

Vitis/Vivado 2020.2 Installation Guide

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We will use Xilinx Vitis/Vivado (version 2020.2) as a design tool for our HW/SW codesigns. Visit to https://www.xilinx.com/support/download.html, click on Vitis (SW Developer) and then click on "Vitis Archive".



• This tutorial is prepared using Ubuntu 20.04.6 LTS. Some common problems:

https://support.xilinx.com/s/question/0D52E00006hpQD0SAM/vitis-20202-install-with-ubuntu-2004lts-hangs-on-generating-installed-device-list?language=en_US https://www.fpgadeveloper.com/how-to-install-vitis-and-petalinux-2022.1/ https://danielmangum.com/posts/vivado-2020-x-ubuntu-20-04/

- Select 2020.2. Note that the example projects that we'll provide to you are generated using version 2020.2. Please install version 2020.2 to avoid possible incompatibility.
 - Choose the installation file depending on your OS (Linux Self Extracting for this tutorial) from Vitis Core Development Kit.

Version	Starting 2019.2, Xilinx SDSoC™ developm platform. There will be no 2019.2 or future r		
2023.2			
2023.1			
2022.2	2021.1		
Vitis Archive SDSoC Archive SDAccel Archive SDK/PetaLinux Archive	2021.2		
	2020		
	2020.3		
	2020.2		
	2020.1		



• You will be directed to AMD/Xilinx login page. You can create a free AMD/Xilinx account for downloading the installation file.



• Download the installation bin file, navigate to the download directory and then execute the following commands in terminal.

```
$: sudo chmod +x Xilinx_Unified_2020.2_1118_1232_Lin64.bin
$: ./Xilinx_Unified_2020.2_1118_1232_Lin64.bin
```

• The installer might ask you to download the latest version, ignore that. Click on "Next" and provide your AMD/Xilinx user credentials to the installer





• Choose Vitis, devices and accept the license agreement.

Xilinx Unified 2020.2 Installer - Select Product to Install –	Xilinx Unified 2020.2 Installer - Vitis Unified Software Platform – 🗆 😣	XIIinx Unified 2020.2 Installer - Accept License Agreements — 🗆 😣
Select Product to Install Select a product to continue installation. You will be able to customize the content in the next page.	Vitis Unified Software Platform Customize your installation by (de)selecting items in the tree below. Moving curser over selections below provide XILINX.	Accept License Agreements Please read the following terms and conditions and indicate that you agree by checking the I Agree checkboxes.
Vitis Installa Vitis Core Development RX for embedded software and application acceleration development on Xilox platforms. Vitis install includes Vivado Design Suite. Users can optionally add "Xilinx Add-On for MATLAB & Simulink" that includes Model Composer and S Generator to design for AL Engines and Programmable Logic. Vivado Vivado Nuclude the full complement of Vivado Design Suite tools for design, including C-based design with Vitis High-Level Synthesis. mightmentation, verification and device programming. Complete device support, cable driver, and Document Navagator included.	The Vitis under otherware platform enables the development of embedded software and accelerated applications on heterogeneous Xilins platforms including FAGS. Soc. and Veral AACM. Its provide a unified in calcerating fags, Soc. Add. Veral AACM for Market and the second software platform and the second software and the second software platform and the second software platform and the second software platform and	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 the terms and by the agreement, which can be viewed by <u>schang lies</u> . Image: Image: Image: A schange and the terms and conditions above concerning WebTalk and have read Section 13 of the terms and conditions above concerning WebTalk and have and afforded the gostume afforded the gostume the WebTalk FAQ posted at https://www.vitinc.comprediction/englishing.com
 On-Premises Install for Cloud Deployments (Linux only) Install on-premises version of tools for cloud deployments. 	OCCNW Everate Install everate Everate for Custom Platforms Everate for Custom Platforms	understand that i am able to disable WebTalk later if certain criteria described in Section 33(c) app), if they dont app), is and disable webTalk be unitable webTalk to software or united the Software or united the Software or united to the internet. If fall to satisfy the applicable criteria or if if fall to take the applicable steps to prevent such transmission of information, i agree to allow Xiinx to collect the other discrimination of section 33(c) apression and the software or united to the internet. If all to satisfy the applicable criteria or if if all to take the applicable steps to prevent such transmission of information, i agree to allow Xiinx to collect the other discrimination of section 33(c).
 BootGen Installs Bootgen for creating bootable images targeting Xlinx SoCs and FPGAs. 	Zing 7000 Zing 7000 Zing 1003Scale+ MPSoC Zing UltraScale+ MPSoC Zing UltraScale+ MPSoC V Serie Z Serie	
Lab Edition Installs only to Xlinx Woodo Lab E Hon. This standalone product includes the Vivado Device Programmer and Vivado Logic Analyz tools. Monderson Example		By checking 1 Agree board control regionary and the second s
And unally server Installs hardware server and JTAG cable drivers for remote debugging.	Versal ACAP Series and ACAP Serie	
PetaLinus (Linus only) PetaLinus (Dir a Xillini development tool that contains everything necessary to build, develop, test, and deploy embedded Linux systems. Documentation Wavegator (Standadose)		
Xilinx Documentation Navigator (DocNav) provides access to Xilinx technical documentation both on the Web and on the Desktop. a standaione installation without Vivado Design Suite.	Download Ster: 18.18 GB Dick Space Required: 78.95 GB	
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• Set the installation directory as /opt/Xilinx. Then click on "Next" and the tool starts the download and installation. The final installation directory has a size of around 44 GB.

Xilinx Unified 2020.2 Installer - Select Destination Directory – 🗉 🛞		Xilinx Unified 2020.2 Installer - Installation Summary – 💷 🔞		XIIinx Unified 2020.2 Installer - Installation Progress –	
XIIInx Unified 2020 2 Installer - Se Select: Destination Directory those installation actions with ai location and observes. Installation Captions Select the installation directory PoptXillinx/Viseuro 2020 Installation location(s) Installation location(s) PoptXillinx/Viseuro 2020 PoptXillinx/Viseuro 2020 PoptXillinx/Viseuro 2020 Download location PoptXillinxDownload;VIXEs_2020.2 Download location PoptXillinxDownload;VIXEs_2020.2 Download location PoptXillinxDownload;VIXEs_2020.2 Disk Space Required Download location Pinal Disk Viseuro 18.18.66 Disk Space Required Pinal Disk Viseuro 2020 Pinal	elect Destination Directory -	UNIFIED Xilinx Installer	Xilinx Unified 2020.2 (Installer - Installation Summary - © Installation Summary Edition: Viris Unified Software Platform Devices • Devices for Custom Flatforms (ScCl. 7 Series) Design Tools • Vite Unified Software Platform (Vite, Virado, Vite HLS) Installation location • papt/SilmoVites/2020.2 • Download Goatein • Doming Some Theorem Hall & GB • Disk Space Required • Disk Space Required • Disk Space Required • Disk Space Required • Disk Space Required	Xilinx Uni Installation Progress Develoading Res (123.03.18.18.06) 13.6 and Amila Uni at 44 Kilone Control Print Processing	Ted 2020.2 Installer - Installation Progress
Disk Space Available: 108.05 GB	< Back Bent > Cancel	E XILINX. Copyright © 1386-2023 XİII	r. Inc. All rights neurond. [Preforences] < Back [Install [Canced]	Copyright & 2586-2023 Kilon, Inc. All rights reserved	Unlocking a new design experience for all developers

• After the installation, you also have to install cable drivers separately. First navigate to:

/opt/Xilinx/Vitis/2020.2/data/xicom/cable_drivers/lin64/install_script/install_drivers

• Then, run the command below (with super-user privileges).

sudo ./install_drivers

- Now, Vitis/Vivado is ready to be launched.
 - Use commands below to start Vivado.

source /opt/Xilinx/Vivado/2020.2/settings64.sh
vivado

• Use commands below to start Vitis.

```
source /opt/Xilinx/Vitis/2020.2/settings64.sh
vitis
```

(This step is not needed for Windows OS)

PYNQ-Z2 Board Files

- We will use the PYNQ-Z2 FPGA board for implementing the cryptographic primitives. With Vitis/Vivado 2020.2, you also need to copy the PYNQ-Z2 board-specific files into the installation directory.
- Go to course website (<u>https://www.iaik.tugraz.at/chw</u>) and download board files. Copy the PYNQ-Z2 board files into the following directories.

/opt/Xilinx/Vitis/2020.2/data/boards/board_files/
/opt/Xilinx/Vivado/2020.2/data/boards/board_files/

(For Windows OS)

C:/Xilinx/Vitis/2020.2/data/boards/board_files/ C:/Xilinx/Vivado/2020.2/data/boards/board_files/