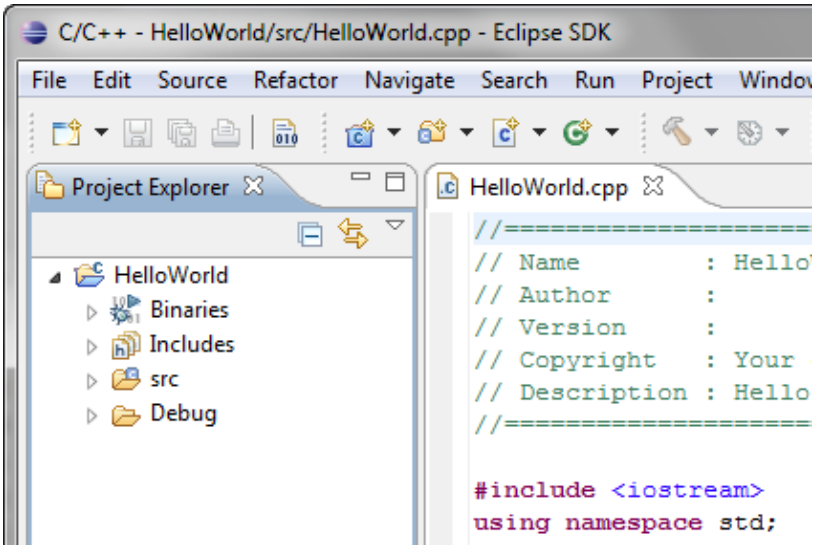


OPTIONAL: If you want to change the default project settings, click **Advanced Setting** to open the Project Properties dialog for your new project allowing you change any of the project specific settings, such as includes paths, compiler options, and libraries.

6. Click **Finish**.

NOTE If the **C++ perspective** is not currently set as the default, you are prompted to determine if you would like to this project to be associated with the C/C++ perspective. Click **Yes**.

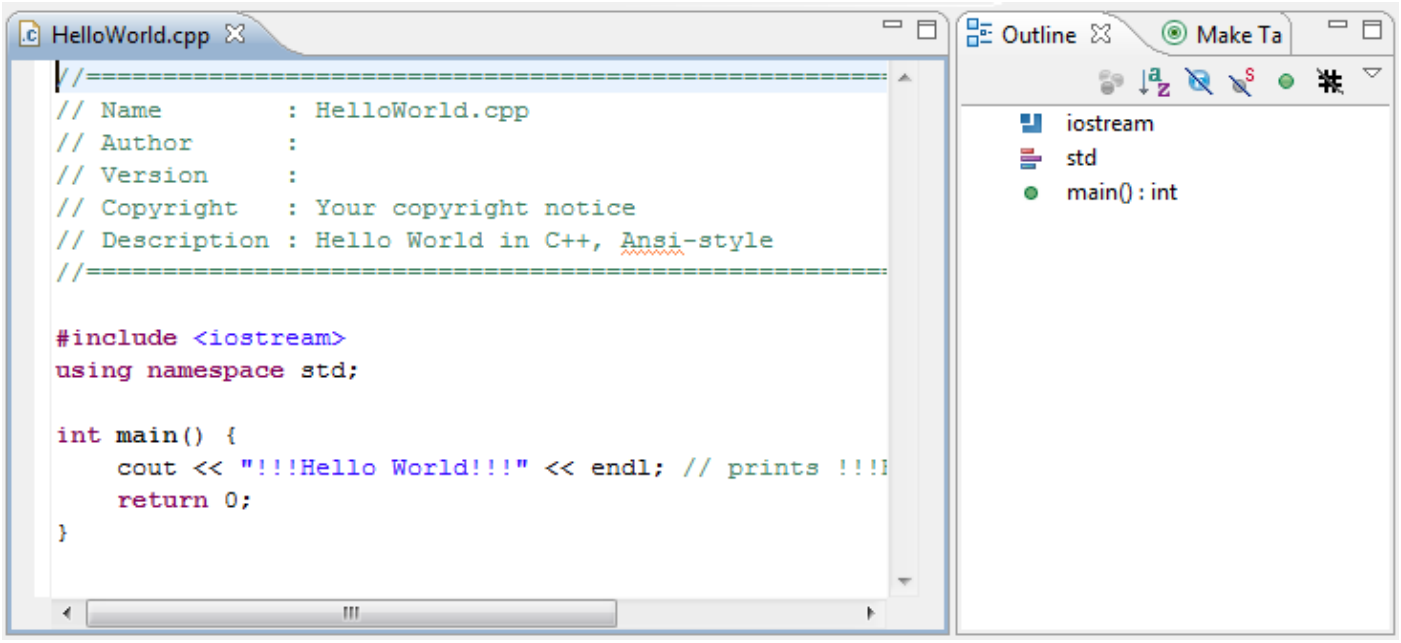
A project is created with the default settings and a full set of configurations based on the project type and toolchain you selected. You should now see the new project in Project Explorer view.



Step 2: Reviewing the code and building the project

1. From the **Project Explorer** view, double-click the .cpp file created for your project, for example, `HelloWorld.cpp`. You'll find it within the project "`src`" folder.

   This file opens in a default editor. It contains C++ template code for the Hello World example project you selected earlier. In addition, the Outline view has also been populated with objects created from your code.



   NOTE: You can specify a different editor, and add or modify existing code templates in **Window > Preferences**.

   OPTIONAL: You can type additional code in this file, and then save the changes by clicking **File > Save**, or pressing **CTRL+S**.

   Next, you will need to build your project before you can run it.

2. Build your project by pressing **CTRL+B**, or select the project in the **Project Explorer** view and select **Project > Build Project**.

NOTE: If a build generates any errors or warnings, you can see those in the Problems view. If you encounter difficulty, see the topics Building C/C++ projects and Before you begin
.

3. Read through the build messages in the Console view. The project should build successfully.

   You will also see the **Outline** view has also been populated with objects created from your code. If you select an item from the **Outline** view, the corresponding text in the editor is highlighted.

Step 3: Running the application

To run your application:

1. Within the C/C++ Perspective, click **Run > Run Configurations...**.
2. Select **C/C++ Application**.
3. Click **New**.
   A new Run Configuration is created. Its name and path to the executable are provided by the project ('Hello World' in our case).
4. Click **Run**.

   Now, you should see the Hello World application running in the **Console** view. The **Console** also shows which application is running in a title bar.

5. You can click the other views to see the information that they contain.
