How to install Libero (and the Softconsole)

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Blog post: https://soceame.wordpress.com/2025/03/09/how-to-install-libero-and-the-softconsole/

Blog: https://soceame.wordpress.com/

GitHub: https://github.com/DRubioG

Last modification date: 09/03/25

This installation method is for Windows (but can also be applied on Linux).

License

To run Libero you need to have a license, for which there are several types of licenses. There are free ones *(Silver license)* and paid ones (the rest, the Gold one on floating node costs about 1350 euros).

Learn More About Our Different License Types

Features	Silver	Gold	Platinum	Platinum Archival[2]
Validity Period	One Year	1/3 Years	1/3 Years	20 Years (No Upgrades)
Device Support	Refer to the Device License Selection Table Below			
DirectCores	Refer to **DirectCores IP Web Page**			
Siemens ModelSim ME Pro	Mixed Language[1]			
Synopsys Synplify Pro® ME	X	X	X	X
Programming	X	X	X	X
Synopsys Identify ME	X	X	X	X
Availability	Applicable starting with Libero® SoC Design Suite v11.8 and later releases			

1. Versions 11.8 and later of Libero SoC Design Suite support mixed-language simulation. Versions 11.7 and earlier of Libero SoC Design Suite support single-language simulation only.
2. Archival license supports the latest version (released at the time of purchase) and earlier releases only.

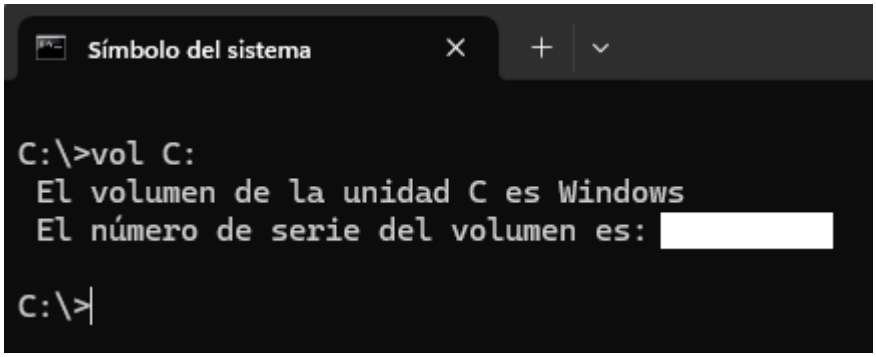
The free license has its limitations, such as the devices that can be programmed with it (some evaluation devices are not included in the Silver license, others are). Another limitation is the duration, the license lasts 1 year, but it can be renewed year after year completely free of charge. And it also limits the ability to use different languages in a project, such as VHDL and Verilog in the same project.

To request the free license you only have to register at MicroChip and request the license. To do this, it will ask you for the serial number of the computer in Windows *(in Linux it is a bit more complex, and I have not yet managed to get Libero to work in Linux).*

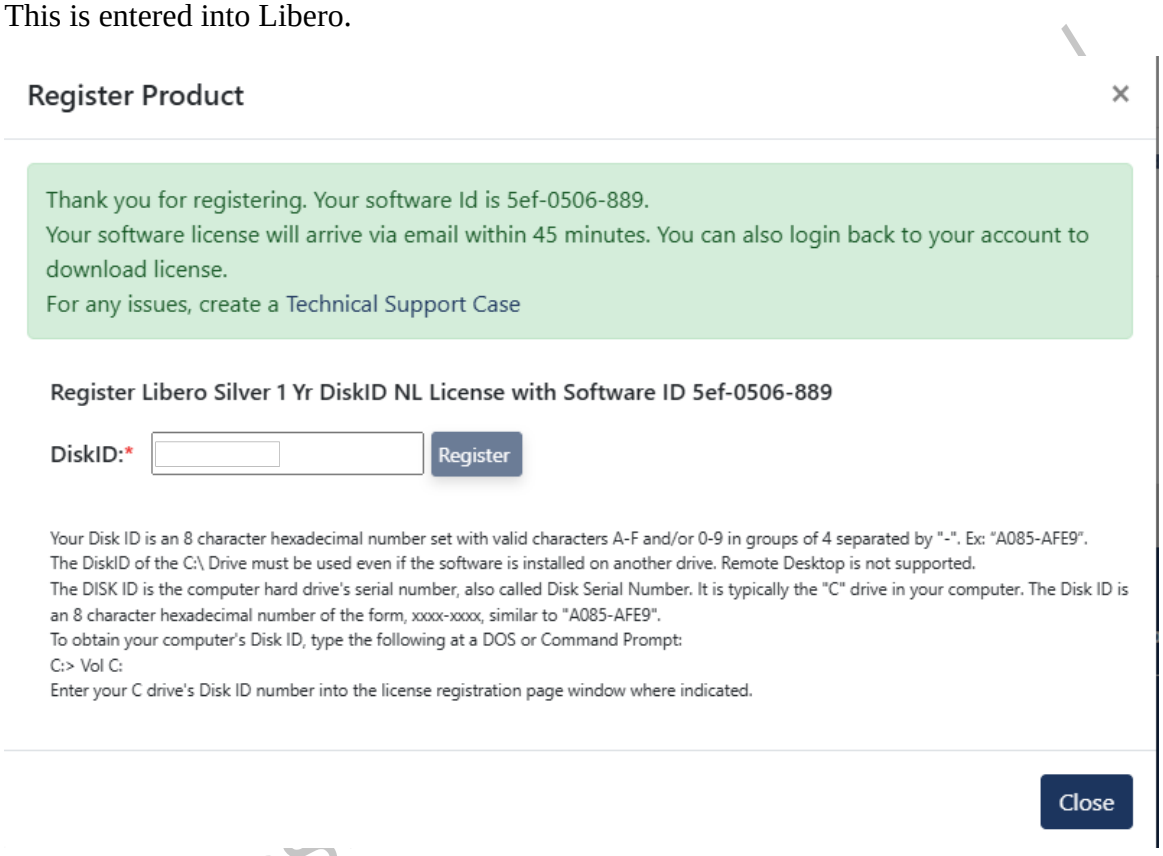
To get the serial number we have to open the **Windows Terminal/Command Prompt** (not Windows PowerShell), and run the command:

```
vol C:
```

This will return the volume's serial number.



This is entered into Libero.



Libero will send you the license by email *(in about 45 minutes)*, but you can also get it from the website, it is a .dat.

NOTE: the license is associated with the computer that has been requested, so you cannot use that license on other computers, but you can request another license associated with that new computer. *Not all software requires having the license on the computer itself, they only require it to download it.*

Installation *(first part)*

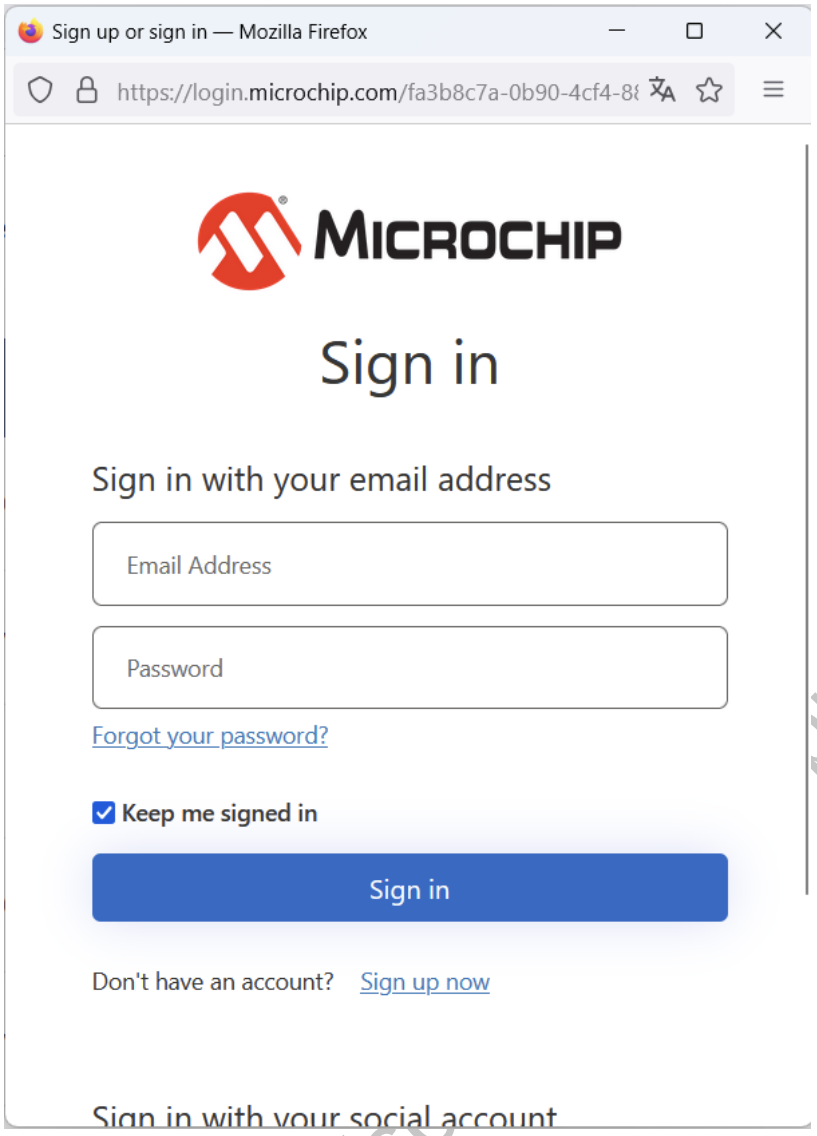
The first thing is to download the installer, for this on the Libero website, we will see several options, depending on whether we want to install only Libero (Web Installer), this takes up little space. Then we have the Full Installer, which allows us to download almost all Libero software (the only one that is not installed is the SoftConsole, which has to be downloaded manually). And then there is the Megavault, which is the installer to install Libero offline.

Note: I recommend installing the **Libero Full Installer**, because it contains FlashPro Express and therefore, there is no need to install it separately. From now on I will explain how to download the Full Installer.
FlashPro Express is the software that allows you to download the FPGA bitstream without having to open the development IDE (Libero).

NOTE: FlashPro does not require a license to install it, but it does need one to download it, but it is not associated with a computer like Libero, so it can be installed without needing a license on the computer.

Operating System	Download Software	Checksum
Windows®	Libero SoC Design Suite v2024.2 Web Installer	md5sum: 6c08cceec49e6a004f3d7d9a53923f89 ha256sum: 925cf3ab6bced64be5475b75efbccd542153435cdd9812bd8db18ab23eb87e14
	Libero SoC Design Suite v2024.2 Full Installer	md5sum: db0ce65da065bbce20f38b8c74105844 sha256sum: 2ab81a19f225b46c932b39a9ad8ef503a3bbc89c8a8bcd0f0367c9f28f8c1e11
	MegaVault v2024.2	md5sum: 829fe42818169ff9e69c9f8d545f07eb sha256sum: c15727392452c1e1f36e0f2434d910f4c15626adebb12773d1717c3bbd574429
Linux®	Libero SoC Design Suite v2024.2 Web Installer	md5sum: c50d3a087cca6b2e6f2c47af5fad81da sha256sum: 791660eca767a8d94151769df082c70c8835ef42daf2dabe1855c66571f50e77
	Libero SoC Design Suite v2024.2 Full Installer	md5sum: 37bb269167096f7891dae2d9ecab8af2 sha256sum: 4a198220b2534e79ad20e9d64ada084faf0a76dc1a39be4db3fd19f97290d156
	MegaVault v2024.2	md5sum: 829d923585cecf425e9f32b43fd337fe sha256sum: 9aa8f9a219ef24136ae20e489c4fd54d9acac2fa47911cdad6be8b199c08f863

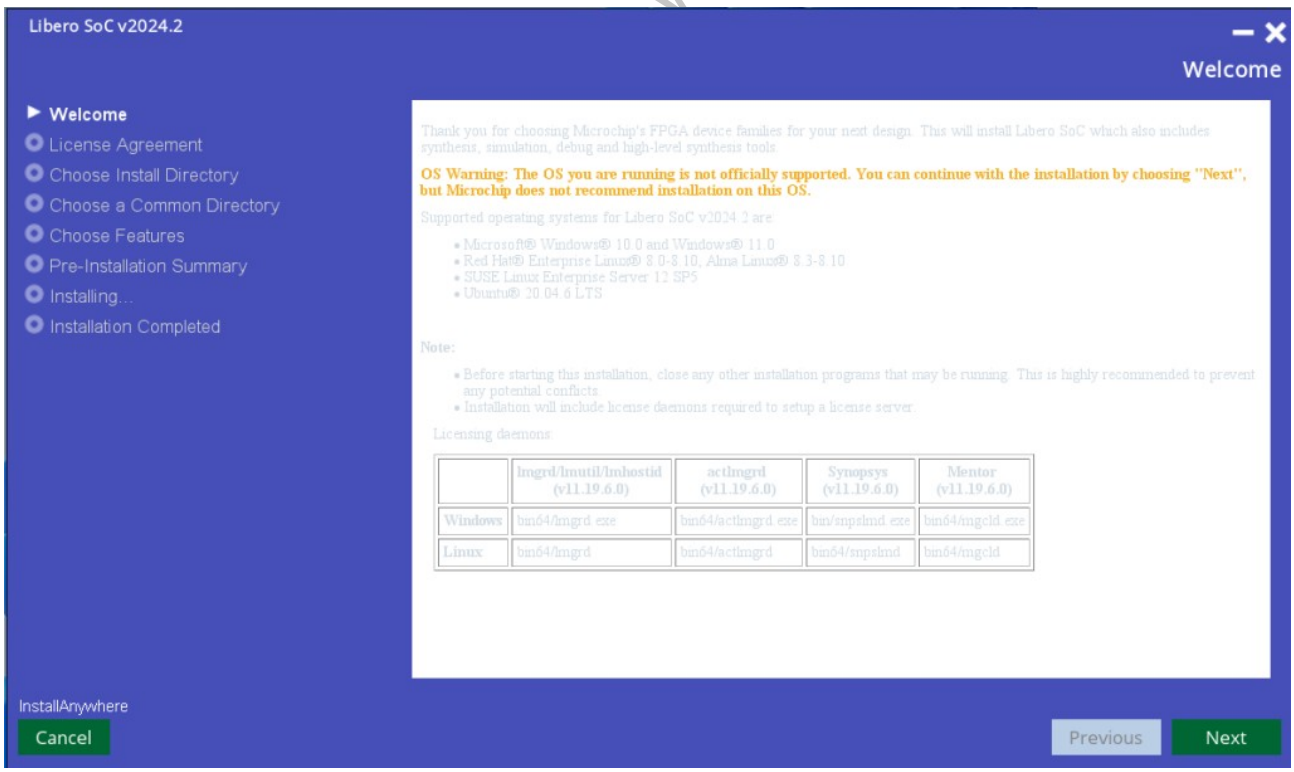
To download it you must have a MicroChip account, which will be requested now.



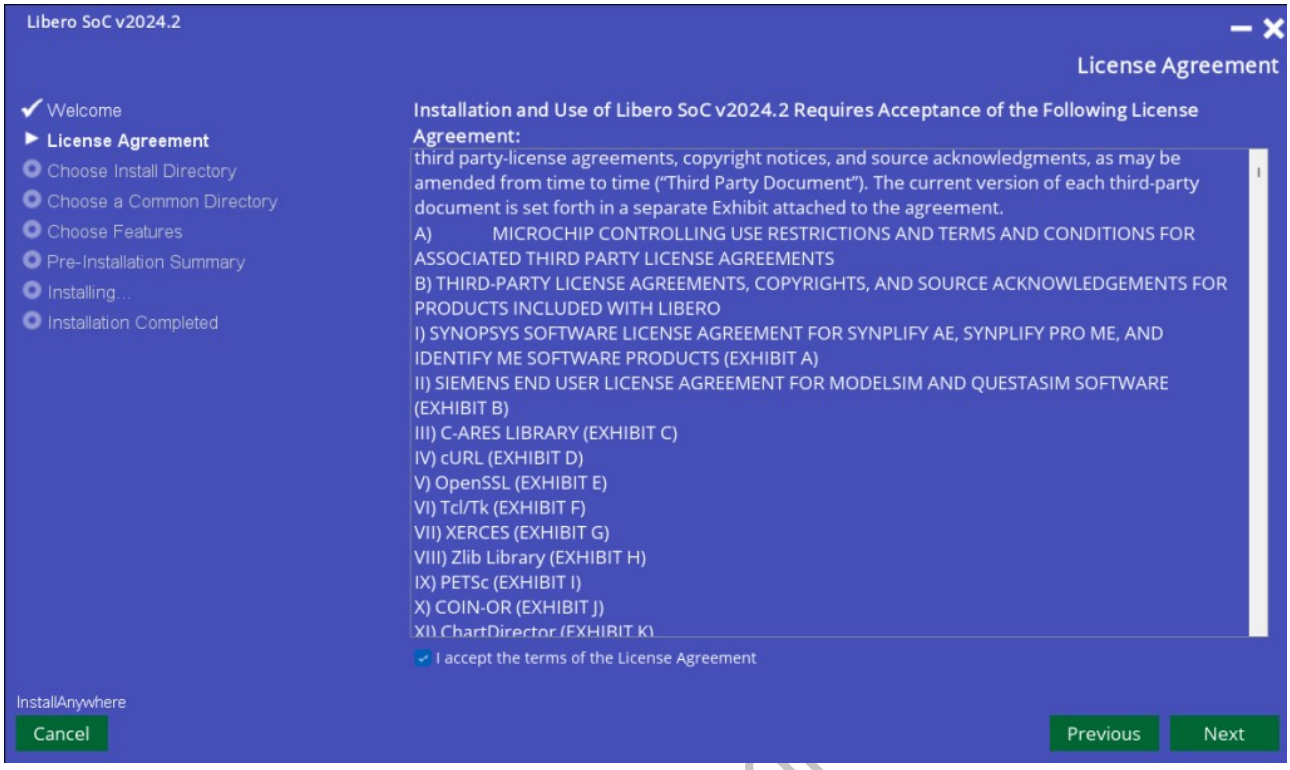
The installer looks like this.

Libero_SoC_v2024.2	12/11/2024 21:51	Acceso directo	3 KB
Disk9	12/11/2024 21:51	Carpeta de archivos	
Disk8	12/11/2024 21:51	Carpeta de archivos	
Disk7	12/11/2024 21:50	Carpeta de archivos	
Disk6	12/11/2024 21:50	Carpeta de archivos	
Disk5	12/11/2024 21:50	Carpeta de archivos	
Disk4	12/11/2024 21:50	Carpeta de archivos	
Disk3	12/11/2024 21:49	Carpeta de archivos	
Disk2	12/11/2024 21:49	Carpeta de archivos	
Disk19	12/11/2024 21:49	Carpeta de archivos	
Disk18	12/11/2024 21:49	Carpeta de archivos	
Disk17	12/11/2024 21:49	Carpeta de archivos	
Disk16	12/11/2024 21:49	Carpeta de archivos	

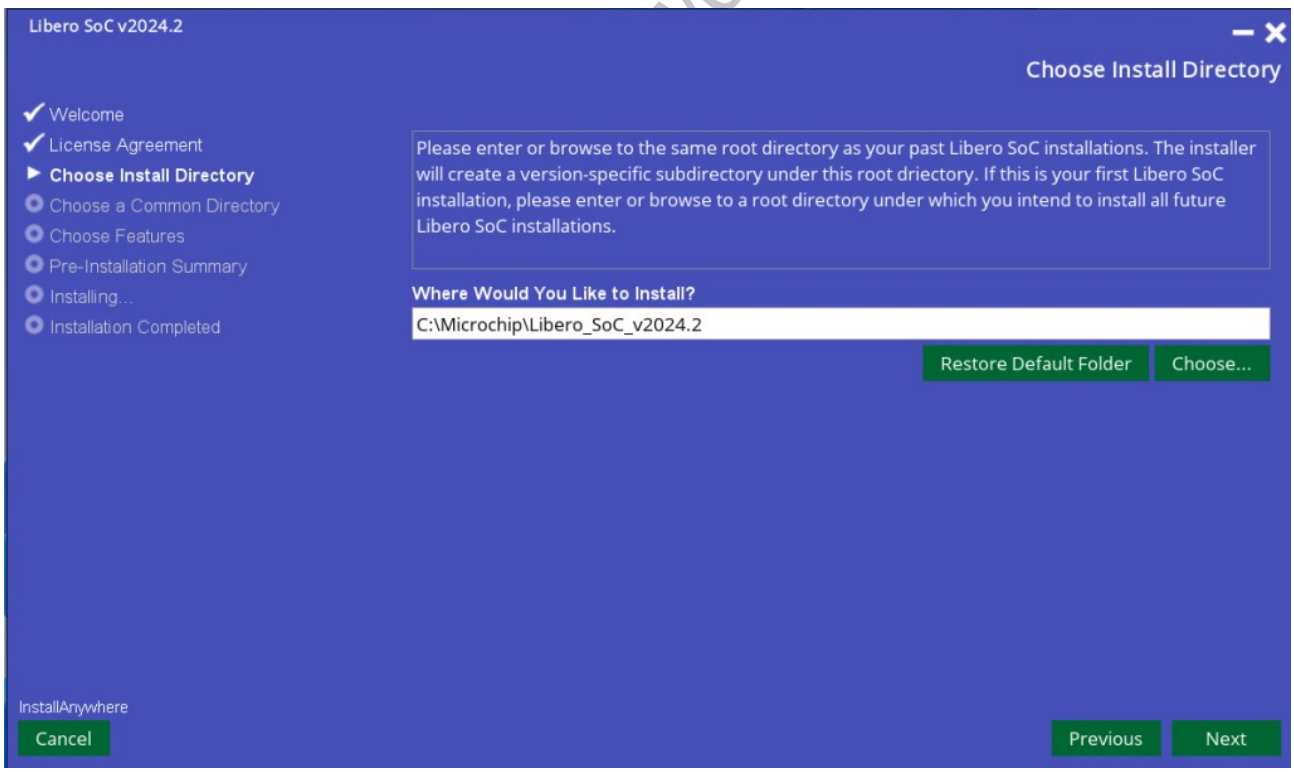
When you run it, the following tab opens, click Next.



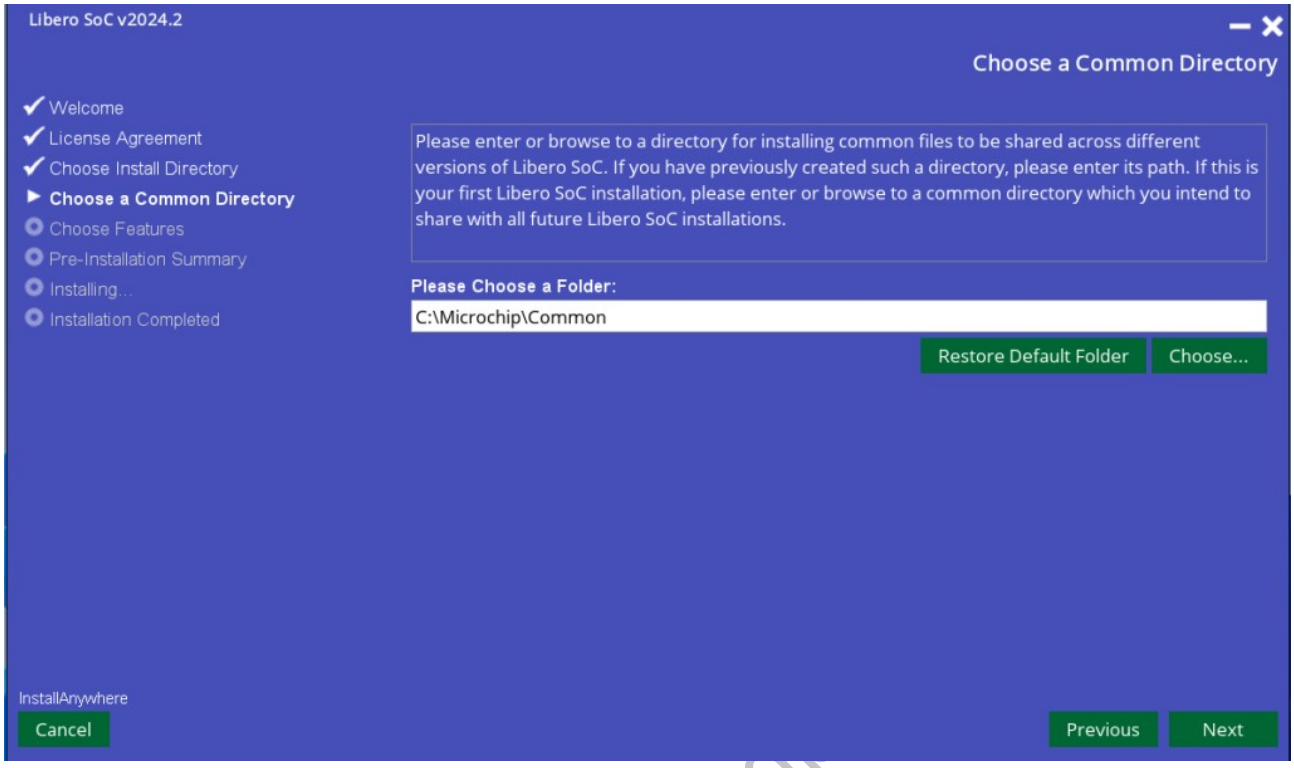
Then you will see the license terms, check the box and Next.



Then where you are going to save it, Next.



Then the *Common* directory, we put it inside the previous folder.

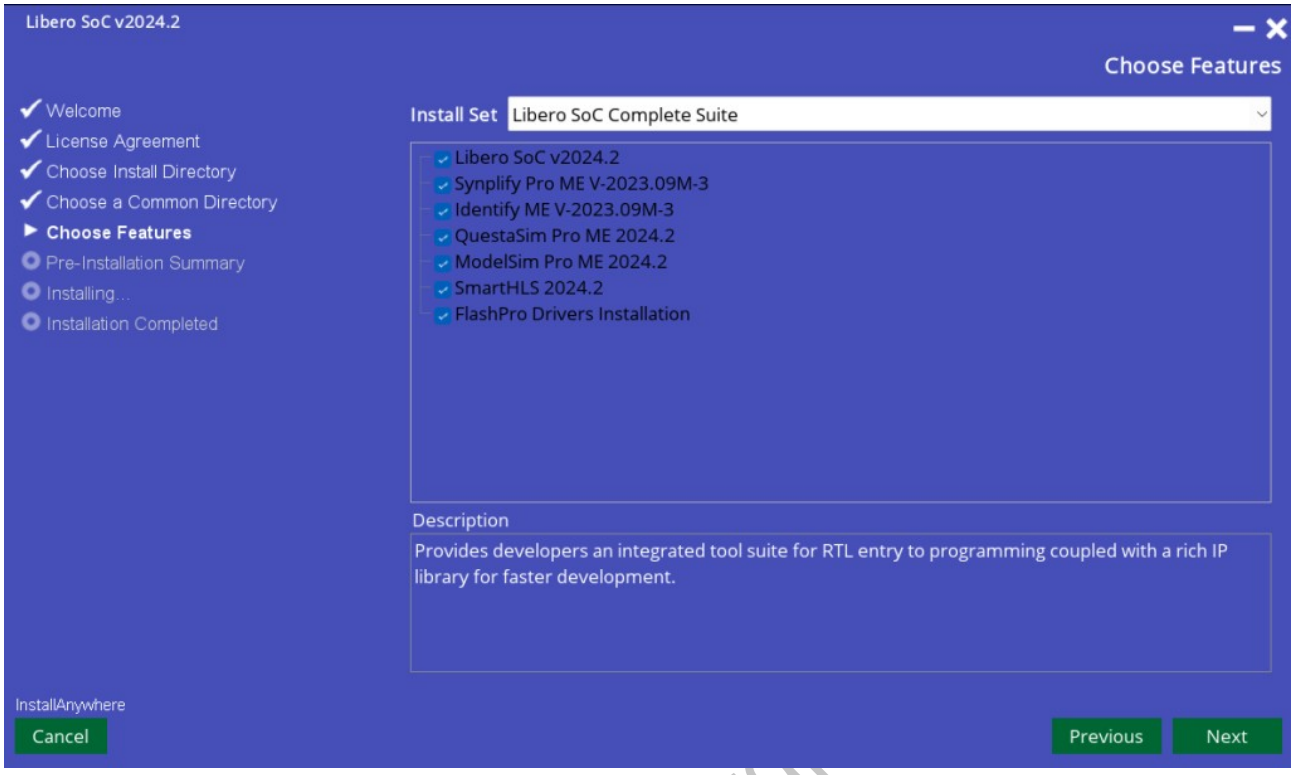


Then the software that we are going to install.

- **Libero** is the software that allows you to save MicroChip FPGAs
- **Synplify Pro**, Synopsis synthesis tool, which can be used to add logic analyzers to the design in Libero.
- **Identify ME** is the Synopsis analysis system for the previous logic analyzers.
- **QuestaSim Pro**, Siemens FW simulator.
- **ModelSim**, Siemens FW simulator (like the one integrated in Vivado, this is because Libero does not have a FW simulator inside, so it uses an external one)

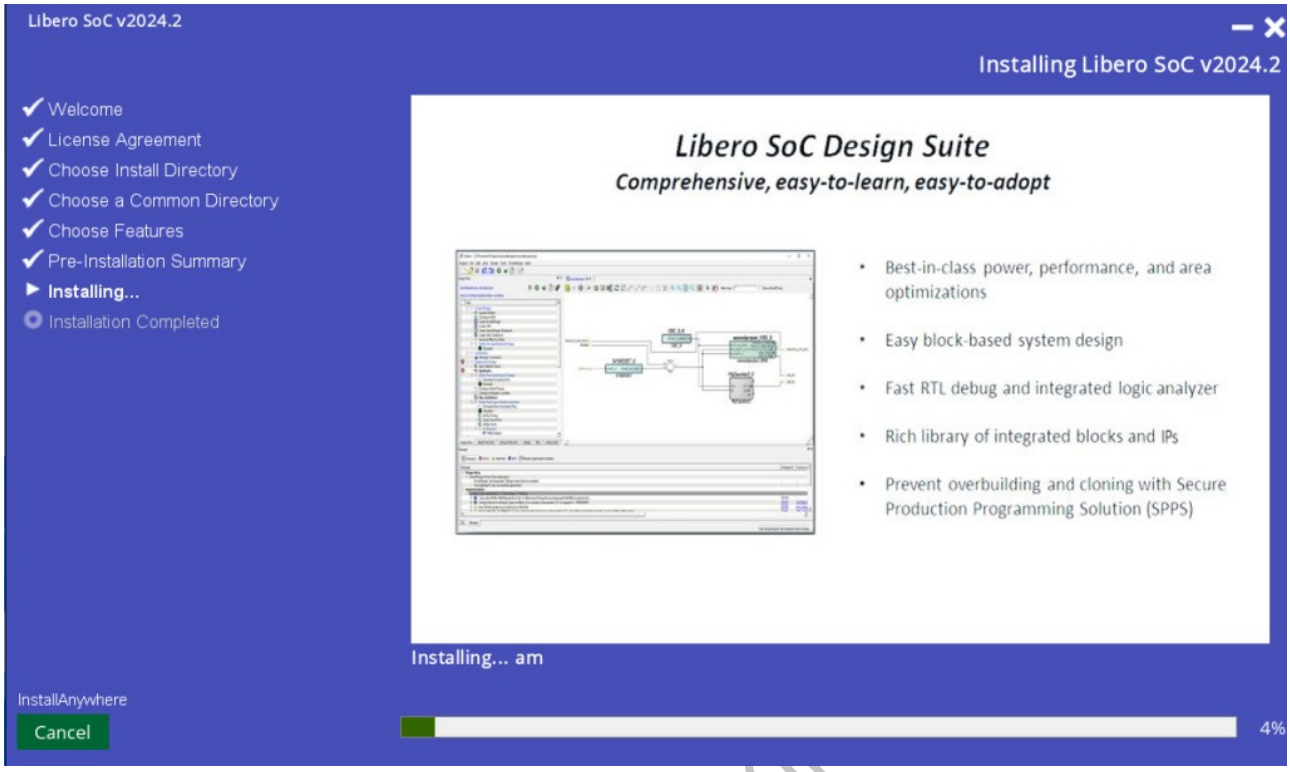
Both QuestaSim and ModelSim work the same, and are from the same manufacturer.

- **FlashPro**, this program allows you to burn FPGAs without the need for Libero, it can be installed independently, it is very interesting to use it in FPGA production, it also allows the use of TCL commands.

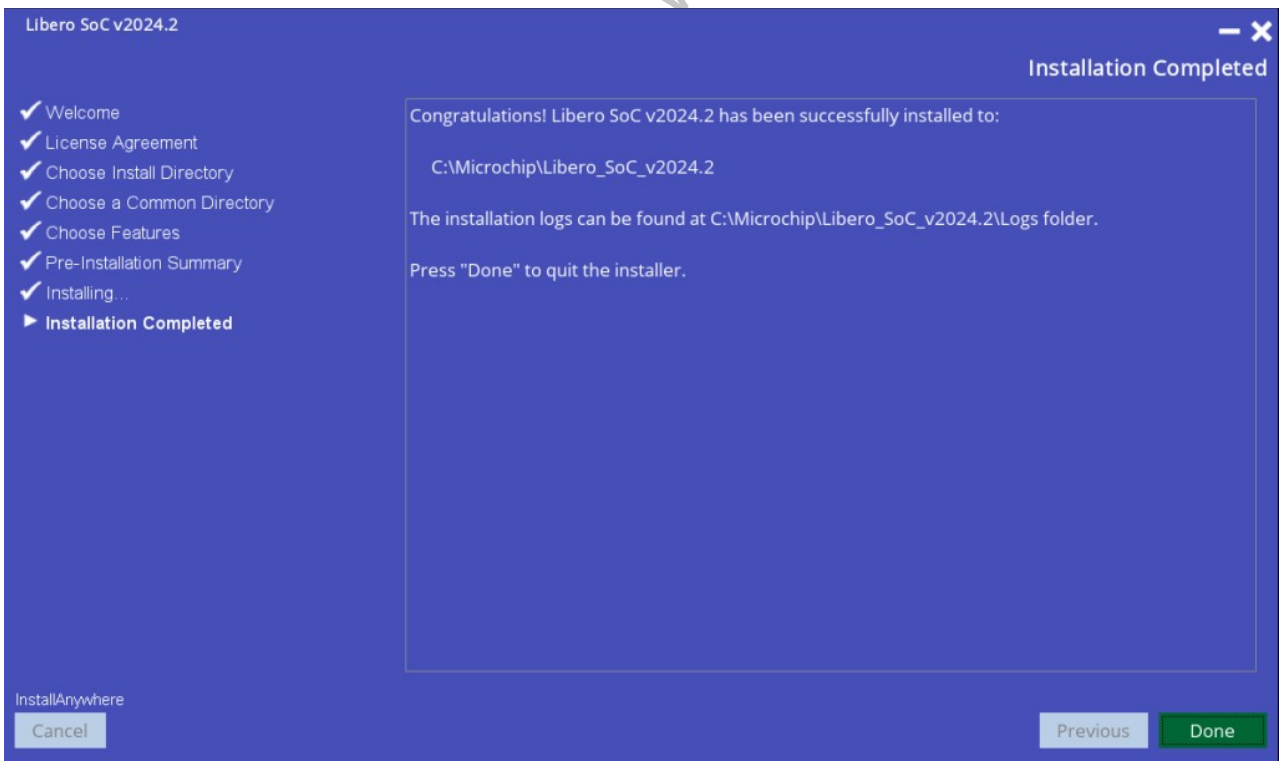


Then it shows you how much the installation will take up, in my case 25Gb *(less than the full Vivado installation, which was around 300Gb in version 2024.1)*, Install.

Next step: the installation is automatic.



Last tab, close the installer *(it does not offer us the option to open it automatically because there are several steps missing for it to be executed).*

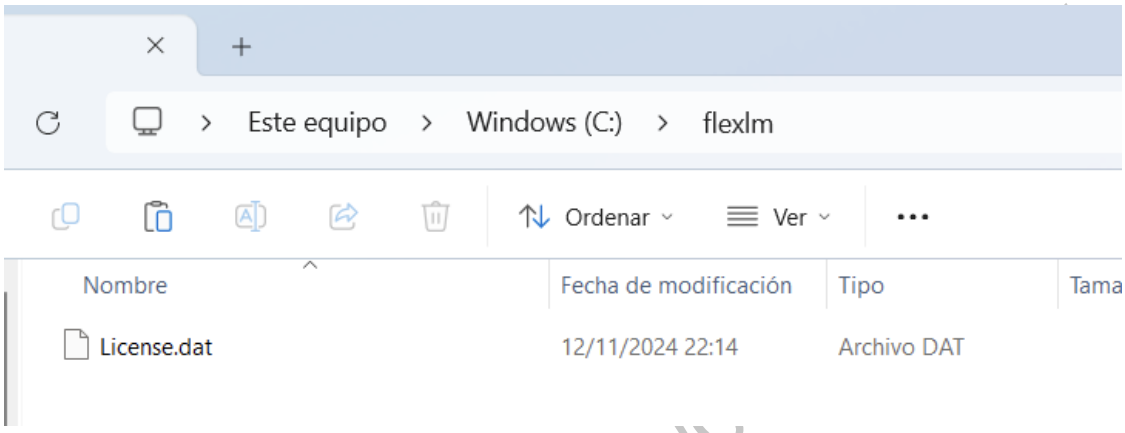


Installation *(second part)*

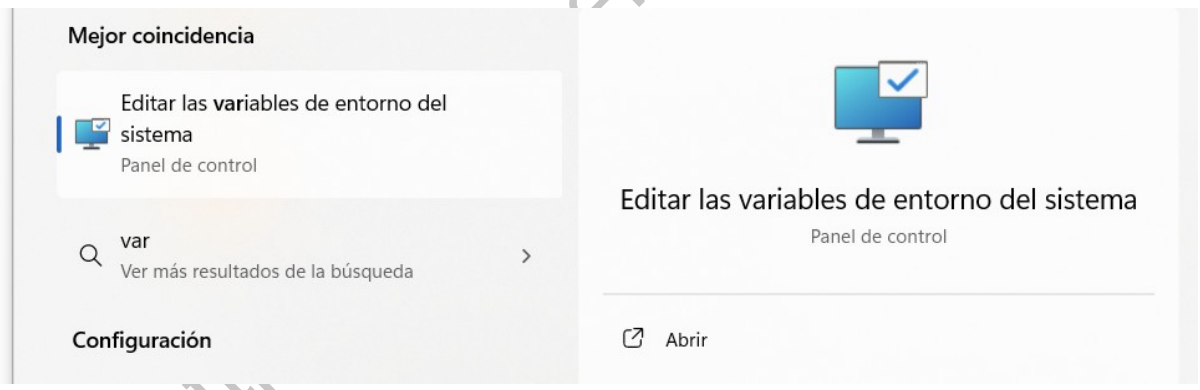
For this second part we need to have the license available.

The first thing we are going to do is create a folder in the base directory (C:) called «*flexlm*«, it would look like «*C:\flexlm*«.

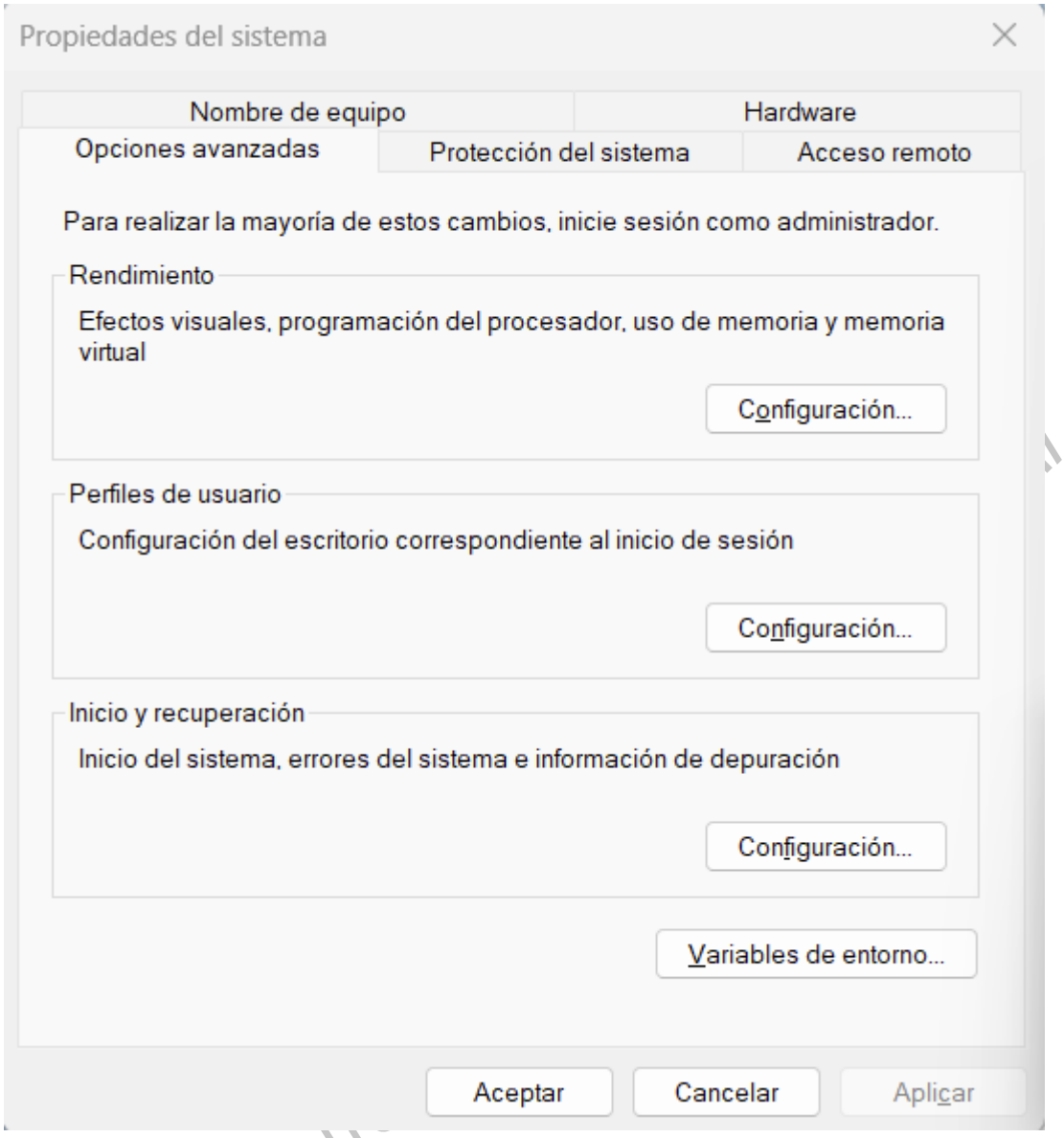
In this folder we put the Libero license.



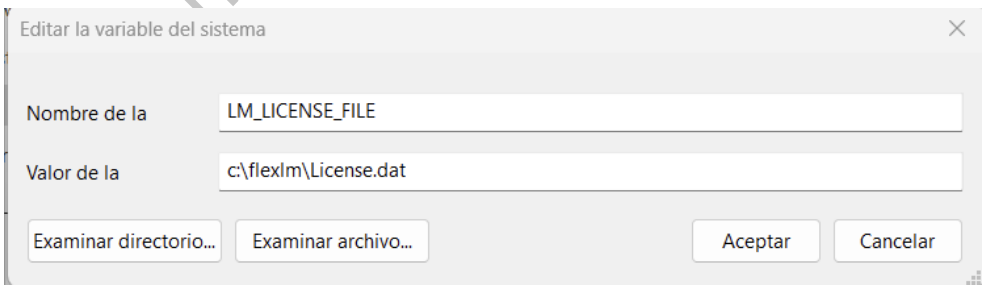
Once created, we have to create a system variable, to do this we open the system variable editor.



When opening it in «advanced options» there is an option called «Environment variables…»

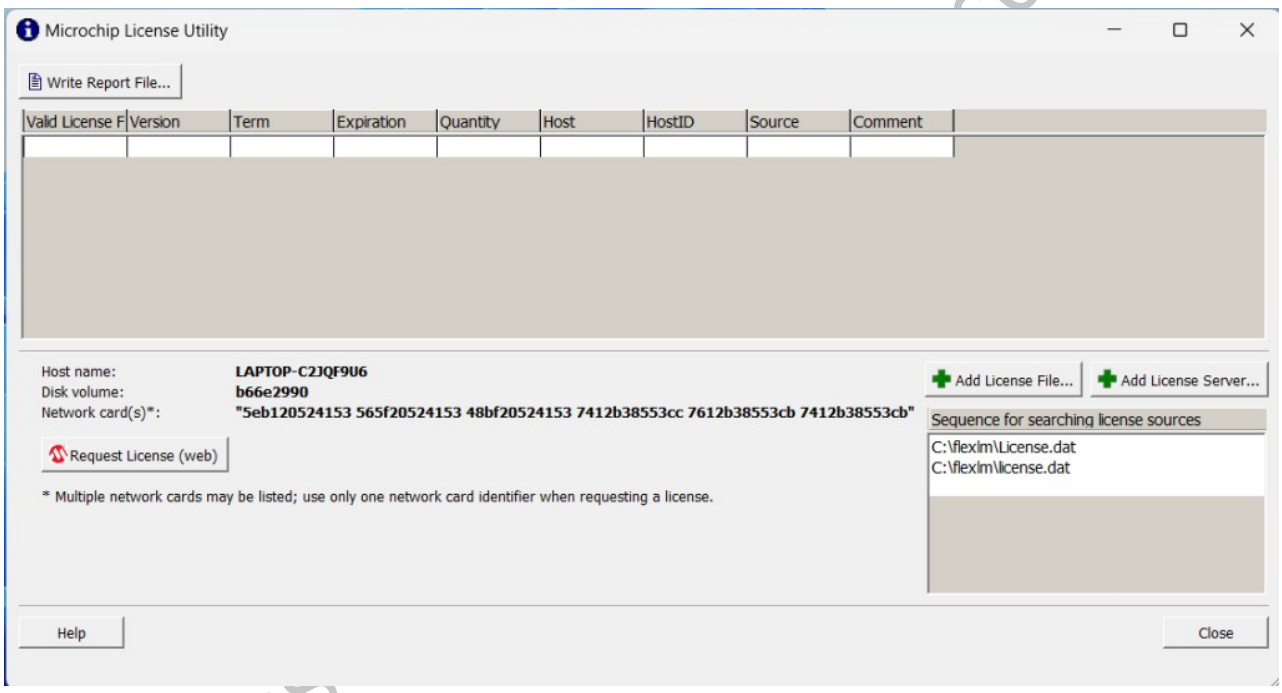


When clicking on it a tab opens where the variables are, then, in **System variable** *(not User variable)*, we click on «New…» and create one called **LM_LICENSE_FILE** with the value of the license we have from Libero (in *C:\flexlm\License.dat*)

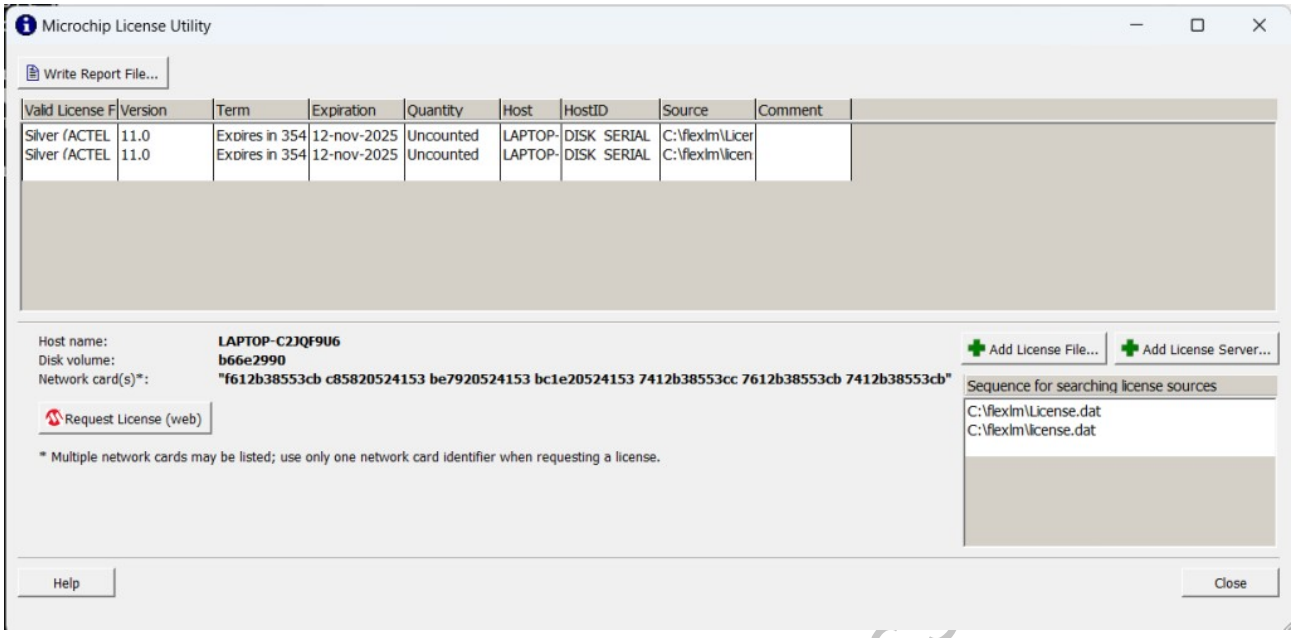


Once created we open the Microsemi License Utility tool.

And in this tool we introduce the license from the directory where we have it.



When you enter the license, it looks like this.



And with all this, you can now open Libero and its tools, except for the SoftConsole.

Installing the SoftConsole

The SoftConsole is the tool that MicroChip uses to program its SoCs, it is like Vitis (or Vivado SDK).

To install it, you just need to go to the SoftConsole page and download it.

IMPORTANT NOTE: since the **2022** version, the SoftConsole only supports **RISC-V** type processors from the **PolarFire SoCs** family. In previous versions, such as **2021**, programming of the **Cortex-M3** of the **SmartFusion2** family is supported.

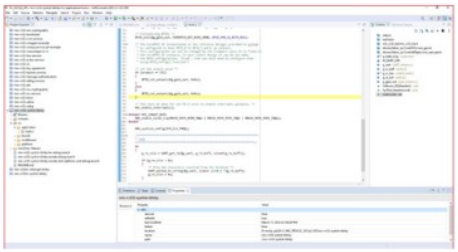
https://soceame.wordpress.com/2025/03/09/how-to-install-libero-and-the-softconsole/

SoftConsole

Enable Faster Design and Easier Verification of Software Accelerators With SoftConsole

SoftConsole is a software development environment for the rapid development of bare metal- and RTOS-based C/C++ software. It supports:

- Development and debugging for all Microchip SoC FPGAs and 32-bit soft IP CPUs
- **GNU GCC/GDB/Binutils**-based toolchains
- RISC-V emulator using Antmicro Renode™
- Static code analysis to detect bugs and undefined behavior
- Debugging and programming using GDB and FlashPro
- Resource-constrained embedded targets with **Newlib** C standard library



Download Software

Latest Software | **Previous Software Versions** | **Supported Platforms**

Please read the release notes for the relevant versions of SoftConsole to learn about relevant features, known issues, troubleshooting tips and more.

SoftConsole v2022.2 Release (10/18/2022)

SoftConsole v2022.2 supports only RISC-V®. Read the **SoftConsole v2022.2 installation** section before using SoftConsole. Refer to the following downloads and resources for more information:

- **SoftConsole v2022.2 Online Documentation**
- **SoftConsole v2022.2 Download for Windows**
  1. SHA 256 Checksum: 08520a7e648c4ebdf8b15f71de54651a1f143c1fc284935ef5e68ca6761685af
- **SoftConsole v2022.2 Download for Linux**
  1. SHA 256 Checksum: bb03c193d2d8f8528d50acd46fb13788a9e11efb82d0089c27ca92e5d7e6462d
- **SoftConsole v2022.2 Release Notes**

Once downloaded, a normal installation of the software is done.