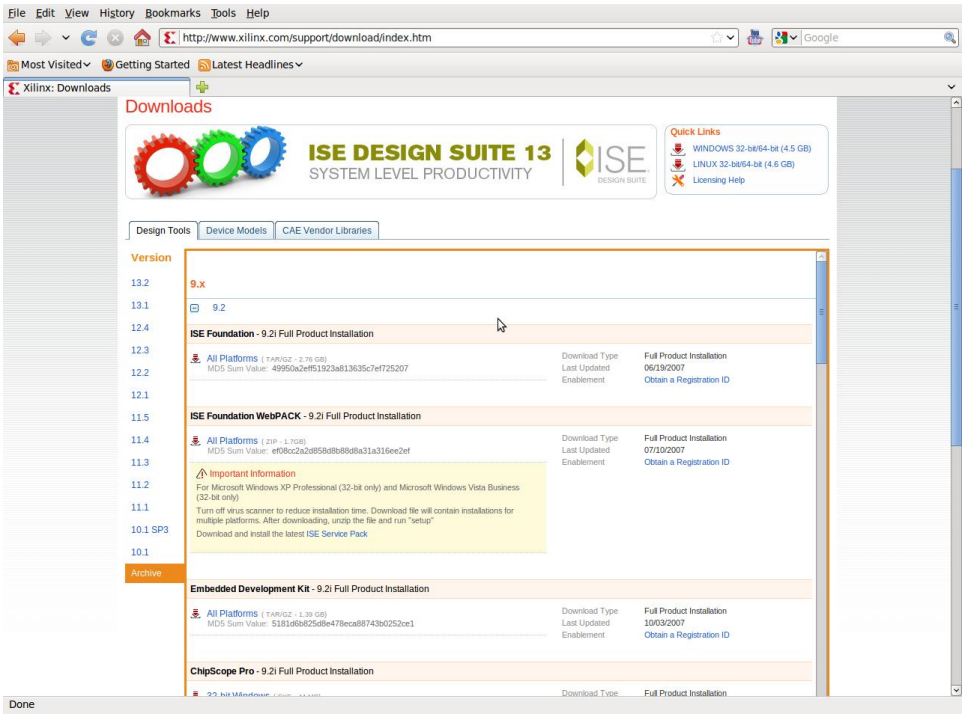
# Building bitfiles for Hostmot2 and MESA boards

This is a step by step guide showing how to install xilinx and make bitfiles for your MESA boards running HOSTMOT2 in EMC2 or at least what I encountered along the way. This software was installed on Ubuntu 10.04 from the live CD install.

Navigate to the xilinx website and download the xilinx ISE Foundation tar/gz file. Notice to the right of the download link you can obtain a Registration ID. It is free however you will need it to install the webpack software. Save these numbers for later on. You can also download the latest service pack here or do it as an update during the install. I chose ver 9.2 from the Archives because I'm told it is the most compatible version for the widest range of MESA boards.



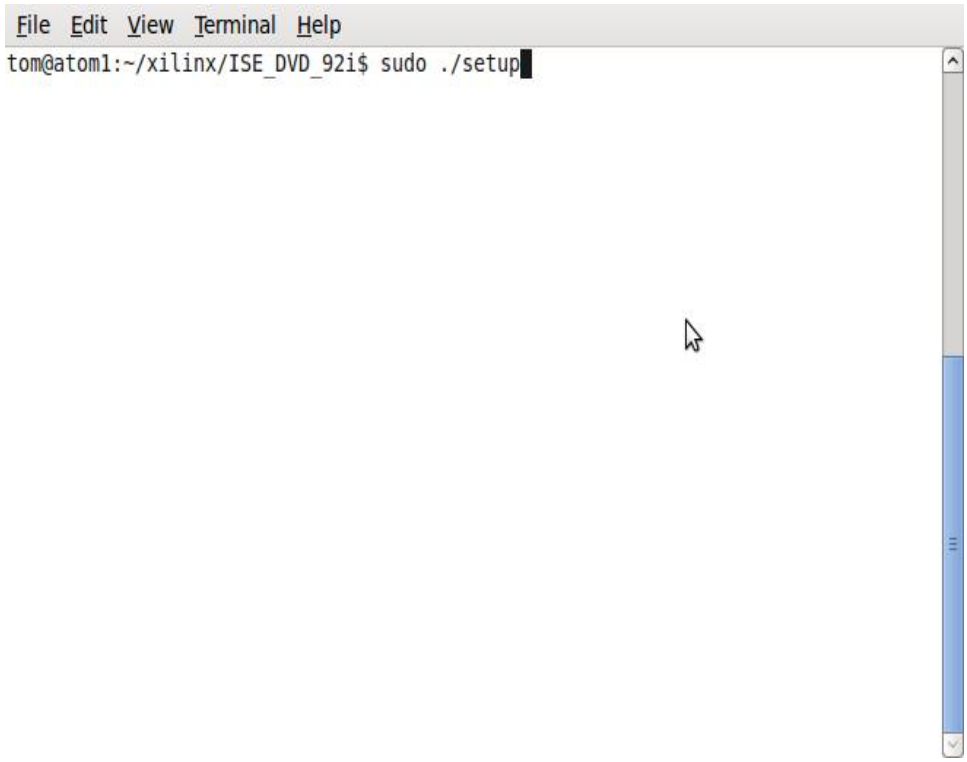

Once you have downloaded the file unpack it. Open a terminal window and navigate to that directory. In my case it was /tom/xilinx/ISE_DVD_92i/.
Next type in:

```
sudo ./setup
```

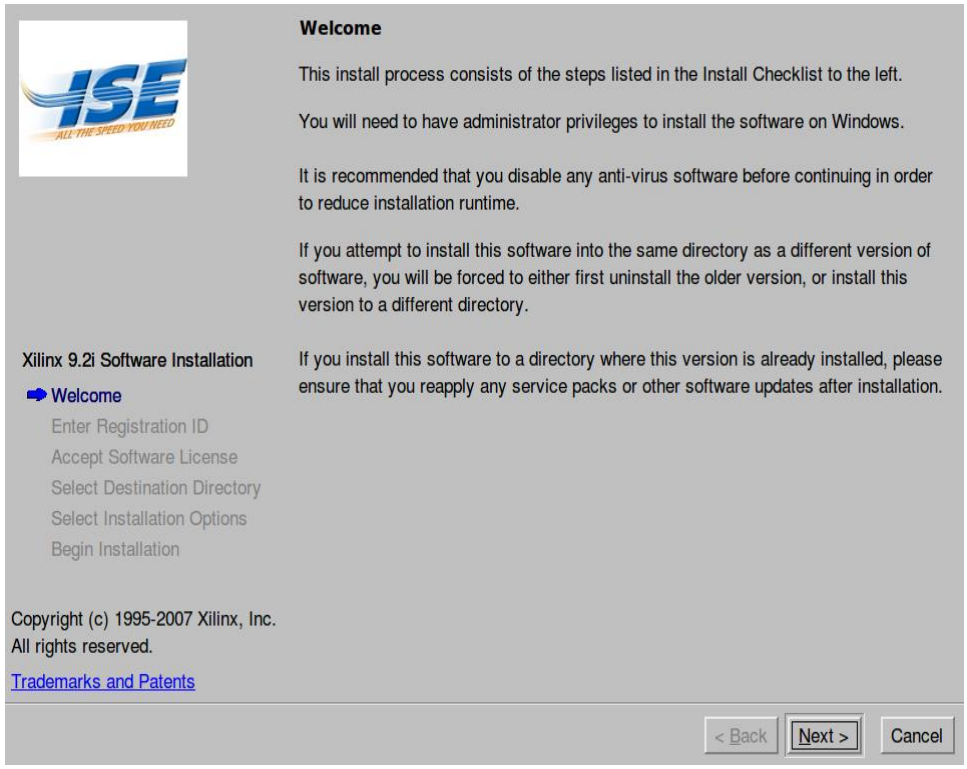
as shown below and the install should begin. If it complains about not having libstdc++5 (I didn't catch the exact libstdc++ error I got) you can download and install it from a terminal window as shown below then run the setup again.

```
wget http://mirror.pnl.gov/ubuntu//pool/universe/g/gcc-
3.3/libstdc++5_3.3.6-20~lucid1_i386.deb

sudo dpkg -i libstdc++5_3.3.6-20~lucid1_i386.deb
```

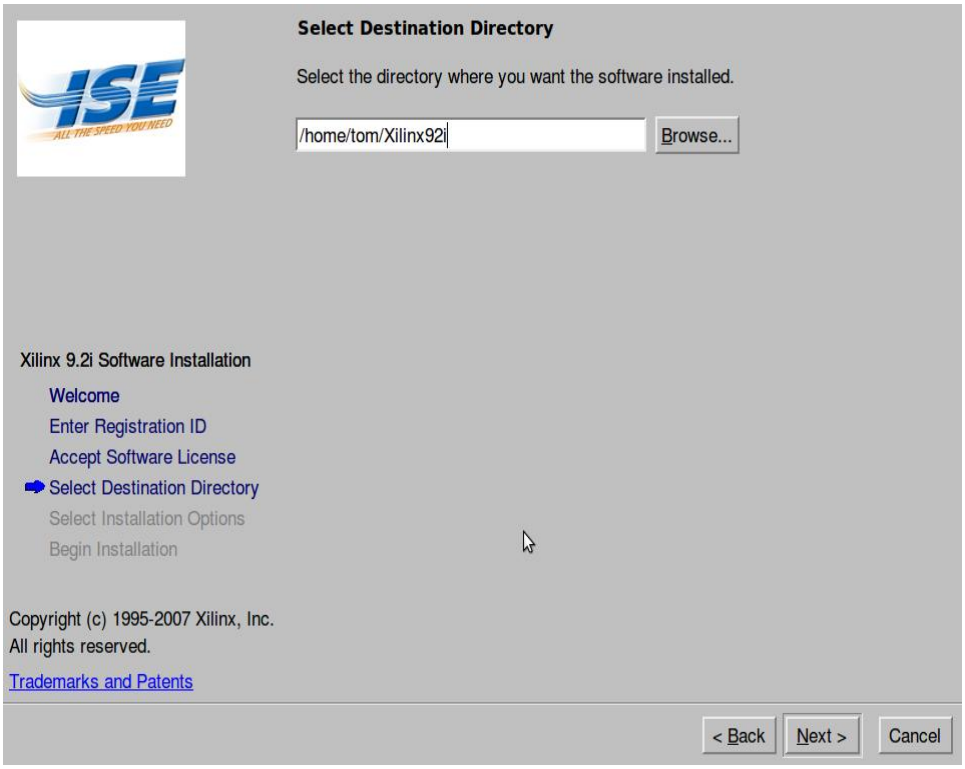



You should be greeted with the following splash screen

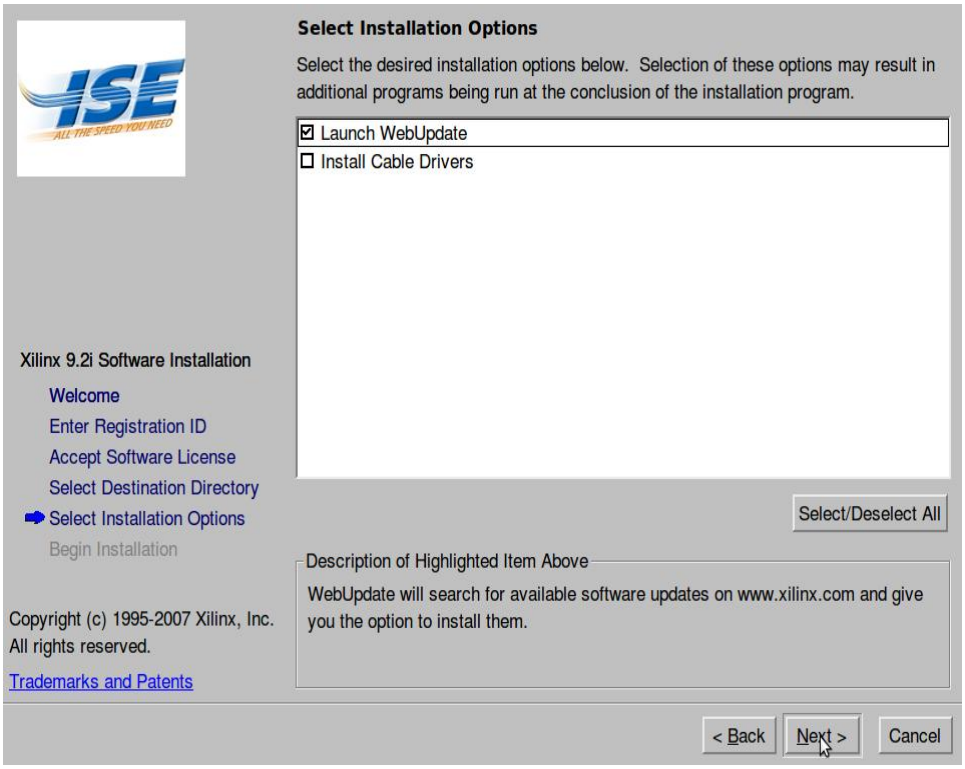



Click on the Next> button and you will be prompted to enter your registration id.


After entering it, you can pick the destination directory for the install. I chose the default.




After choosing your installation options you will be presented with the option for a web update. This will download the latest servicepack after the install has completed.




Once you have installed xilinx, you will need to install GHDL by typing the following in the terminal window.

```
sudo apt-get install ghdl
```

Next, get latest snapshot of hostmot2-firmware The README file shows how to set up the script file for building your bitfiles, pinfiles and xmlfiles. The firmwares.txt file is a build list which you can edit to build a subset of firmwares.

I copied my script file into the same directory as the firmware files. You can look at my script and firmware files below. The script paths reflect my setup and you should edit them to suit yourself. The firmware.txt has been modified to build a file set for the 7i43 and 7i47 boards.

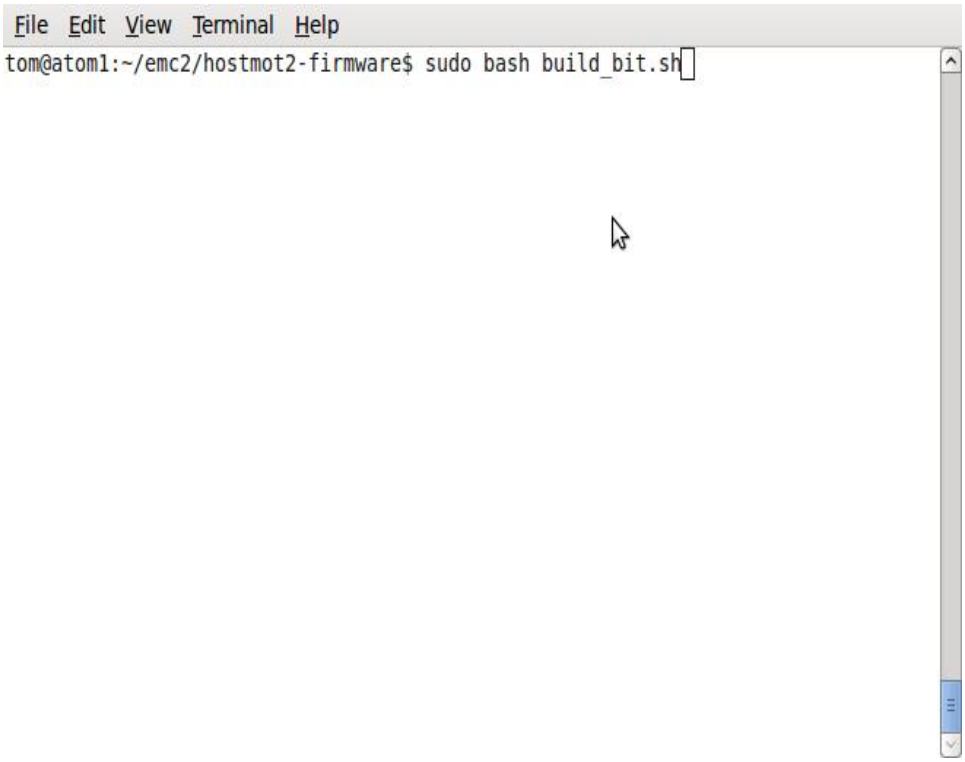
build_bit.sh

firmware.txt

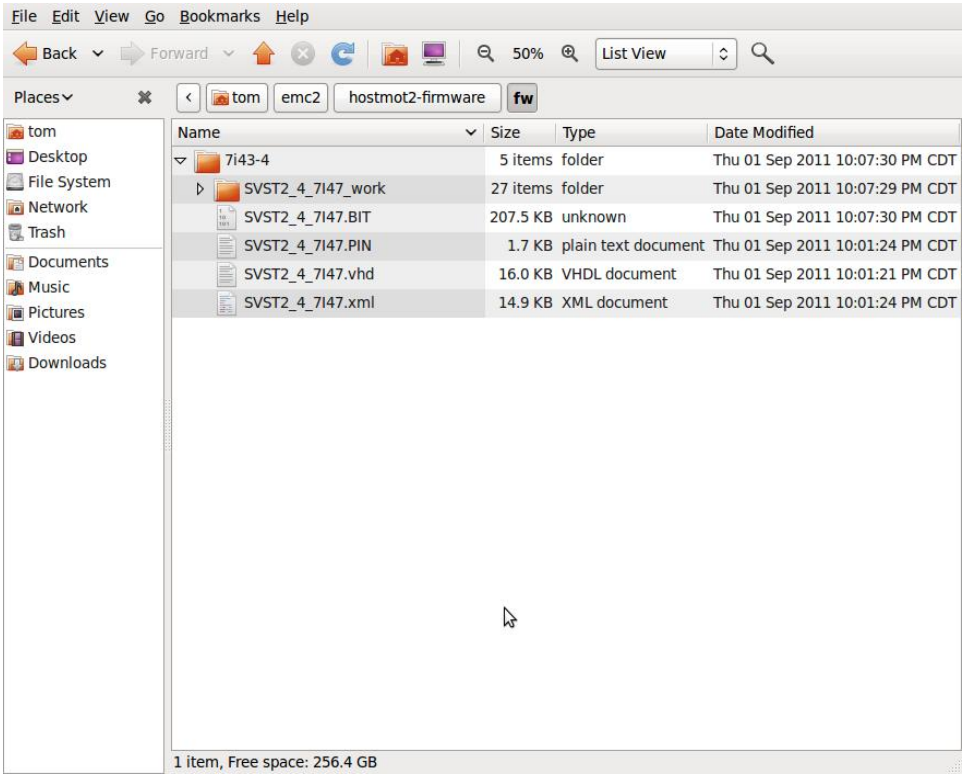
The source for the PIN files is located in the hostmot2-firmware directory in a PIN_*.vhd file. Editing the file is beyond the scope of this tutorial. Once you are done editing your pin file and have added it to the firmwares.txt file you are ready to begin building the file set.

From the firmware directory in a terminal enter the following (substituting "build_bit.sh" with your script file):

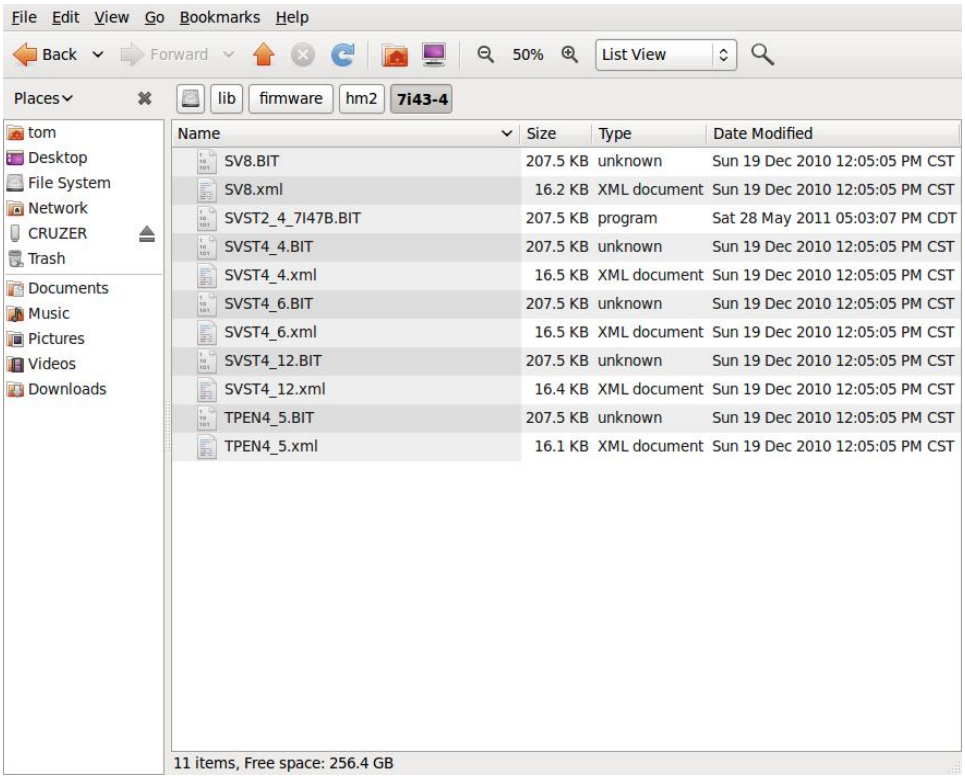
```
sudo bash build_bit.sh
```




After churning for a while, the resulting files will end up in the 'fw' subdirectory.




Copy the .BIT file to the /lib/firmware/hm2/ directory under your board subdirectory as seen below. Be sure to edit the .ini file for your board to reflect the new file.




I hope this was in some way helpful