FPGA開発環境のインストール

セミナでは、Xilinx社のFPGA開発環境であるVivado ML Standard Editionを使用します。以下の手順に従い、事前のインストールをお願いします。
対応OSは、Windows 10とLinuxになります。
ダウンロードとインストールに数時間ほど必要になりますので、時間に余裕をもって作業を行ってください。

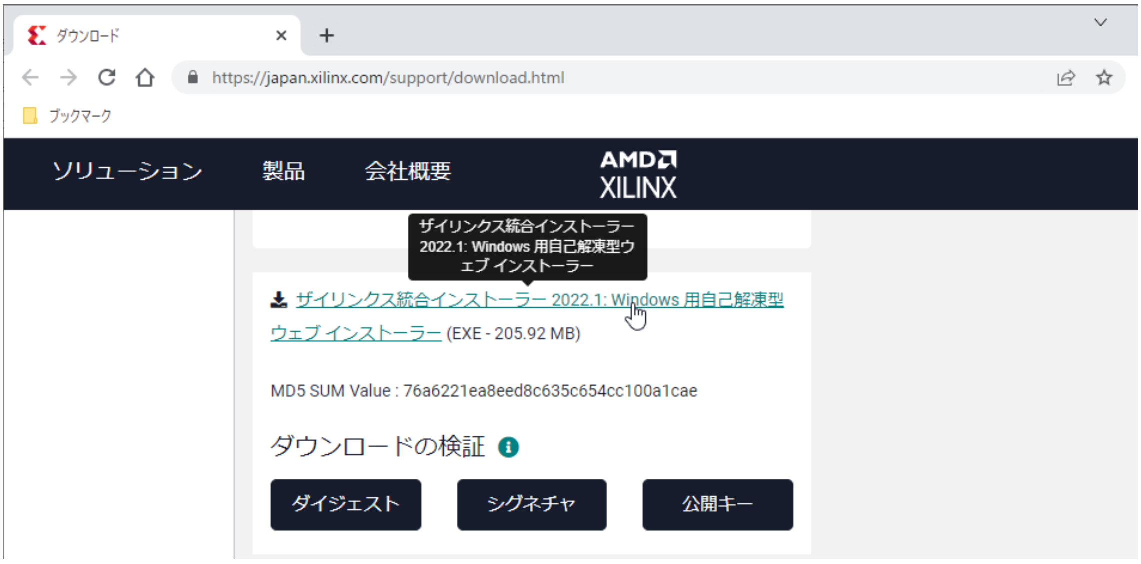
アカウントの作成

インストーラのダウンロードには、Xilinxのアカウントが必要になります。アカウントをお持ちでない方は、まずは下記リンクからアカウントを作成してください。
https://japan.xilinx.com/registration/create-account.html

以下、Windows版を例に、具体的な手順を説明します。

インストーラのダウンロード

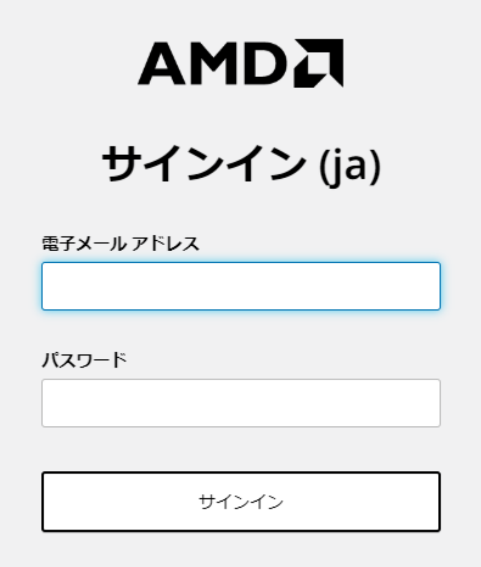
下記リンクから、Vivado MLエディション 2022.1 Full Product Installationの「ザイリンクス統合インストーラ 2022.1: Windows用自己解凍型ウェブインストーラ」をダウンロードします。
https://japan.xilinx.com/support/download.html


ダウンロード
https://japan.xilinx.com/support/download.html
ブックマーク
ソリューション
製品
会社概要
AMD
XILINX
ザイリンクス統合インストーラー 2022.1: Windows 用自己解凍型ウェブ インストーラー
ダウンロードの検証
ダイジェスト
シグネチャ
公開キー

ザイリンクス統合インストーラー 2022.1: Windows 用自己解凍型ウェブ インストーラー (EXE - 205.92 MB)

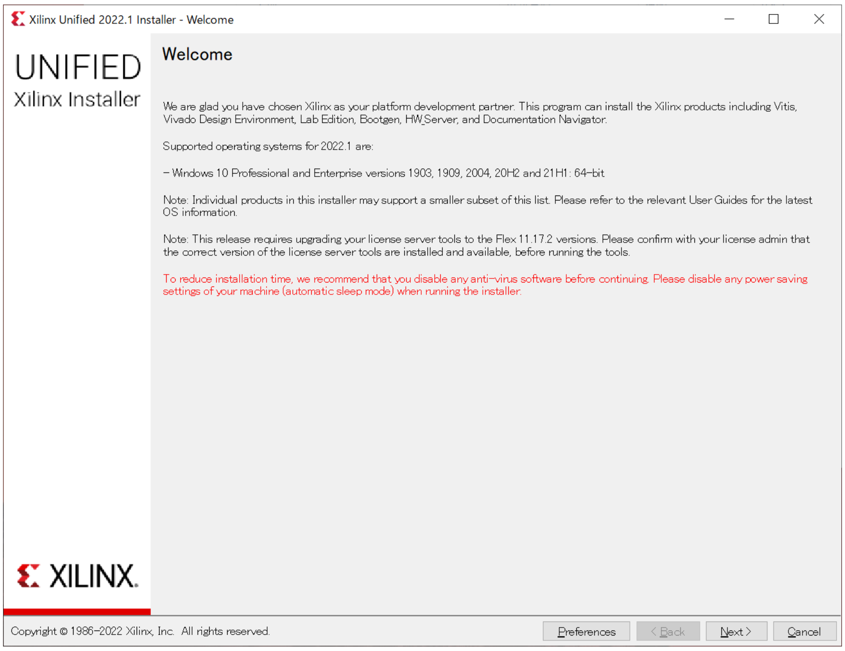
MD5 SUM Value : 76a6221ea8eed8c635c654cc100a1cae

ログインしていない場合は、次のような画面が表示されますので、作成した Xilinx のアカウントでログインをしてください。Xilinx は 2022 年 2 月に AMD に買収されたため、AMD のログイン画面が表示されます。


AMD
サインイン (ja)
電子メール アドレス
パスワード
サインイン

Vivado ML のインストール

ダウンロードしたインストーラをダブルクリックして実行します。Welcome 画面で Next ボタンをクリックして、次に進みます。


Xilinx Unified 2022.1 Installer - Welcome
UNIFIED
Xilinx Installer
XILINX.
Preferences
< Back
Next >
Cancel

Welcome

We are glad you have chosen Xilinx as your platform development partner. This program can install the Xilinx products including Vitis, Vivado Design Environment, Lab Edition, Bootgen, HW_Server, and Documentation Navigator.

Supported operating systems for 2022.1 are:

– Windows 10 Professional and Enterprise versions 1903, 1909, 2004, 20H2 and 21H1: 64-bit

Note: Individual products in this installer may support a smaller subset of this list. Please refer to the relevant User Guides for the latest OS information.

Note: This release requires upgrading your license server tools to the Flex 11.17.2 versions. Please confirm with your license admin that the correct version of the license server tools are installed and available, before running the tools.

To reduce installation time, we recommend that you disable any anti-virus software before continuing. Please disable any power saving settings of your machine (automatic sleep mode) when running the installer.

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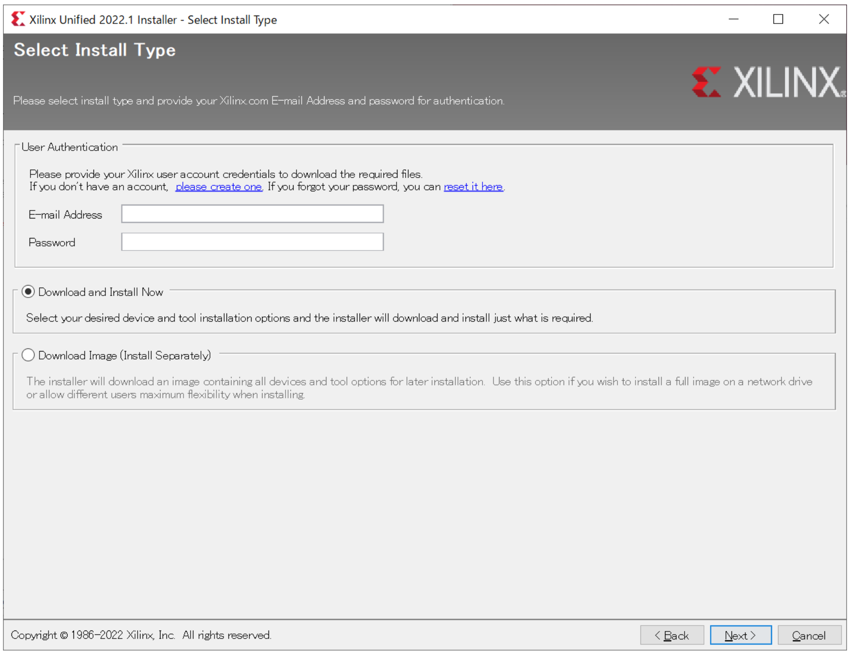
Select Install Type の画面で User Authentication の欄に作成した Xilinx アカウントのメールアドレスとパスワードを入力します。また、ここでは **Download and Install Now** を選択します。ダウンロード容量は、約 44GB です。また、インストールのためのディスクスペースとして 120GB 以上が必要となります。



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.

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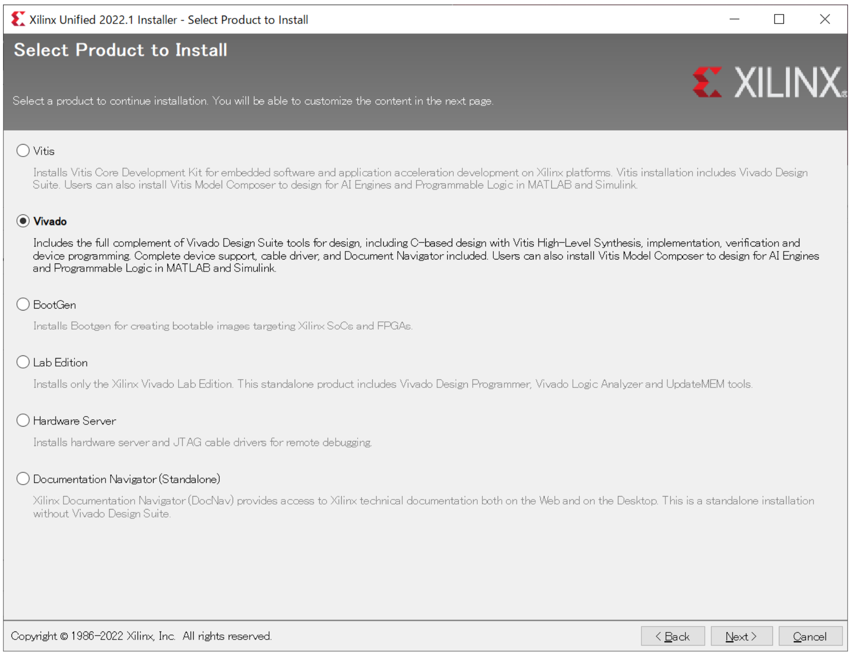
ライセンスを同意の後、Select Product to Install の画面で **Vivado** を選択します。



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**

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.

○ 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 Vivado Design Programmer, Vivado Logic Analyzer and UpdateMEM tools.

○ Hardware Server

Installs hardware server and JTAG cable drivers for remote debugging.

○ Documentation Navigator (Standalone)

Xilinx Documentation Navigator (DocNav) provides access to Xilinx technical documentation both on the Web and on the Desktop. This is a standalone installation without Vivado Design Suite.

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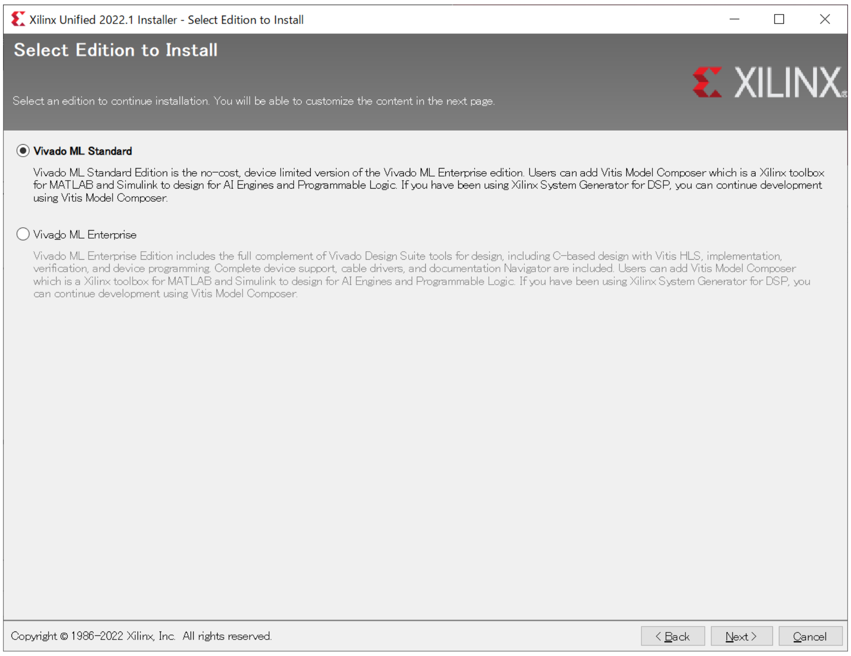
次に、Select Edition to Install の画面で **Vivado ML Standard** を選択します。



Select Edition to Install

Select an edition to continue installation. You will be able to customize the content in the next page.

● **Vivado ML Standard**

Vivado ML Standard Edition is the no-cost, device limited version of the Vivado ML Enterprise edition. Users can add Vitis Model Composer which is a Xilinx toolbox for MATLAB and Simulink to design for AI Engines and Programmable Logic. If you have been using Xilinx System Generator for DSP, you can continue development using Vitis Model Composer.

○ Vivado ML Enterprise

Vivado ML Enterprise Edition includes the full complement of Vivado Design Suite tools for design, including C-based design with Vitis HLS, implementation, verification, and device programming. Complete device support, cable drivers, and documentation Navigator are included. Users can add Vitis Model Composer which is a Xilinx toolbox for MATLAB and Simulink to design for AI Engines and Programmable Logic. If you have been using Xilinx System Generator for DSP, you can continue development using Vitis Model Composer.

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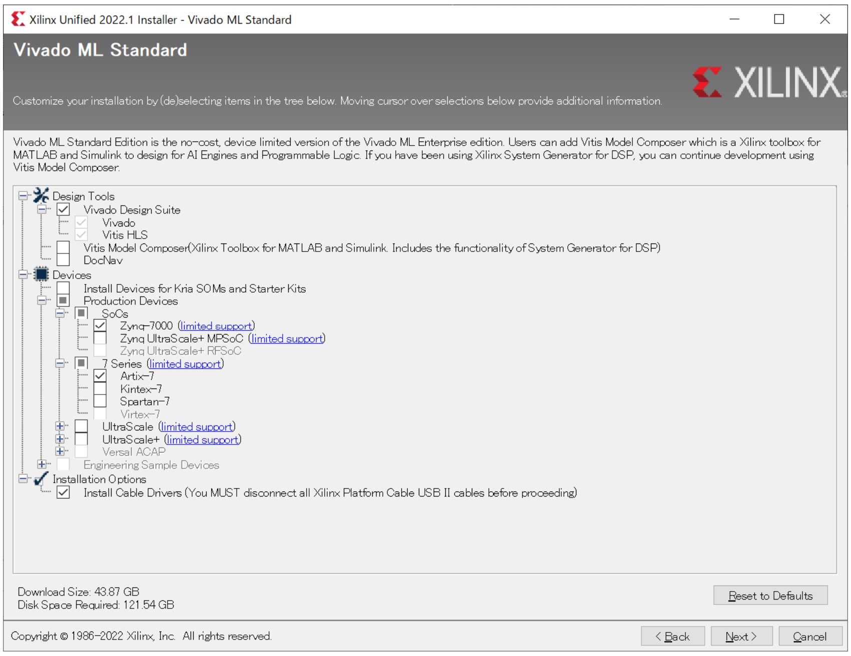
Vivado ML Standard の画面で、インストールするデバイスを選択します。ディスク容量を節約するために、必要なデバイスのみを選択することもできます。



Vivado ML Standard

Customize your installation by (de)selecting items in the tree below. Moving cursor over selections below provide additional information.

Vivado ML Standard Edition is the no-cost, device limited version of the Vivado ML Enterprise edition. Users can add Vitis Model Composer which is a Xilinx toolbox for MATLAB and Simulink to design for AI Engines and Programmable Logic. If you have been using Xilinx System Generator for DSP, you can continue development using Vitis Model Composer.

- Design Tools
  - ☑ Vivado Design Suite
    - ☑ Vivado
    - ☑ Vitis HLS
  - ☐ Vitis Model Composer(Xilinx Toolbox for MATLAB and Simulink. Includes the functionality of System Generator for DSP)
  - ☐ DocNav
- Devices
  - ☐ Install Devices for Kria SOMs and Starter Kits
  - ▣ Production Devices
    - ▣ SoCs
      - ☑ Zynq-7000 (limited support)
      - ☐ Zynq UltraScale+ MPSoC (limited support)
      - ☐ Zynq UltraScale+ RFSoC
    - ▣ 7 Series (limited support)
      - ☑ Artix-7
      - ☐ Kintex-7
      - ☐ Spartan-7
      - ☐ Virtex-7
    - ☐ UltraScale (limited support)
    - ☐ UltraScale+ (limited support)
    - ☐ Versal ACAP
  - ☐ Engineering Sample Devices
- Installation Options
  - ☑ Install Cable Drivers (You MUST disconnect all Xilinx Platform Cable USB II cables before proceeding)

Download Size: 43.87 GB
Disk Space Required: 121.54 GB

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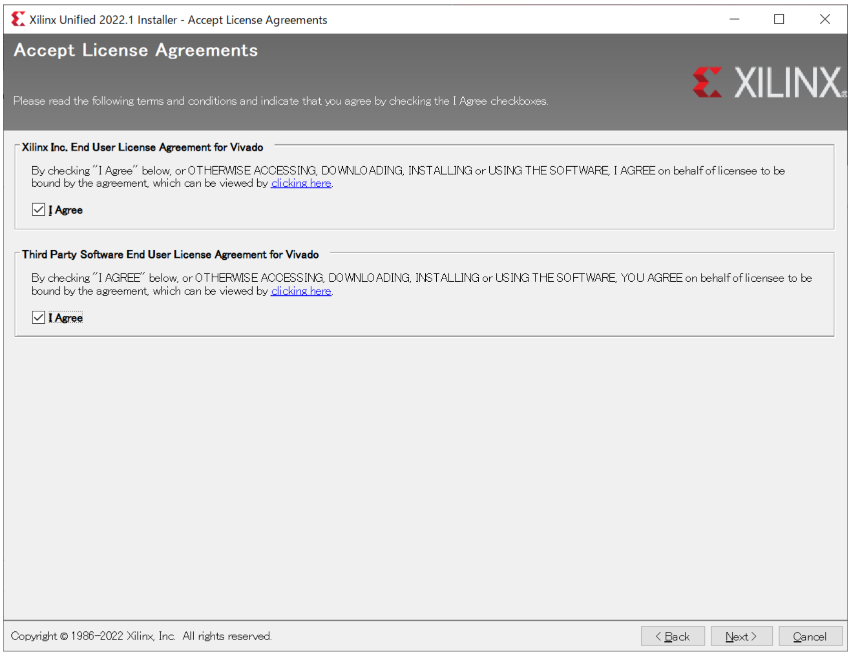
セミナの実習のために、次のツールやデバイスは必ず選択してください。

Design Tools ― Vivado Design Suite ― Vivado
Devices ― Production Devices ― 7 Series ― Artix-7
Install Options ― Install Cable Drivers

Accept License Agreements の画面でライセンスに同意した後、Select Destination Directory でインストール先を確認してください。基本的にデフォルトの **C:¥Xilinx** を指定してください。また、この画面では、ショートカットの作成なども指定できます。


Xilinx Unified 2022.1 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 for Vivado

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**

Third Party Software End User License Agreement for Vivado

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

☑ **I Agree**

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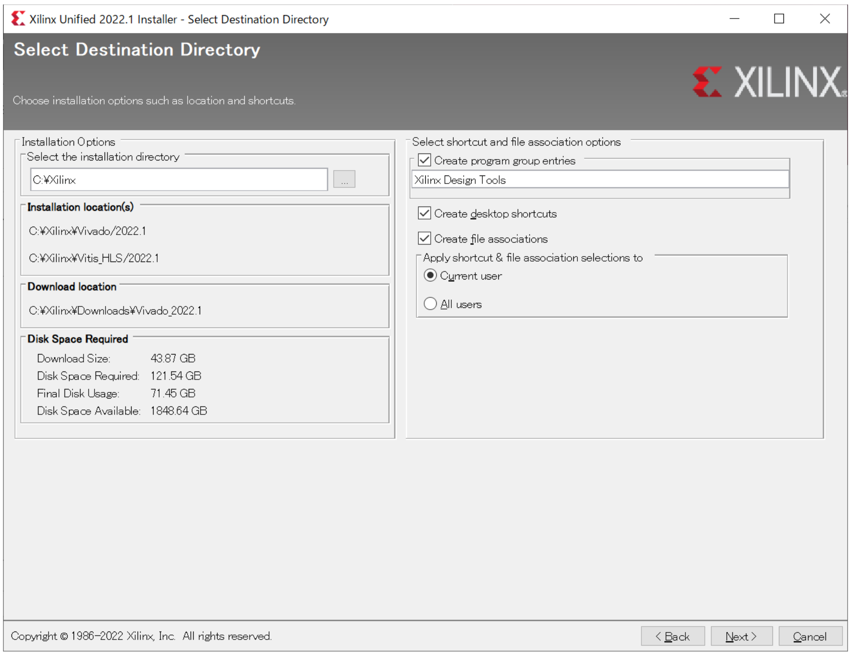
Xilinx Unified 2022.1 Installer - Select Destination Directory

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/2022.1

C:¥Xilinx¥Vitis_HLS/2022.1

Download location

C:¥Xilinx¥Downloads¥Vivado_2022.1

Disk Space Required

Download Size:	43.87 GB
Disk Space Required:	121.54 GB
Final Disk Usage:	71.45 GB
Disk Space Available:	1848.64 GB

Select shortcut and file association options

☑ Create program group entries: Xilinx Design Tools

☑ Create desktop shortcuts

☑ Create file associations

Apply shortcut & file association selections to

● Current user

○ All users

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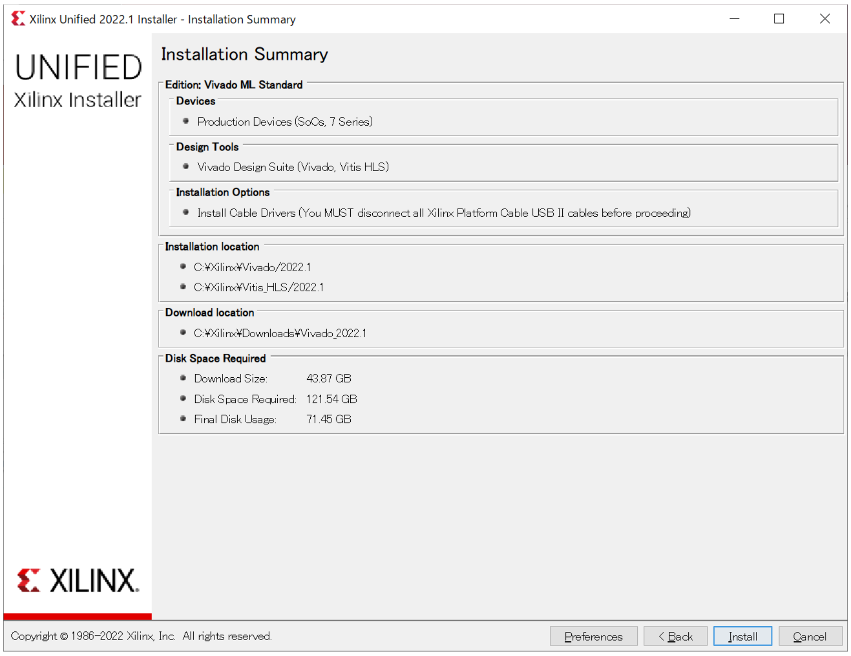
Installation Summary のページでインストール内容の確認をしたら、Install ボタンをクリックして、ダウンロードとインストールを開始します。回線速度にもよりますが、ダウロードには数時間かかることもあります。


Xilinx Unified 2022.1 Installer - Installation Summary
UNIFIED
Xilinx Installer
XILINX.
Preferences
< Back
Install
Cancel

Installation Summary

Edition: Vivado ML Standard

Devices
- Production Devices (SoCs, 7 Series)

Design Tools
- Vivado Design Suite (Vivado, Vitis HLS)

Installation Options
- Install Cable Drivers (You MUST disconnect all Xilinx Platform Cable USB II cables before proceeding)

Installation location
- C:¥Xilinx¥Vivado/2022.1
- C:¥Xilinx¥Vitis_HLS/2022.1

Download location
- C:¥Xilinx¥Downloads¥Vivado_2022.1

Disk Space Required
- Download Size: 43.87 GB
- Disk Space Required: 121.54 GB
- Final Disk Usage: 71.45 GB

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Vivado のインストールが完了すると、WinPcap がすでにインストールされていない場合、WinPcap のインストーラが起動します。WinPcap をインストールしてください。

以上でインストール作業は完了です。