Project: Setup FRDM-KL46Z

Plug in board, make sure OpenSDA drivers install.
Board will show up as a storage device "FRDM-KL46Z". Open the drive, and open the SDA_INFO.HTM file. On the page that loads, look at the bootloader version (should be greater than 1.10) and the application version (should be greater than 1.14). If not, give your board to an instructor or TA for firmware update.

Follow these instructions: Getting Started Instructions or Section 5 of the PDF Version: Getting started with Kinetis SDK.

Choose the NXP Development Path.

After you've installed the Development Studio and SDK, plug in the board, and make sure OpenSDA drivers install.

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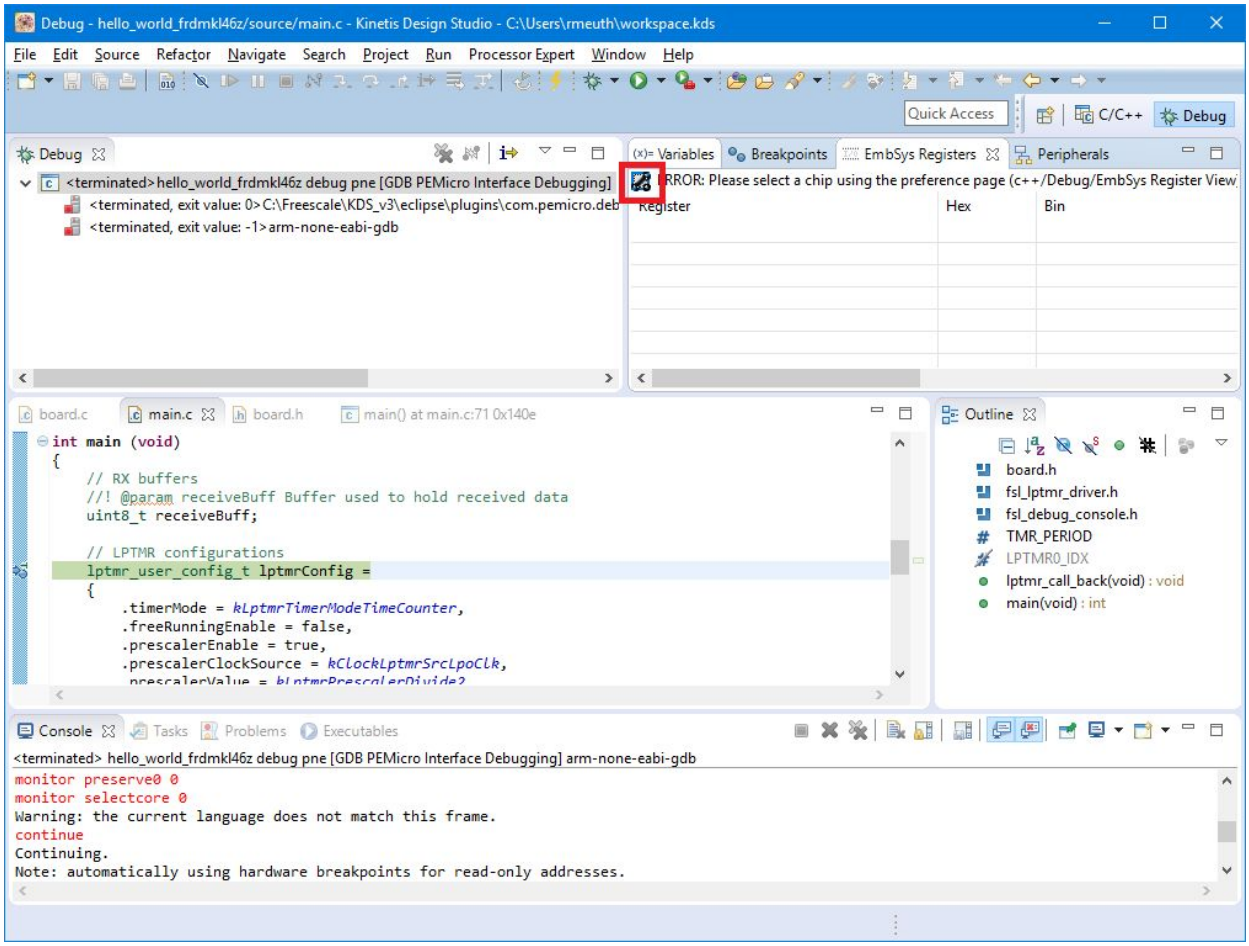
This is the platform lib you want to build:

C:\Freescale\KSDK_1.3.0\lib\ksdk_platform_lib\kds\KL46Z4

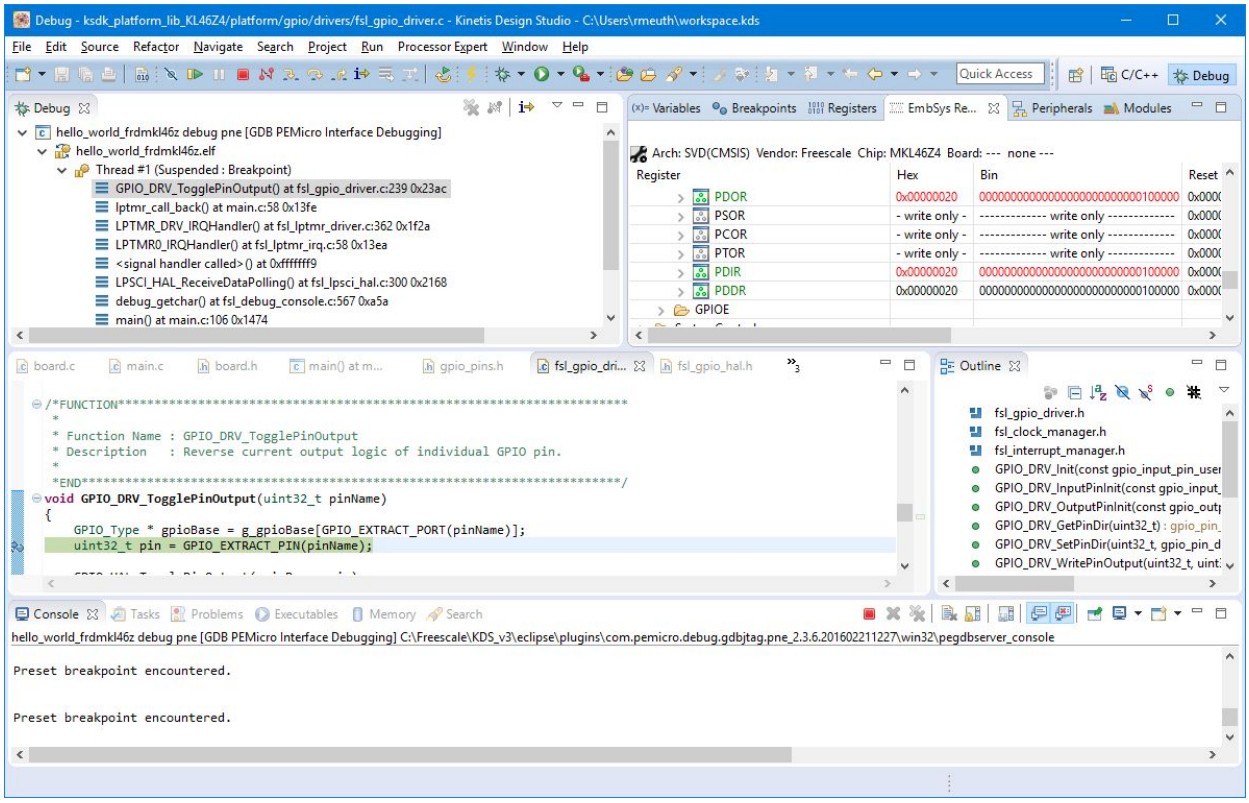
When you get to "Run an example", after you first debug and the program hits the breakpoint, click the EmbSysRegisters tab in the variable view window, then click the wrench icon next to the error.



In the window that appears, select:
Architecture: SVD (CMSIS)
Vendor: Freescale
Chip: MKL46Z4

Then click "OK".

In the EmbSys Register pane, navigate to GPIO -> GPIOD. Double click on the GPIOD folder, this should open the register list, with several registers highlighted in green:



Next, go back to the C/C++ perspective, and set a breakpoint in the fsl_gpio_driver.c file in the plaform project:
ksdk_platform_lib_KL46Z4 -> platform -> gpio -> drivers -> fsl_gpio_driver.c
Set a breakpoint at line 241: GPIO_HAL_TogglePinOutput(gpioBase, pin);

Return to the debug perspective, and press the Resume button. Every time it is clicked you should see the LED on the board toggle on or off, and you should also be able to see the bit pattern in GPIOD change. This is the current state of memory in the processor, and is a powerful tool for debugging.

Development Challenge:

Change the demo program to blink the red LED (LED2) instead of the green LED.

a. Debug the program, and take screenshot of the LED2 pin register after it has turned on. Include this in your project submission.
b. Demonstrate your program functioning to your TA or Instructor.
c. HINTS: Read through main.c, board.h, and gpio_pins.h to find the information you'll need.

Submit the following to blackboard:

A zipped file named CSE325_Project_0_*yourlastname*.zip containing the following:

- Project Folder
- Screenshot of LED2 pin register after it has turned on.