

# FPGA SETUP TUTORIAL

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## 1 Introduction

FPGA, Field Programmable Gate Array, is using more frequently in these days. Basically FPGA is consist of logic blocks which you can program it. It has a huge advantage that it can perform many processes at the same time. This provides an advantage in many field areas.

In this report, I will give some information about Digilent BASYS2 which has Spartan 3S100E FPGA board and how to install ISE WebPACK software clearly.

## 2 Setup the Program

- Click [this link](#) to go Xilinx's webpage. Find ISE Design Suite – 14.7 Full Product Installation tab. There is a 6.18 GB Windows version, download it. Then you need to create an account. After creating your account download process will begin.

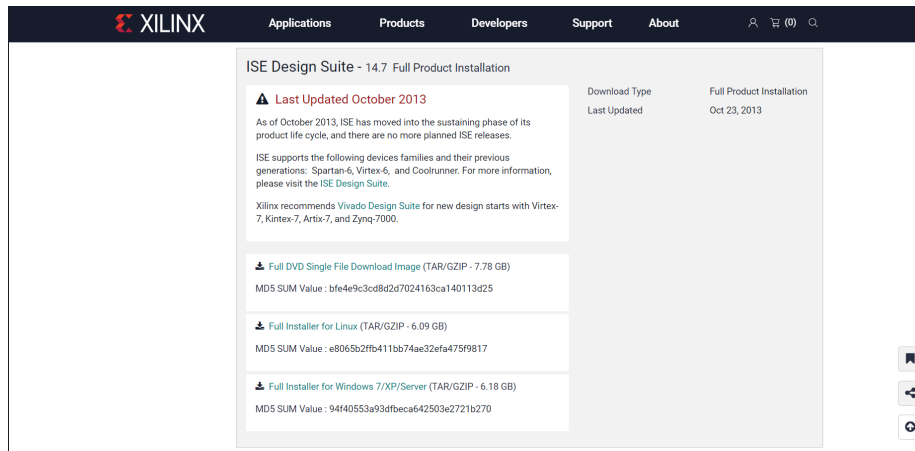


Figure 1: Xilinx's Web Page

- Double click the .rar file and double click xsetup.exe
- When you see the Welcome interface press Next to proceed. Please select only ISE WebPACK when you see the Select Products to Install tab.

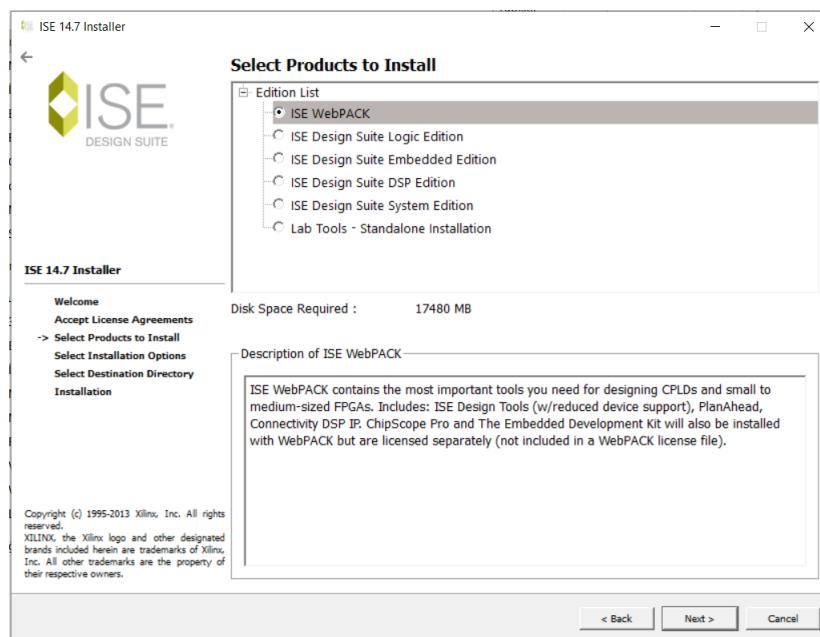


Figure 2: Select Product to Install

- There is no need to change anything in Select Installation Options tab.

- You can change destination folder by clicking Browse.
- Click Install and download begins. This process take 20-30 minutes.
- After the setup is complete, license page will come up. Although the ISE WebPACK is free you need to specify the the license file. Click Get Free ISE WebPACK Licence and click Next.
- Click Connect Now. When your browser opens, log in your Xilinx account and fill the blanks in your choices.

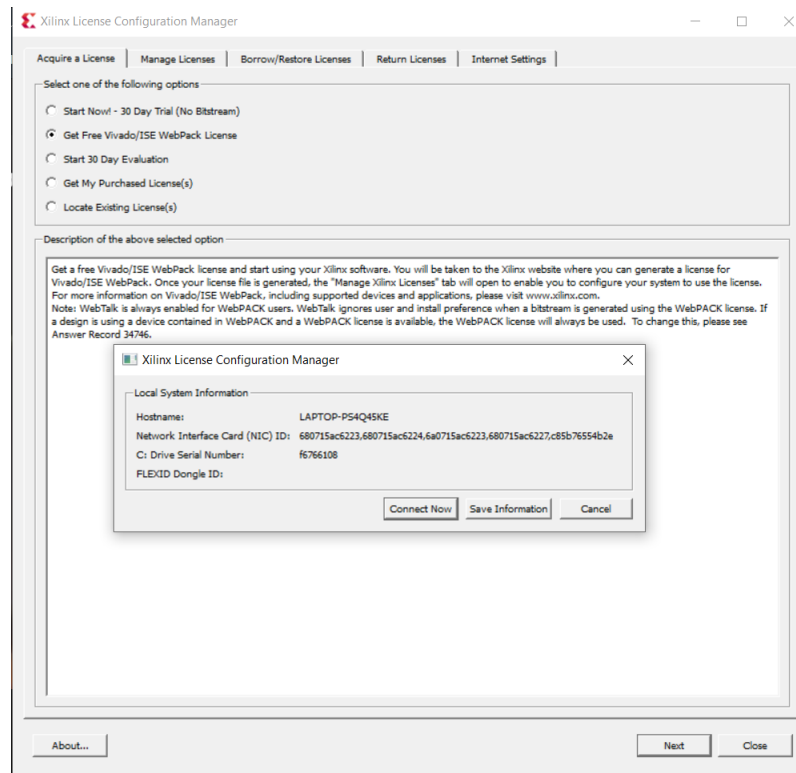


Figure 3: Click Connect Now

- Choose ISE Design Suite: WebPACK licence and Click on Generate Node-Locked Licence
- If you see 'Congratulations' on the screen you have done it. They will send licence file to your email. You need to upload the file.

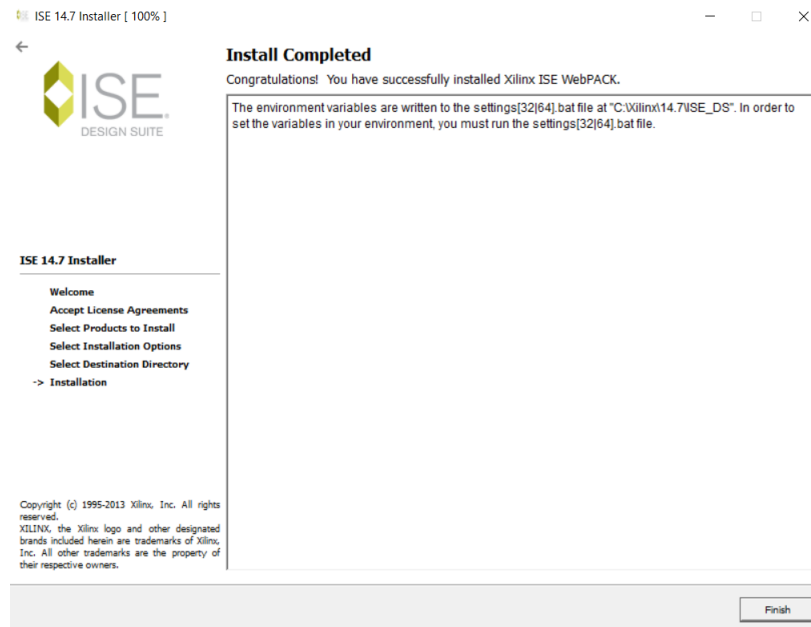


Figure 4: Congratulations Screen

### 3 Test

- [Click this](#) to download Adept Software. Go to Adept 2 for Windows section. Download Adept 2.16.1 System, 32/64bit, windows. It is really simple to setup just double click the setup file.
- Connect the BASYS2 board to PC via USB cable. Open Adept program. If you did it right, you will see FPGA and PROM sections. If it isn't connected nothing happens.

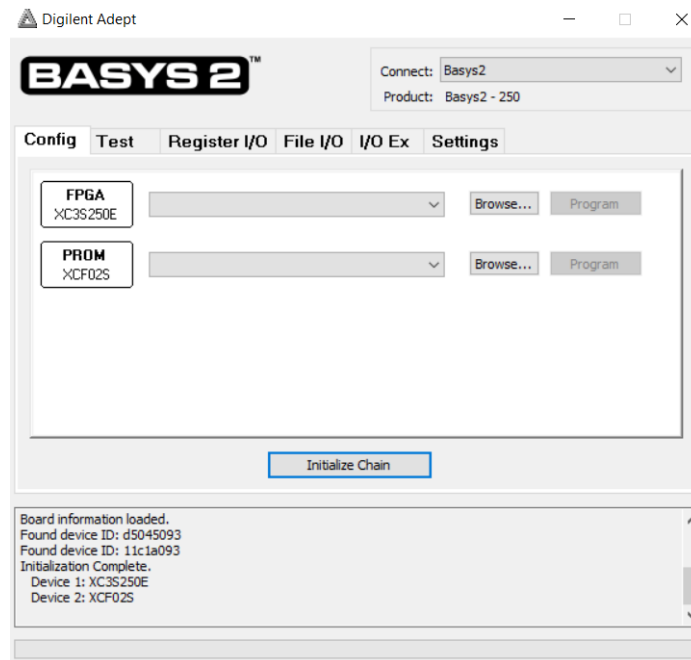


Figure 5: Adept Software

- Click on TEST tab. Start the test. During the test process you can see 0-15 counter on 7-Segment displays. By changing switch you can see the change in Adept Interface.

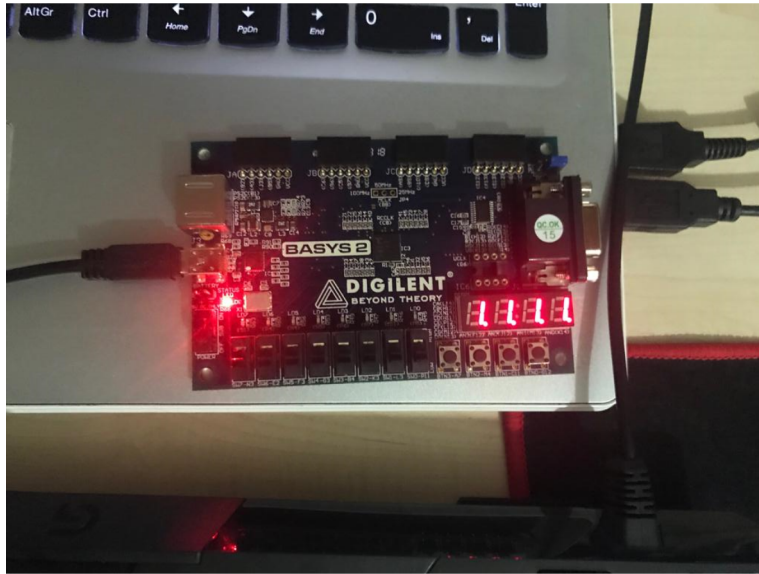


Figure 6: Adept Software