Software Installation Tutorial for Hardware Hacking Board

In this tutorial, you will install the software for HaHa board in a Windows machine.

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PART I: Install Quartus II

- 1. Go to link [1] and download the following files into the same folder for installation:
 - a. Quartus Prime (includes Nios II EDS)
 - b. MAX 10 FPGA device support
 - c. Optional ModelSim-Intel FPGA Edition (includes Starter Edition)
- 2. Start installing Quartus. Click "Next" in the following picture.

Welcome to the Quartus Prime Lite Edition (Free) 18.1.0.625 Setup Wizard. The Quartus Prime software requires that your system have sufficient physical RAM to compile designs targeting specific devices. You can check the "Memory Recommendations" section in the 'Quartus Prime Software and Device Support Release Notes" (https://www.altera.com/support/literature/lit-rn.html) for detailed memory requirements for a particular device. For more information about Intel FPGA software, go to http://www.altera.com.		Setup - Quartus Prime Lite Edition (Free) 18	3.1.0.625		
	(intel)	Welcome to the Quartus Prime Lite Edition (Free) 1 The Quartus Prime software requires that your sys targeting specific devices. You can check the "Mem Software and Device Support Release Notes" (http: for detailed memory requirements for a particular of For more information about Intel FPGA software, of	8.1.0.625 Setup W ttem have sufficien or y Recommendati s://www.altera.co levice. to thttp://www.a	/izard. t physical RAM to ons [*] section in th m/support/literatt	compile designs "Quartus Prime nre/lit-rn.html)
		b s			

3. Click on "I accept the agreement" and then Next.

Installing Quartus Prime	ite Edition (Free) 18.1.0.625	– L X
icense Agreement		intel
fou can view the full license a files before the installation. Y http://dl.altera.com/eula	greement at the link below or useinstall_lic option from u must accept the terms of the agreement before contin	command-line to get the license agreement ruing with the installation.
QUARTUS PRIME AND I	ITEL FPGA IP LICENSE AGREEMENT, VERSION 1	8.1
or its subsidiaries in the	US and other countries. Any other	
trademarks and trade n	ames referenced here are the property of their	
respective owners.		
	STALL ACCESS COPY OR USE ANY PORTION (OF THE
LICENSED SOFTWARE	NTIL YOU HAVE READ AND ACCEPTED THE TER	MS AND
CONDITIONS OF THIS A	GREEMENT. BY INSTALLING, COPYING, ACCESS	ING, OR
USING THE LICENSED S	DETWARE, YOU AGREE TO BE LEGALLY BOUND E	BY THE
Do you accept this license?	 I accept the agreement 	
	 I do not accept the agreement 	
allBuilder		
		< Back Itext > Cancel

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4. This is the installation directory. You can change your directory here, especially if you have an dual drive configuration. By default, it will install in the C:\ drive. Then, click Next.

Installation direct	0.00		(intol
	ory .		liner
Specify the directory	where Quartus Prime Lite Edition (Free) 18.1	.0.625 will be installed	
Installation directory	C:\intelFPGA_lite\18.1	2	
stallBuilder			

5. Click Next. Please note that ModelSim is optional.

Select Components	inte
elect the components you want to install Quartus Prime Lite Edition (Free) Quartus Prime (includes Nios II EDS) (7100MB) ModelSim - Intel FPGA (341.5MB) ModelSim - Intel FPGA Starter Edition (Free) (3988.8MB) ModelSim - Intel FPGA Edition (3988.8MB)	You can add additional device support to an existing Quartus Prime software installation without having to reinstall the entire software package. Use the Install Devices command on the Tools menu in the Quartus Prin software to get started. Select a component for more information

6. Click Next.

Installing Quartus Prime Lite Edition (Free) 1	18.1.0.625		-	
Ready to Install				(inte
Summary:				
Installation directory: C:\intelFPGA_lite\1 Required disk space: 11432 MB Available disk space: 217742 MB	8.1			
allBuilder				
		< Back	Next >	Cancel

7. Wait until the software finishes installing.

PART II: Install driver for the USB Blaster

- 1. Get the "usb-blaster.zip" file and unzip it.
- 2. Plugin the USB Blaster to your computer.
- 3. Open the device manager of your computer as shown below.



- 4. Find the "USB-Blaster(Altera)" in the listed devices.
- 5. Right-click this device and click "Update driver".
- 6. Select "Browse my computer for driver software" as shown below.

>	Search automatically for updated driver software Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation
	settings.
<i>→</i>	Browse my computer for driver software Locate and install driver software manually.

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7. Input the directory that contains your unzipped files from step 1 and click "Next".



8. The USB-Blaster should now be installed on your computer.

PART III: Install Atmel Studio

- 1. Go to link [2] and download the installer.
- 2. Open the installer. Click on "Agree to the terms" and click Next.

Atmel Studio 7.0	
You must agree the license terms and conditions before you c install Atmel Studio 7.0.	an
ATMEL STUDIO	-
END USER LICENSE AGREEMENT	
IT IS IMPORTANT THAT YOU READ THIS AGREEMEN CAREFULLY AND COMPLETELY. This End User Licens Agreement ("Agreement") is a legally bindin agreement between, on one hand, either your employer (if you are acting on behalf of your employer) o you (if you are acting on your own behalf ("Licensee"), and on the other hand, Atmme Corporation ("Atmel"). By clicking the "I Accept button on this page or by downloading, installing o using any of the software available for download o this page ("Licensed Software"), you are indicatin	T e g r r) l r n g
I agree to the license terms and conditions.	
C:\Program Files (x86)\Atmel\Studio\	
Send anonymous information to help improve the user experie	nce.

3. Select the first option and then Next. (The other 2 options are optional.)

Auther Studio	-	
Atmel Studio 7.0		
Select Architecture		
AVR 8-bit MCU		
AVR 32-bit MCU		
SMART ARM MCU		
Unchecking a component will uninstall it if it was previously installed. Back Next Canc	el	

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4. Select the option and Next.

5. Click Next.



6. Click Install and wait until it is installed.

PART IV: Install Waveforms (Only if you have AD2 board)

- 1. Go to [3]. It should direct to the download link for Waveforms 2015. If it does not, go to [4] and provide your information to get the download link.
- 2. Open the installer. Click Next.



3. Click Next.



4. Click Next.

💜 Digilent WaveForms 64-bit Setup	(<u>111</u>)		×
Shortcut options Choose for which users you want to create shortcuts.		M	
Select whether you want to create shortcuts for yourself only or fo	or all users o	f this	V
Create Shortcuts For anyone using this computer Just for me			
Create Quick Launch shortcuts?			
< Back	Nert >	Can	cel

5. If needed, select your destination folder. Otherwise, keep it the same. Click Install.

			^
Choose Install Location		ΛF	
Choose the folder in which to install Digilent Software.			7
Setup will install Digilent Software in the following folder.) To install in a different folder, click Browse and select another folder. Click Next to continue.			
Destination folder			
C:\Program Files (v86)\Digilent	Bro	wse	
c. program nes (xoo) pignent			
Space required: 117.9MB			
Space required: 117.9MB Space available: 197.0GB			
Space required: 117.9MB Space available: 197.0GB			

6. Wait until the software finishes installing.

References

- [1] <u>https://fpgasoftware.intel.com/18.1/?edition=lite&platform=windows</u>
- [2] http://studio.download.atmel.com/7.0.2389/as-installer-7.0.2389-full.exe
- [3] https://mautic.digilentinc.com/asset/110:waveforms-windows-64-bit-download
- [4] https://mautic.digilentinc.com/waveforms-download