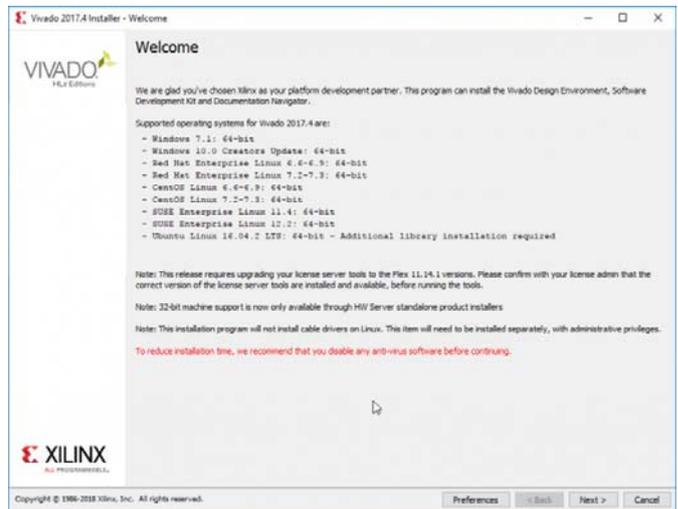


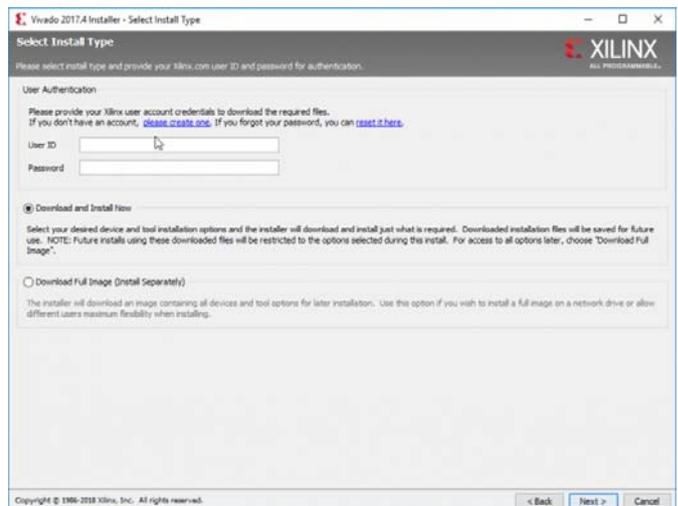
At the Welcome screen, make sure that the operating system of the computer being used is listed in the compatibility list, then click **Next**.



(https://reference.digilentinc.com/_detail/vivado/installing-vivado/welcome.png?id=vivado%3Ainstalling-vivado%3Astart)

1.4

Use the same credentials as on the Xilinx website for user authentication. Select the **Download and Install Now** option and click **Next**.



(https://reference.digilentinc.com/_detail/vivado/installing-vivado/authenticate.png?id=vivado%3Ainstalling-vivado%3Astart)

1.5

Read and **accept** all three license agreements, then click **Next**.

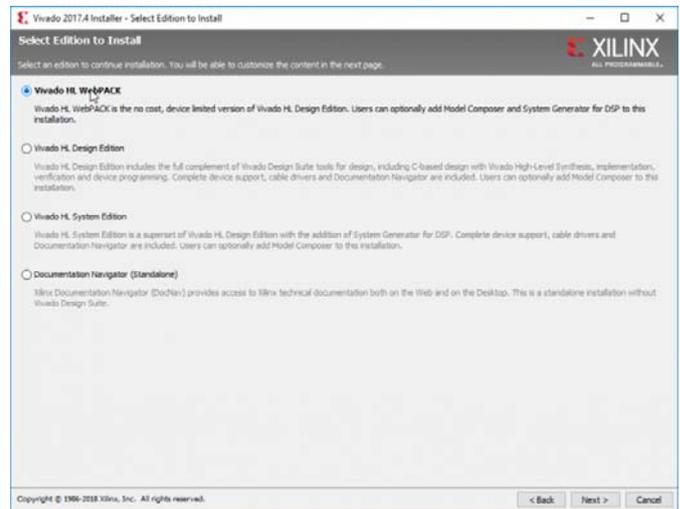


(https://reference.digilentinc.com/_detail/vivado/installing-vivado/eulas.png?id=vivado%3Ainstalling-vivado%3Astart)

1.6

On the “Select Edition to Install” screen, several options are presented. Vivado WebPACK Edition is fully free, but will not work when developing for Digilent FPGAs that use a Kintex-7 or Virtex-7 part. Vivado Design Edition can be used without a license, and is the edition recommended by Digilent. A license is

required to use Vivado System Edition. This guide does not cover the acquisition and management of licenses. Select the most appropriate edition for the situation, then click **Next**.

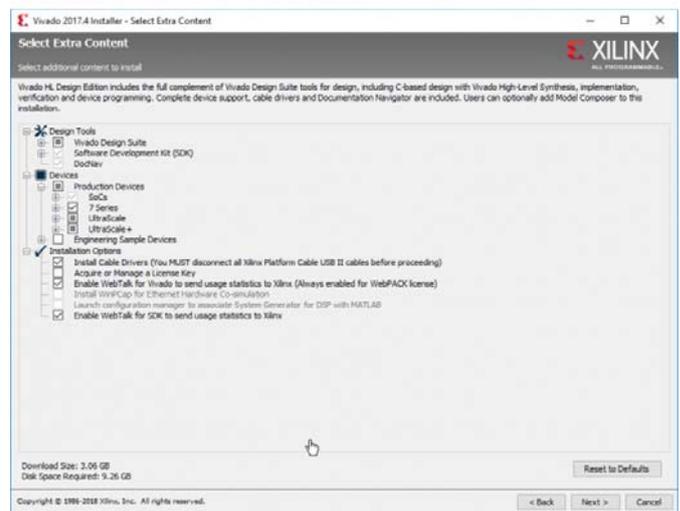


(https://reference.digilentinc.com/_detail/vivado/installing-vivado/select-editions.png?id=vivado%3Ainstalling-vivado%3Astart)

1.7

This screen provides more detailed options for the customization of the installation. The majority of these options do not need to be changed for a basic installation, but unnecessary features can be removed to reduce the installation's footprint on the file-system - for example, most users will not need their Vivado installation to support Ultrascale, Kintex, or Virtex devices. The important options for a beginner to note here are described in the list below. Review the selections, then click **Next**.

- *Design Tools:*
 - *Vivado Design Suite:*
 - Installs the main Vivado development environment.
 - *Software Development Kit:*
 - Installs an Eclipse-based development environment for Microblaze and Zynq designs.
 - *DocNav:*
 - Installs a navigation tool to quickly find appropriate Xilinx documentation of IP and examples.
- *Devices:*
 - Allows customization of the set of Xilinx FPGA parts that can be designed for after installation.
- *Installation Options:*
 - *Install Cable Drivers:*
 - Installs the appropriate drivers so that a connected FPGA can be programmed. **If Vivado has not been installed before, make sure to check this!**
 - *Acquire or Manage a License Key:*
 - Launches the Xilinx License manager after installation is complete. **Most users do not need to manage licenses.**



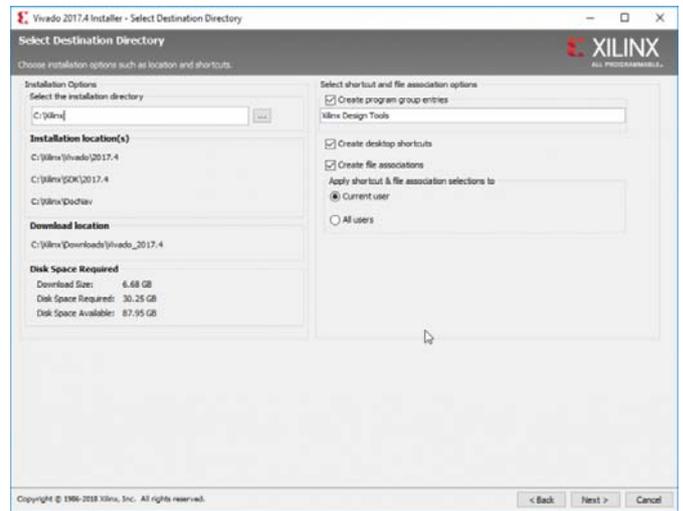
(https://reference.digilentinc.com/_detail/vivado/installing-vivado/customize-install.png?id=vivado%3Ainstalling-vivado%3Astart)

NOTE: Changes can be made to the installation after it is complete by going to

Help → **Add Design Tools or Devices** in the Vivado toolbar.

1.8

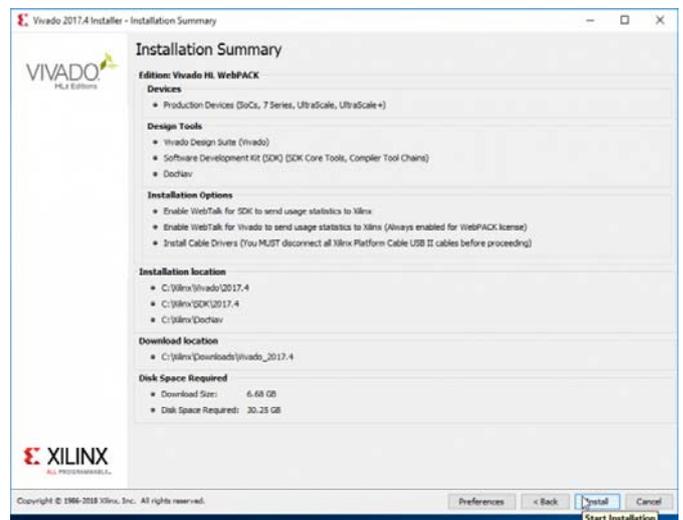
The “Select Destination Directory” screen shows how and where the installation will be placed in the computer's file system. Leaving all of these settings as default is typically fine. Click **Next** and then **Yes** if prompted to confirm that the installer will be creating a new directory.



(https://reference.digilentinc.com/_detail/vivado/installing-vivado/select-install-directory.png?id=vivado%3Ainstalling-vivado%3Astart)

1.9

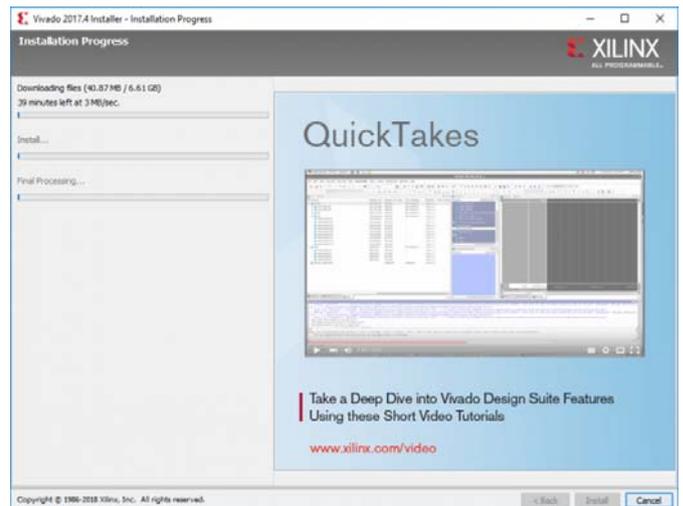
Review the “Installation Summary”, then click **Install**.



(https://reference.digilentinc.com/_detail/vivado/installing-vivado/summary.png?id=vivado%3Ainstalling-vivado%3Astart)

1.10

The installation process will take quite a while, as seen in the screenshot to the right. Find something else to work on until it completes.



(https://reference.digilentinc.com/_detail/vivado/installing-vivado/install-progress.png?id=vivado%3Ainstalling-vivado%3Astart)

2. Installing Cable Drivers on Linux

Windows users may skip this section and continue on to [Step 3](#).

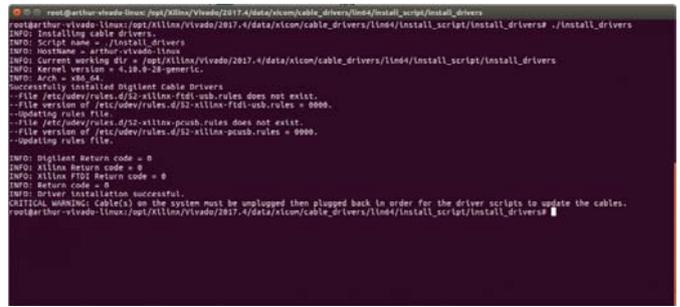
2.1

The Vivado installer does not install the USB drivers required to recognize an FPGA on a Linux system, regardless of whether the option was checked or not. In order to install these drivers, navigate to the “<Vivado Install>/data/xicom/cable_drivers/lin64/install_script/install_drivers/” directory in a console window. The “<Vivado Install>” directory is typically the “/opt/Xilinx/Vivado/*/” directory - the “*” representing the Vivado version number (2018.2). From within this directory, run the “./install_drivers” command as a super-user. Once this command completes successfully, the required drivers will be installed.

NOTE: Some older versions of Vivado may require that the install_drivers command be extracted from a TAR file before use.

2.2

In order to use the USB drivers with a serial terminal, each user that will be using serial terminals must be added to the dialout group. Serial terminals can be very useful for debugging FPGA designs that implement a USB-UART controller. A user can be added to the dialout group with the “**sudo adduser \$USER dialout**” command. Note that this only adds the user that is currently active. In order to add a non-super-user while authenticated as root, use the command “**adduser <username> dialout**” instead, with “<username>” replaced with the name of the user to be added.



(https://reference.digilentinc.com/_detail/vivado/installing-vivado/linux-drivers.png?id=vivado%3Ainstalling-vivado%3Astart)



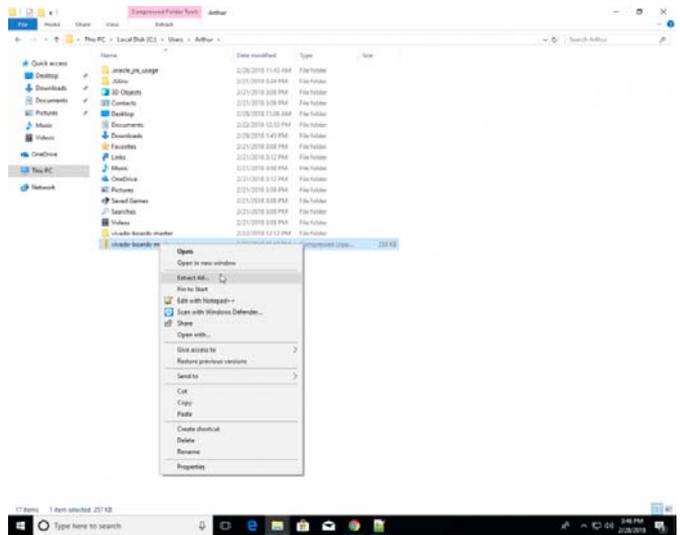
(https://reference.digilentinc.com/_detail/vivado/installing-vivado/linux-dialout.png?id=vivado%3Ainstalling-vivado%3Astart)

3. Installing Digilent Board Files

Digilent provides board files for each FPGA development board. These files make it easy to select the correct part when creating a new project and allow for automated configuration of several complicated components used in many designs.

3.1

Download the  archive (<https://github.com/Digilent/vivado-boards/archive/master.zip>) of the vivado-boards Github repository and extract it.

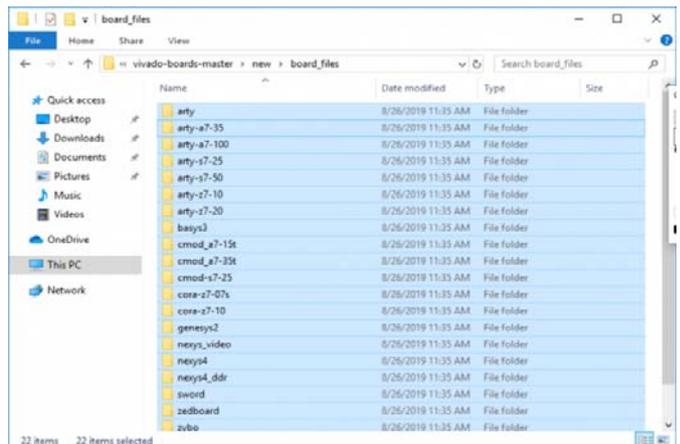


(https://reference.digilentinc.com/_detail/vivado/installing-vivado/download-boards.png?id=vivado%3Ainstalling-vivado%3Astart)

3.2

Open the folder extracted from the archive and navigate to its 'new/board_files' directory. Select all folders within this directory and copy them.

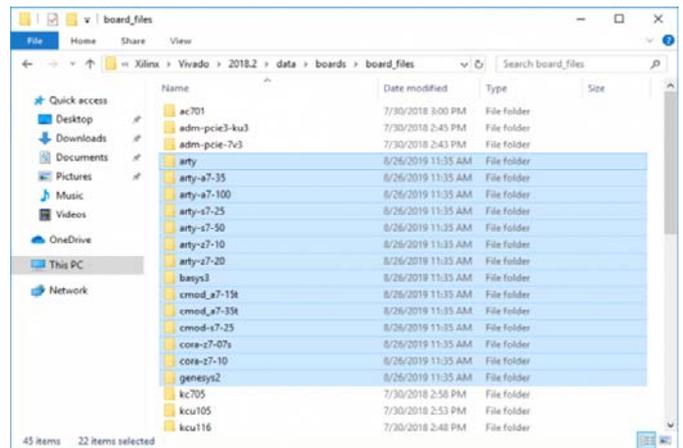
Note: When installing Vivado versions 2014.4 or older, use the files found in 'old/board_files' instead.



(https://reference.digilentinc.com/_detail/vivado/installing-vivado/board-files-copy.png?id=vivado%3Ainstalling-vivado%3Astart)

3.3

Open the folder that Vivado was installed into - 'C:/Xilinx/Vivado' or '/opt/Xilinx/Vivado' by default. Under this folder, navigate to its '<version>/data/boards/board_files' directory, then **paste** the board files into this directory.



(https://reference.digilentinc.com/_detail/vivado/installing-vivado/board-files-paste.png?id=vivado%3Ainstalling-vivado%3Astart)

In Conclusion

Vivado has now been installed and it has access to Digilent's board files! To begin using Vivado to develop a project, check out one of the tutorials below:

- [Getting Started with Vivado \(https://reference.digilentinc.com/vivado/getting_started/start\)](https://reference.digilentinc.com/vivado/getting_started/start)
- [Getting Started With Vivado IP Integrator \(https://reference.digilentinc.com/vivado/getting-started-with-ipi/start\)](https://reference.digilentinc.com/vivado/getting-started-with-ipi/start)

[learn \(https://reference.digilentinc.com/tag/learn?do=showtag&tag=learn\)](https://reference.digilentinc.com/tag/learn?do=showtag&tag=learn), [programmable-logic \(https://reference.digilentinc.com/tag/programmable-logic?do=showtag&tag=programmable-logic\)](https://reference.digilentinc.com/tag/programmable-logic?do=showtag&tag=programmable-logic), [software \(https://reference.digilentinc.com/tag/software?do=showtag&tag=software\)](https://reference.digilentinc.com/tag/software?do=showtag&tag=software), [tutorial \(https://reference.digilentinc.com/tag/tutorial?do=showtag&tag=tutorial\)](https://reference.digilentinc.com/tag/tutorial?do=showtag&tag=tutorial), [vivado \(https://reference.digilentinc.com/tag/vivado?do=showtag&tag=vivado\)](https://reference.digilentinc.com/tag/vivado?do=showtag&tag=vivado), [arty \(https://reference.digilentinc.com/tag/arty?do=showtag&tag=arty\)](https://reference.digilentinc.com/tag/arty?do=showtag&tag=arty), [arty-a7 \(https://reference.digilentinc.com/tag/arty-a7?do=showtag&tag=arty-a7\)](https://reference.digilentinc.com/tag/arty-a7?do=showtag&tag=arty-a7), [arty-s7 \(https://reference.digilentinc.com/tag/arty-s7?do=showtag&tag=arty-s7\)](https://reference.digilentinc.com/tag/arty-s7?do=showtag&tag=arty-s7), [arty-z7 \(https://reference.digilentinc.com/tag/arty-z7?do=showtag&tag=arty-z7\)](https://reference.digilentinc.com/tag/arty-z7?do=showtag&tag=arty-z7), [basys-3 \(https://reference.digilentinc.com/tag/basys-3?do=showtag&tag=basys-3\)](https://reference.digilentinc.com/tag/basys-3?do=showtag&tag=basys-3), [cmod-a7 \(https://reference.digilentinc.com/tag/cmod-a7?do=showtag&tag=cmod-a7\)](https://reference.digilentinc.com/tag/cmod-a7?do=showtag&tag=cmod-a7), [cmod-s7 \(https://reference.digilentinc.com/tag/cmod-s7?do=showtag&tag=cmod-s7\)](https://reference.digilentinc.com/tag/cmod-s7?do=showtag&tag=cmod-s7), [cora-z7 \(https://reference.digilentinc.com/tag/cora-z7?do=showtag&tag=cora-z7\)](https://reference.digilentinc.com/tag/cora-z7?do=showtag&tag=cora-z7), [genesys-2 \(https://reference.digilentinc.com/tag/genesys-2?do=showtag&tag=genesys-2\)](https://reference.digilentinc.com/tag/genesys-2?do=showtag&tag=genesys-2), [nexys-4 \(https://reference.digilentinc.com/tag/nexys-4?do=showtag&tag=nexys-4\)](https://reference.digilentinc.com/tag/nexys-4?do=showtag&tag=nexys-4), [nexys-4-ddr \(https://reference.digilentinc.com/tag/nexys-4-ddr?do=showtag&tag=nexys-4-ddr\)](https://reference.digilentinc.com/tag/nexys-4-ddr?do=showtag&tag=nexys-4-ddr), [nexys-a7 \(https://reference.digilentinc.com/tag/nexys-a7?do=showtag&tag=nexys-a7\)](https://reference.digilentinc.com/tag/nexys-a7?do=showtag&tag=nexys-a7), [nexys-video \(https://reference.digilentinc.com/tag/nexys-video?do=showtag&tag=nexys-video\)](https://reference.digilentinc.com/tag/nexys-video?do=showtag&tag=nexys-video), [zedboard \(https://reference.digilentinc.com/tag/zedboard?do=showtag&tag=zedboard\)](https://reference.digilentinc.com/tag/zedboard?do=showtag&tag=zedboard), [zybo \(https://reference.digilentinc.com/tag/zybo?do=showtag&tag=zybo\)](https://reference.digilentinc.com/tag/zybo?do=showtag&tag=zybo), [zybo-z7 \(https://reference.digilentinc.com/tag/zybo-z7?do=showtag&tag=zybo-z7\)](https://reference.digilentinc.com/tag/zybo-z7?do=showtag&tag=zybo-z7), [sword \(https://reference.digilentinc.com/tag/sword?do=showtag&tag=sword\)](https://reference.digilentinc.com/tag/sword?do=showtag&tag=sword)

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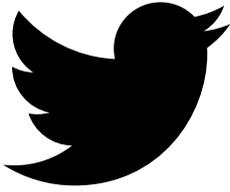
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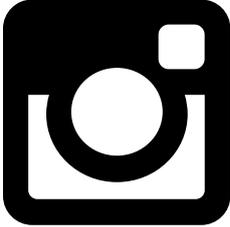
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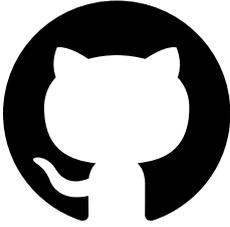
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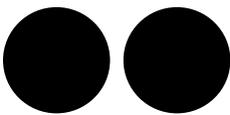
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