

//github.com/ev3dev/ev3dev.github.io/edit/master/docs/tutorials/connecting-to-the-internet-via-usb.md)

# Connecting to the Internet via USB

docs (/docs/) / tutorials (/docs/tutorials/) / connecting-to-the-internet-via-usb

**⚠** These instructions are for **brickman v0.7.0 (/news/2015/12/15/Package-Release/)** and later. If you are using an older version, please upgrade.

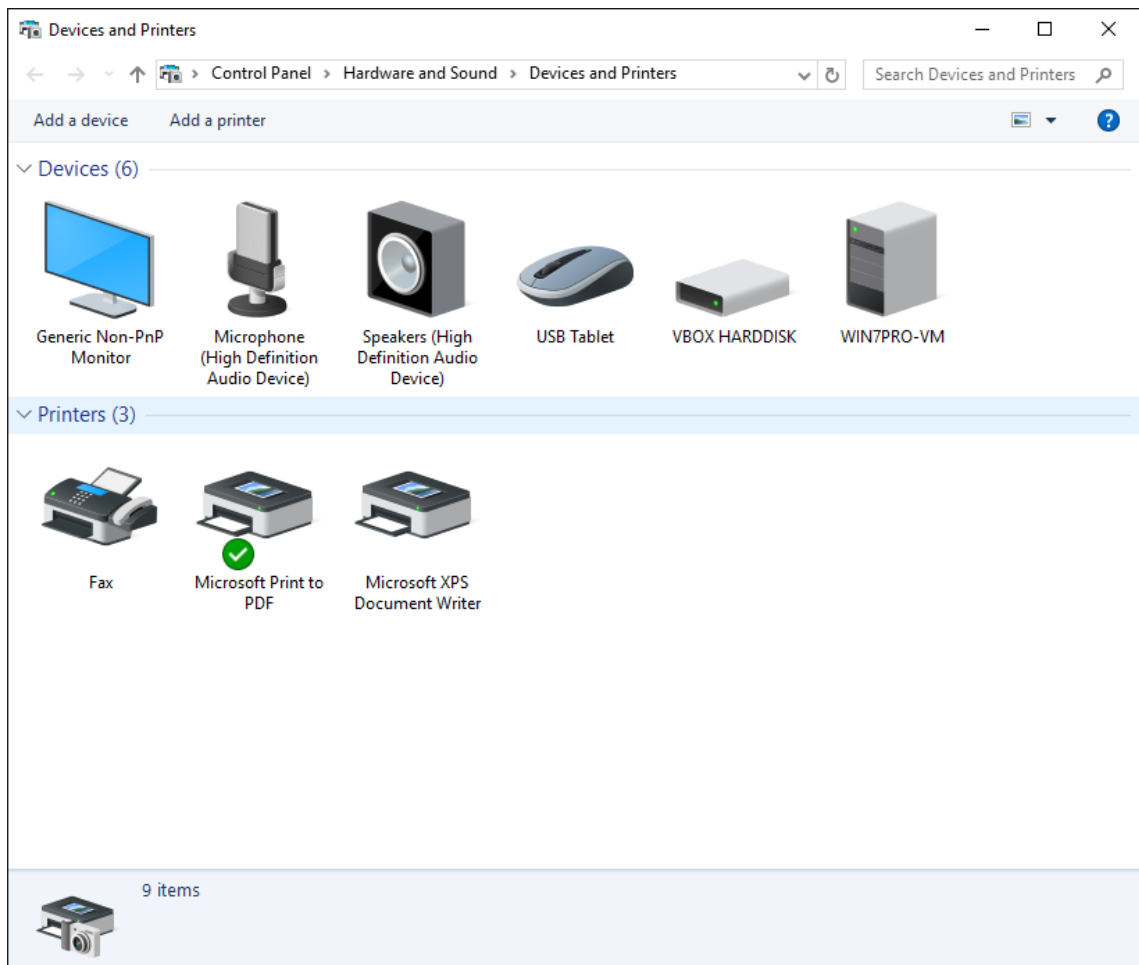
Mac OSX

Ubuntu

Windows

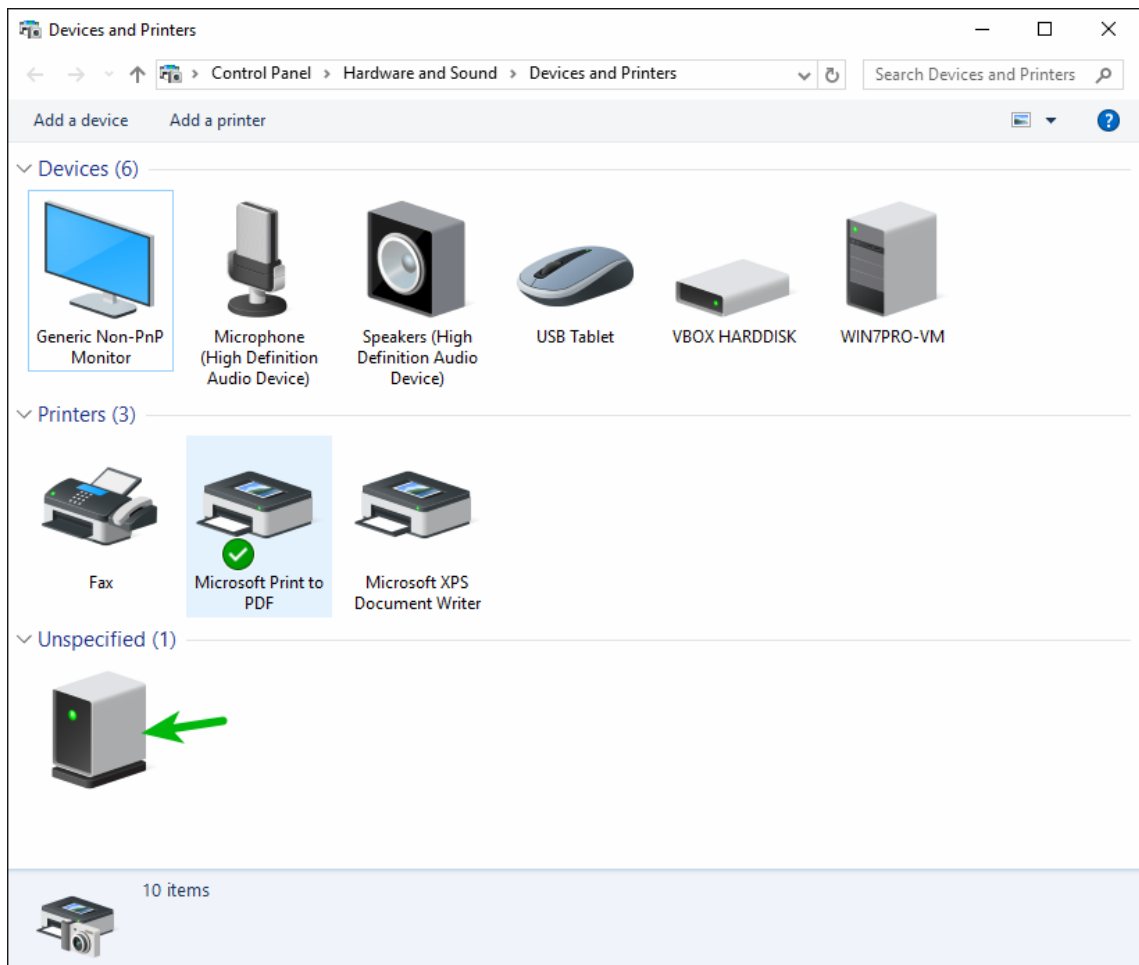
**i** These instructions were written using Windows 10, but should work on Windows 7 and 8 as well.

1. Before connecting the USB cable, go ahead and open *Devices and Printers* on your computer. It is in the *Control Panel* under *Hardware and Sound*. (Or just type *Devices and Printers* in the start menu.)



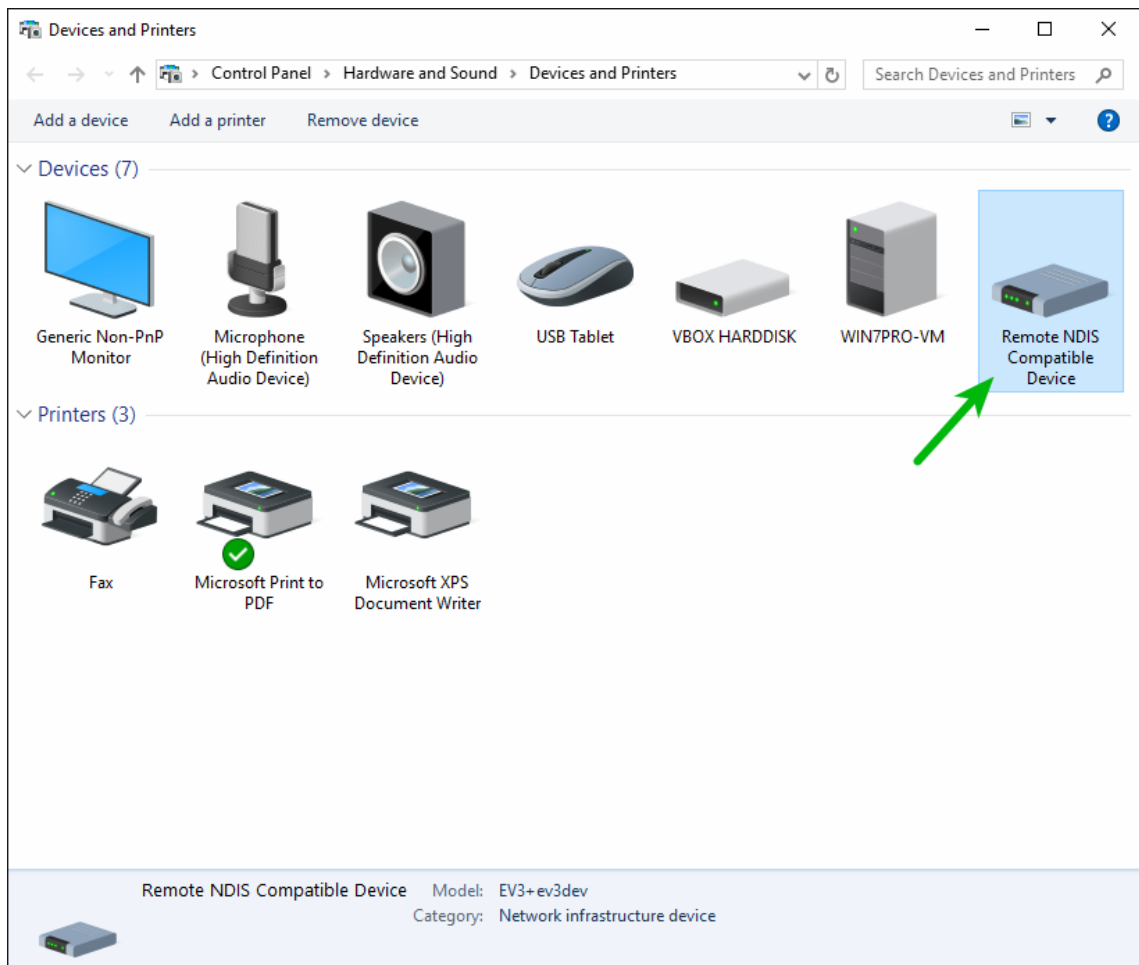
(/images/windows/10/devices-and-printers.png)

2. Connect your EV3 to your Windows computer using the USB cable that came with the EV3. You should see an unknown device pop up right away.



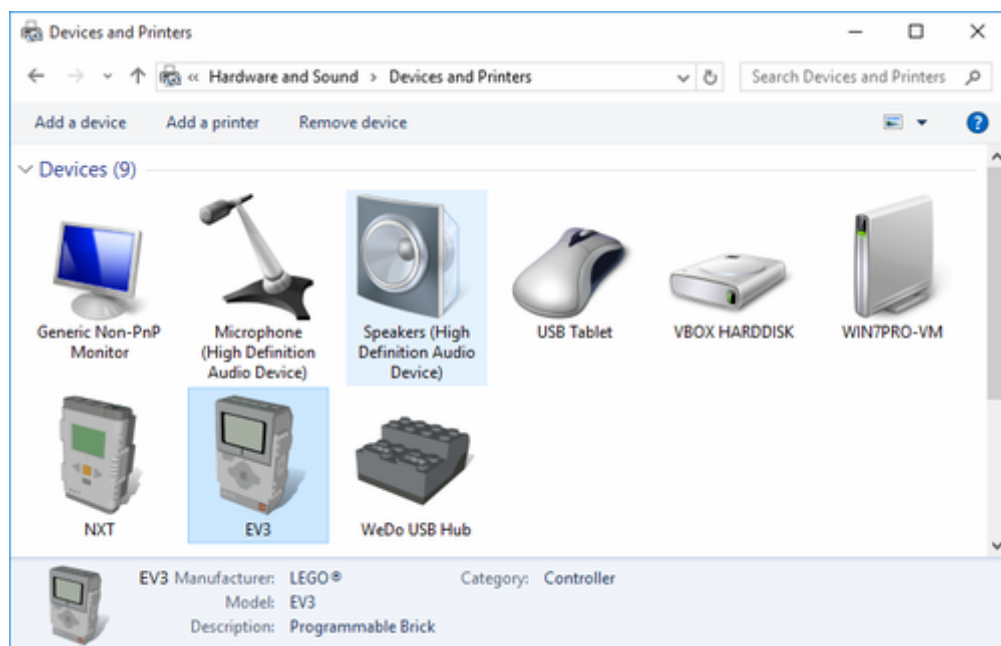
(/images/windows/10/devices-and-printers-new-device.png)

3. Wait a minute for Windows install the driver. It will detect the EV3 as a *Remote NDIS Compatible Device*.



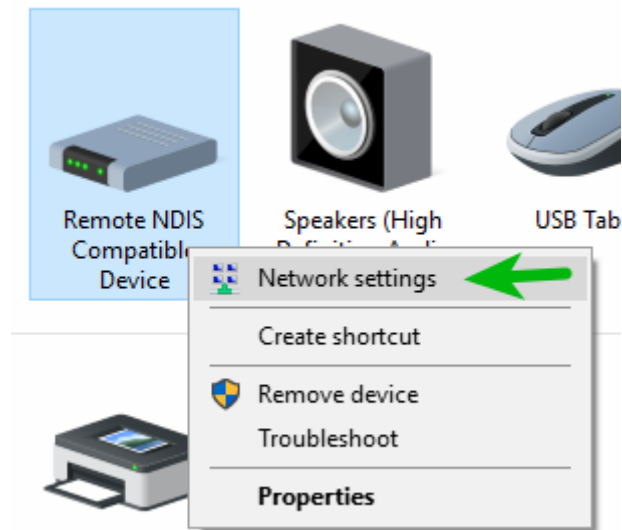
(/images/windows/10/devices-and-printers-rndis.png)

**i** **PROTIP:** You can get an icon that looks like an actual EV3 by installing **Programmable Brick Icons** (<https://github.com/ev3dev/PBrickIcons>). Follow the link for more information.



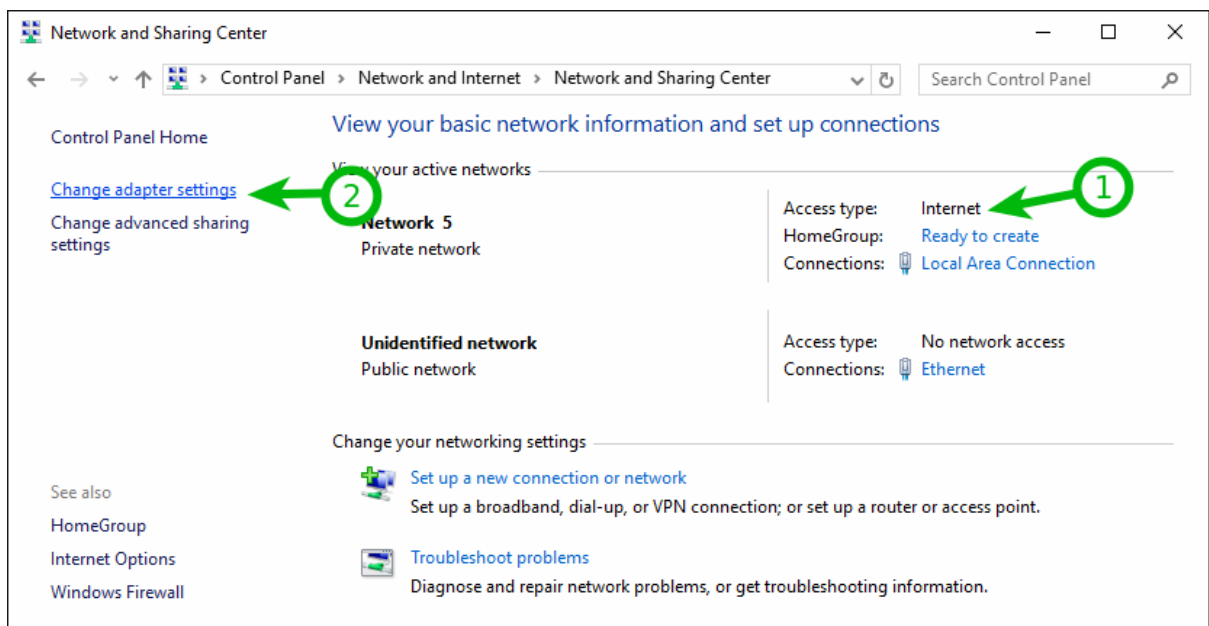
(<https://raw.githubusercontent.com/ev3dev/PBrickIcons/master/demo1.png>)

4. Right-click the *Remote NDIS Compatible Device* and select *Network Settings*. This takes you to the *Network and Sharing Center*.



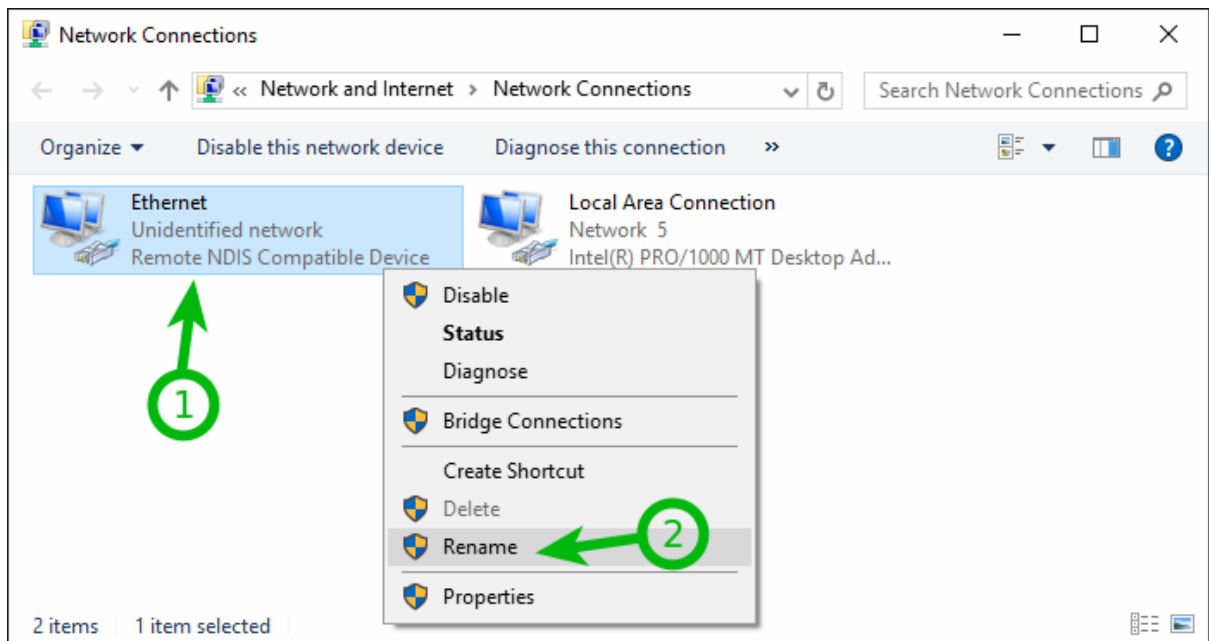
(/images/windows/10/devices-and-printers-context-menu-network-settings.png)

5. In the *Network and Sharing Center*, make a note of which connection is your Internet connection (1) and then click on *Change adapter settings* (2). In this example, our Internet connection is **Network 5**.



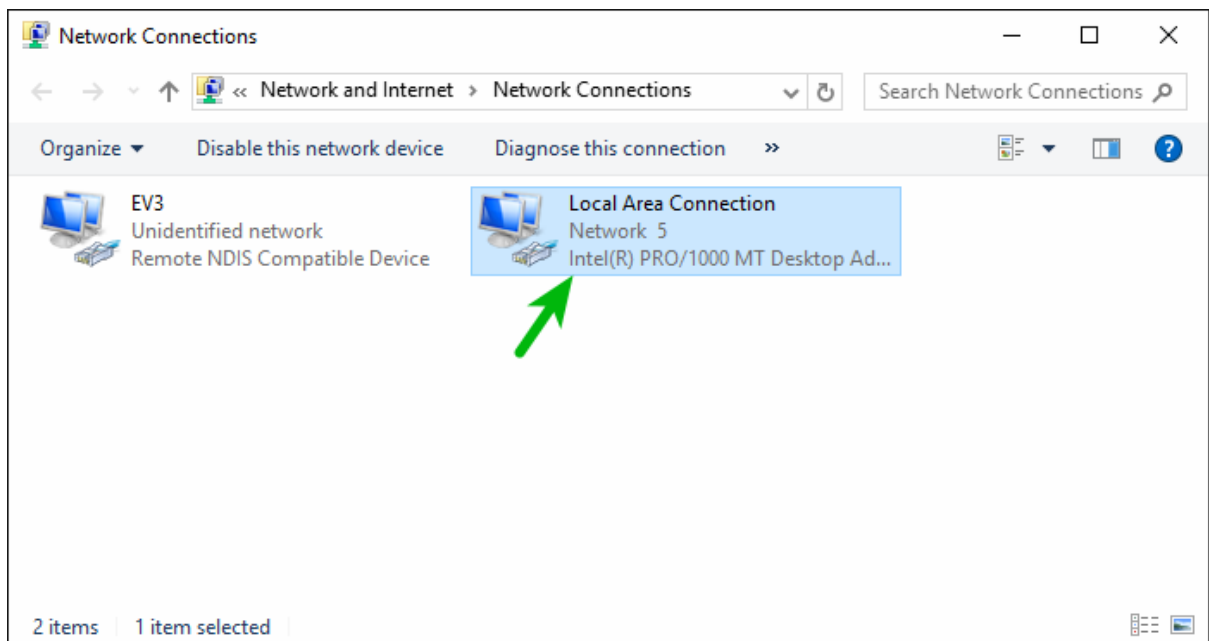
(/images/windows/10/network-and-sharing-center-change-adapter-settings.png)

6. There will be a connection that says *Remote NDIS Compatible Device* (1). This is the EV3. Let's rename it so it is easy to identify. Right-click the adapter and select *Rename* (2). Call it EV3 or whatever you like.



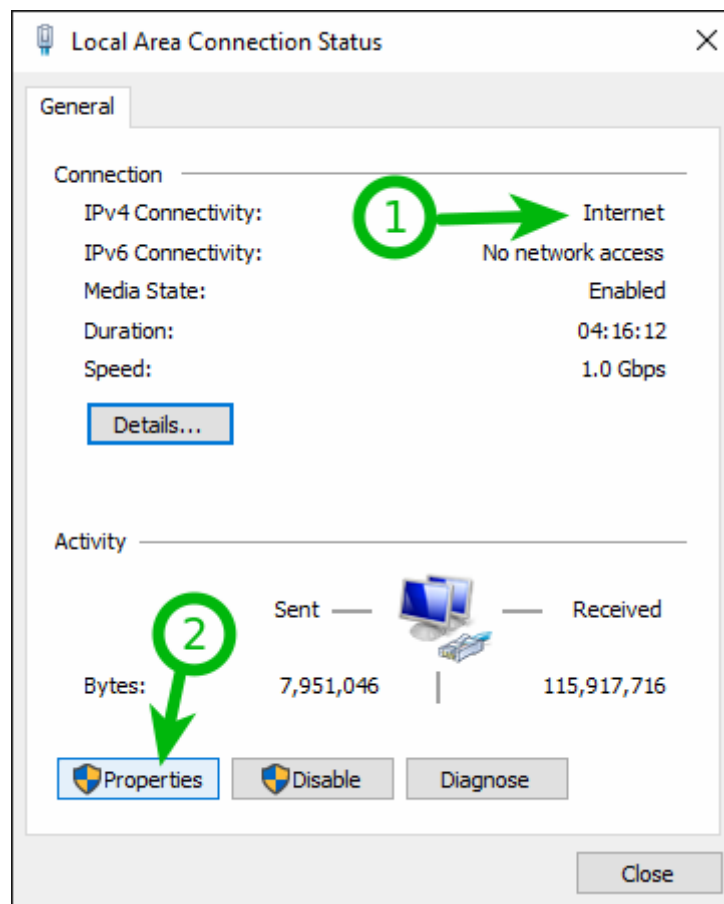
(/images/windows/10/network-connections-context-menu-rename.png)

7. To share our Internet connection with the EV3, double-click the Internet network connection that you noted earlier (**not** the one we just renamed). This will show the connection status.



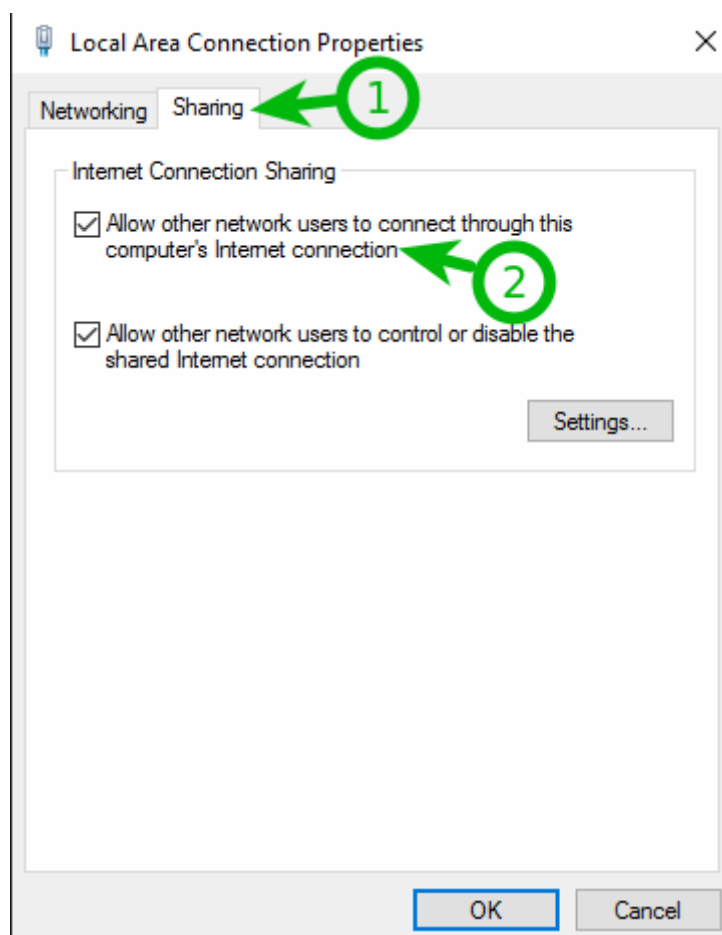
(/images/windows/10/network-connections-internet-adapter.png)

8. If you have more than one other connection, you will want to verify that this connection is indeed the Internet connection (1). Then, click on the *Properties* button (2).



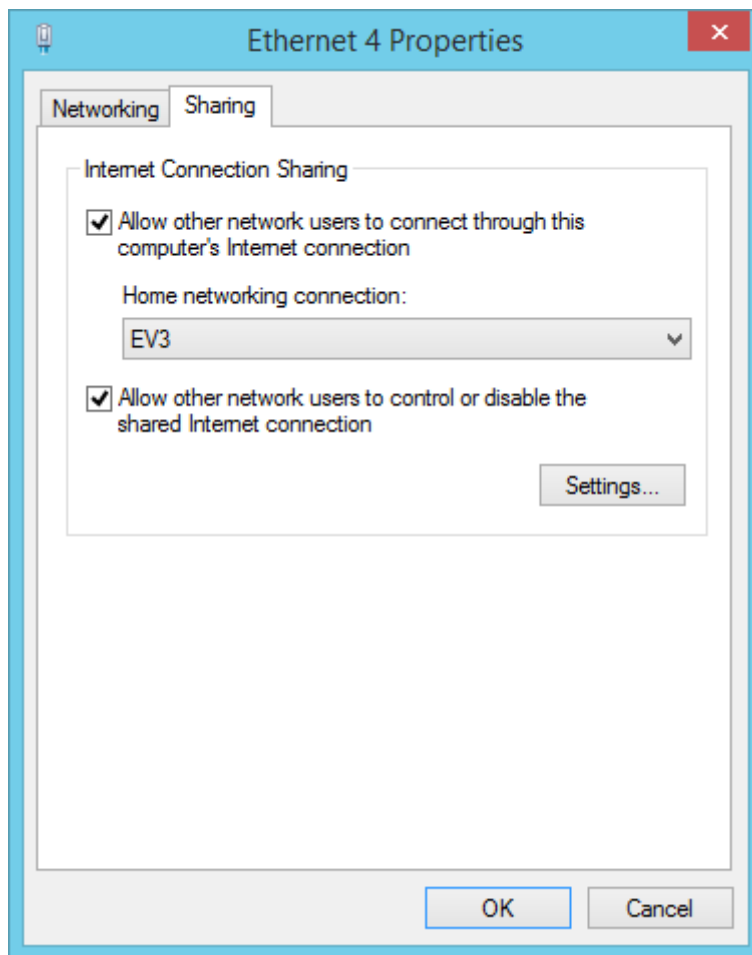
(/images/windows/10/local-area-connection-status.png)

9. In the window that opens, select the *Sharing* tab (1) and check the box that says *Allow other network users to connect through this computer's Internet connection* (2).



(/images/windows/10/local-area-connection-properties-sharing.png)

**i** If you have more than two network connections, it will ask for a “Home networking connection”. If you see this, select your EV3’s network adapter from the list (this will be called EV3 if you renamed it earlier in the guide).

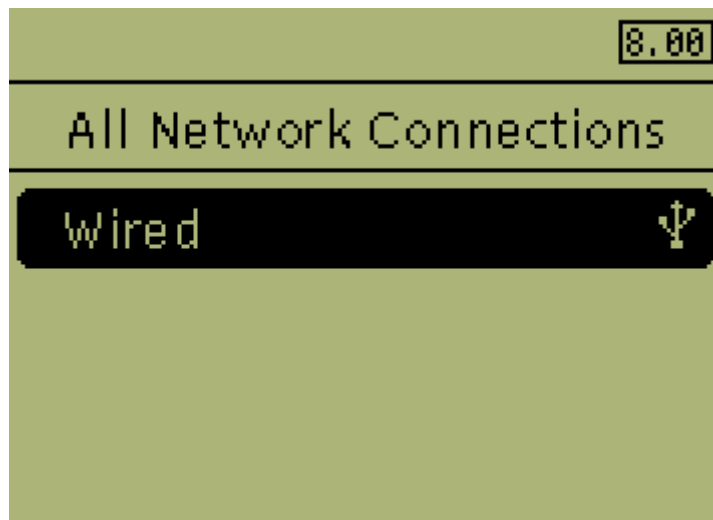


(/images/windows/8/local-area-connection-properties-sharing-with-extra-selection.png)

**⚠** Windows Internet Connection Sharing is temperamental. Sometimes it just stops working for no reason. If this happens, just turn it off (by unchecking *Allow other...* and clicking OK) and then turn it back on. It should start working again.

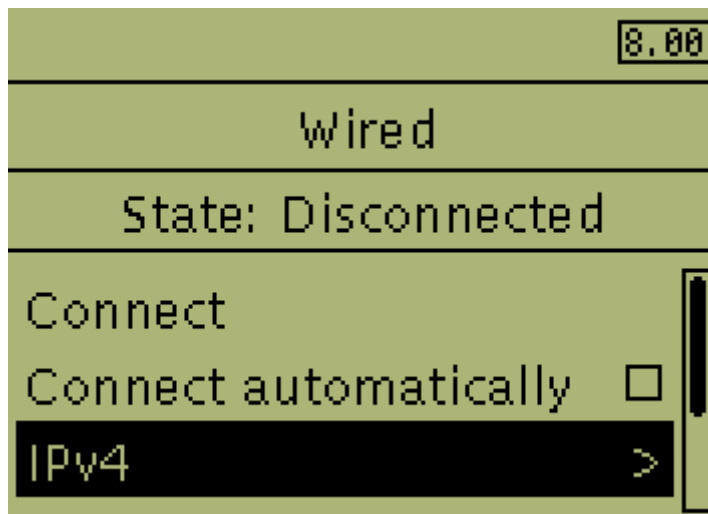
10. Click OK when you are done and close the status window as well. Windows will automatically reconfigure your other network connections.
11. Now, we need to do some setting up on the EV3. Go to *Networking* and select *Manage connections...*, then select the *Wired* connection.





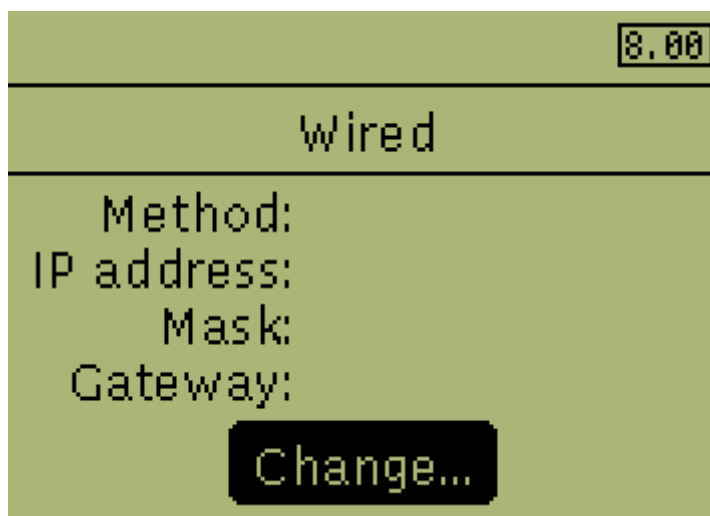
(/images/brickman/networking-connections-wired-only.png)

12. Internet Connection Sharing on Windows is temperamental, so we are going to use a static IP address to make it a bit more reliable. Select *IPv4* on the menu.



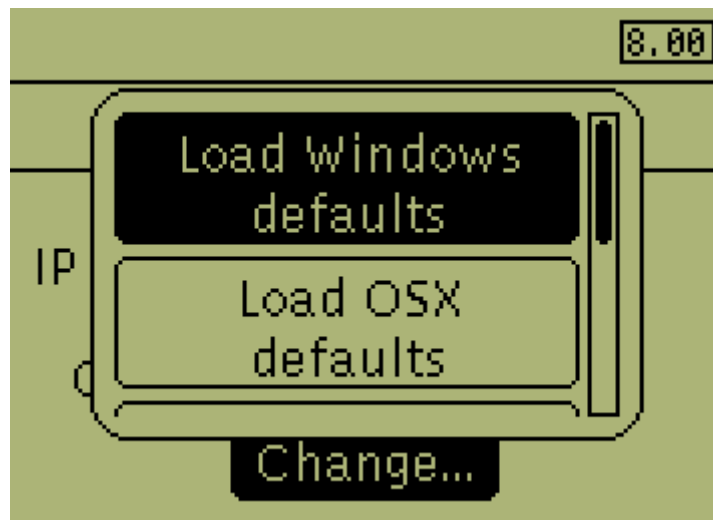
(/images/brickman/wired-status-disconnected-ipv4-selected.png)

13. Select *Change....*



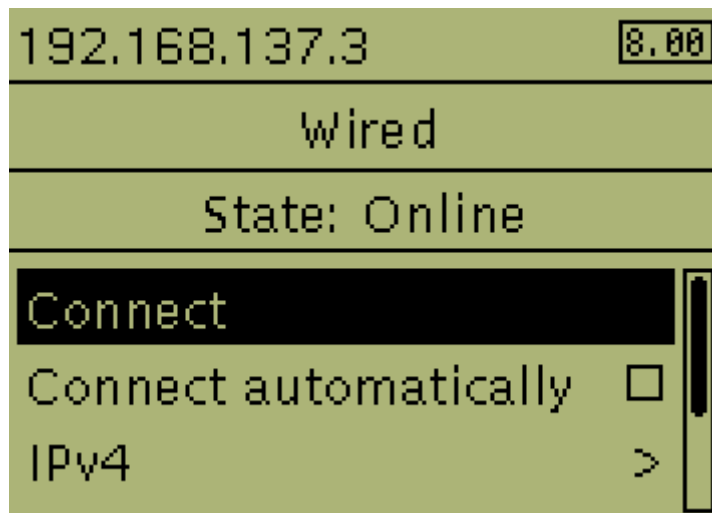
(/images/brickman/wired-status-disconnected-ipv4-empty.png)

14. Then choose *Load Windows Defaults.*




(/images/brickman/networking-load-windows-defaults.png)

15. The settings on the *IPv4* screen will remain blank because we are not connected yet. Go back to the previous screen and check the box for *Connect automatically*. This way you don't have to connect manually after you reboot. Then select *Connect*. *State* should change to *Online* to indicate that your EV3 is connected to the Internet.



(/images/brickman/wired-status-online-connect-selected.png)

Now that you have a network connection, you should connect to your EV3 with SSH (/docs/tutorials/connecting-to-ev3dev-with-ssh) if you haven't done so already.

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Project maintained by Ralph Hempel (<https://github.com/rhempel>) and David Lechner (<https://github.com/dlech>), with help from the community