

# Getting started with Tiva C Launchpad

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Embedded Systems lab



This document gives step by step procedure to configure Tiva TM4C123GXL Launchpad board to work with Keil uVision IDE

## TIVA C Configuration

### Requirements:

1. Operating System: Windows
2. Keil uVision 4: IDE
3. Stellaris ICDI drivers : To be able to download program
4. TivaWare : Suite of software tools designed to simplify and speed development of Tiva C Series-based MCU applications

### Download links:

1. Keil uVision : <https://www.keil.com/demo/eval/armv4.htm>
2. Stellaris ICDI drivers : [http://www.ti.com/tool/stellaris\\_icdi\\_drivers](http://www.ti.com/tool/stellaris_icdi_drivers)
3. TivaWare : [http://software-dl.ti.com/tiva-c/SW-TM4C/latest/index\\_FDS.html](http://software-dl.ti.com/tiva-c/SW-TM4C/latest/index_FDS.html)

#### **Download highlighted file**

#### Software for Tiva C Series Microcontrollers


##### Release Information








Version: 2.1.1.71

Build date: 2015-05-07

##### Legend

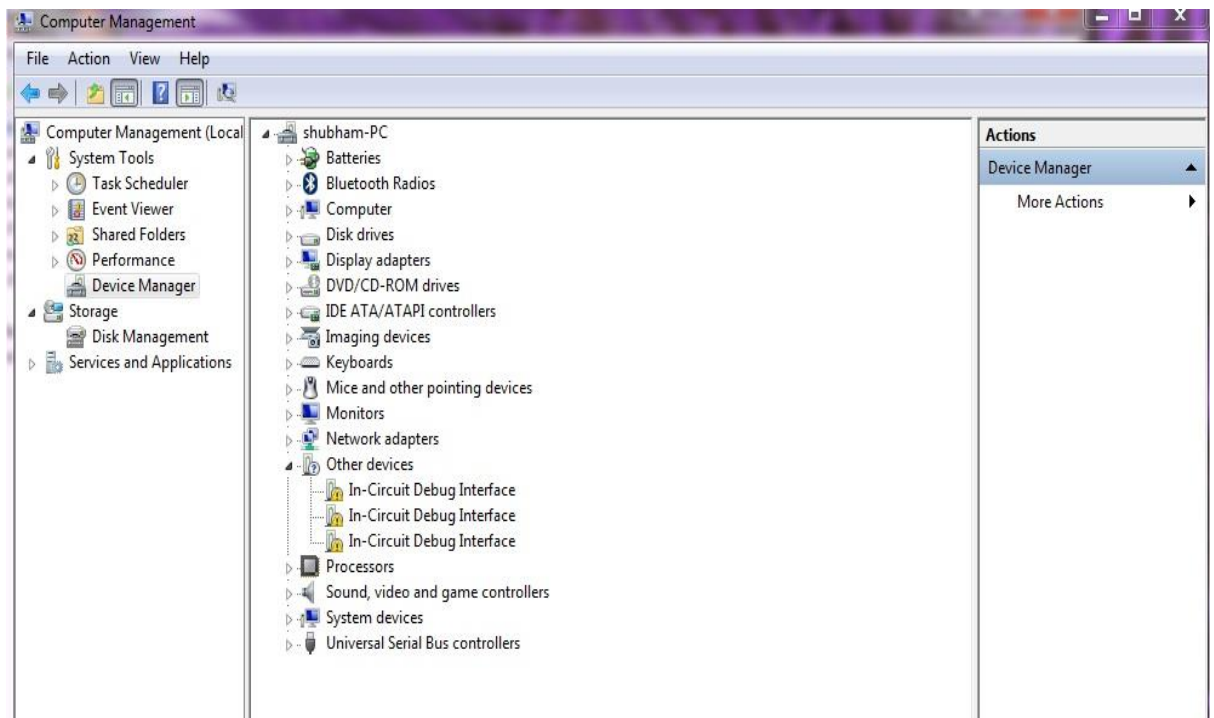
 Fill in Form. Approved users receive download URL in 1 minute.

 Fill in Form. TI will contact you in 1-2+ business days.

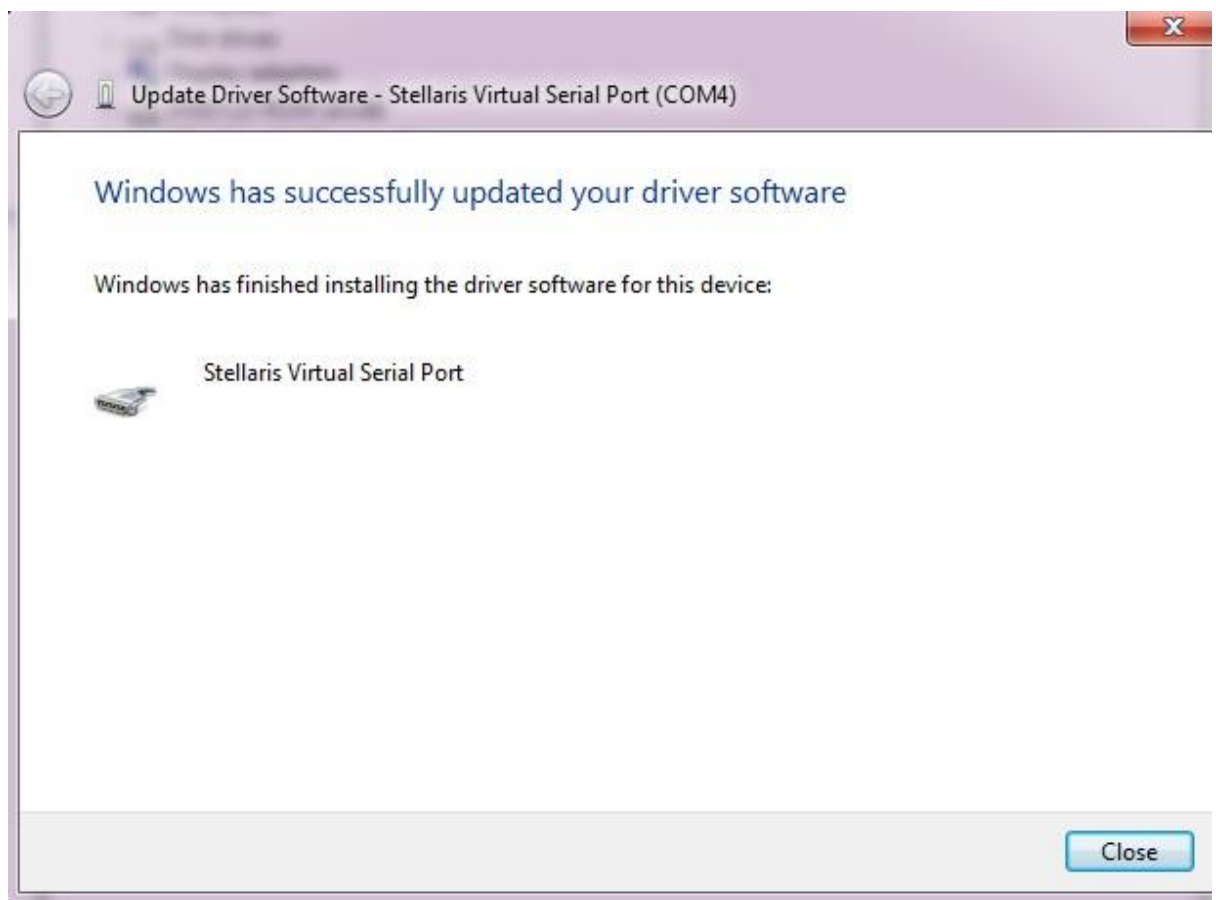
| SW-TM4C Product Downloads   |                                     |         |
|---|-------------------------------------|---------|
| Title   | Description                         | Size    |
| Full Release  |                                     |         |
|  SW-TM4C-RLN-2.1.1.71.pdf      | TivaWare for C Series Release Notes | 141K    |
|  SW-TM4C-2.1.1.71.exe          | TivaWare for Tiva C Series          | 152288K |
| Kit Software  |                                     |         |
|  SW-EK-LM4F232-2.1.1.71.exe    | EK-LM4F232 Kit Software             | 58204K  |
|  SW-EK-TM4C123GXL-2.1.1.71.exe | EK-TM4C123GXL Kit Software          | 32566K  |
|  SW-DK-TM4C123G-2.1.1.71.exe   | DK-TM4C123GL Kit Software           | 61377K  |
|  SW-EK-TM4C1294XL-2.1.1.71.exe | EK-TM4C1294XL Kit Software          | 75122K  |
|  SW-DK-TM4C129X-2.1.1.71.exe   | DK-TM4C129X Kit Software            | 97716K  |

### Procedure:

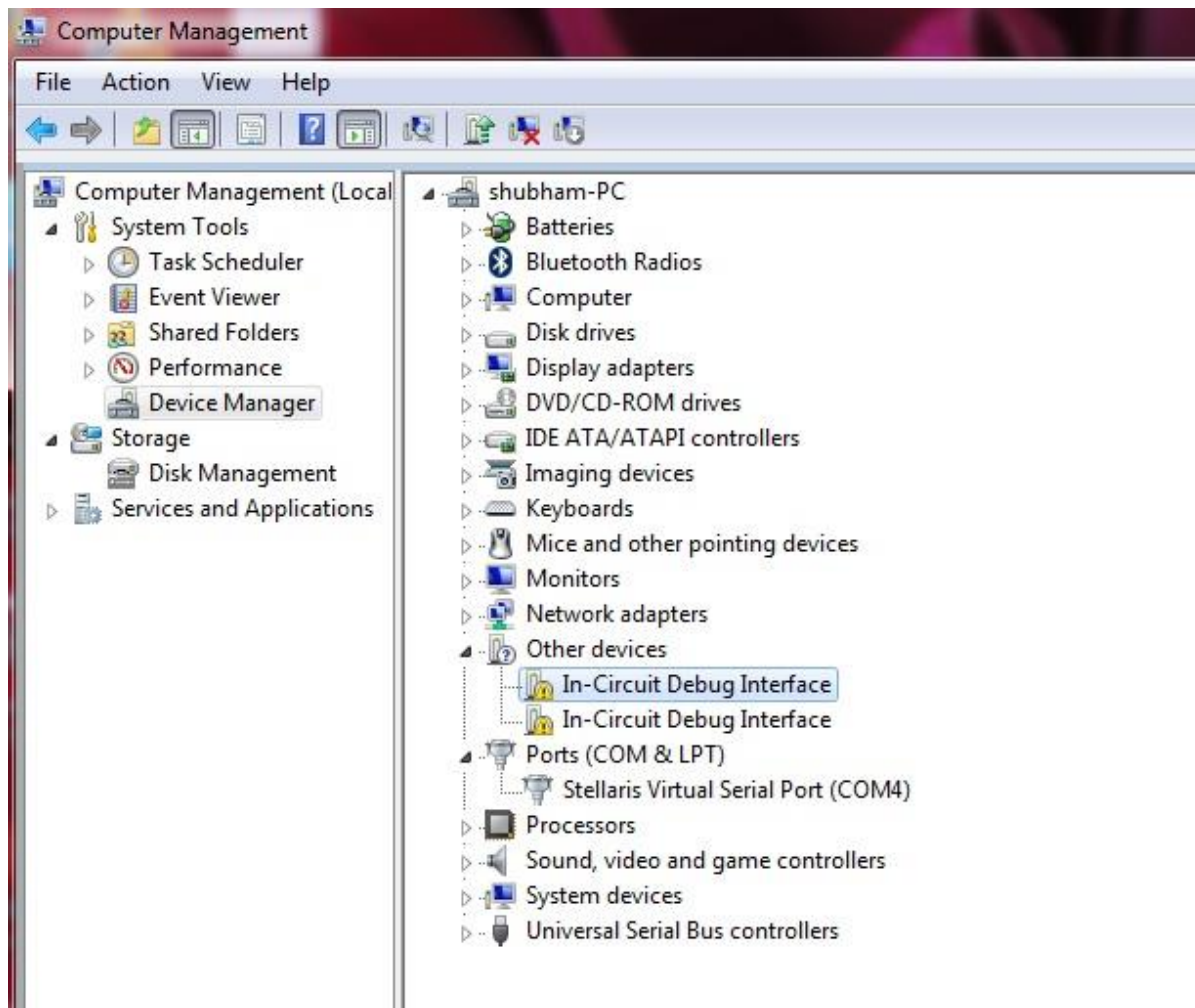
1. Download & install Keil uVision 4
2. Download Stellaris ICDI drivers. To install these drivers open device manager



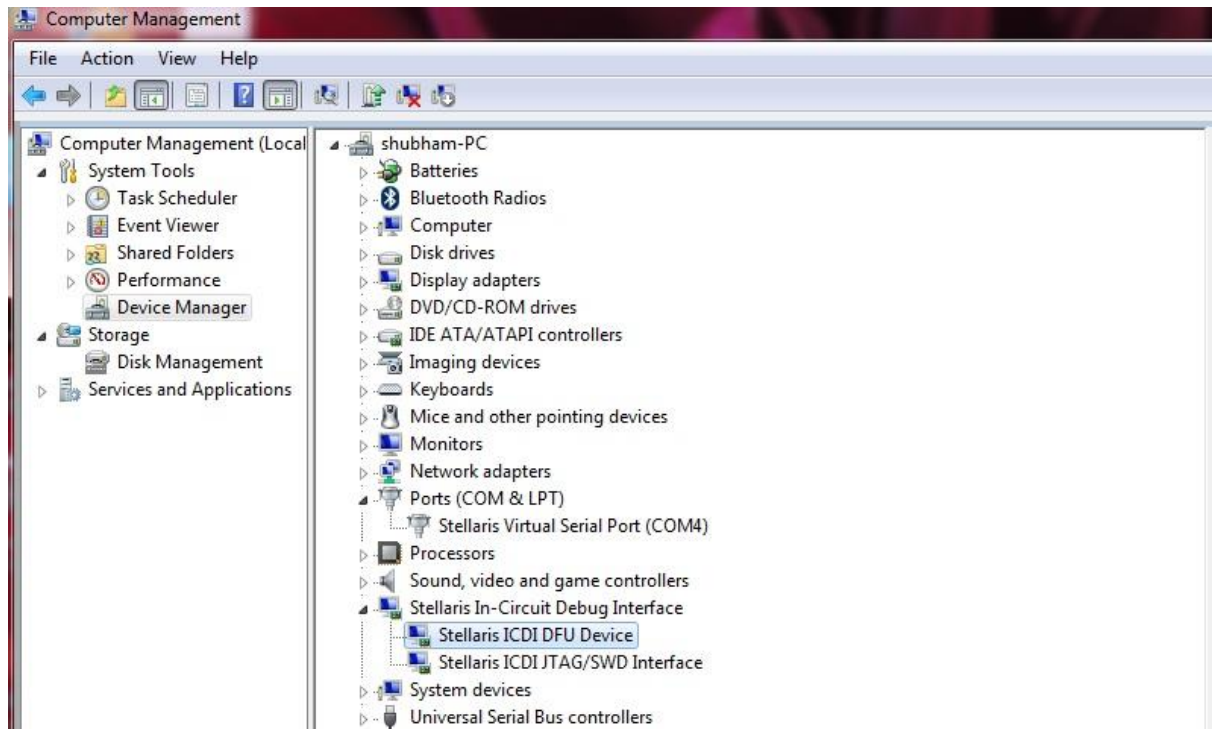
Right click on In-circuit debug interface & choose 'Browse my computer for device software'. Now select an appropriate path where downloaded drivers are stored. Click Next.(If prompted click on install this drivers anyway)



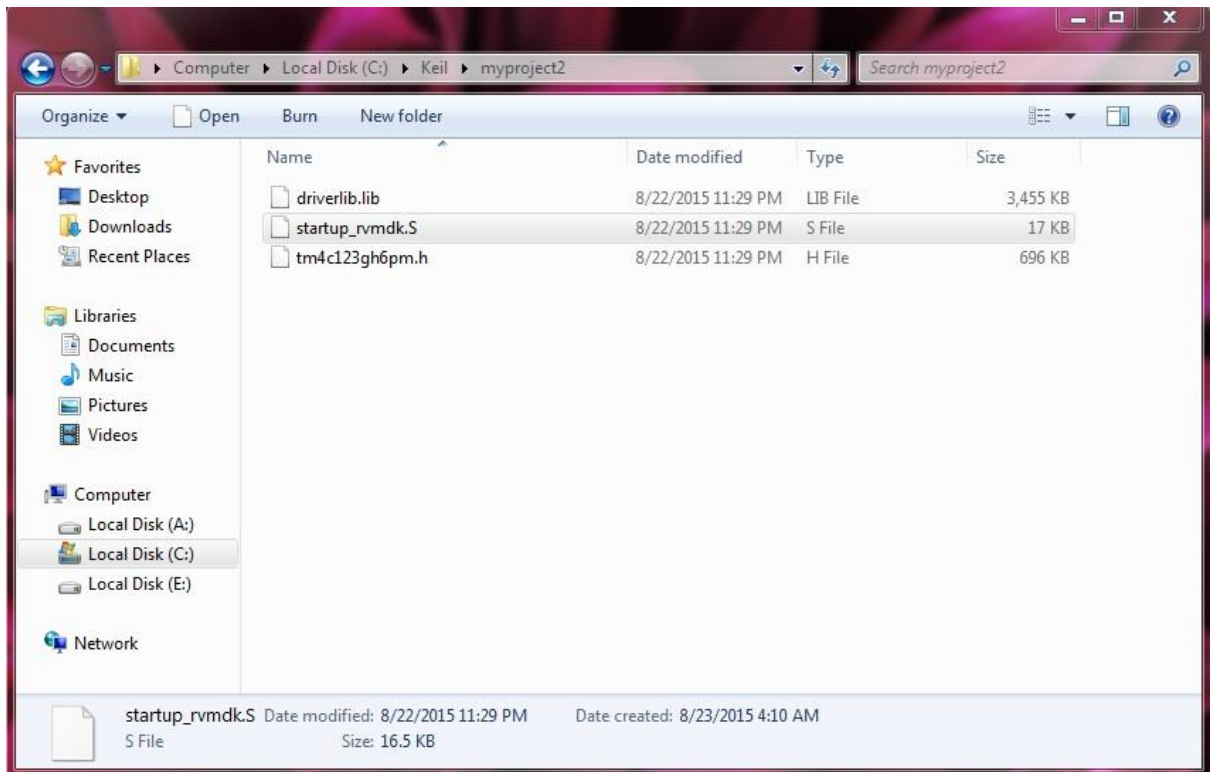
Now again come back to device driver window



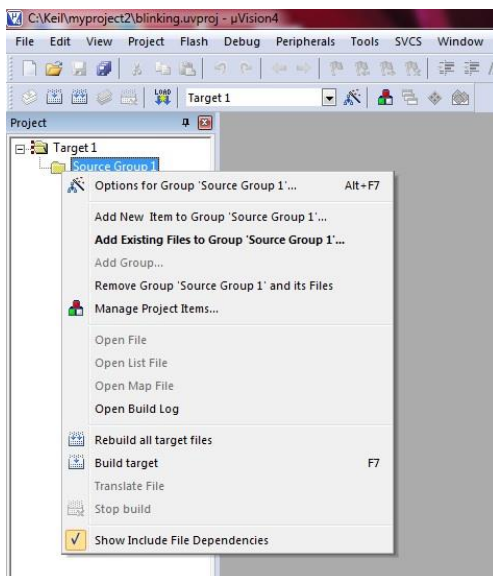
Repeat same procedure for 2 more ICDI devices not having drivers installed. Finally device manager window should look like

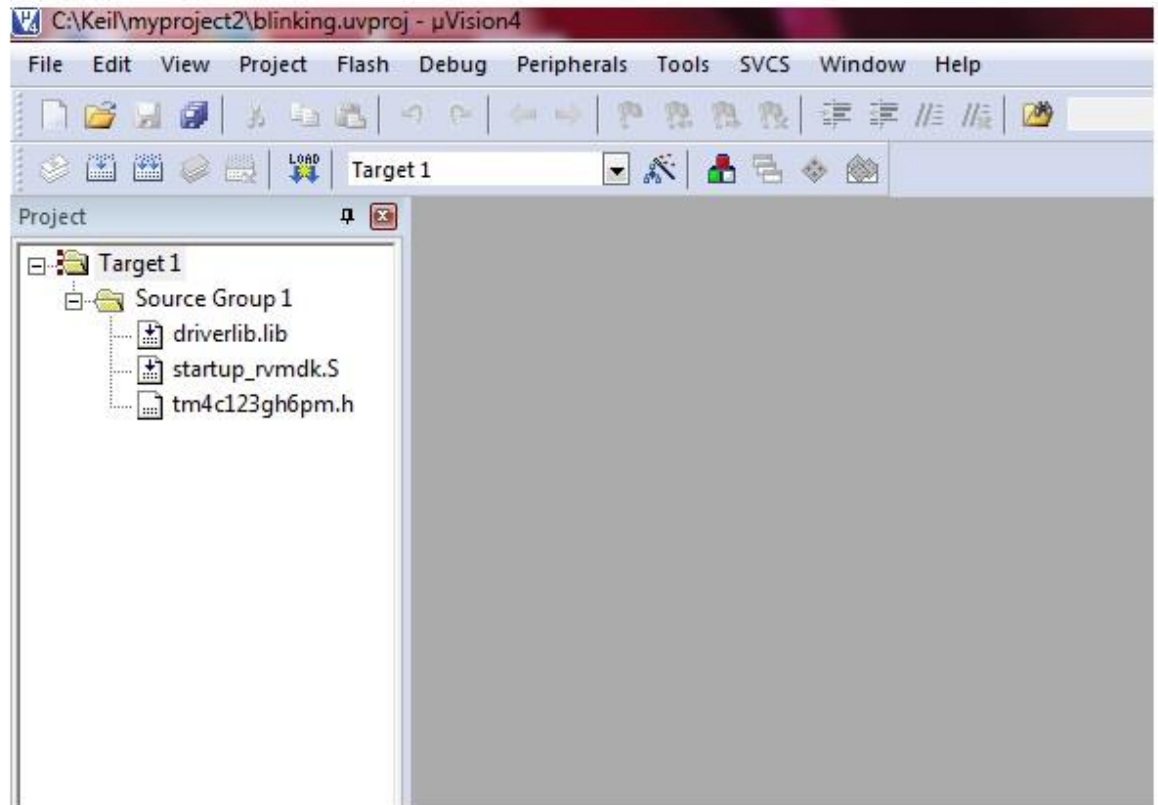


3. Now install TivaWare
4. Open folder where Keil is installed & inside that make new folder say 'myProject'. Now go to folder named 'ti' created after TivaWare installation. Copy 'driverlib.lib' file which is located at 'ti\TivaWare\_C\_Series-2.1.0.12573\driverlib\rvmdk' to myProject. From 'inc' folder copy "tm4c123gh6pm.h" header file to myProject folder. Now go inside 'ti\TivaWare\_C\_Series-2.1.0.12573\examples\boards\ek-tm4c123gxl\blink'. Copy 'startup\_rvmdk.S' to myProject. Now myProject folder should look like



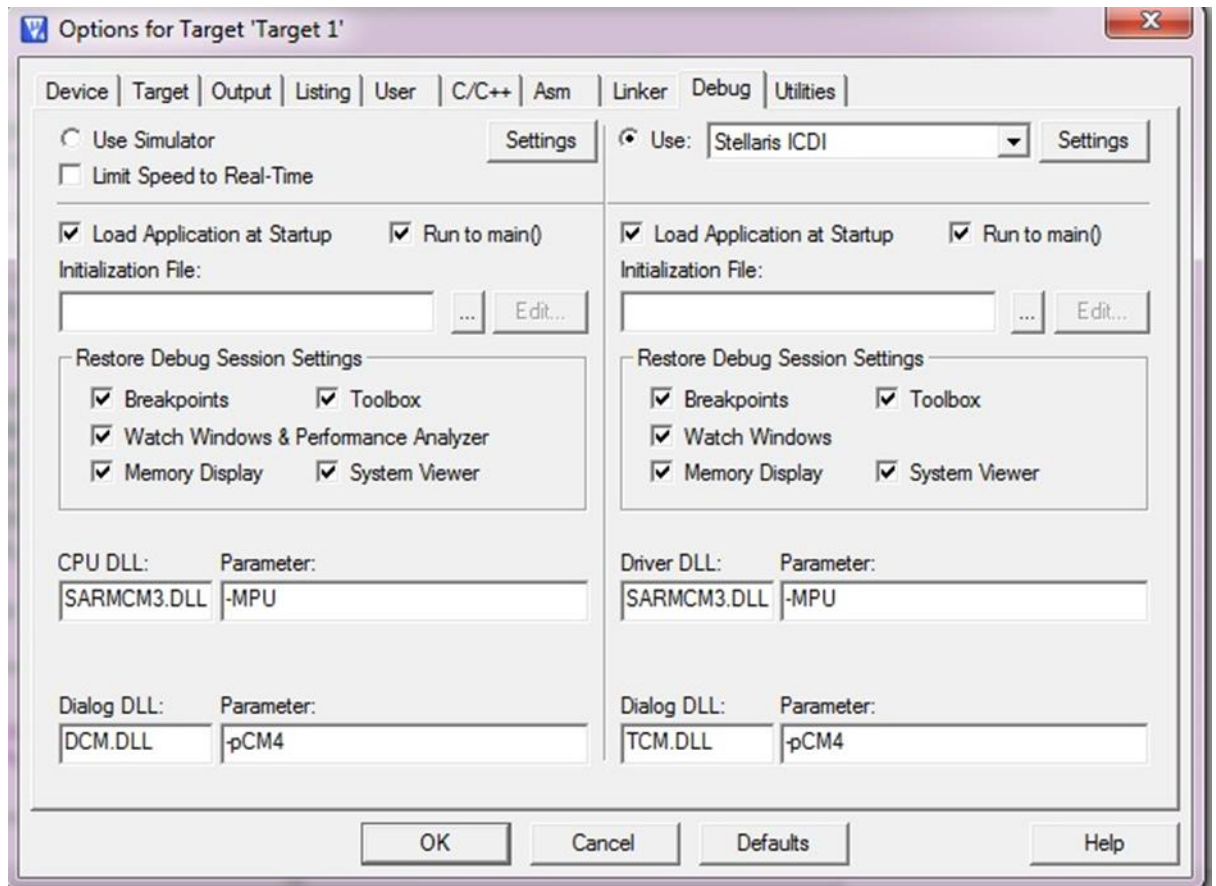
5. Connect Launchpad board & open Keil uVision4 IDE & select new uVision project option from 'Project' tab. Choose folder as myProject & assign name to project say blinking. In a new window type 'tm4c123gh6pm' in search box. Select device & click OK. When prompted to copy start up files select NO
6. Now right click on Source Group1 in left side & click on Add existing files to source group1. From this add **driverlib.lib,starup\_rmvdk.S,tm4c123gh6pm.h** to project





7. Again right click on Source Group1 in left side & click on Add new item to source group1. Create one blank C source file say 'blink.c' Now go to this path  
`\ti\TivaWare_C_Series-2.1.0.12573\examples\boards\ek-tm4c123gxl\blinky` and add contents of '**blinky.c**' source file to 'blink.c'
8. Now build project in Keil by pressing F7 key
9. Click 'Options for target' button(Alt+F7) & under debug tab select use '**stellaris icdi**'. Click Ok





10. Now from '**Flash**' menu click '**Download**' button. This will download hex file on to arm controller. Press reset key on board & you will see led flashing