

Instalação dos requisitos

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Detalhes do sistema

- WSL2 com distro Ubuntu 22.04.5 LTS

Vitis 2024.2

Instalação

1. Baixar o [AMD Unified Installer for FPGAs & Adaptive SoCs 2024.2: Linux Self Extracting Web Installer](#) no WSL
2. Executar o como superuser installer:

```
$ sudo su
# cd <path_to_installer>
# chmod +x FPGAs_AdaptiveSoCs_Unified_2024.2_1113_1001_Lin64.bin
# ./FPGAs_AdaptiveSoCs_Unified_2024.2_1113_1001_Lin64.bin
```

3. Seguir o passo a passo do wizard de instalação:

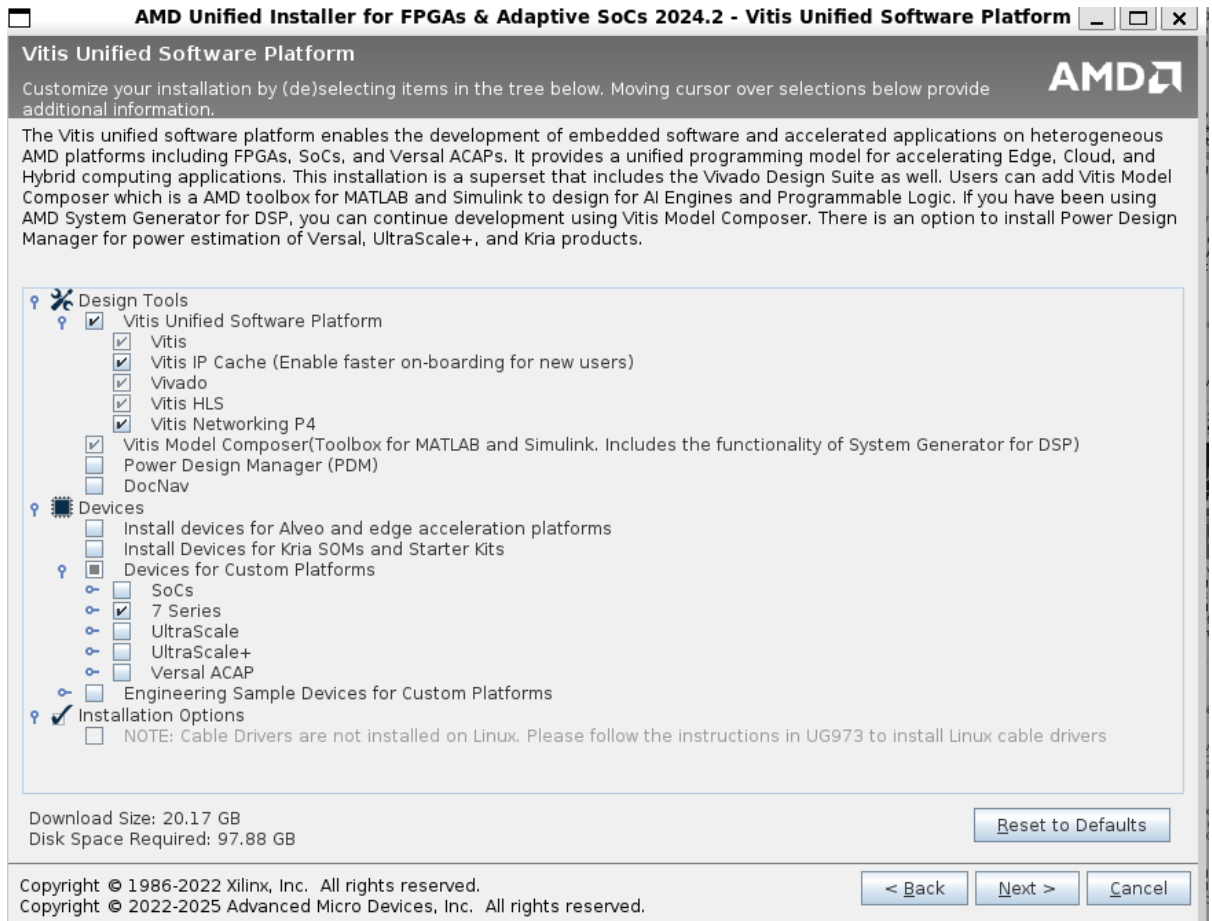
1. Faça o login na sua conta da AMD e selecione a opção **Download and Install Now**

The screenshot shows the 'Select Install Type' window of the AMD Unified Installer. The window title is 'AMD Unified Installer for FPGAs & Adaptive SoCs 2024.2 - Select Install Type'. It features the AMD logo in the top right corner. The main text says 'Please select install type and provide your AMD.com E-mail Address and password for authentication.' Below this, there is a 'User Authentication' section with a text box for 'E-mail Address' (containing 'your_email_address@mail.com') and a password field. Below the authentication section, there are two radio button options: 'Download and Install Now' (which is selected) and 'Download Image (Install Separately)'. The 'Download and Install Now' option has a description: 'Select your desired device and tool installation options and the installer will download and install just what is required.' The 'Download Image (Install Separately)' option has a description: '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.' At the bottom, there is a copyright notice: 'Copyright © 1986-2022 Xilinx, Inc. All rights reserved. Copyright © 2022-2025 Advanced Micro Devices, Inc. All rights reserved.' and three buttons: '< Back', 'Next >', and 'Cancel'.

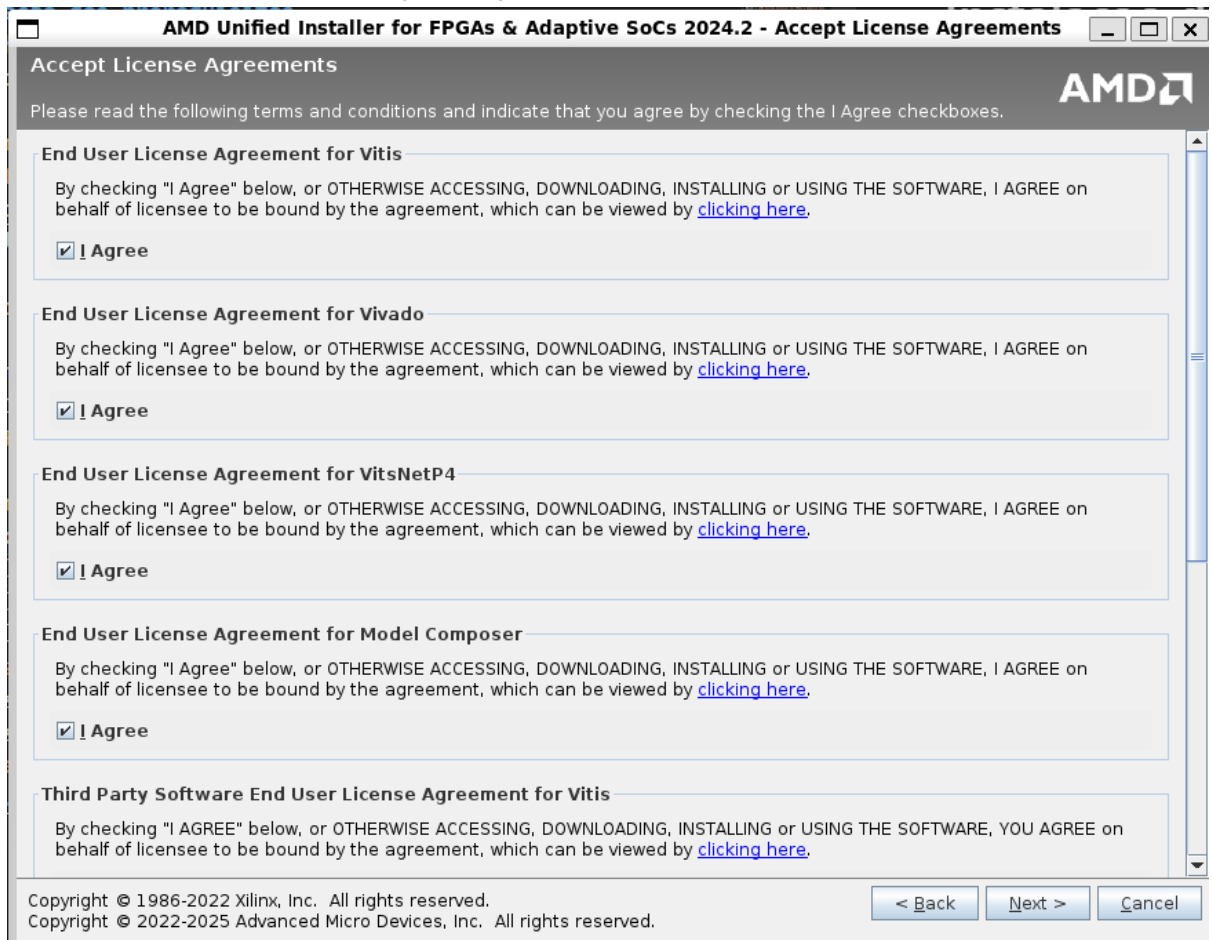
2. Selecione o vitis como produto a ser instalado

The screenshot shows the 'Select Product to Install' window of the AMD Unified Installer. The window title is 'AMD Unified Installer for FPGAs & Adaptive SoCs 2024.2 - Select Product to Install'. It features the AMD logo in the top right corner. The main text says 'Select a product to continue installation. You will be able to customize the content in the next page.' Below this, there are five radio button options: 'Vitis' (which is selected), 'Vivado', 'Vitis Embedded Development', 'BootGen', and 'Lab Edition'. Each option has a description: 'Vitis' (Installs Vitis Core Development Kit for embedded software and application acceleration development on AMD platforms. V installation includes Vivado Design Suite. Users can also install Vitis Model Composer to design for AI Engines and Programmable Logic in MATLAB and Simulink. There is an option to install Power Design Manager for power estimation of Versal, UltraScale+ and Kria products.), '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. Use select to install the Vitis Embedded Development which is an embedded software development package. There is an option to install Power Design Manager for power estimation of Versal, UltraScale+, and Kria products.), 'Vitis Embedded Development' (The Vitis Embedded Development is a standalone embedded software development package for creating, building, debugging, optimizing, and downloading software applications for AMD FPGA processors. It includes a new Vitis IDE with its new backend Server, as well as the classic command line utilities such as hw_server, bootgen and program_flash.), 'BootGen' (Installs Bootgen for creating bootable images targeting AMD SoCs and FPGAs.), and 'Lab Edition' (Installs only the Vivado Lab Edition. This standalone product includes Vivado Design Programmer, Vivado Logic Analyzer and UpdateMEM tools.). At the bottom, there is a copyright notice: 'Copyright © 1986-2022 Xilinx, Inc. All rights reserved. Copyright © 2022-2025 Advanced Micro Devices, Inc. All rights reserved.' and three buttons: '< Back', 'Next >', and 'Cancel'.

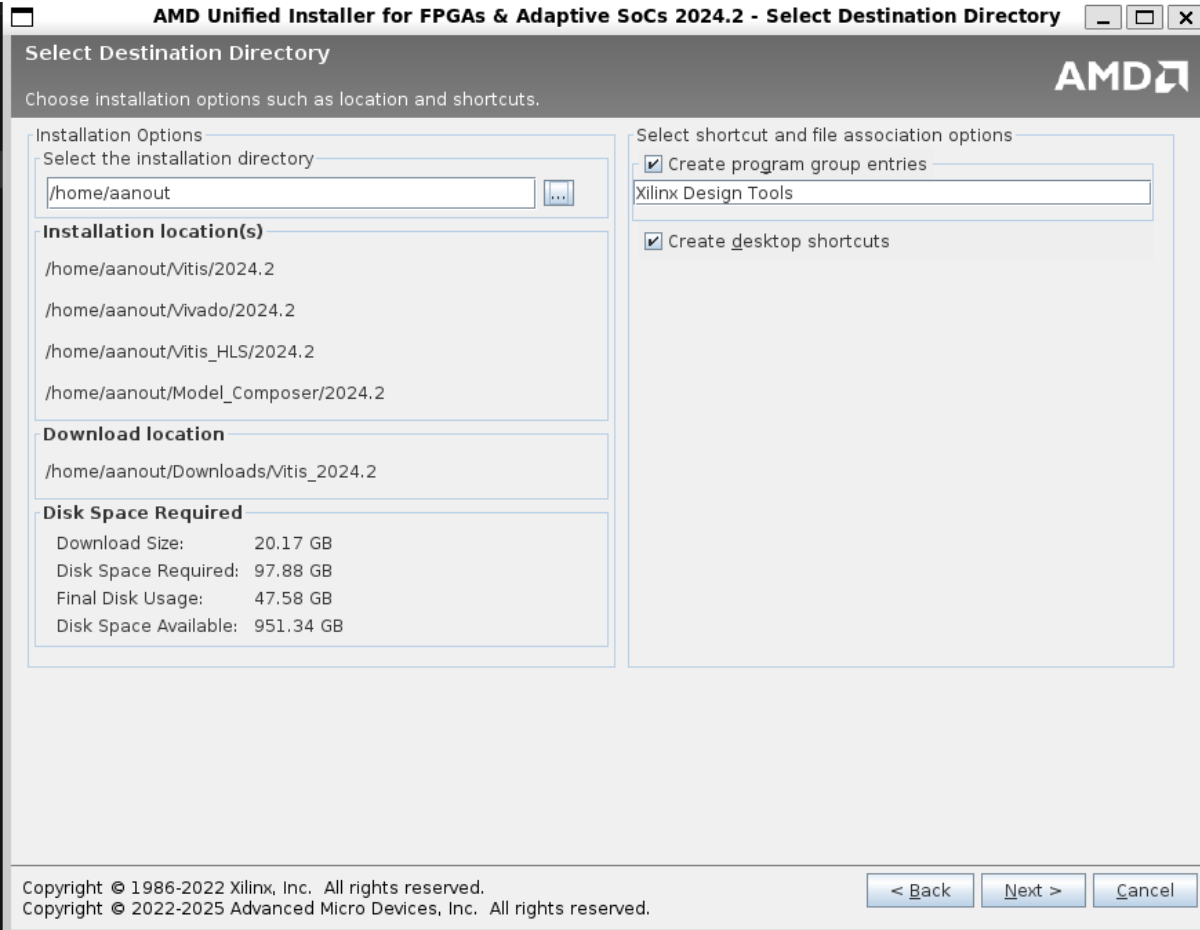
3. Customise sua instalação com as ferramentas necessárias. Pelo menos um device deve ser selecionado.



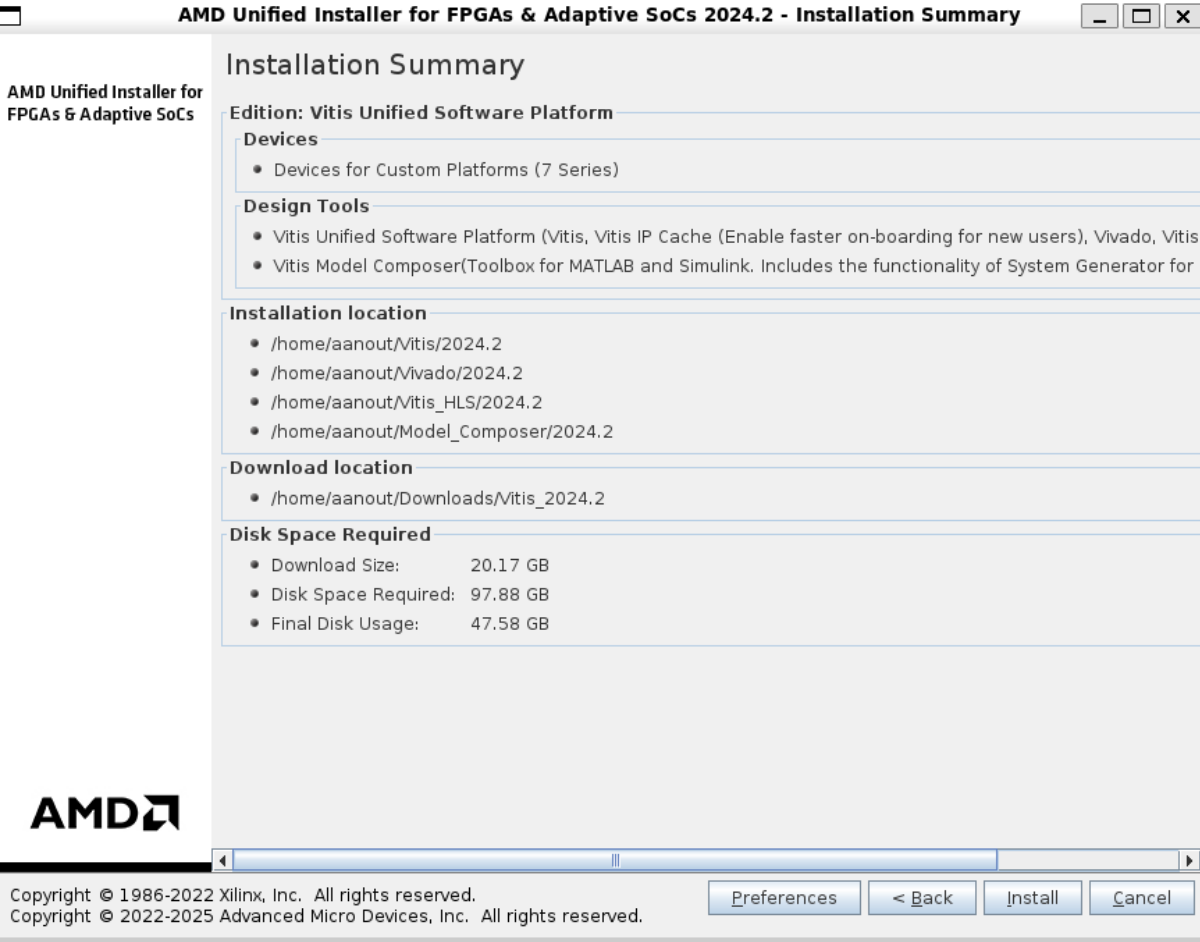
4. Aceite todos os termos e condições requeridos



5. Defina o caminho de instalação



6. Revise as informações de instalação, clique em install e espere a instalação terminar.



4. Instale as bibliotecas necessárias pelo script `installLibs.sh`

```
$ cd <path_to_vitis_2024.2>/scripts  
$ ./installLibs.sh
```

5. Adicione as seguintes linhas ao final do `~/.bashrc`

```
export DISPLAY=:0  
source /tools/Xilinx/Vitis/2024.2/settings64.sh  
export LANG=en_US.UTF-8  
export LC_ALL=en_US.UTF-8
```

Troubleshoot

Não é possível abrir o GUI do vitis

resolvido ao instalar:

```
$ sudo apt install mesa-utils libwebkit2gtk-4.0-37 libwebkit2gtk-4.1-0
```

OpenCV 4.4.0 x86

Instalação

1. Crie um diretório chamado source e clone [opencv-4.4.0](#) nele

```
$ cd <path_to_source_parent_folder>  
$ mkdir source  
$ cd source  
$ git clone https://github.com/opencv/opencv.git opencv-4.4.0  
$ cd opencv-4.4.0  
$ git checkout 4.4.0
```

2. Crie um diretório chamado source_contrib e clone [opencv-4.4.0-contrib](#) nele

```
$ cd <path_to_source_parent_folder>  
$ mkdir source_contrib  
$ cd source_contrib  
$ git clone https://github.com/opencv/opencv_contrib.git opencv-4.4.0-contrib  
$ cd opencv-4.4.0  
$ git checkout 4.4.0
```

3. Crie dois diretórios, [build](#) e [install](#) dentro de opencv-4.4.0, e acesse o diretório [build](#)

```
$ cd <path_to_opencv-4.4.0>
$ mkdir build
$ mkdir install
$ cd build
```

4. Exporte um novo valor para `$LIBRARY_PATH`

```
$ export LIBRARY_PATH=/usr/lib/x86_64-linux-gnu/
```

5. Configure a compilação e instalação do `OpenCV`. Lembre-se de usar a versão 8.3.0 do gcc, por questões de compatibilidade no linker

```
$ cmake .. -D CMAKE_BUILD_TYPE=RELEASE \
-D CMAKE_INSTALL_PREFIX=<path_to_install_folder> \
-D CMAKE_CXX_COMPILER=<path_to_vitis_2024.2>/tps/lnx64/gcc-
8.3.0/bin/g++ \
-D OPENCV_EXTRA_MODULES_PATH=<path_to_opencv-4.4.0-contrib>/opencv-
4.4.0-contrib/modules/ \
-D WITH_V4L=ON \
-DBUILD_TESTS=OFF \
-DBUILD_ZLIB=ON \
-DBUILD_JPEG=ON \
-DWITH_JPEG=ON \
-DWITH_PNG=ON \
-DBUILD_EXAMPLES=OFF \
-DINSTALL_C_EXAMPLES=OFF \
-DINSTALL_PYTHON_EXAMPLES=OFF \
-DWITH_OPENEXR=OFF \
-DBUILD_OPENEXR=OFF \
-DBUILD_opencv_xobjdetect=OFF \
-DPYTHON_EXECUTABLE=/usr/bin/python3
```

6. Compile e instale o `OpenCV`

```
$ make all -j$(nproc)
$ make install
```

Vitis Vision

Instalação

1. Clone o repositório `Vitis_Libraries` dentro do diretório de instalação do Vitis

```
$ cd <path_to_Vitis_2024.2>  
$ sudo git clone https://github.com/Xilinx/Vitis_Libraries.git
```