

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
UNIVERSITY OF BRITISH COLUMBIA
CPEN 391 – Computer Systems Design Studio
2015/2016 Term 2

Tutorial 1.0: Downloading Quartus II Software

In this course, we will be using Version 13.0 SP1 of Quartus II, and some additional files provided by the Altera University Program. Do **not** use Quartus version 13.1 or later versions, since these versions do not support the Cyclone II FPGA found on the DE2 boards. Note that you may already have installed Quartus II from another ECE course, but you most likely did not install the University Program files.

You can use Quartus II on the lab computers, however, if you want to install it on your own PC or lap-top, follow the instructions in this tutorial.


If you already have an earlier version of Quartus II installed on your computer (from EECE 353 or EECE 259), I would suggest removing it to save disk space (although, if you have space, multiple versions of Quartus II can be installed on the same machine without problems). If you are taking EECE 353 with another instructor concurrently with this course, check to see which version of the software is suggested in that course.






To download the software, visit <http://dl.altera.com/?edition=web>


From this web page, choose the version **13.0sp1** from the dropdown box (**not** any other version). If you forget to select 13.0sp1 and download Version 13.1 or a later version, you will **not** be able to compile your design to the DE2 board, and will have to re-install the correct version - likewise when the install is complete do **not** "upgrade" to a later version. Choose the appropriate operating system (Windows for most of you), and the Akamai DLM3 Download Manager.

Download Center

Get the complete suite of Altera design tools



Design Software	Quartus II Web Edition	
Embedded Software	Release date: June, 2013	
Archives	Latest Release: v15.0	
Licensing	Select release: 13.0sp1	
Programming Software	Operating System  Windows  Linux	
Drivers	Select the operating system on which you will run the Quartus II software.	
Board System Design	Download Method  Akamai DLM3 Download Manager  Direct Download	
Board Layout and Test	Select whether you will use the download manager (Windows only) or directly download the files.	
Legacy Software	The download manager allows you to pause the download and can help you recover from interrupted downloads.	

 The Quartus II software version 13.0sp1 supports the following device families: Arria II, Cyclone II, Cyclone III, Cyclone IV (includes all variations), Cyclone V (includes all variations), and MAX II, MAX V, MAX 3000, MAX 7000. [More](#)

Next click the Individual Files tab, and select the files you want to download (see below)



Combined Files Individual Files DVD Files

Download and install instructions: [More](#)

[Read Altera Software v13.0 Installation FAQ](#)

[Quick Start Guide](#)

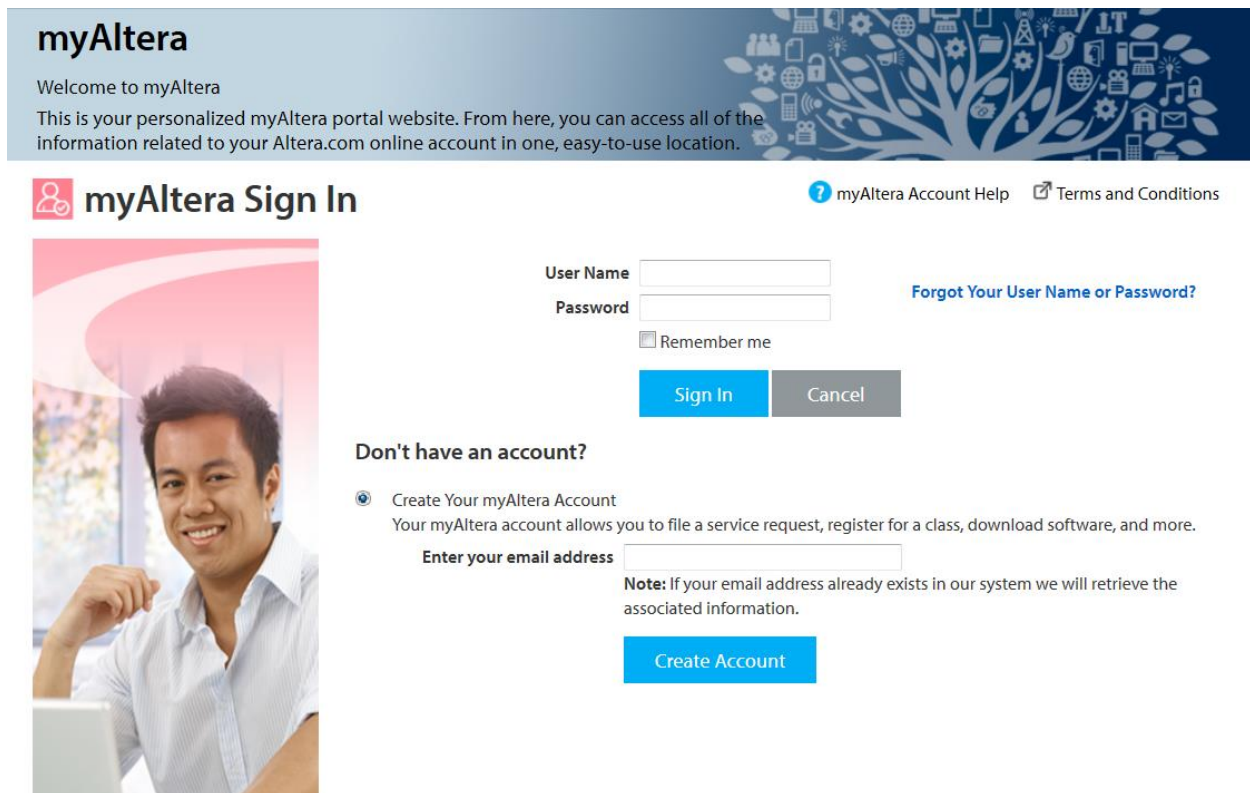
☒ Select All

- ☒ Quartus II Web Edition (Free)
 - ☒ Quartus II Software (includes Nios II EDS)
Size: 1.5 GB MD5: 70D2991B55E70EEFBBA30DB38A40BF01
 - ☒ ModelSim-Altera Edition (includes Starter Edition)
Size: 779.3 MB MD5: 97D829F95E3BDFA2AD15891F00936D10
- ☒ Devices
You must install device support for at least one device family to use the Quartus II software.
 - ☐ Arria II device support
Size: 467.3 MB MD5: 18262271D276A9966F42938E1E601AEE
 - ☒ Cyclone II, Cyclone III, Cyclone IV device support (includes all variations)
Size: 568.9 MB MD5: CDAC3B93F0DF21D7371E4395D31D0099
 - ☐ Cyclone V device support (includes all variations)
Size: 747.9 MB MD5: 4664B9BDD482C004C3C8D64FEFC124AB
 - ☐ MAX II, MAX V, MAX 3000, MAX 7000 device support
Size: 6.7 MB MD5: 64ACA8C4F6CD545D449BE3FFD8CBA50
- ☒ Additional Software
 - ☒ Quartus II Programmer and SignalTap II
Size: 136.6 MB MD5: F2F4B22D649DF1CB38AC6360474C70CC
 - ☒ Quartus II Help
Size: 355.8 MB MD5: C0FB2D2D2ED936CE18F0080B77985AB6
 - ☐ SoC Embedded Design Suite (EDS)
Size: 1.2 GB MD5: 55B7C552AC4D765A772843D407121A25
 - ☐ Linux Support Package Binary File
Size: 387.0 MB MD5: 9CC7736BE69B51C318CEBC51A4B9553B
 - ☐ Linux Support Package Source File
Size: 818.3 MB MD5: 58788F0DA87F549333E9432BE82681C3

Download Selected Files

Click the download selected files button.

At this point you will be asked to create an Altera account. If you prefer not to create one with your own email address, ask the TA in the lab for help.

The image shows the myAltera Sign In and Create Account page. At the top, there's a header with the myAltera logo and a welcome message. Below this, there's a sign-in section with fields for User Name and Password, a Remember me checkbox, and Sign In and Cancel buttons. To the right of the sign-in section, there's a link for 'Forgot Your User Name or Password?'. Below the sign-in section, there's a 'Don't have an account?' section with a radio button selected for 'Create Your myAltera Account'. This section includes a description of the account's benefits and a field for 'Enter your email address'. A 'Create Account' button is at the bottom of this section. On the left side of the page, there's a vertical image of a smiling man in a light blue shirt.

Follow the prompts, and download a **.tar** file. As part of this, you will be asked to choose a temporary location for the download files (any location will do - if you are short on disk space you may want to consider saving it to a temporary drive such as USB hard drive since the download and unzipping of the files can consume over 11Gbytes of disk space - that's before you even install the programs !!!).

Once the download is over, unpack the **.tar** file. Note you'll probably have to install a 3rd party uninstaller package like **7Zip** (visit <http://www.7-zip.org/>), as *amazingly* windows, does not know how to unpack **.tar** files. Once unpacked, run the setup file that is included in the extracted directory.

Follow the instructions, and eventually you will be asked for the target directory for your installation. **It is important** that your target directory does not contain spaces or other special characters (so a location like “**Program Files/altera**” would be a bad idea). I chose **c:\altera\13.0sp1**. Follow any remaining on-screen instructions, and finish the installation.

Installing the Altera University Program Files

Once you have installed Quartus, you need to download some additional files from the Altera University Program. To do this, visit <https://www.altera.com/support/training/university/materials-ip-cores.html>

This will bring you to the window below. Select Quartus V13.0 (*there's no service pack option*) and click on the Windows (or Linux, if that is what you have) installer button near the bottom.

University Program IP Cores

An intellectual property (IP) block, or an IP core, is a predesigned subcircuit for use in larger designs. We provide IP cores that support the various devices on our University Program FPGA boards. The IP cores are available in an open-source format with complete documentation, and are distributed as part of the University Program Installer.

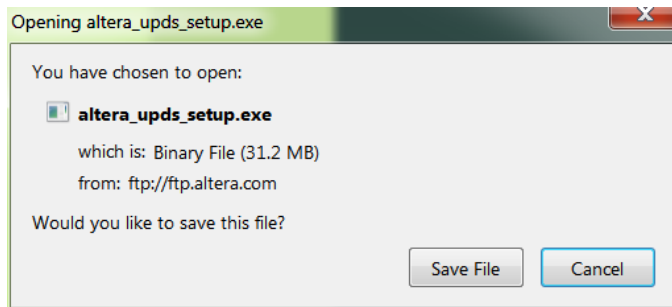
The University Program IP Cores are listed in the table below. They are available for different versions of Quartus II. Use the filters below to choose the appropriate cores.

Filter Materials

Choose Quartus II Version: 13.0 ▼

University Program IP Cores for Quartus II 13.0	
Title	Downloads
Audio and Video	
Audio	PDF
Audio and Video Config	PDF
Character LCD 16x2	PDF
Video IP Suite	PDF
Bridges	
Avalon to External Bus Bridge	PDF
External Bus to Avalon Bridge	PDF
Clocks	
Clocks for Altera DE-Series Boards	PDF
IrDA UART	PDF
RS232 UART	PDF
I/O	
Accelerometer SPI Mode	PDF
ADC Controller for the Altera DE0-Nano Board	PDF
Parallel Port	PDF
PS2 Controller	PDF
USB Controller	PDF
Memory	
SRAM/SSRAM Controller	PDF
SD Card Controller	PDF
Flash Memory Controller	PDF
Tools	
University Program Installer (Windows)	EXE
University Program Installer (Linux)	TAR

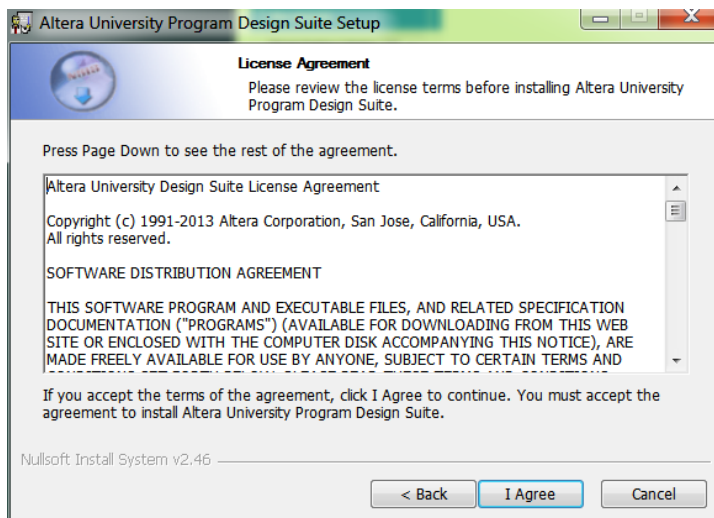
This will bring up the following dialog box



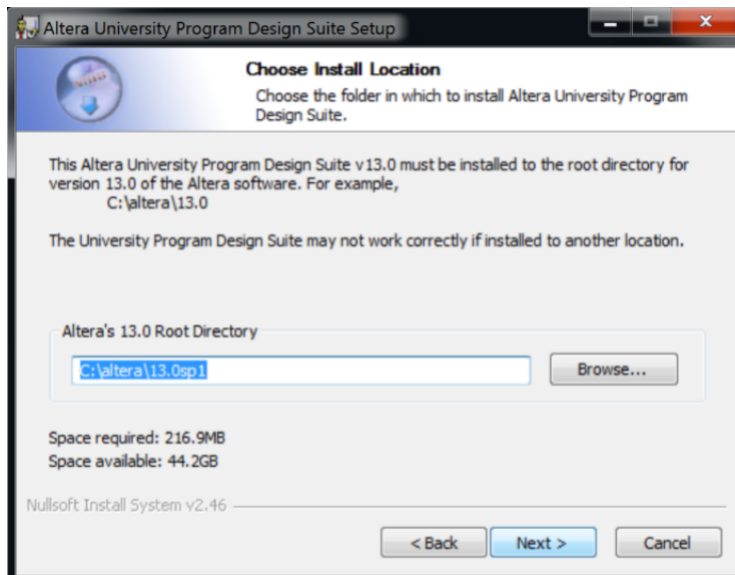
Save the file, **locate** it and **run** the **altera_upds_setup.exe** file to install the university program files. The file is unpacked and this window opens. Click **Next**



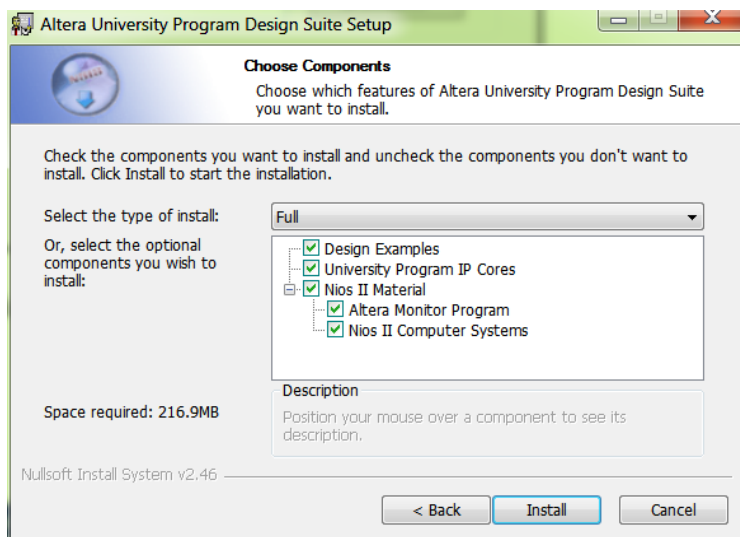
When this window opens click the "**I Agree**" button



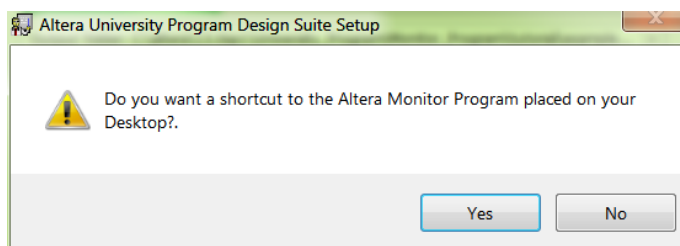
This window will open. Make **sure** you select **C:\altera\13.0sp1** as the install location



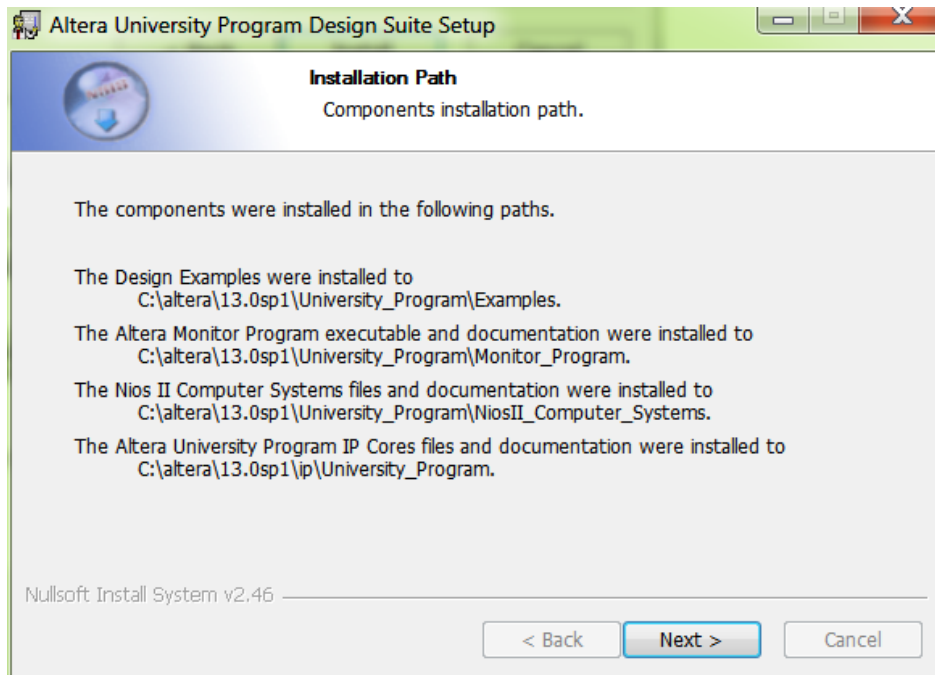
You will then be asked to choose what you want to install. These are small files, so install everything, as shown below.



The files will be installed. At some point you will be asked if you want to place a short cut to the **Altera Monitor Program** on your desktop - probably a good idea to chose **yes** to this, simply for convenience as we will be using this program in other tutorials



When the install is complete, the following will appear - click Next to finish



Finally this appears - click **finish**

