How to create and use static library in MCUXpresso IDE

For the previous KDS or CodeWarrior users, they may not create and use static library under MCUXpresso IDE without a hitch, because the methods are not exactly same.

MCUXpresso IDE supports adding static library in user project with **"Smart Update" wizard.** This feature is derived from LPCXpresso IDE. However, "Smart Update" wizard is only available for natively supported LPC products in MCUXpresso 10.1.0 and lower versions. It will support all LPC and Kinetis product in MCUXpresso IDE future release.

For MCUXpresso natively supported LPC product, using "Smart Update" to add library is very convenient. User can learn its usage from this article:

https://community.nxp.com/message/630594

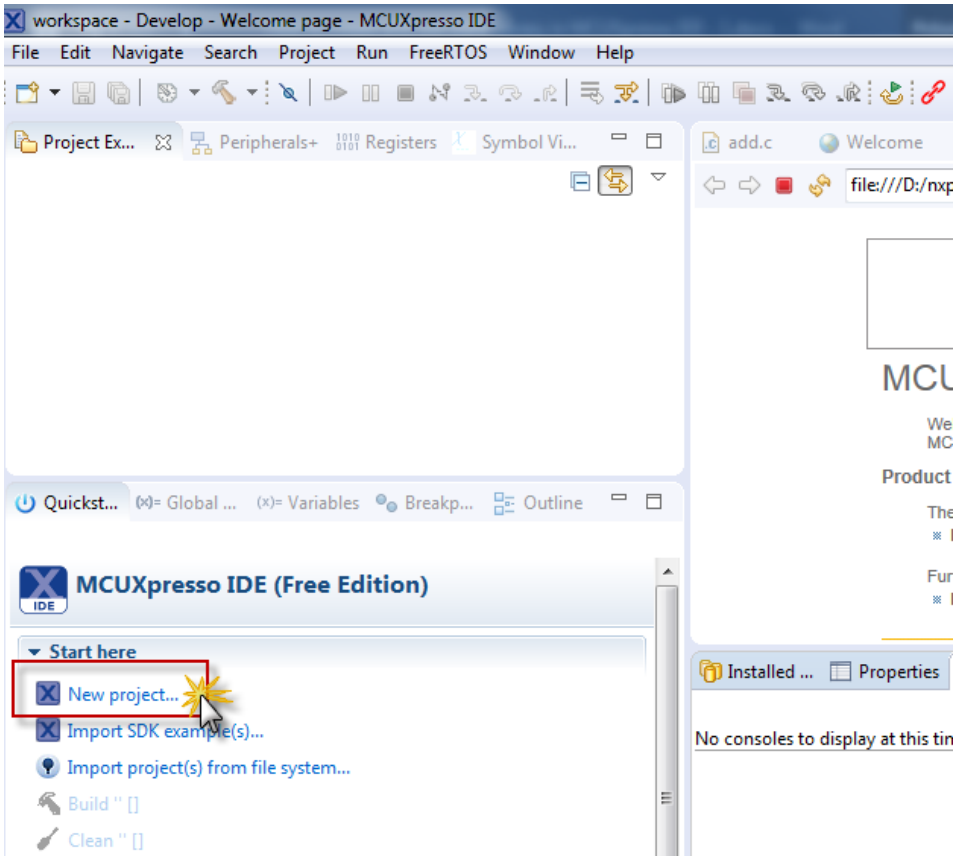
For Kinetis product, the only way to add library to project is by hand.

This article will take an example with MK64F demo, illustrating how to create and use static library under MCUXpresso IDE step by step. It will also be good for all LPC and Kinetis users to understand how user project works with external static libraries under MCUXpresso.

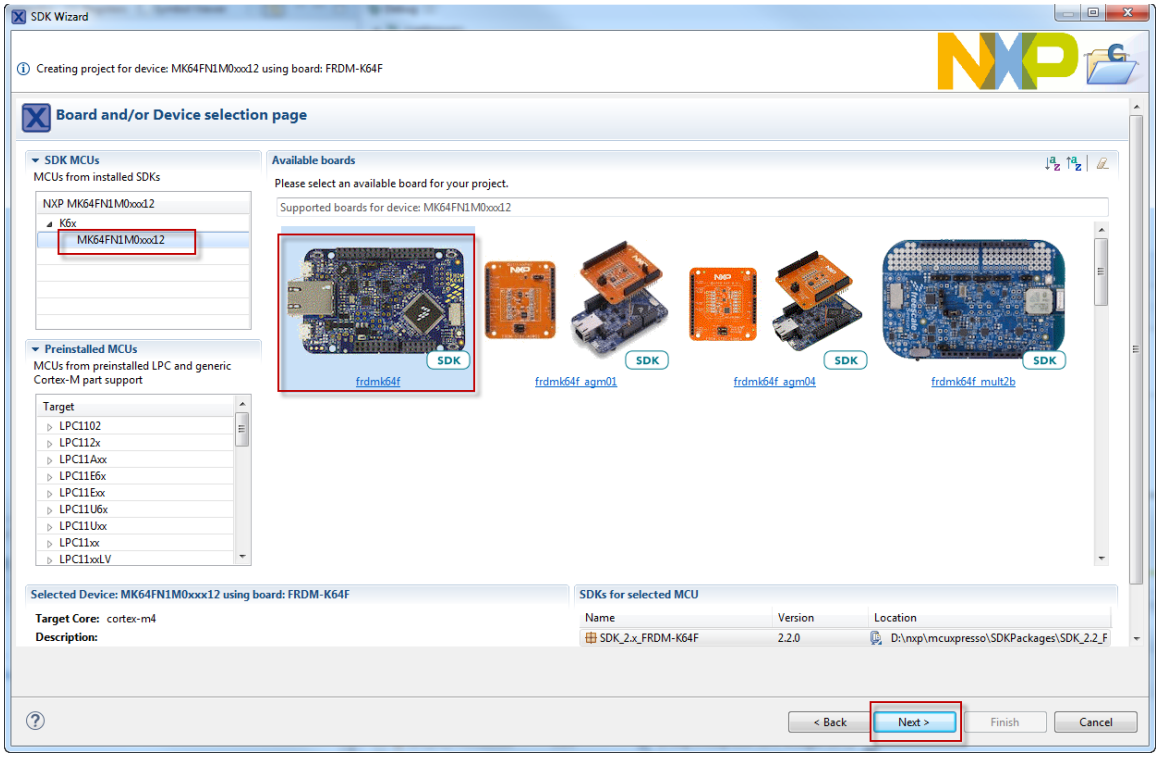
1. Create a static library in MCUXpresso IDE

step 1. Create a new project via "Quickstart Panel", "New project…"

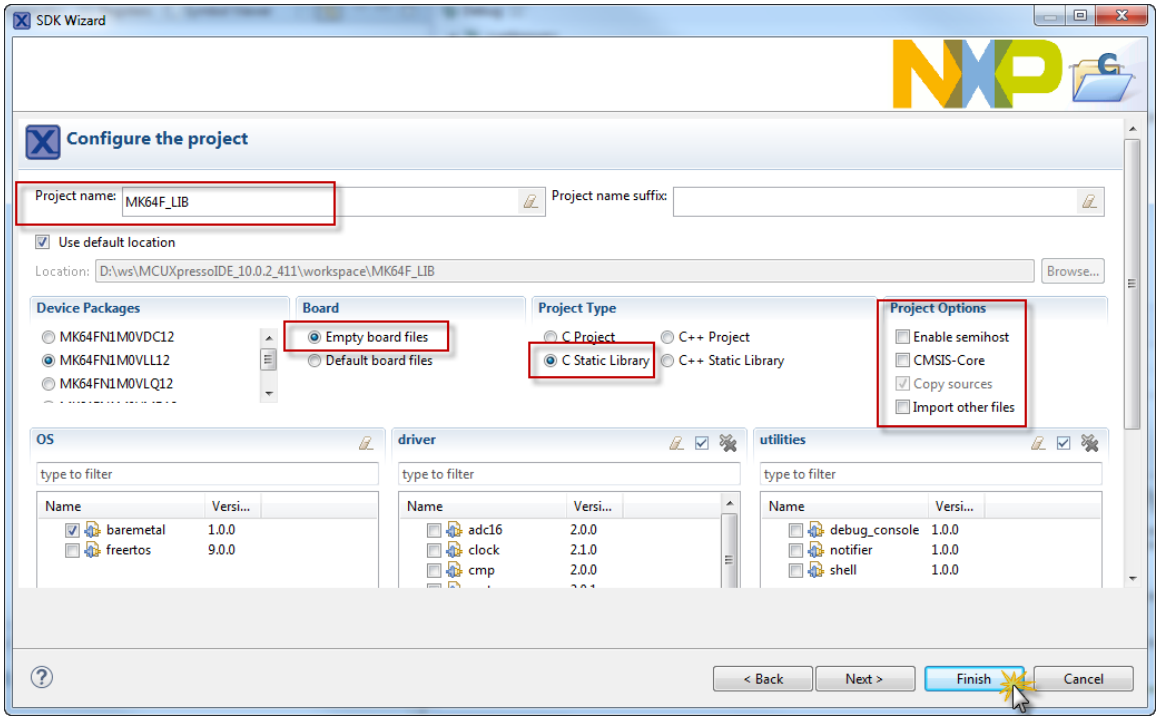
"Quickstart Panel" is an important concept in MCUXpresso IDE (and will become even more so in the future) rather than the "standard Eclipse functionality" that was in KDS and CodeWarrior.



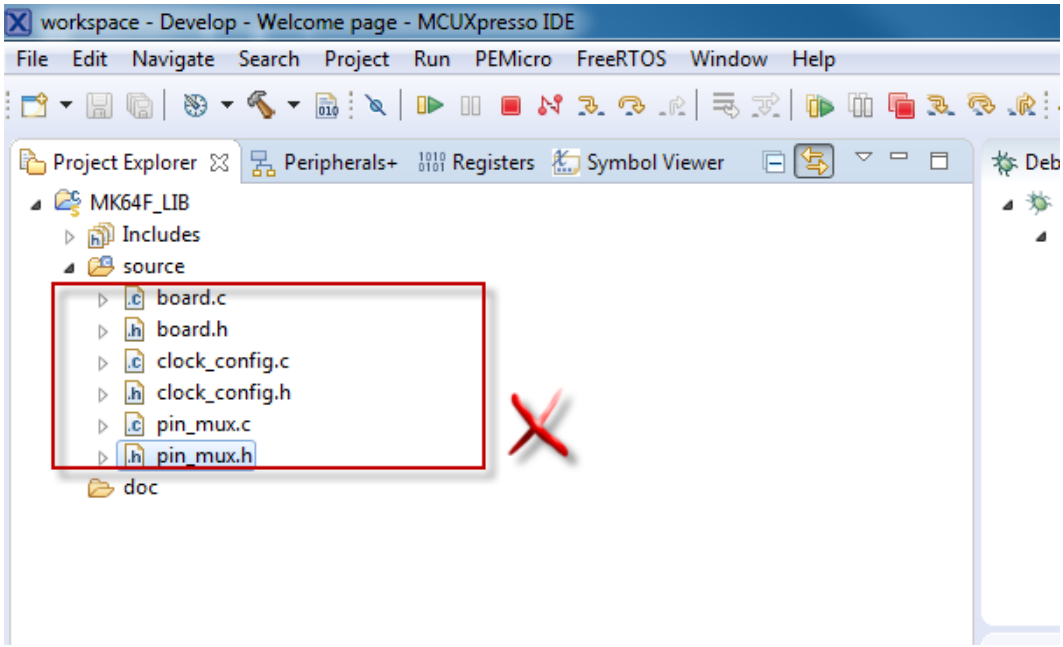
step 2: Select device



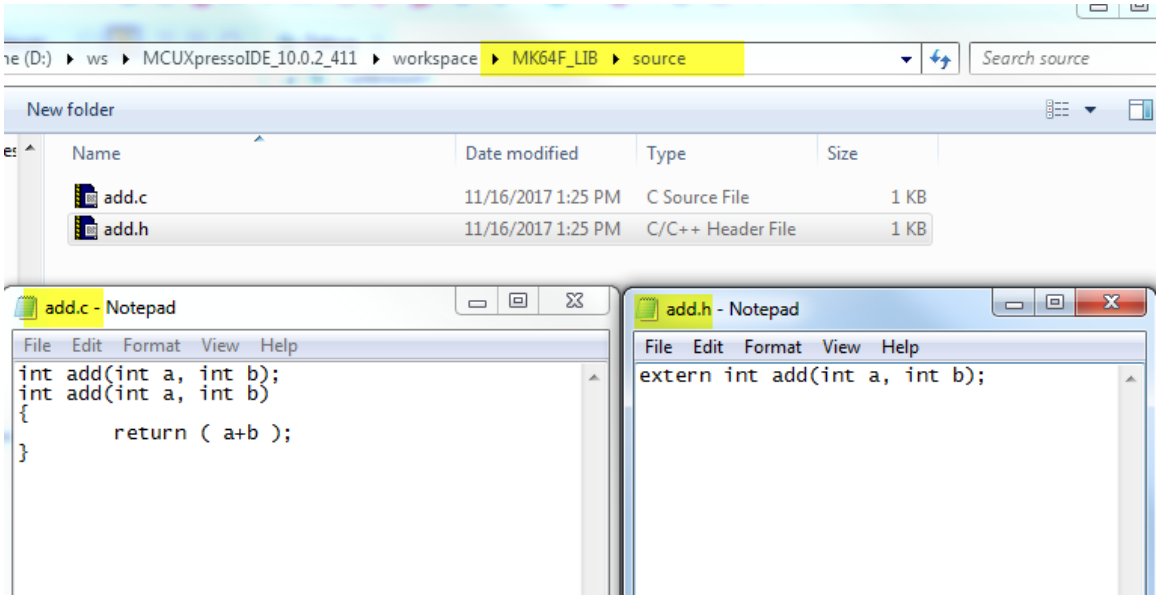
Step 3 Fill library project name, set Project Type as “C Static Library”. To simplify project, set board as “Empty board files”, uncheck all Project Options. Then click “Finish”



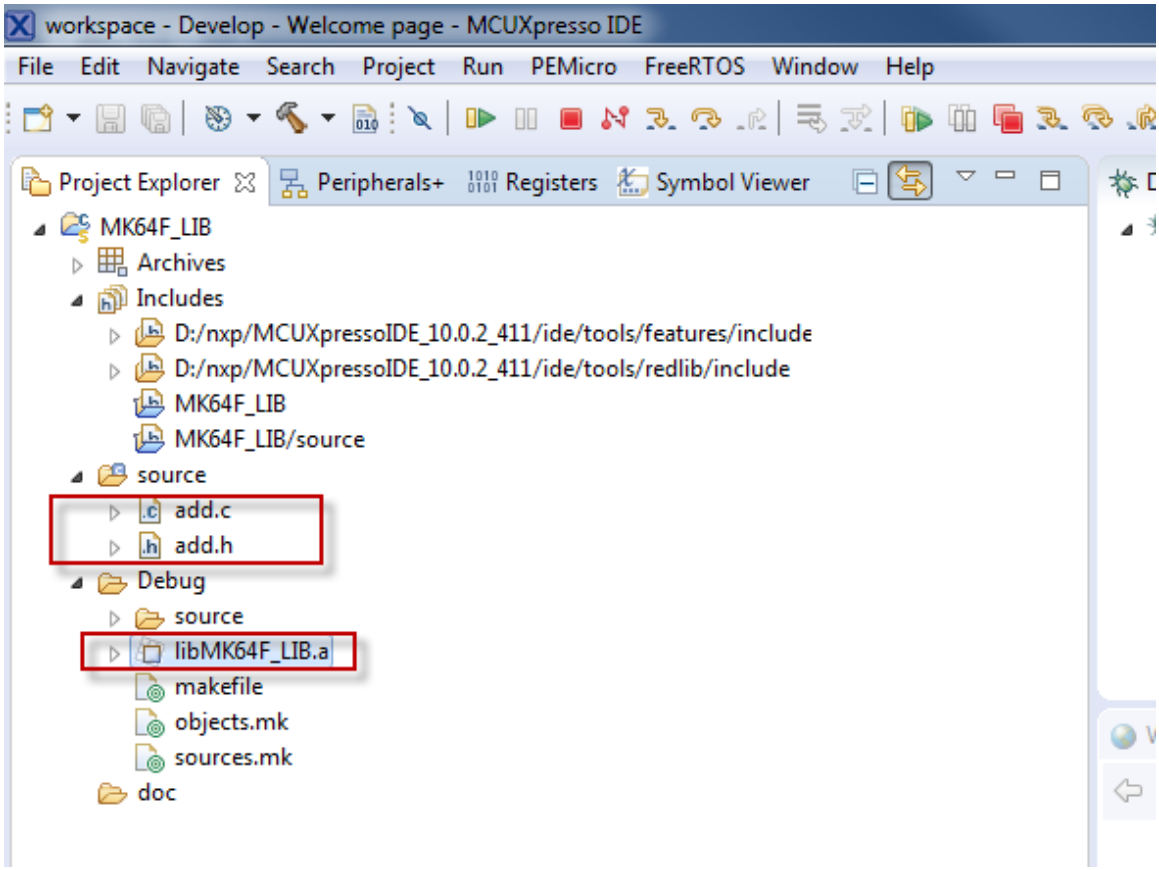
Step 4. In the new created project, remove all the source files. We will add our own library source files



Step 5. Then add add.c and add.h to the source folder

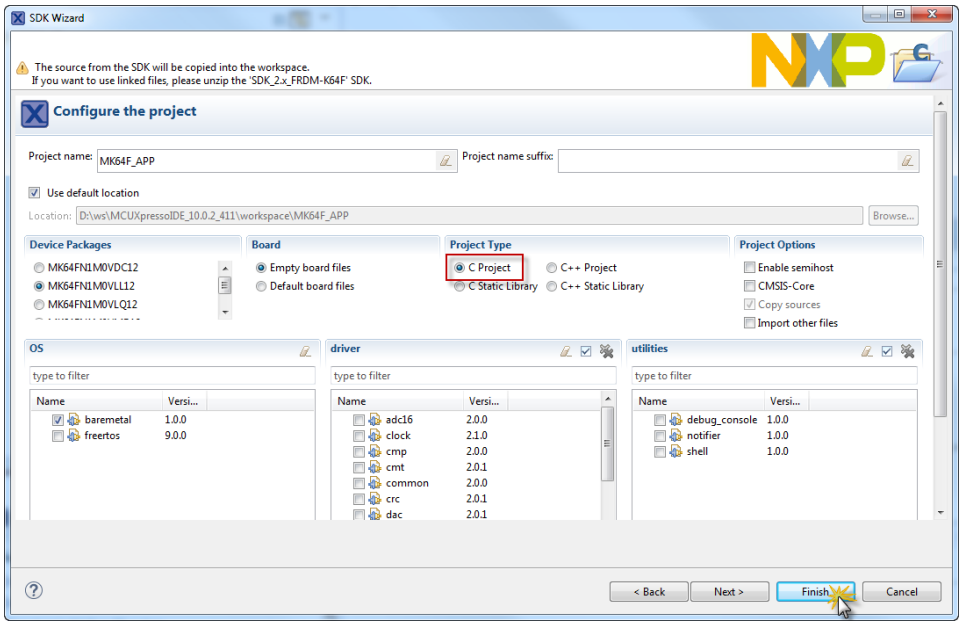


Step 6. Add these two files to IDE Project Explore. Rebuild project, lib file will be generated. The GNU tools require libraries to be named libMK64F_LIB.a

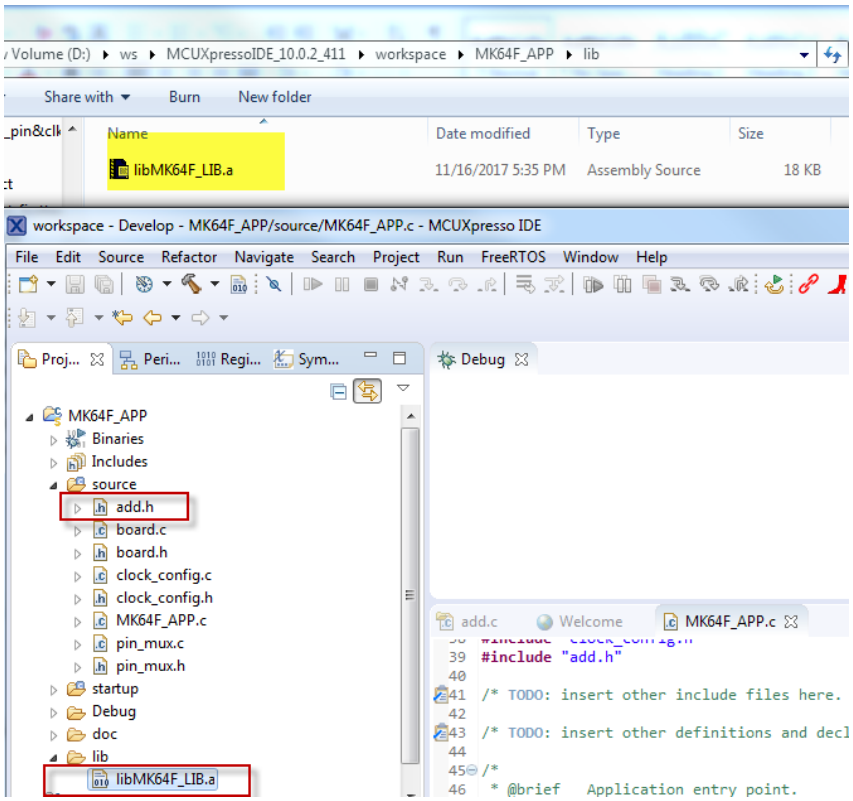


2. Adding user static library in user application

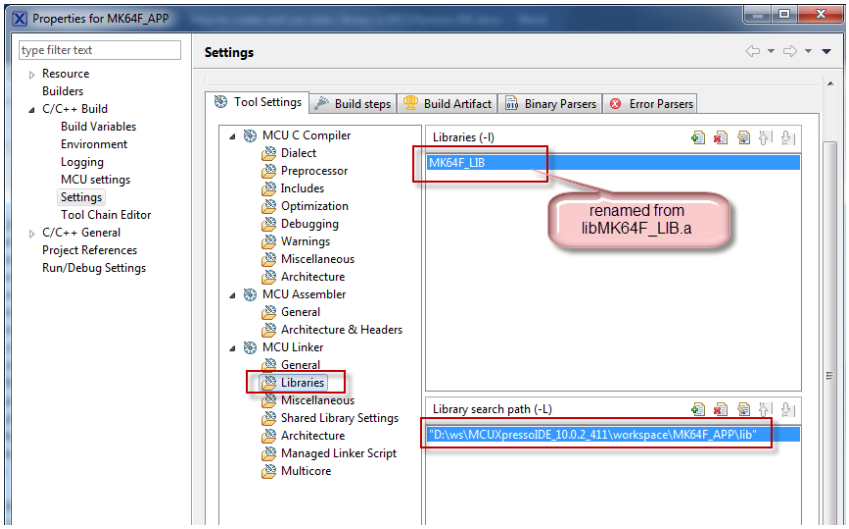
Step 1. Create a new application project with wizard. Select project type as “C Project”. Then “Finish”



Step 2. Add “add.h” and “libMK64F_LIB.a” to MK64F_APP



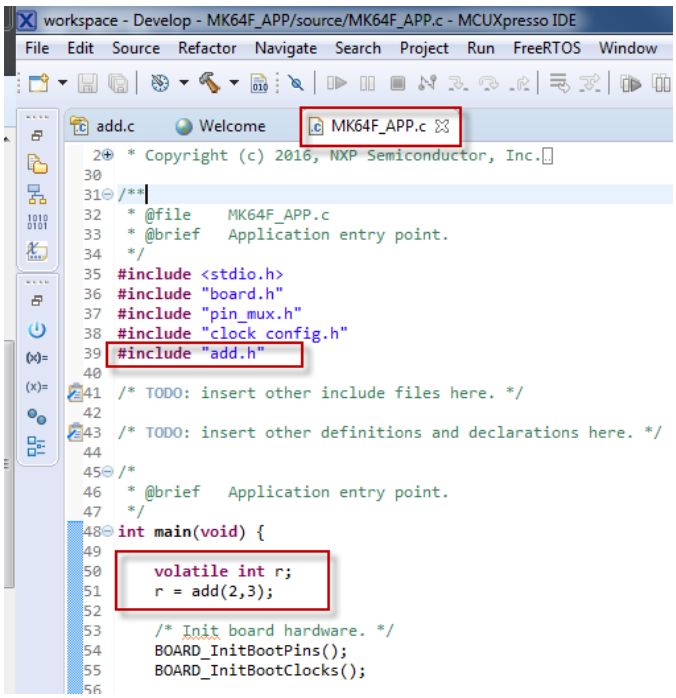
Step 3. Add library and path to linker properties settings



NOTE: We only specify **library_name** in *Libraries (-l)***.** For example, if you have a library called **libMK64F_LIB.a**, we specify **MK64F_LIB** in the Linker Libraries settings. We also need to specify the location that we have placed the library archive in the *Library search path (-L)* setting.

Refer article: https://community.nxp.com/message/630664

Step 4. Add source code in c file.



Step 5. Build project and launch debugger. Step over the code, we can see library function works.