Software Installation Guide

For

Microsemi-Arrow Everest Workshop

Version 1.4

May 2018

Contents

1. Software Install Overview

The Microsemi-Arrow Everest Workshop has various different self-contained workshops. The workshop labs which are the Introduction to Libero, RISC-V, JESD204B, and the Low Power lab, use the Microsemi Software, Libero Soc PolarFire Design Suite. Libero SoC PolarFire Design Suite with its comprehensive development tools, integrates Synplify Pro Me Synthesis, ModelSim simulation, programming and debugging capabilities.   The RISC-V lab uses the SoftConsole.

This software guide describes how to download and install the Libero SoC PolarFire Design Suite, SoftConsole and Software GUI needed for the workshops. Each of the step by step workshops then describe how to use the software and the reasons for the step by steps.

Downloading and installing the software ahead of workshop day takes some time (internet speed does affect the download). However, having the software ready allows time during the workshop day to work on the workshops themselves.

➔   Is the symbol used in this Guide show the steps to be followed.

No hardware such as dev board preparation is needed because the development boards will be provided in the workshop.

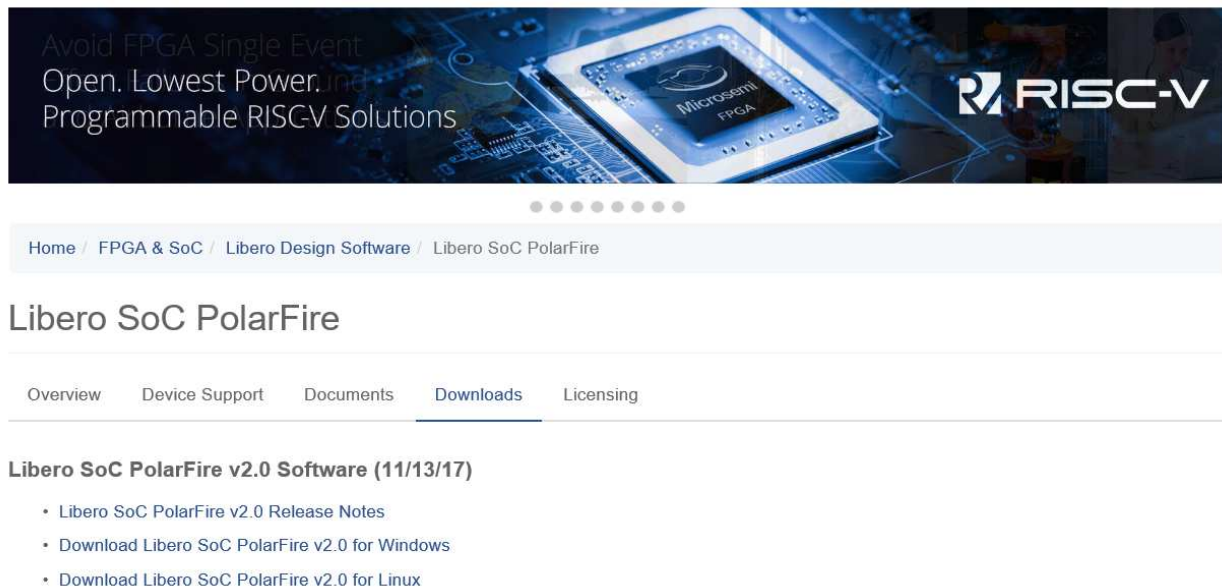# 2.0 Libero SoC PolarFire Software

First, the Libero SoC PolarFire Design Suite software will be downloaded and installed. Later in this guide, the timing GUI will be downloaded and installed.

2.1 Downloading Libero

➔ Go to the Microsemi Libero Soc PolarFire Design Suite website at:

https://www.Microsemi.com/products/fpga-soc/design-resources/design-software/libero-soc-polarfire#downloads
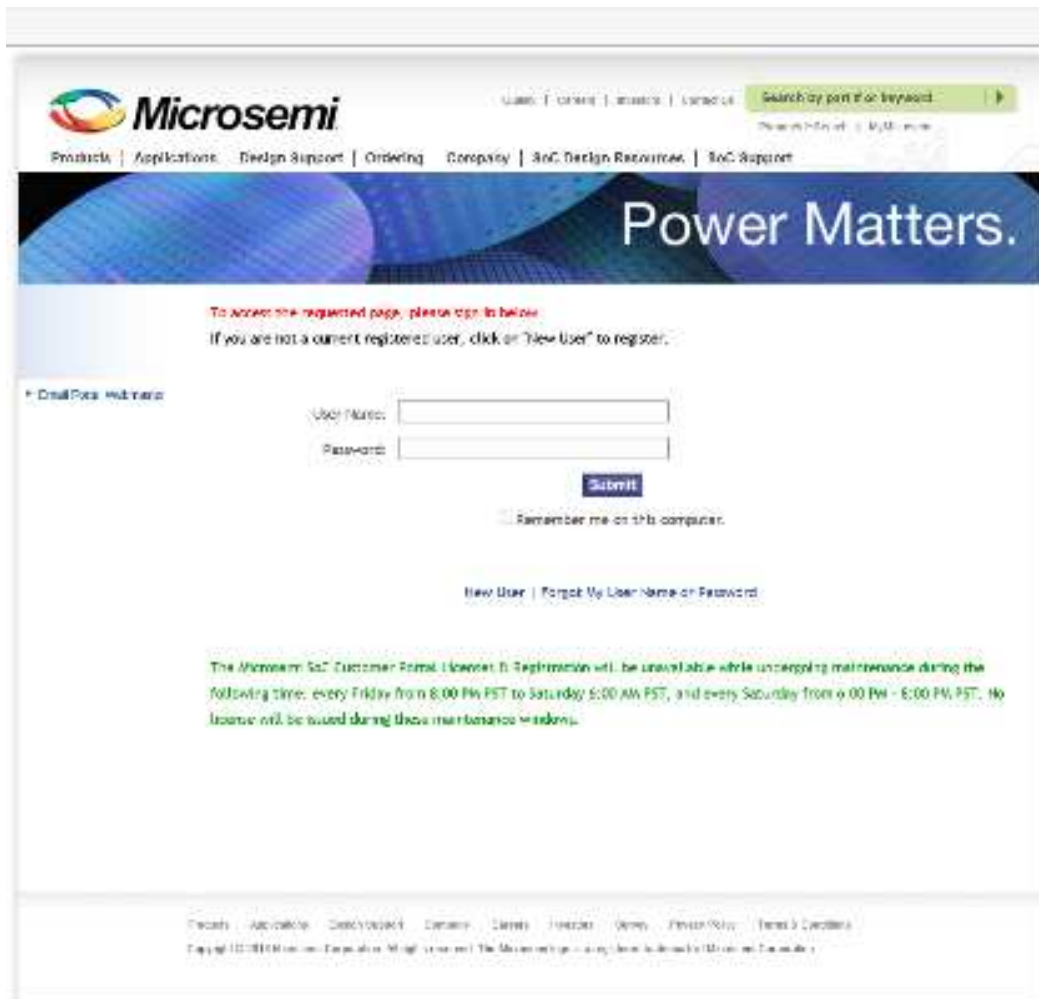
where there is a Download section that states:

➔ Select the

Download Libero SoC PolarFire v2.0 for Windows

These workshops were only tested with Windows based computers. The Linux version should also work, but that version was not tested. The labs were tested with the latest version of Libero SoC PolarFire v2.0.

It will then bring up the access request page as:

➔ If you are not a registered user of Microsemi SoC portal, select the New User, where a new Window will appear.

If you already have a User Name and Password, you can skip the next few steps and re-start the steps again where you enter the User Name and Password.

➔ Enter your email address

➔ Select Submit

   A new window will now appear to create your profile.

Microsemi

Search by part # or keyword

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Power Matters.

Please create a User Name and Password for your new Customer Portal account. Your password must be at least 5 characters long. Fields marked with an asterisk * are required.

▸ Email Portal Webmaster

User Name:	*
New Password:	*
Confirm New Password:	*

Please provide the following contact information.

Please provide the following contact information. Fields marked with an asterisk * are required to complete the registration process.

Email Address:	test@testmicrosemi.com *
Salutation:	
First Name:	*
Last Name:	*
Job Function:	*
Company:	*
Address 1:	*
Address 2:	
City:	*
U.S. States:	None *
State/Province (Intl):	
Postal Code:	*
Country:	*
Phone Number:	*

(+Country Code Area/City Code Phone Number #Extension)

Market Segment:	*

Submit

Products   Applications   Design Support   Company   Careers   Investors   Survey   Privacy Policy   Terms & Conditions

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➔ Fill out the information that is required with the asterisks such as your User Name, Password, Name and more. (As expected, the email address in your screen will show your email address not this one).

➔ Select Submit

➔ To now access Libero SoC access page, re-select the weblink:

https://soc.Microsemi.com/portal/default.aspx?r=3&p=f=LiberoSoC_PolarFire_v2_WIN

where the page is:

➔ Enter your created User Name and Password

➔ Select Submit

The .zip file for the Libero SoC PolarFire will then be able to be downloaded, as seen below.

HTTP:

Site 1: Download Libero SoC PolarFire v2.0 (Windows) (ZIP)
MD5: 3f5ca66f76b03bc176fd48b72aa25b56
Instructions for Installation†
◦ Ensure that you have at least 12GB free on your hard drive
◦ Download the EXE file from the above link
◦ Execute "Setup.exe" in the extracted folder

If you experience any problems downloading Microsemi's software, please send an email to webfeedback@microsemi.com.

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➔ Select the .zip file.
Depending on the version of Browser that you are using, you may need to double-click the file to get different options of Open, Save or Save As option.   Other Browsers may show this differently.

Internet Explorer   ✕

What do you want to do with Libero_SoC_PolarFire_v2.0_WIN.zip?

From: download-soc.microsemi.com

→ **Open**
The file won't be saved automatically.

→ **Save**

→ **Save as**

Cancel
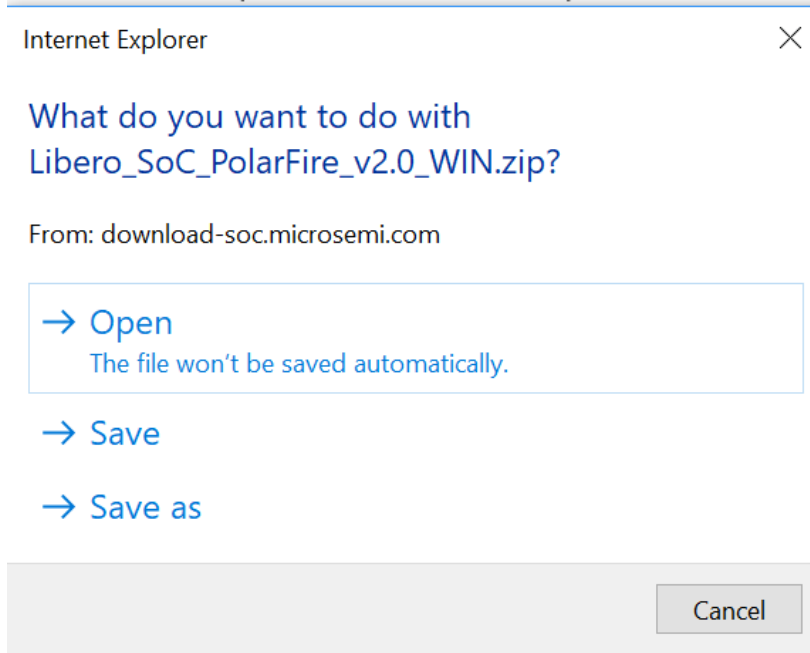
➔ Select Save As.
(On one version of Internet Explorer, the Save As rather than Save was needed to be used to save the file to the computer.)

➔ Save the file to a directory on the computer. As an example, a new directory was created as \<computer drive\>/download/Microsemi (this is the directory that is used in the following screenshots) and the file was saved here, such as seen here

Save As   ✕

← → ∨ ↑ 📁 > This PC > DATAPART1 (D:) > download > MicroSemi   ∨ ↻   Search MicroSemi   🔍

File name: Libero_SoC_PolarFire_v2.0_WIN   ∨

Save as type: Compressed (zipped) Folder   ∨

∨ Browse Folders   Save   Cancel
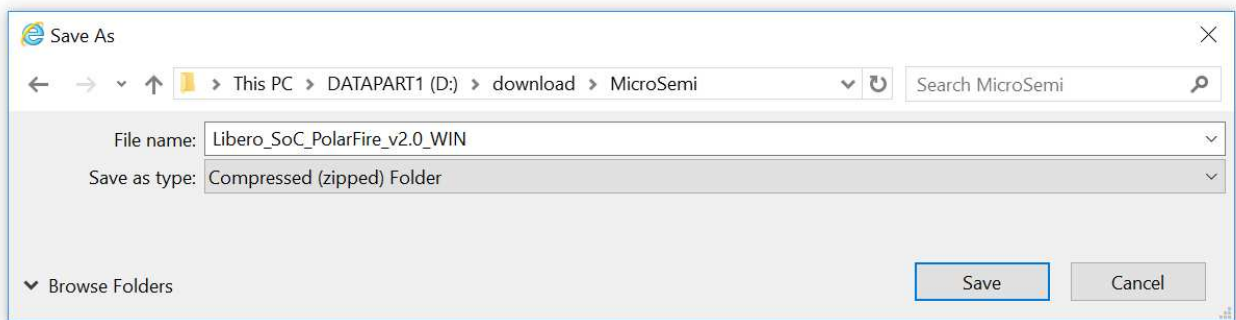
➔ Select Save

The download takes a little while. The download speed depends on the internet speed. However, on a relatively fast internet connection it takes less than 10 minutes to download the .zip file.

You should see the time remaining in a message box at the bottom of the page.

47% of Libero_SoC_PolarFire_v2.0_WIN.zip downloaded   4 min 2 sec remaining   Pause   Cancel   View downloads   ✕

Note: On the off chance, you do not see the time remaining counting down, or if you scroll to your download directory, and it only shows only a partial download of 0 KB (and this number does not change in a minute or two) re-select the .zip file again, and select Save As, and Save the file again.

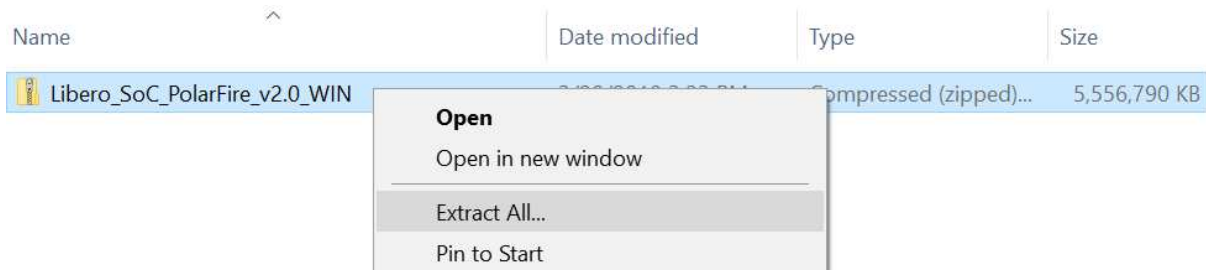Once the file is downloaded, there will be a message that states:

The Libero_SoC_PolarFire_v2.0_WIN.zip download has completed.	Open ▼	Open folder	View downloads	×

2.1 Installing Libero

Once the file is downloaded, the next step is to install the file.

➔

➔ Scroll on your computer to the download directory of <computer drive>/download/Microsemi and then right-click on the file: Libero_SoC_PolarFire_v2.0_WIN

Name ^	Date modified	Type	Size
Libero_SoC_PolarFire_v2.0_WIN		Compressed (zipped)...	5,556,790 KB

Open
Open in new window

Extract All...
Pin to Start

➔ Select Extract All.

This will extract the .zip files to your computer so that the .exe file can be run.

➔ As for the directory, select the same computer drive>/download/Microsemi (It could be other directories as well if you desire, but this document assumes the same directory)
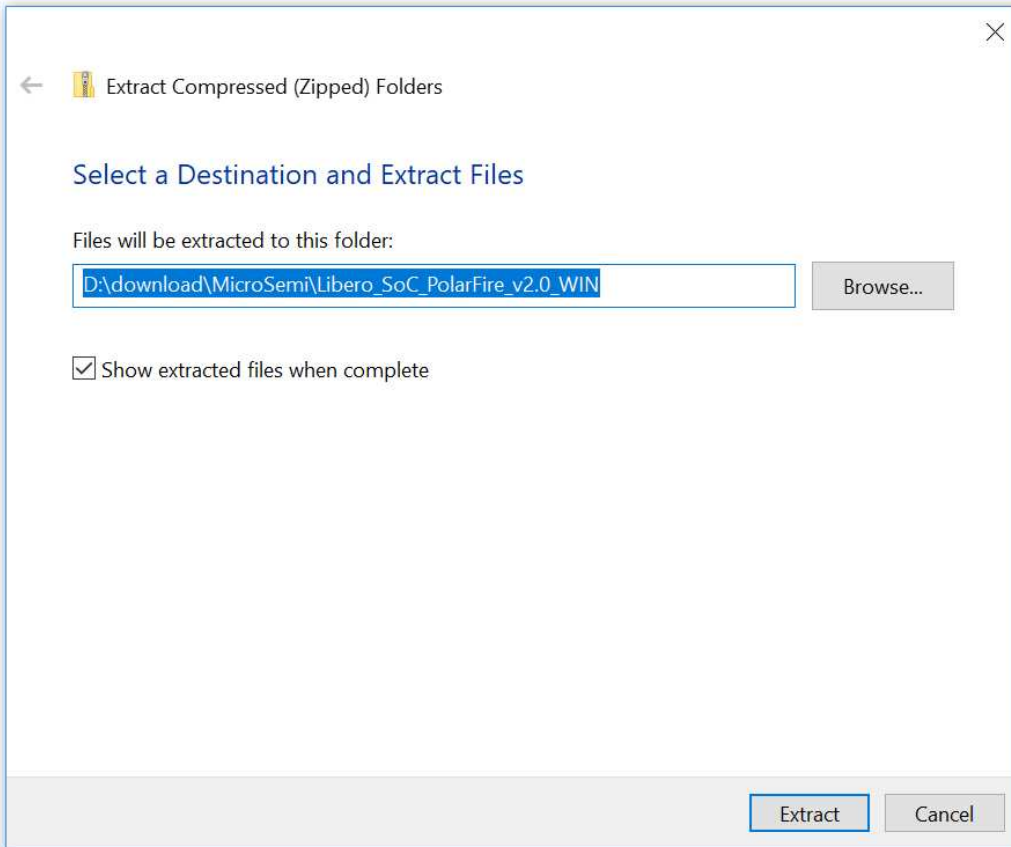
→ Select Extract

Extracting the .zip file should take about 1 minute or even less.

The next step is to install the software.

→ Go to the computer directory <computer drive>/download/Microsemi, where there will be in addition to the .zip file, the unzipped version directory.

→ Within the unzipped version scroll down the Libero_SoC_v2.0_Win/Libero_SoC_PolarFire_v2.0_Win as there will be many files. The file to look for is a Setup file. There will be two of them-one is an application (a large file with the size of 134 MB) and one is very small setting configuration file. The configuration file will not be used.

→ Click on the Setup file that is the Application file. This file is a 134 MB in size.

Depending on your computer, you may see a window that states:

    Do you want to allow this app to make changes to your device?

→ If this window is seen, Select Yes

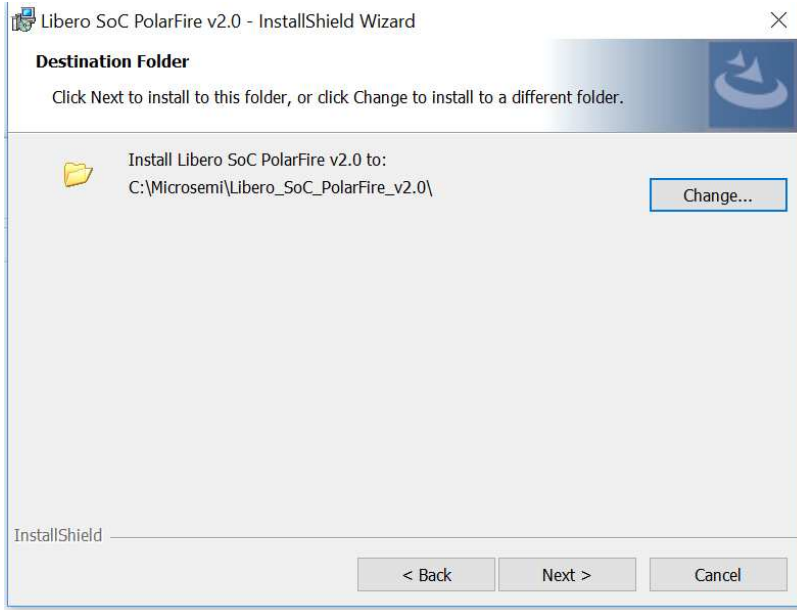There will now be the InstallShield Wizard, which installs the software.

➔ Select Next

After carefully reading the terms of the agreement,
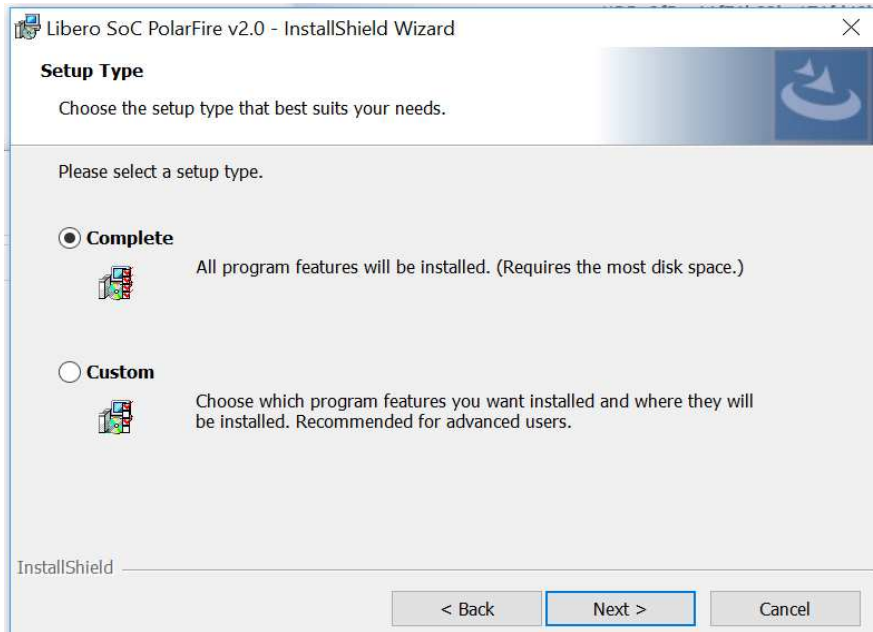
➔ Select I accept the terms in the license agreement

➔ Select Next

Depending on the space on the computer, select a drive and directory to install the software, i.e. in the c:\Microsemi directory.
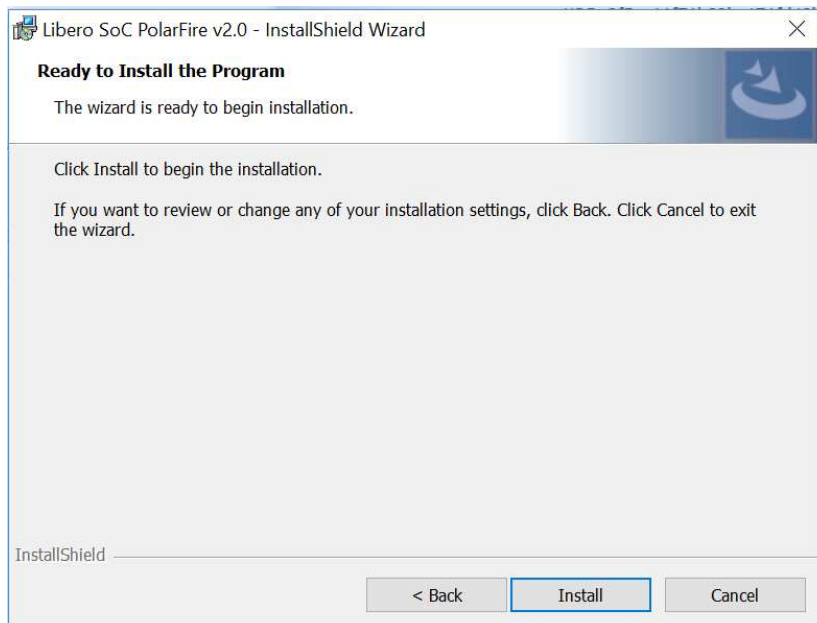
➔ Select Next

There will be a window for the Setup Type as:

➔ Select Complete (which is the default).   This will ensure all the features for the workshop are installed.
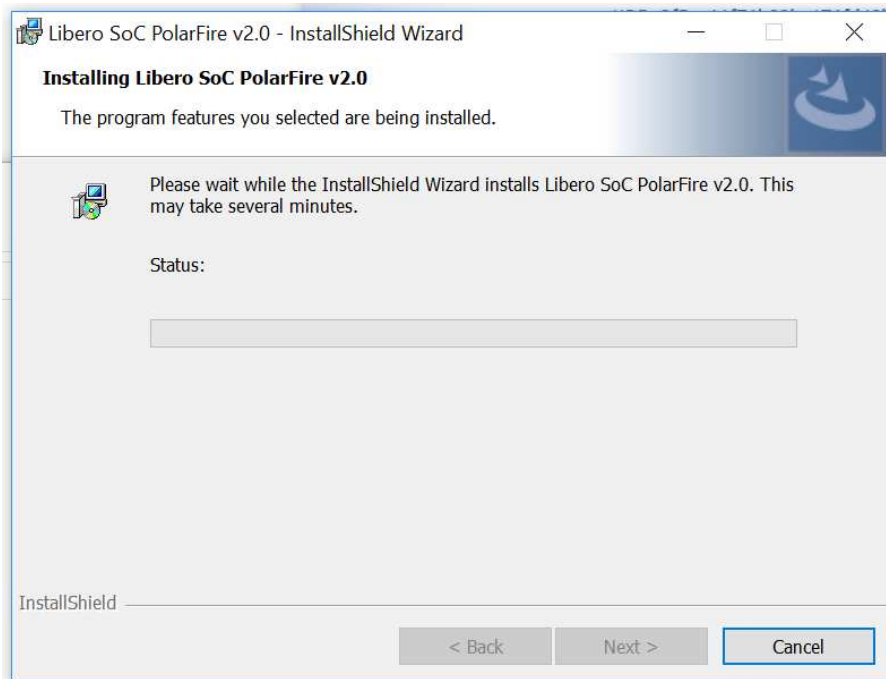
➔ Select Next

There will be a Window Ready to Install the Program as seen:

➔ Select Install

It will then have a window that show that it is installing. This window shows just before it started installing. It will take only a few minutes to install (ie copying files, etc)

Upon completion, the new window will state the Libero SoC PolarFire v.20 is installed.

➔ Select Finish.

There will be now a Libero Soc PolarFire v.20 Icon on the Computer as well as in the Start -> Program window.

The workshop material will explain how to use the software.

3.0 Licensing

Before the Libero software can be used, it needs to be licensed. Since this is for a PolarFire workshop, there is a PolarFire (Gold) license for the Workshop. It is a time-limited yet full version.

To generate the free evaluation license, go to the website:

https://www.microsemi.com/product-directory/licensing/4890-evaluation-license and select the Generate Free Evaluation license as seen below:

Evaluation License

Overview

Evaluation license is a free license which enables you to evaluate your design and also provides access to all the reference designs. Validity of this license is for 60 days and is available with Libero SoC PolarFire, Libero SoC v11.8 and subsequent releases. Evaluation license supports mixed language simulation with out programming(including generate programming) and debug features.

Generate your FREE Evaluation License
Evaluation license supports individual (Disk ID node locked) and Network (floating) license

➔ Enter the User Name and Password and select Submit

➔ Select Click Here to Continue as per below

➔ Answer the 3 question survey
➔ Select the Request Free License as below

➔ There will be a new window that appears that gives options for the licenses as below.

License Descriptions

View the complete list of available license options before making your selection.

Libero license options are changing as indicated in Customer notification CN17012. These changes will take effect with Libero v11.8 due for release beginning of March.

The following Evaluation and Silver licenses support Libero SoC PolarFire, Libero SoC v11.8, and above versions only. Libero IDE v9.2 SP3, Libero SoC v11.7 SP3 and lower versions do not support Evaluation and Silver licenses. If you are using one of these Libero IDE or Libero SoC versions, you need to purchase Gold, Platinum or Standalone license. To know the ordering part number of the Libero license, refer the Licensing page.

- PolarFire Seminar Node Locked License for Windows PC

- Libero 60 days Evaluation Floating License for Windows or Linux Server
- Libero 60 days Evaluation Node Locked License for Windows

Free 1 Year Licenses

- Libero Silver 1 Year Floating License for Windows/Linux
- Libero Silver 1 Year Node-lock License for Windows
- Synopsys Synphony Model Compiler ME. Requires MATLAB/Simulink from Mathworks.

➔ Select the PolarFire Seminar Node Locked License for Windows PC

➔ Enter your DISK ID (where this can be found by selecting how to find a DiskID) and select Submit as

PolarFire Seminar license for Windows PC

Your Disk ID is an 8 character hexadecimal number set with valid characters A-F and/or 0-9 in groups of 4 separated by "-". Ex: "A085-AFE9". The DiskID of the C:\ Drive must be used even if the software is installed on another drive. Remote Desktop is not supported.

DiskID

How to find a DiskID

Submit   Clear

➔ The node locked software license states should arrive via email within 45 minutes.   However, it can come as fast as just as in a minute or two.

➔ Within the email there will be the details on how to install the license file.

3. SoftConsole

SoftConsole, which is a flexible and easy to use graphical user interface, is a free software development environment for rapid software development and debug.   It is based on Eclipse-based IDE. It allows configuration of project settings, and editing and debugging software. SoftConsole supports simultaneous access to multiple windows and quick switching to editing and debug views. SoftConsole is used for RISC-V as well as other Microsemi supported processors.

➔ Download the SoftConsole from

https://www.Microsemi.com/product-directory/design-tools/4879-softconsole#downloads

Version 5.2 is the version that will be used with the labs.

SoftConsole

Overview   Documents   Downloads

SoftConsole v5.2 Release (11/24/2017)

· Must read SoftConsole v5.2 Release Notes before working with software
· SoftConsole v5.2 Download for Windows
· SoftConsole v5.2 Download for Linux

➔ Select SoftConsole v5.2 Download for Windows (Linux should also work, but it was not tested with Linux)

➔ Enter the User Name and Password previously created (for the Libero Software download)

➔ Select Submit

The file will be shown here
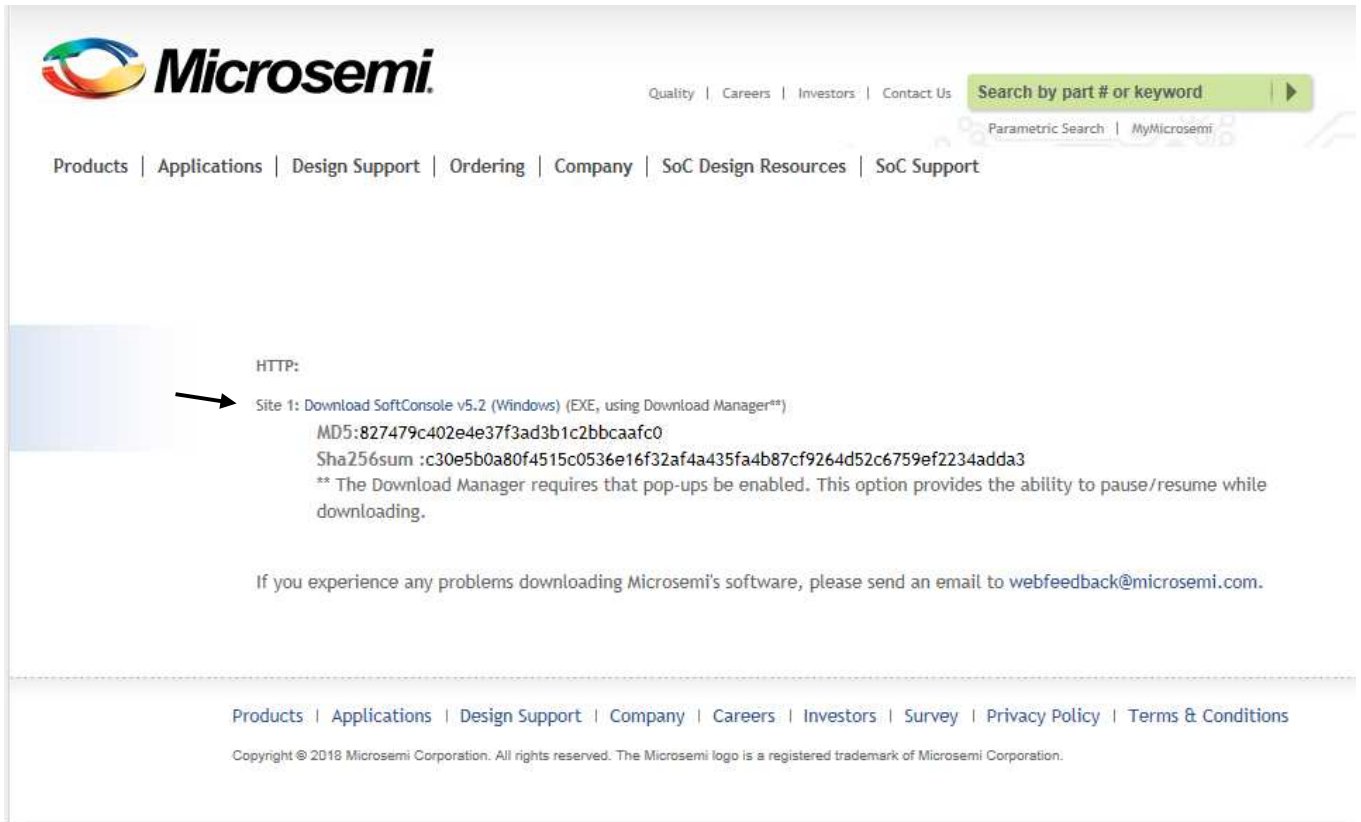
➔ Select in the blue text the Download SoftConsole v5.2 (Windows).

There will be a window that states:

➔ Select Save

➔ It will take a while to download. The time does depend on the internet speed.

➔ After the file is downloaded, scroll to the directory on the computer, where the file is downloaded, and select the Microsemi-SoftConsole-v5.0.0.15-Windows-Installer.exe file. This is an exe file that will install the SoftConsole v5.2 onto your computer.
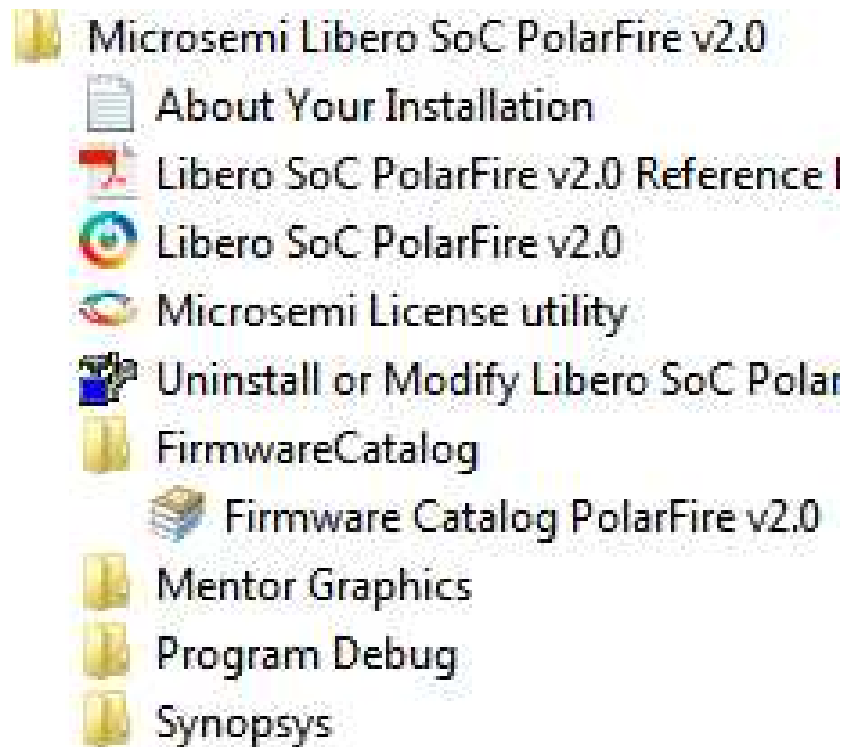
➔ Use all the default settings.

➔ Select Finish upon completion.

4.0 Firmware Catalog

As the workshop material use configurable IPs the IPs need to be installed for the first time use.

➔ To do so, select the Windows -> Start Menu and select All Programs -> and expand the Libero SoC PolarFire v2.0, as seen:

➔ Select Firmware Catalog PolarFire v2.0 and wait until it opens. If it does not open, check the bottom of the Windows screen, as it will be probably be minimized at the bottom of the Windows.

➔ If you see a pop-up that asks if you want to update, Select No (or skip the message). The reason is that the workshop material was checked with the previous versions.

➔ The Firmware Catalog will then open.   There will be various tabs ie All, Vault and Web Repositories.

➔ Select the All tab, where there are many IPs, but they are shown as dimmed, as seen below. Dimmed IPs (as seen below) mean that the IPs are not downloaded and thus not usable.

➔ At the bottom of the All tab, select the Download button of:

Download them now!
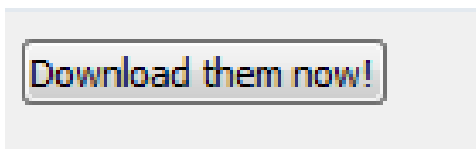
➔ The IPs will start downloading. Depending on the internet speed, this can be only a few minutes.   It will show the number of IPs that it is downloading and the number left to download.

➔ After completion, check the All tab and check that there are many IPs that are no longer dimmed. It may say that that there are newer IP versions available for download, but this is OK, but rather what is being checked is that there are many IPs in black text. (Black text means that the IP can be configured).
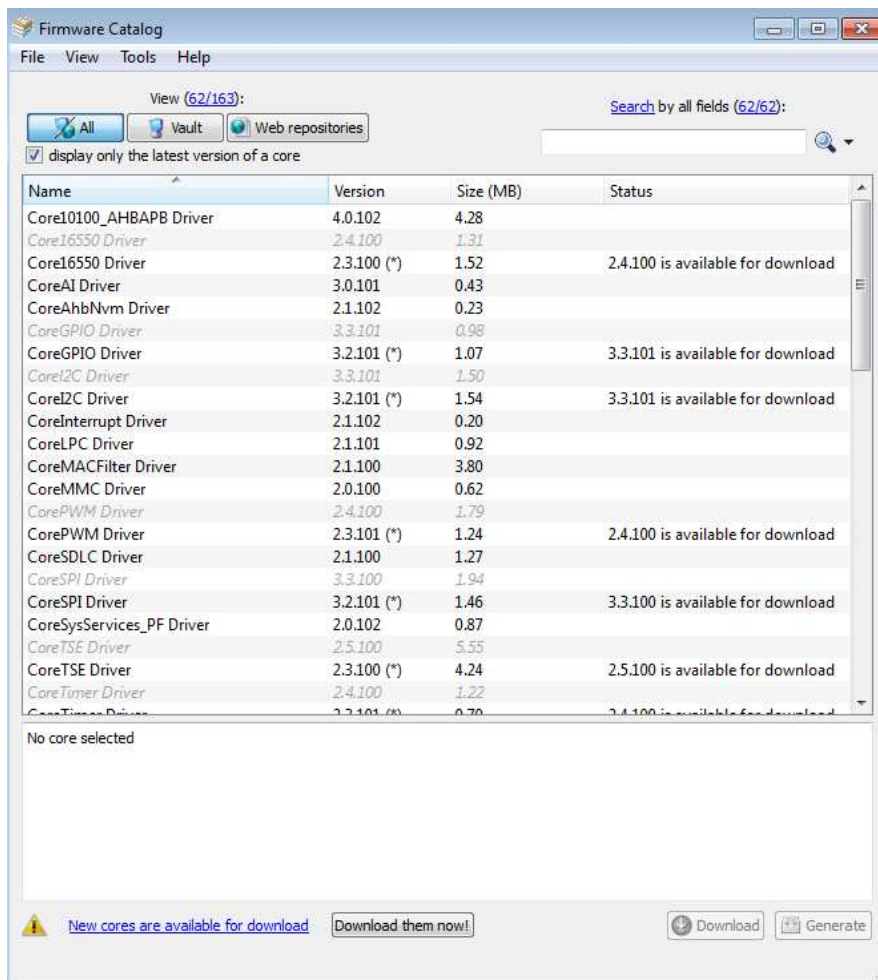
➔ Under the Vault tab, the IPs should be black text.

Tip: However, it is possible that under the Vault tab, the IPs are not listed. This is OK because this means the IPs are not stored locally (ie on the PC). Rather, as long as the IPs are listed under the All tab, they can be used.
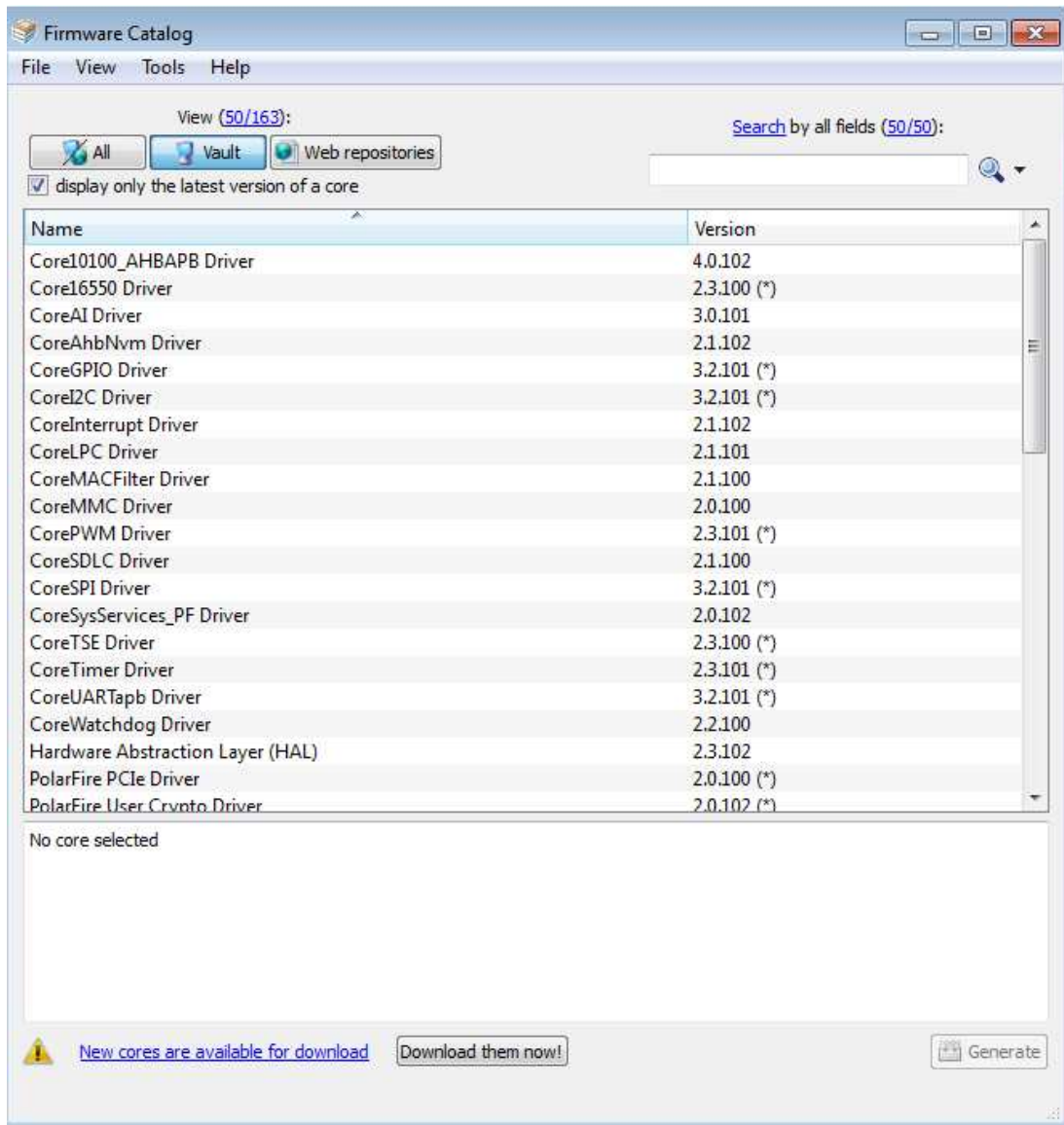
➔ Close the Firmware Catalog.

Congratulations.

You have successfully installed the necessary software for the Microsemi-Arrow Everest workshop.