



СРЕДА РАЗРАБОТКИ VIVADO. УСТАНОВКА XILINX VIVAD

Проектирование цифровой
техники с применением ПЛИС
и аппаратного языка разработки
System Verilog

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Установка Xilinx Vivado



<http://www.xilinx.com> или <https://www.amd.com>.

Системные требования:

- операционная система: Linux (рекомендуемая ОС: Ubuntu или родственная), Windows 10 (и свежее);
- ОЗУ: побольше! (от 8 ГБ);
- процессор: количество ядер почти не влияет, тактовая частота выше (!);
- дисковое пространство: примерно 120 ГБ для дистрибутива, от 70 ГБ для установленного САПР.

Вывод: игры придется удалить, игры кончились.

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Небольшой квест!

```
sudo apt install libncurses5 libtinfo5
```

или

- **найдем библиотеку:** `whereis libncurses.so.6`
- **перейдем:** `cd /usr/lib/x86_64-linux-gnu/`

Ссылка: `sudo ln -s libncurses.so.5 libncurses.so.6`

```
neya@neya-ws:~$ whereis libncurses.so.6
libncurses.so.6: /usr/lib/x86_64-linux-gnu/libncurses.so.6
neya@neya-ws:~$ cd /usr/lib/x86_64-linux-gnu
neya@neya-ws:/usr/lib/x86_64-linux-gnu$ sudo ln -s libncurses.so.5 libncurses.so.6
```

```
neya@neya-ws:/usr/lib/x86_64-linux-gnu$ ls -l libncurses.so.5
lrwxrwxrwx 1 root root 15 авг  7 13:40 libncurses.so.5 -> libncurses.so.6
```

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Распакуем архив.

Запустим GUI установщика:

```
-rwxr-xr-x 1 neya neya 1001792 окт 14 2022 ucrtbase.dll
-rwxr-xr-x 1 neya neya 334728 окт 14 2022 vccorlib140.dll
-rwxr-xr-x 1 neya neya 37256 окт 14 2022 vcruntime140_1.dll
-rwxr-xr-x 1 neya neya 97160 окт 14 2022 vcruntime140.dll
-rwxr-xr-x 1 neya neya 3608 окт 14 2022 xsetup
-rwxr-xr-x 1 neya neya 441776 окт 14 2022 xsetup.exe
neya@neya-ws:~/soft/distr/xilinx/Xilinx_Unified_2022.2_1014_8888$ ./xsetup
```

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Xilinx Unified 2022.2 Installer - Welcome

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, PetaLinux, and Documentation Navigator.

Warning: you are running on an OS version that is not officially supported. Xilinx does not recommend installing on unsupported OSes. You can still proceed with the installation by clicking "Next"

Supported operating systems for 2022.2 are:

- Red Hat Enterprise Linux 7.4-7.7, 7.9: 64-bit
- Red Hat Enterprise Linux 8.2-8.6: 64-bit (Not supported for PetaLinux)
- CentOS Linux 7.4-7.7, 7.9: 64-bit
- SUSE Enterprise Linux 12.4, 15.2: 64-bit(Not supported for PetaLinux)
- Amazon Linux 2 AL2 LTS: 64-bit(Not supported for PetaLinux)
- Ubuntu Linux 18.04.1-18.04.6, 20.04, 20.04.1-20.04.4, and 22.04 LTS: 64-bit - Additional library installation required.

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.

Note: This installation program will not install cable drivers on Linux. This item will need to be installed separately, with administrative privileges.

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.

XILINX

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Preferences < Back Next > Cancel

Установка Xilinx Vivado



Xilinx Unified 2022.2 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
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
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 Vivado Design Programmer, Vivado Logic Analyzer and UpdateMEM 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.

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Xilinx Unified 2022.2 Installer - Vitis Unified Software Platform

Vitis Unified Software Platform

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

The Vitis unified software platform enables the development of embedded software and accelerated applications on heterogeneous Xilinx platforms including FPGAs, SoCs, and Versal ACAPs. It provides a unified programming model for accelerating Edge, Cloud, and Hybrid computing applications. This installation is a superset that includes the Vivado Design Suite as well. 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

- Vitis Unified Software Platform
 - Vitis
 - Vitis IP Cache (Enable faster on-boarding for new users)
 - 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 Alveo and Xilinx edge acceleration platforms
 - Install Devices for Kria SOMs and Starter Kits
 - Devices for Custom Platforms
 - SoCs
 - Zynq-7000
 - Zynq UltraScale+ MPSoC
 - Zynq UltraScale+ RFSoC
 - 7 Series
 - Artix-7
 - Kintex-7
 - Spartan-7
 - Virtex-7
 - UltraScale
 - UltraScale+
 - Versal ACAP
 - Engineering Sample Devices for Custom Platforms

- Installation Options
- NOTE: Cable Drivers are not installed on Linux. Please follow the instructions in UG973 to install Linux cable drivers

Download Size: NA
Disk Space Required: 64.0 GB

Reset to Defaults

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Xilinx Unified 2022.2 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.

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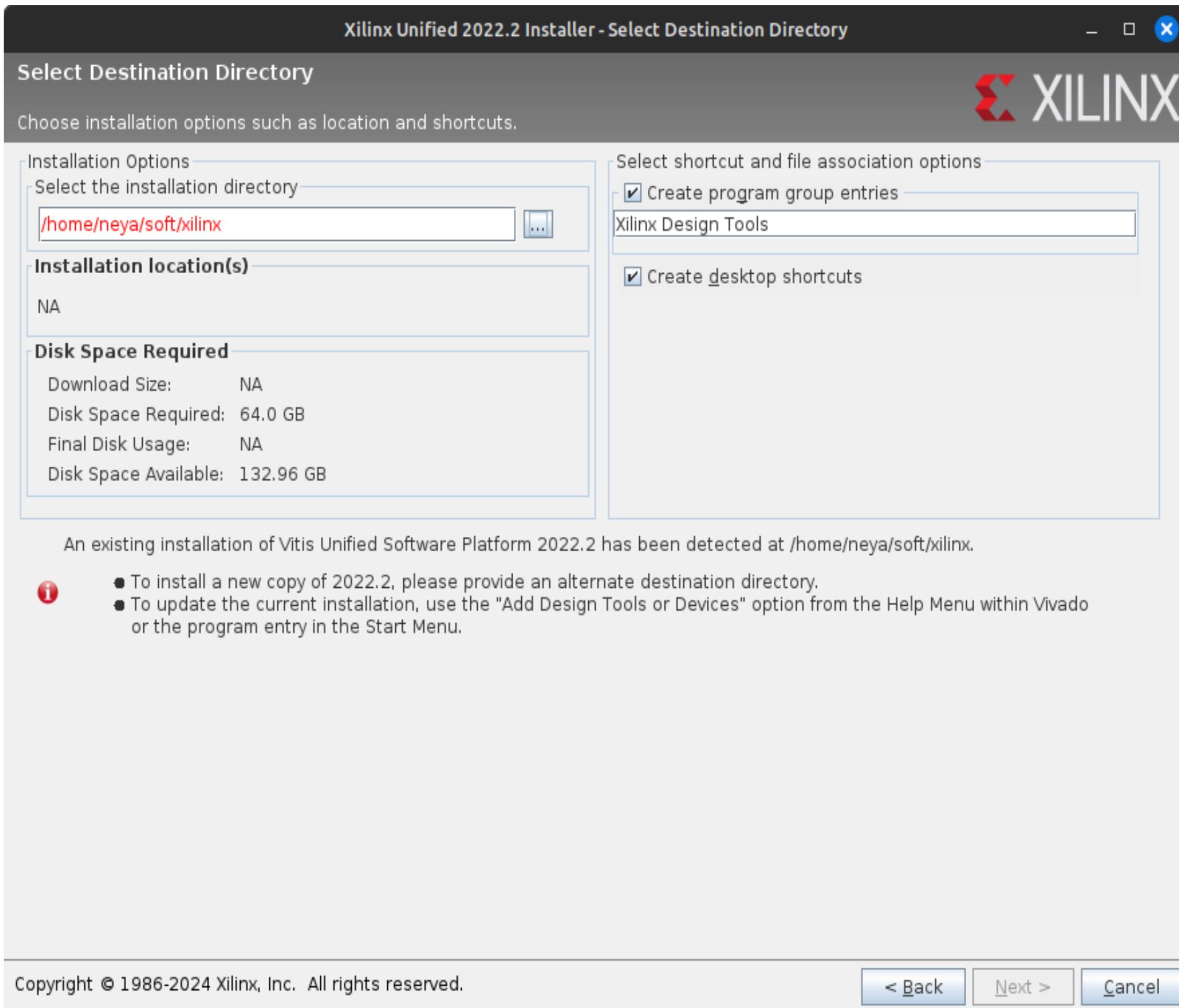
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Установка Xilinx Vivado



Драйвера программатора для Linux:

```
cd <Путь до Vivado>/data/xicom/cable_drivers/lin64/install_script/  
install_drivers/sudo ./install_drivers
```

Знакомство с САПР



1. Здесь информация по установке и настройке: <https://digilent.com/reference/programmable-logic/guides/installing-vivado-and-vitis>.
2. Здесь находятся файлы отладочных плат: <https://github.com/Digilent/vivado-boards>.
Они необязательны, но упрощают создание проекта. Описание добавления файлов описано выше.
Если кратко, то нужно скопировать из new/board_files в <путь до vivado/версия>/data/boards/board_files.
3. Здесь находятся файлы ограничений отладочных плат: <https://github.com/Digilent/digilent-xdc>.
Они необязательны, но ускоряют создание проекта.
4. Запуск приложения возможен из меню или при помощи двух команд:
`source <путь до Vivado/версия>/settings64.sh`
`vivado.`



Спасибо за внимание!