

# **EE 115B: Digital Circuits**

## **VHDL Tutorial 1**

### **Vivado Installation**

School of Information Science and Technology  
ShanghaiTech University

## Step 1: Download & Unzip the Vivado Package

1. **Download** the Vivado installer from: [Downloads \(xilinx.com\)](https://www.xilinx.com/downloads). For convenience, please **download the 2021.1 version of vivado**

Vivado (HW Developer)

Vitis (SW Developer)

Vitis Embedded Platforms

Alveo Packages

PetaLinux

Device Models

Documentation Navigator

Version

2021.2

**2021.1**

2020.3

2020.2

Vivado Archive

ISE Archive

CAE Vendor Libraries Archive

Vivado ML Edition - 2021.1 Full Product Installation

**Important Information**

Vivado ML 2021.1 is now available for download:

- Improved performance with ML-based algorithms
- Block Design Containers now in production
- Introducing Vivado store
- Intelligent Design Runs for automatic timing closure
- DFX for Versal now available

Production Devices:


- Versal AI Core Series: - XCVC1902 and XCVC1802
- Versal Prime Series: - XCVU1802
- Virtex UltraScale+ HBM device: XCVU57P

We strongly recommend to use the web installers as it reduces download time and saves significant disk space.

Please see [Installer Information](#) for details.

**Note:**

- Download verification is only supported with Google Chrome and Microsoft Edge web browsers.
- Beginning this release we will be offering only 2 Editions for Vivado ML. Please go to product page for more details.
- Vivado ML 2021.1 and later versions require upgrading your license server tools to the Flex 11.17.2.0 versions.

 **Xilinx Unified Installer 2021.1: Windows Self Extracting Web Installer (EXE - 226.04 MB)**

MD5 SUM Value : 6bc01c7518717bea1c4aefcfc90d6f1b

Download Includes

Download Type

Last Updated

Answers

Documentation

Support Forums

Vivado ML Edition

Full Product Installation

Jun 22, 2021

2021.x - Vivado Known Issues


[Release Notes](#)

[OS Support Update](#)

[What's New in Vivado](#)


[Installation and Licensing](#)

2. It will ask you to register an account to access the download source, use your ADAMEDIC email to register and activate your account.




Sign-In

E-mail Address

 Please enter an e-mail address

Password

 Please enter a password

Sign In

Create Account

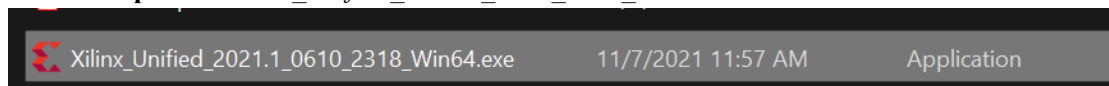
[Forgot / Reset Password?](#)

[Resend account activation e-mail?](#)

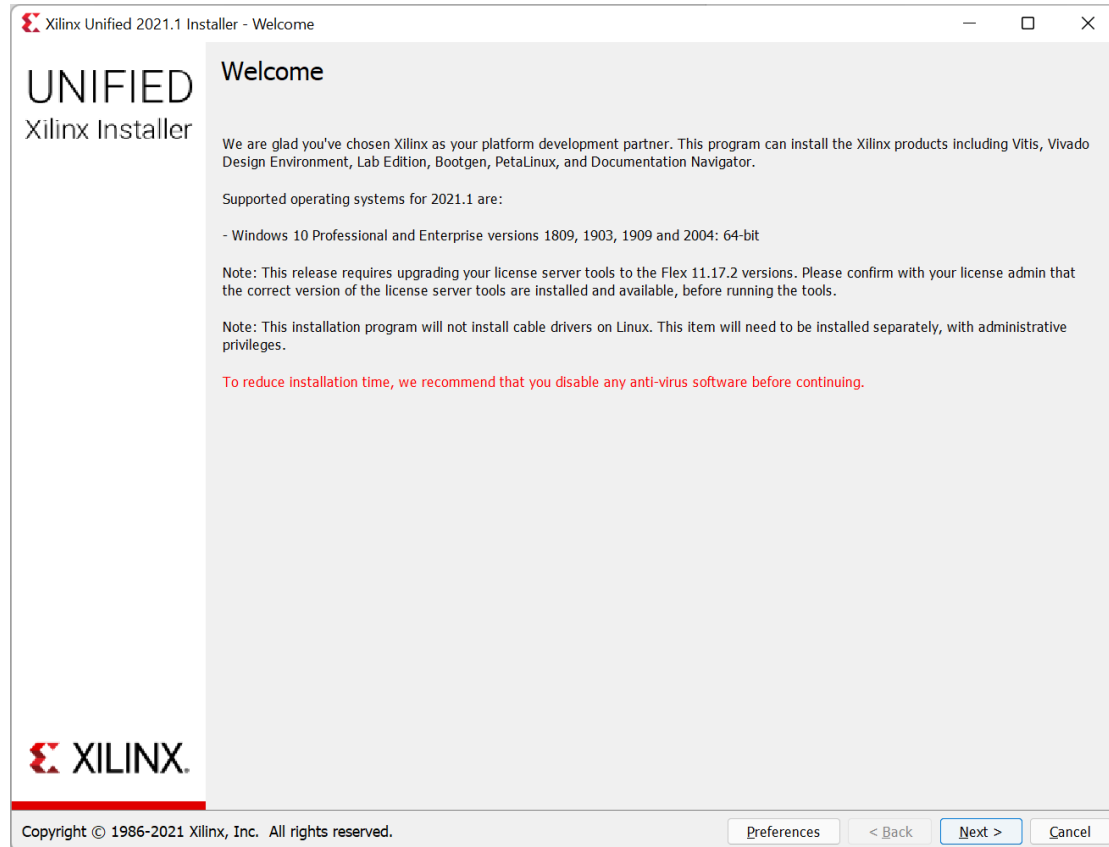
We're consistently improving our site security.  
Account login now uses e-mail addresses.  
[Learn More](#)

## Step 2: Install the Vivado

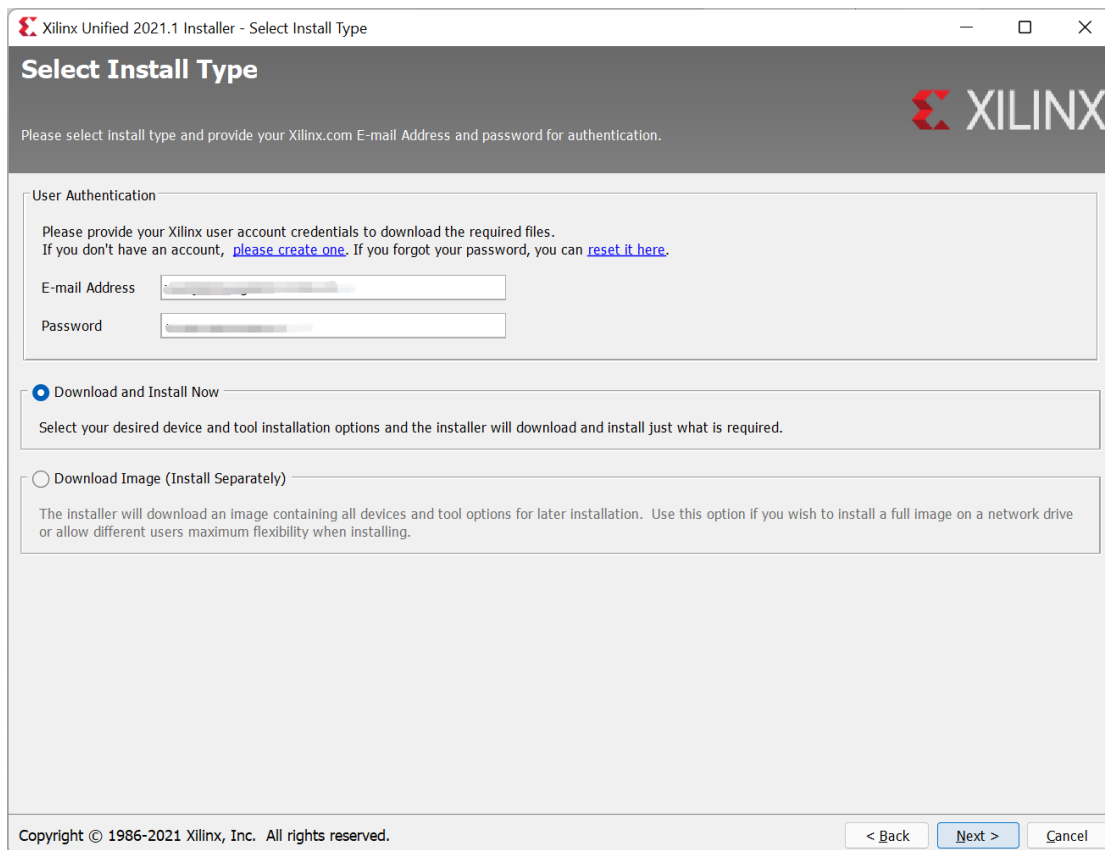
1. **Open** the *Xilinx\_Unified\_2021.1\_0610\_2318\_Win64.exe*.



2. Wait for a while, you will see the following dialog and click **Next**.



3. Type in your activated account and choose **Download and Install Now**.



Xilinx Unified 2021.1 Installer - Select Install Type

### Select Install Type

Please select install type and provide your Xilinx.com E-mail Address and password for authentication.

**User Authentication**

Please provide your Xilinx user account credentials to download the required files.  
If you don't have an account, [please create one](#). If you forgot your password, you can [reset it here](#).

E-mail Address

Password

☒ **Download and Install Now**

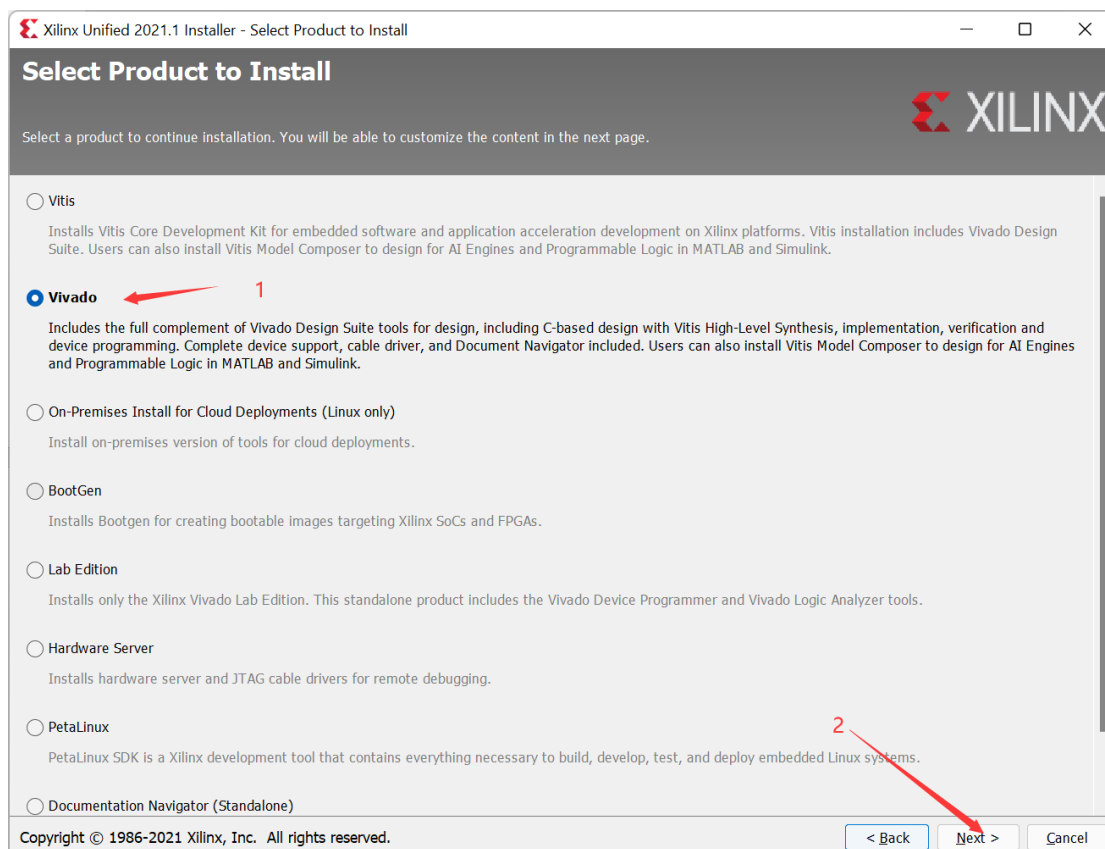
Select your desired device and tool installation options and the installer will download and install just what is required.

☐ **Download Image (Install Separately)**

The installer will download an image containing all devices and tool options for later installation. Use this option if you wish to install a full image on a network drive or allow different users maximum flexibility when installing.

Copyright © 1986-2021 Xilinx, Inc. All rights reserved.

< Back Next > Cancel



Xilinx Unified 2021.1 Installer - Select Product to Install

### Select Product to Install

Select a product to continue installation. You will be able to customize the content in the next page.

☐ **Vitis**

Installs Vitis Core Development Kit for embedded software and application acceleration development on Xilinx platforms. Vitis installation includes Vivado Design Suite. Users can also install Vitis Model Composer to design for AI Engines and Programmable Logic in MATLAB and Simulink.

☒ **Vivado** 1

Includes the full complement of Vivado Design Suite tools for design, including C-based design with Vitis High-Level Synthesis, implementation, verification and device programming. Complete device support, cable driver, and Document Navigator included. Users can also install Vitis Model Composer to design for AI Engines and Programmable Logic in MATLAB and Simulink.

☐ **On-Premises Install for Cloud Deployments (Linux only)**

Install on-premises version of tools for cloud deployments.

☐ **BootGen**

Installs Bootgen for creating bootable images targeting Xilinx SoCs and FPGAs.

☐ **Lab Edition**

Installs only the Xilinx Vivado Lab Edition. This standalone product includes the Vivado Device Programmer and Vivado Logic Analyzer tools.

☐ **Hardware Server**

Installs hardware server and JTAG cable drivers for remote debugging.

☐ **PetaLinux**

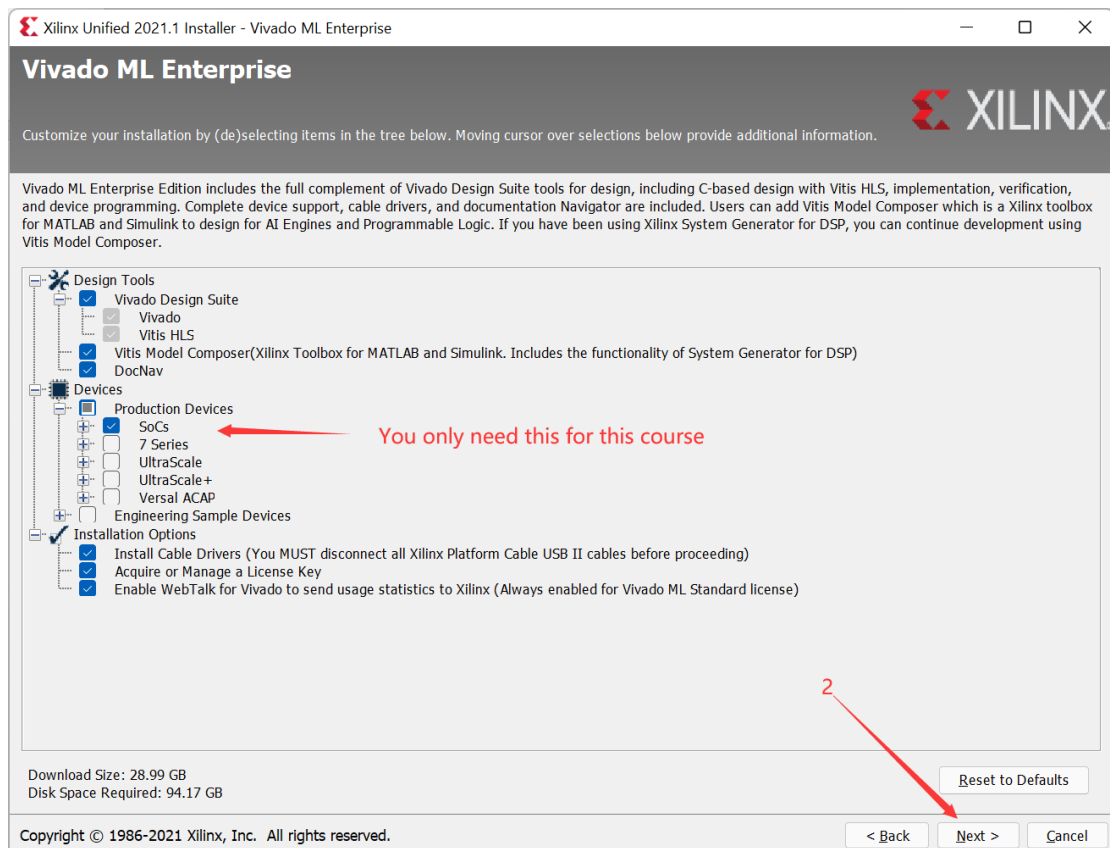
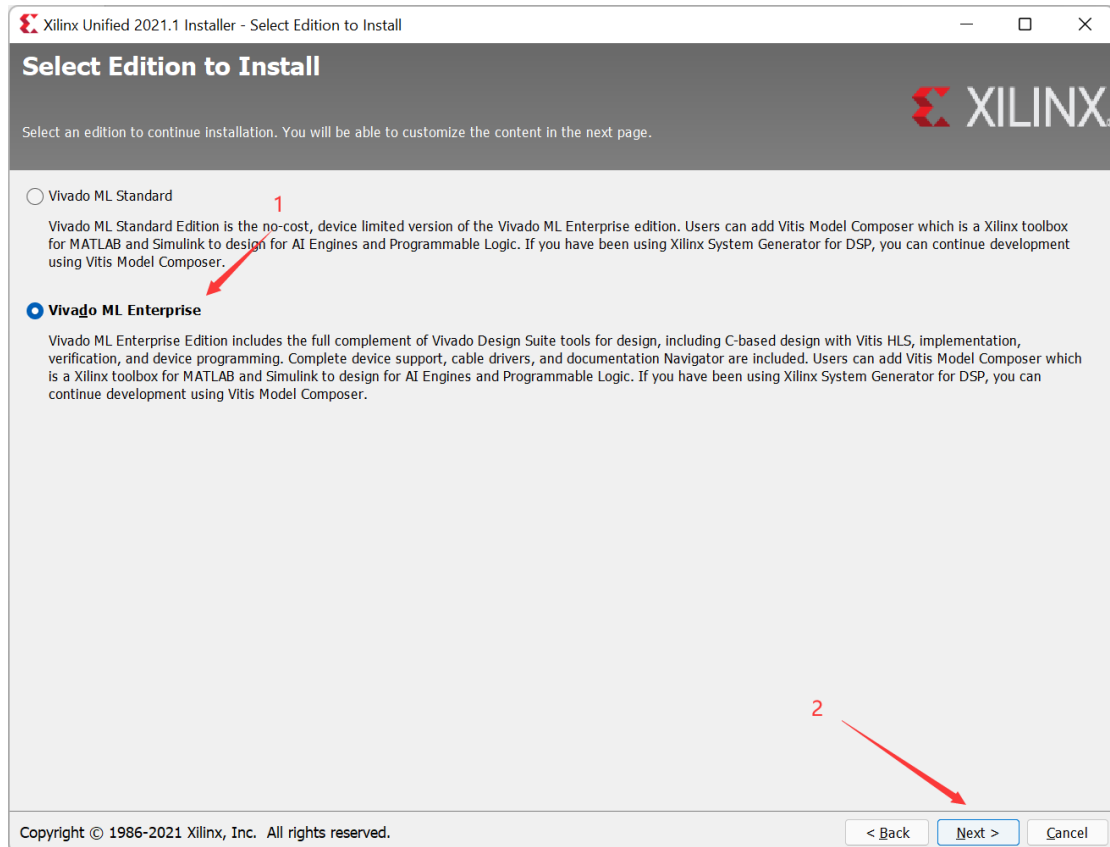
PetaLinux SDK is a Xilinx development tool that contains everything necessary to build, develop, test, and deploy embedded Linux systems.

☐ **Documentation Navigator (Standalone)**

Copyright © 1986-2021 Xilinx, Inc. All rights reserved.

< Back Next > Cancel

2



**Xilinx Unified 2021.1 Installer - Accept License Agreements**

**Accept License Agreements**

Please read the following terms and conditions and indicate that you agree by checking the I Agree checkboxes.

**Xilinx Inc. End User License Agreement**

By checking "I Agree" below, or OTHERWISE ACCESSING, DOWNLOADING, INSTALLING or USING THE SOFTWARE, I AGREE on behalf of licensee to be bound by the agreement, which can be viewed by [clicking here](#).

☒ I Agree

**WebTalk Terms And Conditions**

By checking "I Agree" below, I also confirm that I have read [Section 13 of the terms and conditions](#) above concerning WebTalk and have been afforded the opportunity to read the WebTalk FAQ posted at <https://www.xilinx.com/products/design-tools/webtalk.html>. I understand that I am able to disable WebTalk later if certain criteria described in Section 13(c) apply. If they don't apply, I can disable WebTalk by uninstalling the Software or using the Software on a machine not connected to the internet. If I fail to satisfy the applicable criteria or if I fail to take the applicable steps to prevent such transmission of information, I agree to allow Xilinx to collect the information described in Section 13(a) for the purposes described in Section 13(b).

☒ I Agree

**Third Party Software End User License Agreement**

By checking "I Agree" below, or OTHERWISE ACCESSING, DOWNLOADING, INSTALLING or USING THE SOFTWARE, I AGREE on behalf of licensee to be bound by the agreement, which can be viewed by [clicking here](#).

☒ I Agree

Agree all

2

Copyright © 1986-2021 Xilinx, Inc. All rights reserved.

< Back Next > Cancel

**Xilinx Unified 2020.1 Installer - Select Destination Directory**

**Select Destination Directory**

Choose installation options such as location and shortcuts.

**Installation Options**

Select the installation directory

C:\Xilinx ...

**Installation location(s)**

C:\Xilinx\Vivado\2020.1

C:\Xilinx\DocNav

**Disk Space Required**

Download Size:	NA
Disk Space Required:	53.92 GB
Final Disk Usage:	45.41 GB
Disk Space Available:	369.76 GB

**Select shortcut and file association options**

☒ Create program group ent...  
Xilinx Design Tools

☒ Create desktop shortcuts

☒ Create file associations

Apply shortcut & file association selections to

☒ Current user

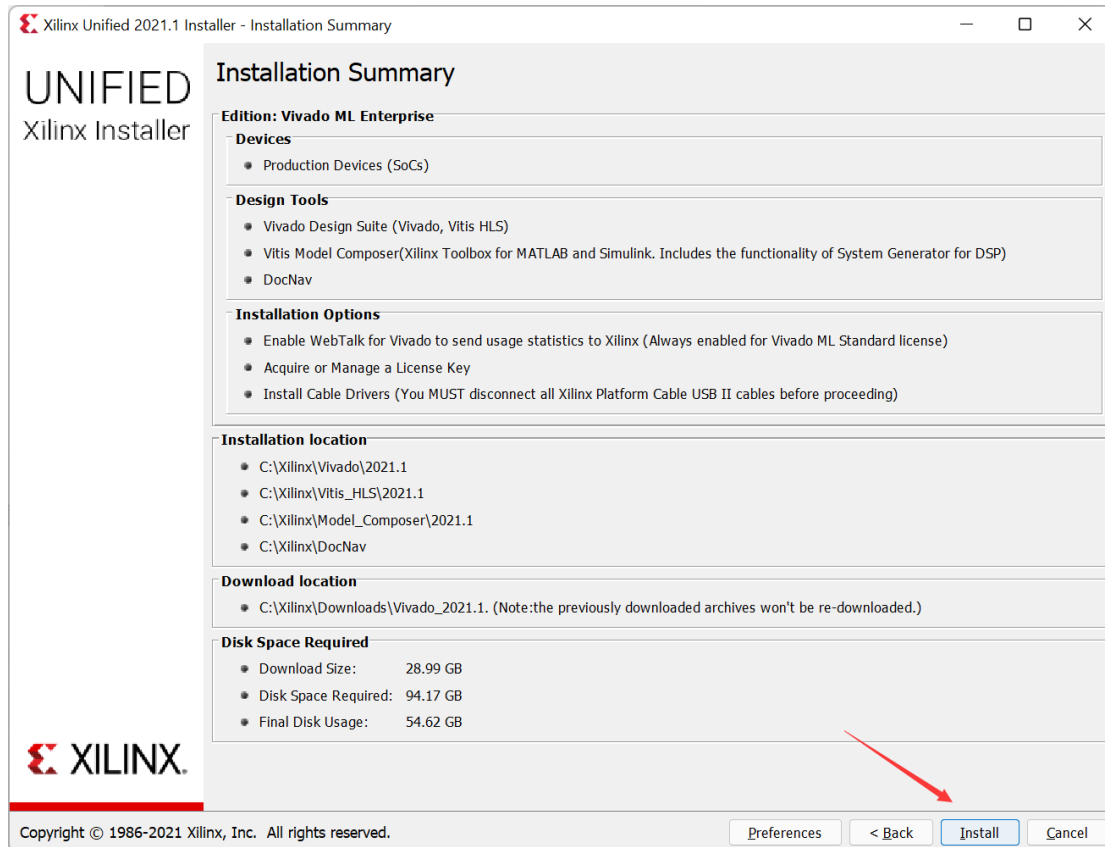
☐ All users

1 Choose directory (the path name MUST be English)

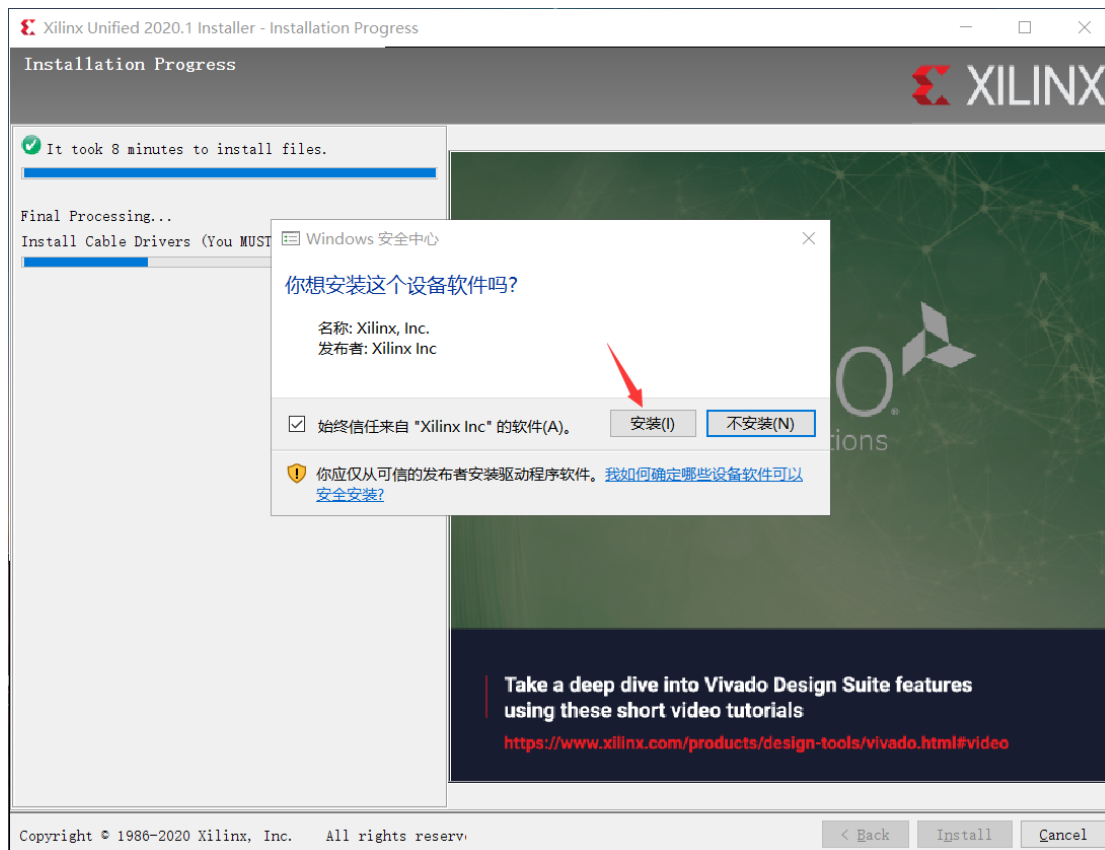
2

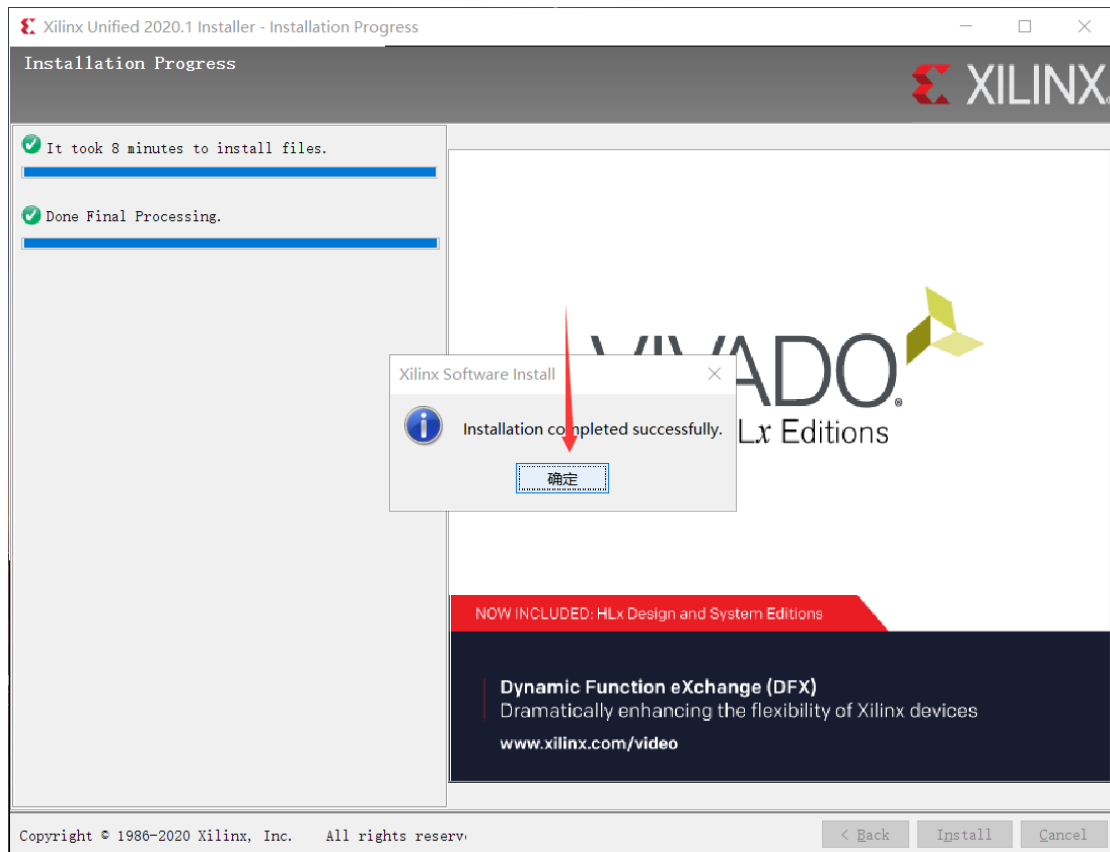
Copyright © 1986-2020 Xilinx, Inc. All rights reserved.

< Back Next > Cancel



It may take hours to download and install the EDA, so be patient and make your device always connect to the internet.



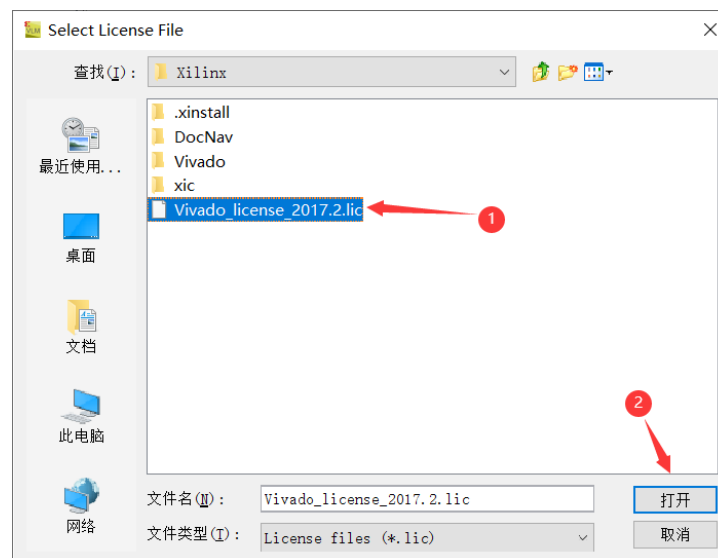
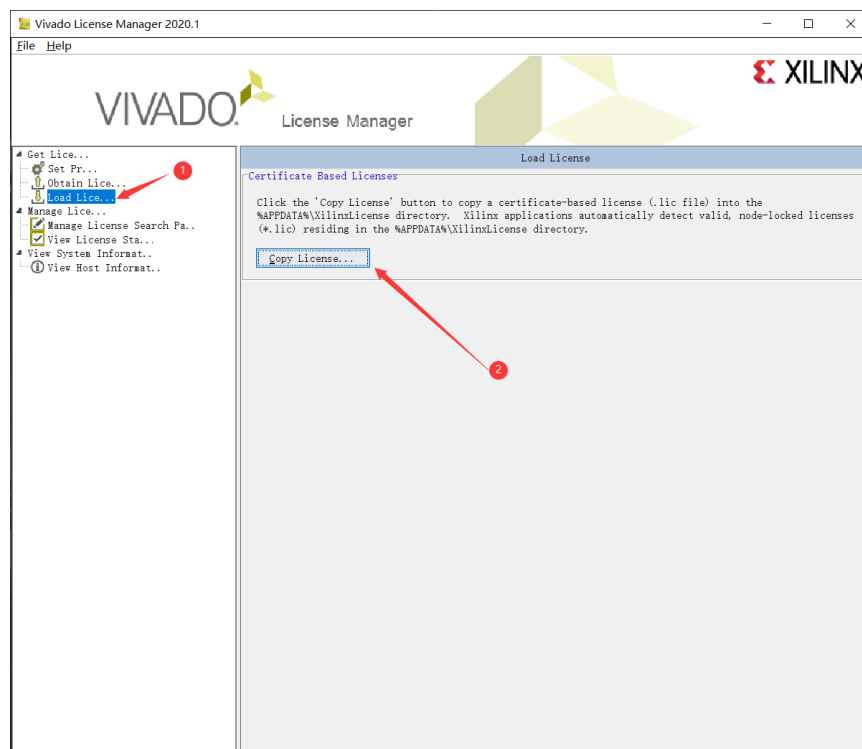




### Step 3: Licensing

1. Download the license file from blackboard into the installation directory (In this tutorial, our installation directory is *C:\Xilinx*).

> 此电脑 > 本地磁盘 (C:) > Xilinx				
名称	修改日期	类型	大小	
.install	2020/11/19 14:40	文件夹		
DocNav	2020/11/19 14:50	文件夹		
Vivado	2020/11/19 14:40	文件夹		
xic	2020/11/19 14:48	文件夹		
Vivado_license_2017.2.lic	2020/11/19 14:52	LIC 文件	1 KB	



**Hint:** If you cannot find the license manager, just obey the operation Vivado 2021.1 >> Help >> Manage License:

