

Set Up a Home Network for File Sharing

What

Instructions for how to set up the PCs on a Home network so they can share files.

Why

Sharing files over a Home network is better than using a flash drive or using a cloud connection.

How

Notice:

The following instructions are for Windows PCs connected to the Home network thru a router. The PCs can be connected by Ethernet wire or Wi-Fi. The user has administrative access to all PCs. This set up will allow all users logged on to a PC on this network to have access all the other PCs on the network and access to all shared files on those PCs. Works great if you and/or someone you trust are the only users on all the PCs on the Home network. Different instructions are needed for a different kind of setup with limited access to different users.

The specific instructions below are for Windows 10 version 1809 or higher, but with slight modification will work with Windows versions since Windows 7. I have Windows 7 and Windows 10 sharing on the Home network.

The following must be done on each PC on the Home Network

Step 1 – Logon -PC Name

Logon to the PC with your user account with administrative privileges. Press WinKey + Pause to open the Settings About page. Record the Device name (PC Name) for this PC, you will need it later.

Step 2 – Set Needed Services to be Detected (Discovered) and used for Sharing

Open a Run box by right clicking the Start menu icon and selecting Run. Enter **services.msc** and press the *Enter* key to open the Services window. Locate each of the following services from the list of services and for each:

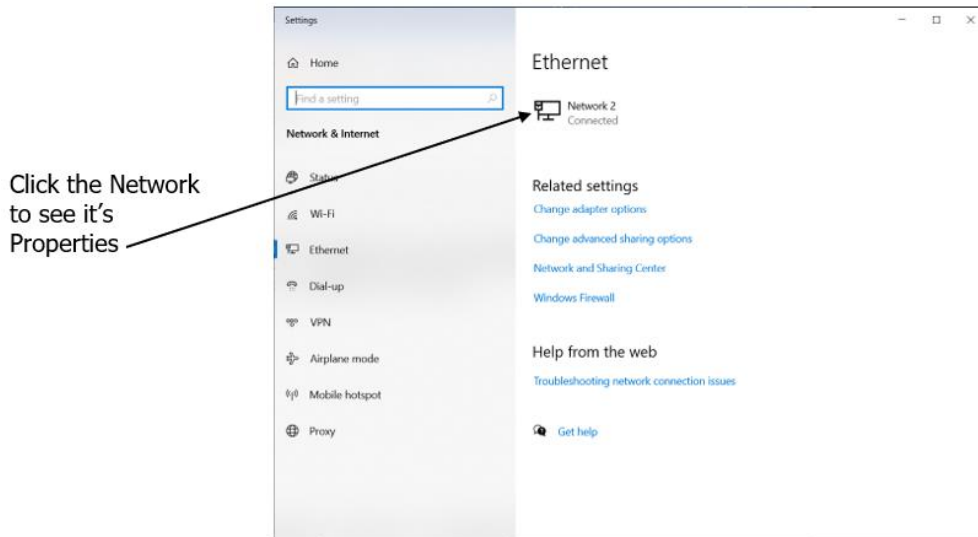
- Right click the Service name and select **Start** if not already running
- Once the service is running, right click and select *Properties*. On the General tab of the service Properties click the dropdown arrow to the right of **Startup type:** and select **Automatic**. Click Apply and OK to save your changes.

Services:

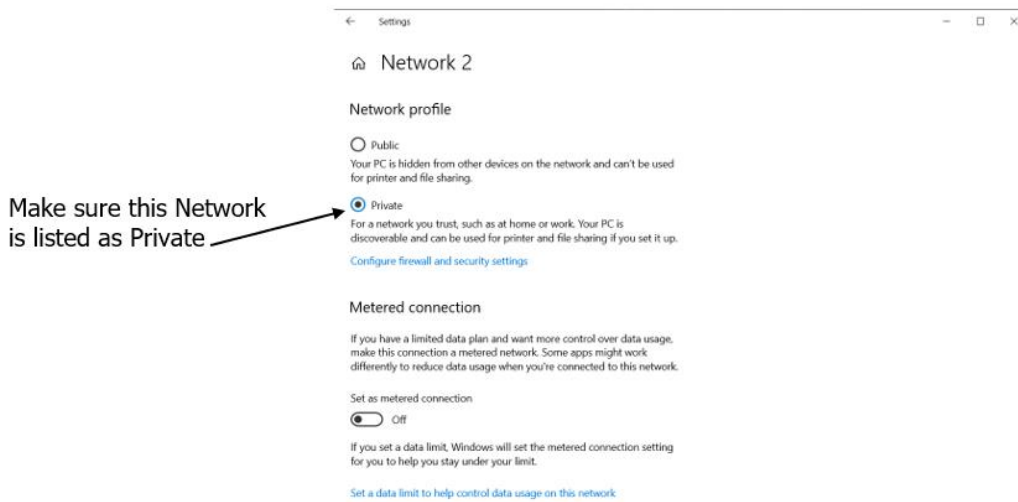
- Function Discovery Provider Host
- Function Discovery Resource Publication
- SSDP Discovery
- UPnP Device Host

Step 3 – Networks Settings

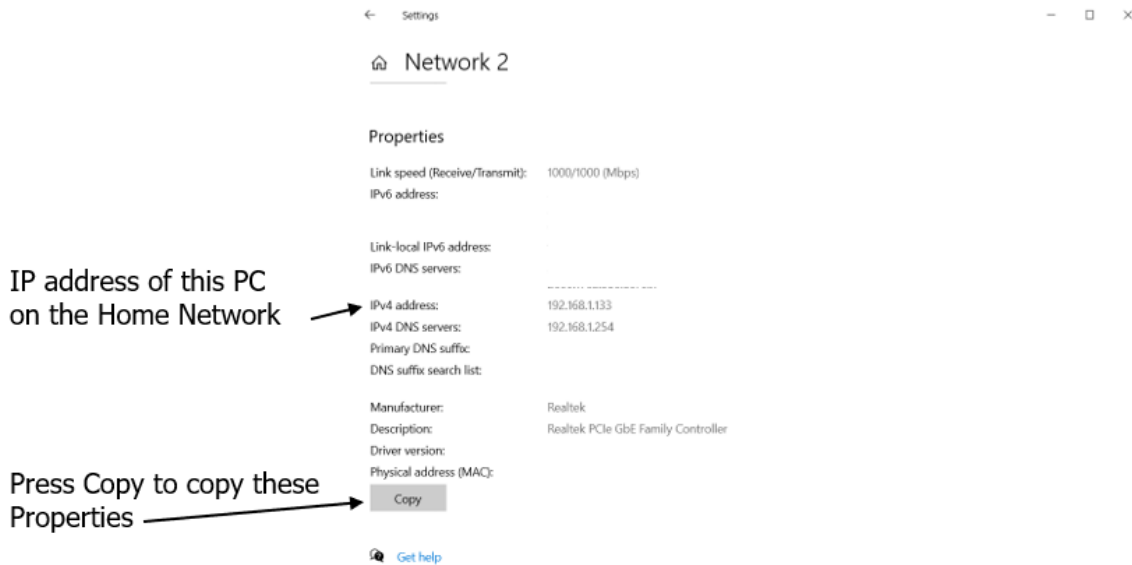
Click the network icon on the right side of the Taskbar and from the menu that opens click the top current network that the PC is Connected to. This will open the Network & Internet Settings page for the current network which is your Home network connected to the router. In my example below it is an Ethernet network, it can be an Ethernet or Wi-Fi network.



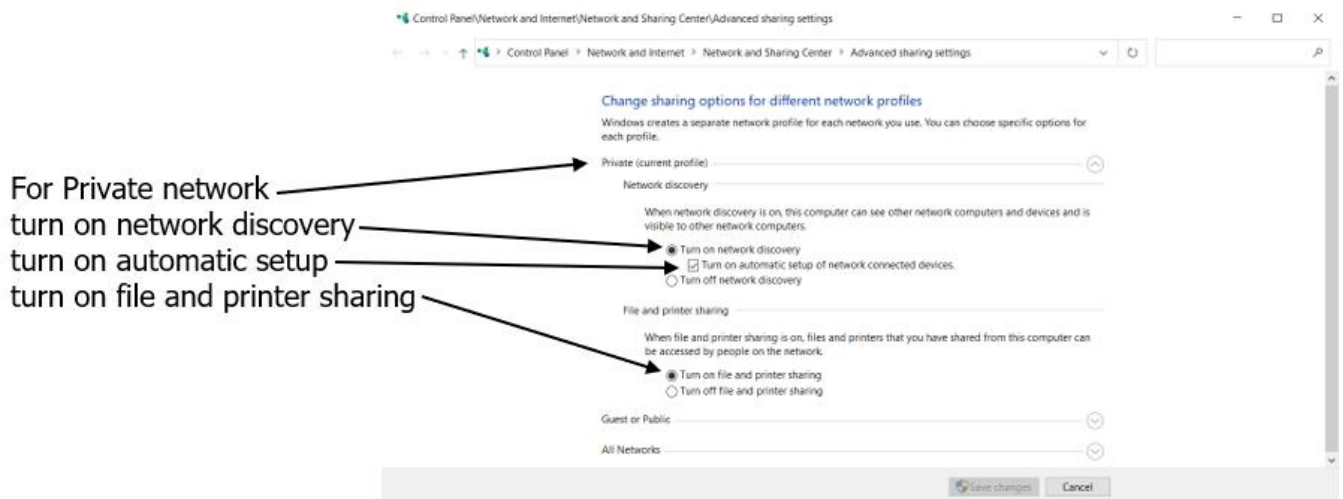
Click the Network to see the Network Properties as shown below.



Make sure this home network is listed as Private. This tells Windows which advanced options to apply. Scroll down the page to display the properties of this network as shown below. Locate the **IPv4 address:** which is the IP address of this PC on the Home Network. Write it down or press the Copy button and paste into a blank document for future reference. Some data was masked in my example for security reasons.



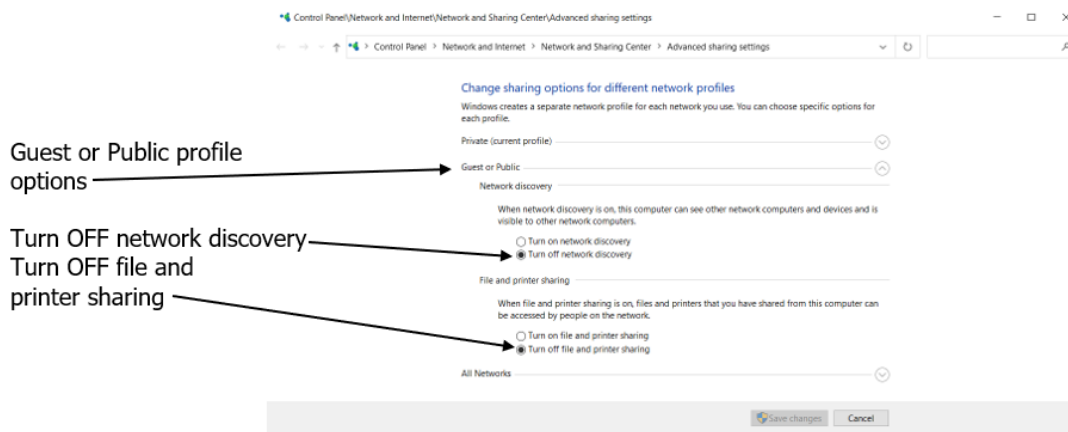
Click the arrow at the top to return to the Settings page for this network.
 Click **Change advanced sharing options** to open the Control Panel Advanced sharing options page as shown below.



For the Private network (note that is labeled current profile):
 Click the radio button to turn on network discovery
 Check the box next to Turn on automatic setup of network connected devices
 Click the radio button to turn on file and print sharing.
 Click the up arrow to the right of the Private profile to close the settings of that profile.

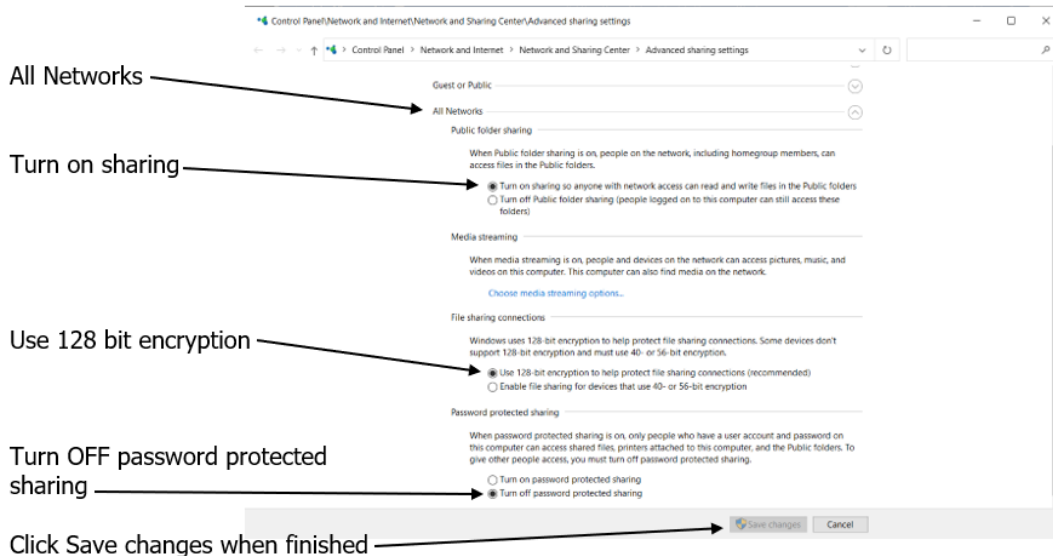
Click the down arrow of the Guest or Public profile to display that profile as shown below.
 Click the radio button to Turn off network discovery.
 Click the radio button to Turn off file and printer sharing.
 As shown below.

This prevents anyone outside of your Home (Private) network from accessing shared files.



Click the up arrow to the right of the Guest or Public profile to close the settings for that profile.

Click the down arrow next to All Networks to display those options as shown below.



Click the radio button to turn on sharing.

Click the radio button to use the 128 bit encryption.

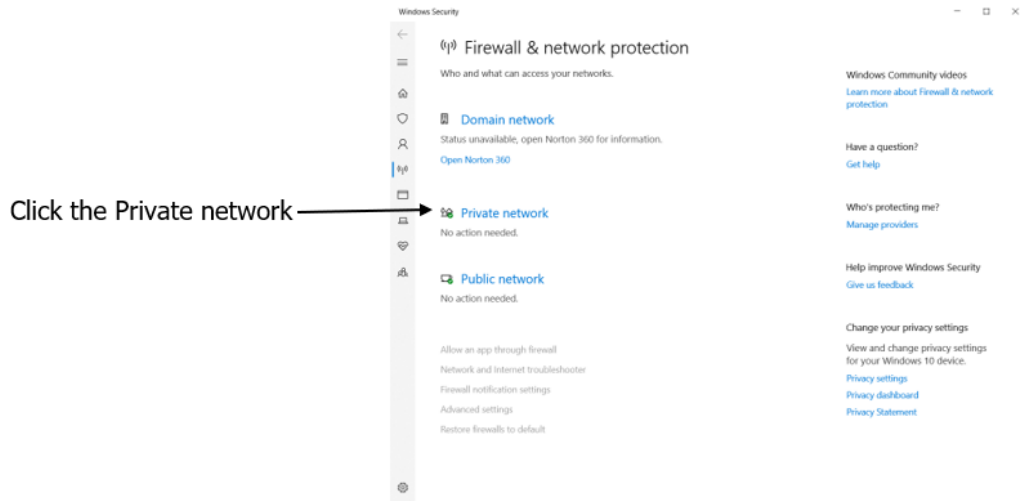
Click the radio button to Turn **off** password protected sharing. If this is turned on, you probably will not even see the other PCs on the network.

Once all changes have been made, click the Save changes button.

This will return you to the network settings page and the next Step below.

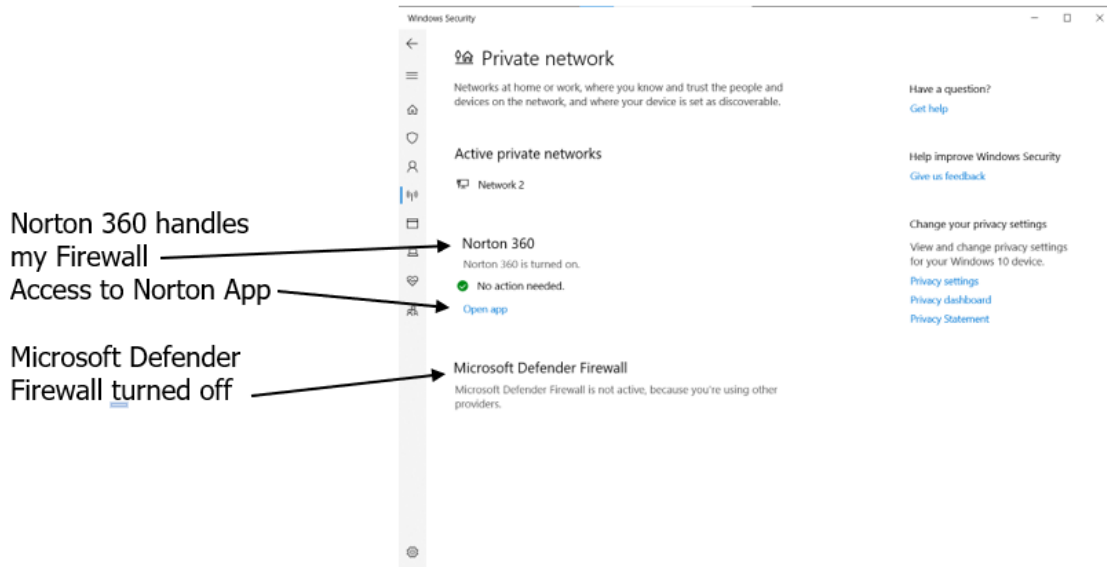
Step 4 – Firewall Settings

On the network settings page from the Step above, click Windows Firewall to open the Firewall & network protection settings page as shown below.



Click the Private network

Click the Private network to open that settings page as shown below.



Norton 360 handles my Firewall

Access to Norton App

Microsoft Defender Firewall turned off

In my setup on this PC my installed Norton 360 security suite has its own Firewall to use instead of the Defender Firewall. Your setup may be another security software suite's Firewall or Microsoft Defender Firewall. This page tells you what application is handling the Firewall.

Once you determine which application's Firewall is in use, you must enter the settings for that Firewall to find the trusted devices list that will allow those devices to connect and not be blocked by the Firewall. The exact procedure depends upon the application, so refer to that application's instructions for adding trusted devices. The following link is for Microsoft's instructions for the Defender Firewall.

<https://support.microsoft.com/en-us/windows/firewall-network-protection-in-windows-security-aef9838b-d081-fd75-3b1b-e5fa794c003b>

Usually the procedure will require the Device name (the PC's name you wrote down earlier) and the device's IP address (the IPv4 address) for each device you want to allow access.

The lack of getting thru the Firewall by being a trusted device is the major reason users can't "see" the PC they are trying to connect to, AKA: the Firewall is stealth blocking. See the Troubleshooting section below if after all the settings you can't see a PC on the Home network.

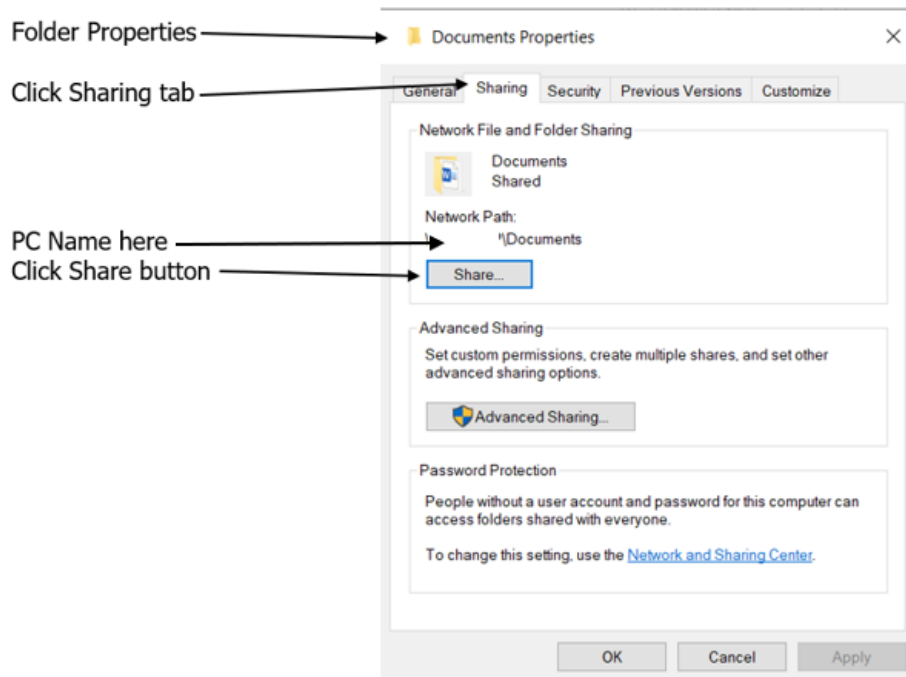
Once you have the Firewall set to allow the other PCs on the Home network access close all settings pages.

Step 5 – Making Folders Available to Share

Open File Explorer. For each folder you wish to share the contents of perform the following Share setup:

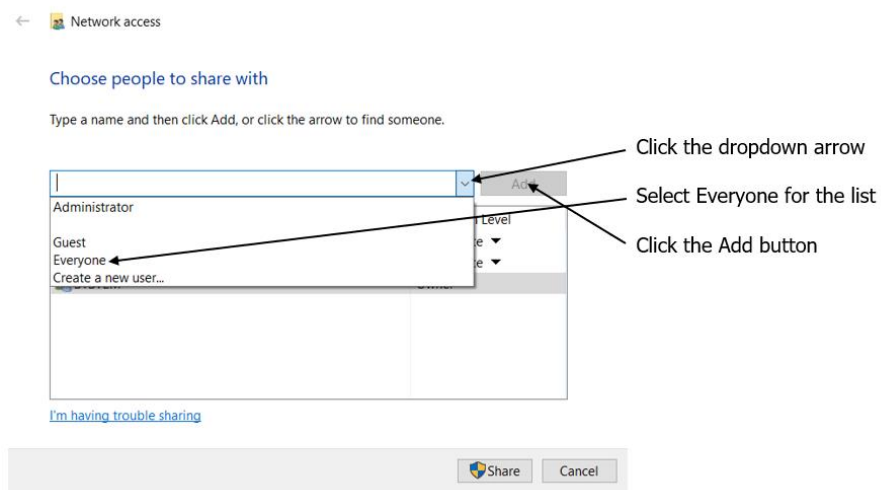
In File Explorer, right click the folder and select *Properties*

Select the Sharing tab as shown below

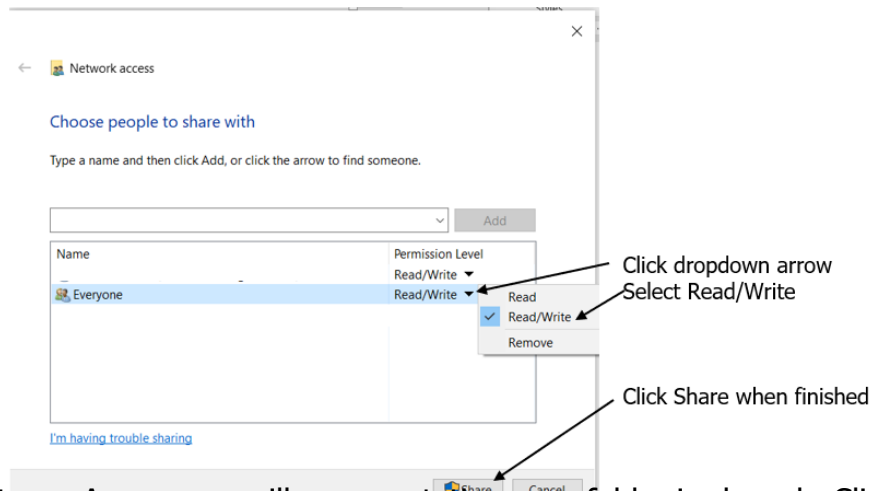


Click the Share button to open the Network access window as shown below.

Click the dropdown arrow in the Add box, select Everyone, and click the Add button.



Click the dropdown arrow next to Everybody and set the permissions to Read/Write as shown below



Click the Share button . A message will appear stating your folder is shared. Click the Done button which will return you to the Properties window which you can close.

Repeat the above of each folder you wish to share.

Step 6 – Reboot

After making all the changes in the above steps to the PC, reboot the PC for all these changes to take effect.

Repeat all the steps above for each PC on the Home Network.

Using the Home Network

Once all the settings and reboot has been performed for all the PCs on the Home network you are ready to use the Home Network.

Open File Explorer

Scroll down the left pane and click the > next to Network to expand.

You should see each PC on the network listed by the name of the PC.

Click the PC to display the folders of that drive.

Clicking a folder that has been set to Share will open showing the contents. If access to a folder shown is denied, then you have not set that folder to Share.

You will be able to read and write (AKA: full control) any of the files in the shared folders.

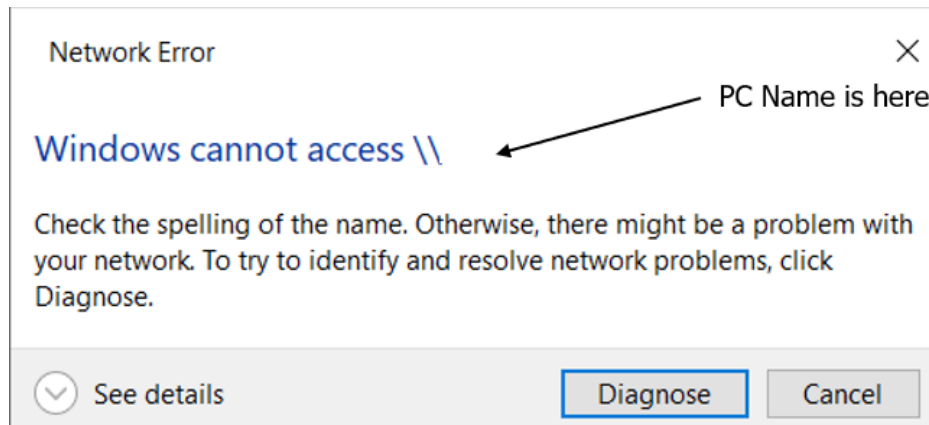
Your Home Network is setup to share between the PCs connected to the Home Network.

If after following all the steps above you have trouble with sharing files over the Home Network, refer to the Troubleshooting section below.

Troubleshooting the Home Network.

Windows can't "see" or "find" a PC on the Home Network

When Windows can't connect with a PC on the Home network it displays a generic error message below (PC Name remove for security).



There are many reasons for this error and the steps below will help find out the cause and rectify the problem.

For each step:

- Complete each step before proceeding to the next step
 - If a correction is performed, try to connect before proceeding to the next step.
1. Make sure the PC that you are trying to connect with is on and booted up and has access to the Internet thru the router.
 2. If the computer in sleep mode it will prevent connection. Wake the PC and try to connect. I set the sleep setting to Never so this will not happen.
 3. Test the connection to the PC you are trying connect to.
 - Open a Command Prompt
 - Enter the command to ping the PC (>ping PCName) Notice the space between ping and the PCName. Replace PCName with the name of the PC you are trying to connect to.

If the ping responds with times, the port is active but a setting in Windows is preventing the connection. Go over all the settings in the steps you did to setup the network. Some Windows updates will reset some of the settings to original default (AKA: Undid what you had setup). Reset those settings (usually the advanced sharing options).

If the ping times out with no response (after steps 1 & 2 above have been completed), the port is being blocked by security software (most likely the Firewall). On that PC you are trying to connect to, turn the Firewall off and try reconnecting. If it connects without the Firewall running, then the Firewall is preventing the connection. If with the Firewall off you still not connect, look for other security software on that PC that could be stopping the connection. Turn off security software and try to connect until you find the software that is preventing the connection.

PC Doesn't Show in File Explorer

Upon opening File Explorer and clicking the Network a PC on the Network doesn't appear when Network is selected.

Click a blank spot in the address bar in File Explorer to highlight the current listing. Type in the PC's name preceded by 2 forward slashes (\\) such as \\PC Name and press the Enter key. The PC will appear with its folders shown the right pane. You will also notice the PC is now listed under Network. If you close File Explorer and then reopen it, you will see the PC is no longer listed under Network. The PC is there and ready, but doesn't show in File Explorer until you manually call it up. This most often happens when the PC that does this is from an older version of Windows that doesn't use File Explorer. To save time from entering the PC Name in the address bar every time you want to open File Explorer and access this PC:

Right click the PC Name under Network in the left pane.

Select Pin to Quick Access

This adds that PC to the Quick Access bar at the top of the left pane in File Explorer. Click the PC Name in the Quick Access bar and the folders on that drive will appear in the right pane and the PC Name is again added under Network.

Comments

There are many users that state they follow similar instructions and can't get the PC to connect. Most often saying that Windows could not "see" the other PCs. If you follow ALL the steps above for the needed services being on, the correct options in advanced sharing, and setting the folders for sharing; and you still cannot connect to another PC on the network then it is a high probability that it is some security software on that PC preventing the connection.

Many users claim success with network managing or file sharing software. The reason is simple. That software is communicating with the security software (Firewall) to have that PC allow a connection from your PC (AKA: trusted device or software controlled ports). Some of those apps are harder to learn than learning how to configure the security software you have to allow access.