

Procedure

Hardware

1. You will need the following hardware:
 - A 32 or 64-bit Windows XP or Windows7 laptop with 2G or more of free hard drive space. 1G of RAM should be considered a minimum ... more is better.
 - A laptop with Wi-Fi is highly desirable
 - If you are working the labs from home, a second monitor will make the process much easier.
 - If you are attending a live workshop, please bring a set of earphones or ear-buds.
 - If you are attending a live workshop, you will receive an evaluation board; otherwise you need to purchase one. (<http://www.ti.com/tool/ek-lm4f232>)
 - If you are attending a live workshop, a digital multi-meter will be provided; otherwise you need to purchase one like this:
(<http://www.harborfreight.com/catalogsearch/result?q=multimeter>)

Install Code Composer Studio

2. Download and run the latest version of Code Composer Studio (CCS) 5.x web installer from http://processors.wiki.ti.com/index.php/Download_CCS (do not download any beta versions). Bear in mind that the web installer will require Internet access until it completes. If the web installer version is unavailable or you can't get it to work, download, unzip and run the offline version. The offline download will be much larger than the installed size of CCS since it includes all the possible supported hardware.

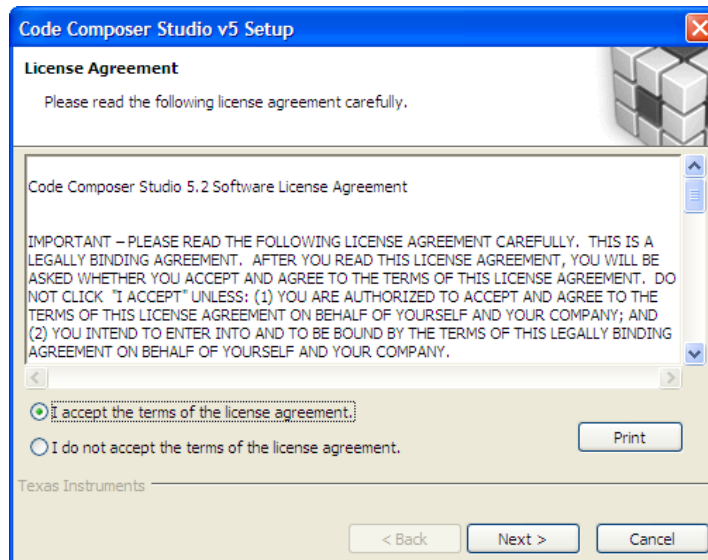
This version of the workshop was constructed using build number 5.2.1.00018. Your version will likely be later. For this and the next few steps, you will need a my.TI account (you will be prompted to create one or log into your existing account).

You should note that the free, code size limited version of CCS will not work with Stellaris devices.

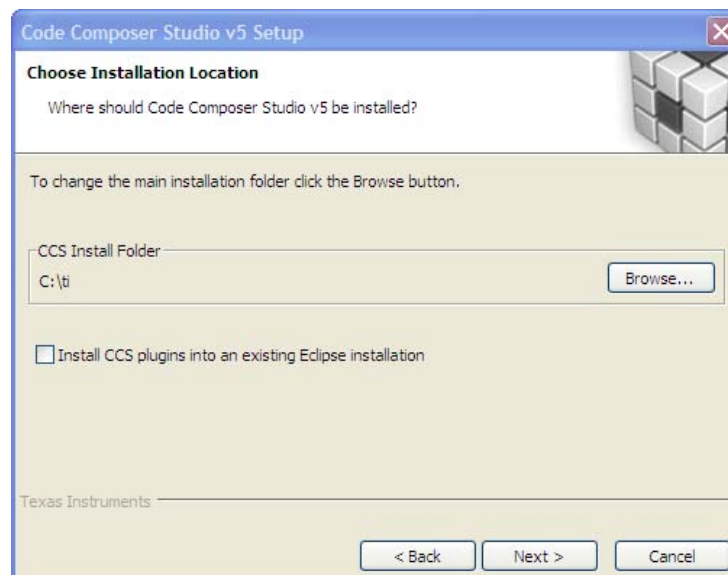
Note that the evaluation license of CCS will operate with full functionality for free while connected to a Stellaris evaluation board. Most Stellaris boards can also operate as an emulator interface for your target system, although this function requires a licensed version of CCS.

3. If you have downloaded the offline file, run the `ccs_setup_5.xxxxx.exe` file in the folder created when you unzipped the download.

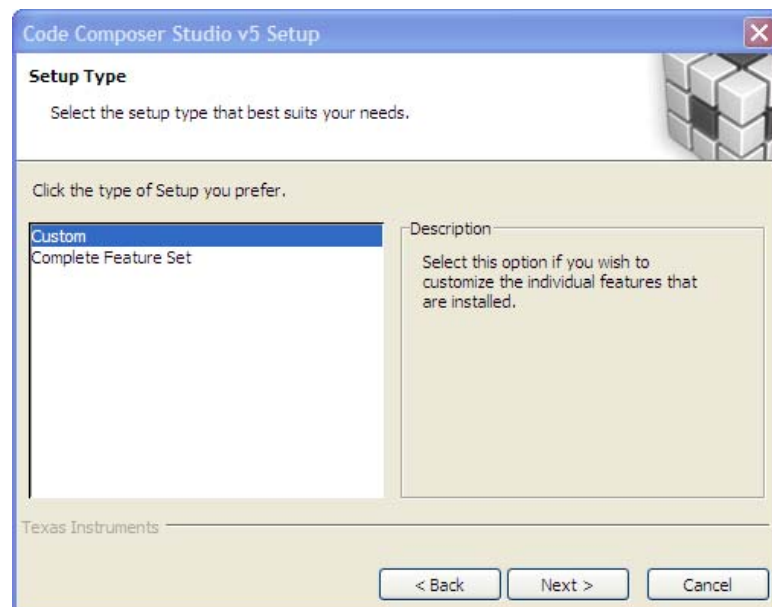
4. Accept the Software License Agreement and click Next.



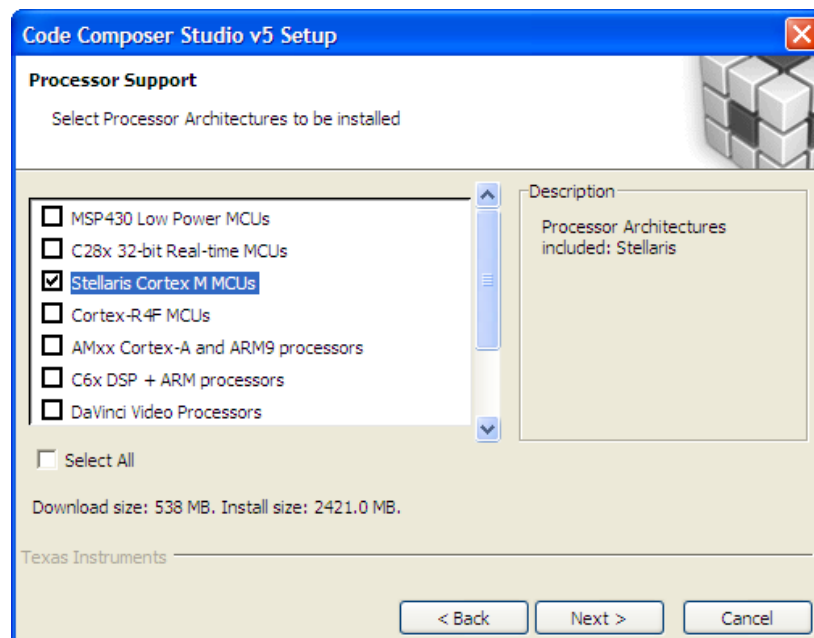
5. Unless you have a specific reason to install CCS in another location, accept the default installation folder and click Next.



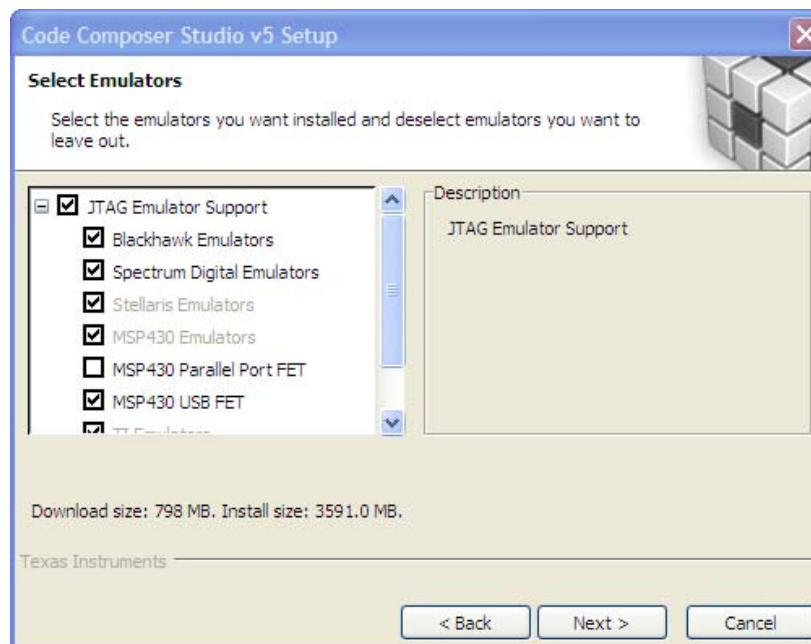
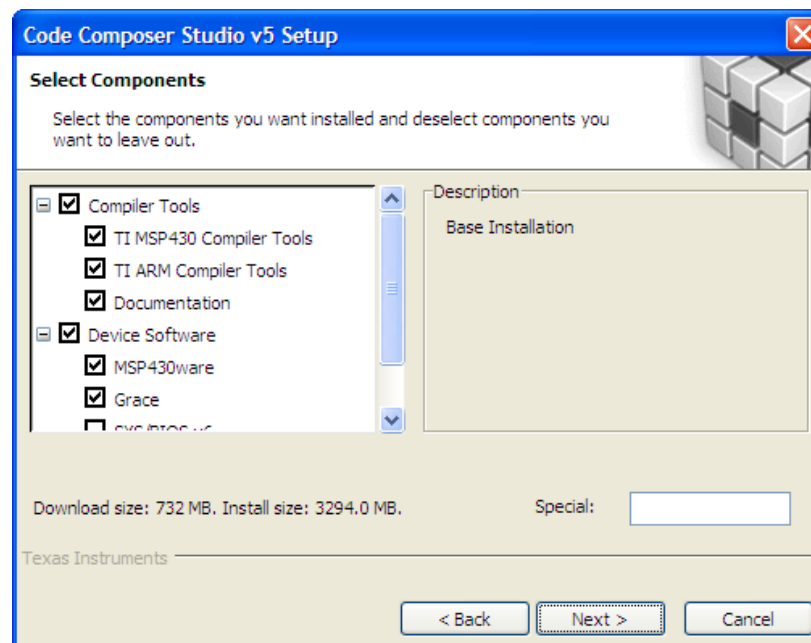
6. Select “Custom” for the Setup type and click Next.



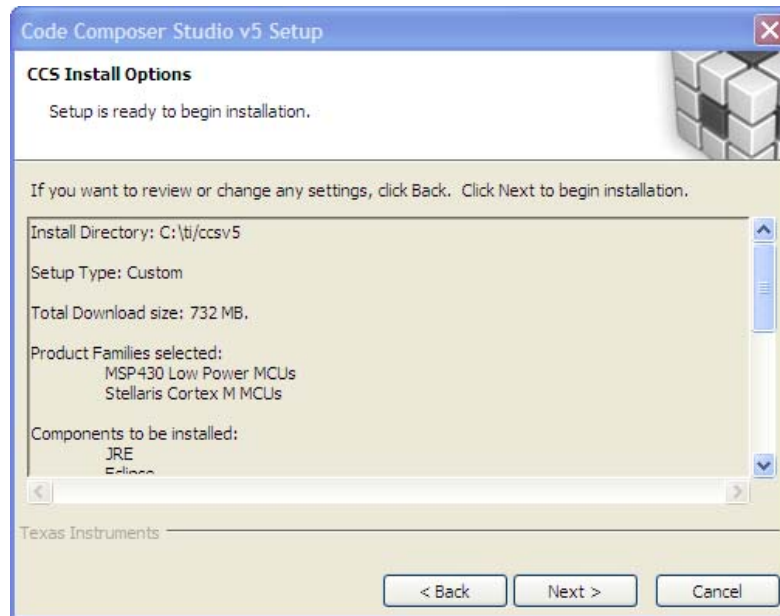
7. The next dialog, select the processors that your CCS installation will support. You should select “Stellaris Cortex M MCUs” in order to run the labs in this workshop. If you are also attending the MSP430 workshop you should also select “MSP430 Low Power MCUs”. You can select other architectures, but the installation time and size will increase. Click Next.



8. In the next two dialogs, keep the default selections and click Next.



9. When you reach the final installation dialog, click Next. The web installer process should take about 45 minutes, depending on the speed of your connection. The offline installation should take 10 to 15 minutes. When the installation is complete, don't start CCS.



Install StellarisWare

10. Download and install the latest full version of StellarisWare from: <http://www.ti.com/tool/sw-lm3s> . This workshop was built using release number 9107. Your version will likely be a later one. If at all possible, please install StellarisWare into the default C:\StellarisWare folder.

Install LM Flash Programmer

11. Download, unzip and install the latest LM Flash Programmer (LMFLASHPROGRAMMER) from <http://www.ti.com/tool/lmflashprogrammer> . This workshop was built using version number 1381. Your version will likely be a later one.

Install GIMP

12. In the “Graphic Library” section we’ll need a photo editing tool capable of working with PNM format files. GIMP can do this. Download and install GIMP from www.gimp.org . The workshop steps cover GIMP version 2.8.0.

Download ICDI Drivers

13. Download the latest version of the in circuit debug interface drivers from http://www.ti.com/tool/stellaris_icdi_drivers . Unzip the file and place the stellaris_icdi_drivers folder in C:\StellarisWare.

Download Workshop Workbook

14. Download a copy of the workbook pdf file from the workshop wiki site to your desktop. It will be handy to cut and paste code snippets from.

http://software-dl.ti.com/trainingTTO/trainingTTO_public_sw/GSW-M4F-StellarisWare/M4F_Workbook.pdf

Helpful Documents

15. There are many helpful documents that you should download, but at a minimum you should have the following documents at your fingertips.

Go here:

<http://www.ti.com/mcu/docs/mculuminarytechdocs.tsp?sectionId=95&tabId=2491&familyId=1755&viewType=mostuseful&rootFamilyId=4&familyId=1755&docCategoryId=6>

and download the:

Peripheral Driver User's Guide (SPMU019)

LM4F232 Evaluation Board User's Manual (SPMU272)

USB Library User's Guide (SPMU020)

Graphics Library User's Guide (SW-GRL-UG)

16. Go here:

<http://www.ti.com/mcu/docs/mculuminarytechdocs.tsp?sectionId=95&tabId=2491&viewType=mostuseful&tabId=2491&rootFamilyId=4&familyId=1755&docTitle=232&docCategoryId=2>

and download the LM4F232H5QD Data Sheet (**SPMS319**). Stellaris data sheets are actually the complete user's guide for the device. So expect a large document.

17. Download the ARM Optimizing C/C++ Compilers User Guide from <http://www.ti.com/lit/pdf/spnu151> (SPNU151). Of particular interest are the sizes for all the different data types in table 6-2. You may see the use of "TMS470" here ... that's the TI product number for its ARM devices.