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Step 1) How to install Keil uVision for the ARM, MDK-Lite (32KB) Edition

We will be using Keil uVision IDE and be writing software in C. These programs only run on Windows (XP, Vista, 7 or 8.) There is a way to install software on a Macintosh so Windows will run on the Macintosh, see <u>running Keil and TExaS on a Macintosh</u>. There are no solutions for Linux. It does not require a serial number or license key.

- 1) Go to https://www.keil.com/demo/eval/armv4.htm. Enter your contact information with valid address, phone and email. Set your **Company** to your school, your company, or this class edX UT.6.01x. Set your **devices** to TM4C123. Fill in all fields of this form. It should not cost any money, and you can select or not select whether you want email from ARM.
- 2) Right-click on mdk473.exe and download this 564M file to your computer.
- 3) Execute the **mdk473.exe** file, installing the application some place easy to find, like **C:\Keil** or **D:\Keil**. You will need to find the **Keil** directory because the TExaS example files will be loaded into this same directory.

After you have run the mdk473.exe installer, you will not need this file. However you can use this file to install Keil on additional computers.

A slide show of the process to download and install Keil can be seen at **slide show**.

Step 2) TExaS Lab Graders for Labs 2, 5, 6, and 7

We have written DLL extensions to the Keil uVision IDE that will evaluate your lab solutions. We have named this set of DLLs as Test EXecute and Simulate or TExaS. There is also an application called TExaSdisplay that provides interaction with your serial port software running on the LaunchPad. TExaSdisplay is like HyperTerminal or PuTTy but much simpler and adds grading for Labs 5, 11 and 14. TExaSdisplay can be used as a simple voltmeter and oscilloscope. For those students who did not purchase the optional Nokia display, TExaSdisplay also simulates the graphics display used in Lab 15. You will need to first install Keil before installing TExaS.

- 1) **Download TExaS for Labs 2, 5, 6, and 7** saving the 17M file on your computer.
- 2) Execute the **TExaS Install.exe** file to install TExaS, which will add files to the **Keil** directory.

A slide show of the process to download and install TExaS can be seen at slide show.

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Step 3) Windows drivers for the LaunchPad board

Once Keil and TExaS are installed you will need to install the windows drivers for the Texas Instruments microcontroller board. The process is the same for both the LM4F120 and the TM4C123 LaunchPads. You will need the actual physical LaunchPad board to complete this step. So if you have ordered your board and it hasn't yet arrived, bookmark this page and come back once your board arrives. Installing drivers can be tricky so here are two alternative methods to installing drivers.

Method 1 uses drivers that were saved on your HD when you installed TExaS in step 2). These slide shows demonstrate the process to install windows drivers for the LaunchPad board specific for your operating system: **Windows XP**, **Windows Vista**, **Windows 7**, and **Windows 8**.

Method 2 uses the official Texas Instruments web site where you can **download the drivers**, and read the **Stellaris Driver Installation Guide (Rev. C)** on how to download.

TExaS Lab Graders for Labs 8, 9, 10, and 11

These graders will be ready when we reach Chapters 8-11.

TExaS Lab Graders for Labs 12, 13, 14, and 15

These graders will be ready when we reach Chapters 12-15.

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