IIITD&M KANCHEEPURAM

Getting started with Tiva C Series using Keil IDE

Embedded Systems Lab

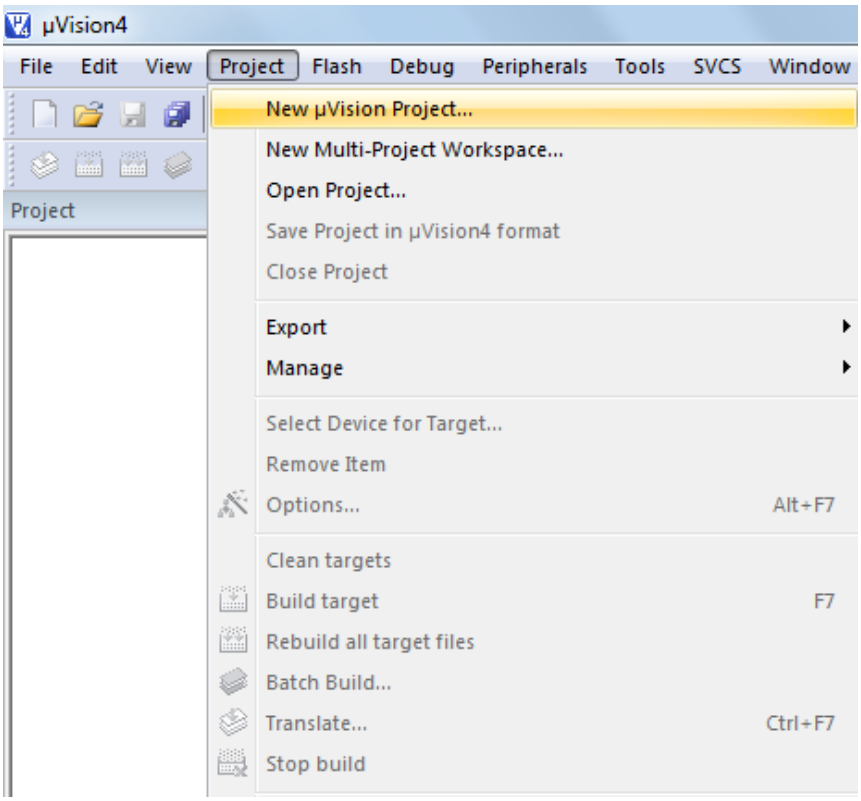
This document provides instructions for creating project, building and debugging in Keil IDE for Tiva C series.

Building and debugging new project in Keil from scratch

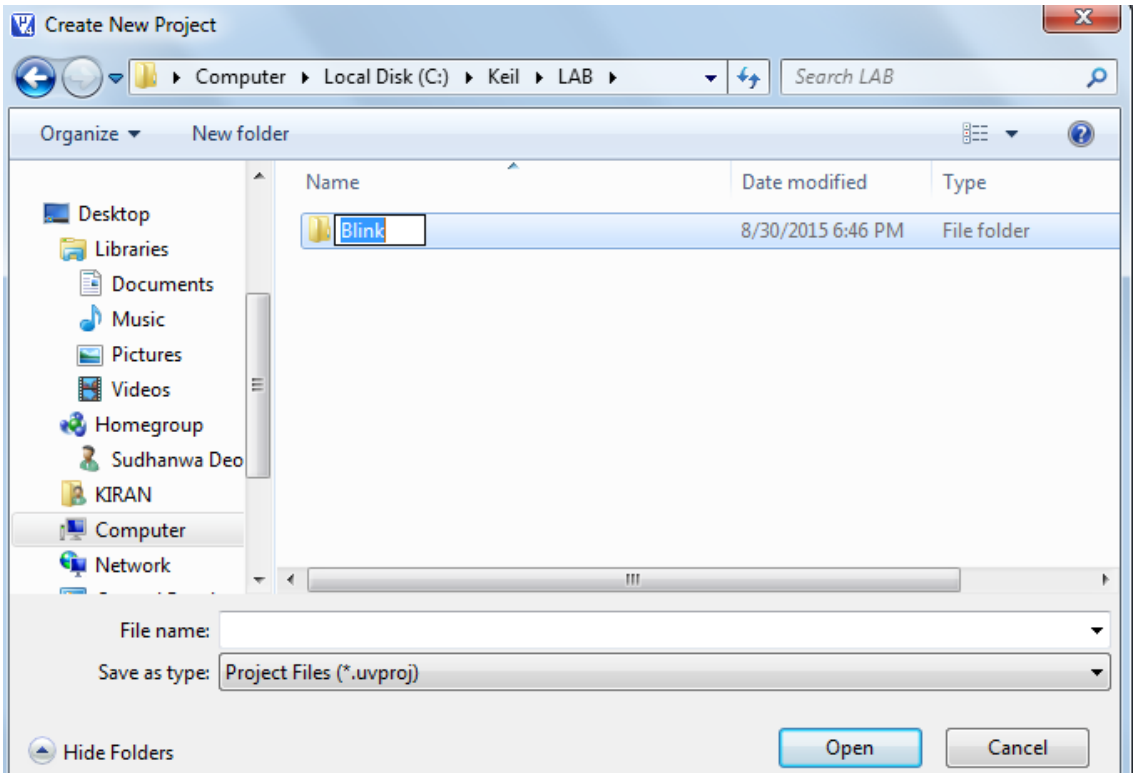
Pre-requisites:

- Keil uVision 4
- Stellaris drivers
- TexasWare
- Tivaware

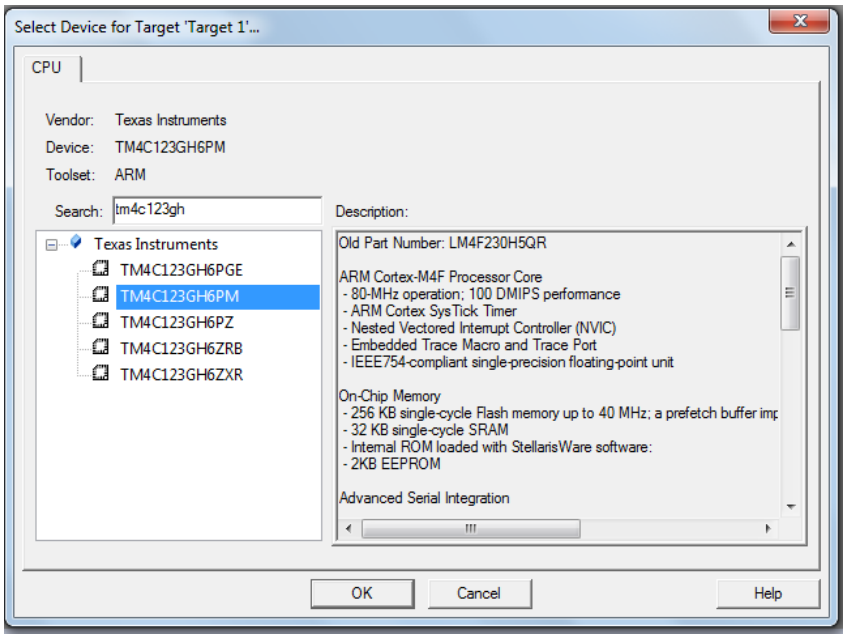
1. Open Keil uVision4
2. Click on *Project* and select *New uVision Project*



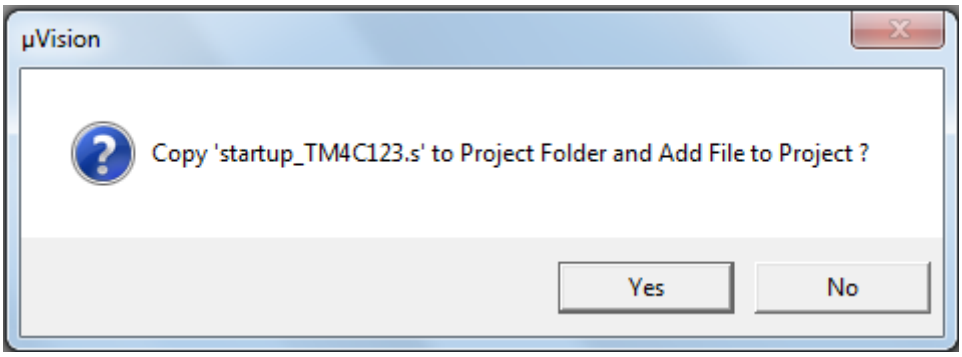
3. Create a new folder in your workspace and select the new folder for the project. Name the project and click Ok



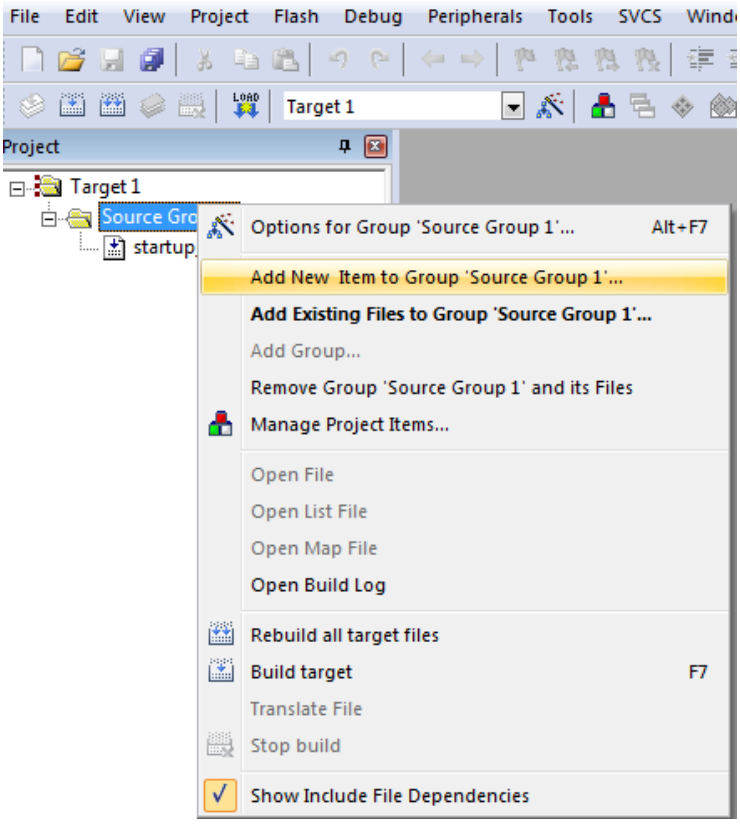
4. When prompted for *Select Device* search for *TM4C123GH6PM* and click Ok.



5. Click Ok on the dialog box which pops up.

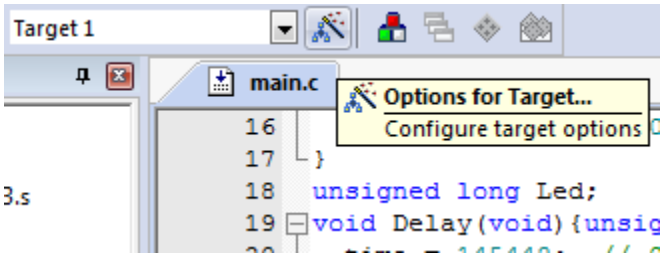


6. The project is created, and navigation pane is generated on the left side. Right click on the project and select *Add new Item to group*.

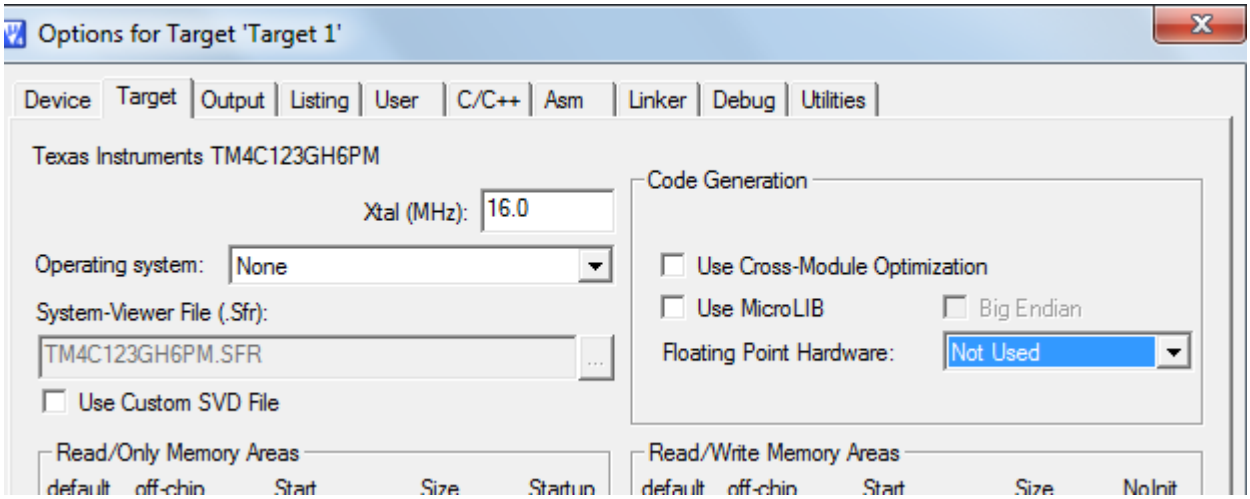


7. Select *C File(.c)* for *Type* and name the file with *.c* extension and click *Add.*
8. In the navigation pane, locate the c file and type the code and save.
9. Use the header files provided by Tivaware. The header file “tm4c123gh6pm.h” is located in *C:\ti\TivaWare_C_Series-2.1.0.12573\inc.* Copy the header file to the project folder.

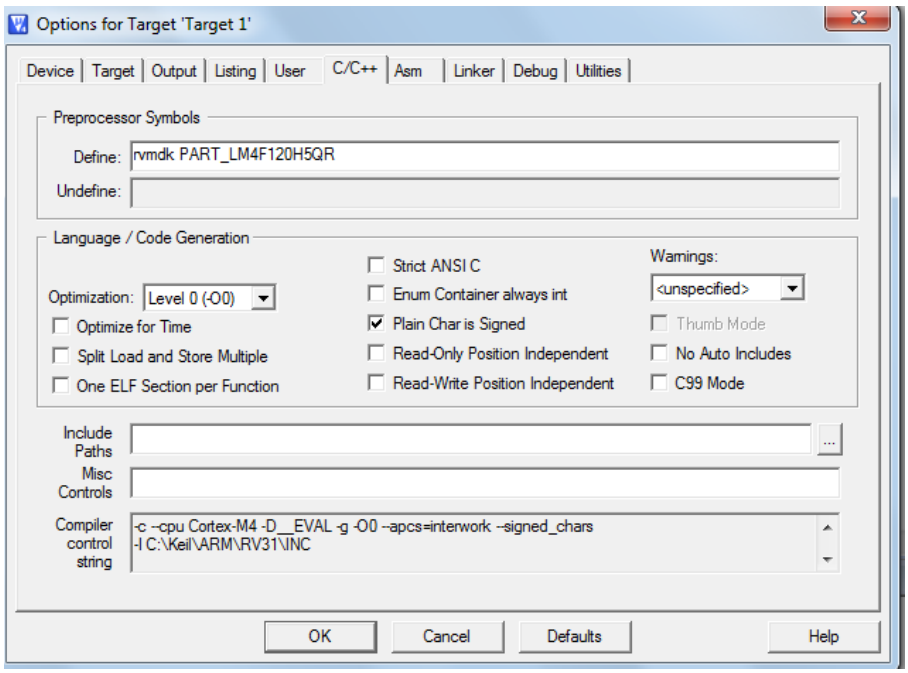
10. Click on *Target Options* to configure the project.



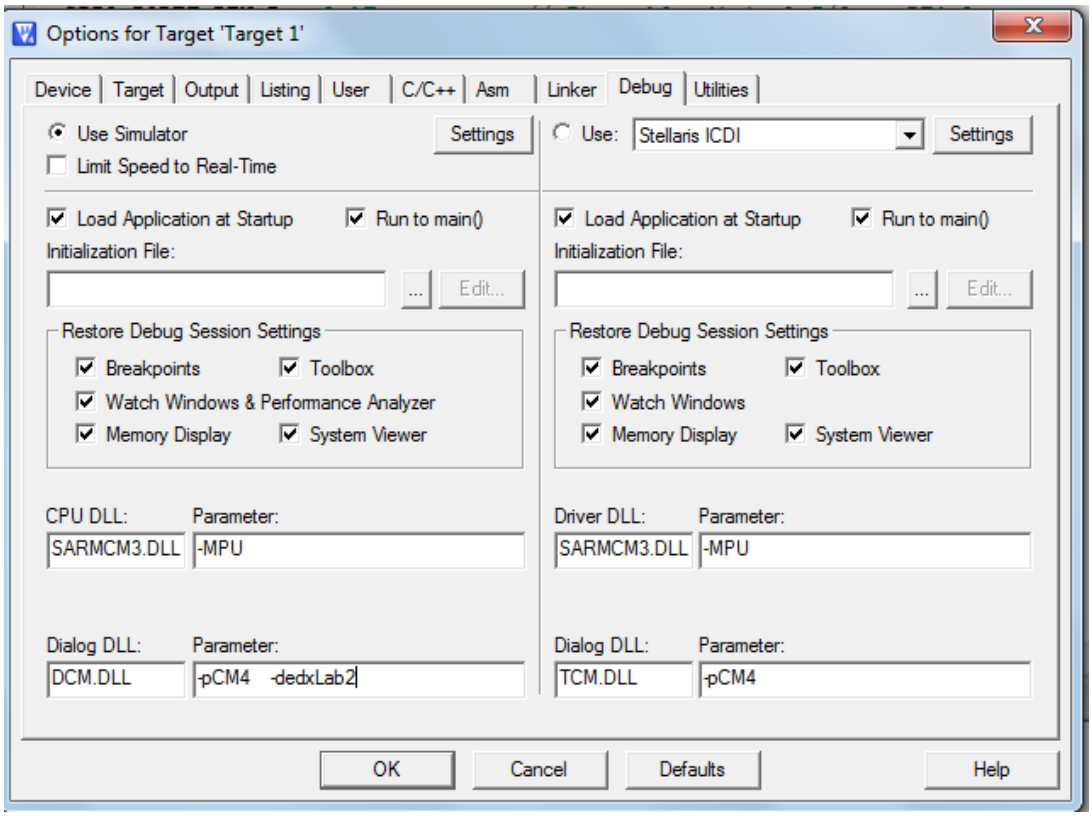
11. Under *Target*, select *Not Used* for *Floating point Hardware.*



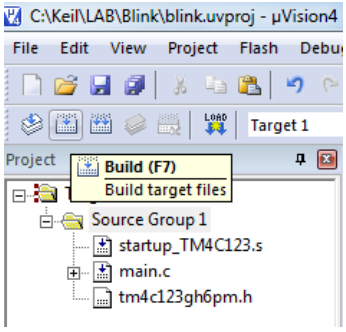
12. Under *C/C++* tab, add *rvmdk PART_LM4F120H5QR* to *Define* column. Check *Plain Char is Signed* check box.

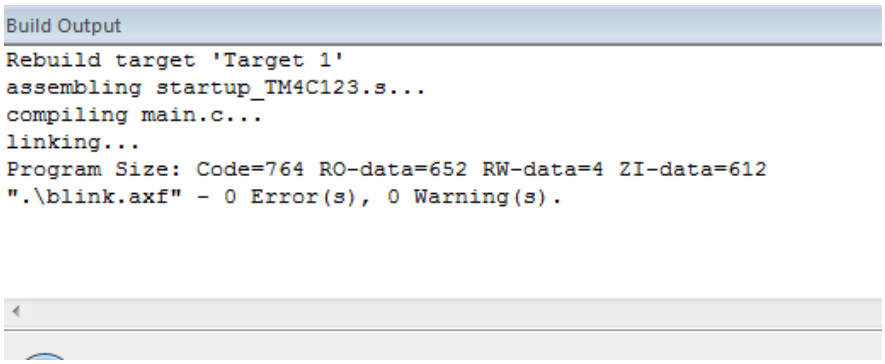


13. Under *Debug* tab, select *Stellaris ICDI.* Add parameter *–dedxLab2* as shown in figure.

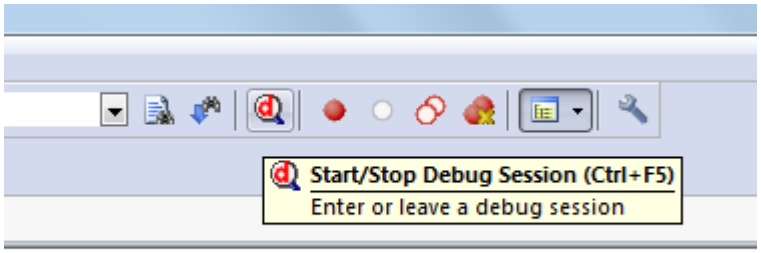


14. Click *Build* button to build the project. Check for any errors in *Build Output* window

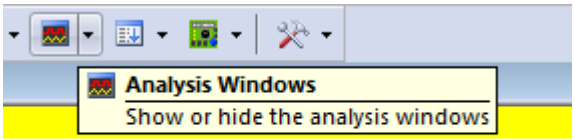




15. To debug the project, click on *Debug* button, when prompted, click Ok



16. To observe the waveform, click on *Analysis Window*

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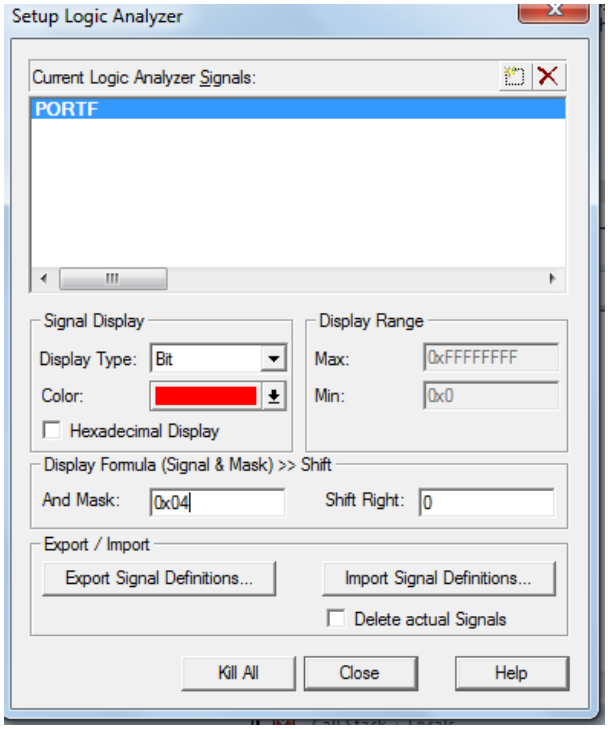
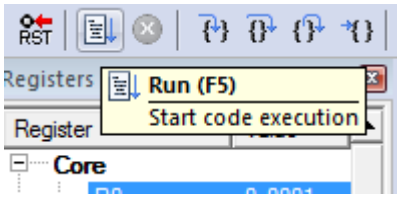
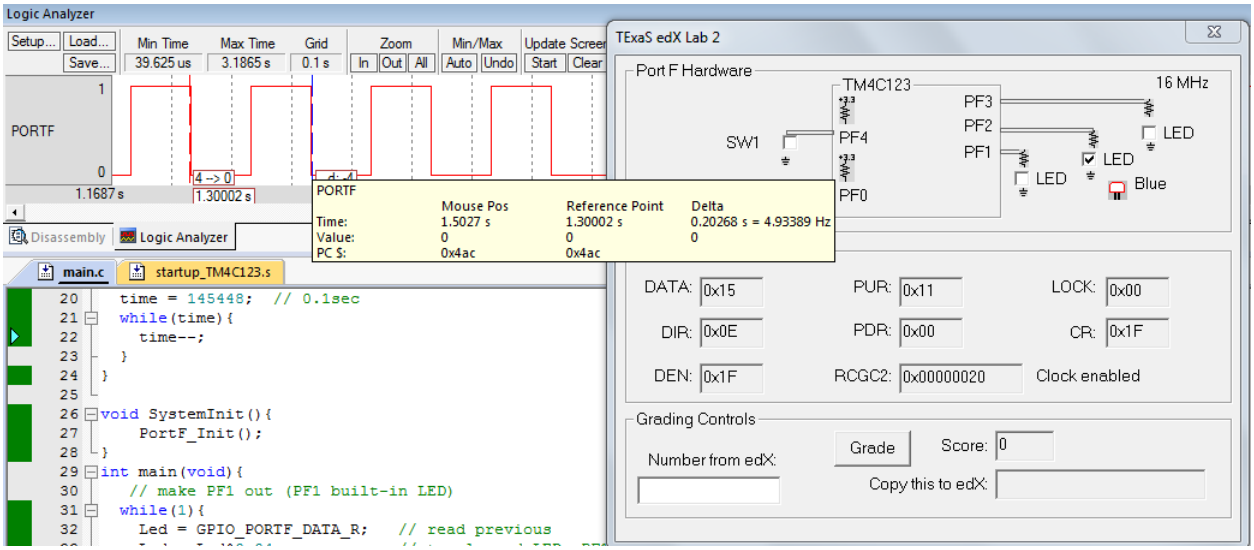
17. Click on *Setup* in *Logic Analyzer* window. Edit the property as shown in figure. Enter the appropriate mask for observing signal.



18. To run the code press F5 or click *Run* button.



19. To use the Launchpad control panel, go to *Peripherals* and select *TExaS Port F.* The waveforms can be viewed in Logic Analyzer. Use Zoom/Auto to view waveforms



20. To come out of Debug mode, click the same debug button. To download the code on the board, click on *Load.*