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CONTACT! *If you have any questions, comments, and/or concerns, contact me at:*
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Installing Windows 10 Professional on a Raspberry Pi 4 with 4 GB of Ram

- **Using 32 GB USB Flash Drive (3.0)** – “Boot and run from”
- **YES! Running NetLogger and more Windows programs on a Raspberry Pi**
- **NOTE:** *This process takes hours ... so, be prepared (and have fun!)*
- **NOTE:** *We may have to press and hold the Ctrl key while clicking on hyperlinks in this text to “spond” them in our default web browser*

List of materials:

- RasPi4 with 4GB of Ram (the RasPi4 with 8GB will also work well)
- RasPi4 Case w/fan – see link below for a suggestion
https://www.amazon.com/gp/product/B07T3DRB1C/ref=ppx_yo_dt_b_asin_title_o06_s00?ie=UTF8&psc=1
- RasPi4 Power Supply
- RasPi4 HDMI cable
- Ethernet Cable to connect Pi4 to PC or Laptop running Win10 (length of cable will vary)
- USB **3.0** Flash Drive 32GB (did we say, “**3.0?**” ... a **must** for this application!)
- Spare SD Card (8, 16, or 32 GB will do just fine) to update the RasPi bootloader (**if necessary**)
- USB 2.0 Keyboard and Mouse (may be wireless or wired)
- PC or Laptop running Win10 (Professional preferred) with USB **3.0** capabilities (USB 3.0 ports are **blue** in color)

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Step One:

Playing it safe, we want to make sure the RasPi4 will boot from a 32 GB (3.0) USB Flash Drive.

- **NOTE:** If our RasPi4x4 is already booting from a USB 3.0 Flash Drive, go to Step Two.

We will need to download and install the **Raspberry Pi Imager for Windows** on our Win10 PC or Laptop (if you don't already have it). <https://www.raspberrypi.org/software/>

Using the RasPi Imager program, format a spare SD Card to FAT32 (8, 16, or 32 GB will do just fine).

Launch the **RasPi Imager** and follow these instructions:

1. **Operating System** > **Erase** Format card as FAT32
2. **SD Card** > CHOOSE SD CARD [select our SD Card]
3. **WRITE** [this option initiates the formatting process]

Now that the SD Card has been formatted properly, we will proceed to writing the RasPi4 EEPROM boot recovery image to the SD Card.

NOTE: The **RasPi Imager** program may have auto-ejected the SD Card. We may have to unplug and then re-plug-in the SD Card before we can flash the EEPROM boot recovery image to our SD Card.

After the SD Card has become visible to the system again, proceed to the following steps.

1. **Operating System** > Misc utility images (EEPROM recovery, etc.) > Raspberry Pi 4 EEPROM boot recovery
2. **SD Card** > CHOOSE SD CARD [select our SD Card]
3. **WRITE** [this option initiates the imaging process]

NOTE: After the EEPROM boot recovery image has been flashed to our SD Card, **eject** the SD Card properly (the **RasPi Imager** may have already done this for us automatically) and be prepared to install it into our RasPi4.

Okay, let's make sure our RasPi4 is turned off and insert the newly imaged SD Card into the RasPi4 and power-up the Pi.

We should see the Pi's RED power LED light up, followed by the GREEN LED flashing constantly. Also, if we have a monitor attached to our Pi, the monitor should display a "green" screen. This, is a good sign that the EEPROM has been updated successfully.

Now we can power-off the pi (just cut the power to the Pi).

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Step Two:

1. Using our Win10 PC or Laptop, create a folder on the Desktop and Label it: **Win10RPI**
2. Download the “**WoR on Raspberry Imager**” and save it into the **Win10RPI** folder.
<https://www.worproject.ml/downloads>
3. Unzip the contents of our **WoR_Release_2.0.1.zip** within the folder by right-clicking on the .zip file and selecting the command “extract here.”
4. Next, download the **ProjectNeon2.0.wim** image and save it into the same **Win10RPI** folder
5. **NOTE:** This is a **large** file so, please be patient while it downloads. Eventually, after the file has downloaded completely, a window will appear titled “**Save As**” asking us where we would like to save the **ProjectNeon2.0.wim** image. We’ll be saving it in our **Win10RPI** folder.
6. When we “Ctrl-click” on the link below in Step 8, a default browser will “spond” a new browser window. Right-click on the blue “**Save**” icon and be prepared to wait while the file downloads. We will not be able to save this file to our computer until the file has downloaded completely and the “**Save As**” window has appeared.
7. **NOTE:** As the **ProjectNeon2.0.wim** file is downloading in the background, we may be asked to create an account with Cloud Drive. Please disregard this and wait for the file to finish downloading and present us with a “**Save File**” **pop-up window**. There may be an “X” in the upper right-hand corner of this Ad allowing us to close the Ad window (close this window or disregard as the file downloads in the background). Look toward the top of the web page for the “**Download Progress Bar**.” This will give us a visual clue as to the progress of our file transfer progress.
8. <https://mega.nz/file/y5AXhIj#T5k-V-vSr5NmkLnfxwFeWpneLTi9q96HWw7wc8ptNis>
9. When the **ProjectNeon2.0.wim** image has downloaded completely – a “**Save As**” **pop-up window** will appear asking us for the location to where we’d like to save the file.
10. Navigate to our **Win10RPI** folder and save the **ProjectNeon2.0.wim** image there.

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Step Three:

1. Insert our USB 32GB USB **3.0** Flash Drive into the USB **3.0** socket in our PC/Laptop.
2. Let's navigate to the contents of our folder on the Desktop labeled **Win10RPI**
3. Launch the **WoR.exe** program.
4. Select your **Language:** English > Next
5. **Storage drive:** Select our USB **3.0** Flash Drive 32GB
6. **Device type:** Select Raspberry Pi 4 [ARM64] [Experimental] > Next
7. **NOTE:** A window may pop-up with a Warning – Disregard and click **OK**
8. **Image file:** Click on the three “...” and navigate to the contents of the **Win10RPI** folder and select the **ProjectNeon2.0.wim** file
9. **Windows edition:** Make sure **Windows 10 Pro build 20226.1000** is selected > Next
10. **Select:** Use the latest package available on the server > Next
11. **Select:** Use the latest firmware available on the server > Next
12. **Select** the **Advanced** option (it's on the left under the heading “Configuration”)
13. **NOTE:** A window may pop-up with a Warning asking us if we want to continue – Disregard and click **Yes**
14. Within the **Memory limit:** field, replace the amount of “0” with the amount of “**8192**” > Next
15. Now click on the **magenta** label > Install
16. **NOTE:** This process may take a long time (up to four hours) depending on the device performance.
17. After Win10 has been installed onto our USB **3.0** Flash Drive successfully, we will see the message “**The Installation has Completed**”
18. Click on **Finish**

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Step Four:

1. During the imaging process, a new partition labeled “Windows” was created along with a new drive letter – in addition to the existing lettered partition newly labeled “BOOT.”
2. Eject the USB 3.0 Flash Drive from our PC/Laptop properly by right-clicking on the partition labeled “BOOT” and selecting “eject” from the pop-up menu.
3. The partition labeled “Windows” should disappear.
4. Remove the USB 3.0 Flash Drive from our PC/Laptop.
5. With the RasPi4 powered-down, insert the USB 3.0 Flash Drive into one of the USB 3.0 sockets in the RasPi4.
6. Power-up the RasPi4
7. This process also takes some time and the system may reboot itself several times before resting into the configuration menu(s).
8. This may take a couple of hours.
9. Follow the Win10 prompts to personalize our user experience.
10. If a message comes up informing us that there was an error and give us the option to “skip” ... then select “skip” and proceed.
11. Eventually, we will arrive at the desktop.
12. It’s time to establish internet connectivity.

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Step Five:

Internet connectivity via Ethernet

- Power-up the Pi and log into Windows 10 Professional.
- **NOTE:** Many of us are tethered to an existing network via Ethernet and will only have to connect our RasPi4 via Ethernet cable to our router.
- After our RasPi4 is up and running Win10, right-click on the Windows Icon in the lower left-hand corner and select “Network Connections.”
- Select “Change adapter options.”
- Double-click on the Ethernet icon to enable internet connectivity.

HOWEVER, for those of us who may use our SmartPhones as WiFi hotspots and would like to tap-into (share) the existing internet connection on our PC/Laptop, the following information is for us.

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Step Six:

1. Make sure our RasPi4 is powered-down.
2. With our PC/Laptop up and running, navigate to the Network Connections window (right-click on the Windows Icon in the bottom-left corner of our Windows desktop and select “Network Connections.”)
3. Left-click on the “Wi-Fi” label in the left-hand list of options under Network & Internet.
4. Left-click on the label “Change adapter options” in the right-hand column under the heading Related settings.
5. Right-click on the Wi-Fi icon that is active (our SSID name will be visible and the ascending bars will be green in color – not gray) and select “properties.”
6. Select the tab labeled “Sharing.”
7. Check the box that reads “Allow other network users to connect through this computer’s Internet connection.” And, if there is a drop-down menu, select “Ethernet.”
8. Click “OK”
9. Now right-click on the Ethernet Icon and select “Enable.” If Ethernet is already enabled, proceed to the next step.
10. Right-click on the Ethernet Icon and select “Properties.”
11. In the list of items under the heading “This connection uses the following items:” make sure the item labeled “Internet Protocol Version 4 (TCP/IPv4) is checked.
12. Click “OK”
13. We may have to re-boot our Win10 PC/Laptop ... it’s best to do this now.
14. After a re-boot, turn to the RasPi4 again.
15. **Connect the Pi to our PC/Laptop with an Ethernet cable.**
16. Power-up the Pi.
17. Log in and after the desktop is visible, left-click on the Windows icon in the lower left corner of the desktop and select “Network Connections.”
18. Under the heading “Advanced network settings,” select “Change adapter options.”
19. Double-click on the icon “Ethernet” to enable it.
20. Our internet connectivity should now be established.

We may now download and install Windows programs like NetLogger and use them on our RasPi4 4GB running Windows 10 Professional.