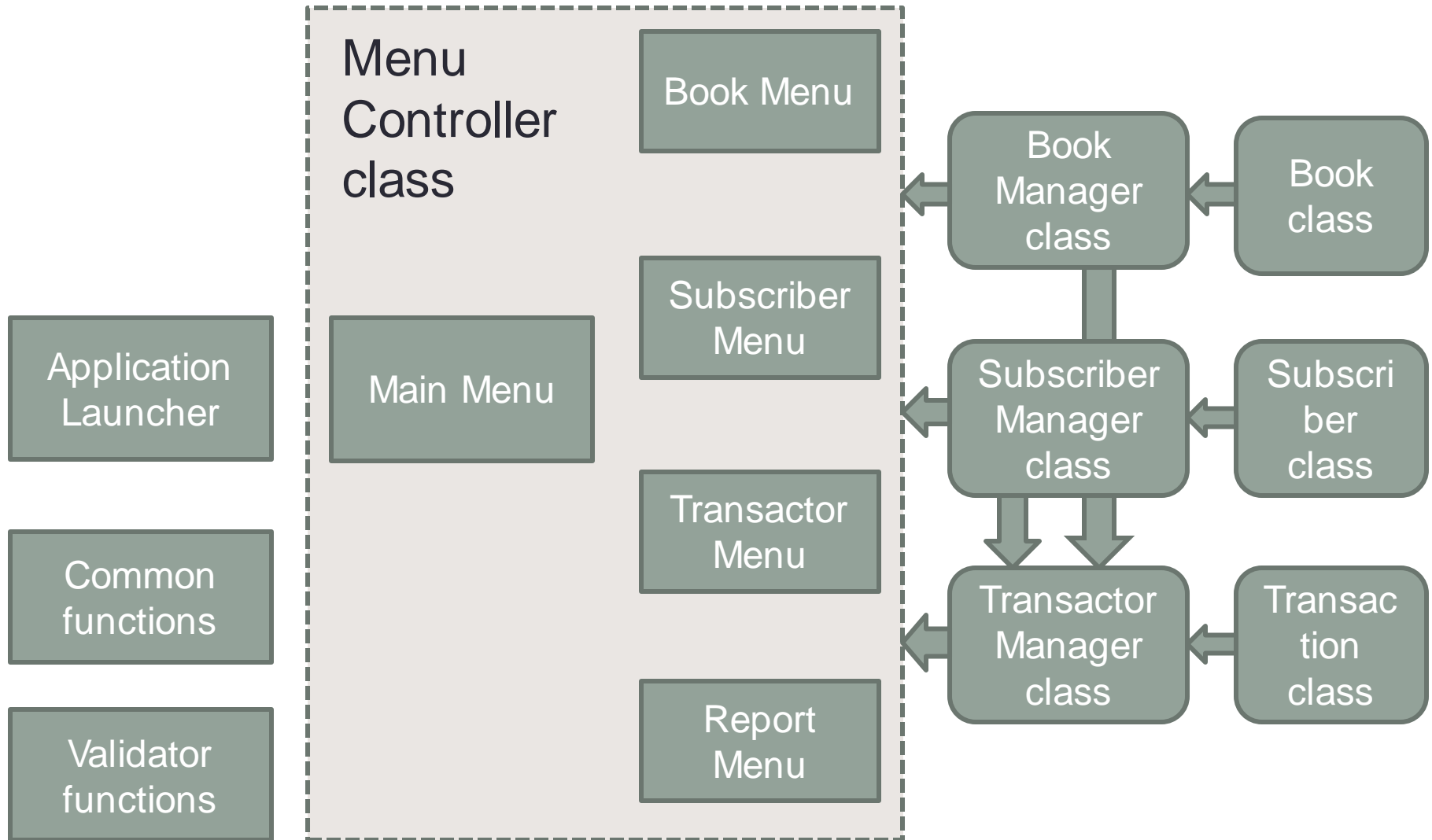# C++ PROJECT II

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Introduction

- Hello .. Here is a small document that can be used with the project solution that is provided.

- This project is about a small library system.

- The slides are about the class structure that has been used in the project.

- It also defines the purpose of various classes and source files that has been used.

- Finally it also helps you to understand how to create and use header files in code blocks along with the c/c++ programs that you write.

THE BASIC DESIGN

The Class Diagram and Data Flow

Menu Controller class

Book Menu

Main Menu

Subscriber Menu

Transactor Menu

Report Menu

Application Launcher

Common functions

Validator functions

Book Manager class

Book class

Subscriber Manager class

Subscriber class

Transactor Manager class

Transaction class

THE SOURCE CODE

List of source code documents

- **main.cpp** : This the application launcher program that instantiates the menu controller class.
- **Menu_Controller.h** : This contains all the menu modules including main calling module in function form.
- **Common.h** : This is a collection of functions that are required on and often for various reason like working with dates etc.
- **Book.h** : This class represents a single book along with its required information and setter getter functions.
- **Book_Manager.h** : This class manages the list of all books in the library. It also does all required functions that pertains to the book related information. You can say it is the master module for all book related operations.

List of source code documents(continued)

- **Subscriber.h** : Subscribers are heart of a library business. This header file represents a single subscriber along with its required information and setter getter functions.

- **Subscriber_Manager.h** : This class manages the list of all subscriber members to the library. It also does all required functions that deals with the subscriber related information. You can say it is the master module for all subscriber activities.

- **Transactor.h** : This file will represent one single record of transaction that takes place between library and the subscriber for borrowing books or returning of books.

- **Transactor_manager.h** : This manages all the transactions and mainly contains various functions that deals with transactions. It also generates reports based on trasactions.

List of source code documents(continued)

- Validator.h : Validator class provides all functions that compares a given format to validate data. It can check all kinds of data and date information.

# USER DEFINED HEADER FILES

How to create them …

Need for User defined header files.

- In projects it is often seen that the program becomes bigger than expected. Then it becomes useful to create our own header files and divide the program into manageable number of modules.

- In C++ we normally create classes. And each class becomes a collection of useful functions related to specific category of objects.

- We generally keep each single class in a single header file. And when we create programs we integrate these header files by including them in the program.

- The next few slides will demonstrate how to create and use header files with your programs.

Here is a starting program in C++

Navigate to New->File
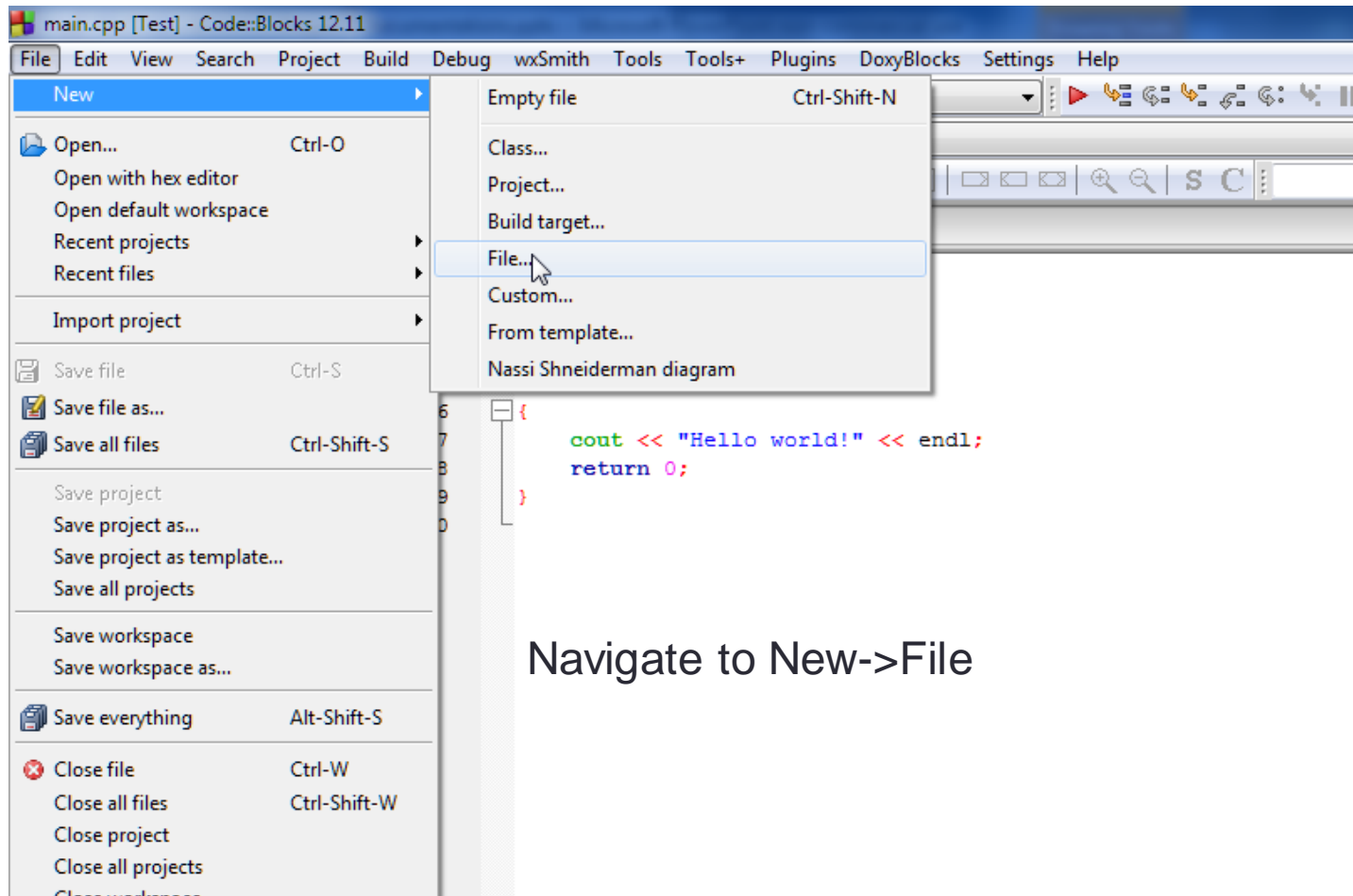
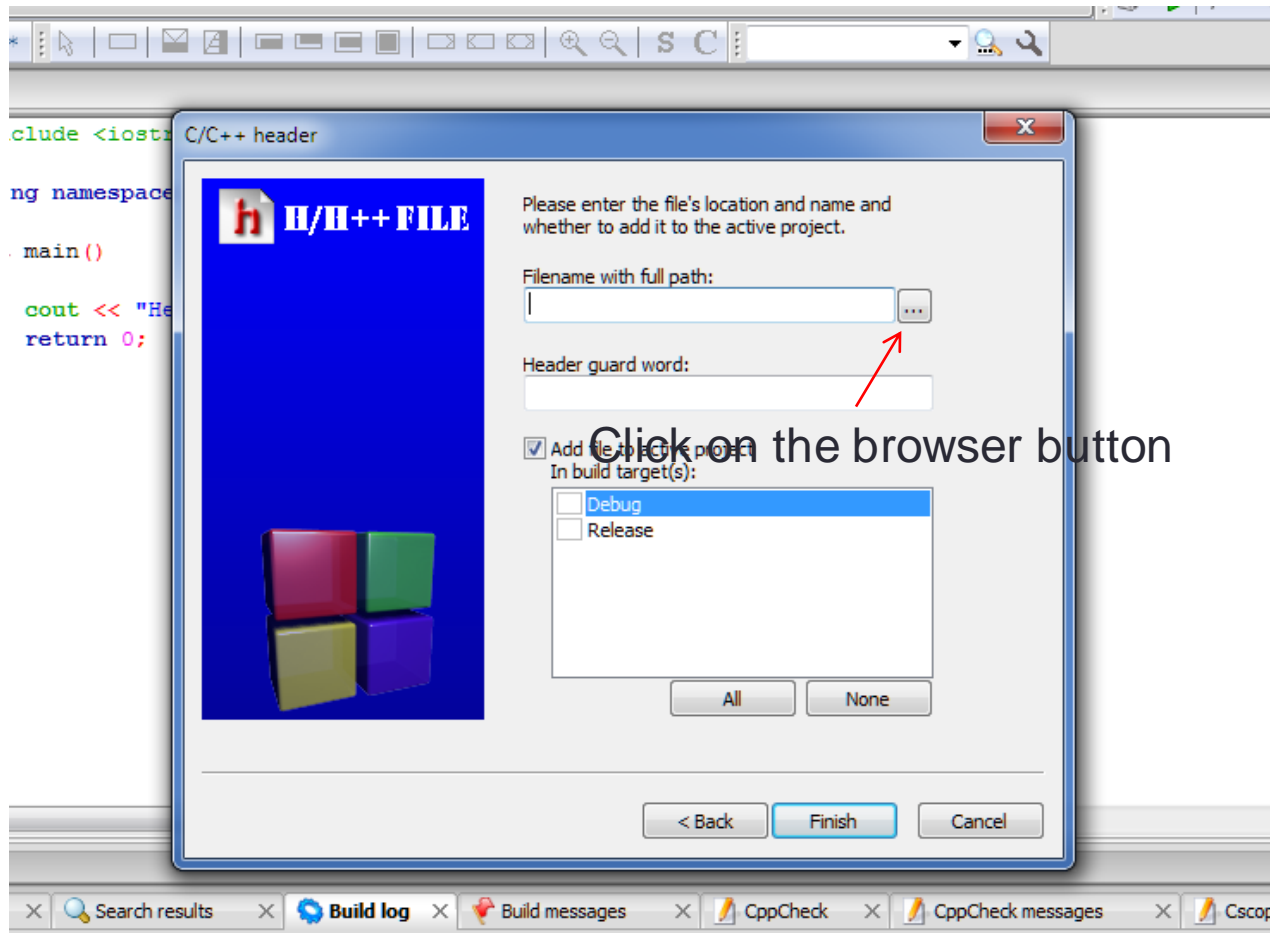# Create a header file now
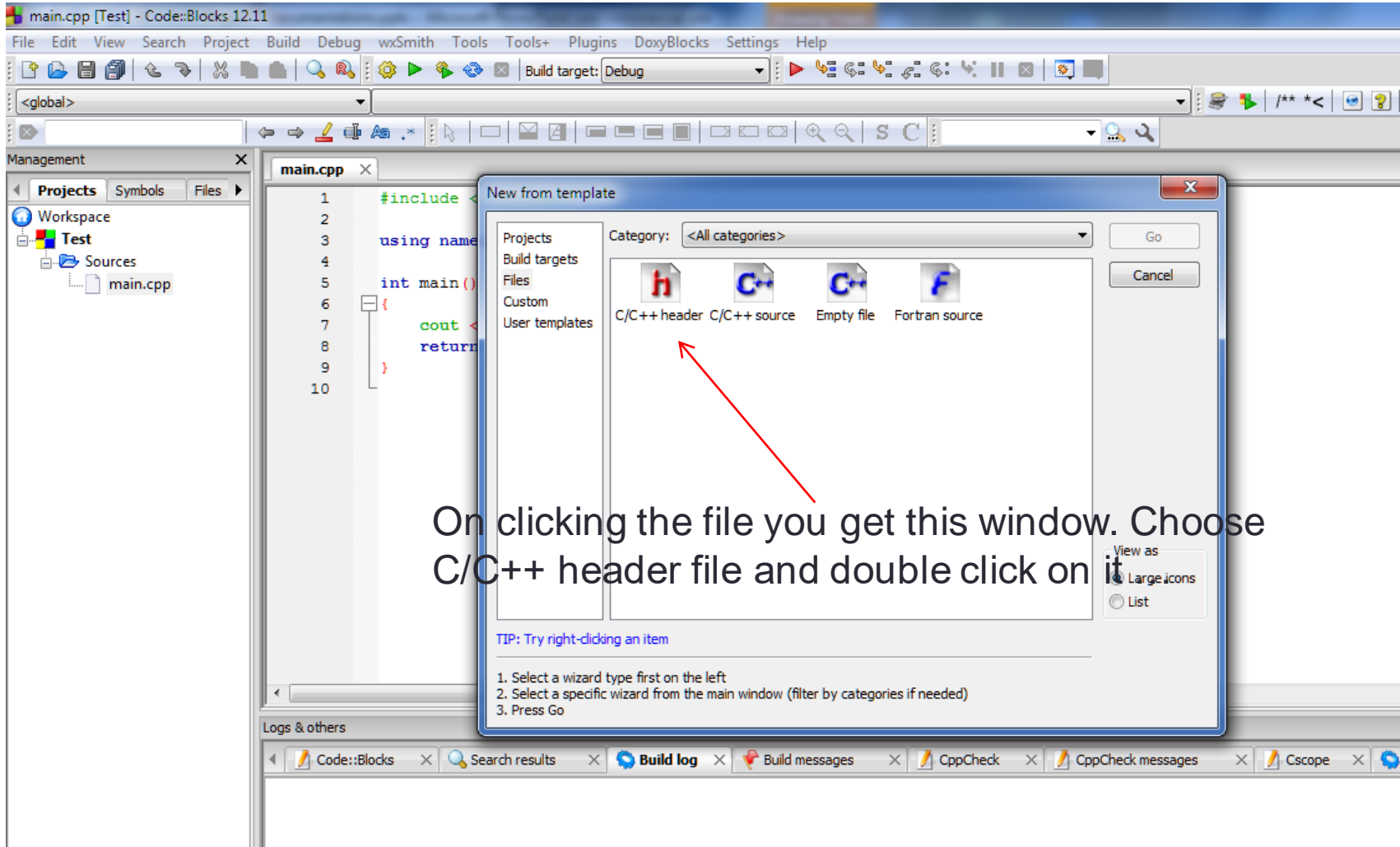
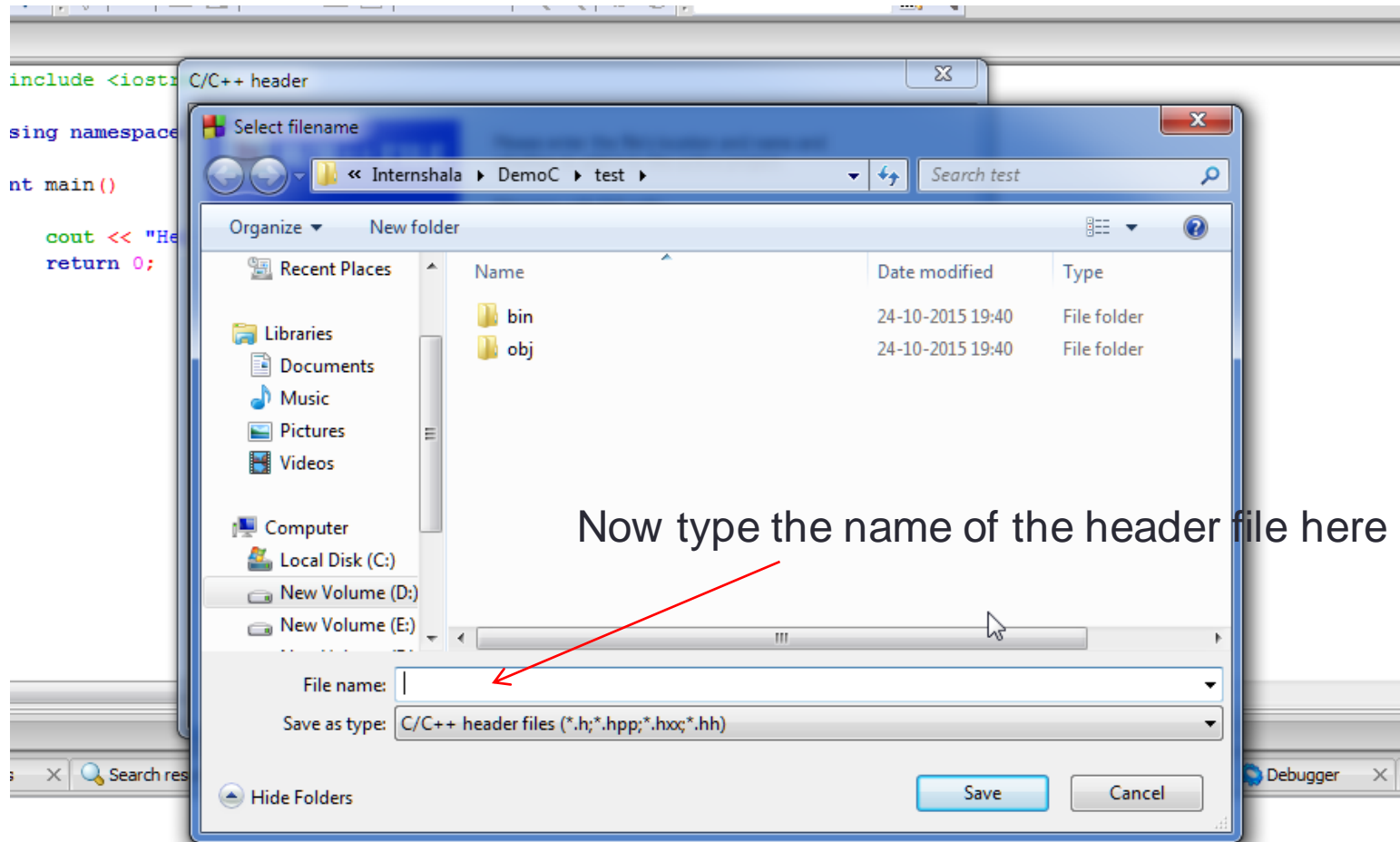On clicking the file you get this window. Choose C/C++ header file and double click on it

You get this wizard
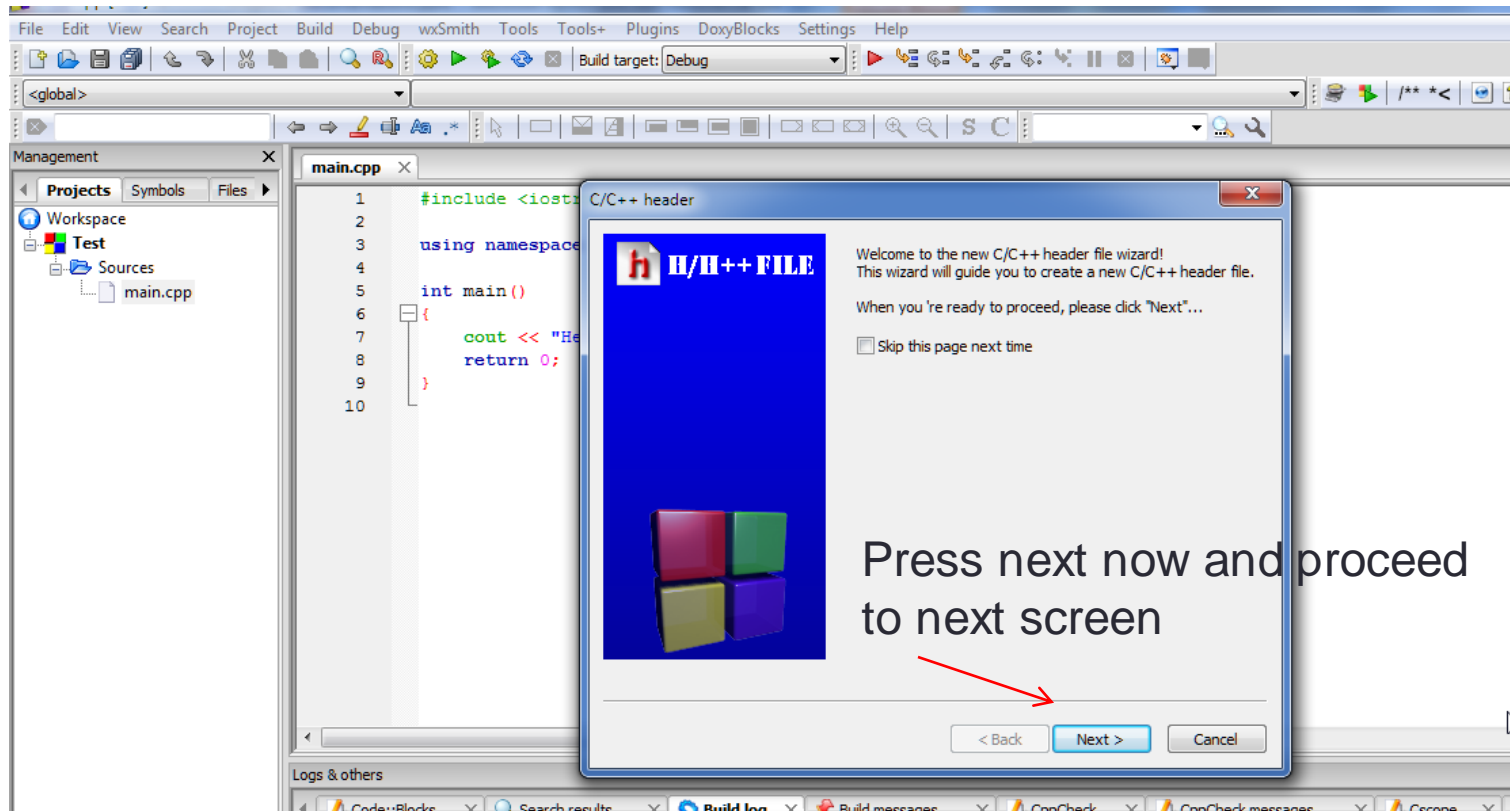
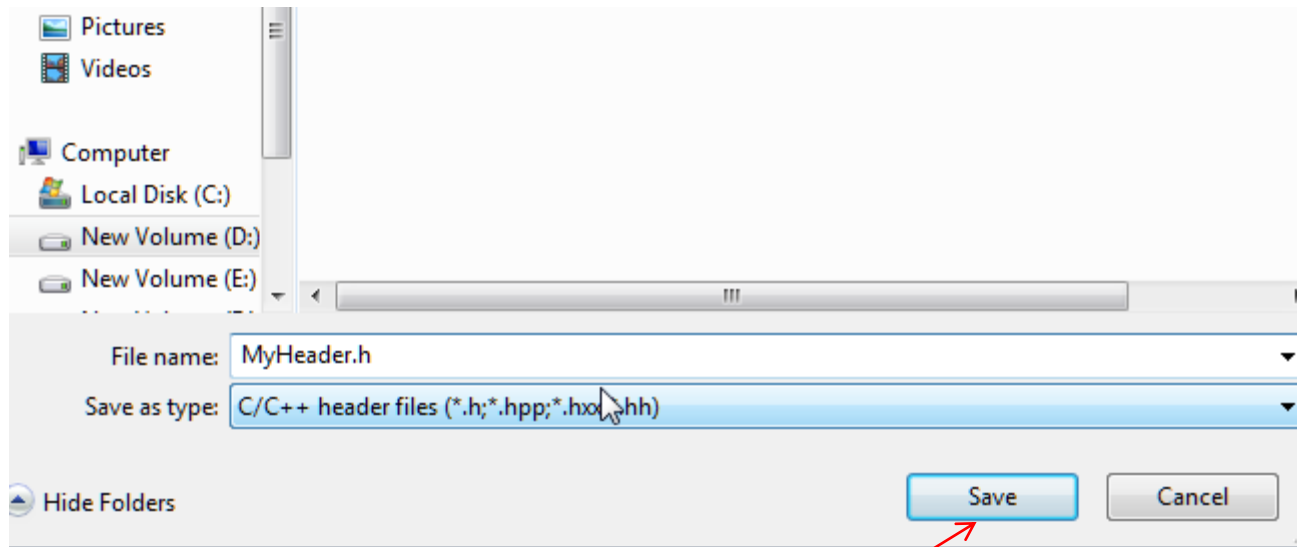# Creating header files

Choose the location

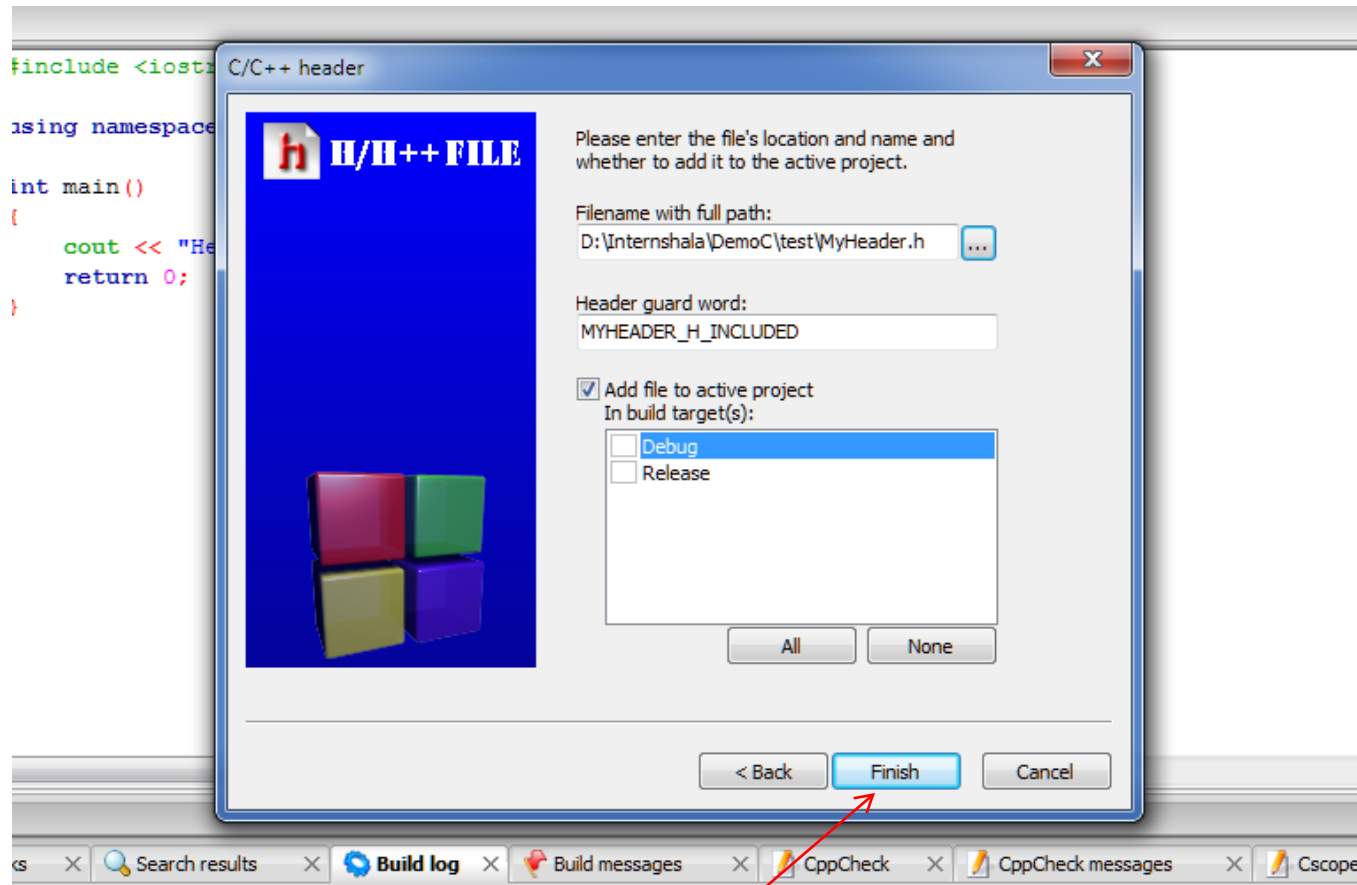Now type the name of the header file here
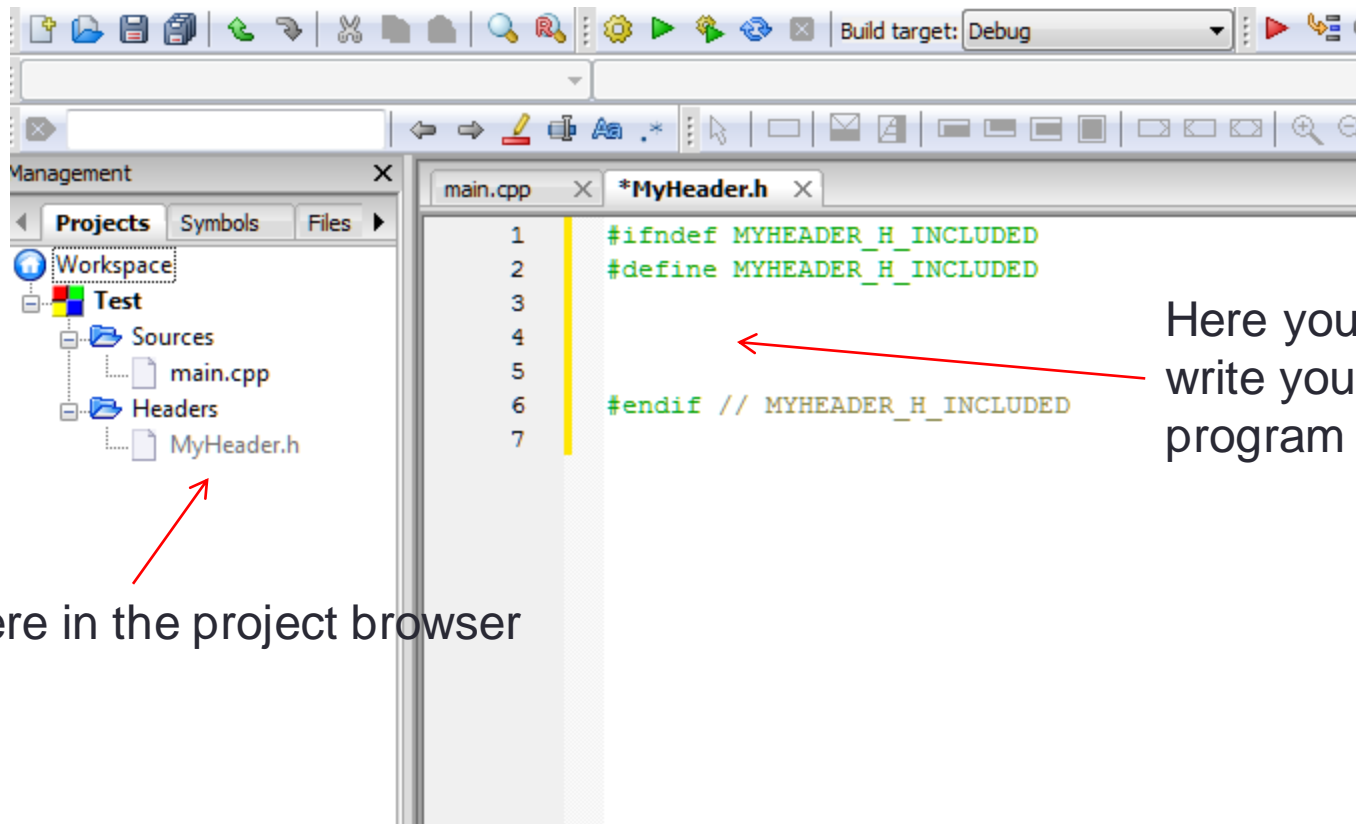
Save the header file

Save the header file now
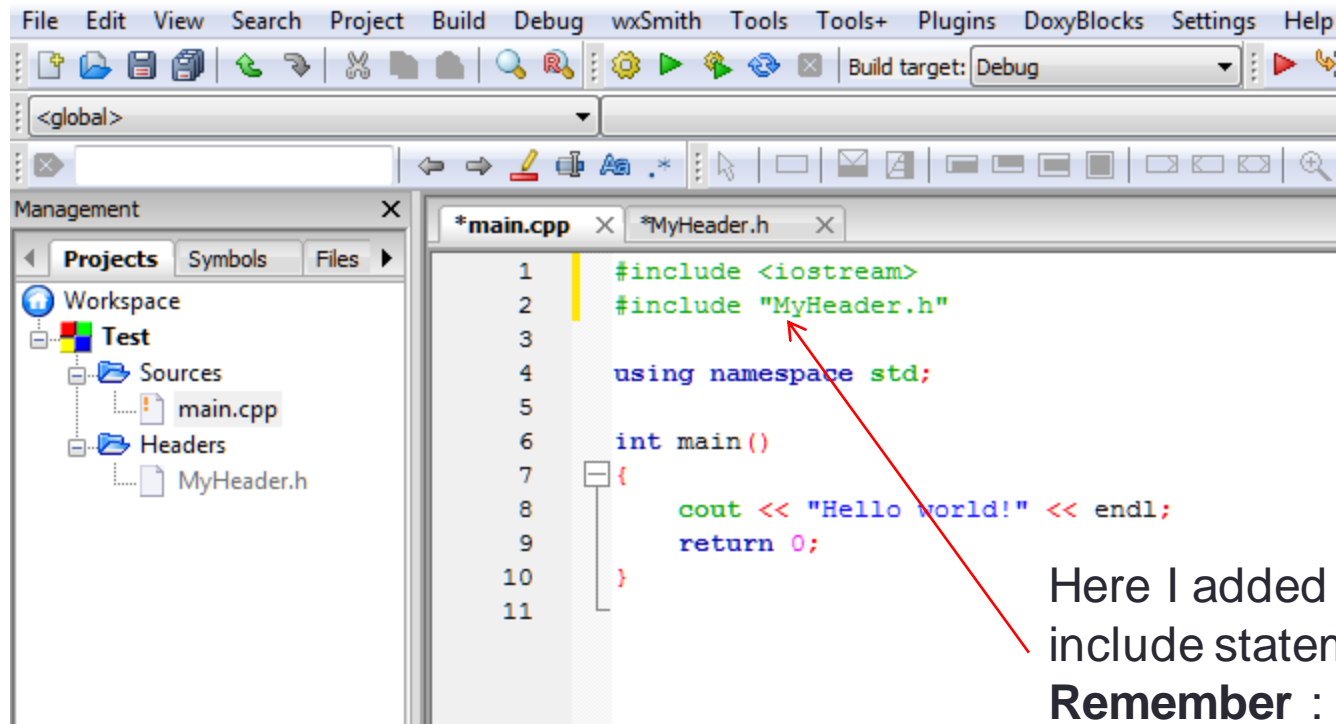
Finish the process

Press finish

Header file is now created

It is here in the project browser

Here you will write your program content

In the main program add the include

Here I added the include statement.
Remember : you have to use double quotes for user defined header files.

THANK YOU