

Eclipse_Arduino IDE

OUTLINE

- 必要軟體
- 安裝流程
- 建立專案
- 編譯與上傳 執行

必要軟體

- JDK 7.0以上
- [Eclipse CDT](#)(目前版本 8.3.0)
- [Arduino IDE 1.0.1](#)(必要，目前以上版本可能有不同的裝法)
- [Arduino eclipse plugin](#) (讓eclipse 可以編譯 arduino，可以從eclipse 下載)

必要軟體

The screenshot shows a web browser window with the URL www.eclipse.org/downloads/packages/eclipse-ide-cc-developers/keplersr2. The page features the Eclipse logo and a navigation menu with links for Home, Downloads, Users, Members, Committers, Resources, Projects, and About Us. A search bar is also present.

The main content area is titled "Eclipse IDE for C/C++ Developers". It includes a "Package Description" section stating: "An IDE for C/C++ developers with Mylyn integration." Below this, it lists the included components: C/C++ Development Tools, Eclipse Git Team Provider, Mylyn Task List, and Remote System Explorer. A link to the "Detailed features list" is provided.

The "Download Links" section lists the following options:

- Windows 32-bit
- Windows 64-bit
- Mac OS X (Cocoa 32)
- Mac OS X (Cocoa 64)
- Linux 32-bit
- Linux 64-bit

The "Windows 32-bit" link is circled in red. Below the links, it indicates the package has been downloaded 402,450 times. There are also sections for "Checksums...", "Bugzilla" (with 21 open and 28 resolved bugs), and "New and Noteworthy" (listing Eclipse CDT, Linux Tools, Platform, Mylyn, and EGIT).

必要軟體

arduino-1.0.4-windows.zip	Arduino 1.0.4 for Windows	Mar 2013	Mar 2013	91.4 MB	354185
arduino-1.0.4-linux32.tgz	Arduino 1.0.4 for Linux (32-bit)	Mar 2013	Mar 2013	19.5 MB	22177
arduino-1.0.4-src.tar.gz	Arduino 1.0.4 source	Mar 2013	Mar 2013	33.7 MB	8889
arduino-1.0.4-linux64.tgz	Arduino 1.0.4 for Linux (64-bit)	Mar 2013	Mar 2013	20.3 MB	20994
arduino-1.0.3-src.tar.gz	Arduino 1.0.3 source	Dec 2012	Dec 2012	12.8 MB	12752
arduino-1.0.3-macosx.zip	Arduino 1.0.3 for Mac OS X	Dec 2012	Dec 2012	77.2 MB	79660
arduino-1.0.3-linux64.tgz	Arduino 1.0.3 for Linux (64-bit)	Dec 2012	Dec 2012	20.2 MB	25322
arduino-1.0.3-linux32.tgz	Arduino 1.0.3 for Linux (32-bit)	Dec 2012	Dec 2012	19.4 MB	26001
arduino-1.0.3-windows.zip	Arduino 1.0.3 for Windows	Dec 2012	Dec 2012	91.3 MB	424304
arduino-1.0.2-src.tar.gz	Arduino 1.0.2 source	Nov 2012	Nov 2012	14.0 MB	7300
arduino-1.0.2-linux64.tgz	Arduino 1.0.2 for Linx (64-bit)	Nov 2012	Nov 2012	20.2 MB	11816
arduino-1.0.2-linux.tgz	Arduino 1.0.2 for Linux (32-bit)	Nov 2012	Nov 2012	19.3 MB	13235
arduino-1.0.2-windows.zip	Arduino 1.0.2 for Windows	Nov 2012	Nov 2012	91.2 MB	174816
arduino-1.0.2-macosx.zip	Arduino 1.0.2 for Mac OS X	Nov 2012	Nov 2012	74.8 MB	31257
arduino-1.0.1-src.tar.gz	Arduino 1.0.1 source	May 2012	May 2012	9.6 MB	24061
arduino-1.0.1-linux64.tgz	Arduino 1.0.1 for Linx (64-bit)	May 2012	May 2012	15.8 MB	37771
arduino-1.0.1-linux.tgz	Arduino 1.0.1 for Linux (32-bit)	May 2012	May 2012	15.0 MB	47306
arduino-1.0.1-windows.zip	Arduino 1.0.1 for Windows	May 2012	May 2012	86.5 MB	650857
arduino-1.0.1-macosx.zip	Arduino 1.0.1 for Mac OS X	May 2012	May 2012	71.1 MB	127008
gcc-arm-none-eabi-4.4.1-2010q1-188-win32.tar.gz	ARM gcc 4.4.1 - Codesourcery ARM 2010q1-188 Win 32	May 2012	May 2012	20.4 MB	951
gcc-arm-none-eabi-4.4.1-2010q1-188-macosx.tar.gz	ARM gcc 4.4.1 - Codesourcery ARM 2010q1-188 Mac	May 2012	May 2012	32.8 MB	602
gcc-arm-none-eabi-4.4.1-2010q1-188-linux32.tar.gz	ARM gcc 4.4.1 - Codesourcery ARM 2010q1-188 Linux 32	May 2012	May 2012	20.9 MB	1781
arduino-1.0-src.tar.gz	Arduino 1.0 source	Nov 2011	Nov 2011	8.1 MB	22373
arduino-1.0-linux64.tgz	Arduino 1.0 for Linux (64-bit)	Nov 2011	Nov 2011	4.1 MB	43895
arduino-1.0-linux.tgz	Arduino 1.0 for Linux (32-bit)	Nov 2011	Nov 2011	4.1 MB	58694

安裝流程

- 解壓縮 Eclipse
- 解壓縮 arduino IDE
- 安裝 arduino 的驅動程式
- 安裝 arduino plugging

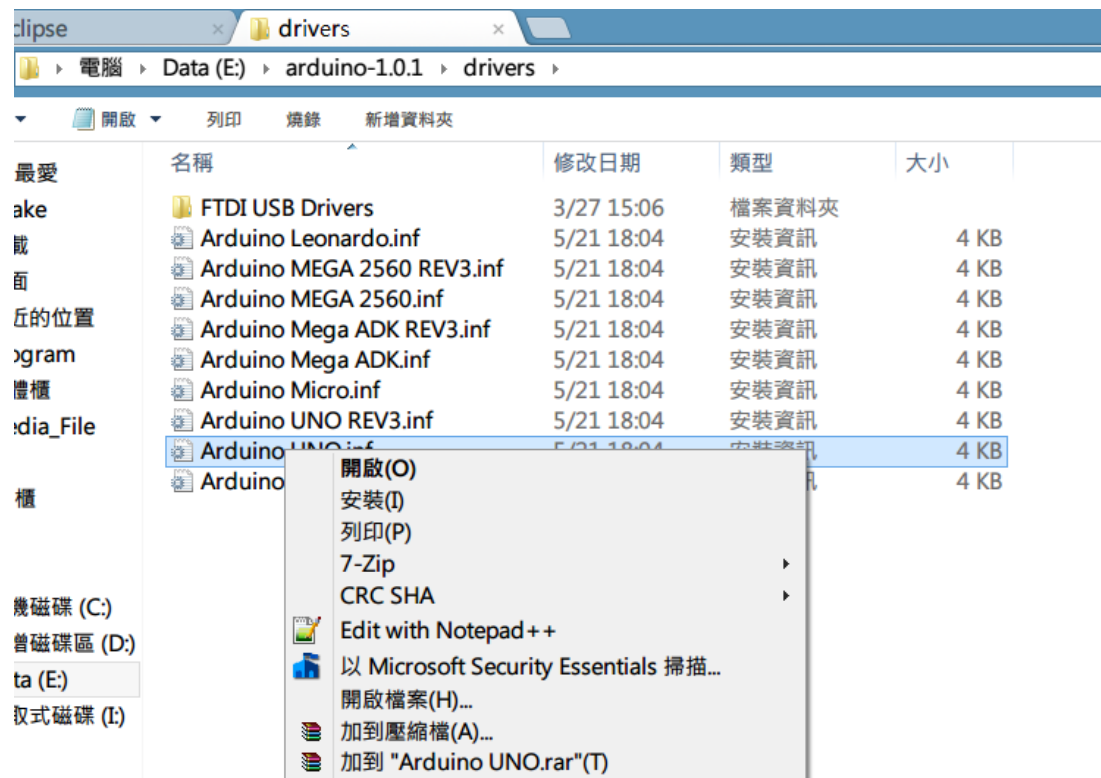
安裝流程

- 安裝 arduino 的驅動程式

驅動程是在 arduino-1.0.1/drivers 底下

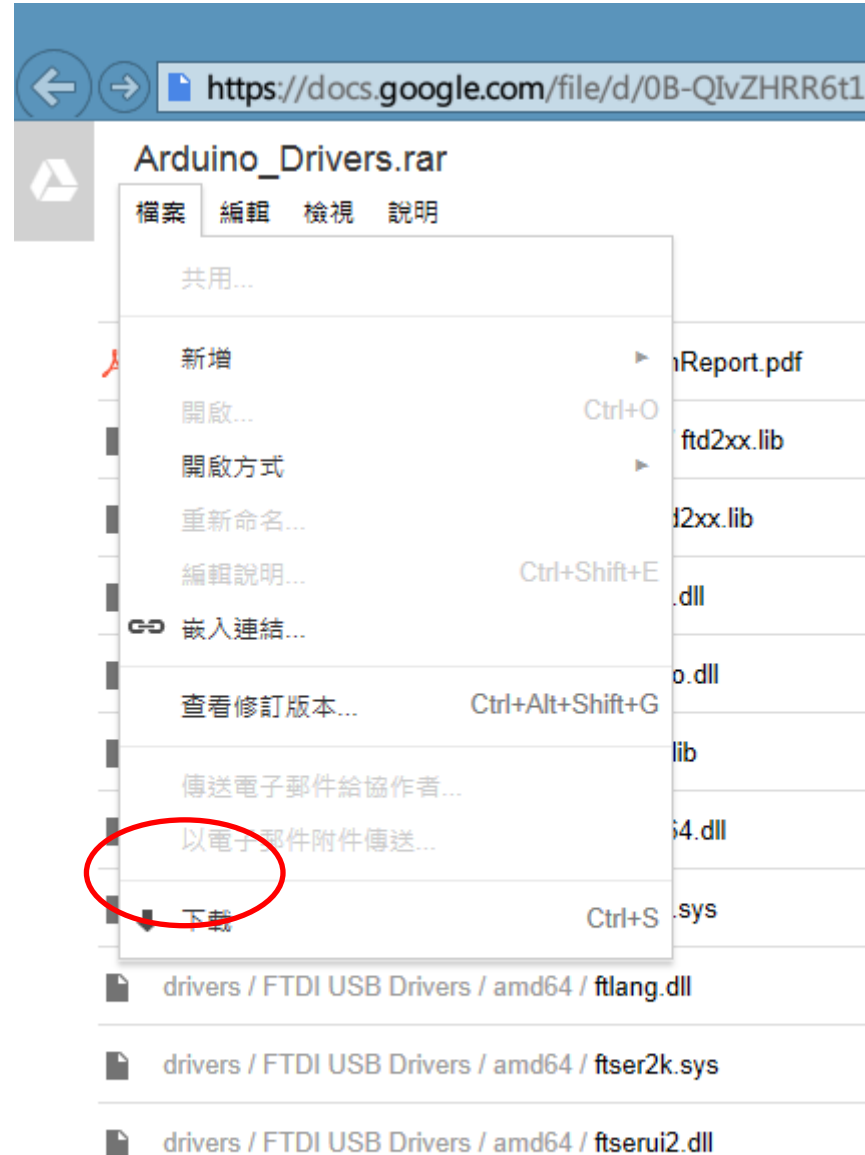
這裡用的版子是
arduino UNO 所以

在那邊按右鍵->
安裝



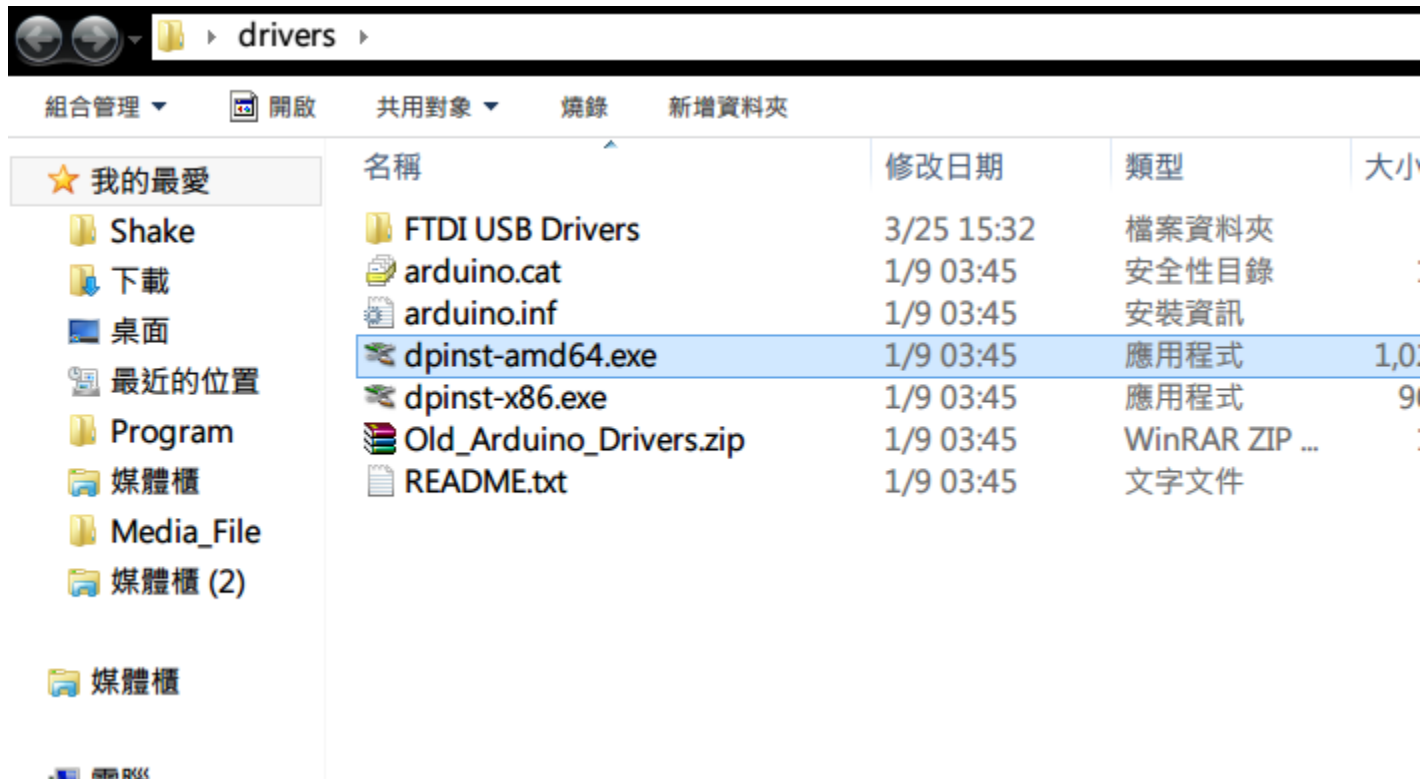
安裝流程

可是我發現，我怎麼裝都是錯誤的..所以我就去下載 Arduino 1.0.5 的 driver，裡面有EXE檔可以直接安裝，下面是只有 [Arduino_Driver](#) 的壓縮檔，檔案是我自己放的，如果覺得不放心的話，請去官方網站下載(自己google Arduino IDE 1.0.5)



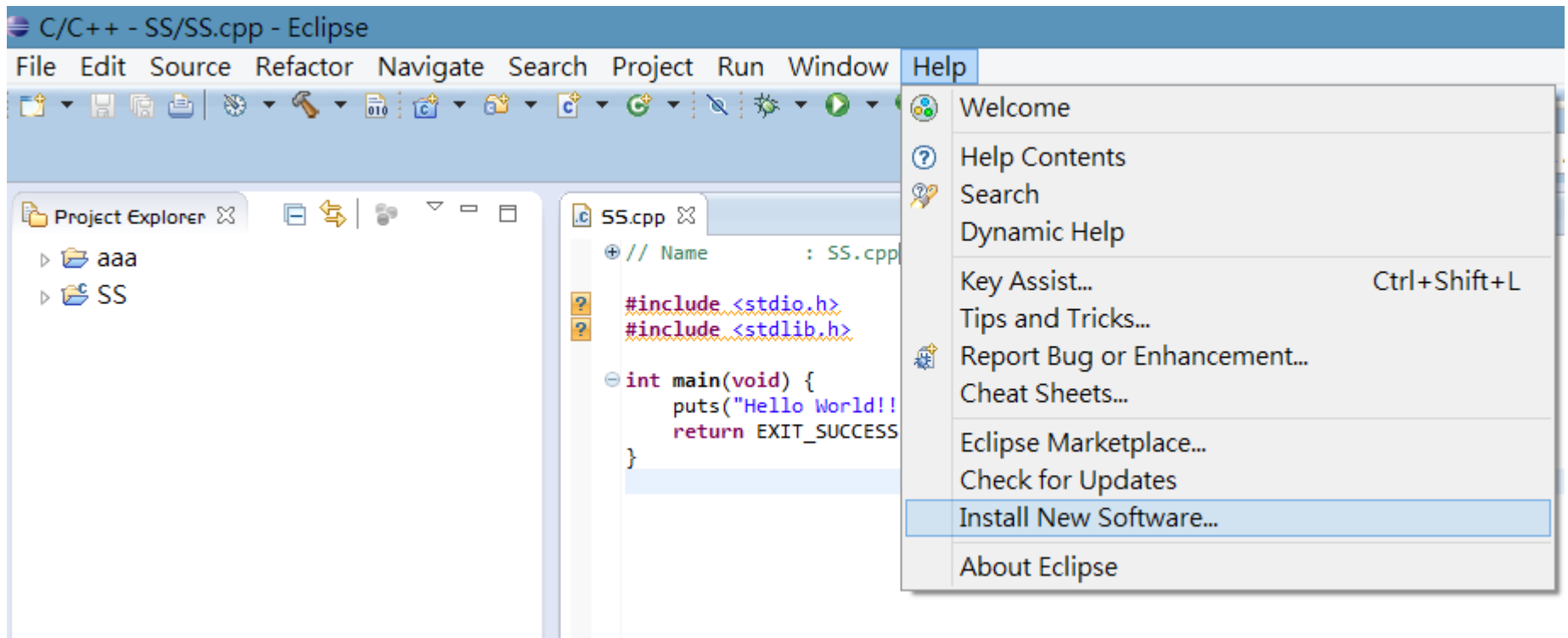
安裝流程

解壓縮後，看是 64 還是 32 位元



安裝流程

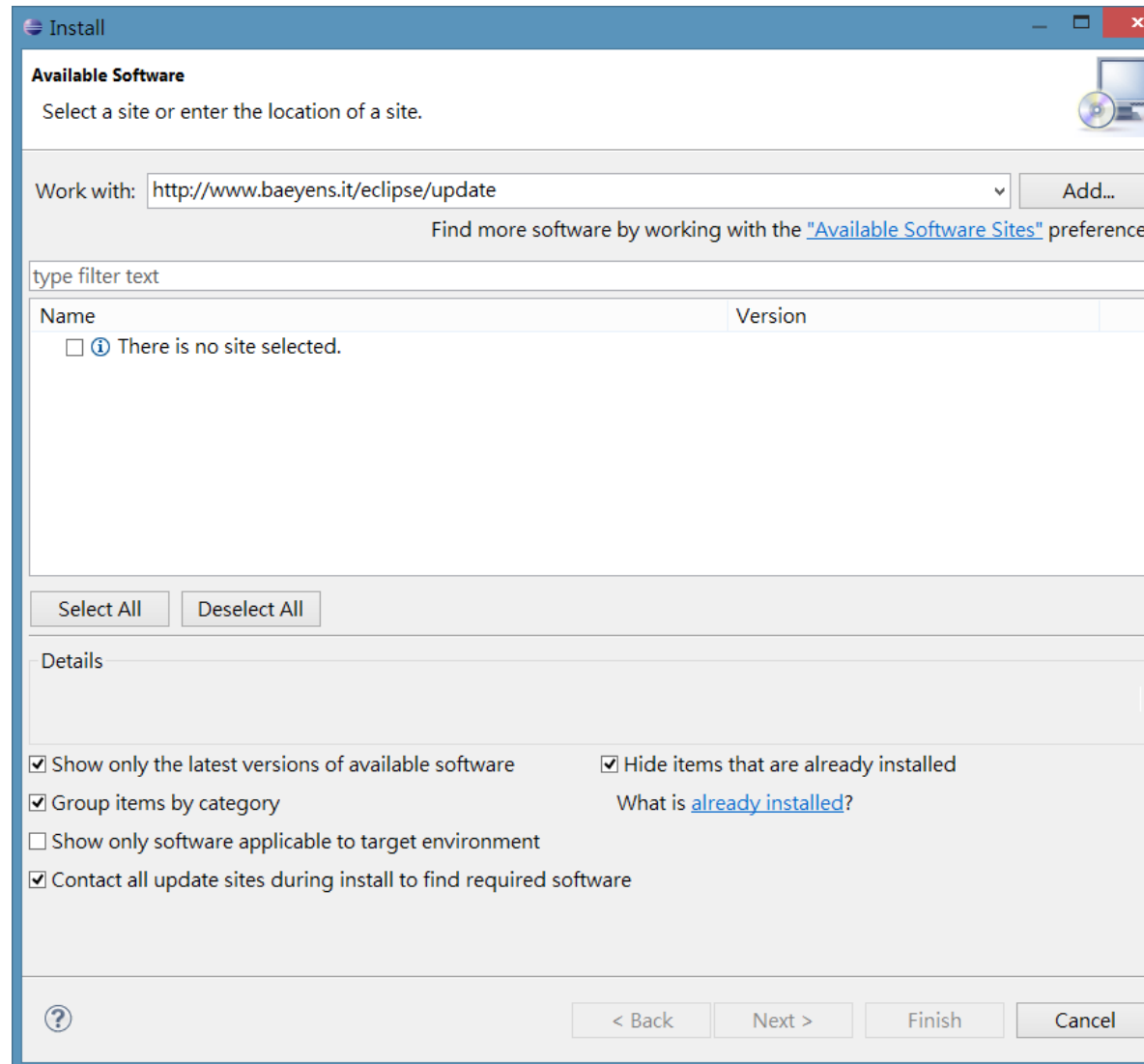
- 開啟ECLIPSE，安裝Arduino Plugin



安裝流程

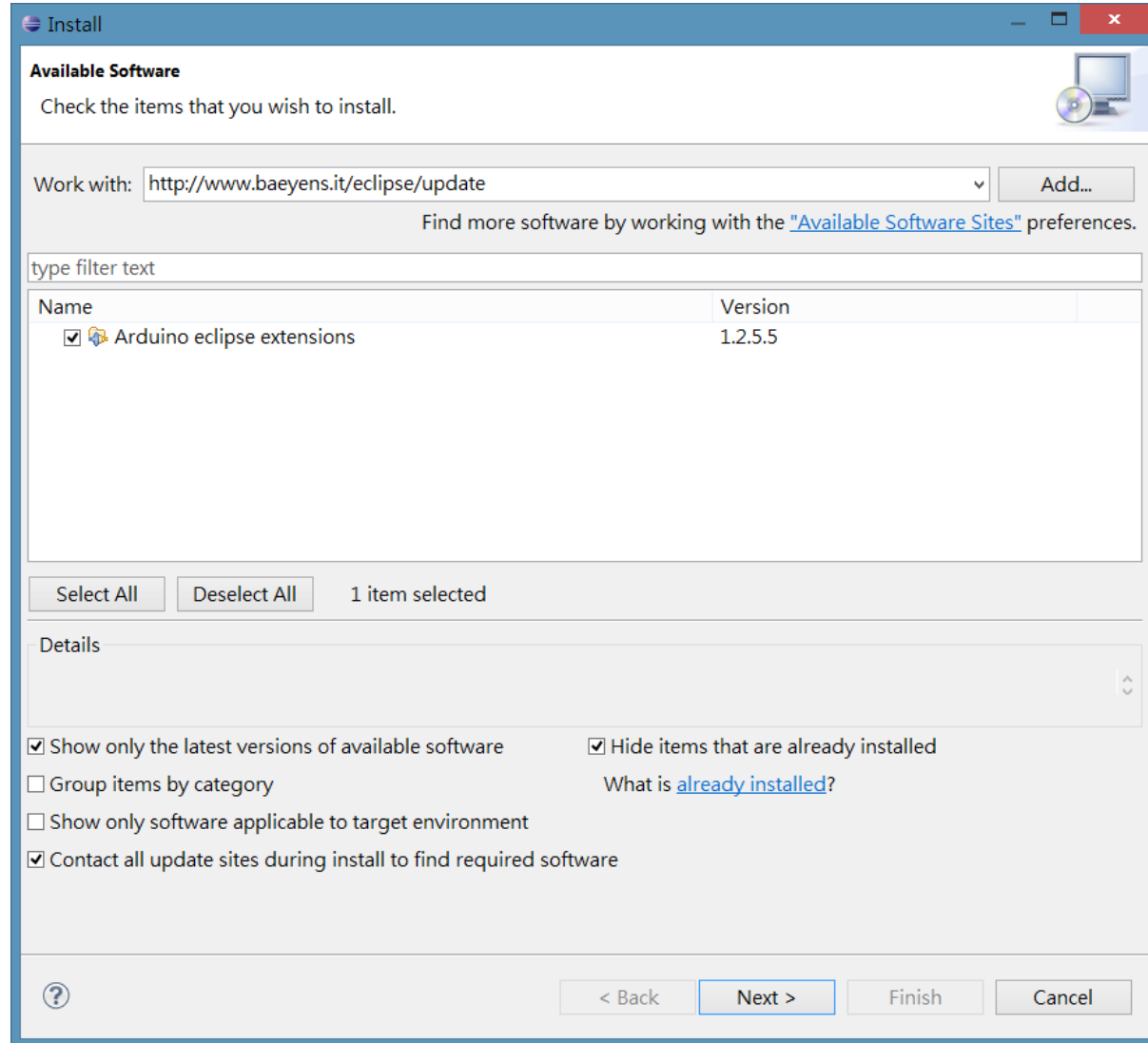
- 在Work with上輸入

<http://www.baeyens.it/eclipse/update> 後按 enter

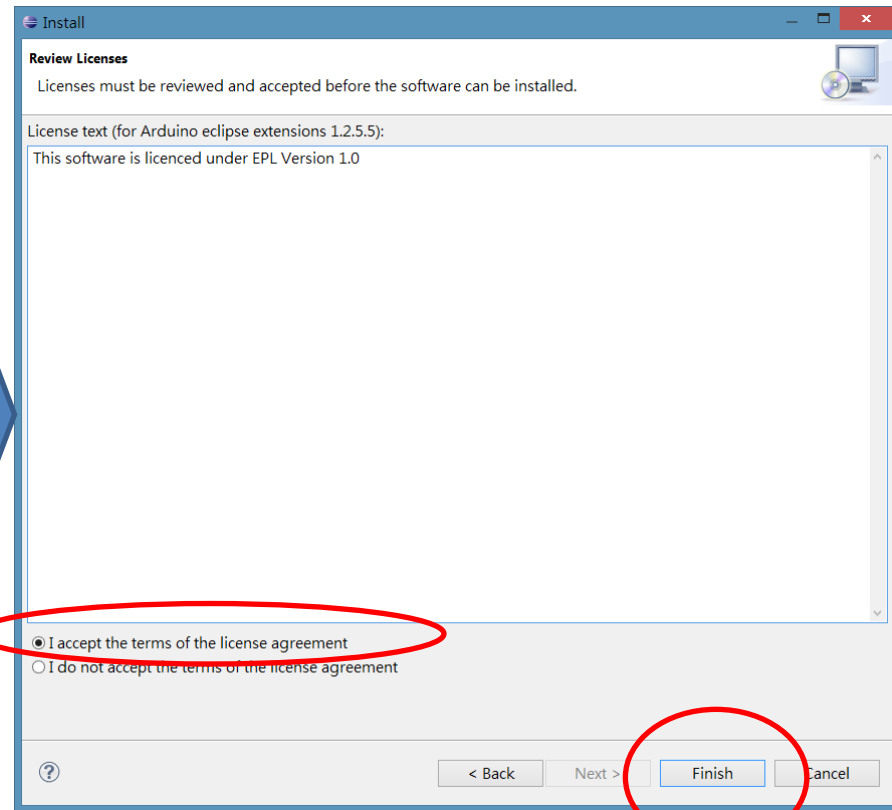
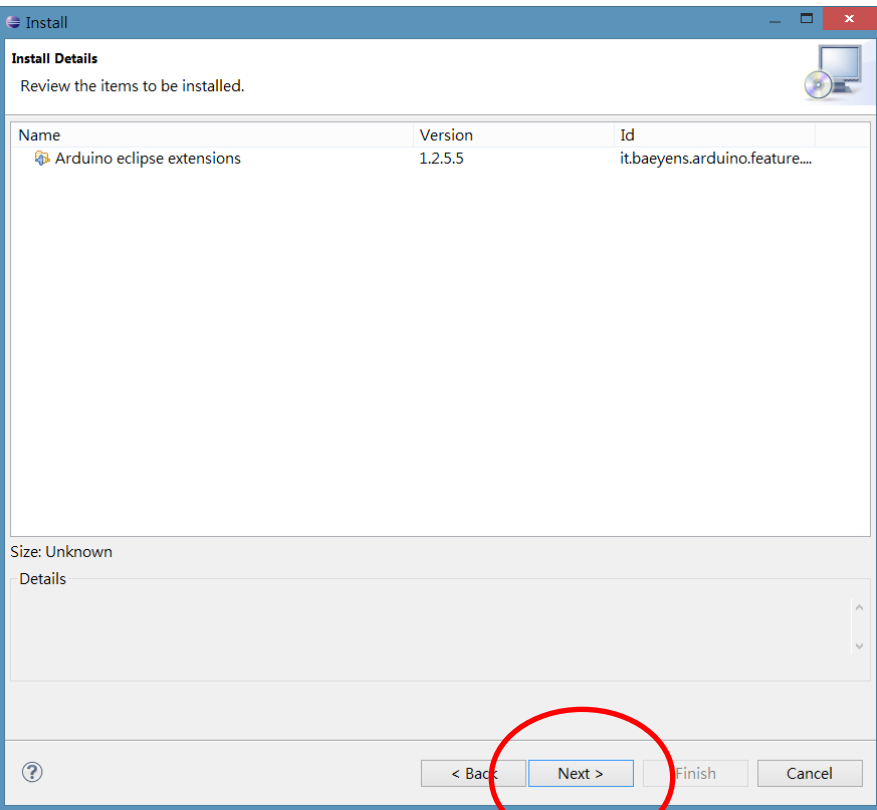


安裝流程

- 搜尋完畢後 把 Group items by category 取消勾選，並將 arduino eclipse extensions 打勾後按next

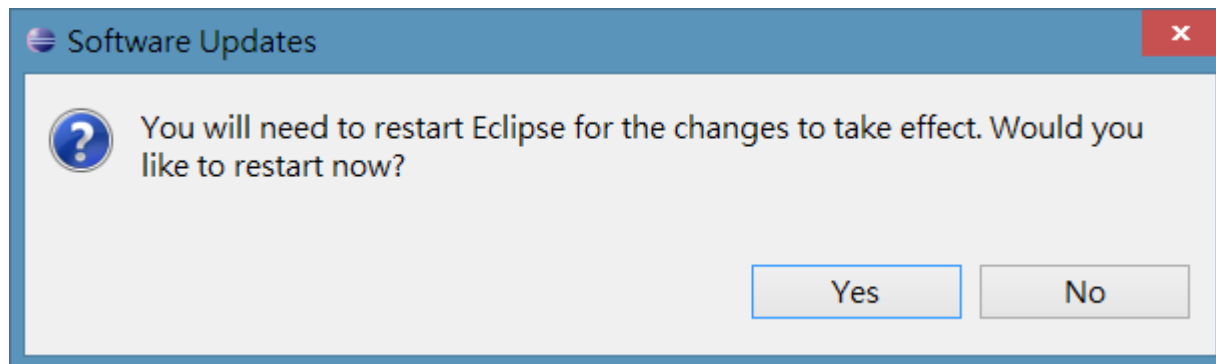
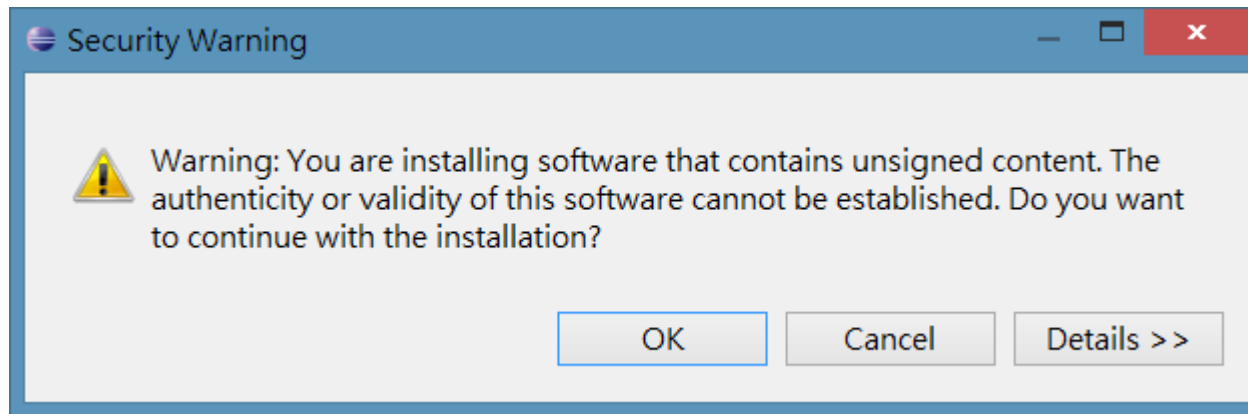


安裝流程



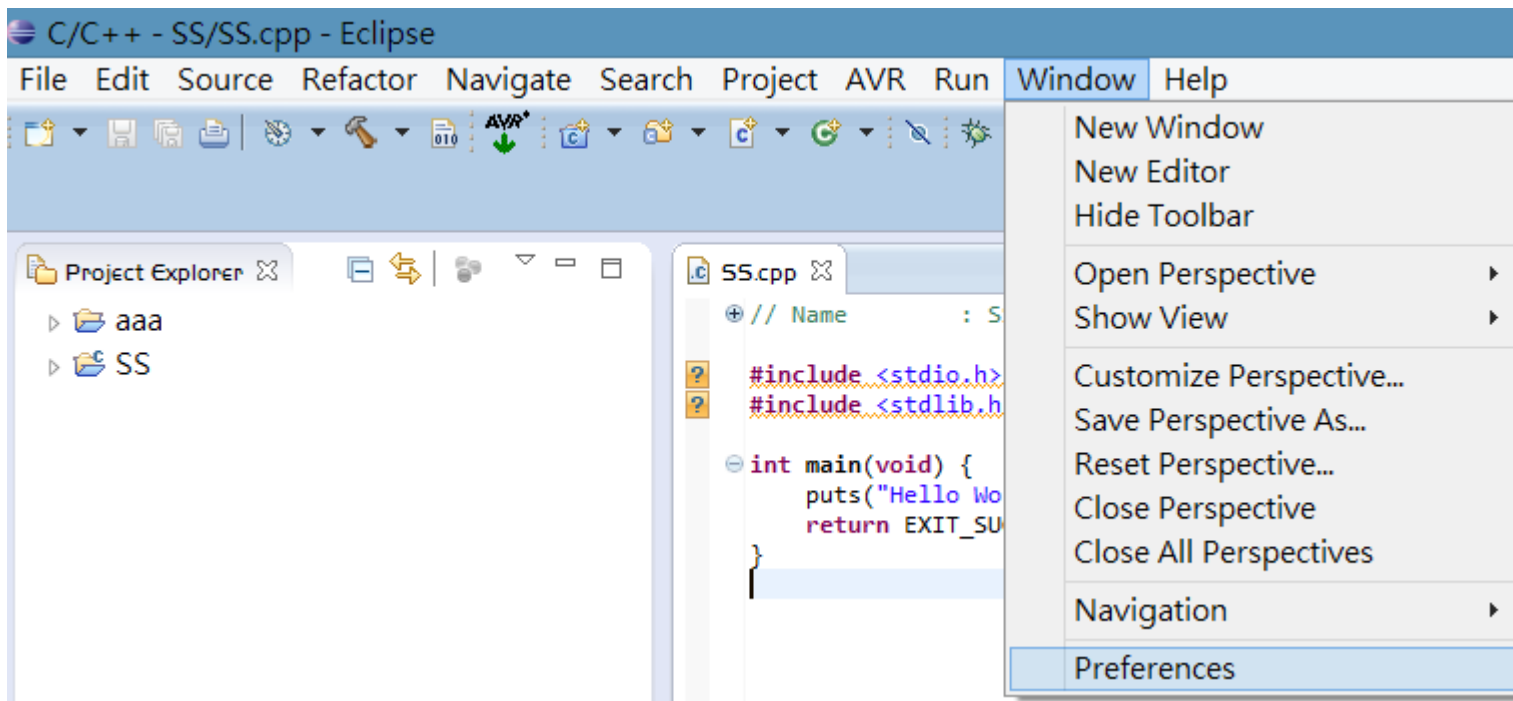
安裝流程

- 可能會跳出警告視窗，按OK後繼續，跑完後會要求重新開啟eclipse



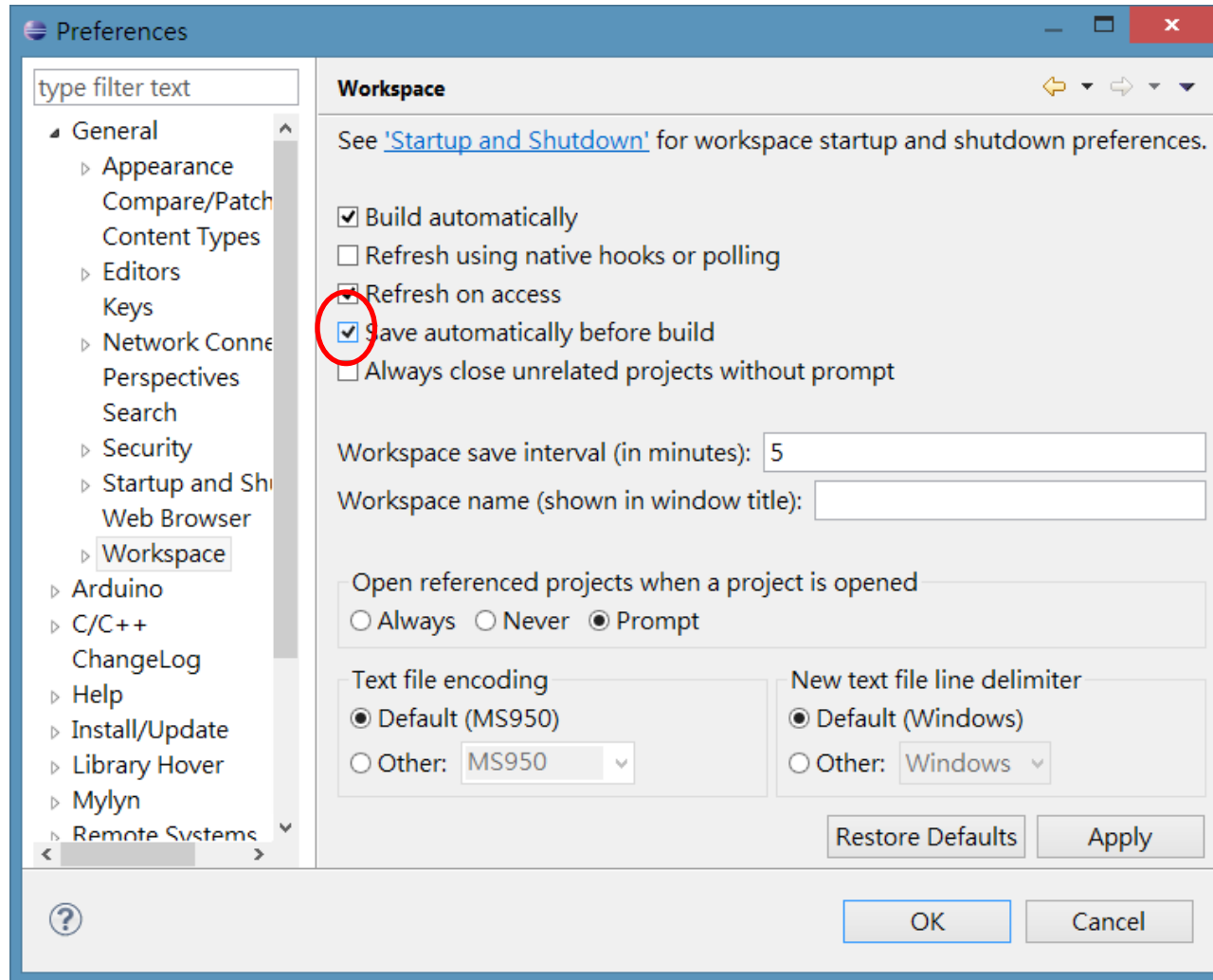
安裝流程

- Window->Preferences



安裝流程

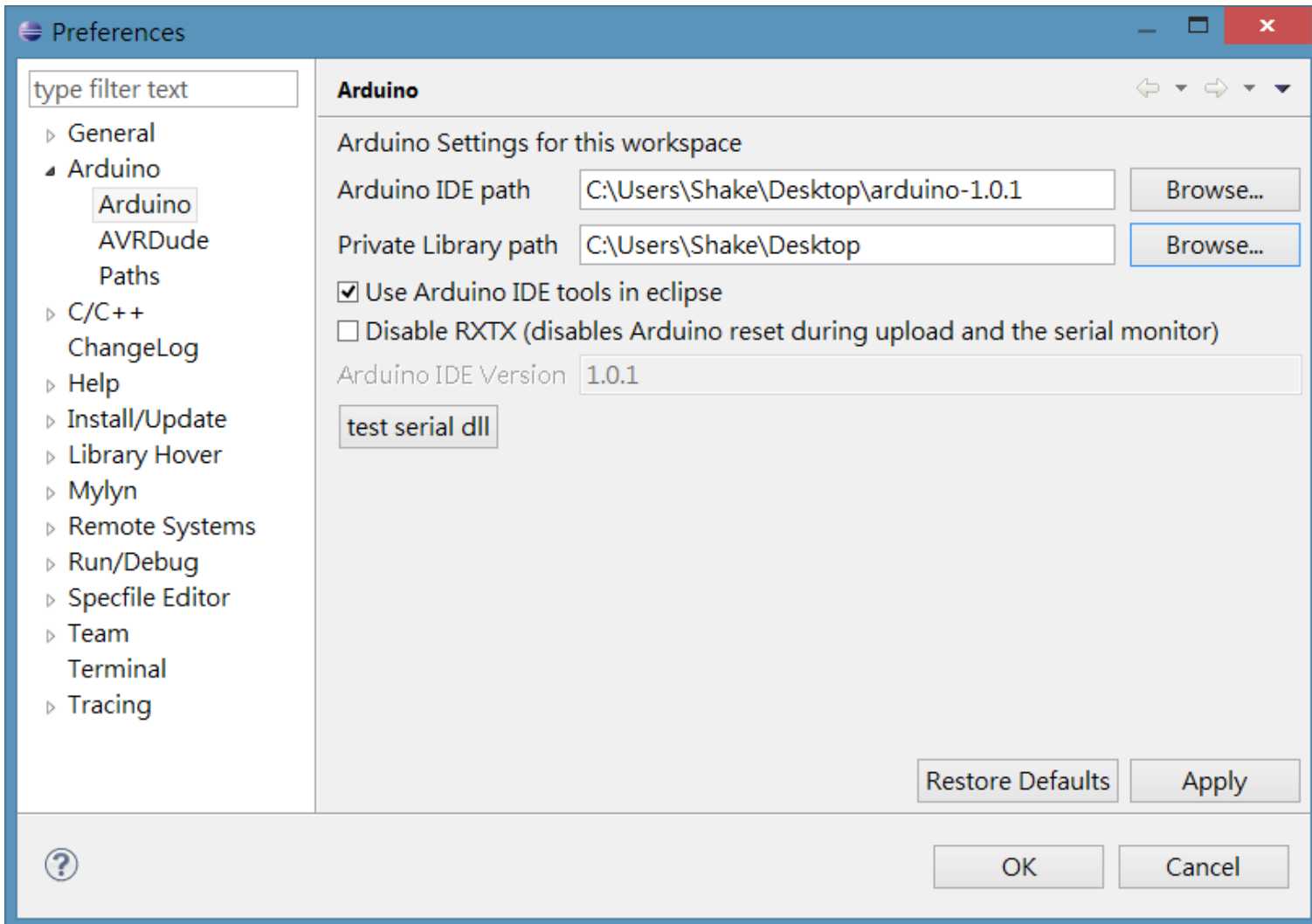
先到General->Workspace
將“Save automatically before build”
打勾(再建制前自動存檔)



安裝流程

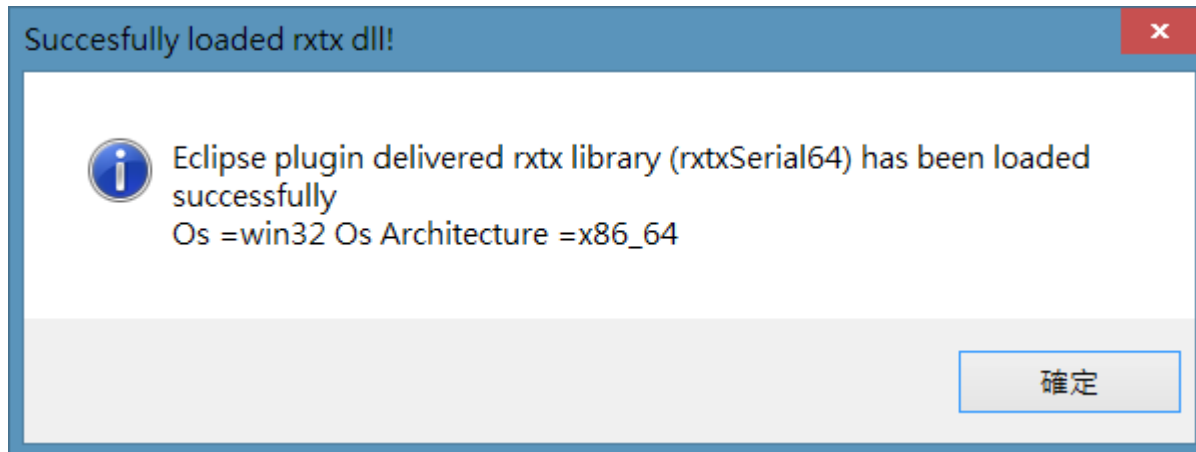
- 接著到 arduino 分頁裡
- 在arduino IDE path 設定為arduino ide 1.0.1 路徑
- 在private library path 設定 自己想要的路徑
- 將 “use arduino IDE tools in eclipse” 打勾

安裝流程



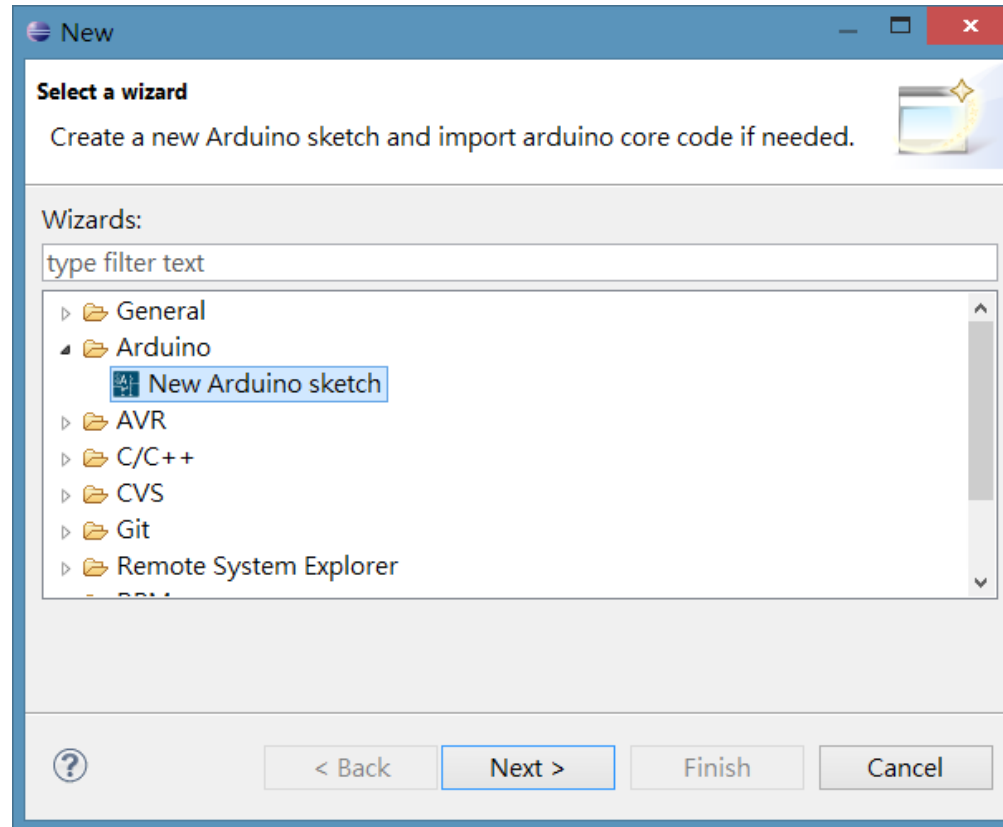
安裝流程

- 接著 按下 test serial dll 來測試 是否可以用，
如果 上面寫 successfully 就代表成功



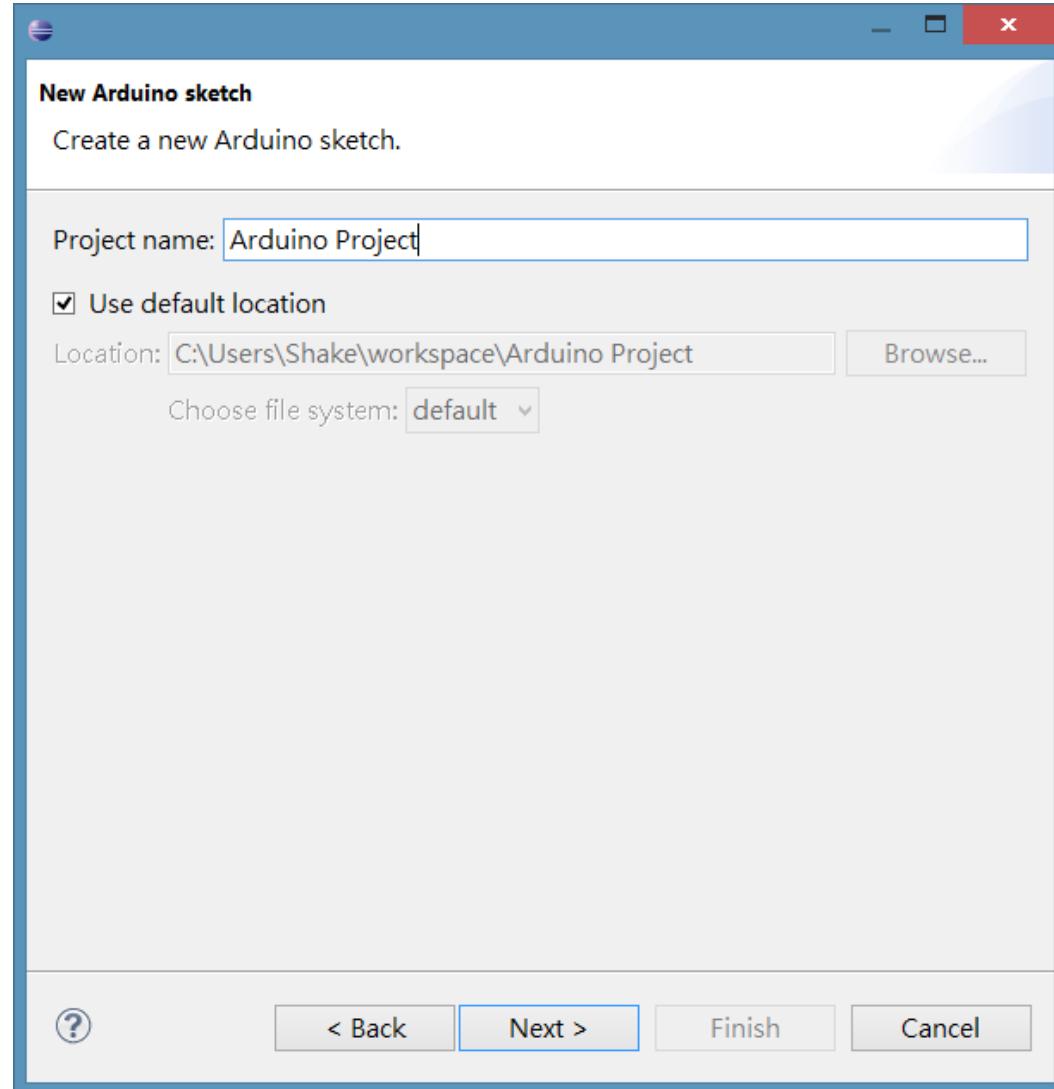
建立專案

- 先將arduino 插上去
- File->New->Other
- 選擇Arduino folder
- New Arduino sketch
- Next >



建立專案

專案名稱



New Arduino sketch
Create a new Arduino sketch.

Project name:

Use default location

Location:

Choose file system:

建立專案

選擇板子型號!

還有port(在裝置管理員看，接著按 finish

Provide the Arduino information.
These settings can be changed later.

Arduino Environment Settings
Arduino Location: E:\arduino-1.0.1

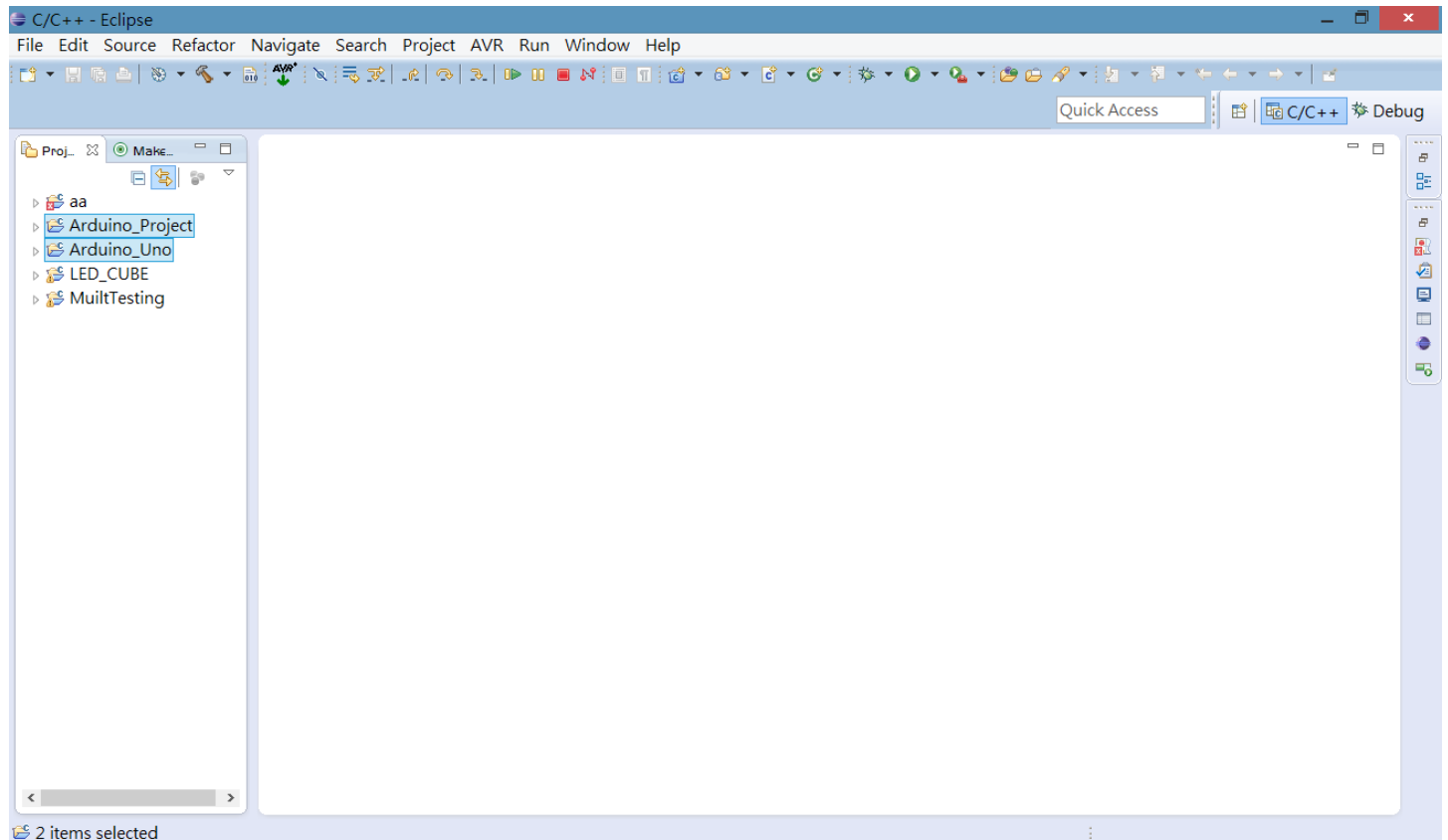
Your Arduino board specifications
Board: Arduino Uno
Port: COM3

The used settings
Processor: atmega328p Processor Frequency (Hz): 16000000
Baud: 115200 Board Variant: standard
UpLoadProtocol: arduino Disable Flushing:
Library folder: arduino Cpp compile options:
C compile options: Link options:
Build pid: Build vid:

? < Back Next > Finish Cancel

建立專案

- 接下來會看到兩個專案，一個是自己創的，另一個是板子的程式碼



建立專案

- 接下來就可以用eclipse 來開發了 黑黑

```
C/C++ - Arduino_Project/Arduino_Project.cpp - Eclipse
File Edit Source Refactor Navigate Search Project AVR Run Window Help
Quick Access C/C++ Debug

Proj... Make...
aa
  Arduino_Project
    Includes
    Arduino_Project.cpp
    Arduino_Project.h
  Arduino_Uno
  LED_CUBE
  MuiltTesting

*Arduino_Project.cpp
// Do not remove the include below
#include "Arduino_Project.h"

//The setup function is called once at startup of the sketch
void setup()
{
  pin
  // Add
}

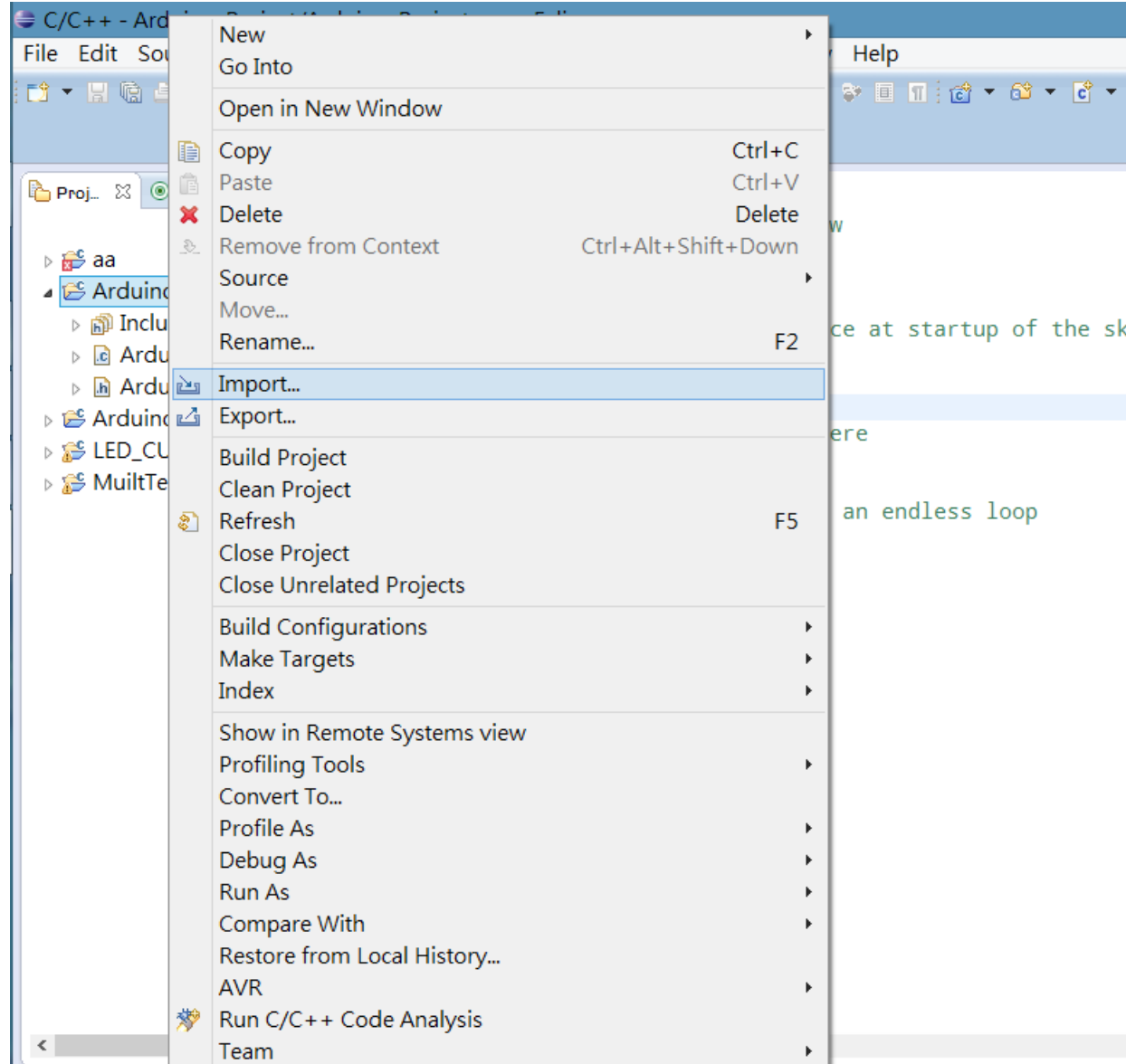
// The
void loop()
{
  //Add y
}

pinMode(uint8_t,uint8_t) : void
# PIN0
# PIN1
# PIN2
# PIN3
# PIN4
# PIN5
# PIN6
# PIN7
# Pins_Arduino_h

Press 'Alt+/' to show Template Proposals
```


建立專案

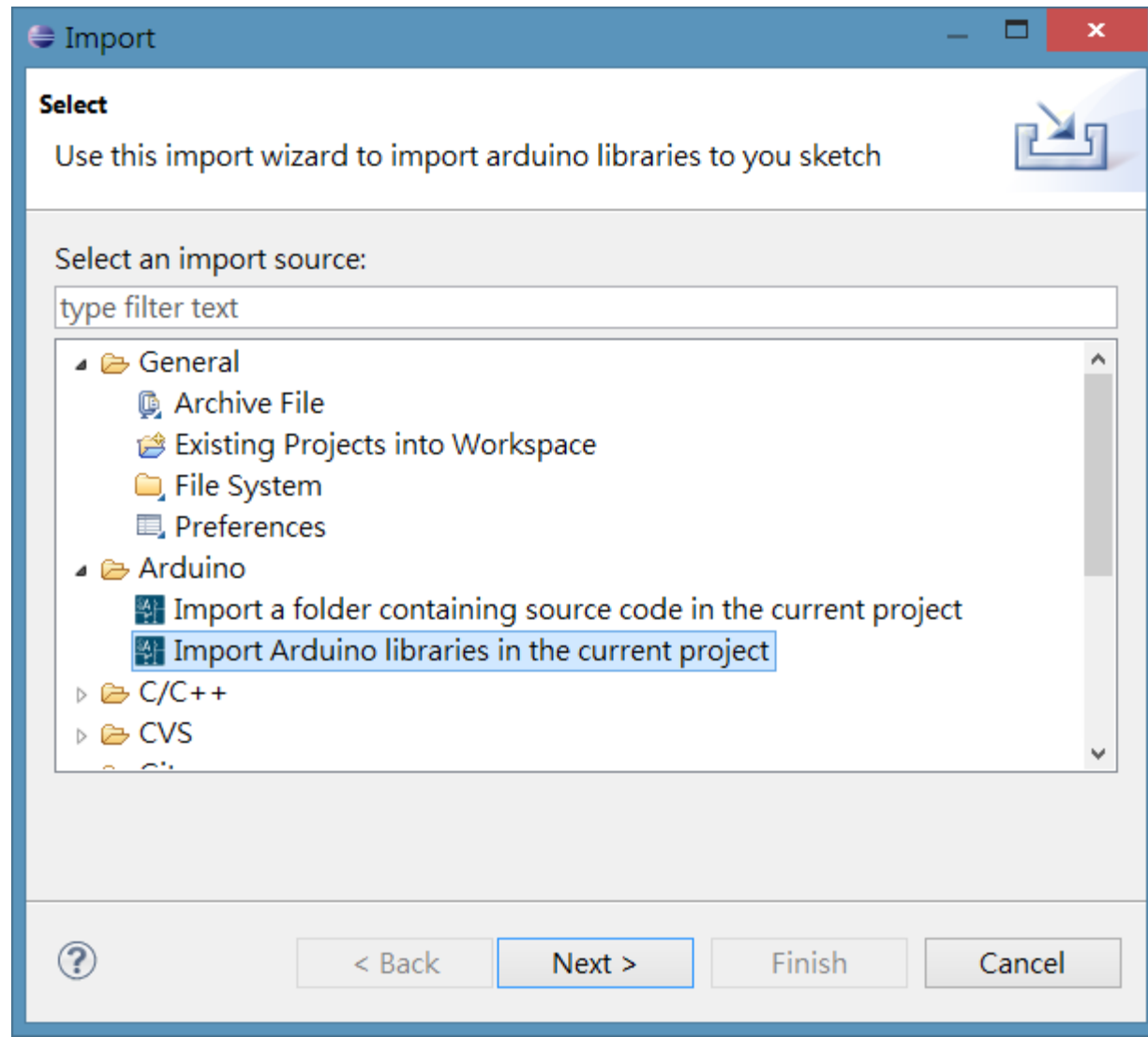
新增函式庫:
專案->右鍵->
Import



建立專案

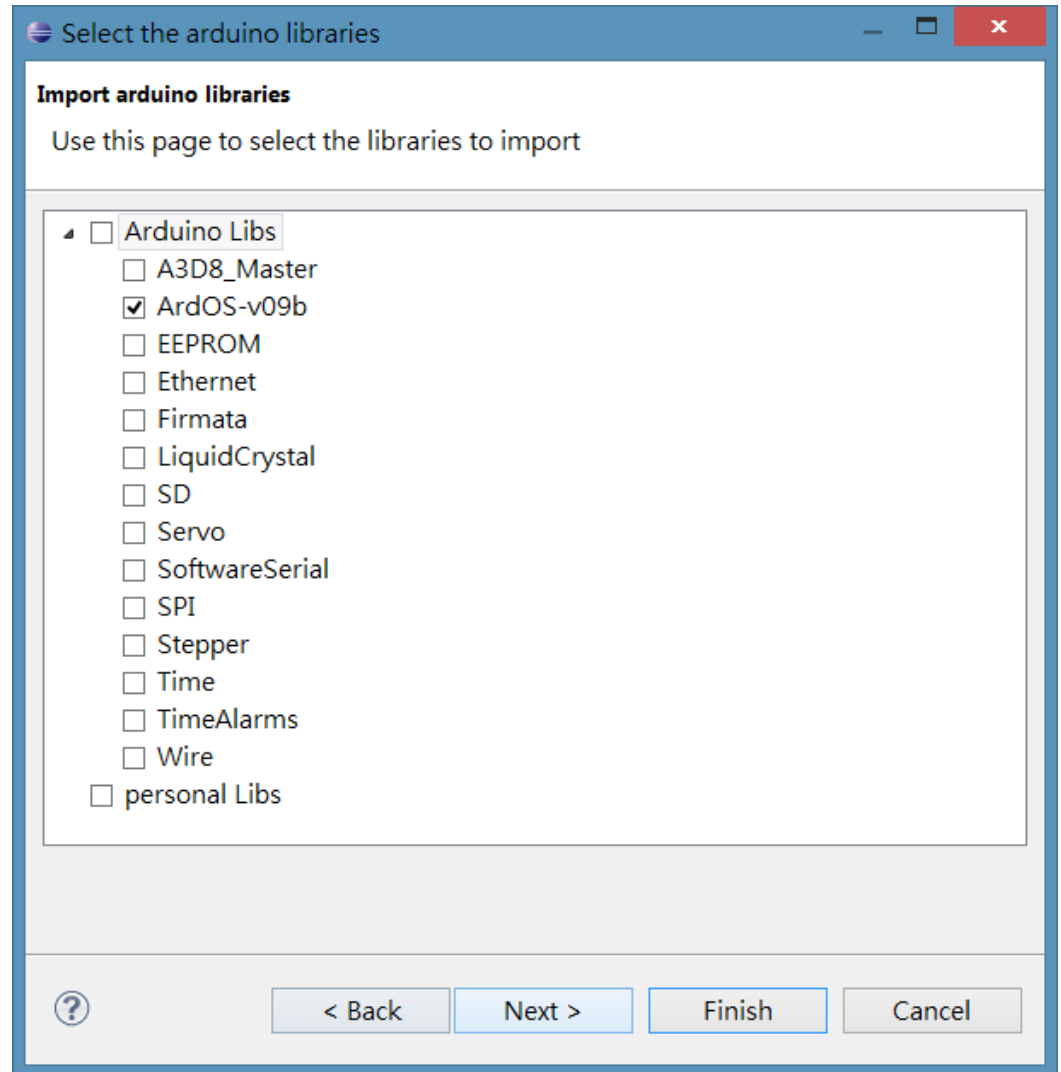
- Arduino
Folder->

Import Arunino
libraries
XXXXXXXX



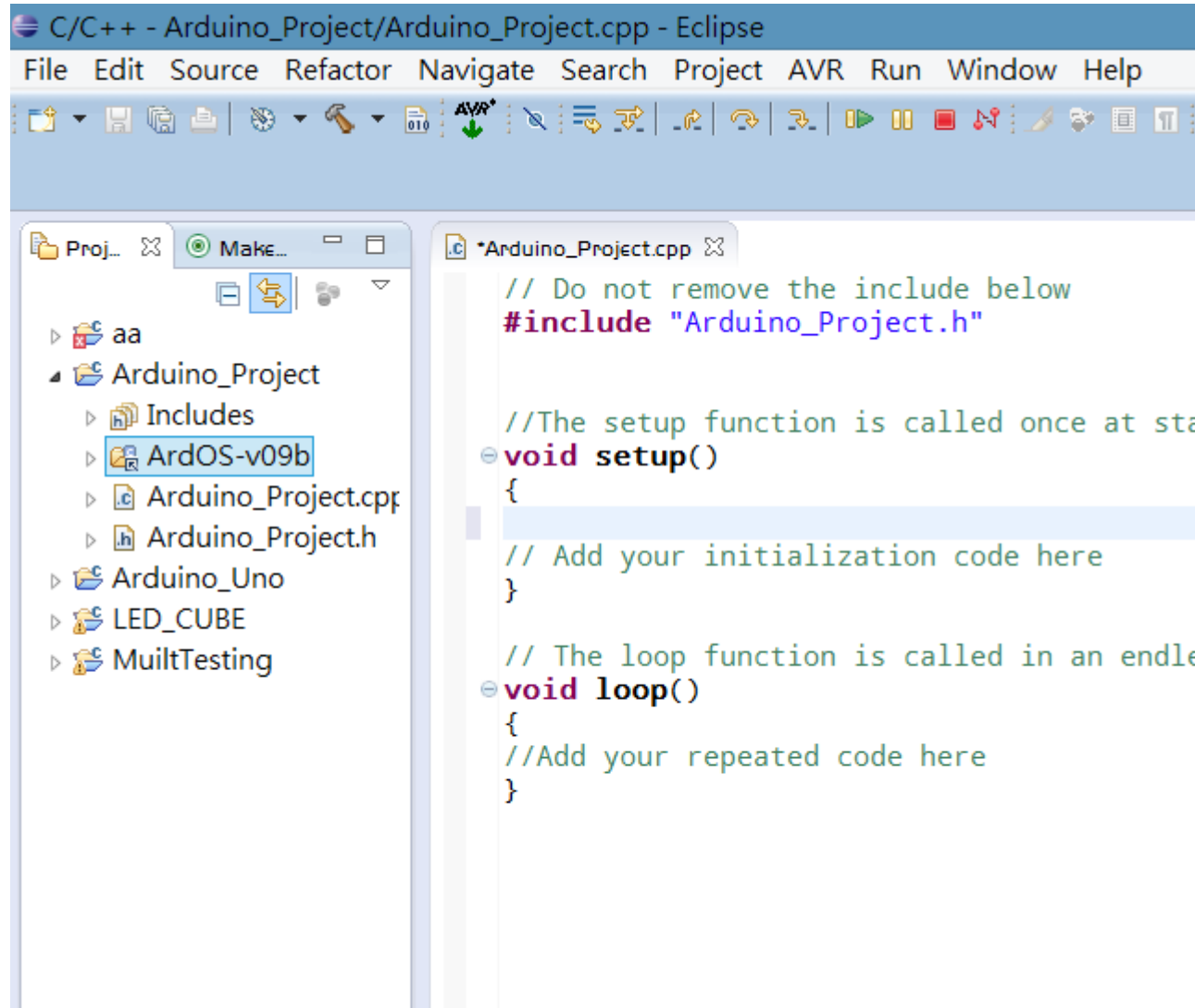
建立專案

- 選擇要新增的
- (*PS: 之前有交過在網路上下載的libraries要丟在 arduino/libraries 裡)
- 接著 finish



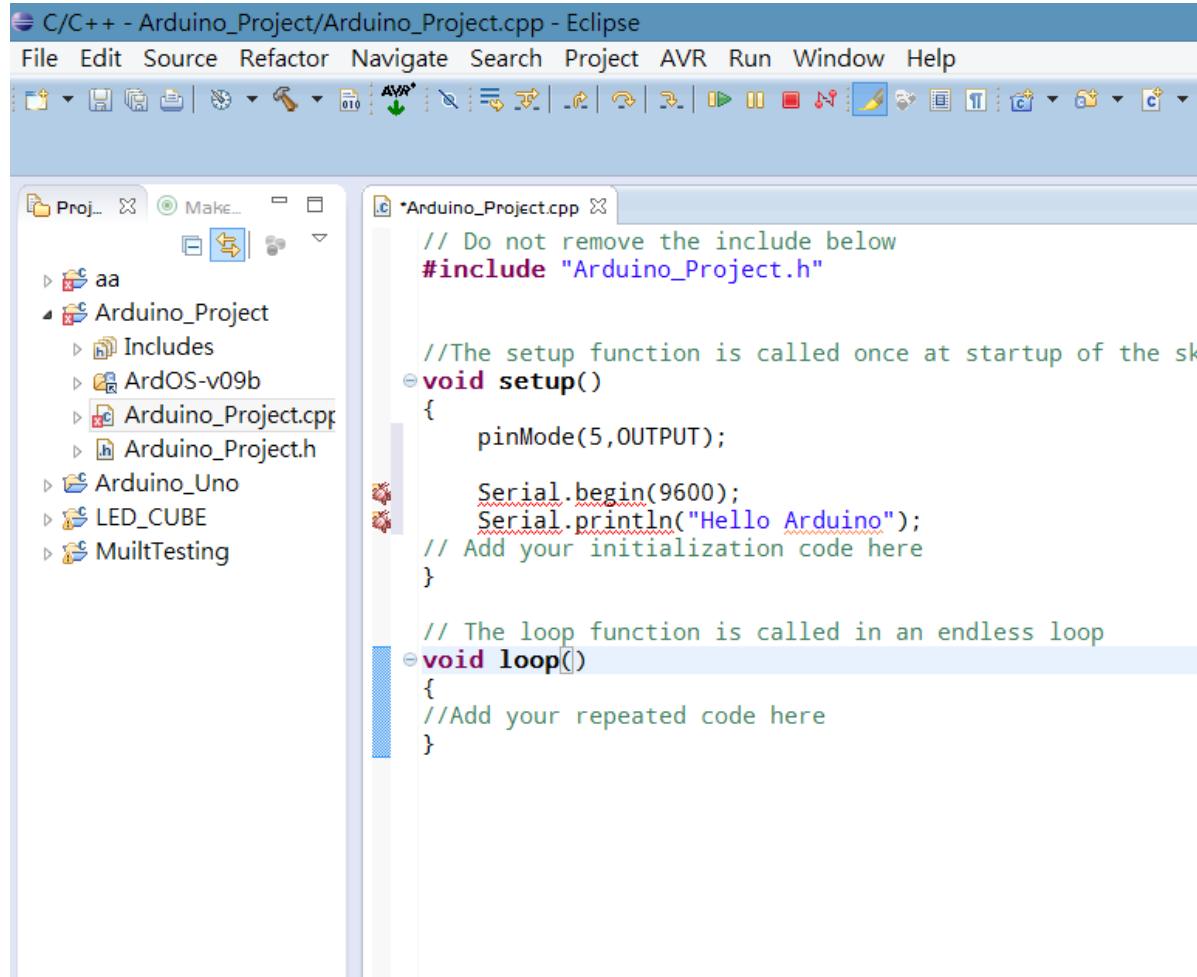
建立專案

- 就會看到它新增進去了
- 接著在到
cpp 檔
include 進
去及可



建立專案

- 但是有一寫小bug，有些函示明明沒有打錯，但是卻一直畫紅線，這是bug，需要改一下專案設定!



```
C/C++ - Arduino_Project/Arduino_Project.cpp - Eclipse
File Edit Source Refactor Navigate Search Project AVR Run Window Help

Proj... Make...
aa
  Arduino_Project
    Includes
    ArdOS-v09b
    Arduino_Project.cpp
    Arduino_Project.h
  Arduino_Uno
  LED_CUBE
  MuiltTesting

*Arduino_Project.cpp
// Do not remove the include below
#include "Arduino_Project.h"

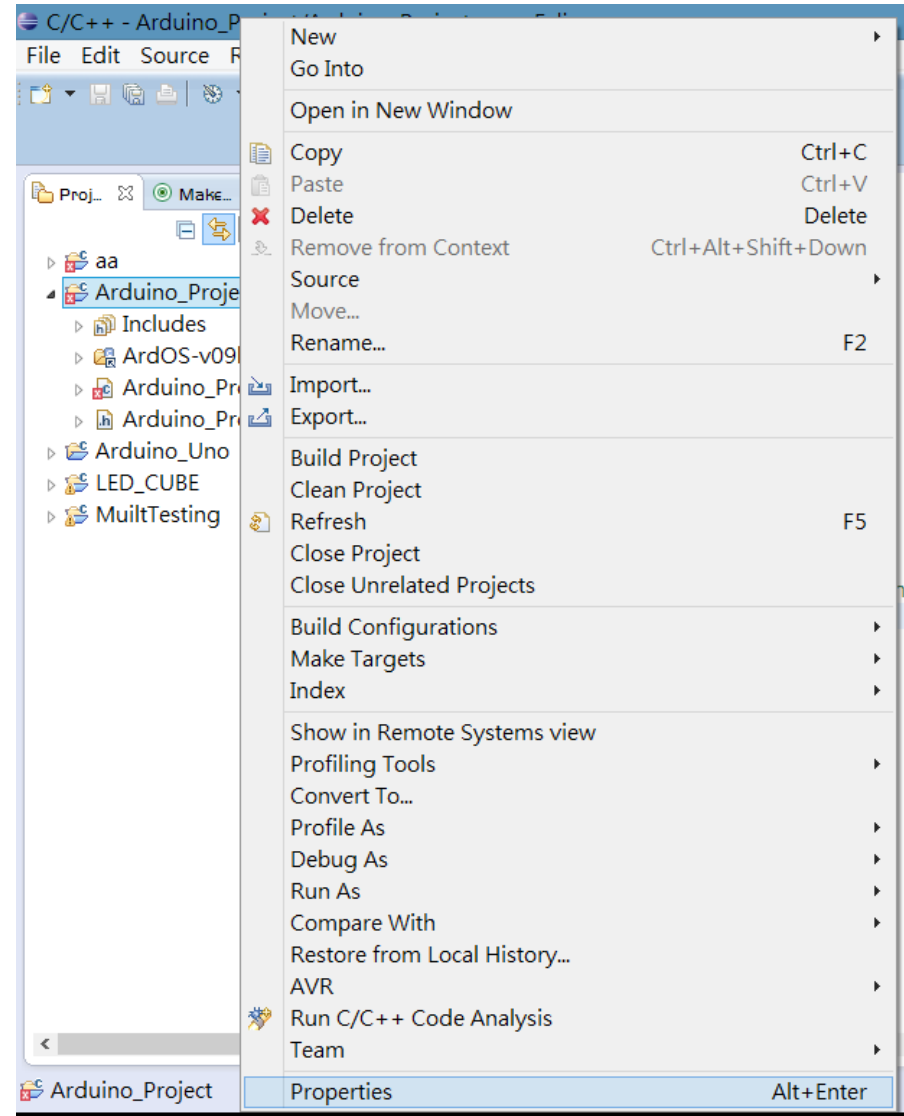
//The setup function is called once at startup of the sk
void setup()
{
    pinMode(5,OUTPUT);

    Serial.begin(9600);
    Serial.println("Hello Arduino");
    // Add your initialization code here
}

// The loop function is called in an endless loop
void loop()
{
    //Add your repeated code here
}
```

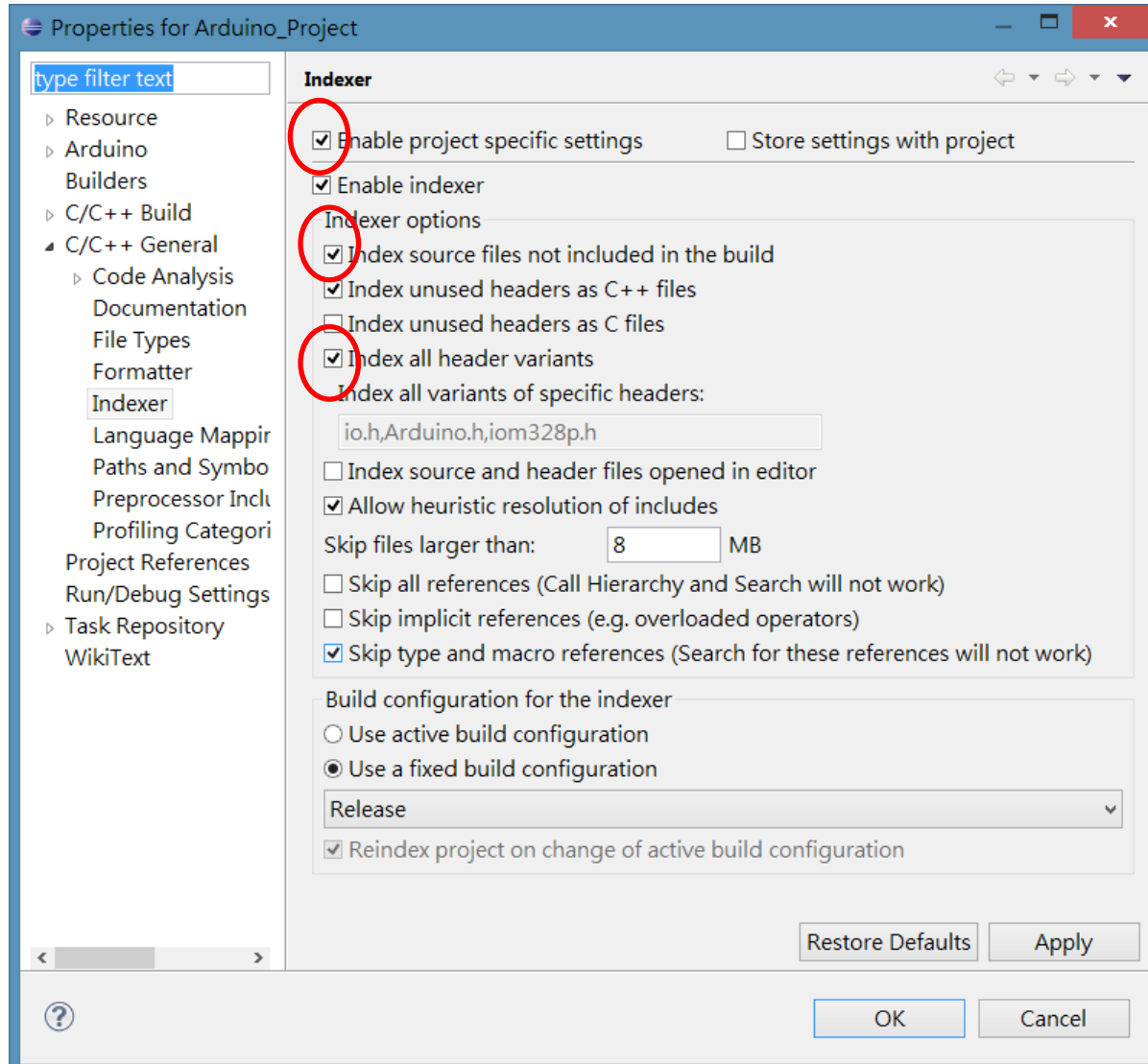
建立專案

專案->properties



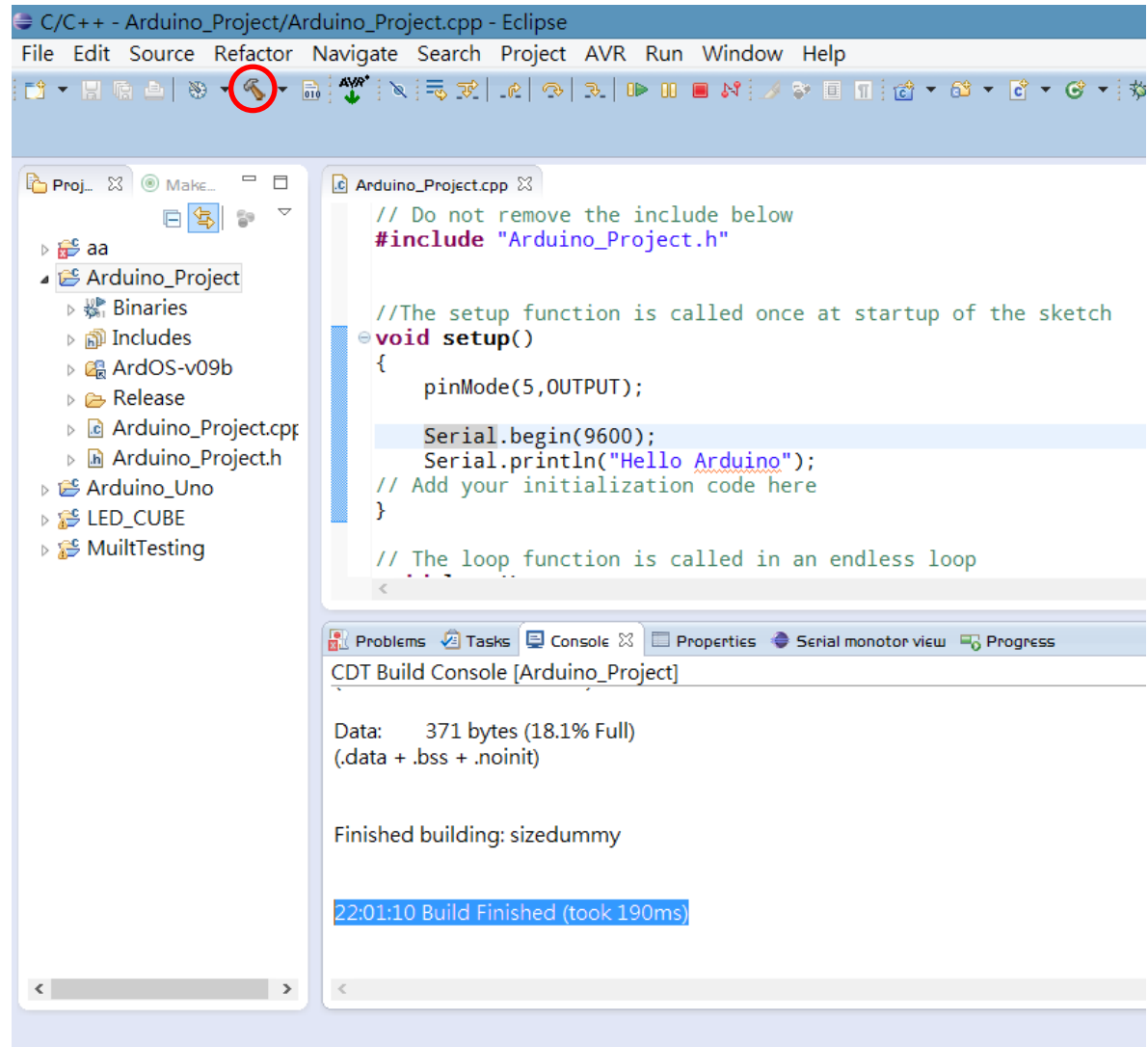
建立專案

C/C++ General->
Indexer
將紅圈的地方打
勾



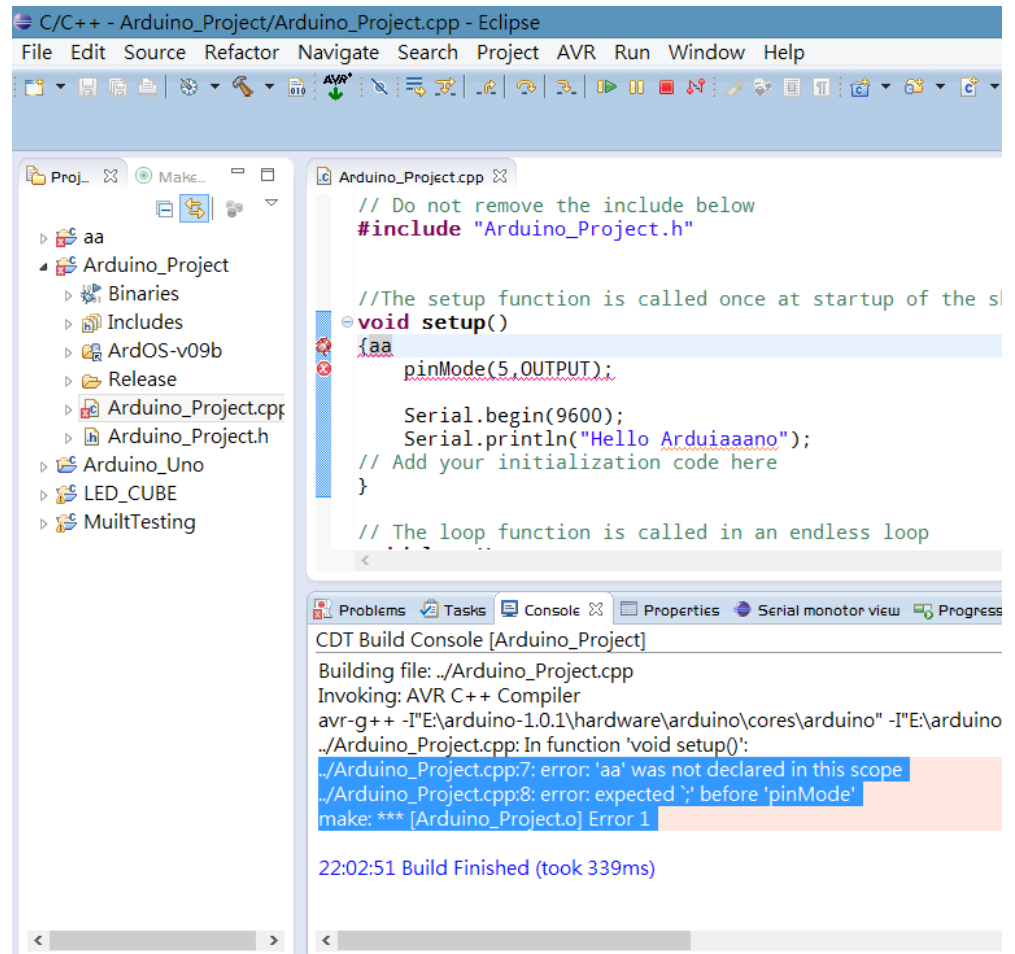
編譯與上傳 執行

- 接著按鐵鎚 (編譯器)
- 完成後會寫 build finished



編譯與上傳 執行

- 如果有錯誤 就會顯示錯誤訊息!



The screenshot shows the Eclipse IDE interface. The top menu bar includes File, Edit, Source, Refactor, Navigate, Search, Project, AVR, Run, Window, and Help. The left sidebar shows a project tree with folders like 'aa', 'Arduino_Project', 'Binaries', 'Includes', 'ArdOS-v09b', 'Release', 'Arduino_Project.cpp', 'Arduino_Project.h', 'Arduino_Uno', 'LED_CUBE', and 'MuiltTesting'. The main editor window displays the code for 'Arduino_Project.cpp'. The code includes an include statement for 'Arduino_Project.h', a setup function, and a loop function. The setup function contains a variable declaration 'aa' followed by a pinMode call. The console window at the bottom shows the build output, including the error message: 'error: 'aa' was not declared in this scope' and 'error: expected ';' before 'pinMode''. The build finished at 22:02:51.

```
C/C++ - Arduino_Project/Arduino_Project.cpp - Eclipse
File Edit Source Refactor Navigate Search Project AVR Run Window Help

Proj_ Make_
aa
  Arduino_Project
    Binaries
    Includes
    ArdOS-v09b
    Release
    Arduino_Project.cpp
    Arduino_Project.h
  Arduino_Uno
  LED_CUBE
  MuiltTesting

Arduino_Project.cpp
// Do not remove the include below
#include "Arduino_Project.h"

//The setup function is called once at startup of the s
void setup()
{aa
  pinMode(5,OUTPUT);

  Serial.begin(9600);
  Serial.println("Hello Arduiaaano");
  // Add your initialization code here
}

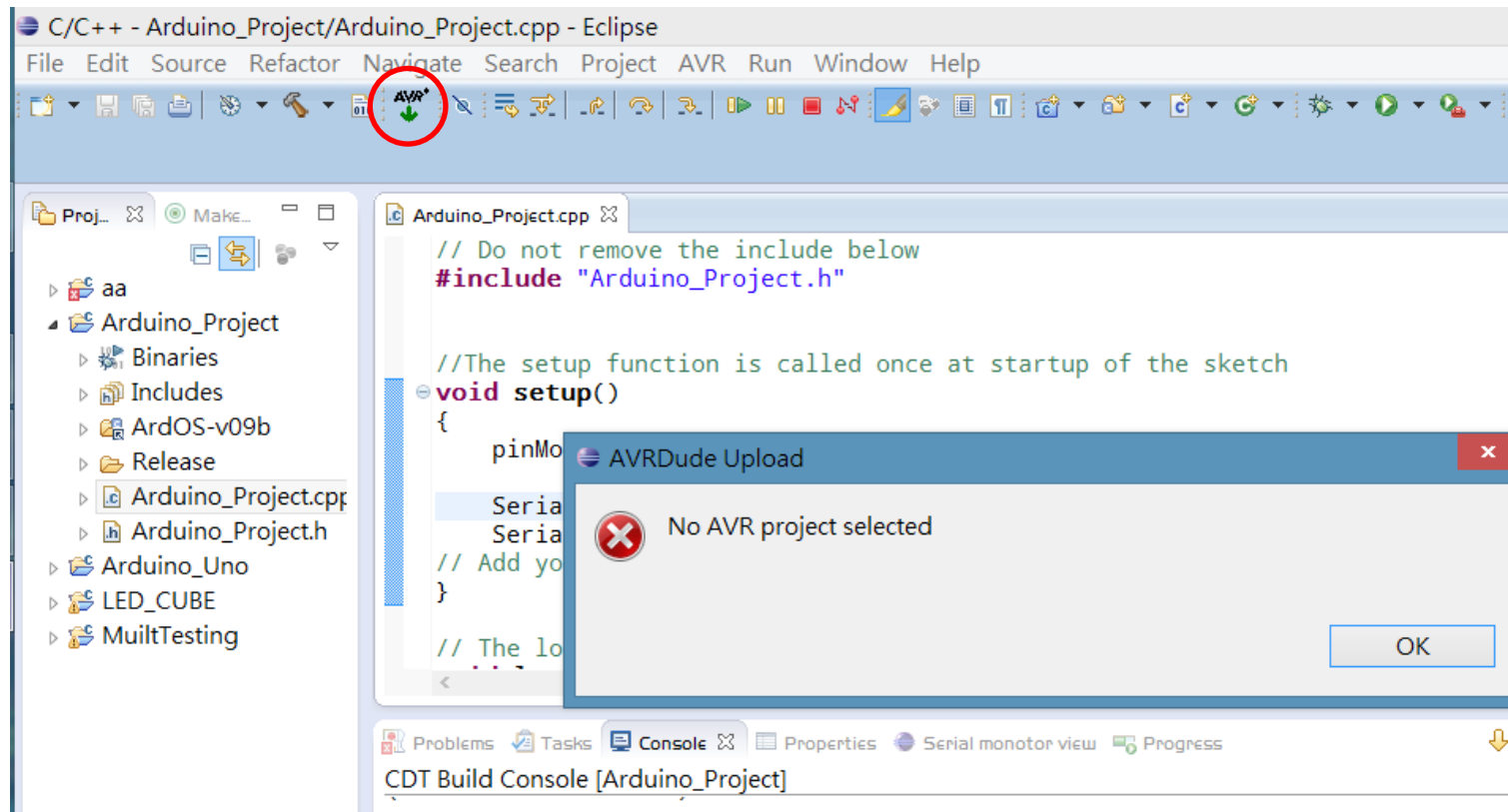
// The loop function is called in an endless loop

Problems Tasks Console Properties Serial monitor view Progress
CDT Build Console [Arduino_Project]
Building file: ../Arduino_Project.cpp
Invoking: AVR C++ Compiler
avr-g++ -I"E:\arduino-1.0.1\hardware\arduino\cores\arduino" -I"E:\arduino
../Arduino_Project.cpp: In function 'void setup()':
../Arduino_Project.cpp:7: error: 'aa' was not declared in this scope
../Arduino_Project.cpp:8: error: expected ';' before 'pinMode'
make: *** [Arduino_Project.o] Error 1

22:02:51 Build Finished (took 339ms)
```

編譯與上傳 執行

- 編譯成功後就按上傳吧:->(PS:不能直接上傳! 它會上傳上一次編譯成功的檔案!)

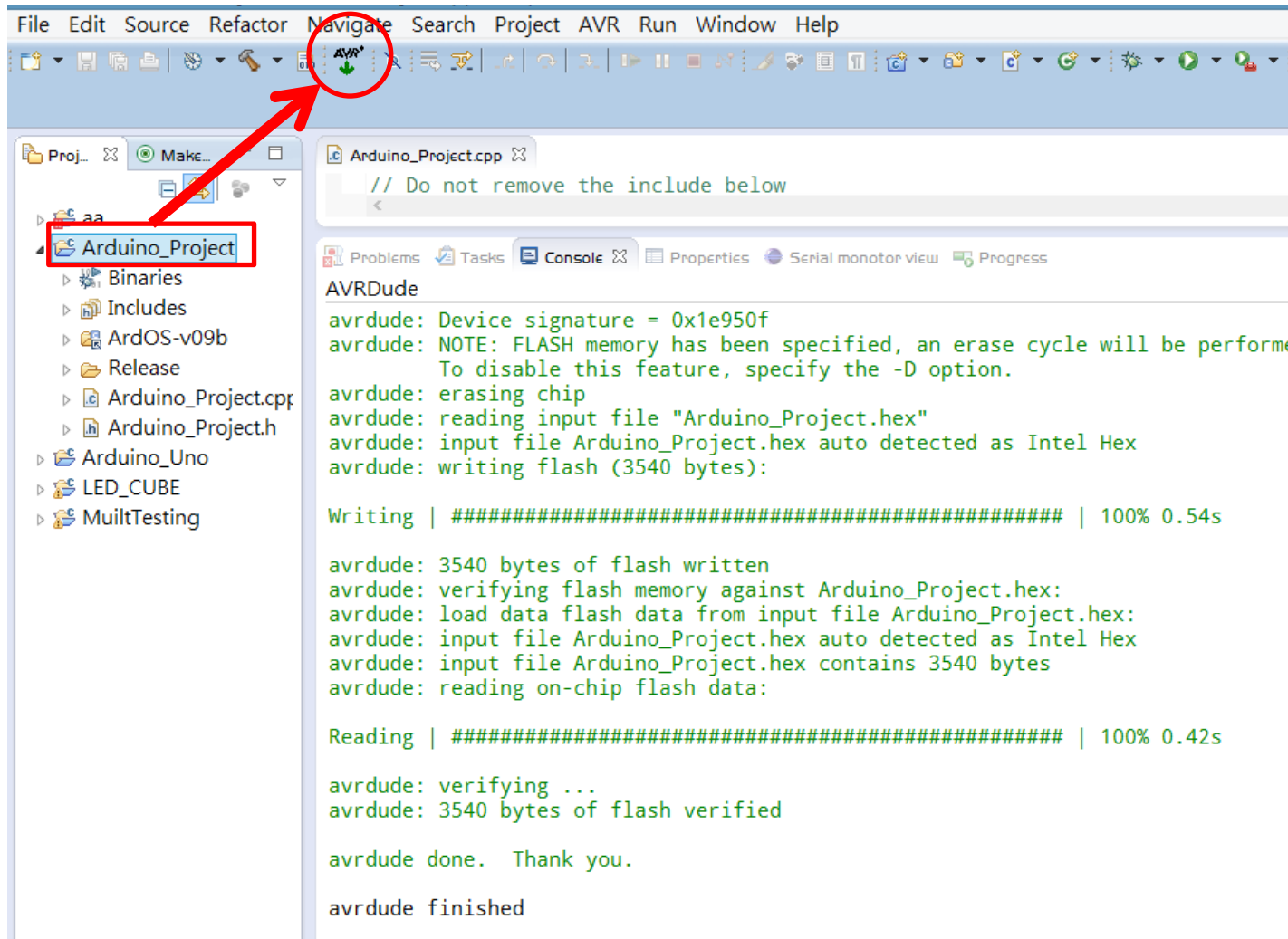


編譯與上傳 執行

- 上圖是表示沒有選擇上傳的專案編譯檔(有時候就會一直跳出來 很煩)

編譯與上傳 執行

這時就要點選專案然後再上傳一次，成功後會看到 avrdude finished

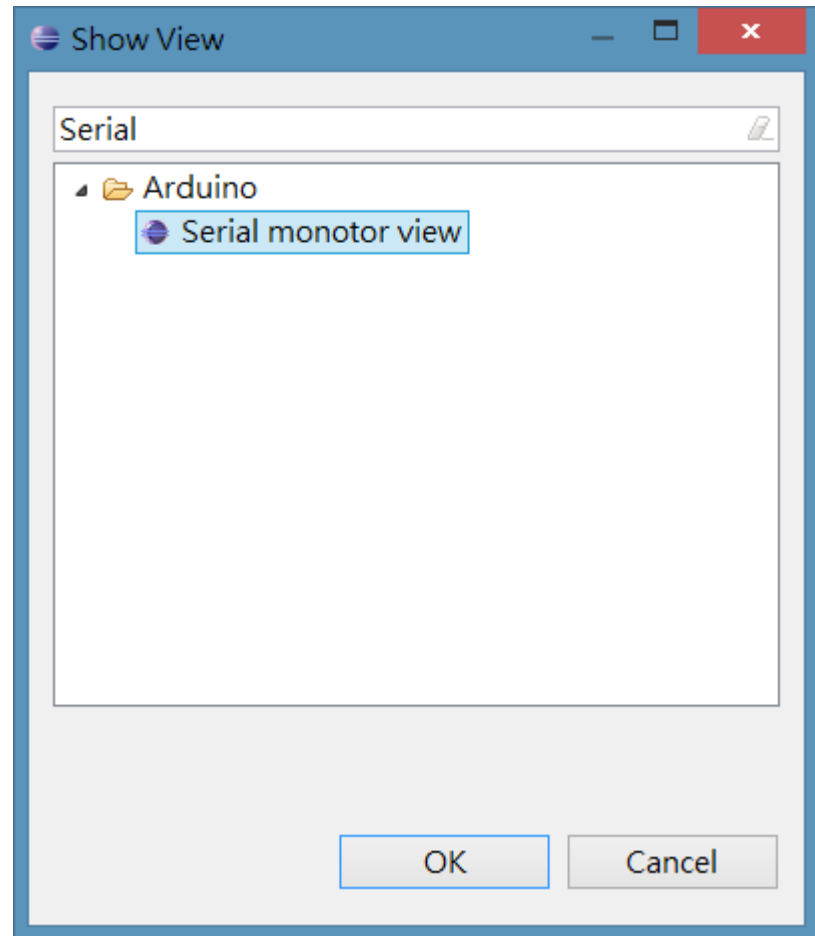


編譯與上傳 執行

- 來看看結果，剛剛是在 Serial 印出”hello Arduino”，所以這時要開一個 “Serial monotor view”
- Window->Show view->Other

編譯與上傳 執行

在上面輸入 Serial，
就會看到！



編譯與上傳 執行

The screenshot displays the Eclipse IDE interface for an Arduino project. The main editor shows the `Arduino_Project.cpp` file with the following code:

```
// Do not remove the include below
#include "Arduino_Project.h"

//The setup function is called once at startup of the sketch
void setup()
{
    pinMode(5,OUTPUT);

    Serial.begin(9600);
    Serial.println("Hello Arduino");
    // Add your initialization code here
```

The Serial Monitor view is open, and a dialog box is displayed for configuring the serial connection. The dialog box contains the following fields and buttons:

- Serial port to connect to: COM3
- Select the baudrate: 9600
- Buttons: OK, Cancel

Red arrows point to the "+" icon in the Serial Monitor view's toolbar and the dialog box. The text "選擇com port及baudrate" (Select COM port and baudrate) is written in Chinese below the dialog box.

編譯與上傳 執行

The screenshot displays the Eclipse IDE interface for a C/C++ project named 'Arduino_Project'. The main editor window shows the source code for 'Arduino_Project.cpp'. The code includes a 'void setup()' function that initializes a pin and sends a serial message, and a 'loop()' function that is currently empty. The IDE's status bar indicates 'C/C++' and 'Debug' modes.

```
//The setup function is called once at startup of the sketch
void setup()
{
    pinMode(5,OUTPUT);

    Serial.begin(9600);
    Serial.println("Hello Arduino");
    // Add your initialization code here
}

// The loop function is called in an endless loop
```

The 'Serial monitor view' window is open, showing the output of the program. The port is set to 'COM3' and the baud rate is 'none'. The output text is 'Connected to COM3 at 9600' followed by 'Hello Arduino' on a new line. The text 'Hello Arduino' is highlighted with a red box.

Finish! All Done