mpideXcode

Embedded Computing Template on Xcode 4.2

Installation Guide

Website http://sites.google.com/site/vilorei/

GitHub repository https://github.com/rei-vilo/embedXcode

How to Help!

Contribute to the project on GitHub.

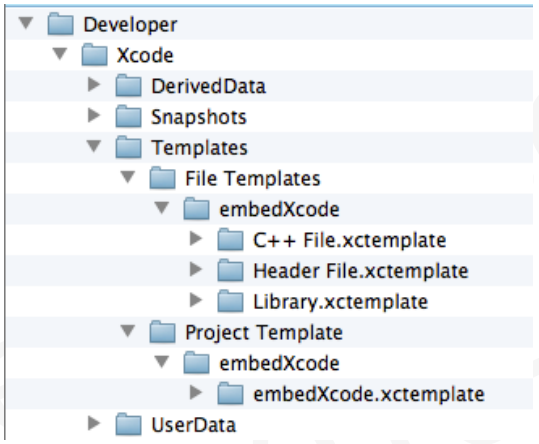
Help me buy books on Xcode through my amazon Wish List.

Summary

1. Installation

Check and create `~/Library/Developer/Xcode`

Copy the folder Templates into `~/Library/Developer/Xcode`



Arduino 0023 should be installed.

Optionally, other Processing-based IDE could be installed.

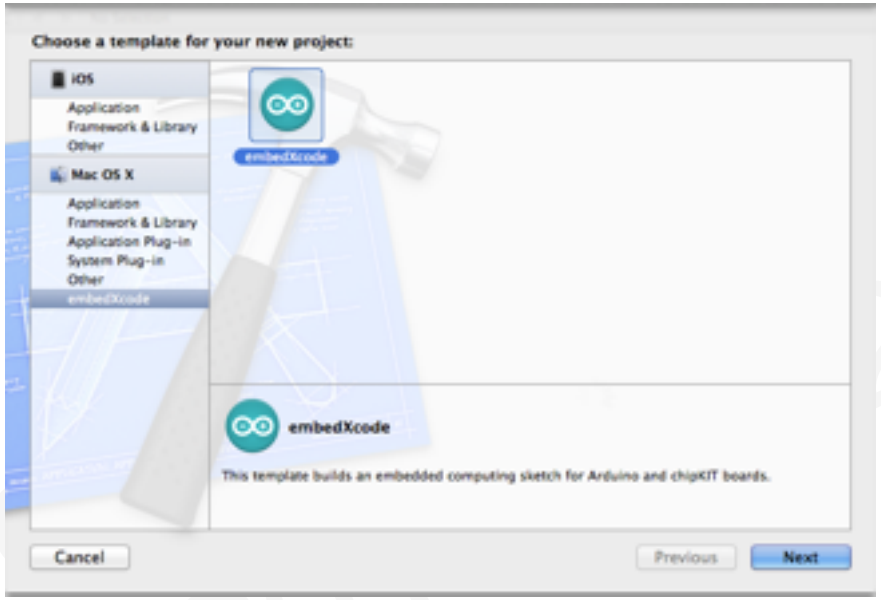
The template is provided with a specific makefile for chipKIT boards. In that case, MPIDE installation is required.

Other boards requires their IDE and the customisation of a specific makefile.

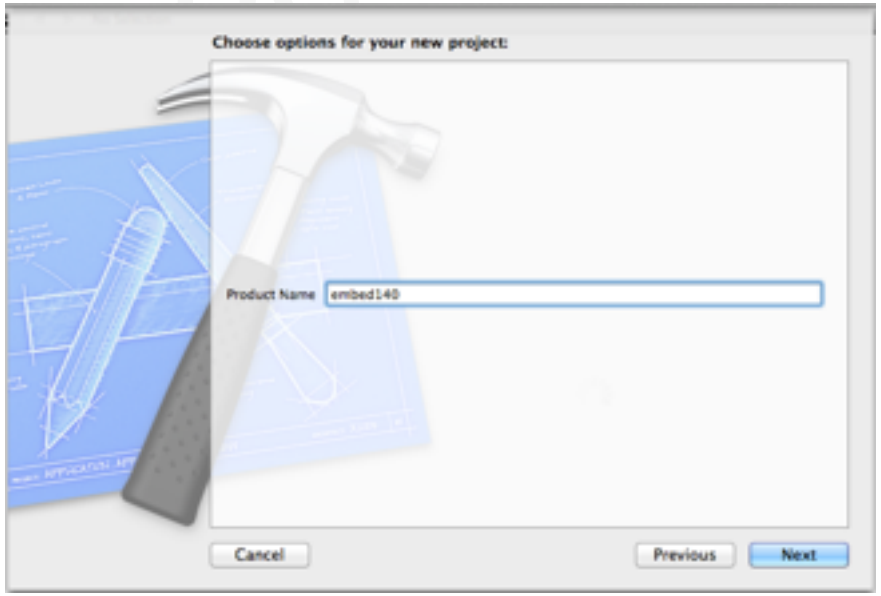
2. New Project

Call the menu `File > New > New Project...`

Select `embedXcode > embedXcode`.



Type in the name of the project and click on `Next` to save.



3. Project Configuration

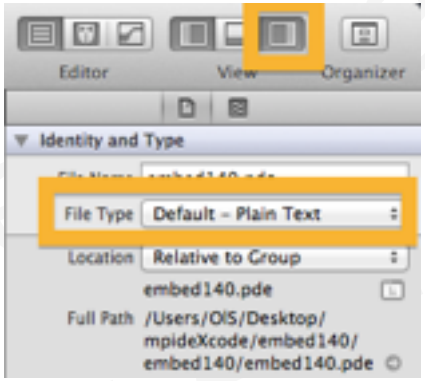
The template doesn't define all the parameters, so we need to set some of them manually.

3.1. Declare Sketch .pde File as C++ File

The sketch `.pde` file is considered as plan text. For code-sense, it should be declared as C++ file.

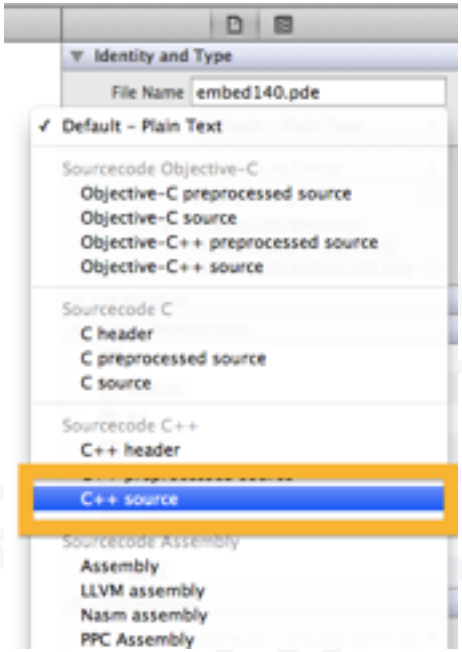
Select the sketch `.pde` file.

In the right-most column,

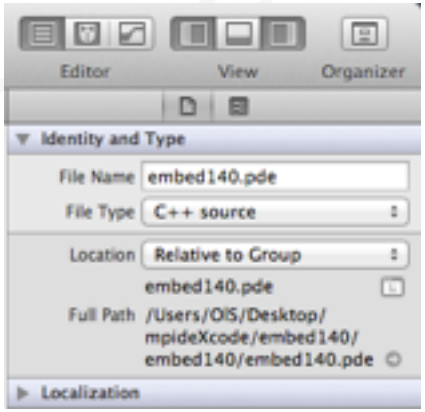


Click on the drop-down list of File Type.

Select `C++ source`.



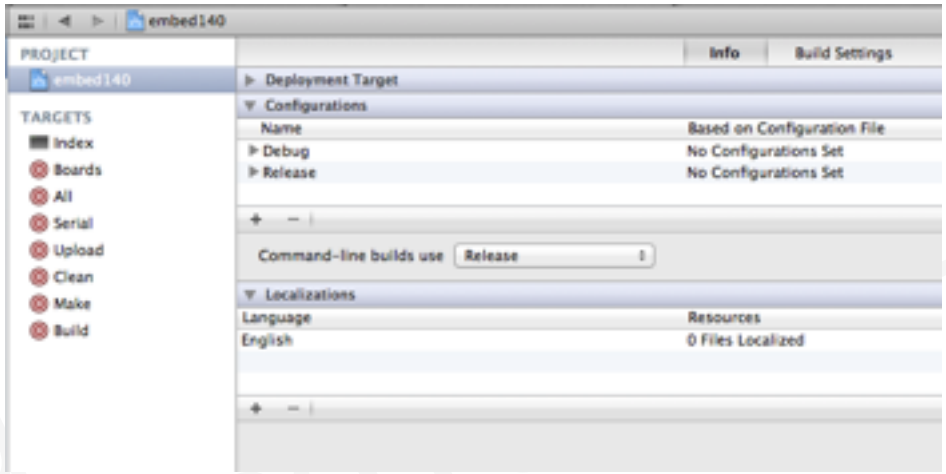
Now, the sketch is considered as C++ code for code-sense.



3.2. Declare User's Sketchbook

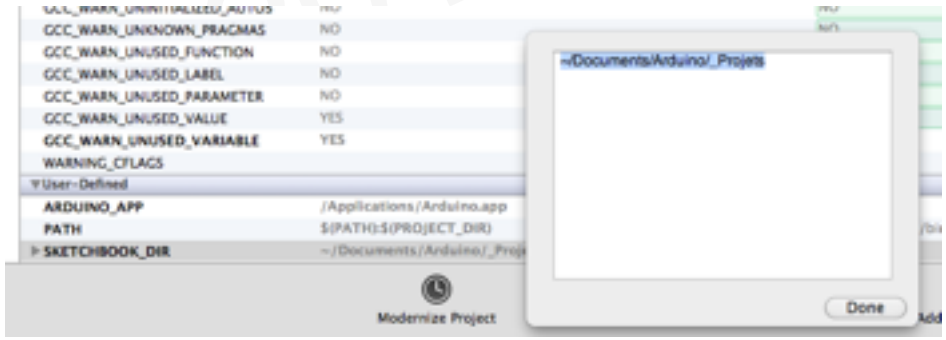
The user's sketchbook is a folder where the user's sketches are saved, among them the libraries in a dedicated sub-folder Libraries.

Select the project and the `Build Settings` pane.



At the very bottom, double-click on `SKETCHBOOK_DIR` and either type in the name of the folder or drag-and-drop it from a Finder window.

The `~` character is accepted.

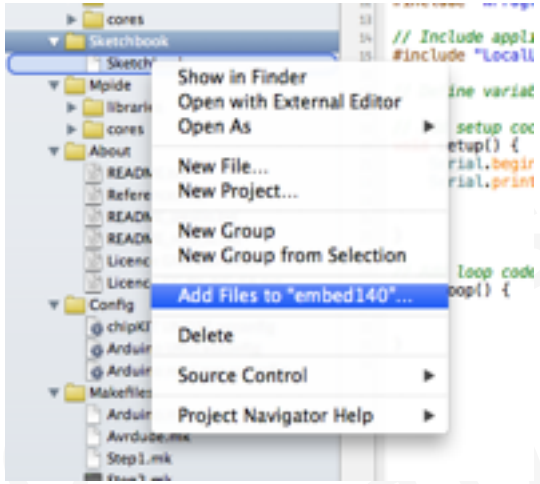


3.3. Add User's Libraries

Open the Sketchbook group on the project hierarchy.

Right-click to obtain the contextual menu.

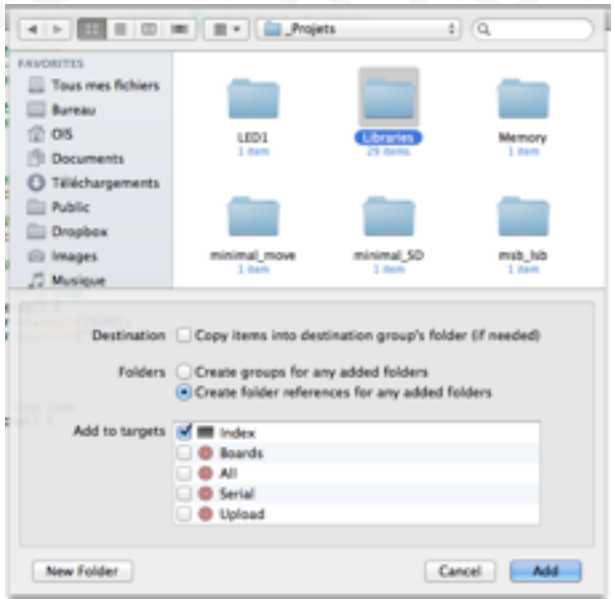
Choose `Add file to...`



Select the Library sub-folder on the sketchbook folder, tick `Add to target > Index` and validate with Add.

Both `Create group for any added folders` and `Create folder references for any added folders` are relevant.

Don't tick `Copy items into destination group's folder (in needed)` to avoid duplicating files.



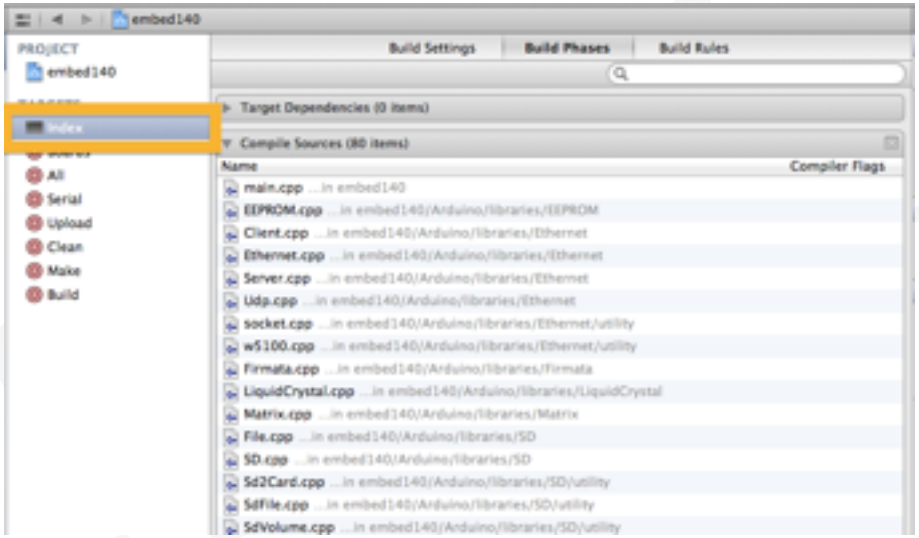
The project hierarchy shows all your libraries.

3.4. Declare Sources for Code-Sense

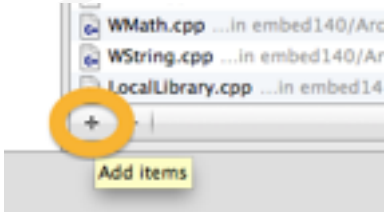
Standard C++ keywords are already known, but not the Arduino and user's library keywords.

So Xcode needs to be taught where to find them.

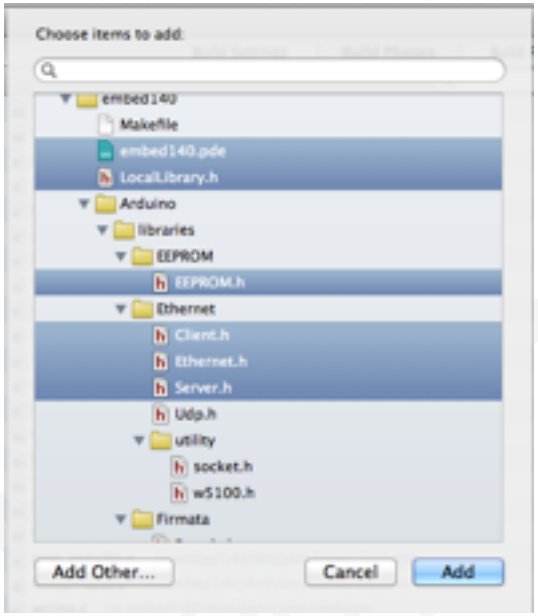
Select the target Index and the `Build Phases` pane.



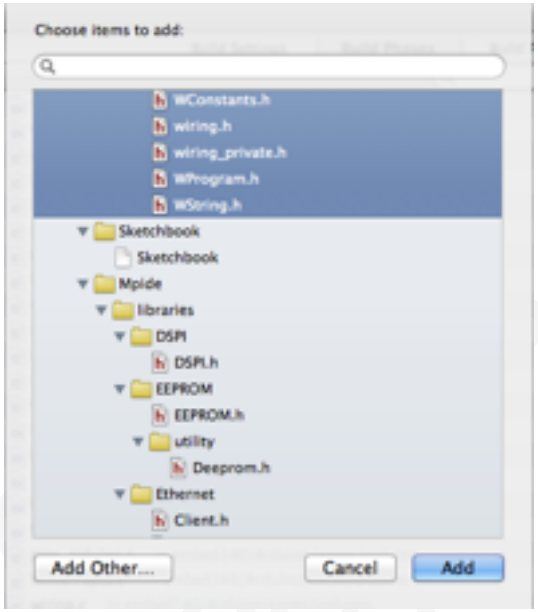
Go a the bottom of the list and click on the + button.



A list shows up.

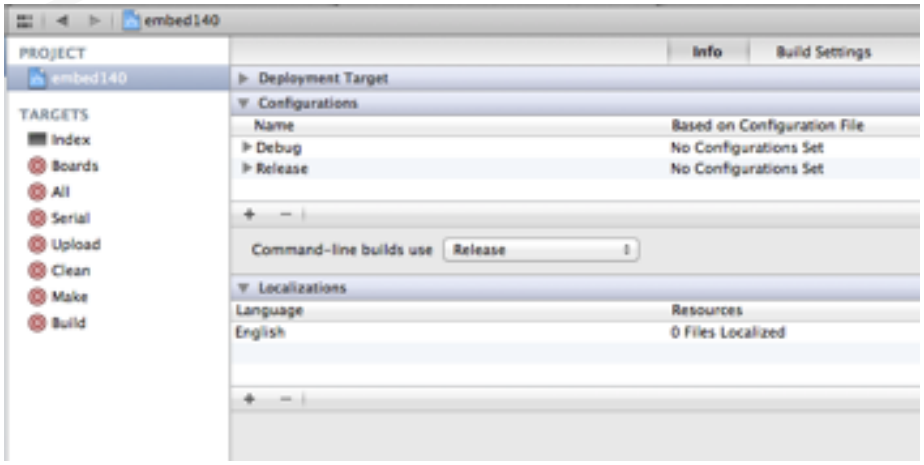


Select all the `.h` and `.cpp` files and click on Add.

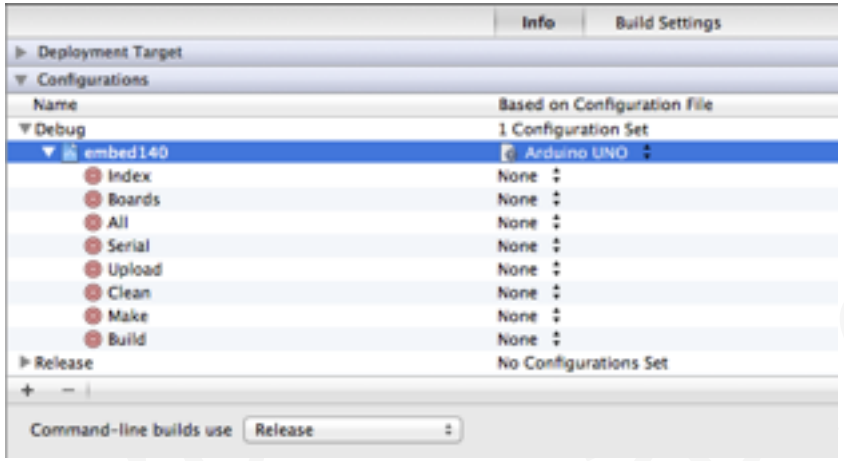


3.5. Define or Change the Board

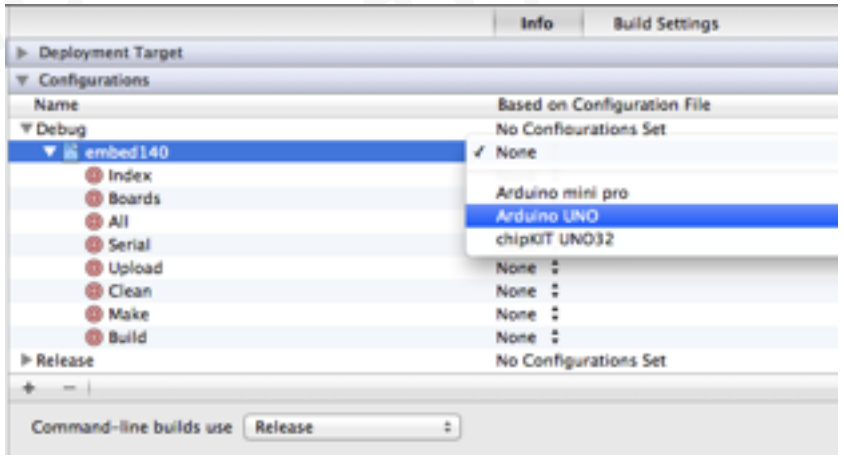
To define or change the board, select the project and the `Info` pane.



A drop-down list shows the boards available.



Just select one.



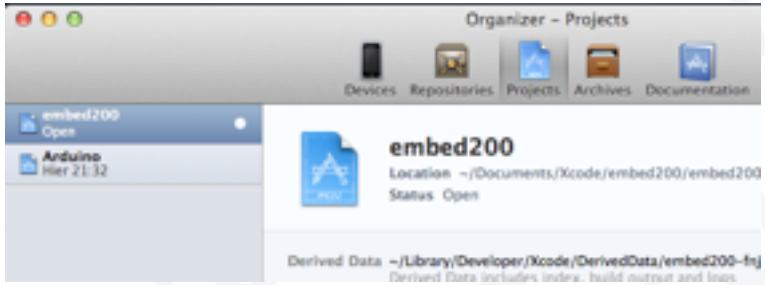
You're ready now!

4. Re-indexing Keywords

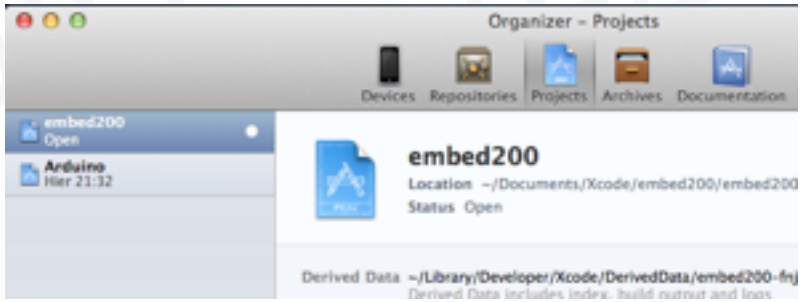
If code-sense doesn't work, we need to force a re-indexing of the key words.

To do so, first close the project.

Call the menu `Window > Organiser` and select the `Projects` pane.



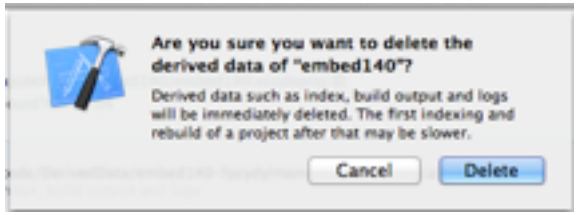
Select then the project.



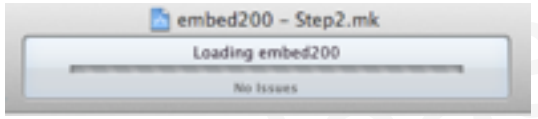
The index is saved within the `Derived Data` folder.

Click on the `Delete` button to delete them.

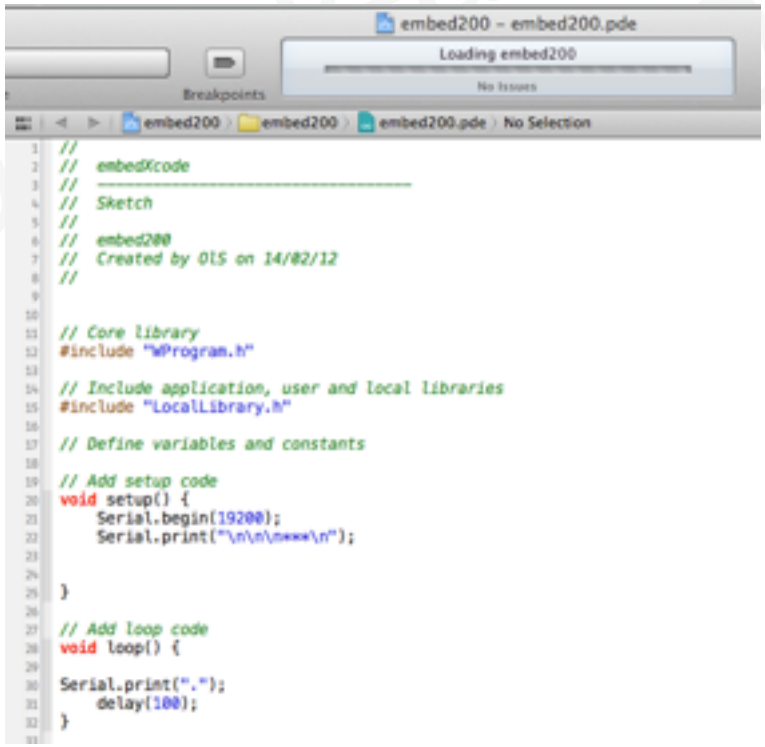
Confirm the deletion.



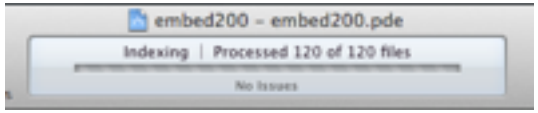
Load the project.



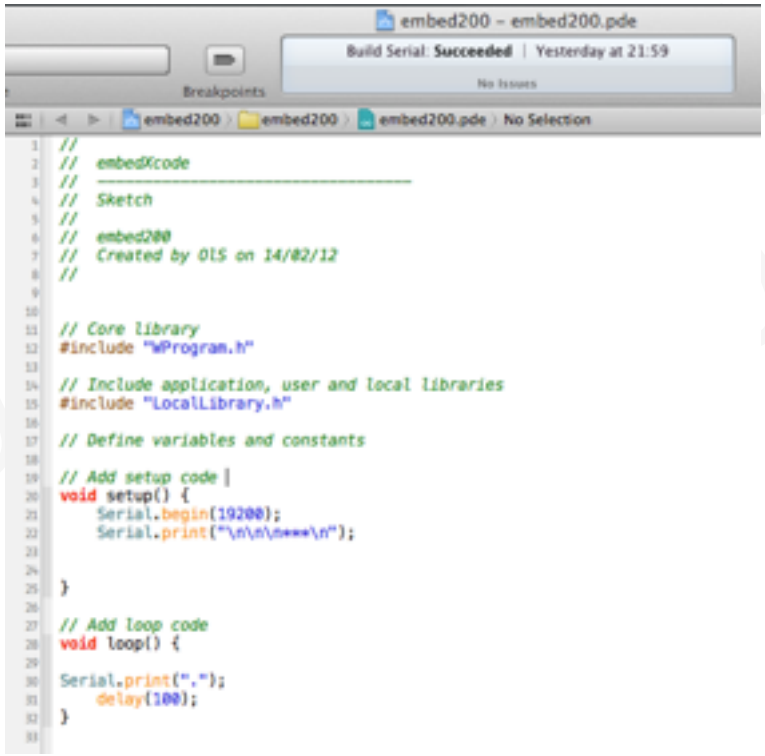
There's no code-sense yet: everything is in black-and-white, except standard C++ keywords.



The index is being built.



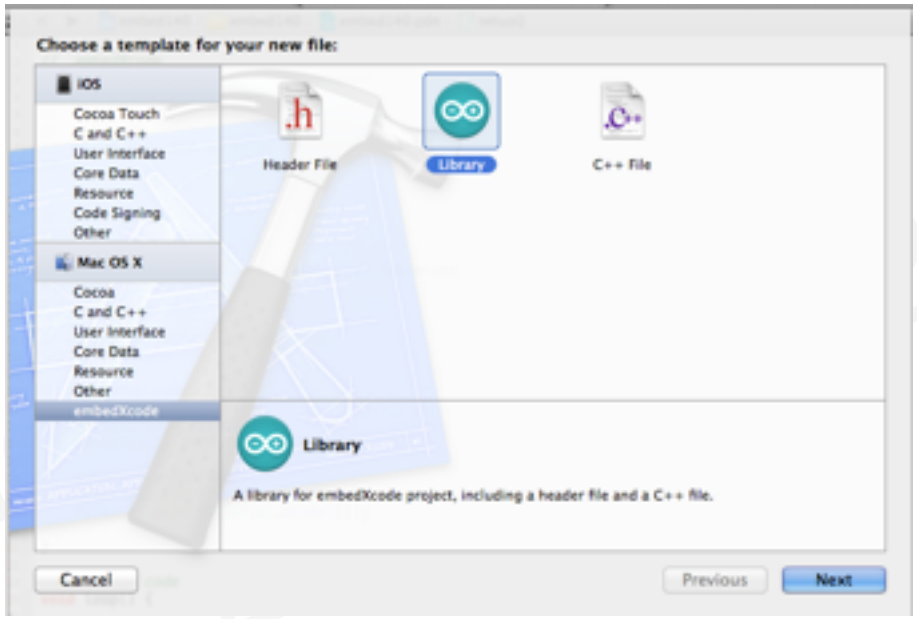
When the index is built, code-sense shows pretty colours.



5. Add a File

Call the menu `File > New > New File...`

Select embedXcode and then `Header File`, `C++ file` or `Library`.



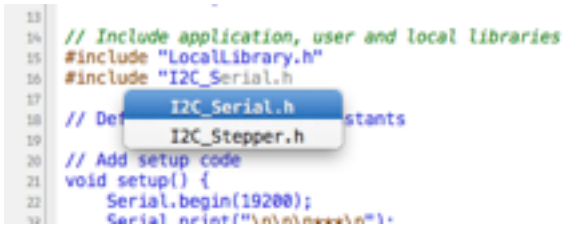
Library creates a header file and a C++ code file with the `#include` statement ready!

```
#include "LocalLibrary.h"
```

6. Code-Sense Features

Apart from pretty colours on the code and enhanced visibility, code-sense brings:

- auto-completion,



-

- code-snippets and check-as-you-type code monitoring,
- click-to-definition

7. References

See documents on the `About` folder for additional contributions and detailed references.