

# **Installing Vivado HLX Design Tools**

## **1. Introduction**

### **1.1 Overview**

#### **1.1.1 Purpose**

These are instructions to install the WebPACK edition of the Vivado Design Tools by Xilinx. The point of these instructions is to simplify the process of installing the development software and also provide possible solutions for problems that may arise during the install. System requirements are listed in section 2.

#### **1.1.2 Audience**

These instructions are written for ECEN 240 and ECEN 340 students so they can install the development software on their own computers. They can also be used by anyone who wishes to install this specific development suite on their computer.

#### **1.1.3 Scope**

These instructions will only cover how to install Vivado and how to activate the software on Windows. Installation on Linux, while supported by Xilinx, will not be covered in these instructions. We will be using version 2019.2 for these instructions. Later versions of Vivado can be installed by following these instructions, just click the download link for the version that you want to install. Previous versions of Vivado can also be installed by following these instructions. Screenshots are for installing version 2019.2 and the installation procedure is the same for later versions

### **1.2 Definitions**

FPGA: Field Programmable Gate Array, a circuit capable of being configured by a developer to function as specified by the developer.

## **2. List of Materials**

### **2.1 Computer Requirements**

- 64-bit Windows 7, 64-bit Windows 8, 64-bit Windows 8.1, or 64-bit Windows 10
- A dual-core processor (minimum)
- 4 GB of RAM (minimum)
- 10-15 GB free hard drive space

### **2.2 Additional Materials**

- A fast internet connection capable of download speeds of at least 1 MB/s. Faster is preferred.
- An FPGA board using an Artix-7 chip.
  - Note: While this is not necessary for the installation, it will be necessary for development after installation.

## **3. Directions**

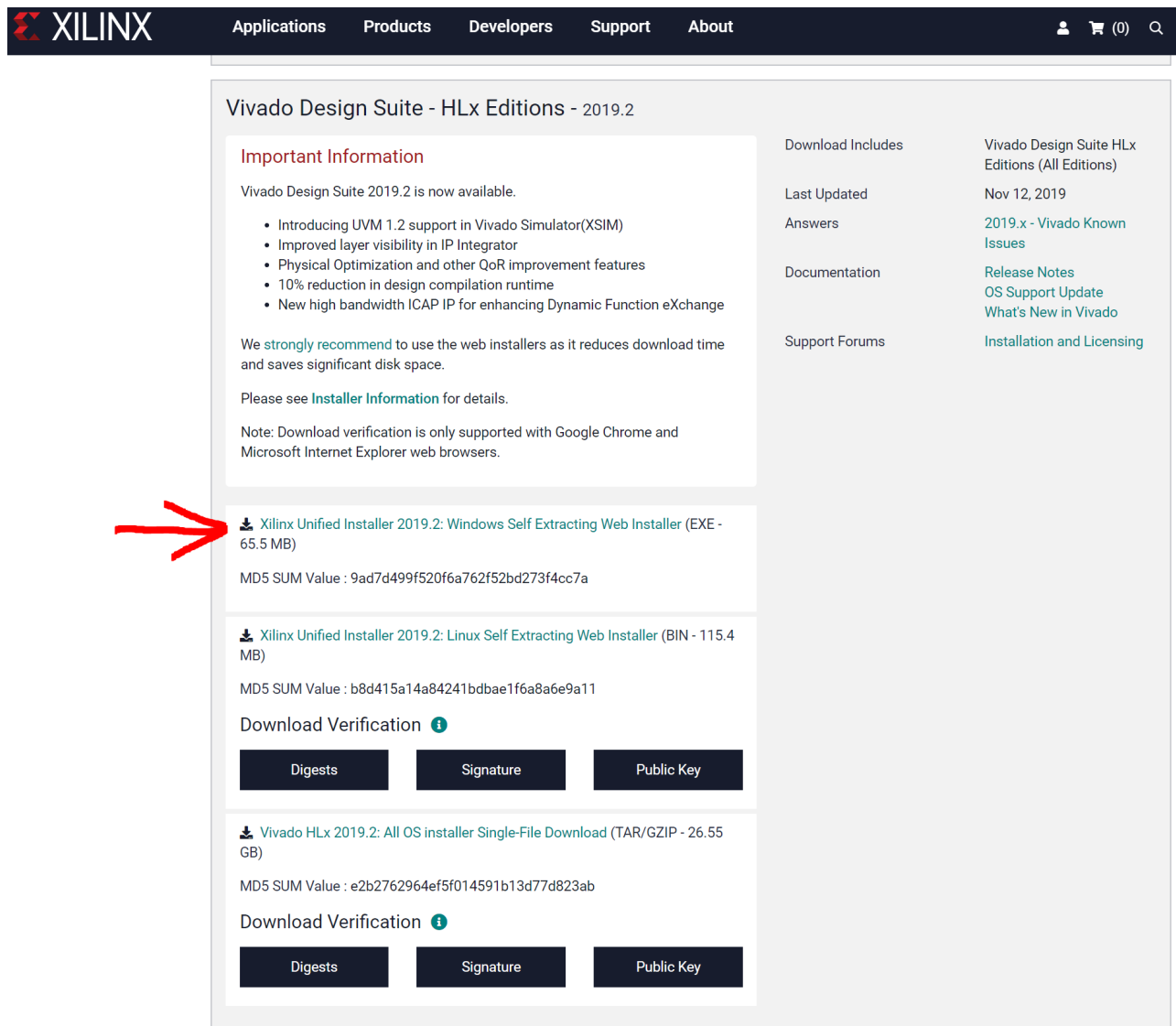
**NOTE: THE INSTALLATION TAKES BETWEEN 1 TO 3 HOURS MAKE SURE YOU WILL HAVE THE TIME AND A RELIABLE INTERNET CONNECTION FOR THE ENTIRE PROCESS.**

### **3.1 Downloading the Vivado Installer**

- 1) Go to [www.xilinx.com/support/download.html](http://www.xilinx.com/support/download.html).

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- 2) Scroll down to the “Vivado Design Suite - HLx Editions - 2019.2” section.
- 3) Click on the “Xilinx Unified Installer 2019.2: Windows Self Extracting Web Installer” as shown in Screenshot 1.







**Screenshot 1: Download page for Vivado 2019.2.**

- 4) On the following page, if you do not have a Xilinx account, click create account on the right-hand side. If you already have a Xilinx account, skip to step 11.
- 5) Fill out the form and be sure to write down this information.  
**Use your student email as the requested email account**
- 6) Click “Create Account”.
- 7) An activation e-mail will be sent to the e-mail address that you specify. Check your e-mail.
- 8) Open the e-mail from “noreply@xilinx.com.”
- 9) Click the link in the e-mail.
- 10) It will ask you to create a password. Note: The password must be at least 8 characters long, and must contain at least 1 Capital letter, 1 number, and 1 special character.
  - a. Sign in with your username and password.
- 11) Return to the downloads link ([www.xilinx.com/support/download.html](http://www.xilinx.com/support/download.html)) and click on “Xilinx Unified Installer 2019.2: Windows Self Extracting Web Installer” as shown in Screenshot 1.

## Installing Vivado Design Tools

- A new tab will open asking for information
- Fill out your First and Last Name
- Use your student email as the corporate E-mail
- Company Name is BYU-Idaho
- Address is the schools address: 525 S Center St, Rexburg, ID 83460
- Job Function select Student
- Primary Market is Consumer
- The info should look like the screenshot below
- Once all information is entered click on the “Download” button

 Applications Products Developers Support About   (0) 

U.S. Government Export Approval

- U.S. export regulations require that your First Name, Last Name, Company Name and Shipping Address be verified before Xilinx can fulfill your download request. [Please provide accurate and complete information.](#)
- Addresses with Post Office Boxes and names/addresses with Non-Roman Characters with accents such as grave, tilde or colon [are not supported](#) by US export compliance systems.

First Name\*

Last Name\*

Corporate E-mail\*

Company Name\*

BYU-Idaho

Please enter your company's name, or "None" if not affiliated.

Address 1\*

525 S Center St

Address 2

City\*

Rexburg

State\*

Idaho

Please use 2-letter code for your [US state](#) or [Canadian province](#).

Location\*

United States ▼

Zip Code\*

83460

Phone

Job Function\*

Student ▼

Primary Market\*

Consumer ▼

For more information about how we process your personal information, please see our [privacy policy](#).

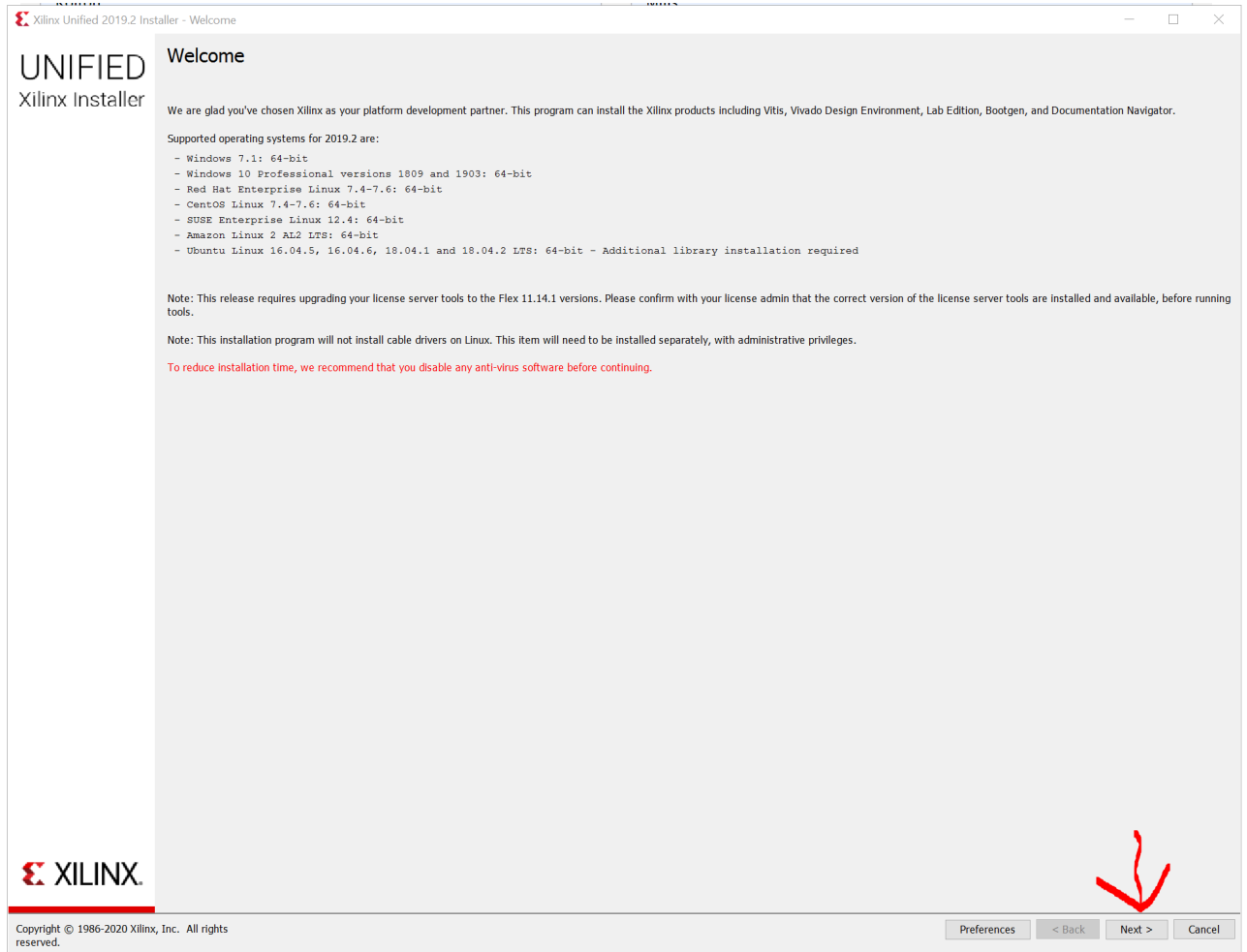
Download

## Installing Vivado Design Tools

12) If all information is correct an installer should download. Once it has completed its download run the installer

### 3.2 Installing Vivado WebPACK

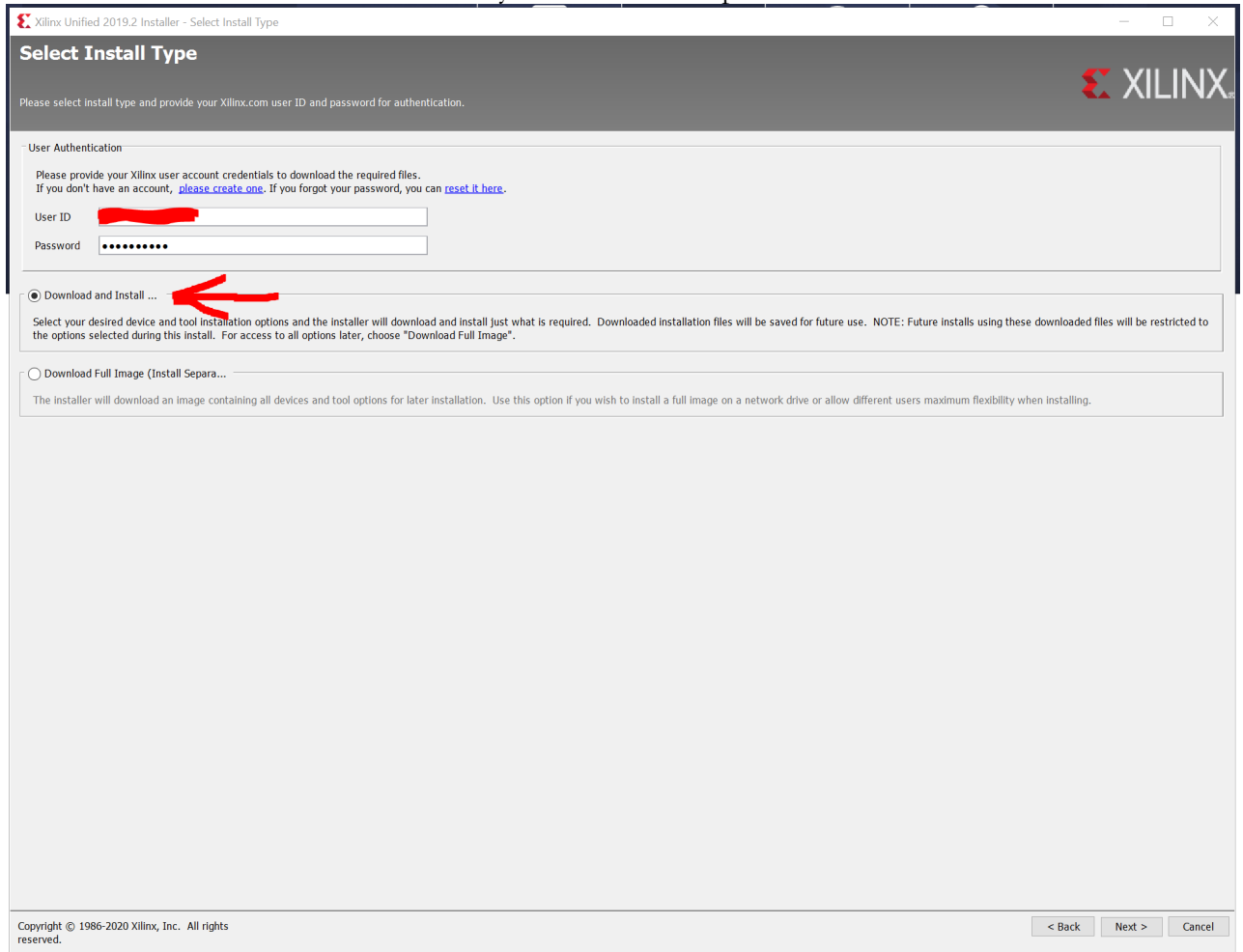
13) The following window below should open, select next



## Installing Vivado Design Tools

14) in the next step it will ask for a “User ID” and “Password” enter your Student Email and the Password you created in step 10 of these instructions.

Make sure “Download and Install Only” is the selected option. Click next.



The image shows the 'Select Install Type' window of the Xilinx Unified 2019.2 Installer. The window has a dark header bar with the Xilinx logo and the title 'Xilinx Unified 2019.2 Installer - Select Install Type'. Below the header, there is a section for 'User Authentication' with a text prompt: 'Please select install type and provide your Xilinx.com user ID and password for authentication.' This section contains two input fields: 'User ID' and 'Password'. The 'User ID' field is partially obscured by a redacted area. Below the authentication section, there are two radio button options for the installation type. The first option, 'Download and Install ...', is selected and highlighted with a red arrow. The second option is 'Download Full Image (Install Separata...)'. At the bottom of the window, there is a copyright notice: 'Copyright © 1986-2020 Xilinx, Inc. All rights reserved.' and three buttons: '< Back', 'Next >', and 'Cancel'.

**Select Install Type**

Please select install type and provide your Xilinx.com user ID 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](#).

User ID

Password

☒ **Download and Install ...**

Select your desired device and tool installation options and the installer will download and install just what is required. Downloaded installation files will be saved for future use. NOTE: Future installs using these downloaded files will be restricted to the options selected during this install. For access to all options later, choose "Download Full Image".

☐ Download Full Image (Install Separata...)

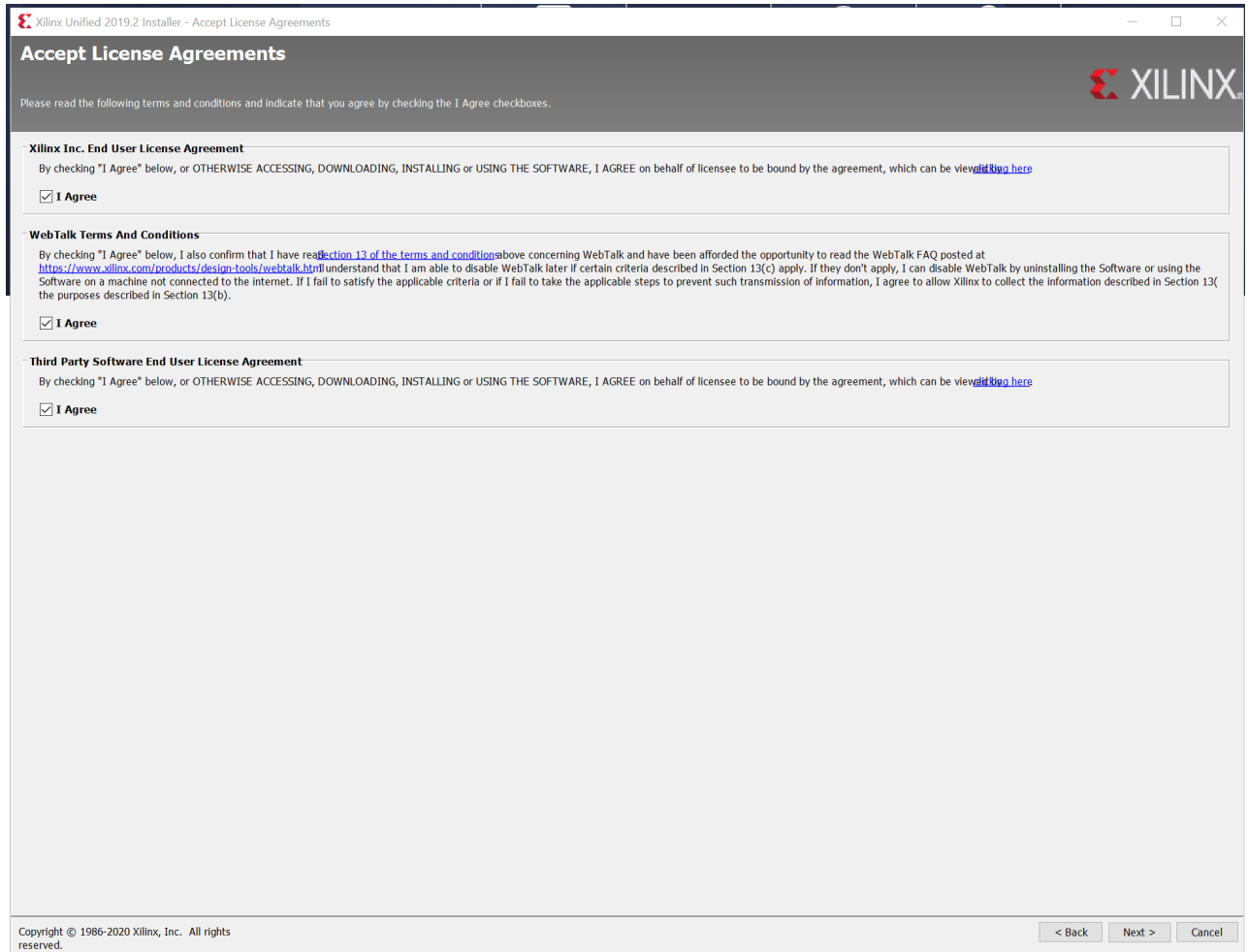
The installer will download an image containing all devices and tool options for later installation. Use this option if you wish to install a full image on a network drive or allow different users maximum flexibility when installing.

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< Back Next > Cancel

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15) In the next step agree to all the License Agreements and click Next



The image shows a screenshot of the 'Xilinx Unified 2019.2 Installer - Accept License Agreements' window. The window has a title bar with standard Windows window controls. The main content area is titled 'Accept License Agreements' and features the Xilinx logo in the top right corner. Below the title, there is a instruction: 'Please read the following terms and conditions and indicate that you agree by checking the I Agree checkboxes.'

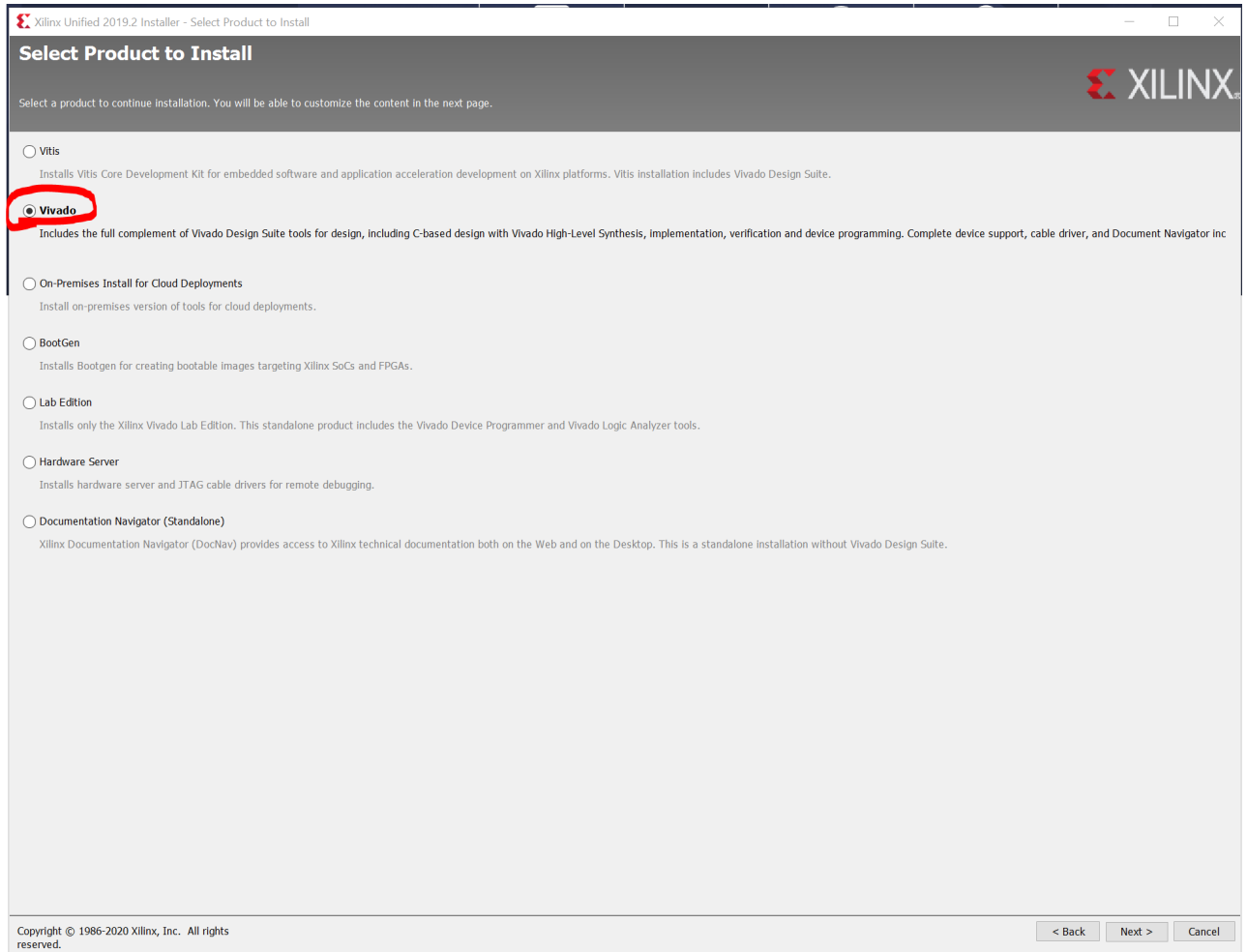
The window contains three distinct sections, each with a heading and a paragraph of text, followed by an 'I Agree' checkbox:

- 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 licensee to be bound by the agreement, which can be viewed [at this link](#).  
☒ I Agree
- WebTalk Terms And Conditions**  
By checking "I Agree" below, I also confirm that I have read [section 13 of the terms and conditions](#) above concerning WebTalk and have been afforded the opportunity to read the WebTalk FAQ posted at <https://www.xilinx.com/products/design-tools/webtalk.html> and understand that I am able to disable WebTalk later if certain criteria described in Section 13(c) apply. If they don't apply, I can disable WebTalk by uninstalling the Software or using the Software on a machine not connected to the internet. If I fail to satisfy the applicable criteria or if I fail to take the applicable steps to prevent such transmission of information, I agree to allow Xilinx to collect the information described in Section 13(b).  
☒ I Agree
- Third Party Software End User License Agreement**  
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 [at this link](#).  
☒ I Agree

At the bottom of the window, there is a copyright notice: 'Copyright © 1986-2020 Xilinx, Inc. All rights reserved.' and three buttons: '< Back', 'Next >', and 'Cancel'.

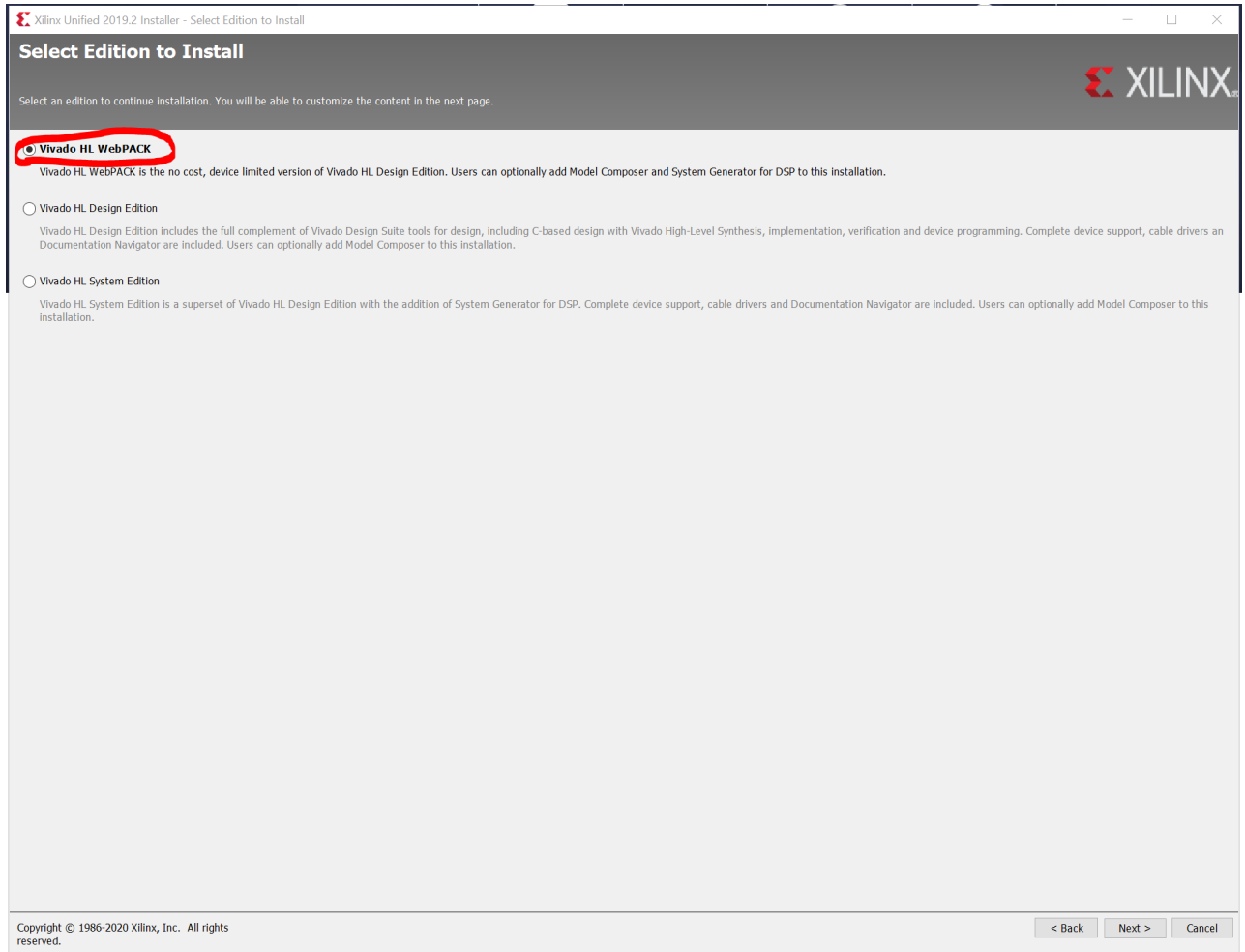
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16) Select **VIVADO** as the product to install. And click Next



## Installing Vivado Design Tools

17) Select “**Vivado HL WebPACK**” and click Next.



18) Select Next in the next step to install the default tools

19) select Next in the next step to allow for the default install destination

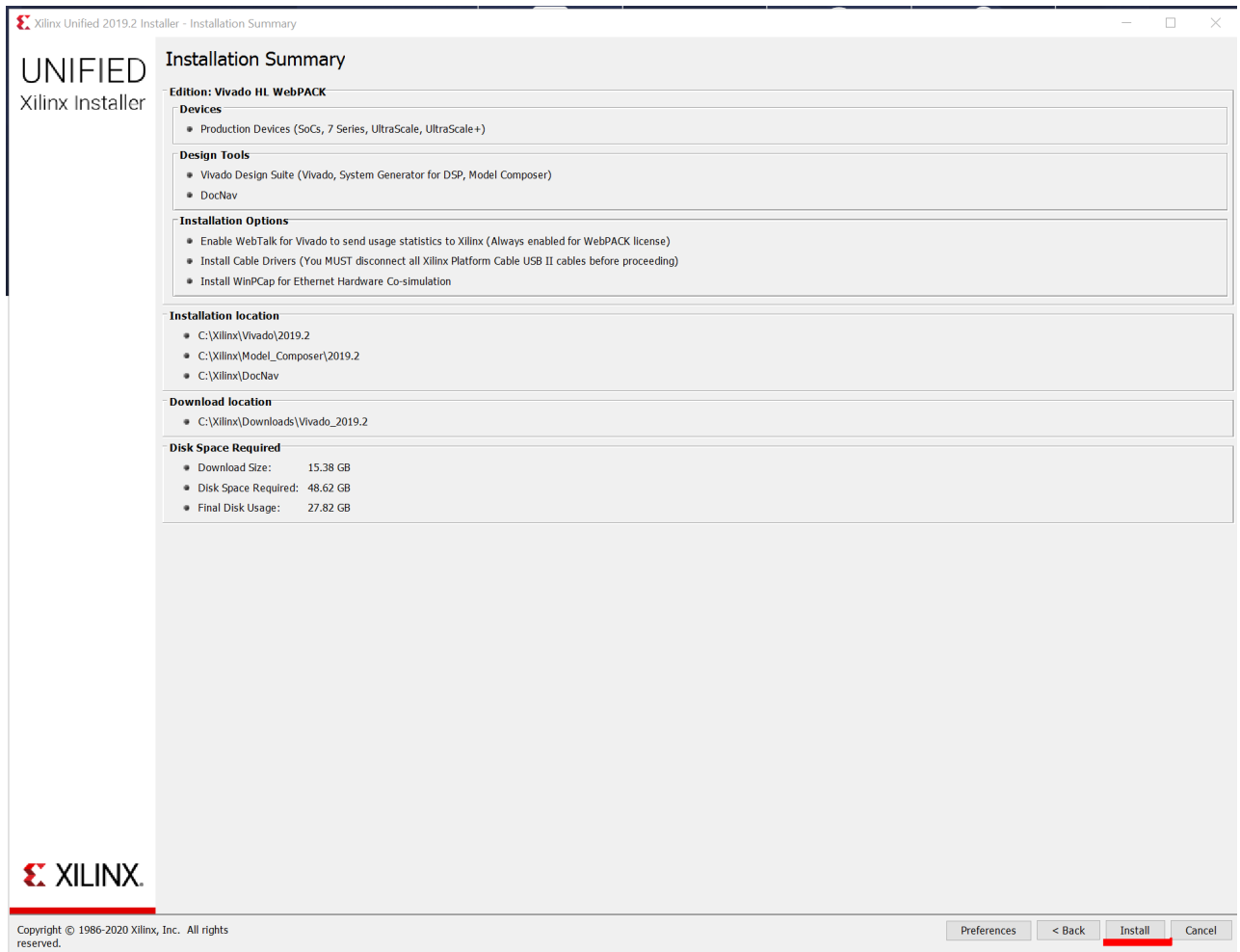
20) If a pop-up asking to create Xilinx select “Yes”



## Installing Vivado Design Tools

21) click on the “Install” button.

### **MAKE SURE YOU HAVE AN INTERNET CONNECTION FOR THE INSTALLATION**



22) Wait for the download and installation to complete.

23) When prompted to remove all Xilinx devices and cables from the computer, do so.

24) Click next.

25) When prompted to install drivers, click install.

Note: You may get multiple prompts to install drivers.

26) Vivado should now be installed and working on your computer, if not proceed to troubleshoot.

27) After installation completes, Vivado will open up or you can open it with the “Vivado 2019.2” shortcut on your desktop. If it doesn’t open but a window opens prompting you to repair Visual C++ 2012

Redistributable, go to Troubleshooting 4.1. If you are running Windows 10 version 17.09, go to troubleshooting 4.2

## 4. Troubleshooting

### 4.1 A window opens prompting to repair Visual C++ 2012 Redistributable

This sometimes happens if Microsoft Visual Studio is also installed on the computer. Generally, if this problem occurs, it happens when you are trying to activate the software. It can happen during general use as well. The following steps are to fix this problem.

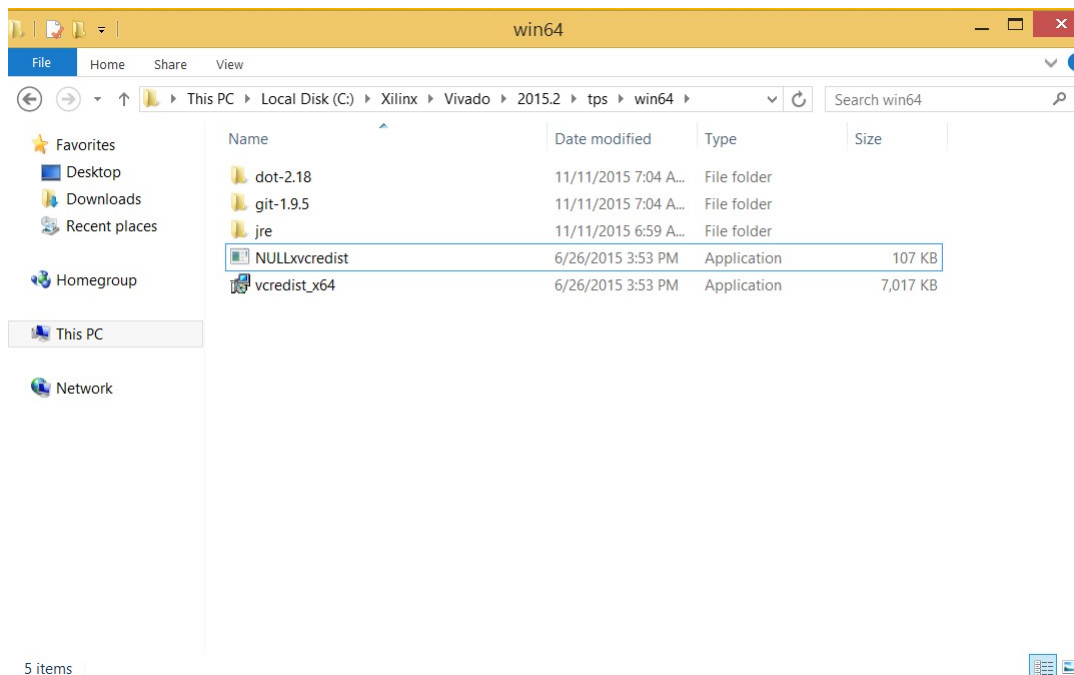
- 1) Open Windows Explorer and go to the directory where you installed Vivado.

Note: The default directory is “C:\Xilinx”

- 2) Within the “Xilinx” directory navigate to Vivado\2019.2\tps\win64.

Note: If you used the default directory, the full path will be “C:\Xilinx\Vivado\2019.2\tps\win64”.

- 3) Locate the file “xvcredist.exe” and rename the file to something else. Here, in Screenshot 6, it was renamed to “NULLxvcredist”.



Screenshot 6: Renaming xvcredist.exe.

- 4) Vivado should now launch.
- 5) If you had this issue while trying to launch the Xilinx license manager during installation, open Start and search for “Manage Xilinx Licenses” then proceed to step 25 in the instructions.

### 4.2 Vivado won't launch on the Windows 10 Fall Creators Update (Version 1709)

Vivado 2017.3 and earlier was not designed to run on Windows 10 version 1709. As a result of this, it will fail to launch. Fortunately, there was a workaround discovered which allows for launching the program normally.

- 1) Navigate to the directory where Vivado is installed.

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- 2) Within the “Xilinx” directory, navigate to “Vivado\2017.3\bin\unwrapped\win64.o”

Note: Replace “2017.3” with the version number of Vivado that you plan to fix

- 3) Rename “vivado.exe” to “vivado.exe.backup”

Note: This requires file name extensions to be visible in the file explorer

- 4) Copy “vivado-vg.exe” from the same folder and paste it into the same folder.

- 5) Rename the copied file to “vivado.exe”

- 6) Vivado should launch normally now.