Because of the variety of network hardware, network configurations, operating systems, and setups, not all of the following information may apply to your network or operating system.

## **Verify connections**

### **Wired network**

If this is a wired network, verify that the network cable is properly connected and make sure the [LEDs](https://www.computerhope.com/jargon/l/led.htm) next to the network jack are properly illuminated. For example, a network card with a **solid** green LED or light usually indicates that the card is either connected or receiving a signal. If the green light is flashing, this is an indication of data being sent or received. The picture to the right is an example of a LAN port with two LED indicators next to the [RJ-45](https://www.computerhope.com/jargon/r/rj45.htm) port. With this port, one LED will light up if connected properly and one will flash when transmitting data.

If there are no lights or the lights are orange or red, the card may be bad, not connected properly, or may not be receiving a signal from the network. If you are on a small or local network and have the capability of checking a [hub](https://www.computerhope.com/jargon/h/hub.htm), [switch](https://www.computerhope.com/jargon/s/switch.htm), or [router](https://www.computerhope.com/jargon/r/router.htm), verify that the cables are properly connected and that it has power. If after checking the connections, the LED indicators appear bad, the network adapter, port, or cable may be defective.

### **Wireless network**

If you're using a laptop with a [wireless network](https://www.computerhope.com/jargon/w/wifi.htm), look for the laptop's Wi-Fi button and make sure it is turned on. Many laptops have a Wi-Fi button that allows the wireless network to be turned on and off. The Wi-Fi button is often located above the keyboard or on the front edge of the laptop, but it also may be integrated with a [F key](https://www.computerhope.com/jargon/f/funckeys.htm) as well. The pictures to the right are examples of a Wi-Fi button and Wi-Fi indicator on a F key that are enabled.

If the button is turned on, make sure you're using the correct Wi-Fi [hotspot](https://www.computerhope.com/jargon/h/hotspot.htm) by right-clicking on the Network icon in the [Windows Notification Area](https://www.computerhope.com/jargon/n/notiarea.htm) and clicking "Connect to a network". Usually, the network with the strongest connection (the most bars) will be your wireless router.

Finally, when connecting to most wireless networks, you need to enter the proper [SSID](https://www.computerhope.com/jargon/s/ssid.htm) password to connect to the network. If the incorrect password is entered, you will not be able to access the network.

## **Adapter functionality**

Verify that the network card is capable of pinging itself by using the [ping command](https://www.computerhope.com/jargon/p/ping.htm). Windows users can ping the computer from a [Windows command line](https://www.computerhope.com/issues/chusedos.htm). Unix and Linux users can ping from the [shell](https://www.computerhope.com/jargon/s/shell.htm).

To ping the card or the localhost, type either of the following commands:

ping 127.0.0.1

or

ping localhost

Executing either of the above commands should get replies from the network card. If you receive an error, or the transmission fails, the network card is not physically installed into the computer correctly, has the incorrect or outdated drivers installed, or is defective.

Make sure the network card is physically installed in the computer correctly by removing it and re-inserting it again. Check the network card manufacturer's website for the latest drivers and install those drivers. If the network card is defective, it needs to be replaced.

## **Connect to the router**

If all of the above steps have been checked, and your network has a [router](https://www.computerhope.com/jargon/r/router.htm), make sure the computer can connect to the router by performing the following commands.

### **Determine the routers address**

Using the [ipconfig command](https://www.computerhope.com/ipconfig.htm) (or [ifconfig command](https://www.computerhope.com/unix/uifconfi.htm) for Linux), determine the router's address by looking at the Gateway address. Below are the steps for Microsoft Windows users. Linux users can substitute ipconfig for ifconfig.

1. [Open the Windows command line.](https://www.computerhope.com/issues/chusedos.htm)
2. At the command prompt, type **ipconfig** and press Enter. You should see output similar to the following example.

Ethernet adapter Local Area Connection:

Connection-specific DNS Suffix . : computerhope.com.

IP Address. . . . . . . . . . . . : 192.168.1.103

Subnet Mask . . . . . . . . . . . : 255.255.255.0

**Default Gateway . . . . . . . . . : 192.168.1.1**

The Default Gateway is the address of your router. Most home routers have a gateway address that starts with 192.168, like the address shown above. Assuming your gateway address is 192.168.1.1, attempt to ping the router to see if it can send and receive information by running the following command.

ping 192.168.1.1

If you get replies back from the router, the connection between your router and computer are good, and you can [skip to the next step](https://www.computerhope.com/issues/ch000445.htm#firewall).

If you do not receive any replies back from the router, either the router is not set up properly, or your connection between the router and the computer is not correct. Reset your router to make sure it is not a problem with your router by following the following steps.

1. Turn off the power to the computer and leave it off.
2. Unplug the power to your [router](https://www.computerhope.com/jargon/r/router.htm) and [cable modem](https://www.computerhope.com/jargon/c/cablemod.htm) or [DSL modem](https://www.computerhope.com/jargon/d/dslmodem.htm).
3. Leave the power cables disconnected for 10-15 seconds and then plug in your modem and then your router again.
4. Finally, turn on your computer again and repeat this step to see if you can ping your router.

If you have a wireless network, and you cannot ping your wireless router using the above steps, turn the computer off again. Connect the computer directly to the router using an [Ethernet](https://www.computerhope.com/jargon/e/ethernet.htm) cable. If this does not work, contact the manufacturer of the router for additional support or replacement.

## **Firewall**

If your computer network utilizes a [firewall](https://www.computerhope.com/jargon/f/firewall.htm), make sure all required [ports](https://www.computerhope.com/jargon/p/port.htm)are open, especially port 80, which is the [HTTP](https://www.computerhope.com/jargon/h/http.htm) port. If possible, disable the firewall software or disconnect the computer from the firewall to make sure it is not causing the network problems.

## **The Internet is not working**

If you're able to ping the router, but are still unable to connect to the Internet, either your router is improperly configured, or the [ISP](https://www.computerhope.com/jargon/i/isp.htm) is having issues.

Note plzzz-

Some ISPs, such as [Comcast](https://www.computerhope.com/comp/comcast.htm), require special software to be installed. Make sure any software included with your Modem or other hardware is installed on at least one computer if you are setting up a new Internet connection.

If your Internet was working but recently stopped, give it a few minutes to make sure it is not a temporary outage. If after waiting a few minutes, you still have problems, and you have not already disconnected the power to your router and modem, follow the following steps.

1. Turn off the power to the computer and leave it off.
2. Unplug the power cable to your [router](https://www.computerhope.com/jargon/r/router.htm) and [cable modem](https://www.computerhope.com/jargon/c/cablemod.htm) or [DSL modem](https://www.computerhope.com/jargon/d/dslmodem.htm).
3. Leave the power cables disconnected for 10-15 seconds, plug in your modem again, and then plug in your router again.
4. Finally, turn on your computer and see if you can ping your router.

If after following the above steps, the Internet is still not working, [open the Windows command line](https://www.computerhope.com/issues/chusedos.htm) and run the following command.

ping google.com

Running the above command should get a reply from Google. If you get a reply, this is an indication that the Internet is working, but you may be encountering a problem with the [Internet browser](https://www.computerhope.com/jargon/b/browser.htm) you are using to browse the Internet. Try an alternative browser, such as [Firefox](https://www.computerhope.com/jargon/f/firefox.htm) or [Chrome](https://www.computerhope.com/jargon/c/chrome.htm).

If you're getting no reply from Google, your router or modem is not reaching the Internet. If you have a router, make sure your router has [DHCP](https://www.computerhope.com/jargon/d/dhcp.htm) enabled and that the [WAN](https://www.computerhope.com/jargon/w/wan.htm) or [Gateway](https://www.computerhope.com/jargon/g/gateway.htm) address is the proper ISP address.

Finally, if trying the above steps has not helped, contact your [ISP](https://www.computerhope.com/jargon/i/isp.htm) to make sure there is no problem on their end and to assist you further with any special configurations.

## **Additional troubleshooting**

Another method of determining network issues is to use the [tracert command](https://www.computerhope.com/tracert.htm) if you are a Windows user or the [traceroute command](https://www.computerhope.com/unix/utracero.htm) if you are a Linux or Unix variant user. This command gives you an overview of each of the devices (routers) a packet travels ([hops](https://www.computerhope.com/jargon/h/hops.htm)) over a network. It can also give you an idea of where a problem exists in your network or outside of your network.

To use this command, you must be at the command line and type one of the following commands, depending on your operating system.

tracert google.com

or

traceroute google.com

If successful, you should begin to see each hop between the computer and network devices. When the connection fails, determine what device is causing the issue by reviewing the traceroute listing.