

Lab Setup Guide – Getting Started with the Versal Adaptive SoC Platform 1-Day Training

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Introduction

This lab setup guide is structured to help you get your local environment configured to run the customer training labs as part of the *Getting Started with the Versal Adaptive SoC Platform SoC* 1-day training.

Please allocate ~120 minutes to complete the setup—longer if you have a slow internet connection.

Process:

- 1) Download and install the tools.
- 2) Register, generate, and add licenses.
- 3) Download the lab files.

Instructions

Download and install the tools.

- 1) Go to the [Downloads site https://www.xilinx.com/support/download.html](https://www.xilinx.com/support/download.html).
- 2) Download the Unified Installer file appropriate for your operating system:
 - **AMD Unified Installer for FPGAs & Adaptive SoCs 2025.1: Windows Self Extracting Web Installer**
 - **AMD Unified Installer for FPGAs & Adaptive SoCs 2025.1: Linux Self Extracting Web Installer: Linux Self Extracting Web Installer**

You will have to log into your existing account to proceed, or you will need to register by clicking Create Account.

After signing in and/or registering, click the **Download** button to download the installer.

- 3) Run the AMD Unified Installer to select and install the desired tools.

Note: At least 200 GB of disk space required.

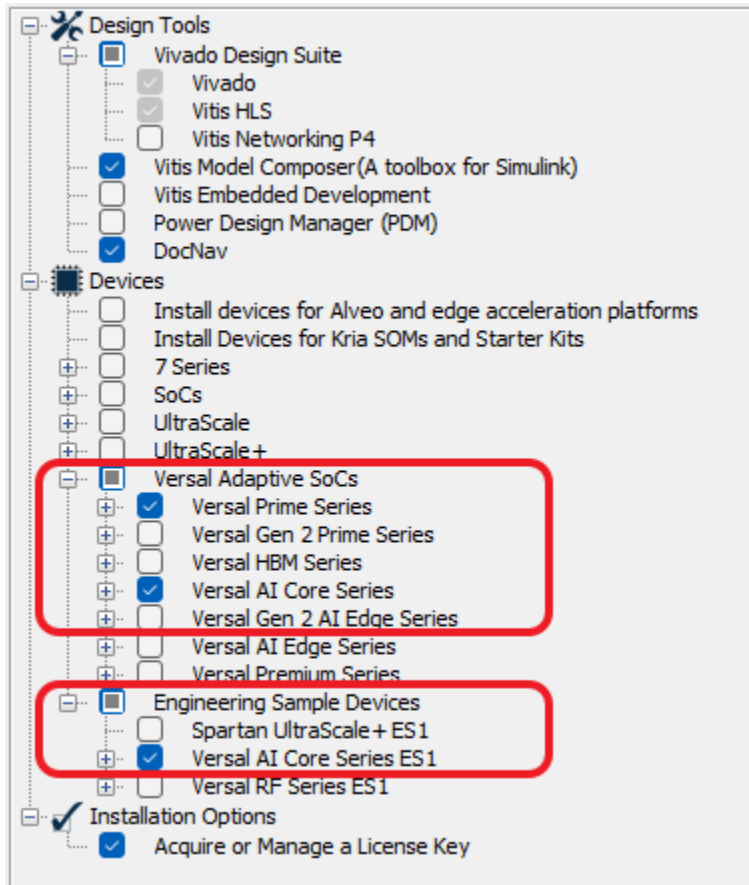
Linux: You need to provide all the necessary permissions to the downloaded `bin` file and source the `bin` file by entering the following commands in a terminal window to start the installation:

```
sudo chmod 777 <installer_name.bin>
./<installer_name.bin>
```

- 4) From the Welcome page, click **Next**.
- 5) Enter the same credentials that you used to download the installer into the E-mail Address and Password fields under User Authentication in the Select Install Type page and click **Next**.
- 6) Select **Vivado** in the Select Product to Install page and click **Next**.
- 7) Select **Vivado ML Enterprise** in the Select Edition to Install page and click **Next**.

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- 8) Expand **Versal Adaptive SoCs** under Devices and select **Versal Prime Series** and **Versal AI Core Series** as these are the families you will be targeting for these labs. Also select **Engineering Sample Devices**, if required, and click **Next**.



- 9) Agree to all the license agreements in the Accept License Agreements page and click **Next**.

- 10) Create and add the **amd** directory under /opt in the Select Destination Directory page.

Note: It is recommended to install the tools in the above location.

It may take ~1 hour to complete the installation depending on your machine configuration.

Linux: You need to give necessary permissions to the destination directory using the following command:

```
sudo chmod 777 /opt/amd
```

- 11) Click **Next** to advance to the Installation Summary page.

- 12) Click **Install** to begin the installation process.

Linux: Make sure you have the `make` utility installed by using the following command in the terminal:

```
sudo apt-get install make
```

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Generate and add the licenses.

- 1) Go to the [Product Licensing site https://www.xilinx.com/getlicense](https://www.xilinx.com/getlicense).
You may have to sign in to proceed. Use the same credentials that you used to download the installer tool.
- 2) [Optional] Select the account with your name (Company Name – ABC) in the Account field.
- 3) Place a check in the box adjacent to Vivado ML Enterprise Edition, 30-Day Evaluation License to select this option.
The Vitis™ Unified IDE does not require any license.
- 4) Click **Generate Node-Locked License**.

	Product	Type	License	Available Seats	Status	Subscription End Date
<input type="checkbox"/>	SDSoC Environment, 60 Day Evaluation License	Certificate - Evaluation	Node / Float...	1/1	Current	60 days
<input checked="" type="checkbox"/>	Vivado ML Enterprise Edition, 30-Day Evaluation License	Certificate - Evaluation	Node	1/1	Current	30 days
<input type="checkbox"/>	2023 AI Engine Tools License	Certificate - No Charge	Node / Float...	1/1	Current	None
<input type="checkbox"/>	Vitis Model Composer (Xilinx toolbox for MATLAB and Simulink), 90 Day Evalua...	Certificate - Evaluation	Node / Float...	1/1	Current	90 days
<input type="checkbox"/>	Versal Device Enablement License 2020.1 (same as 2019.2 license)	Certificate - Full	Node / Float...	8356/40000	Current	31 Dec 2023
<input type="checkbox"/>	Versal Devices Integrated 100G Multirate Ethernet MAC (MRMAC), No Charge	Certificate - No Charge	Node / Float...		Current	31 Dec 2023
<input type="checkbox"/>	ISE Embedded Edition License	Certificate - No Charge	Node / Float...	1/1	Current	None
<input type="checkbox"/>	SDAccel OpenCL Development Environment: 30 Day Node Locked Evaluation ...	Certificate - Evaluation	Node	1/1	Current	30 days
<input type="checkbox"/>	SDAccel OpenCL Development Environment: 30 Day Floating Evaluation License	Certificate - Evaluation	Floating	1/1	Current	30 days
<input type="checkbox"/>	Vivado Design Suite: HL WebPACK 2015 and Earlier License	Certificate - No Charge	Node	1/1	Current	None
<input type="checkbox"/>	ISE WebPACK License	Certificate - No Charge	Node	1/1	Current	None

Generate Floating License **Generate Node-Locked License**

- 5) Add your system information under Host ID (host name, type, OS information).
You can select the **Add a Host** option and add the information such as host name (machine name), operating system (machine you are working on), host ID type (based on your system) and host ID value (based on your Host ID Type).
Note: The host ID value uniquely identifies the machine to which your design tools or IP is licensed. You can choose the host ID type to be a MAC address, a hard drive serial number, or a dongle ID.

Add a host...

1. Host Name ? :

2. Operating System ? :

3. Host ID Type ? :

4. Host ID Value ? :

Not all host ID types are supported for all operating systems. The easiest way to obtain your host ID is to run Vivado License Manager on the machine that serves as the license host.

- 6) Click **Next**.
- 7) Verify your system and license information and click **Next**.
The license file will be emailed to you at your registered email address.
- 8) Download the license file (Xilinx.lic) using the Download icon. You can also download and use the file attached in the email.

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- 9) Launch the Vivado IDE and select **Help > Manage License** from the toolbar.
This will launch the new Vivado License Manager window.
- 10) Select **Load License** and copy the license file you downloaded by clicking the **Copy License** button.
- 11) Close the Vivado License Manager and Vivado Design Suite.

Download the lab files.

- 1) [Download the lab files and lab instructions](https://download.amd.com/opendownload/cust-training/misc/ver-getting-started-lab_files.7z)
https://download.amd.com/opendownload/cust-training/misc/ver-getting-started-lab_files.7z.
Make sure that you have the 7z file extractor tool to extract the zipped files. You can download the tool from <https://www.7-zip.org/download.html>.
- 2) Extract the lab files so that it follows the directory structure below:
Windows: C:\training
Linux: /home/<username>/training
Here, <username> will be the username for your Linux machine.
- 3) Remove unnecessary directory hierarchies, if any, to reflect the above structure.
Customer Training labs use only one environment variable named `TRAINING_PATH` in the lab instructions, which points to the lab files as mentioned in the above point. This allows us to support all operating systems using the same set of lab instructions.
Windows: `TRAINING_PATH = C:\training`
Linux: `TRAINING_PATH = /home/<username>/training`

Set the environment variable in your local environment and verify.

Windows:

- 1) Open a command prompt window and run the following command to set the environment variable:
setx TRAINING_PATH c:\training
- 2) Close the command prompt window and open a new window. The environment variable will be reflected in the new command prompt window.
- 3) Verify the environment variable is set by entering the following command:
echo %TRAINING_PATH%
Note: This can also be performed by right-clicking This PC from a Windows File Explorer browser and selecting **Properties > Advanced system settings > Environment Variables** and adding/modifying the **TRAINING_PATH** entry.
The environment variable used in the lab instructions for the lab paths can be expanded as follows:
If you see a path like `$TRAINING_PATH/NoCintro`:
`$TRAINING_PATH` expands to: (assuming default value)
`C:\training\NoCintro`
- 4) Once everything is set, perform the lab as per the lab instructions.

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Linux:

- 1) Open a terminal window (press <Ctrl + Alt + T>) and run the following command to set the environment variable:
export TRAINING_PATH=/home/\$USER/training
This command will set the environment variable locally—that is, accessible only from the currently open terminal window.
- 2) To set the environment variable globally, run the following command, which will copy the same export command above to the `.profile` file, and then re-login to your environment:
echo 'export TRAINING_PATH=/home/\$USER/training' >> ~/.profile
Once you reboot/re-login to your machine, the environment variable is set globally.
- 3) Verify the environment variable is set by entering the following command:
echo \$TRAINING_PATH
Note: If you decide to put your lab files in any other location, you must set the `$TRAINING_PATH` variable to point to that location.
The environment variable used in the lab instructions for the lab paths can be expanded as follows:
If you see a path like `$TRAINING_PATH/NoCintro`:
`$TRAINING_PATH` expands to: (assuming default value)
`/home/<username>/training/NoCintro`
- 4) Once everything is set, perform the lab as per the lab instructions.