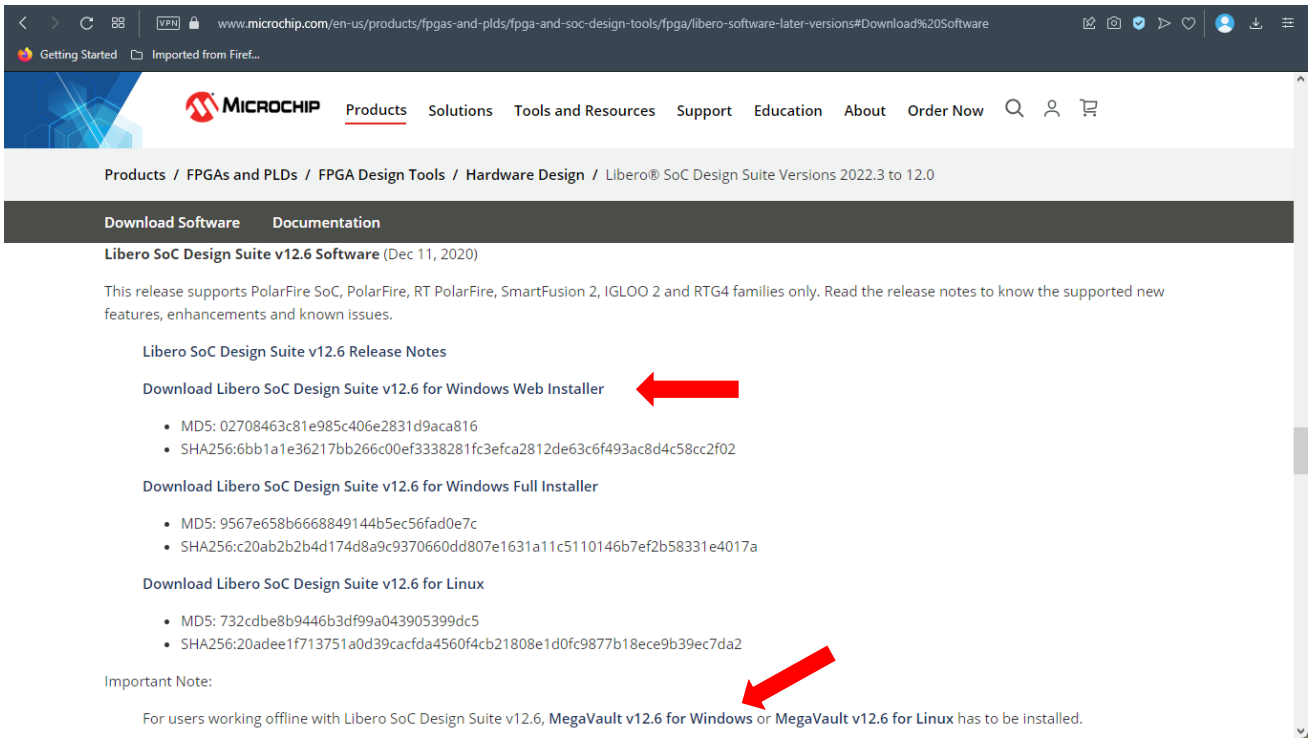
Microsemi Libero Installation Instructions

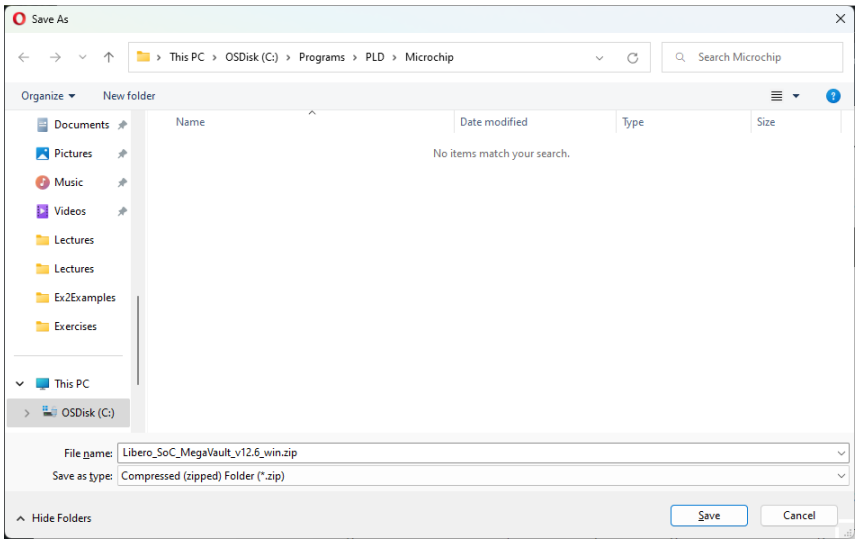
2023

1. Libero Download and Installation:

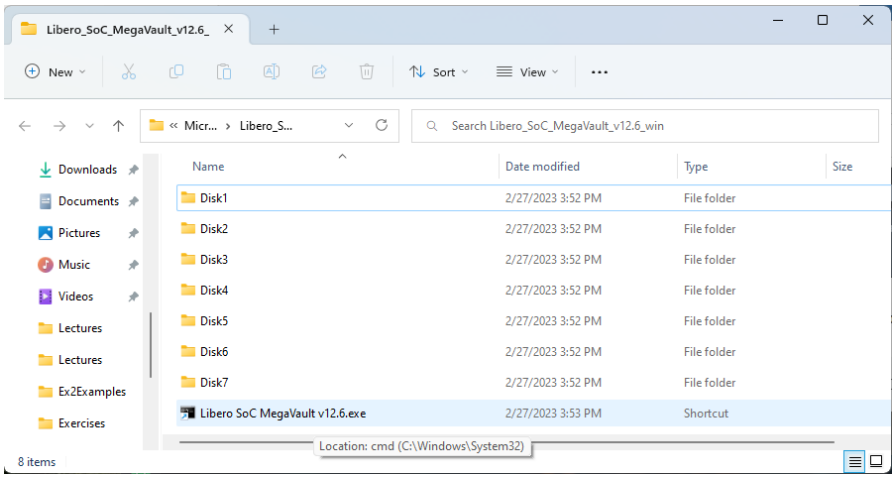
Go to the Microsemi website and search for Libero. It should take you to https://www.microsemi.com/product-directory/design-resources/1750-libero-soc#downloads Click on the Downloads tab and then https://www.microchip.com/en-us/products/fpgas-and-plds/fpga-and-soc-design-tools/fpga/libero-software-later-versions#Documents%20and%20Downloads and go to Software Archives. Download **Libero SoC 12.6**. This will require about 25 GB of hard drive space, make sure you have it before installing. You may have to register with Microchip/Microsemi to get to the actual download page.



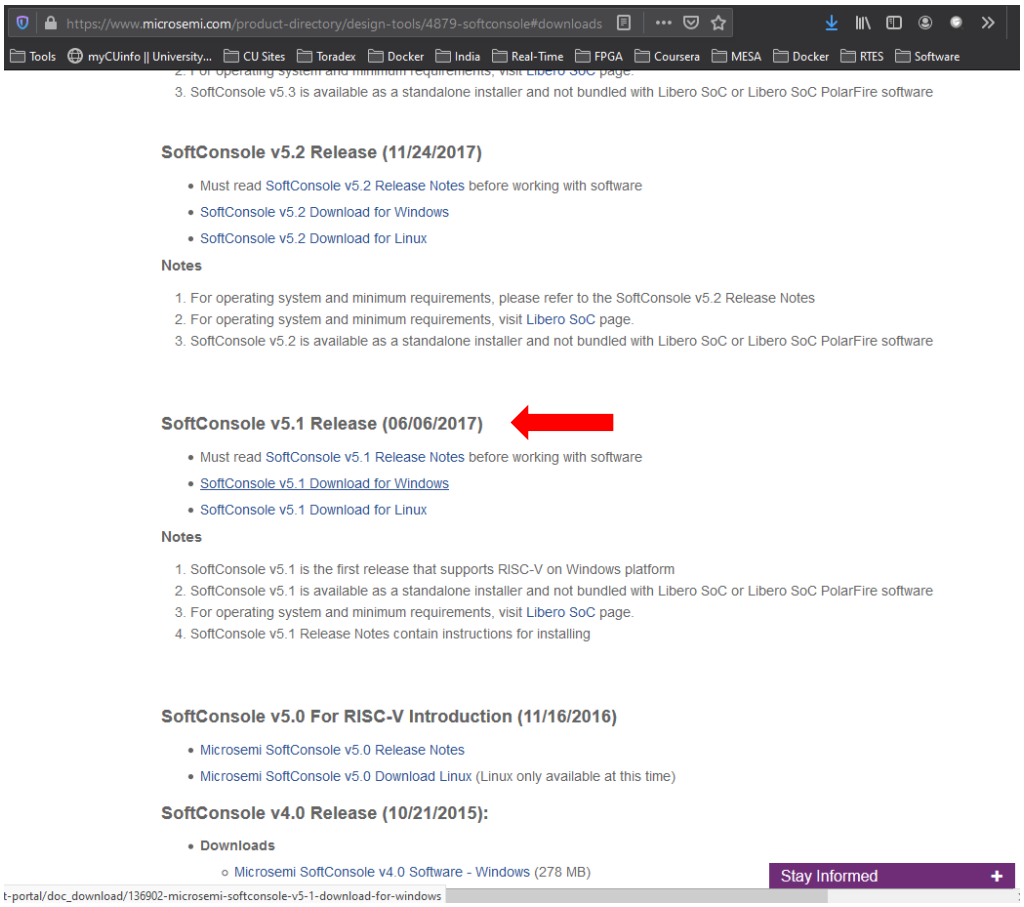
Then download the Libero SoC Megavault, which requires another 5.5 GB:



Once you extract the zip file, execute the exe to complete the installation, accepting all defaults:



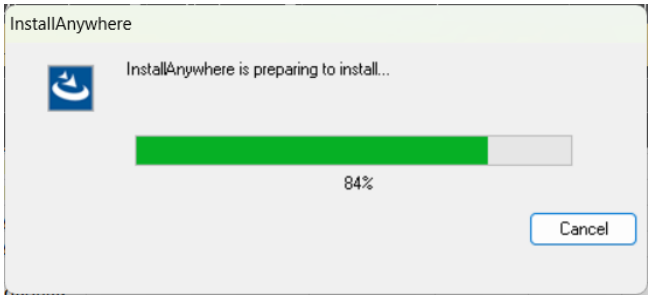
Then download SoftConsole version 5.1 from https://www.microchip.com/en-us/products/fpgas-and-plds/fpga-and-soc-design-tools/programming-and-debug/softconsole#downloads by navigating to software archives or previous software versions, you should see:

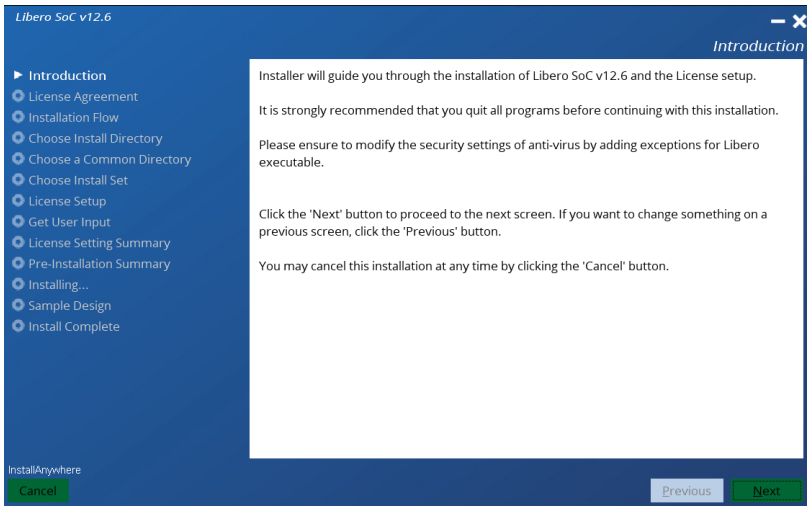


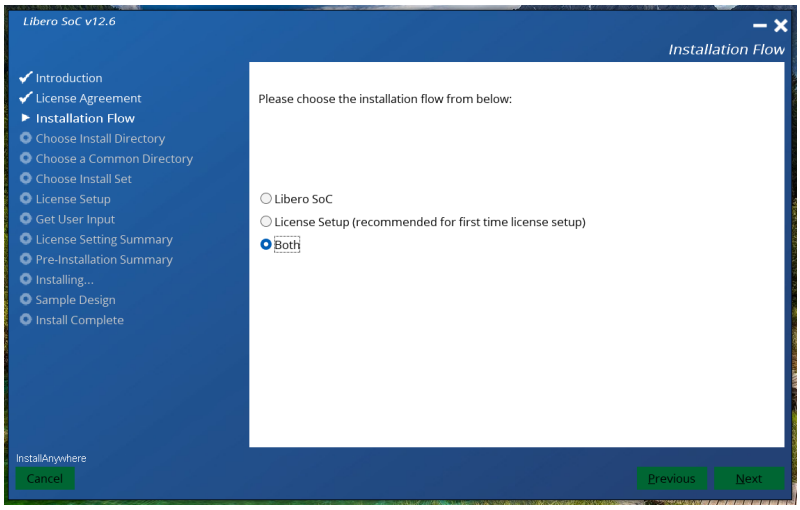
If any of the above downloads fails, then go ahead and download these files from the Google Drive Link or Canvas, and run them in this order:
Libero_SoC_v12.6_win.zip (not on Canvas – too large, see One Drive Link here: Microsemi
Libero_SoC_Megavault_v12.6_win.zip
Microsemi-SoftConsole-v5.1.0.19-Windows-Installer.exe

Install Libero

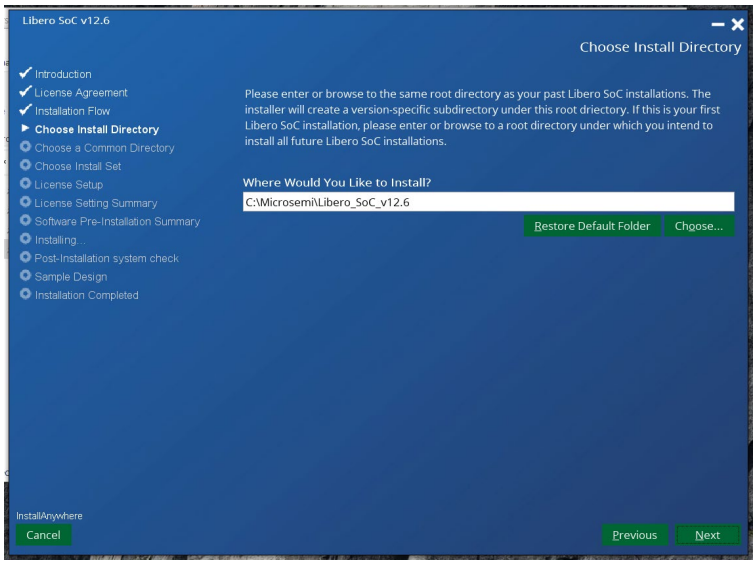
In the directory where you unzipped the zip file or stored the Libero installer exe, click on Libero_SoC_v12.6.exe. Allow it to install in the default folder:

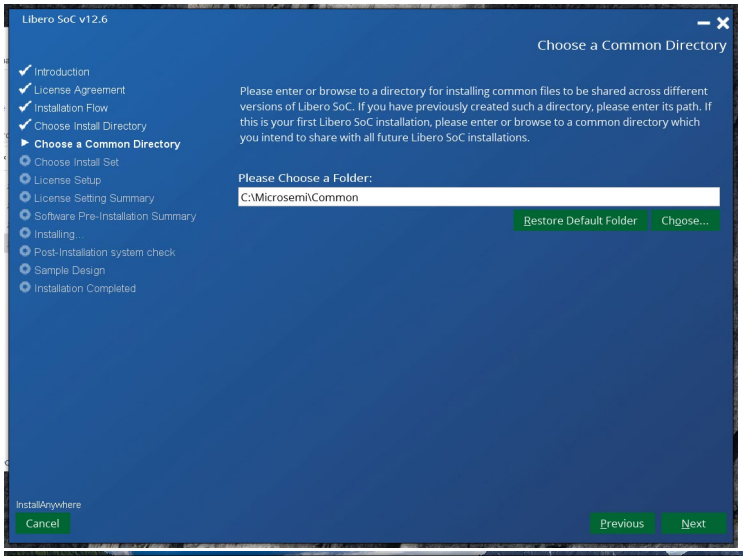


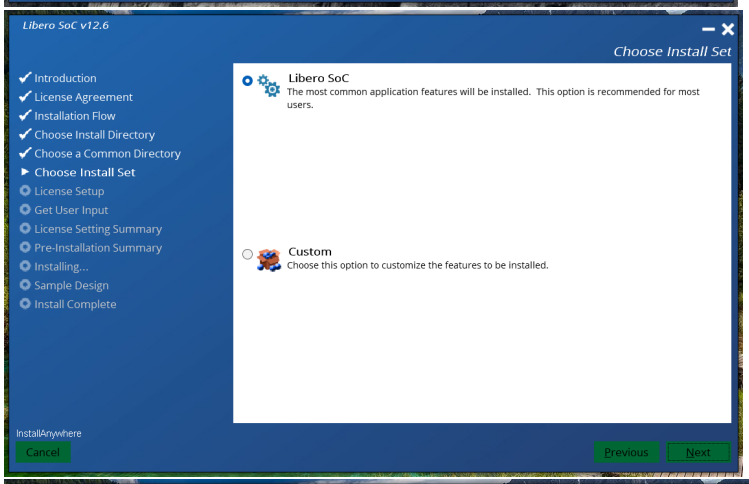


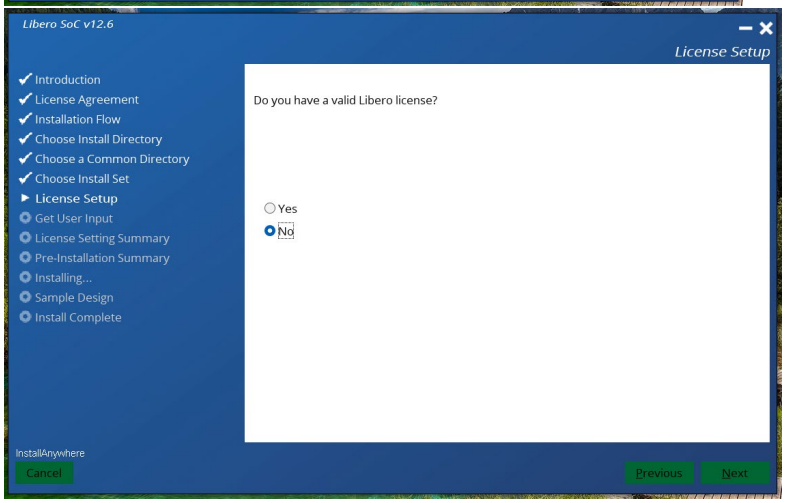


From here it is recommended that you use all the default installation locations and options. Allow the installation of the USB driver at the end.

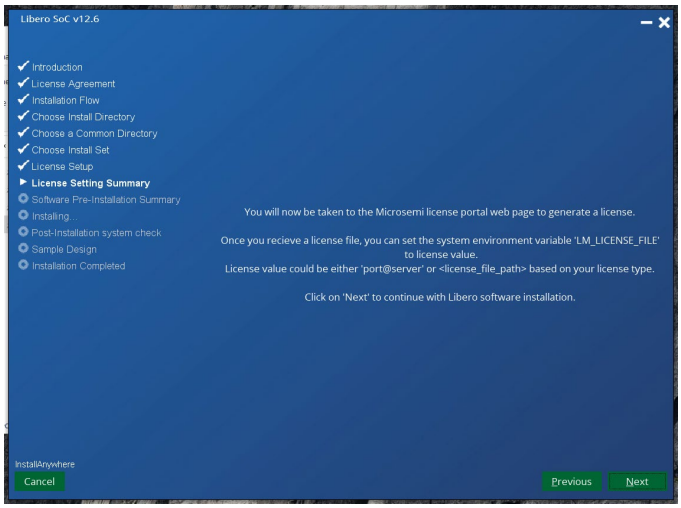




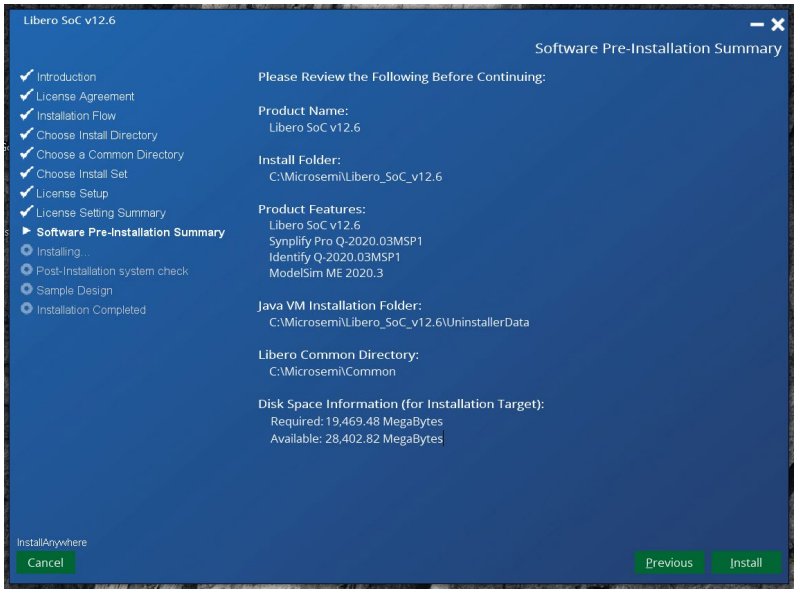




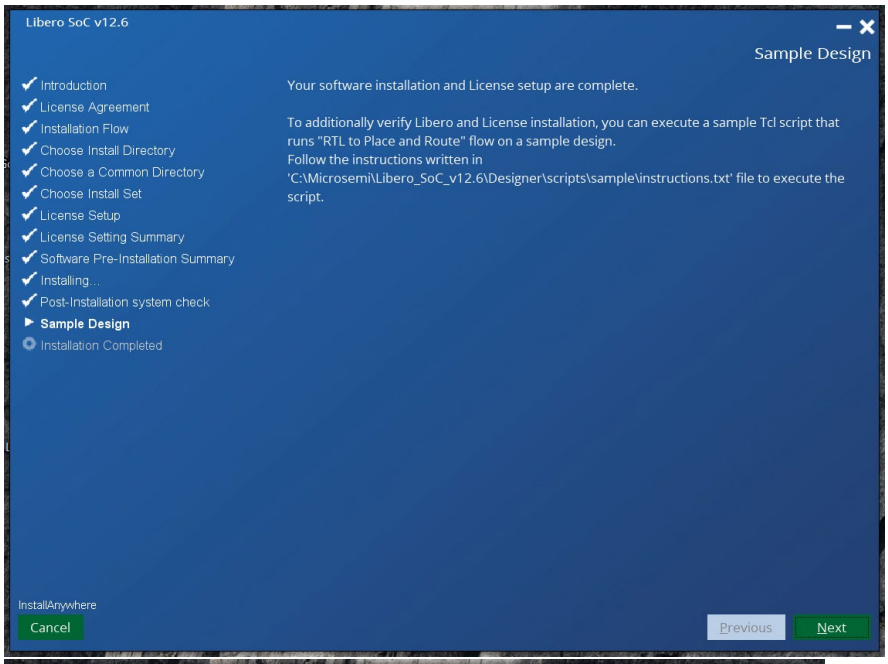
Answer “no” when asked if you have a valid license.



Click install at the next screen, and then go get a cup of tea because it may be awhile.



Allow the driver install to complete.

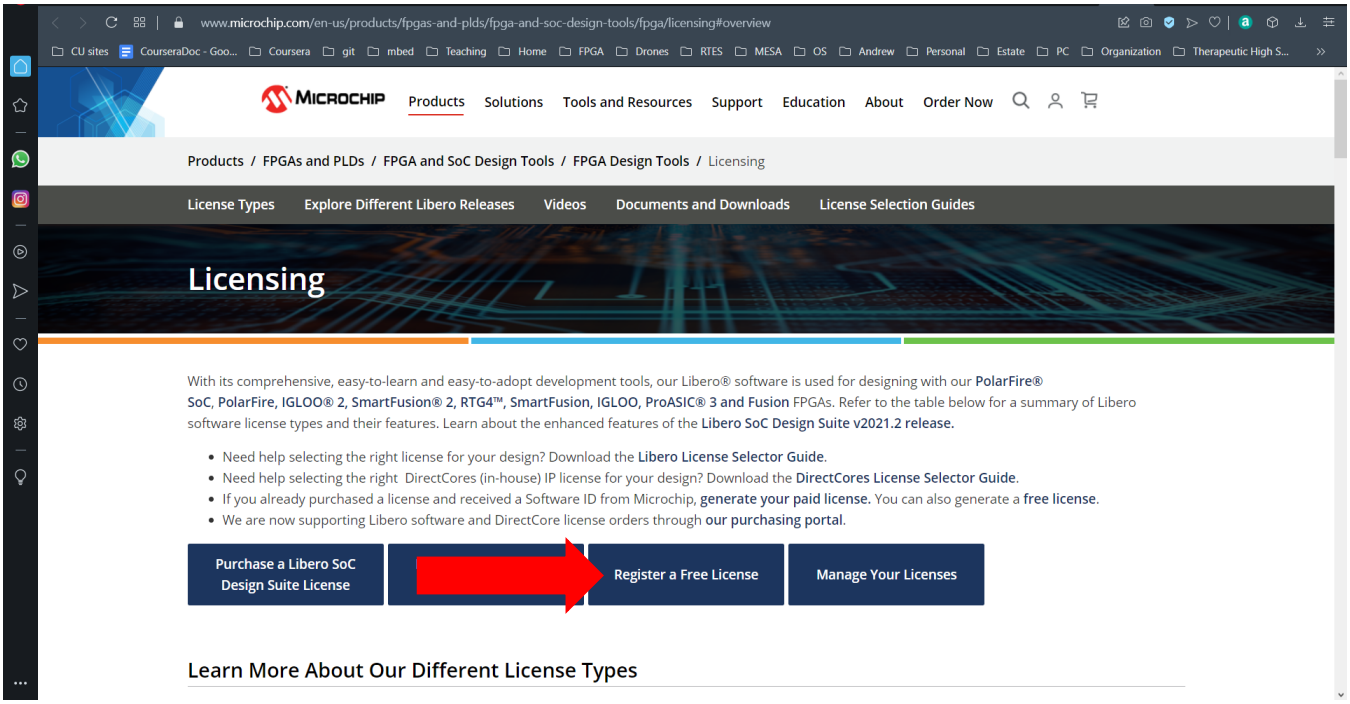


If you get here, then Hurrah! You are done.

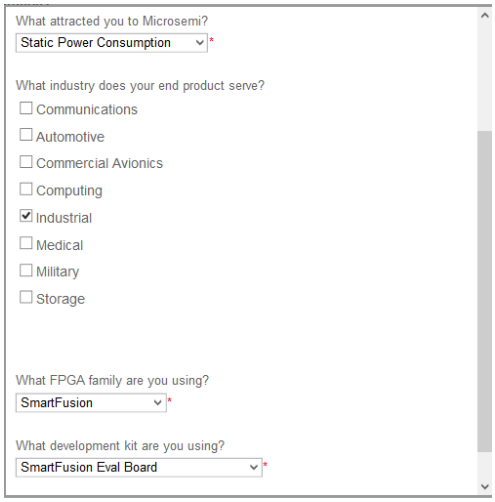
2. After installing Libero (and any other software such as ModelSim and Synplify Pro), you must request a Libero license.

There are three ways to access the software registration web site:
From the Microchip/Microsemi website as shown below
From the “Obtain license” button in the Libero InstallShield window during Libero installation
From Start > Programs > Libero SoC v12.6 > Microsemi License Utility

Either of these methods opens the registration screen shown on the slide.
Libero Silver customers and customers requesting an evaluation license do not have a software id. The Libero licensing system is fully automated and available 24/7. Licenses are generally received within a few minutes.

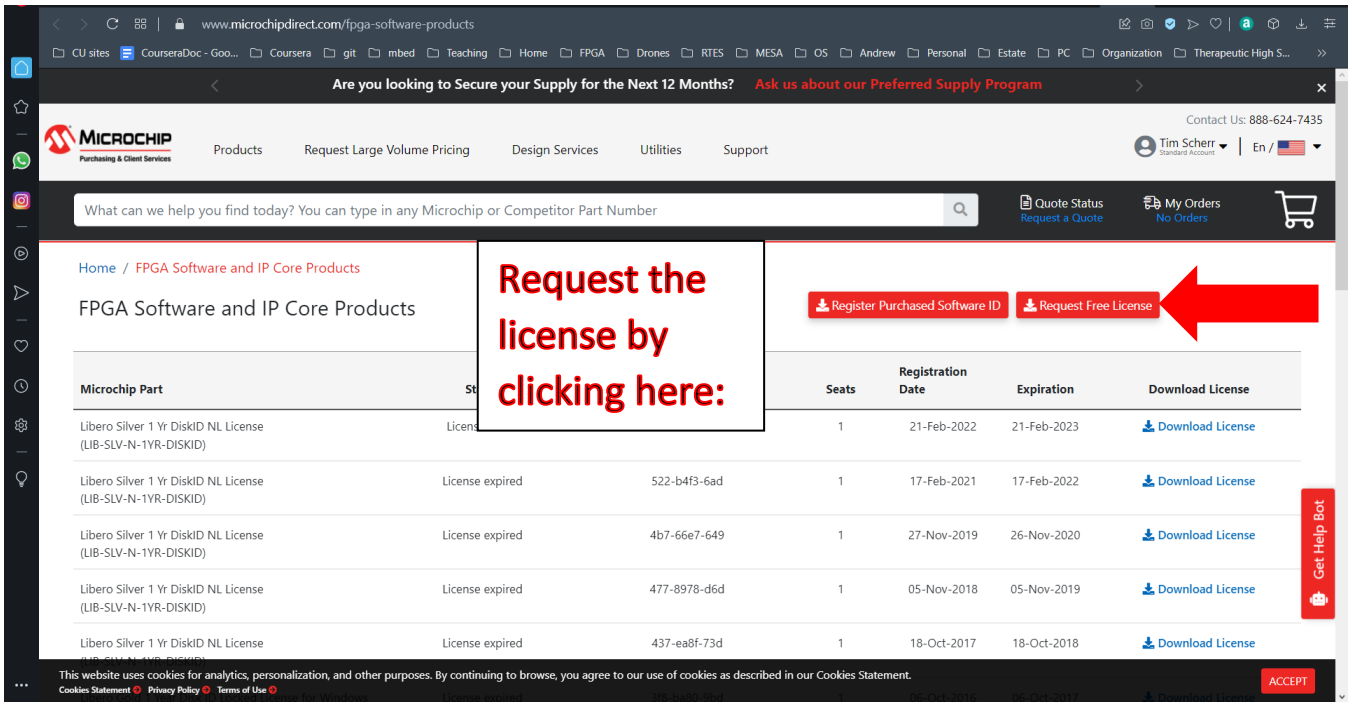


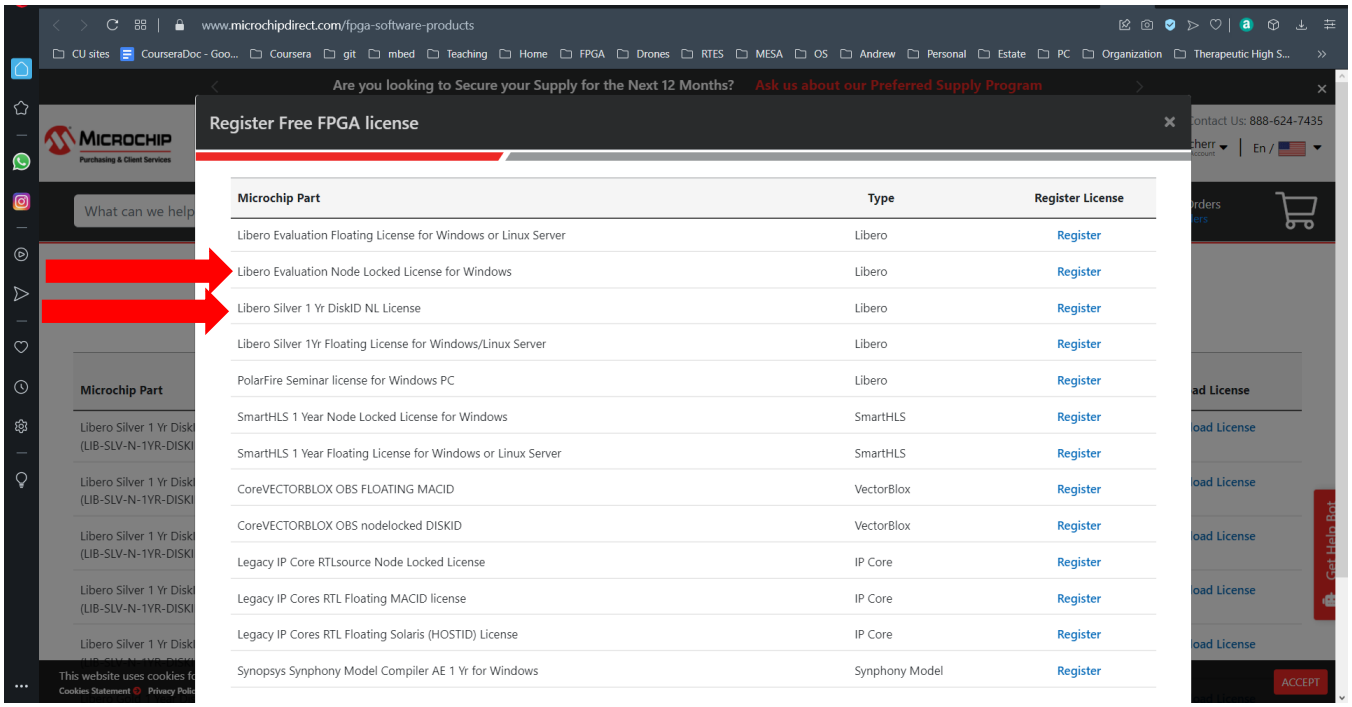
You may need to fill out a short survey. Use the responses shown below:



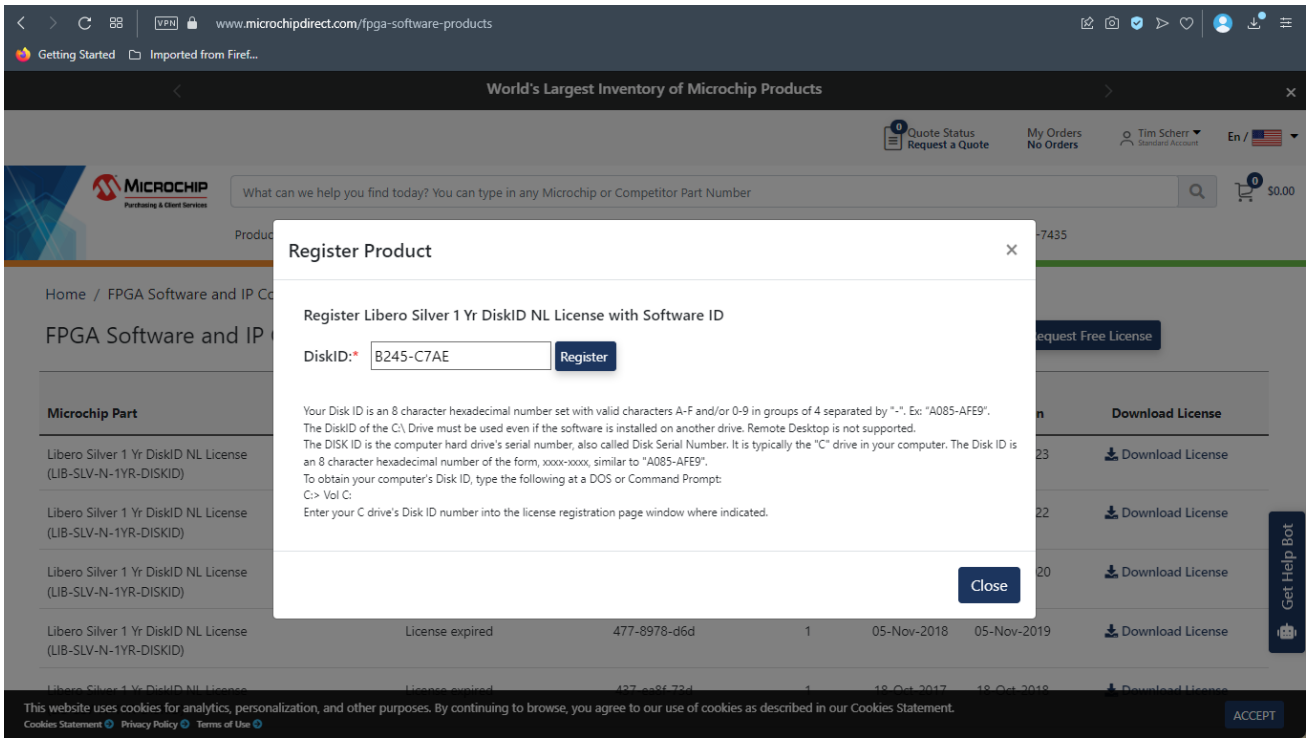
Or you could use the SmartFusion2.

Then you will see the request license page. Before 2019, we could get Gold licenses for free, but now those are for purchase only. Request a Silver license.

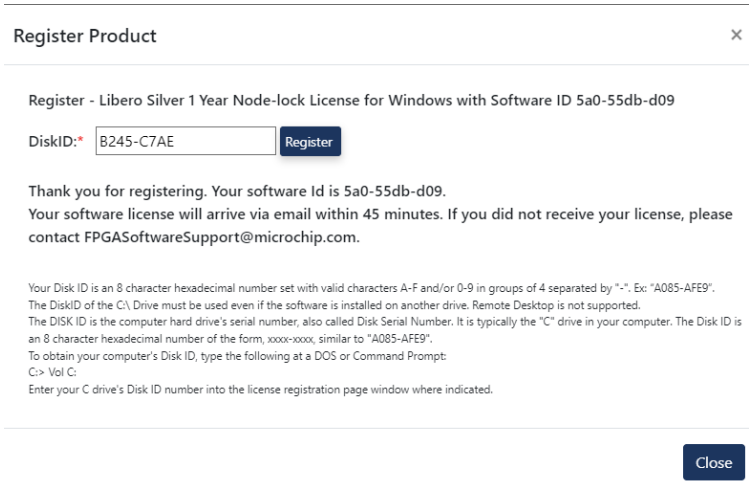




Choose either the Silver license or the 60 day evaluation license.



To find DiskID, open a command prompt and type 'vol c:' Enter the 8 digit disk ID in the box.
You will get a response like: **Your Software ID is 437-ea8f-73d** ticket number CAS-17014-H2G8V5. A license file will be emailed to you, usually within the hour.



3. License and Environment Variable Setup

COPY LICENSE FILE TO YOUR SYSTEM
****

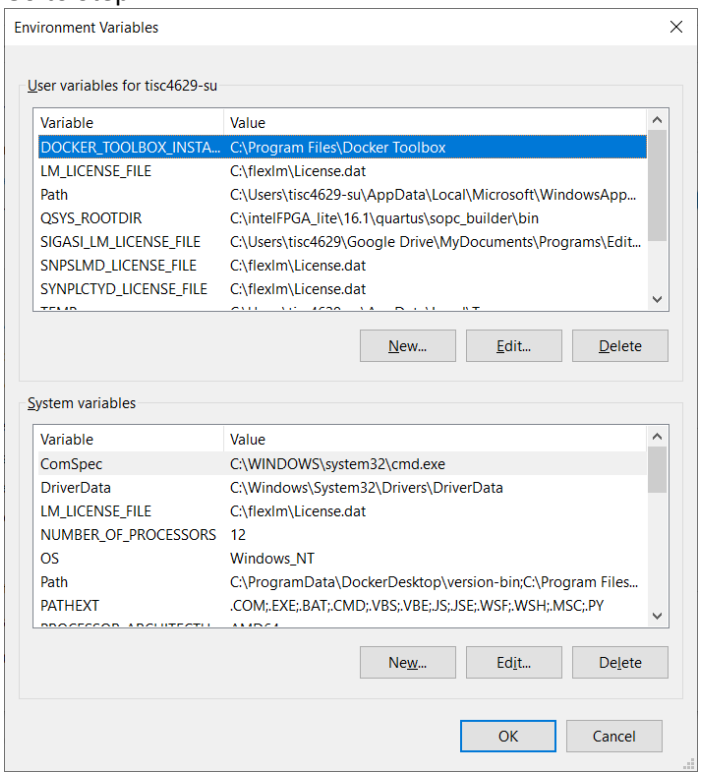
1. Create a folder named flexlm under your c: drive.
2. Save the attached license.dat file in the flexlm folder. Alternately, you can save the license.dat in another folder in your c: drive. Make sure you do not already have a license.dat file in this same directory that may conflict.

SET LM_LICENSE_FILE, SNPSLMD_LICENSE_FILE AND SYNPLCTYD_LICENSE_FILE ENVIRONMENT VARIABLES
****

3. Bring up Control Panel, in Windows 10 it may be under Windows System.
4. Double click on 'System'.
5. In the 'Systems Properties' dialog click on the 'Advanced' tab, or you may see a menu item “Advanced system settings”.
6. Click on the 'Environment Variables' button.

IF LM_LICENSE_FILE IS ALREADY LISTED IN USER VARIABLES:

7. Select it, then click 'Edit'.
8. Add the path to the Microsemi license.dat file after any existing Variable Value, separated with a semicolon, or replace the existing Value. Be sure to retain the license.dat file name and extension at the end of the path. Go to Step 11.



IF LM_LICENSE_FILE IS NOT LISTED IN USER VARIABLES:

7. Click on the top most 'New' button. 'New User Variable' should be visible.
8. In the 'Variable Name' field type: 'LM_LICENSE_FILE' (no quotes).

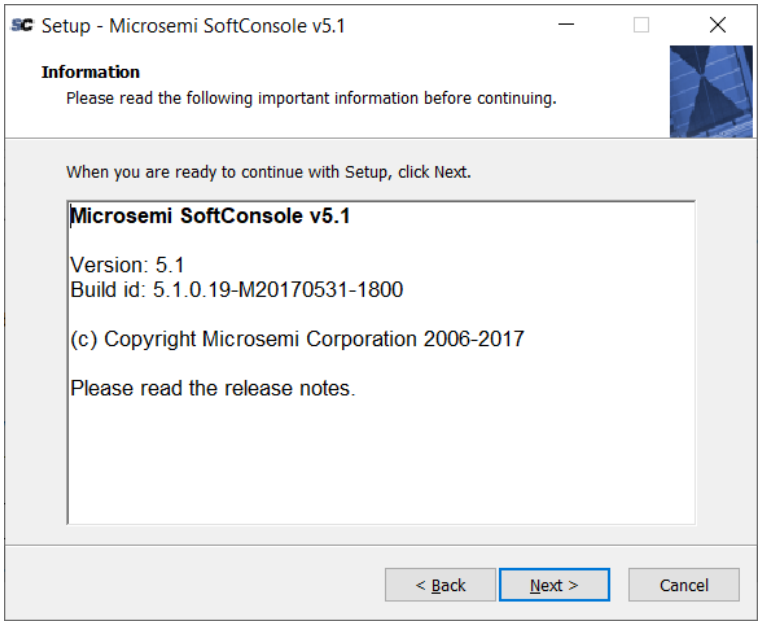
9. In the 'Variable Value' field type: c:\flexlm\license.dat (or path to your license location).
10. Click OK.

ADD SNPSLMD_LICENSE_FILE and SYNPLCTYD_LICENSE_FILE TO USER VARIABLES:
11. Click on the top most 'New' button. 'New User Variable' should be visible.
12. In the 'Variable Name' field type: 'SNPSLMD_LICENSE_FILE'(no quotes).
13. In the 'Variable Value' field type: 'c:\flexlm\license.dat'(no quotes).
14. Click OK.
15. Repeat steps 11-14 to add SYNPLCTYD_LICENSE_FILE.
16. Click OK to save new Environment Variables and return to System Properties. Click OK to exit.

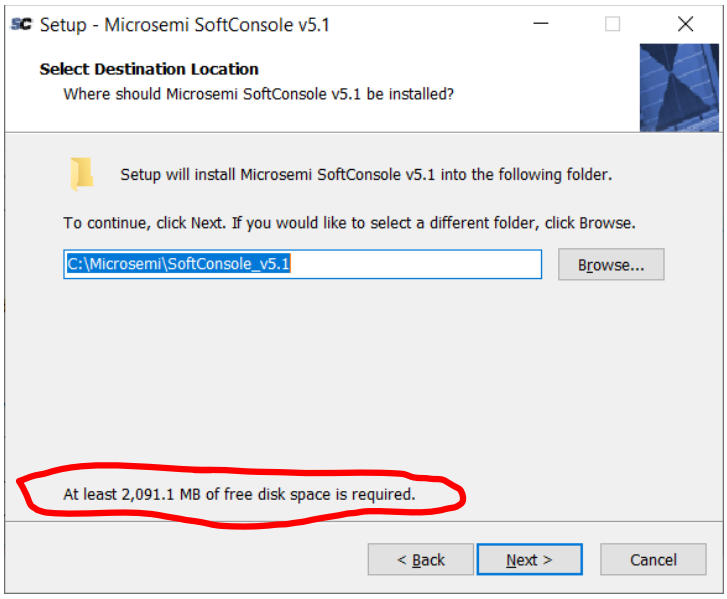
4. Soft Console Download and Installation

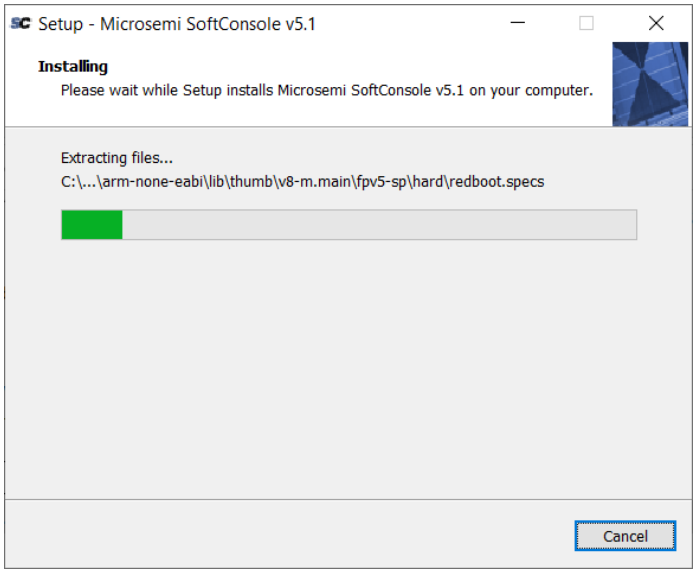
Go to https://www.microsemi.com/products/fpga-soc/design-resources/design-software/softconsole#downloads
Download both the 5.1 Release Software for the Software Archives Tab:

Run the install file to get:



Install in the default folder:



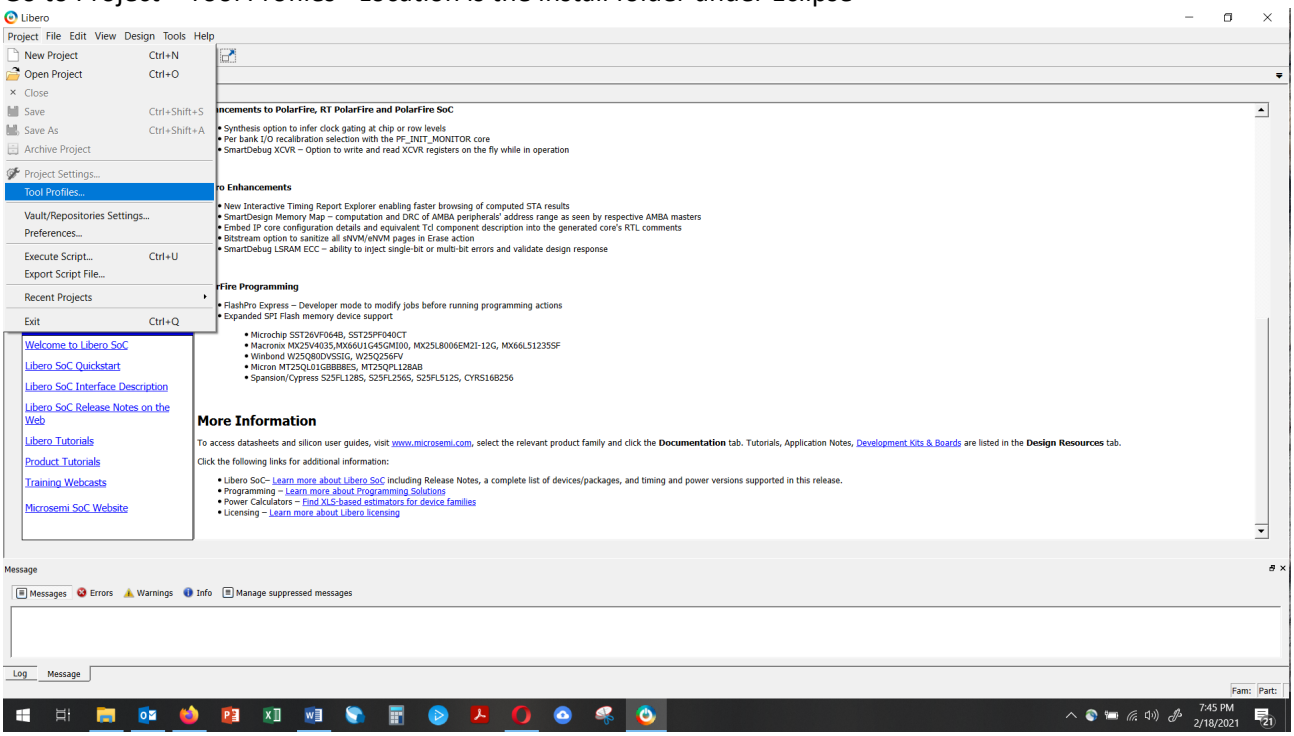


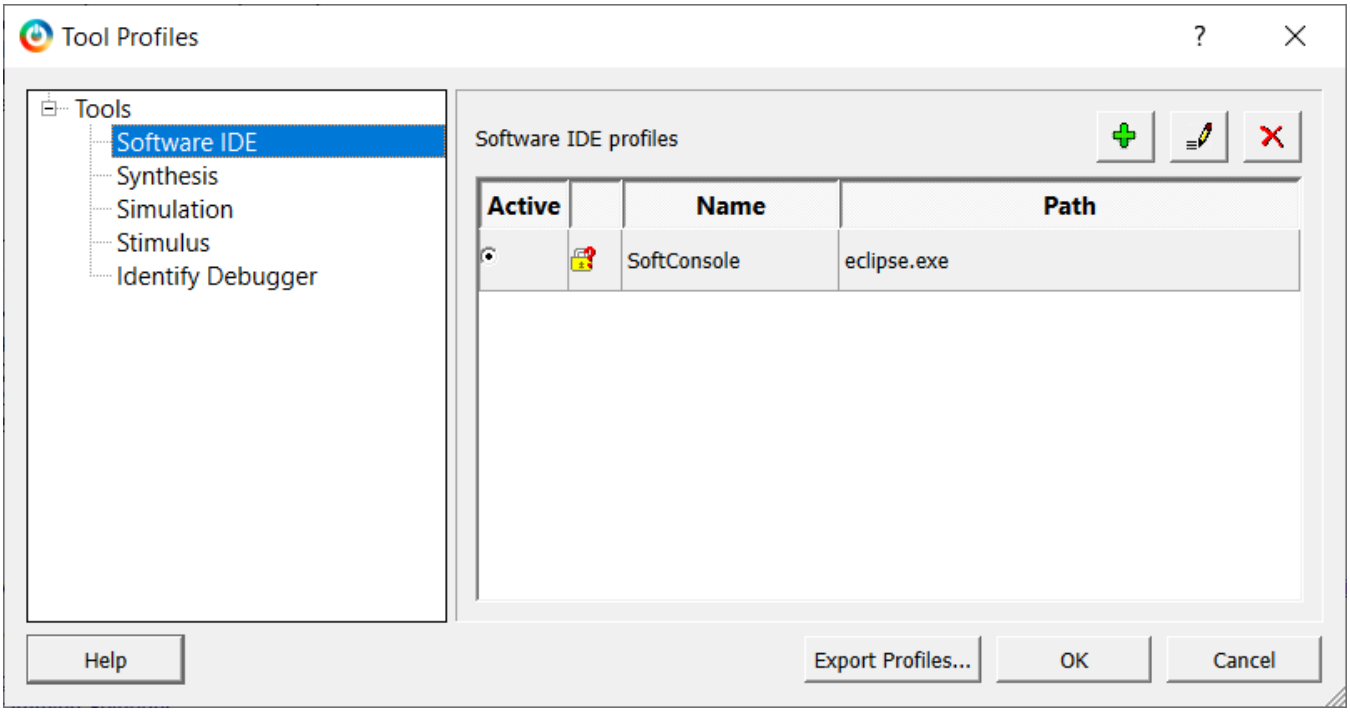
After this, device drivers may be installed and then

5. Soft Console Setup

Open Libero from the Desk top Icon, once all steps above are complete.
Ensure the softconsole tool profile is correctly set and active.

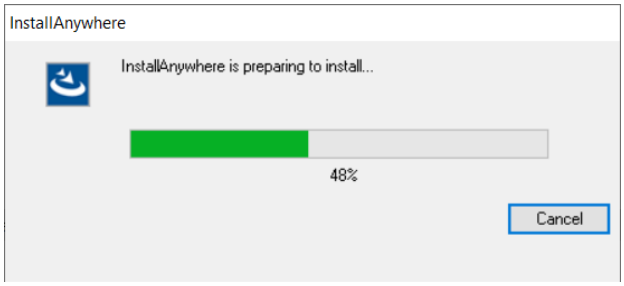
Go to Project > Tool Profiles - Location is the install folder under Eclipse

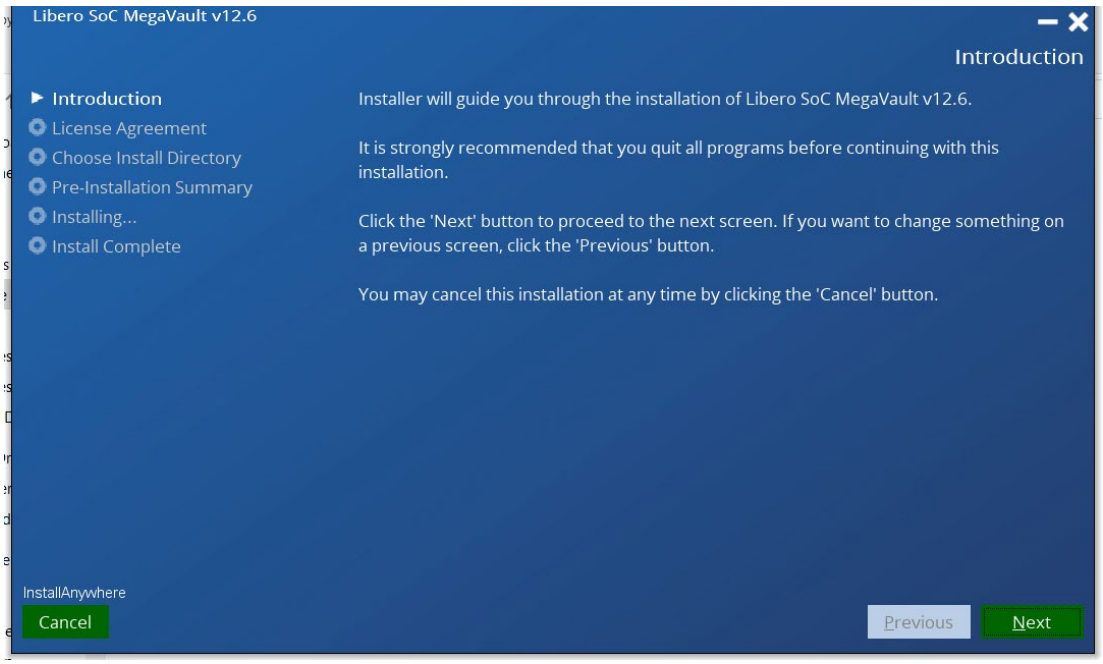




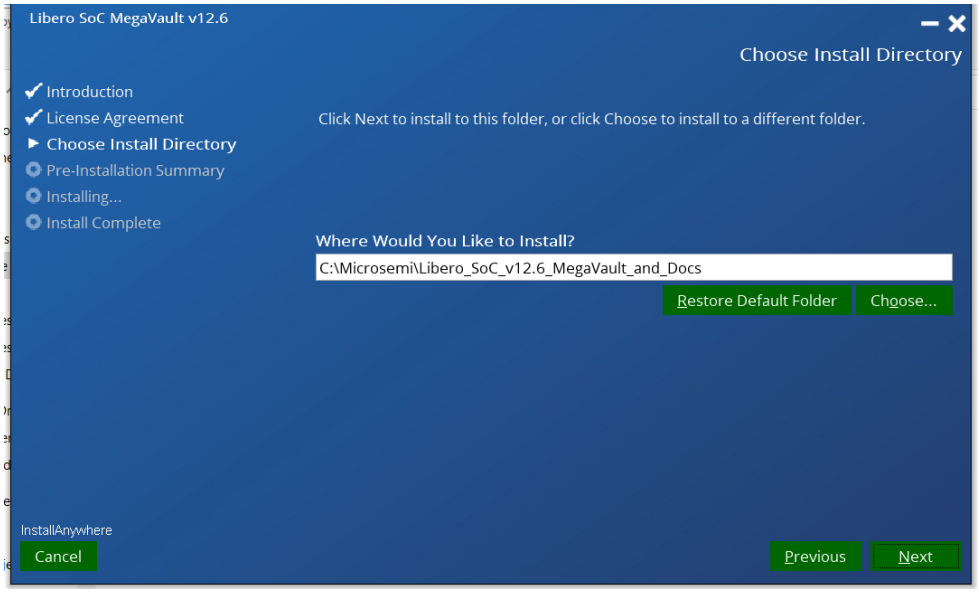
6. IP Vault Installation and Setup

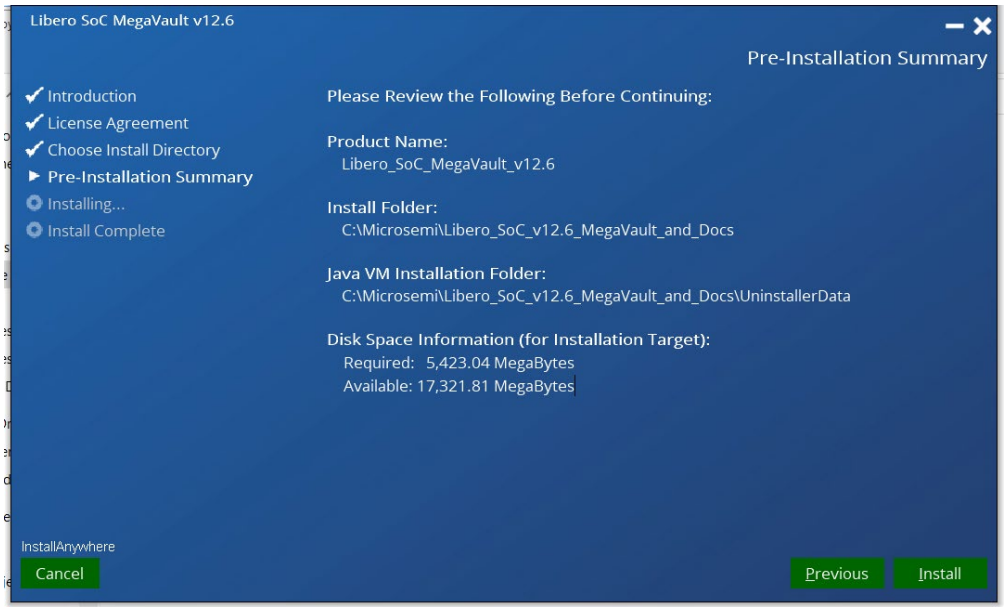
Run the MegaVault installer:





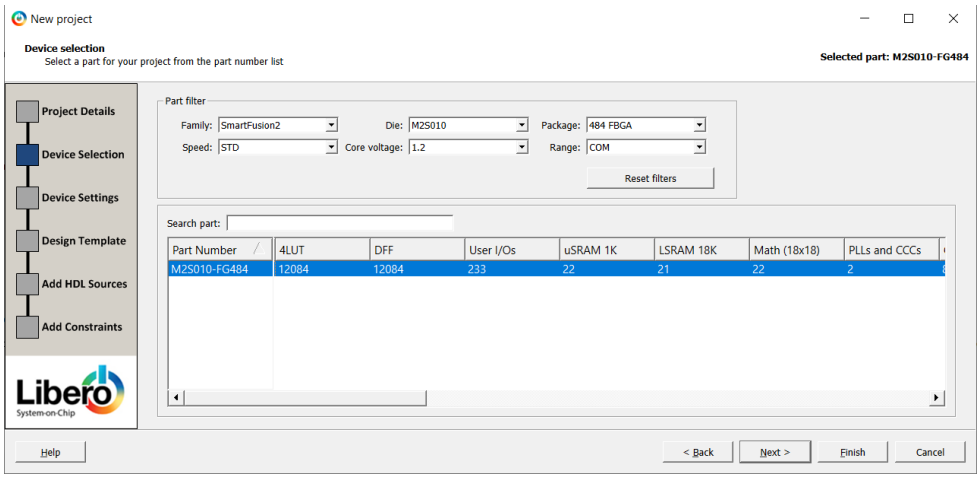
Click through, and install into the default directory.



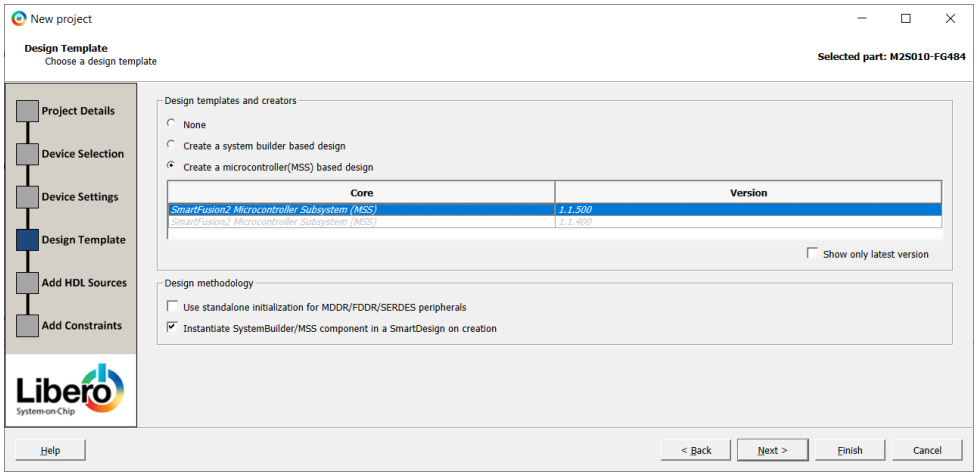


Setup the Vault. Once Libero SoC is installed, open the software and create a new project. The details of an example project are below. ***Ensure system builder option is chosen.***

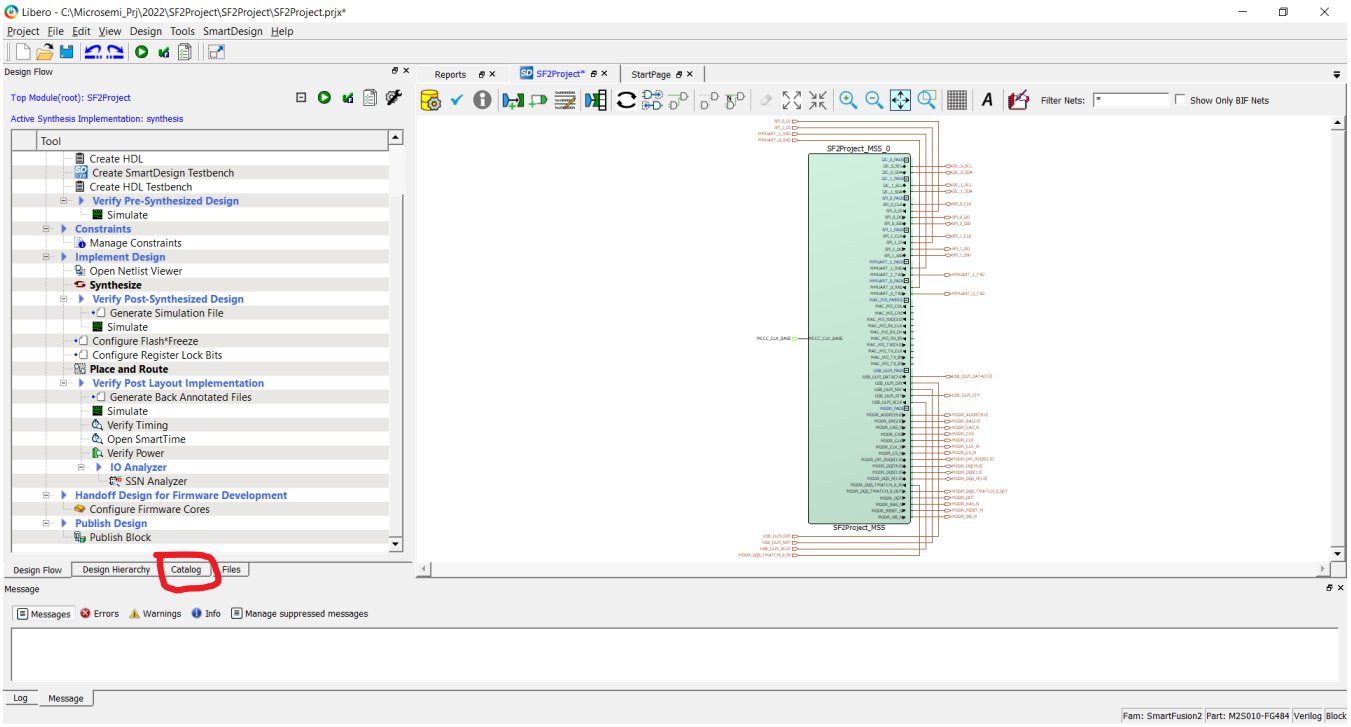
Enter a name for the project. Then choose a SmartFusion2 device:



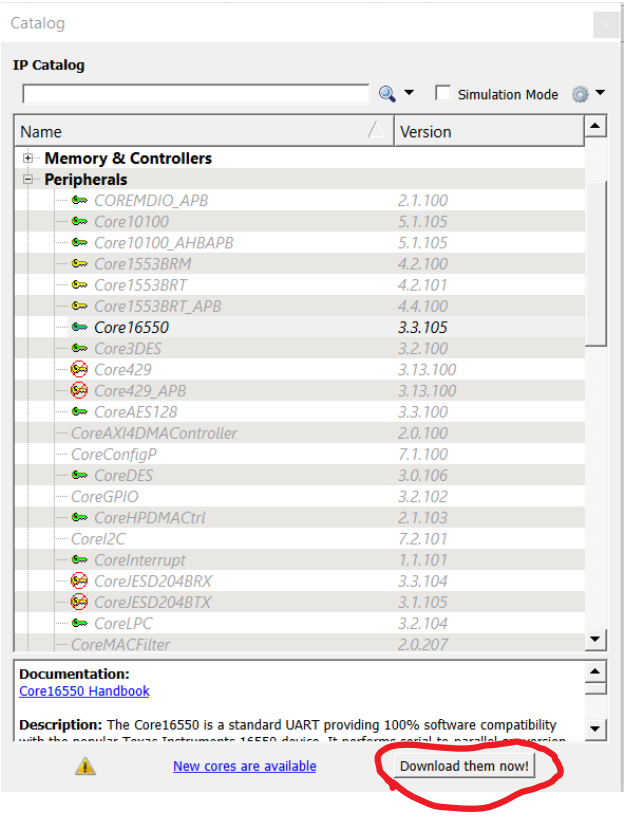
Click next through all sections using default settings, except select Create a MSS Design.



Once finished, you have a SmartFusion2 SmartDesign seen below. You will need to right click on the MCCC_CLK_BASE signal on the center left of the MSS component and promote it to the top-level. Check to assure that all signals are at the top level showing connections to pins.

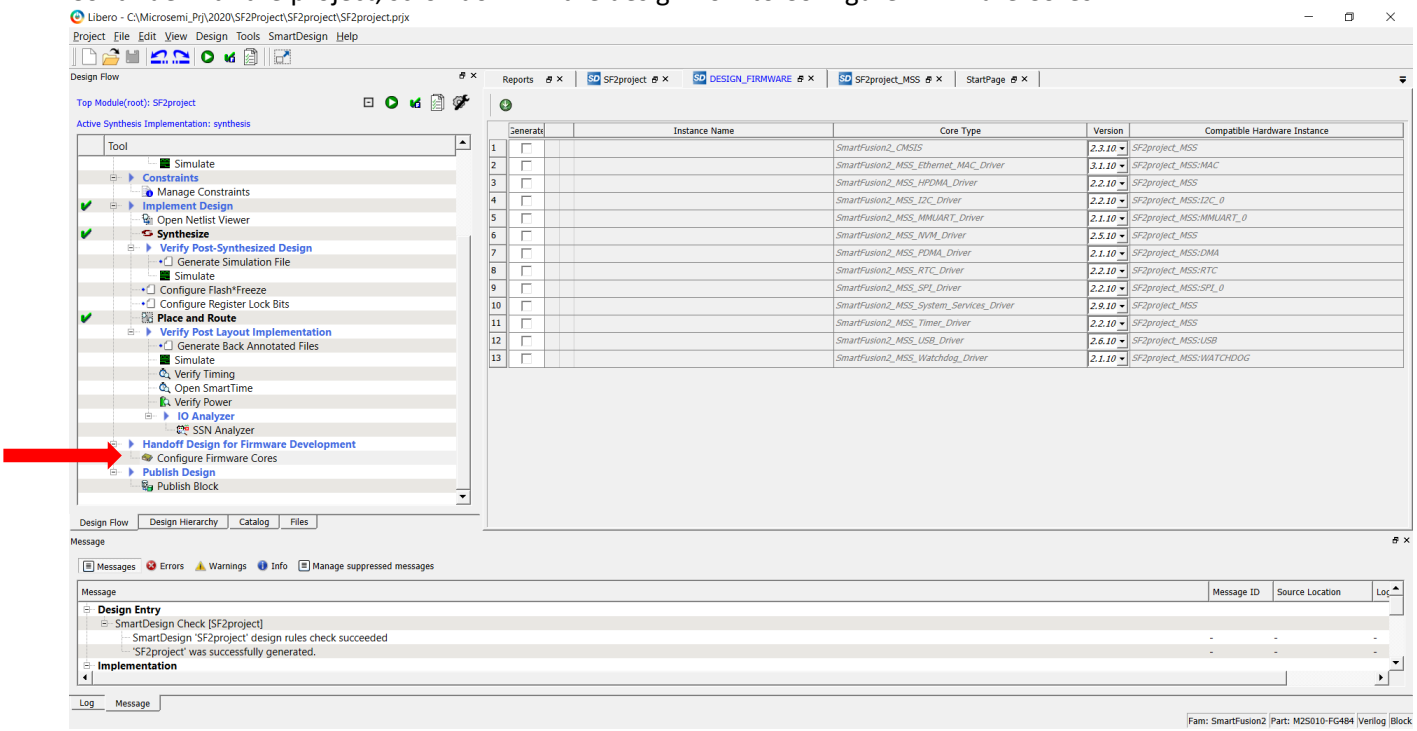


In the catalog section, ensure all of the newest cores have been downloaded.
If your cores are listed in grey italics, then that indicates that you need to download them. Click on Download them now.

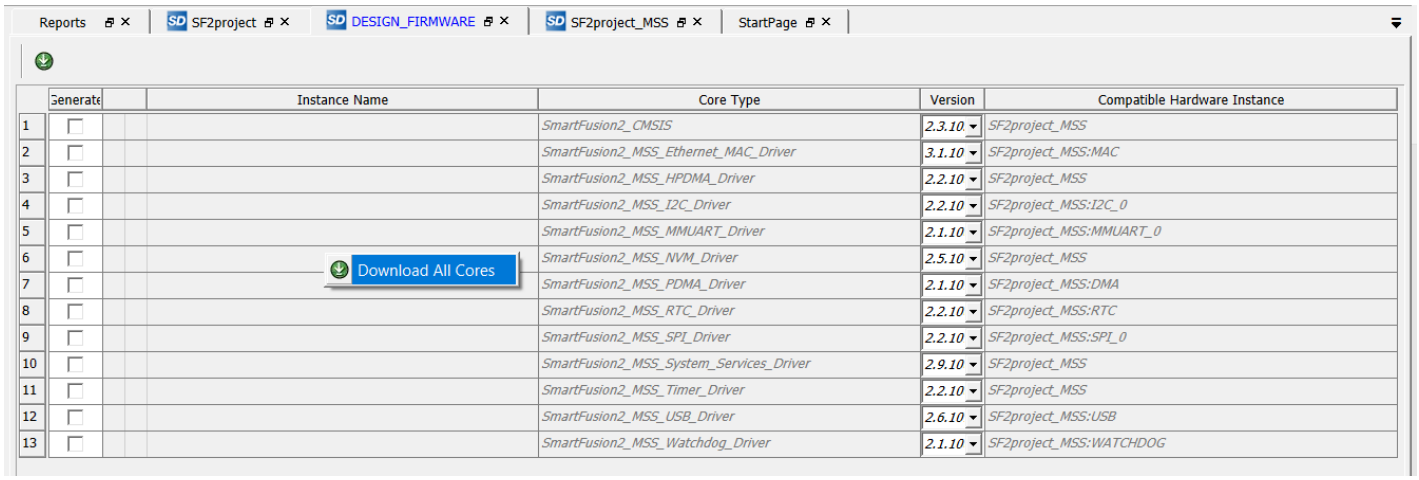


7. Firmware Catalog Setup

Continue with the project, scroll down in the design flow to Configure Firmware Cores:

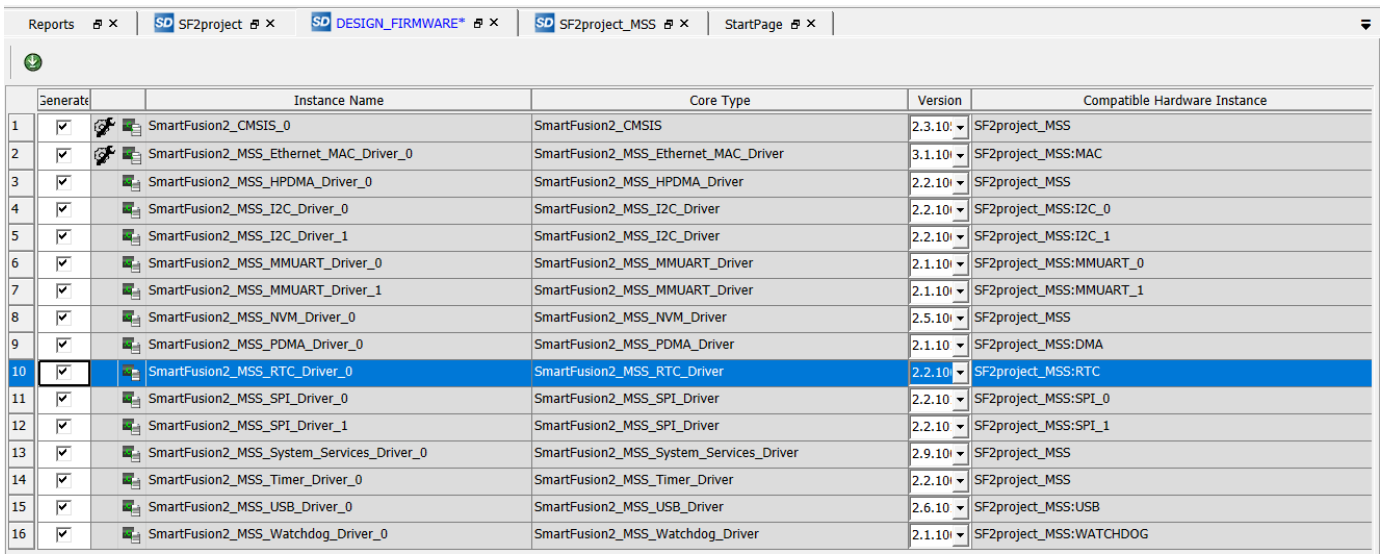


In Design firmware window, right click to download all cores



	Generate	Instance Name	Core Type	Version	Compatible Hardware Instance
1			SmartFusion2_CMSIS	2.3.10	SF2project_MSS
2			SmartFusion2_MSS_Ethernet_MAC_Driver	3.1.10	SF2project_MSS:MAC
3			SmartFusion2_MSS_HPDMA_Driver	2.2.10	SF2project_MSS
4			SmartFusion2_MSS_I2C_Driver	2.2.10	SF2project_MSS:I2C_0
5			SmartFusion2_MSS_MMUART_Driver	2.1.10	SF2project_MSS:MMUART_0
6			SmartFusion2_MSS_NVM_Driver	2.5.10	SF2project_MSS
7			SmartFusion2_MSS_PDMA_Driver	2.1.10	SF2project_MSS:DMA
8			SmartFusion2_MSS_RTC_Driver	2.2.10	SF2project_MSS:RTC
9			SmartFusion2_MSS_SPI_Driver	2.2.10	SF2project_MSS:SPI_0
10			SmartFusion2_MSS_System_Services_Driver	2.9.10	SF2project_MSS
11			SmartFusion2_MSS_Timer_Driver	2.2.10	SF2project_MSS
12			SmartFusion2_MSS_USB_Driver	2.6.10	SF2project_MSS:USB
13			SmartFusion2_MSS_Watchdog_Driver	2.1.10	SF2project_MSS:WATCHDOG

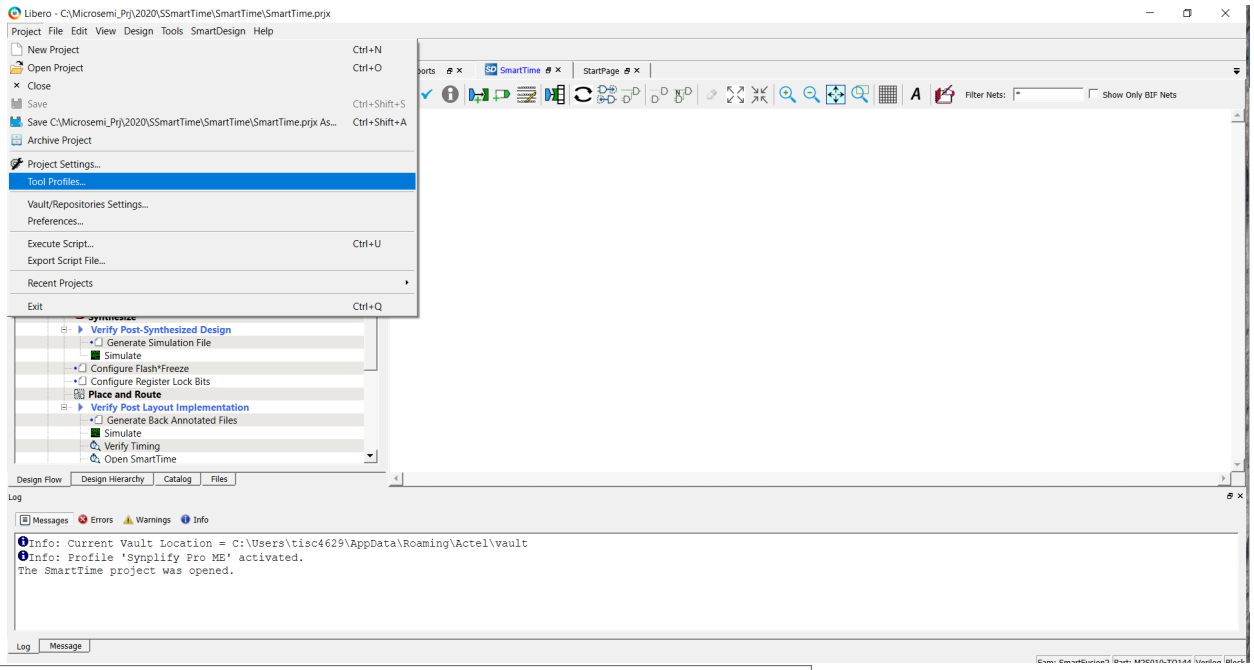
When done, the Cores should no longer be grayed out.

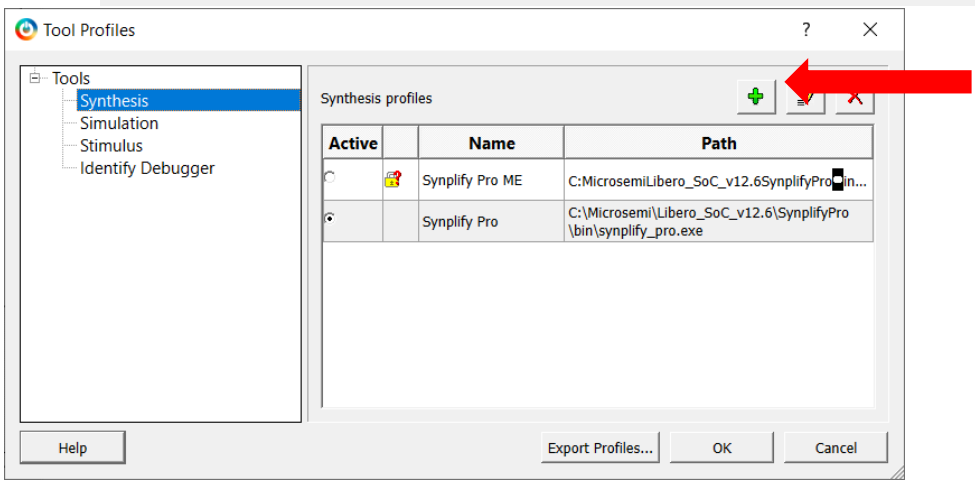


	Generate	Instance Name	Core Type	Version	Compatible Hardware Instance
1	✓	SmartFusion2_CMSIS_0	SmartFusion2_CMSIS	2.3.10	SF2project_MSS
2	✓	SmartFusion2_MSS_Ethernet_MAC_Driver_0	SmartFusion2_MSS_Ethernet_MAC_Driver	3.1.10	SF2project_MSS:MAC
3	✓	SmartFusion2_MSS_HPDMA_Driver_0	SmartFusion2_MSS_HPDMA_Driver	2.2.10	SF2project_MSS
4	✓	SmartFusion2_MSS_I2C_Driver_0	SmartFusion2_MSS_I2C_Driver	2.2.10	SF2project_MSS:I2C_0
5	✓	SmartFusion2_MSS_I2C_Driver_1	SmartFusion2_MSS_I2C_Driver	2.2.10	SF2project_MSS:I2C_1
6	✓	SmartFusion2_MSS_MMUART_Driver_0	SmartFusion2_MSS_MMUART_Driver	2.1.10	SF2project_MSS:MMUART_0
7	✓	SmartFusion2_MSS_MMUART_Driver_1	SmartFusion2_MSS_MMUART_Driver	2.1.10	SF2project_MSS:MMUART_1
8	✓	SmartFusion2_MSS_NVM_Driver_0	SmartFusion2_MSS_NVM_Driver	2.5.10	SF2project_MSS
9	✓	SmartFusion2_MSS_PDMA_Driver_0	SmartFusion2_MSS_PDMA_Driver	2.1.10	SF2project_MSS:DMA
10	✓	SmartFusion2_MSS_RTC_Driver_0	SmartFusion2_MSS_RTC_Driver	2.2.10	SF2project_MSS:RTC
11	✓	SmartFusion2_MSS_SPI_Driver_0	SmartFusion2_MSS_SPI_Driver	2.2.10	SF2project_MSS:SPI_0
12	✓	SmartFusion2_MSS_SPI_Driver_1	SmartFusion2_MSS_SPI_Driver	2.2.10	SF2project_MSS:SPI_1
13	✓	SmartFusion2_MSS_System_Services_Driver_0	SmartFusion2_MSS_System_Services_Driver	2.9.10	SF2project_MSS
14	✓	SmartFusion2_MSS_Timer_Driver_0	SmartFusion2_MSS_Timer_Driver	2.2.10	SF2project_MSS
15	✓	SmartFusion2_MSS_USB_Driver_0	SmartFusion2_MSS_USB_Driver	2.6.10	SF2project_MSS:USB
16	✓	SmartFusion2_MSS_Watchdog_Driver_0	SmartFusion2_MSS_Watchdog_Driver	2.1.10	SF2project_MSS:WATCHDOG

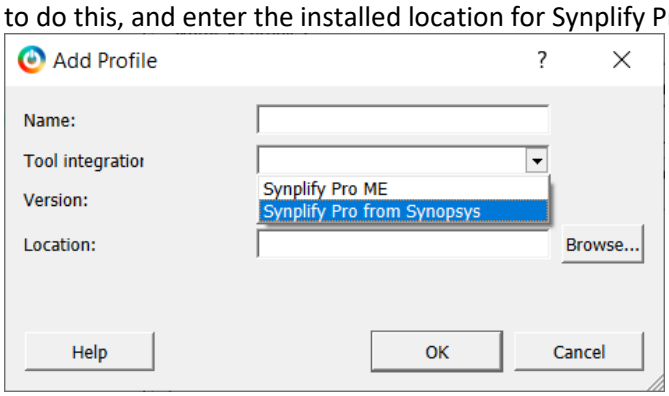
8. Configure Synplicity and ModelSim

The path for the Synplify synthesizer and ModelSim simulator may need to be updated. If so in Libero select Project -> Tool Profiles:

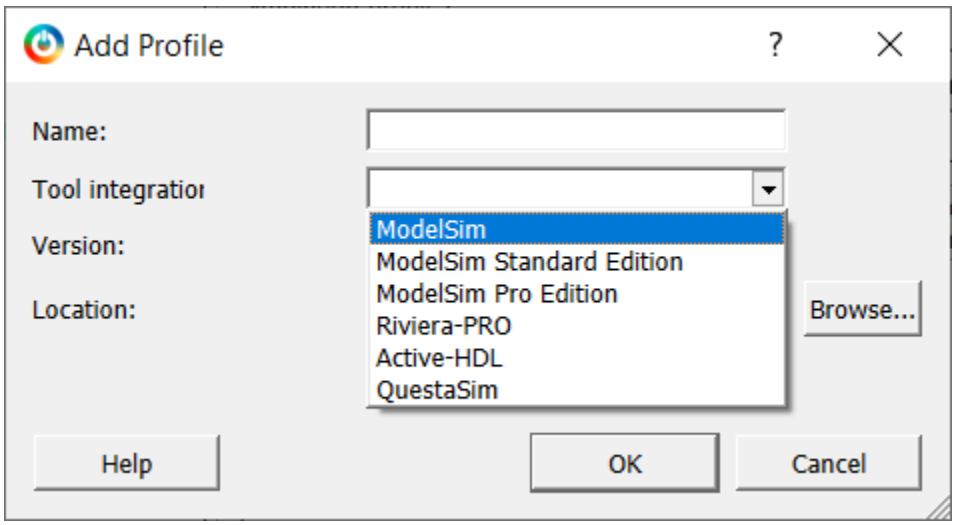


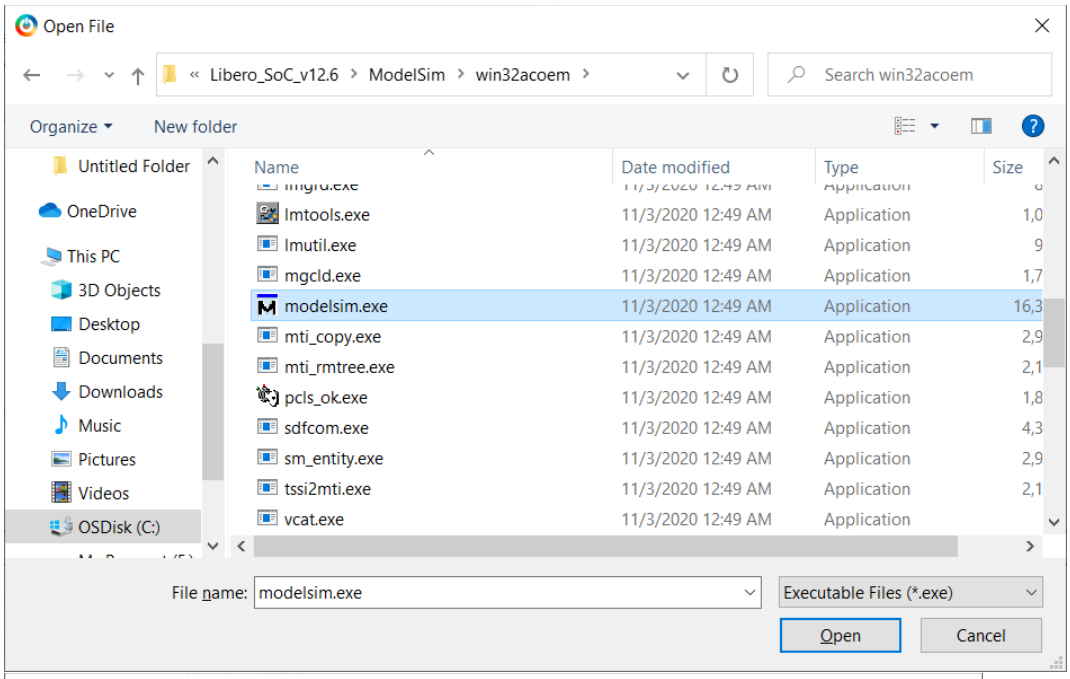


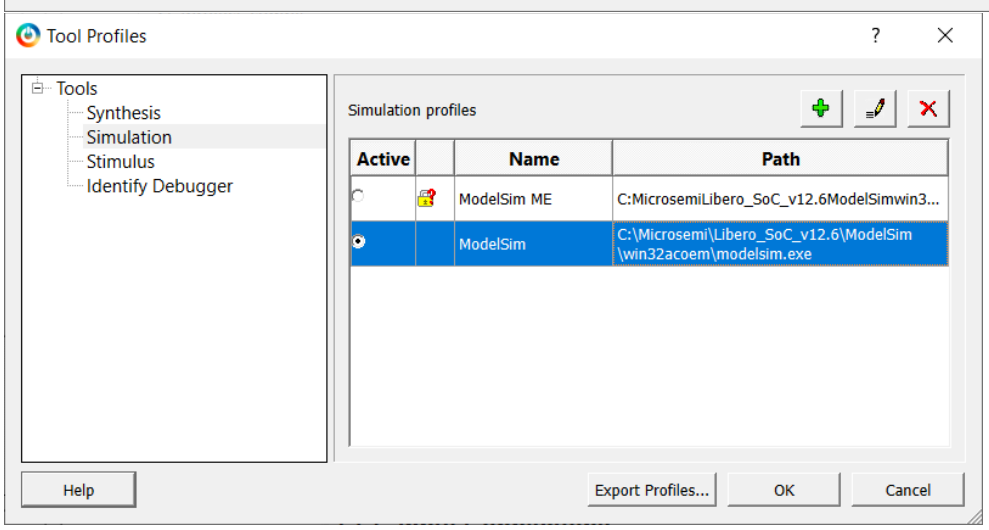
Here you may need to add a profile to the list and make it active, as shown above. Click on the green plus sign to do this, and enter the installed location for Synplify Pro:



Do the same for ModelSim:


Add Profile
?
Name:
Tool integratio
Version:
Location:
ModelSim
ModelSim Standard Edition
ModelSim Pro Edition
Riviera-PRO
Active-HDL
QuestaSim
Browse...
Help
OK
Cancel





You are done, and ready to design new systems on a chip using Libero!