Windows 10 Linux

Installation Guide

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If you are like me, you have been using the standard Operating System (OS) from Microsoft, Windows, for many years. Windows is an easy to use platform, turning a standard mouse and keyboard into a graphical tool for which the youngest of our generations can make ideas come to life. Unfortunately, Windows is not an all-encompassing platform. Even Microsoft uses a separate OS, Linux, to generate distributions and other files Windows does not easily, or cannot, create. Developers who wish to have the ease of the Windows OS but the power of the Linux OS have had to resort to one of three methods.

The first method involves an invasive process of partitioning off the hard drive, creating a dual bootloader, and installing Linux on a separate partition from Windows. This only allows the user to boot from a single OS at a time, having to reboot the computer every time he or she wants to switch between platforms. The next solution for developers that need Linux but are familiar with Windows was to have two separate computers. Now you have two noisy computers, two monitors, two keyboards, two mice, and who knows how much of a rat's nest underneath. What could answer these problems? Enter Hyper-V.

The last method uses a system called Hyper-V which takes the hardware on the computer and partitions off multiple processors for use with different operating systems. The advantage to this is the method uses a virtual hard drive, making it non-invasive and allowing the user to have both OSs up at the same time, simply switching between them like switching a normal window. The Hyper-V terminal uses what they call an switch to connect the hardware in the Windows system to the virtual machine running underneath. This sounds amazing, until you try to use it and the virtual machine lags like something from the 1980's.

Up until now, developers have had to resort to one of these three methods, all with their own advantages and disadvantages. Now, Microsoft has finally come to their senses and allow users to not just run Linux as a virtual environment but install a Linux distribution and run the distribution in the real Windows environment. Now Windows native users get the ease and familiarity of the OS they know with the power of Linux all in one package.

The following is a guide on how to install the Linux distribution on a Windows 10 platform using the new method Microsoft has created. To install Linux on a Windows computer, the user is required to have Windows 10 with the latest Anniversary Update and be running in Developer Mode. The user needs to understand that there is some security risk to this method, as he or she is installing a very powerful tool on a platform that may be susceptible to hackers and security issues. Microsoft issues the following statement which I will also use as my disclaimer:

DISCLAIMER: Turning on developer mode, including installing and running apps from outside the Windows Store, could expose your device and personal data to security risks or harm your device.
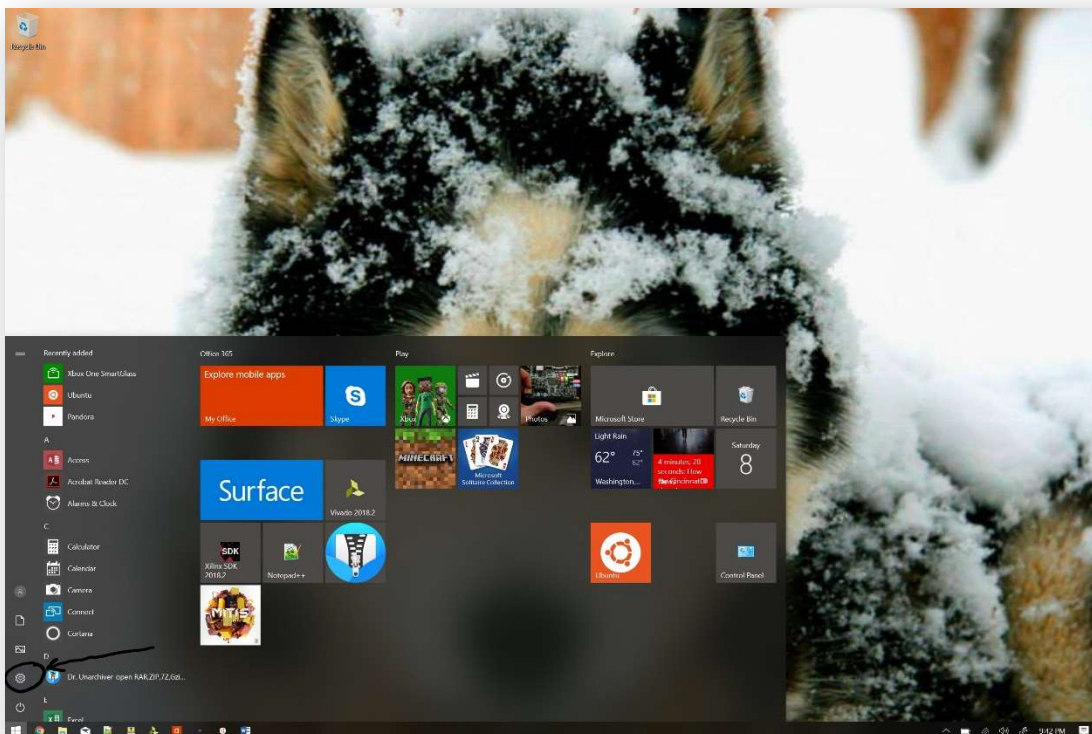
Please proceed at your own risk, but the rewards are, in my opinion, well worth the risk.

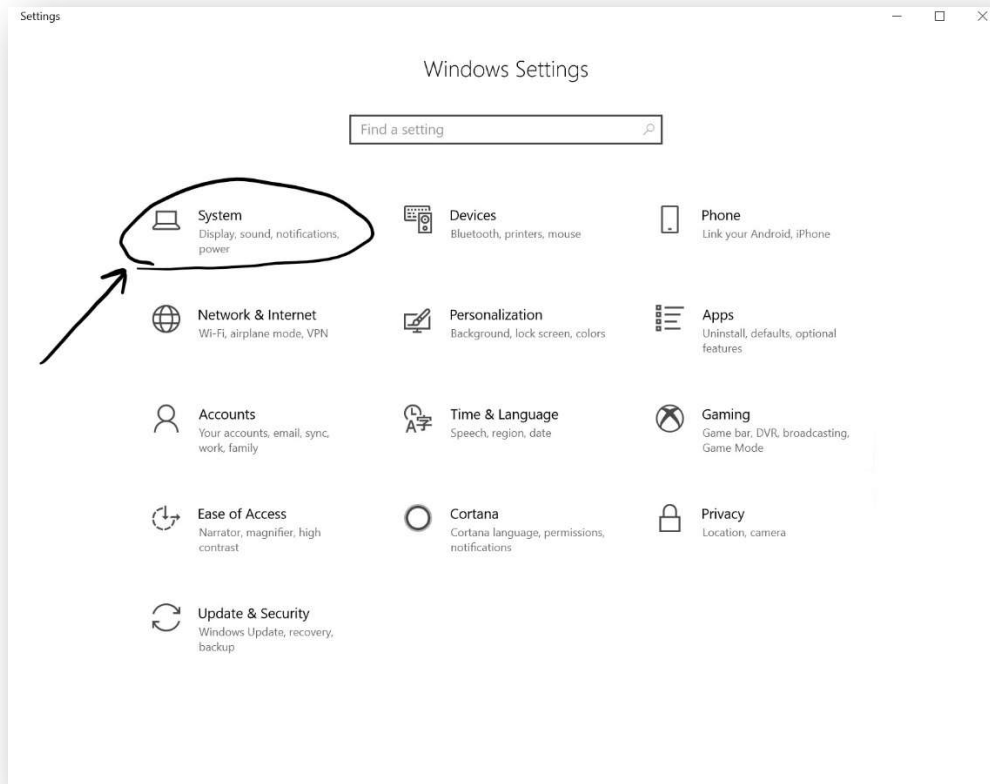**Step 1.** Ensure Windows 10 is up-to-date and has the Anniversary Update installed.
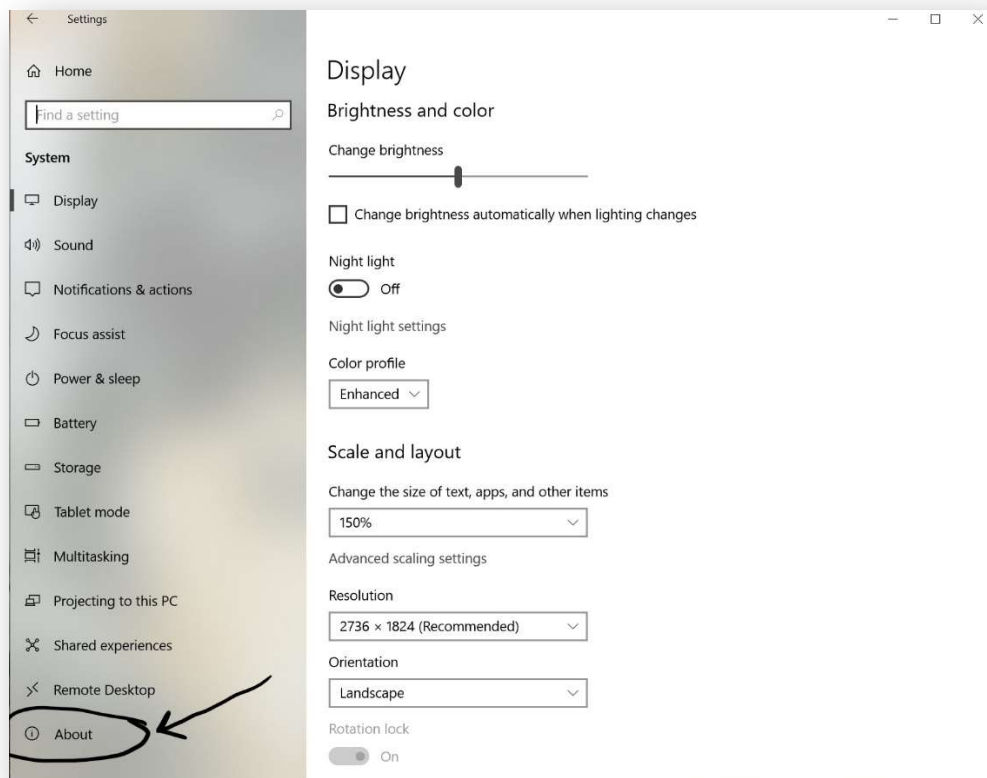
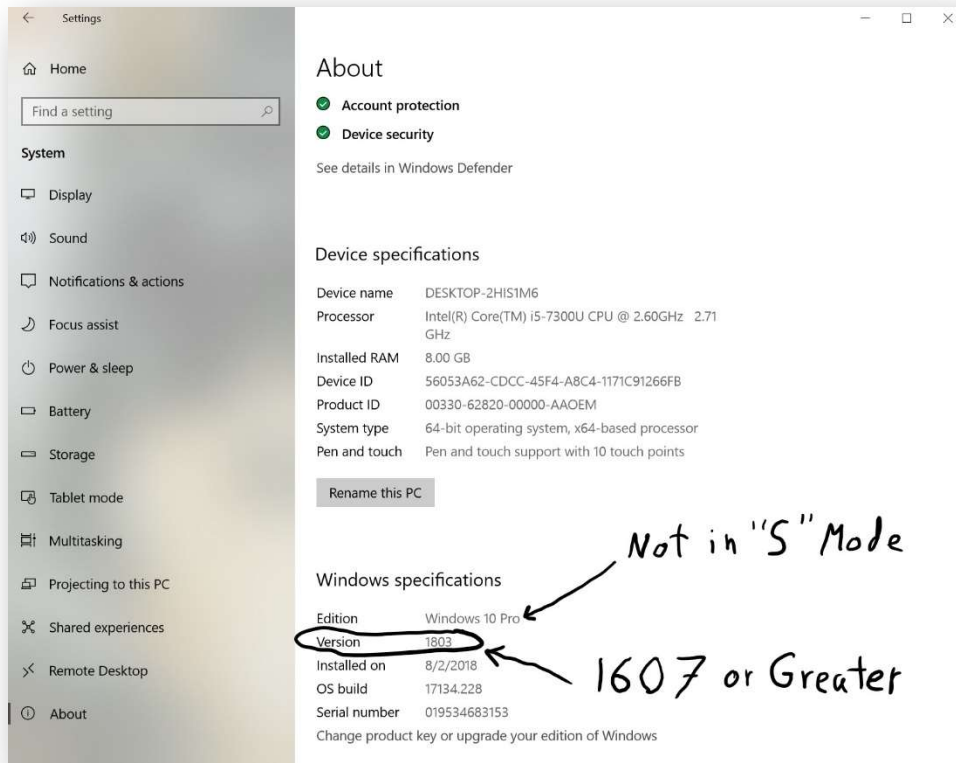   a. Open the "Start Menu".
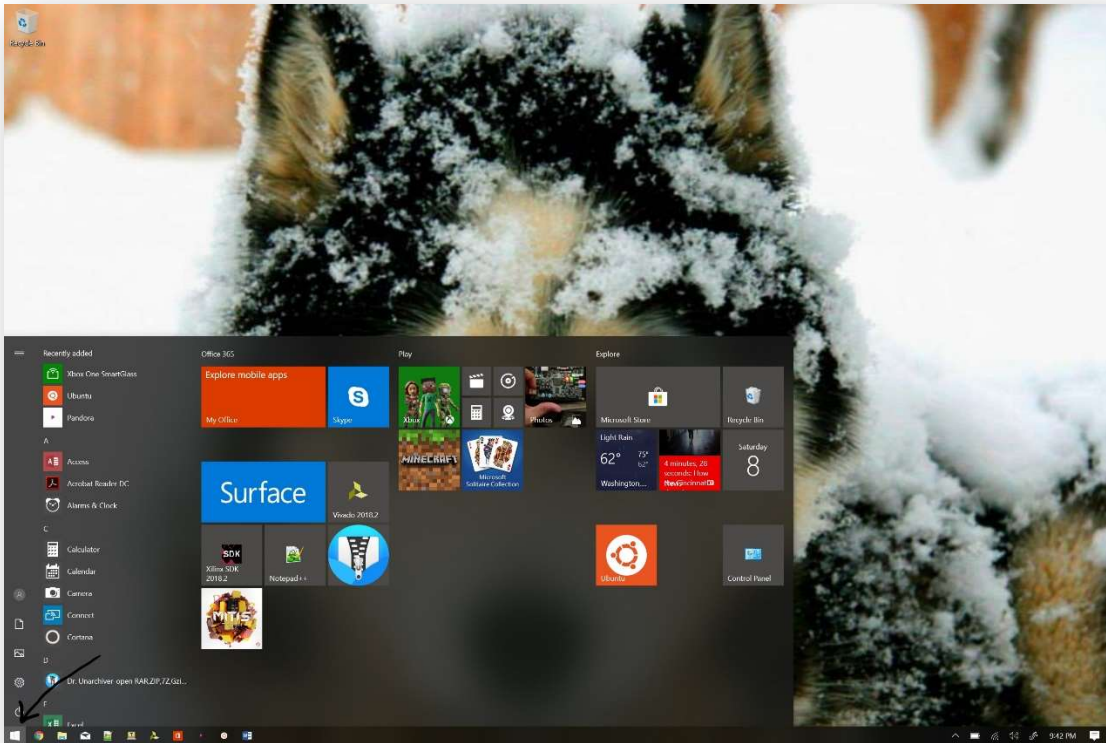
    b. Click the "Settings" icon.

c. Click the "System" icon.
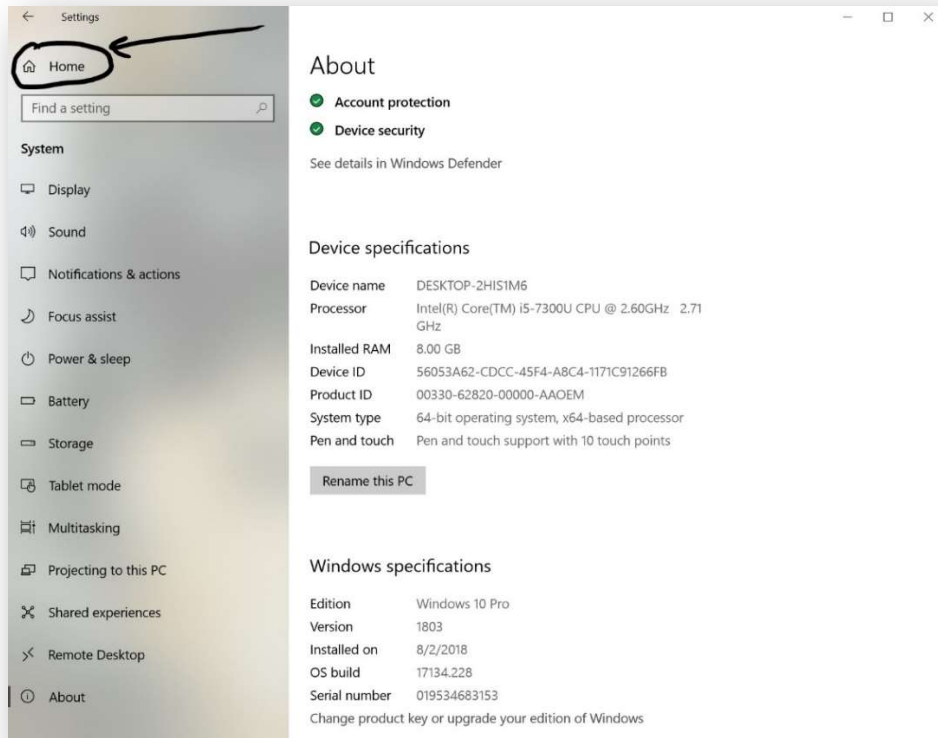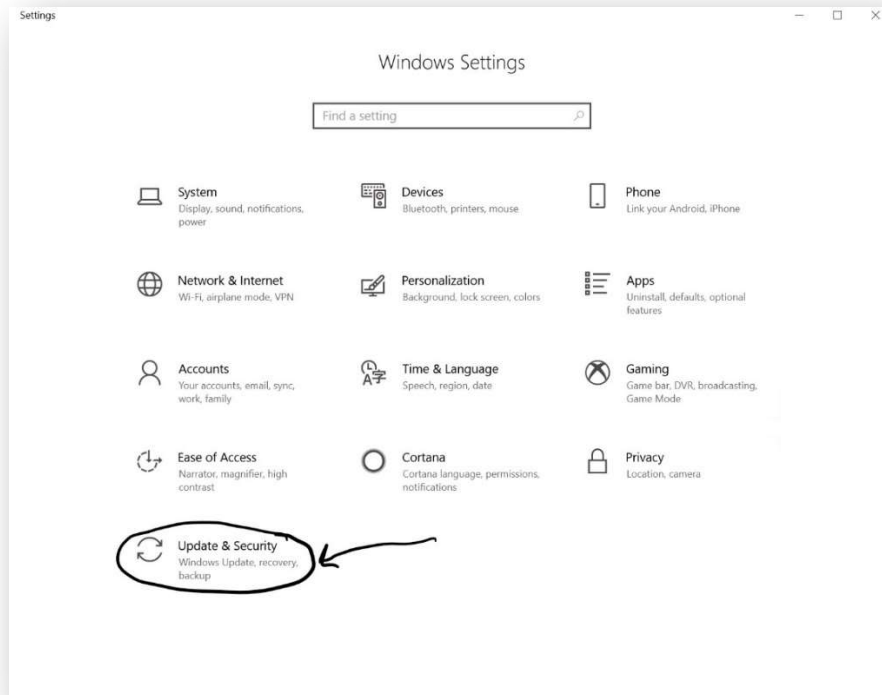

d. Select the "About" side tab.

e. If Windows 10 version is greater than release version 1607 and not in "S" mode, jump to Step 2.
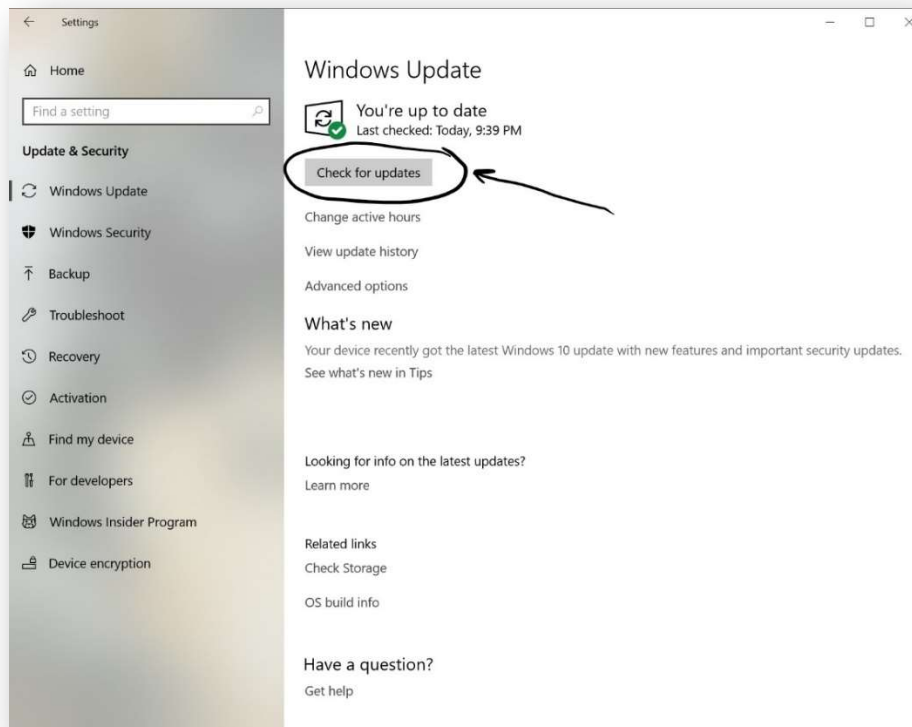   i. If in S mode, click the link to get Normal mode and follow onscreen instructions.

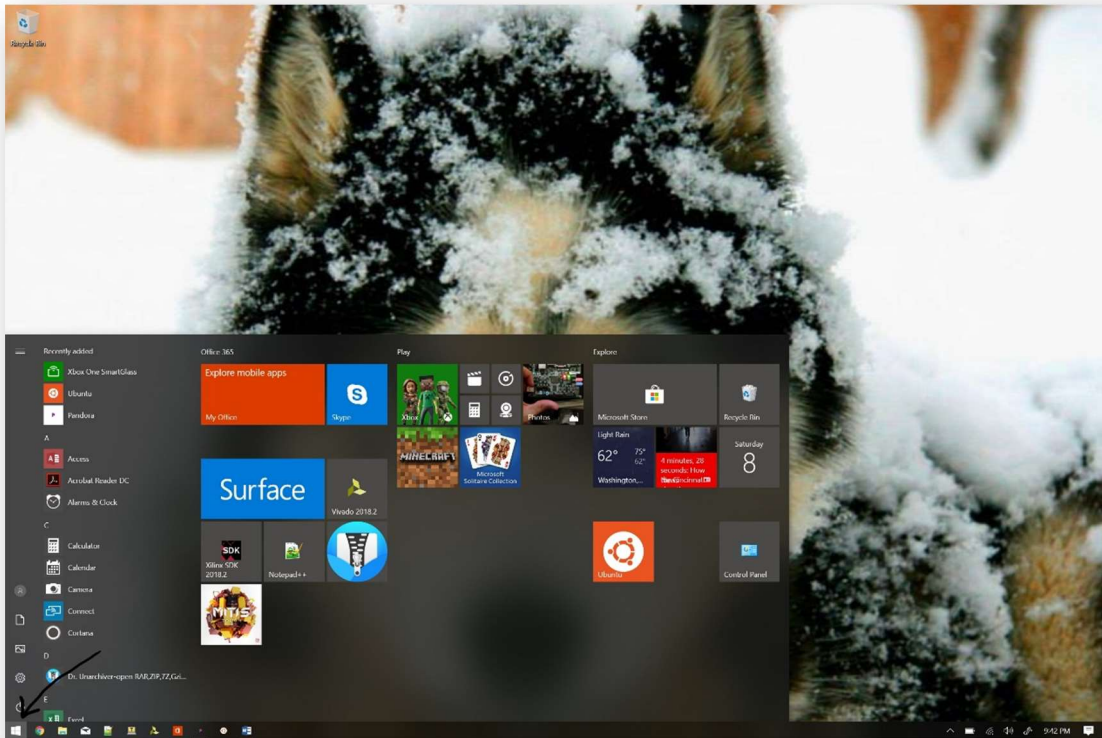f. Click the "Home" icon.
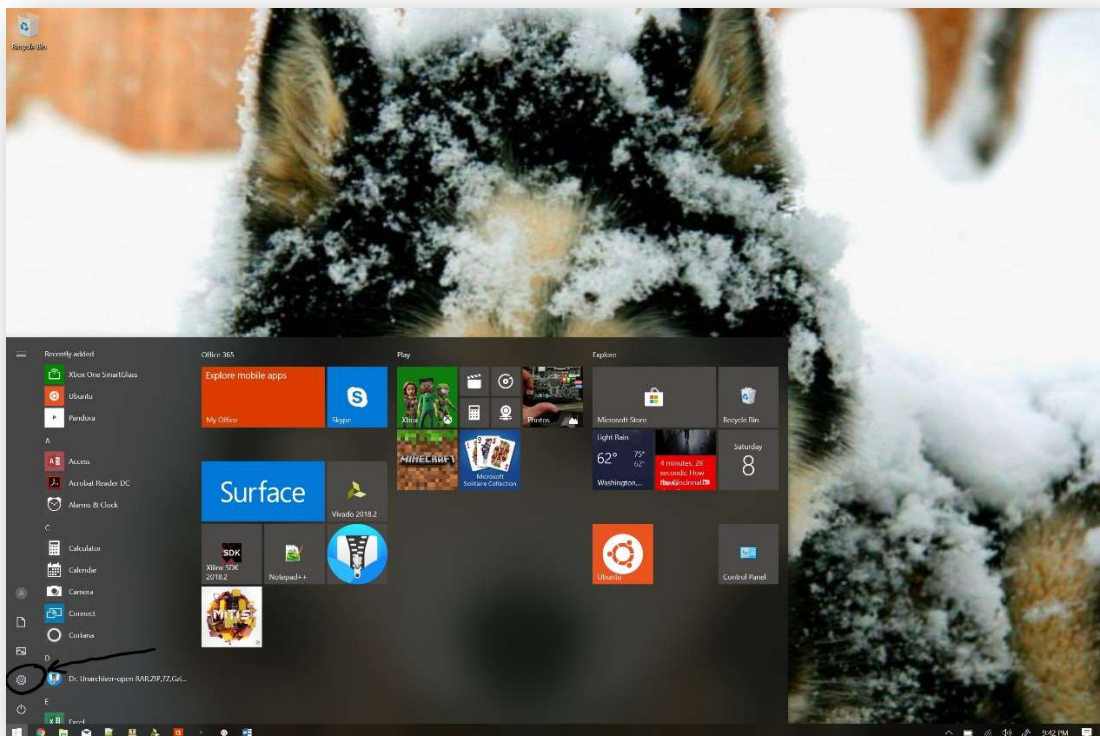
g. Click the "Update & Security" icon.

h. Click "Check for Updates".

i. Go back to Step 1. a. to check the Windows 10 version.

Step 2. Turn on the "Developer Mode".

    a.   Open the "Start Menu".

    b.   Click the "Settings" icon.

c. Click the "Update & Security" icon.
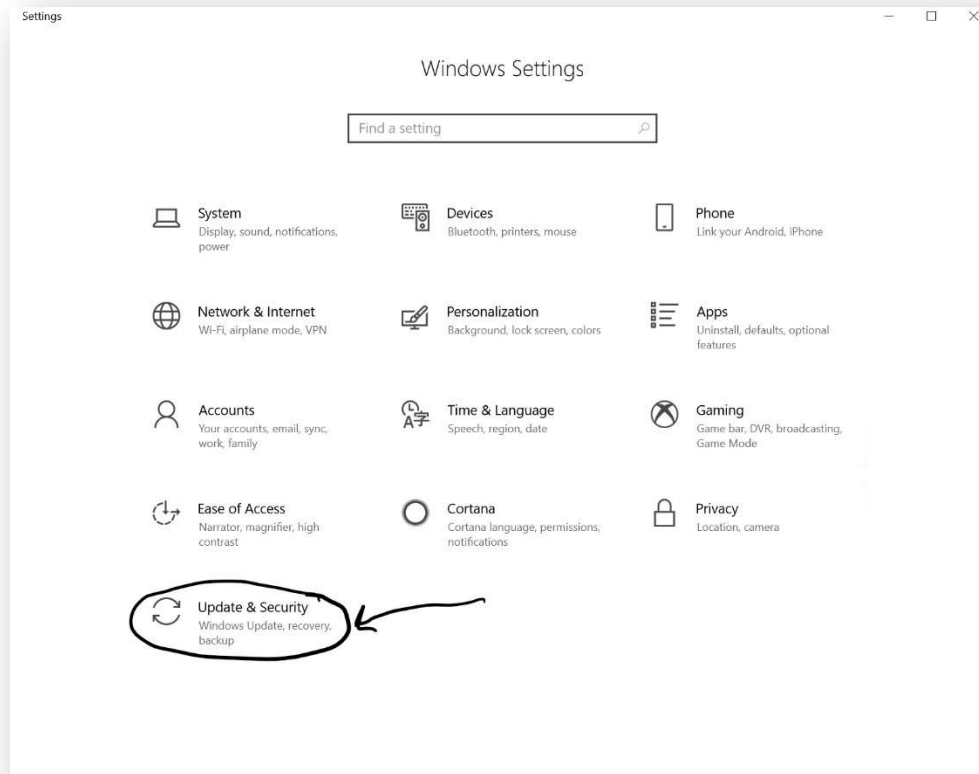
d. Select the "For Developers" side tab.
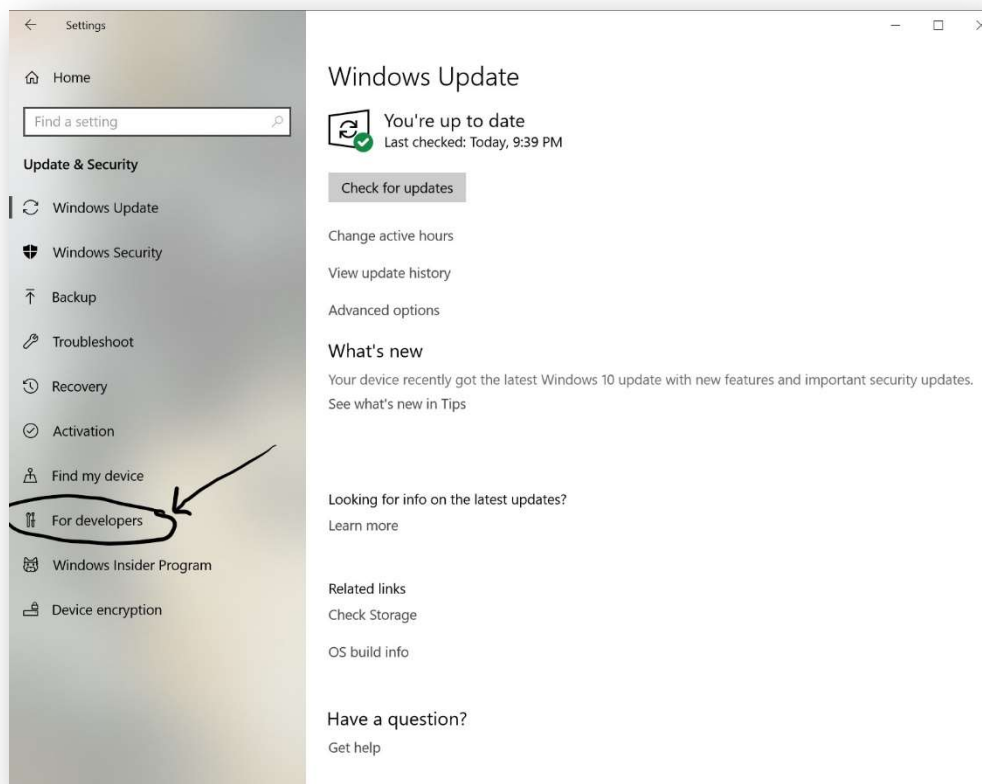
e. Click the "Developer Mode" radio button.
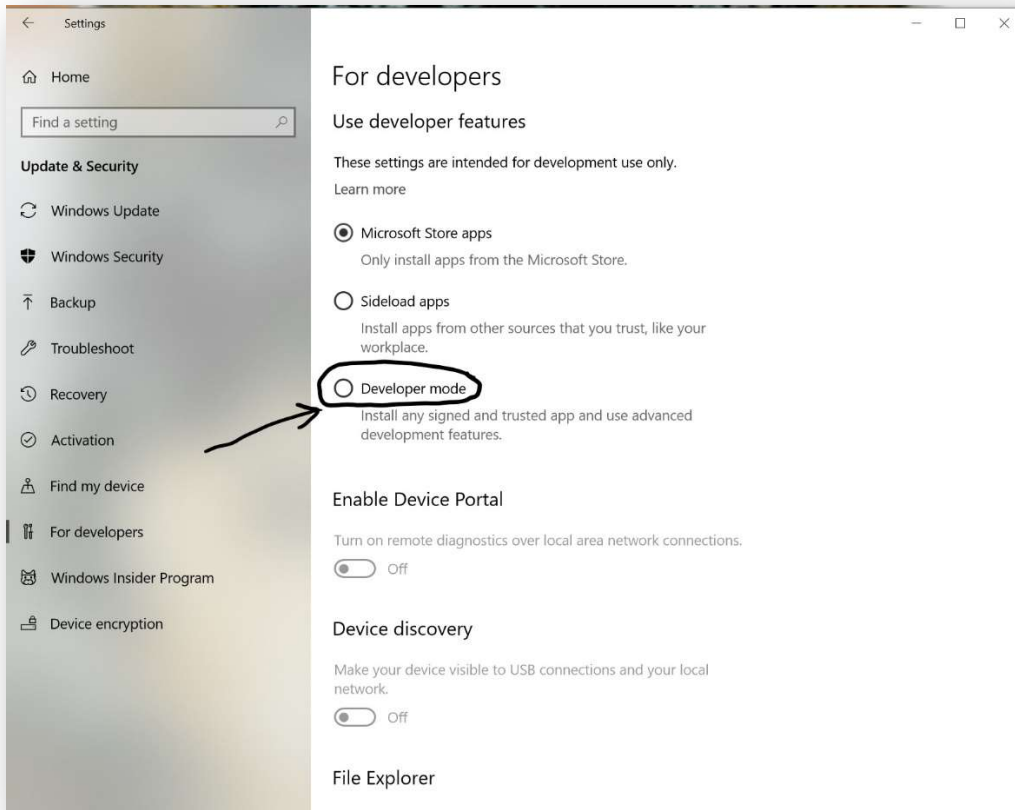
f. Understand risks involved and if accepted, select "Yes".
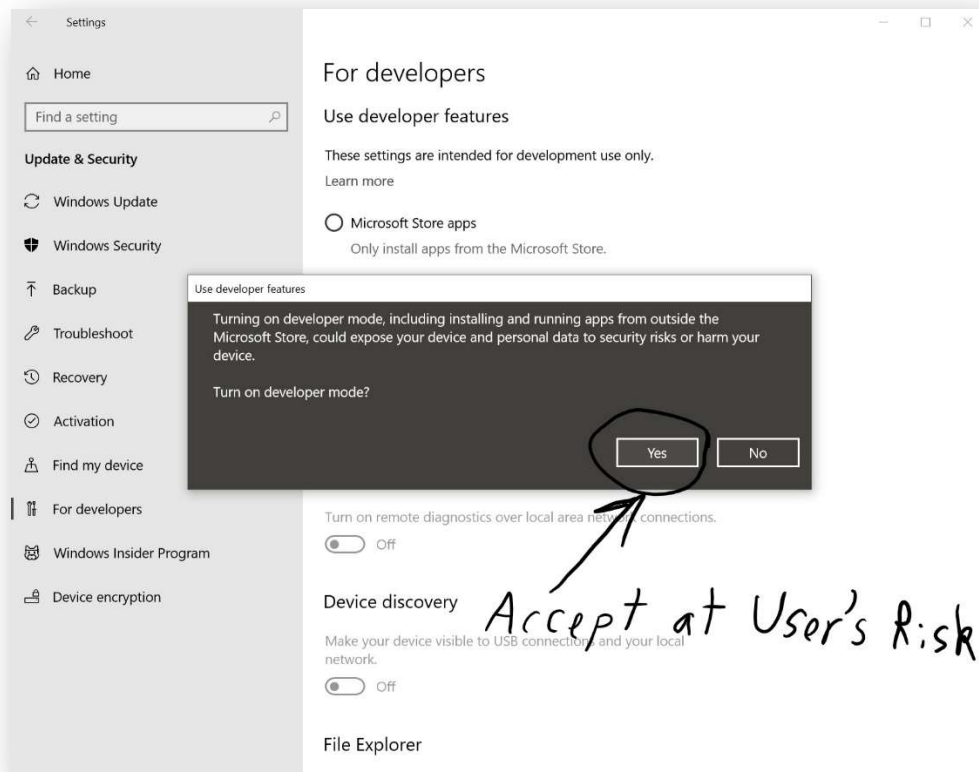
Step 3. Turn on "Windows Subsystem for Linux"

a. Open the "Start Menu".
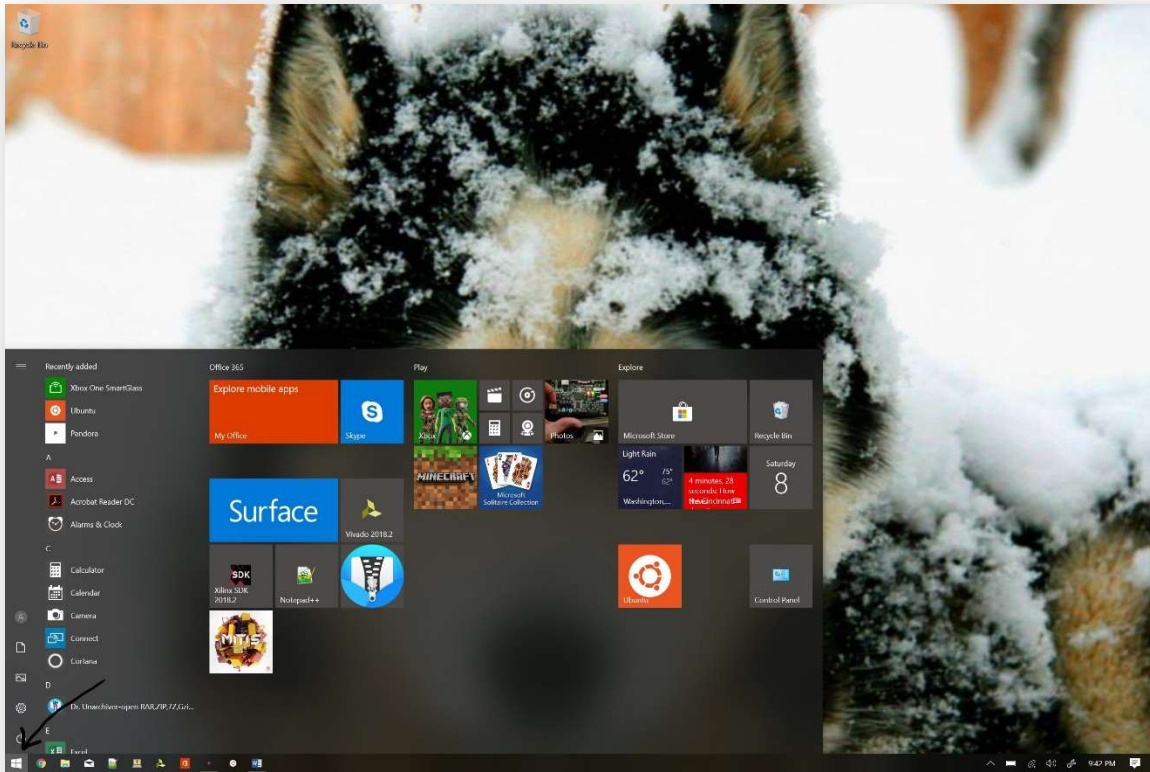
b. Type "Control Panel" and hit Enter.
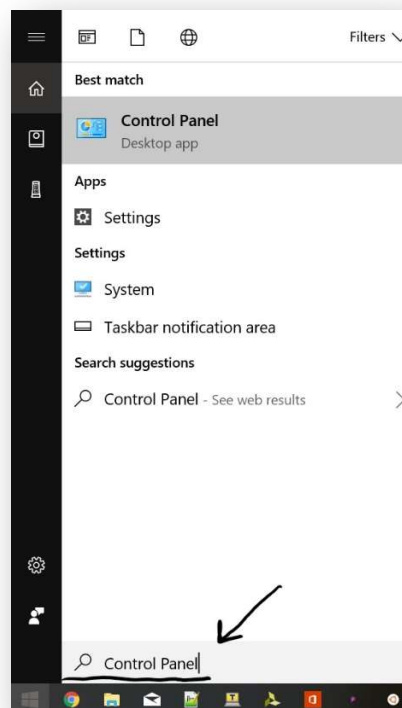
c. Click the "Programs" hyperlink.
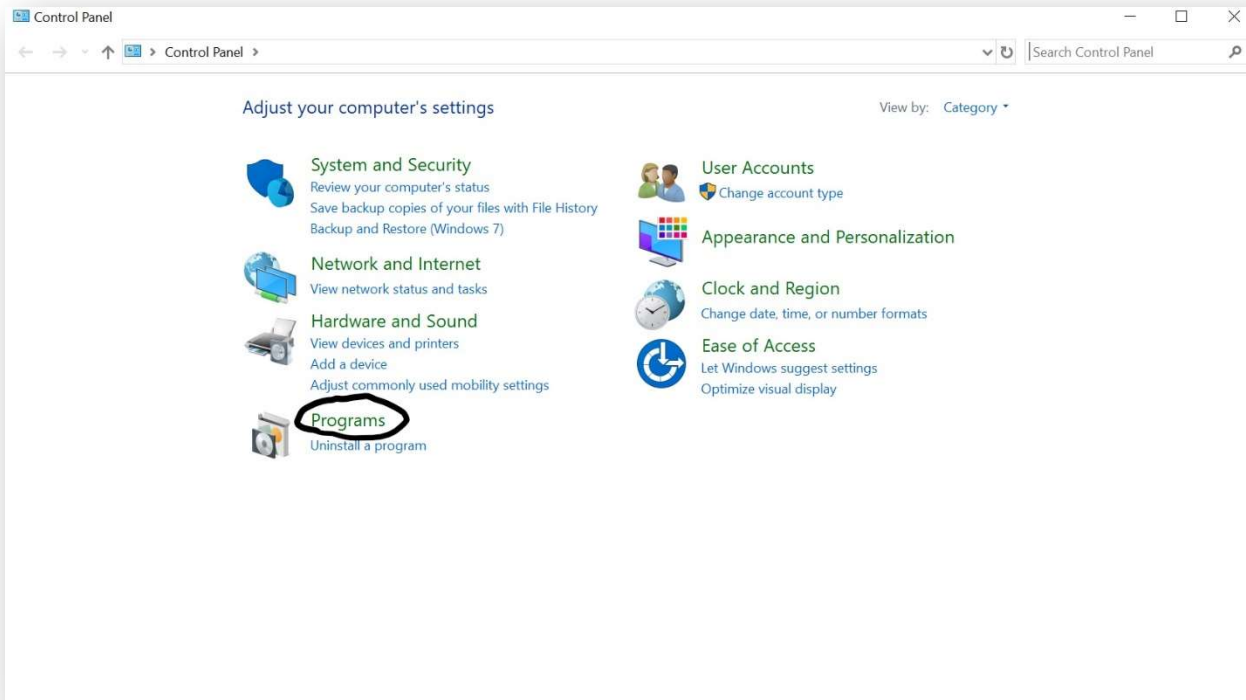
d. Click the "Turn Windows features on and off" hyperlink.
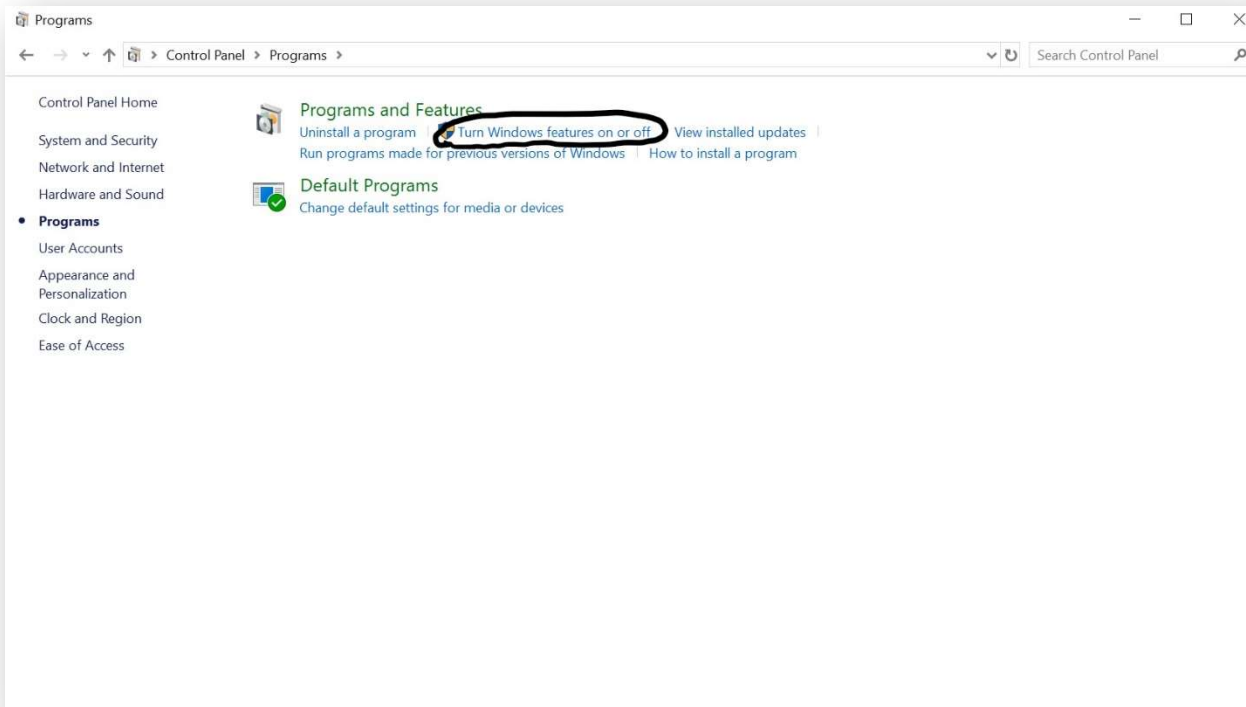
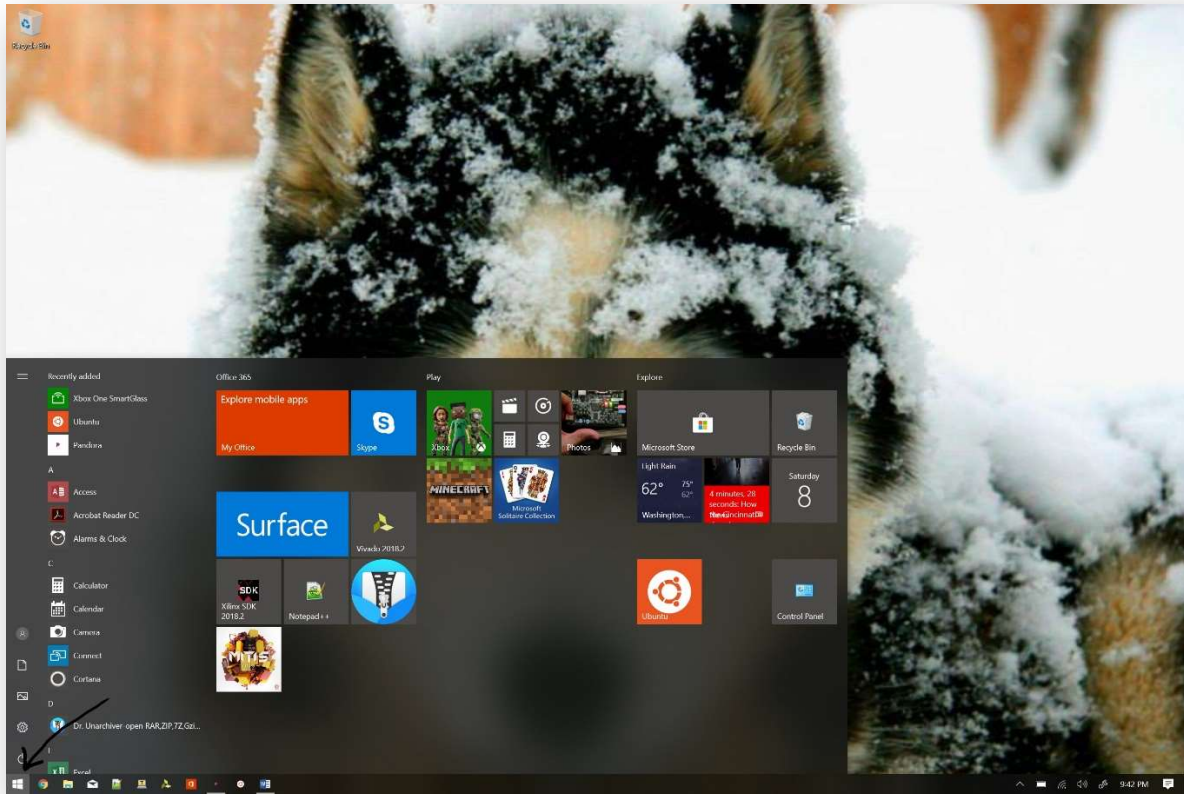e. Scroll to the bottom of the list.
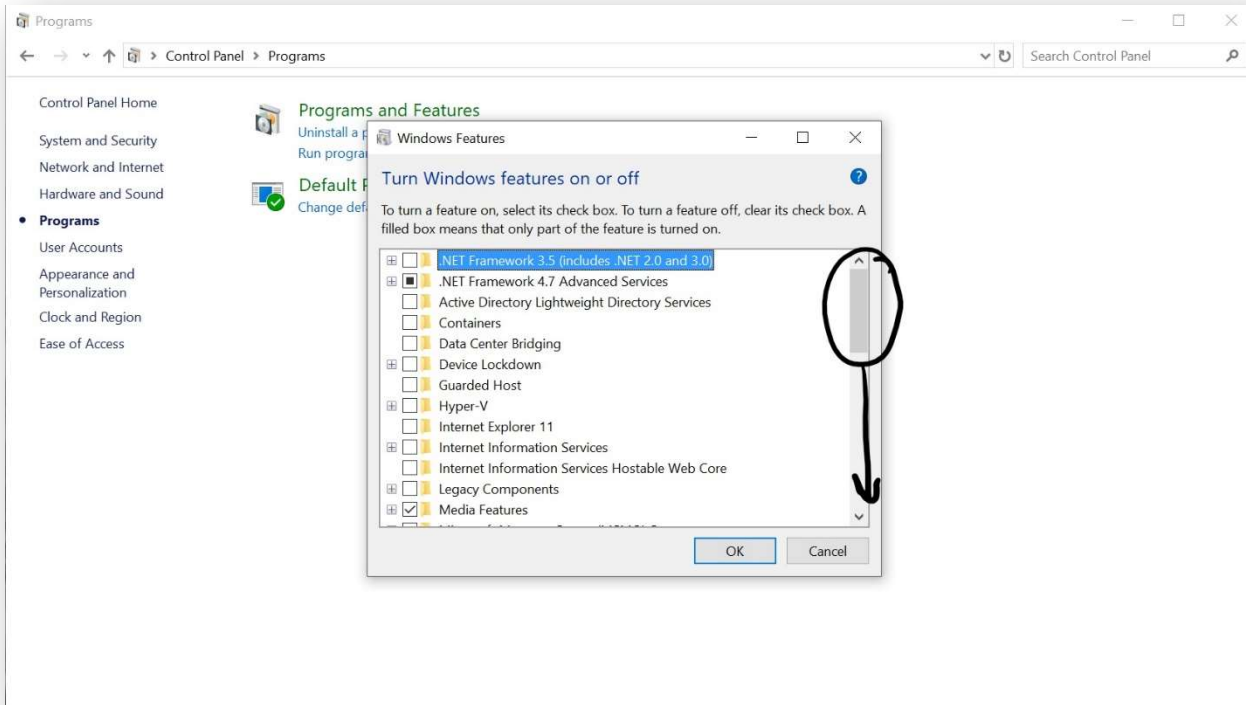
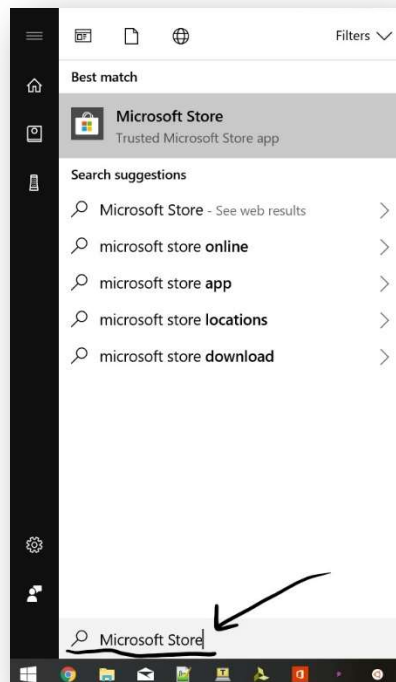f. Check the box for "Windows Subsystem for Linux".
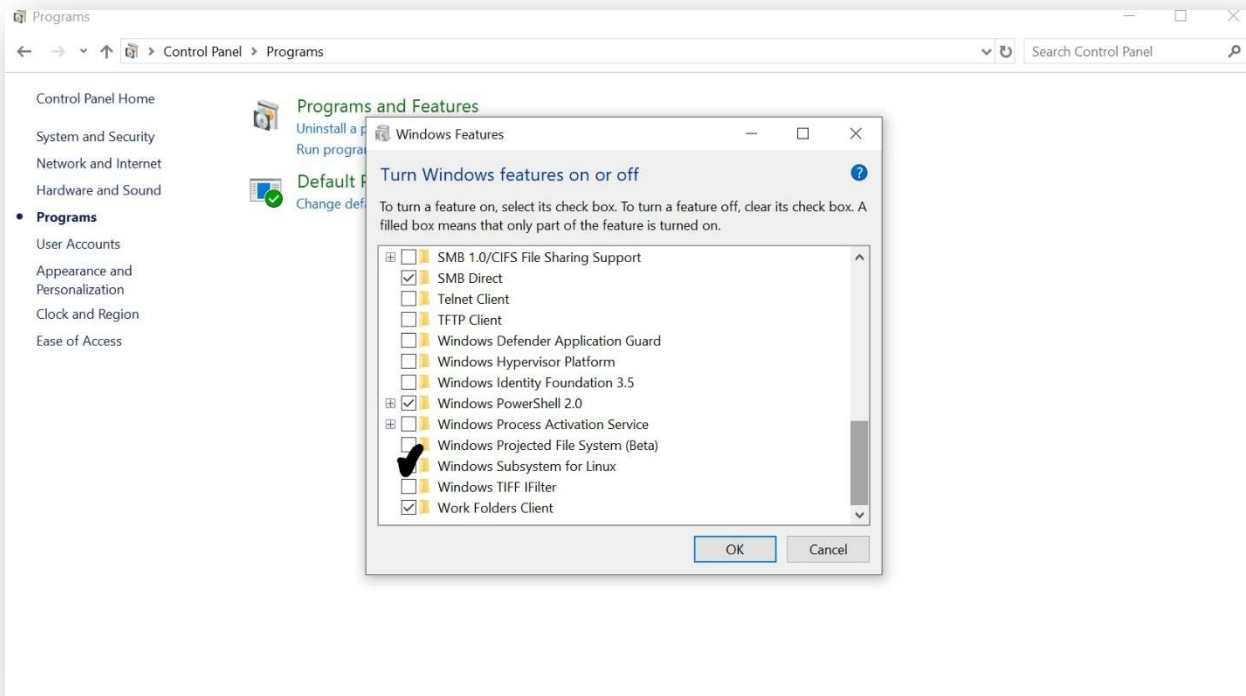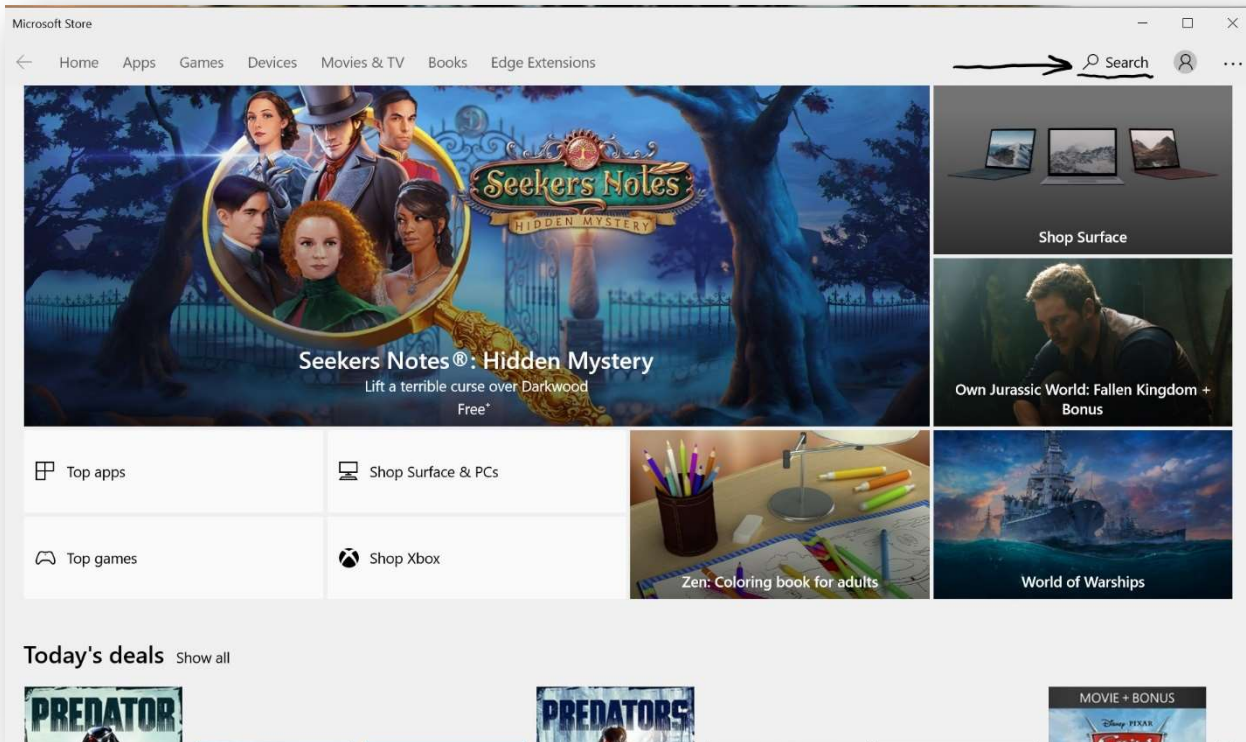
g. Click "OK".
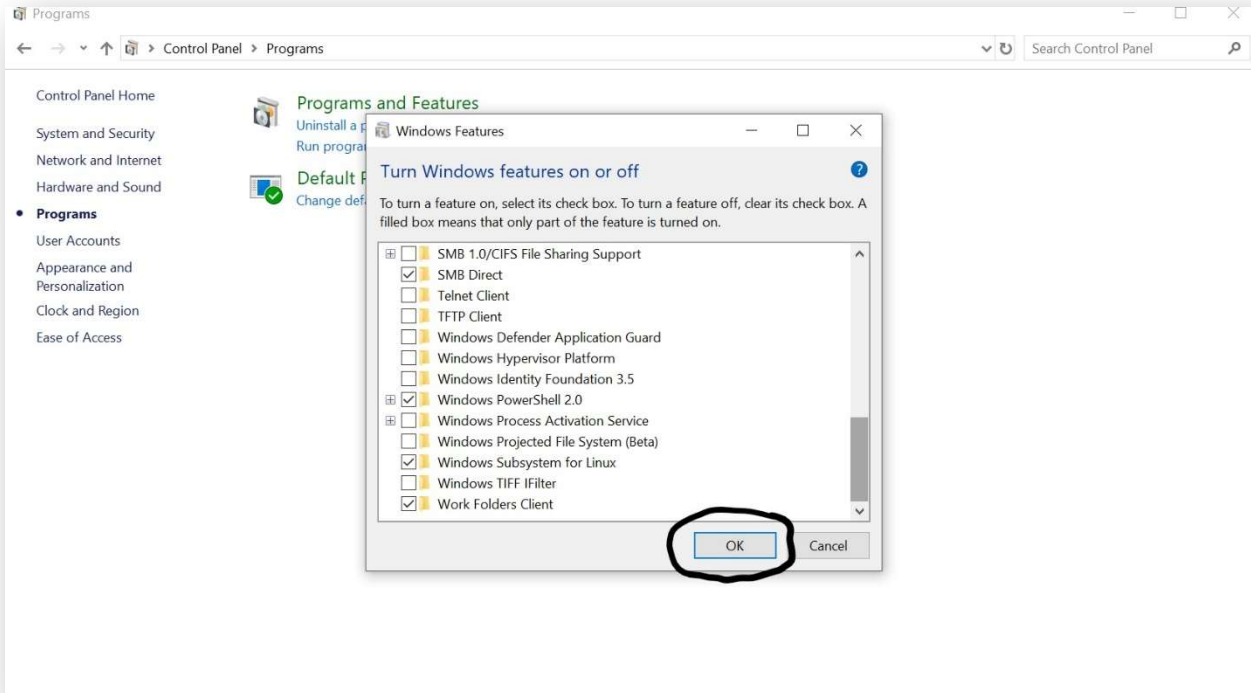
Step 4. Install Linux distribution
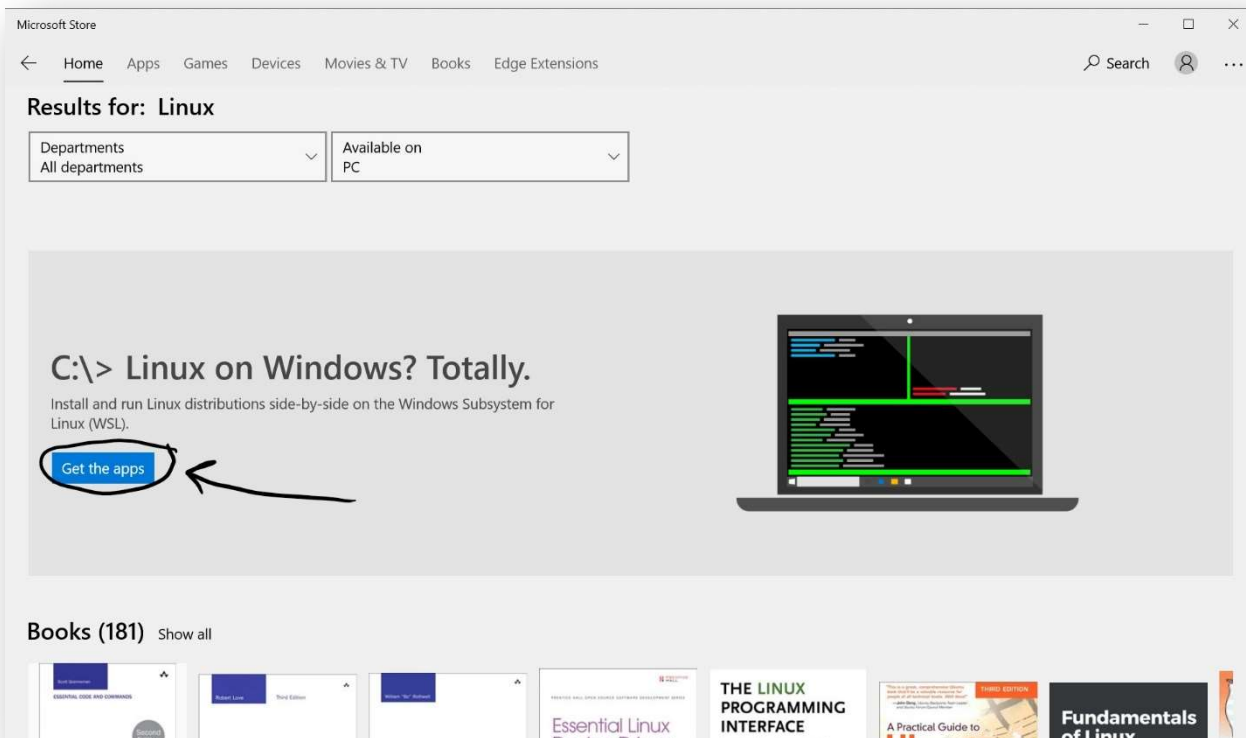
a. Open the "Start Menu".

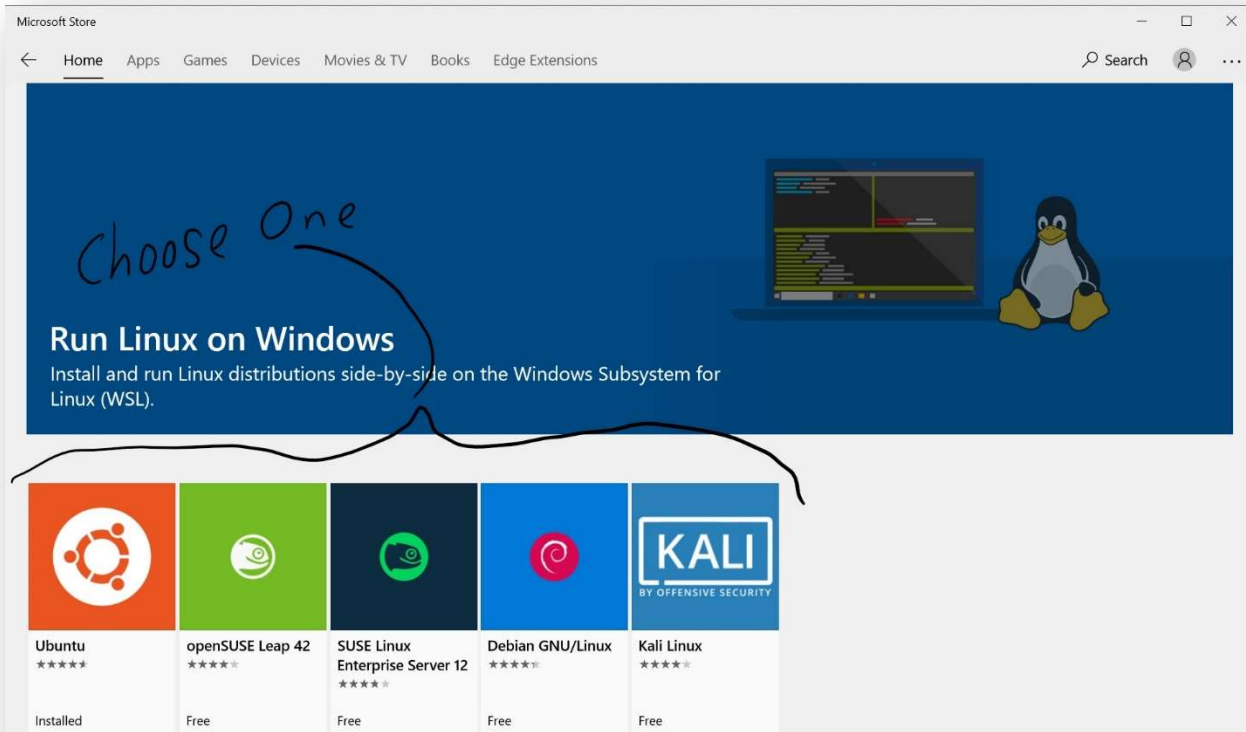b. Type "Microsoft Store" and hit Enter.

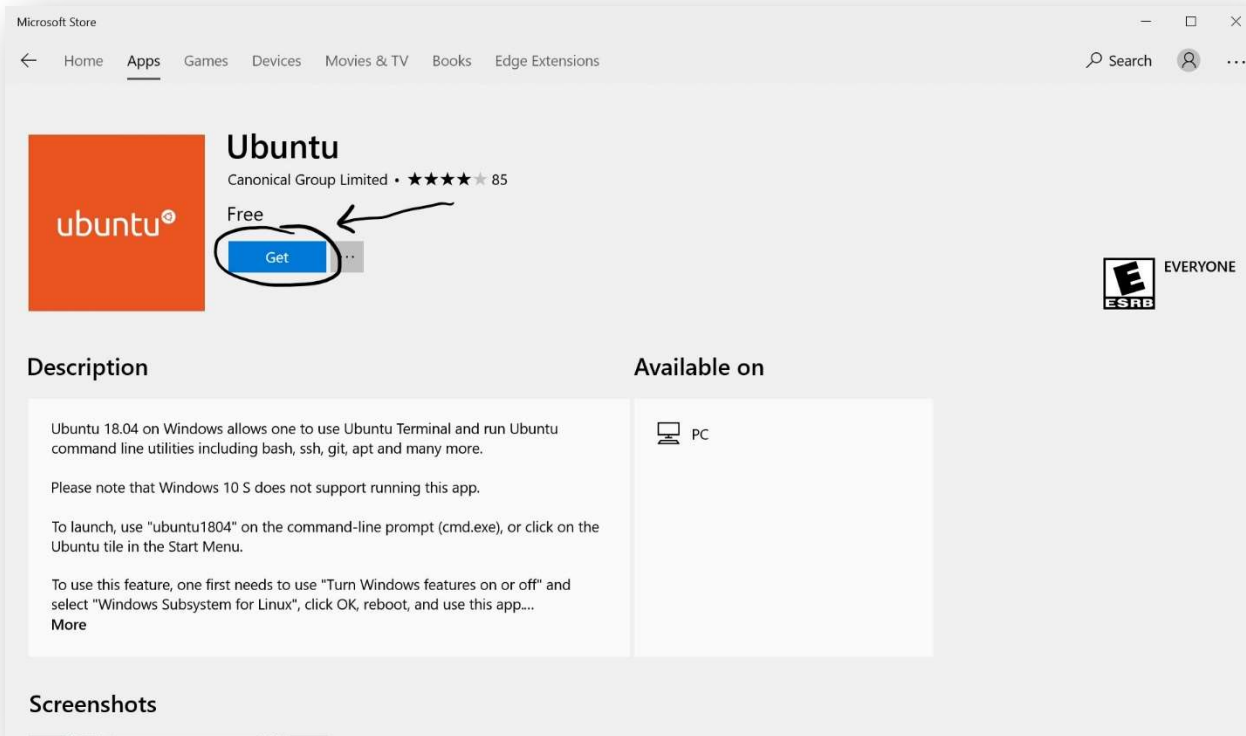c. In the search box, type "Linux" and hit Enter.

d. Click "Get the apps".

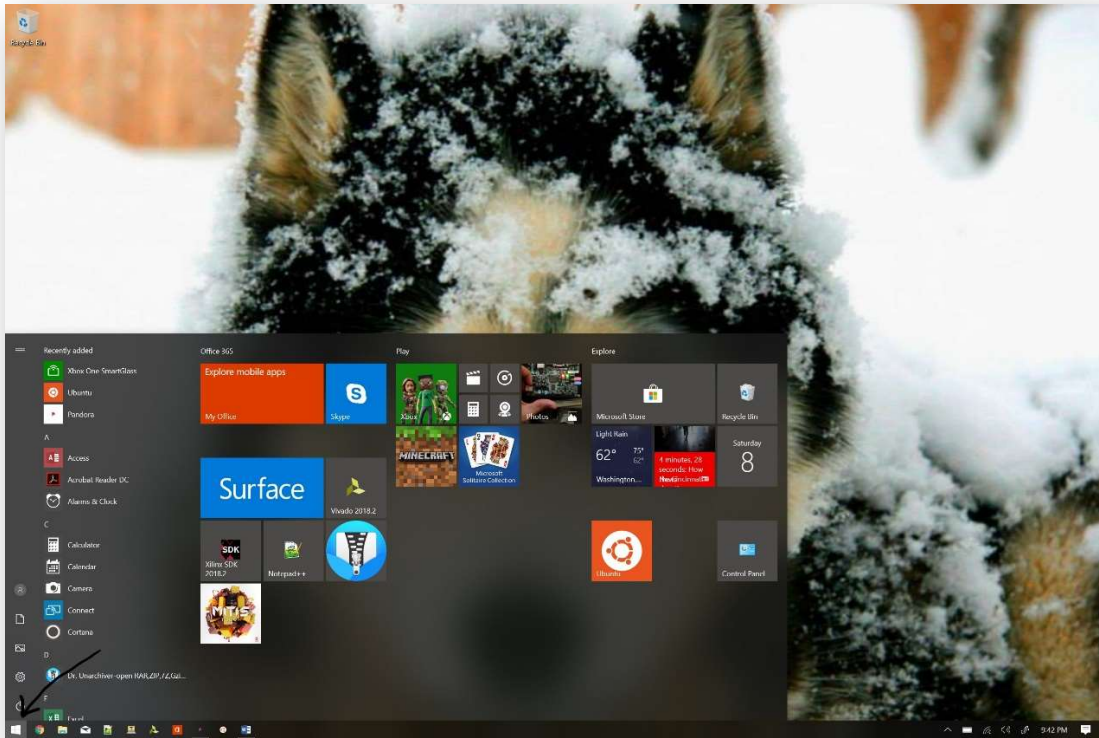e. Choose your Linux distribution and click the icon (if unsure, Ubuntu is very common).

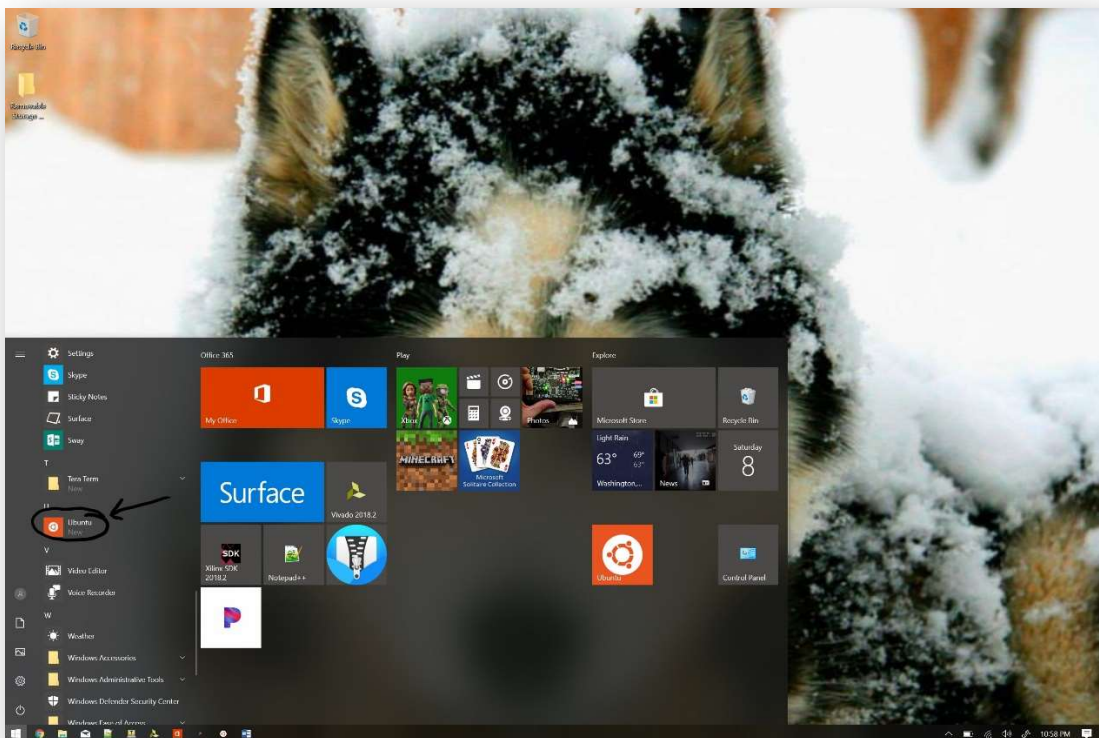f. Click "Get" and follow the onscreen instructions.

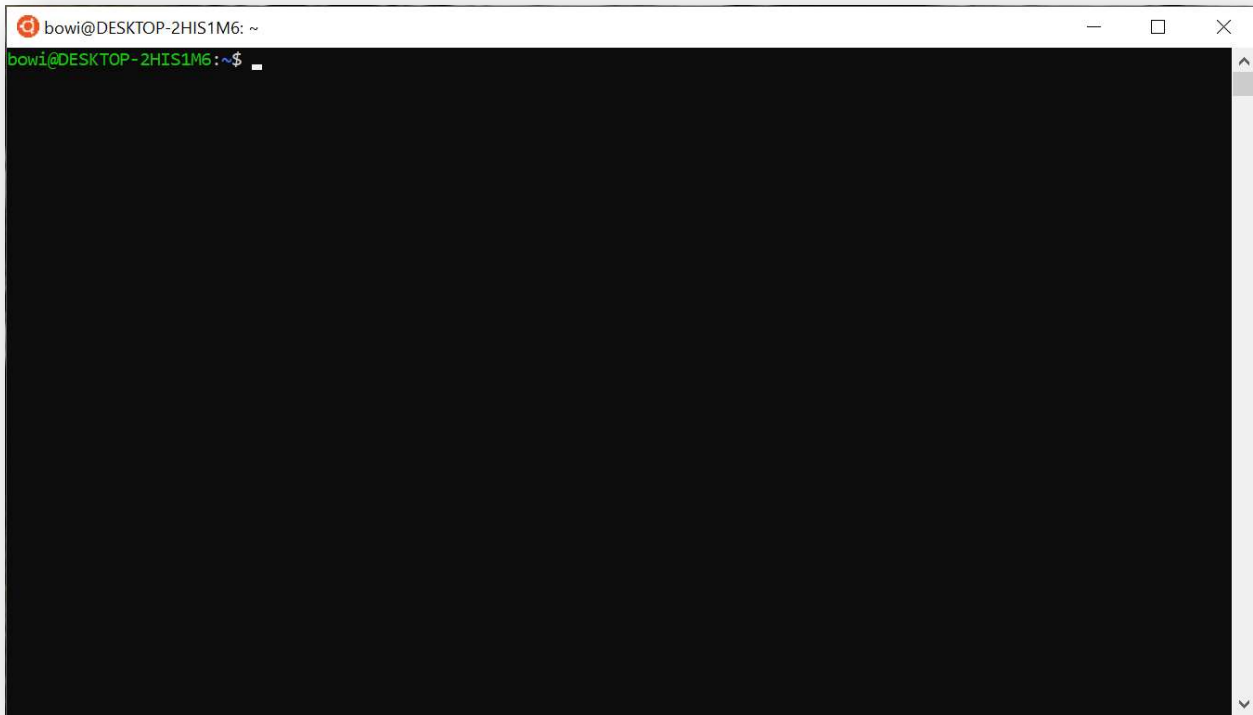g. Reboot the computer.

Step 5. Run Linux bash shell.

    a. Open the "Start Menu".

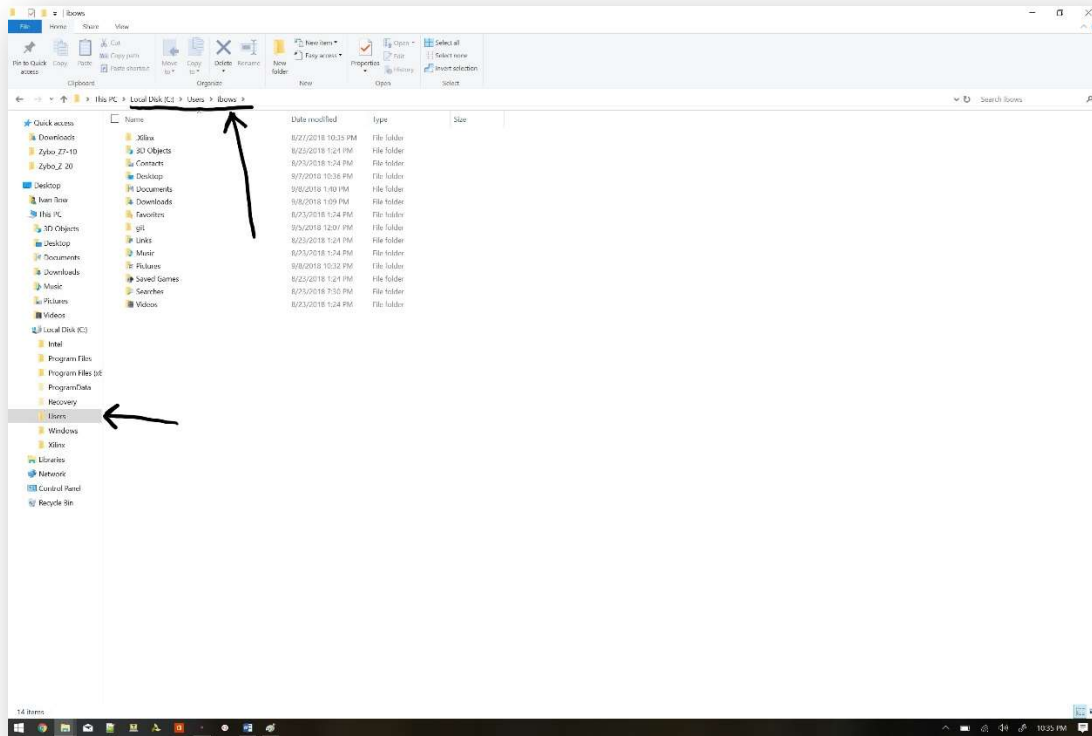   b. Select the icon for the Linux distribution you chose.

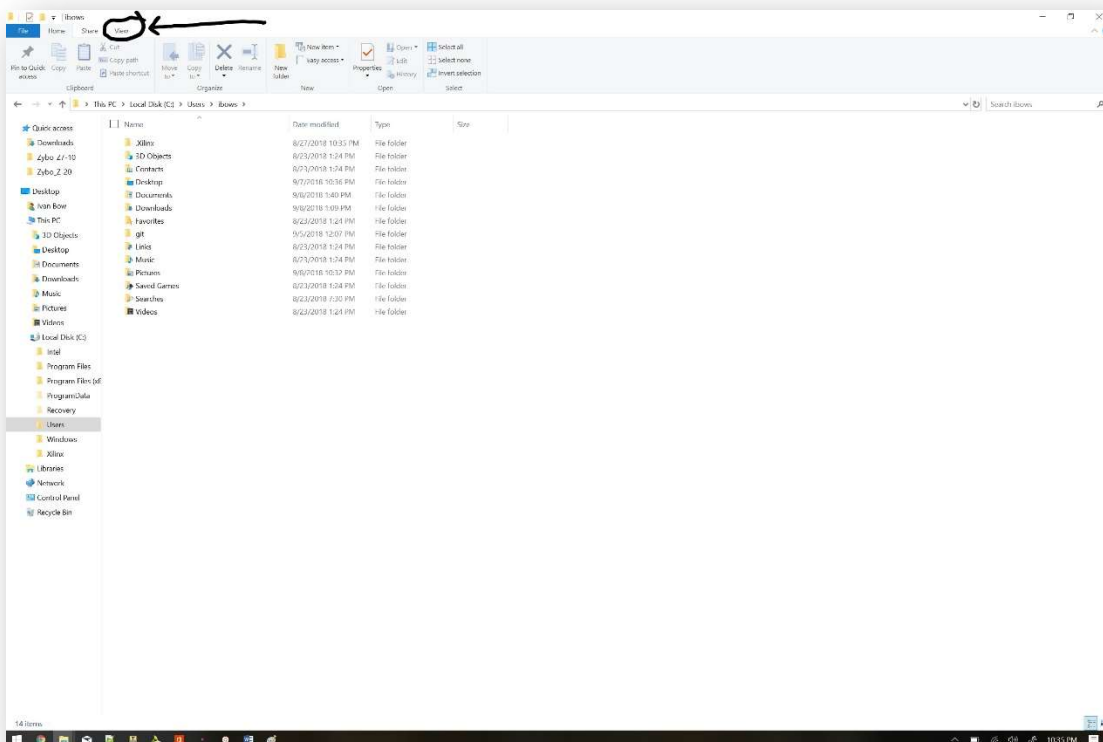c. Follow onscreen instructions and welcome to Linux on Windows.

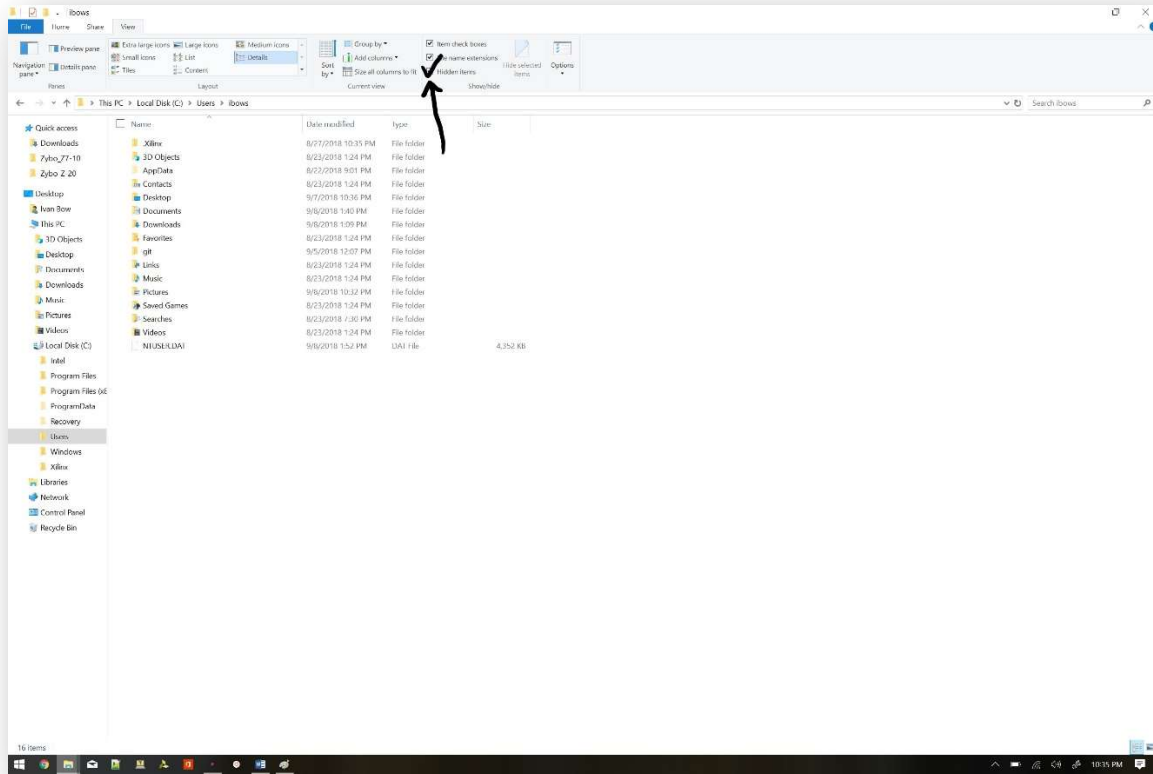**Step 6.** Locate the root folder in windows for easy file transfer.

    a. Open the Windows user folder.

    b. Select the "View" tab.

c. Check the "Hidden Items" box.

d. Open "AppData/Local/Packages/(distribution dependent) /LocalState/rootfs/"