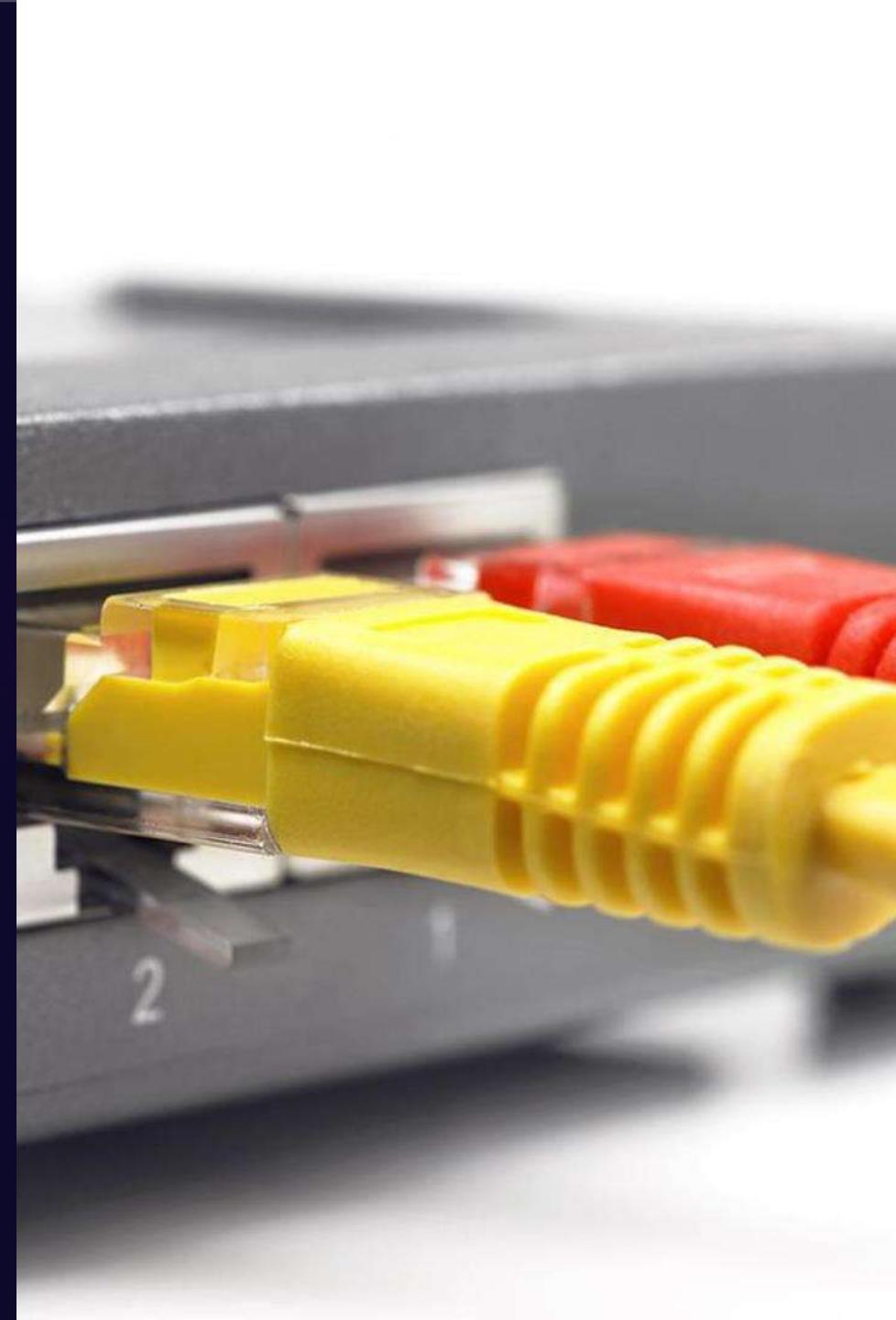


Connect 2-4 computers together using a network hub to create a LAN

Welcome to the world of Local Area Networks! Learn how to connect multiple computers using a network hub and build your own LAN.

○ Group 6



Introduction to Local Area Networks (LANs)

LANs allow multiple devices to share resources and communicate with each other within a limited geographic area. They are commonly used in homes, offices, and schools.

What is a network hub?

A network hub is a central device that connects multiple computers in a LAN. It acts as a common connection point, receiving and distributing data packets to all connected devices.

Benefits of using a network hub

1 Easy Expansion

Adding more computers to the LAN is as simple as connecting them to the network hub.

2 Cost-Efficient

Network hubs are affordable compared to other networking devices like switches or routers.

3 Shared Resources

A network hub allows sharing of files, printers, and other resources between connected computers.

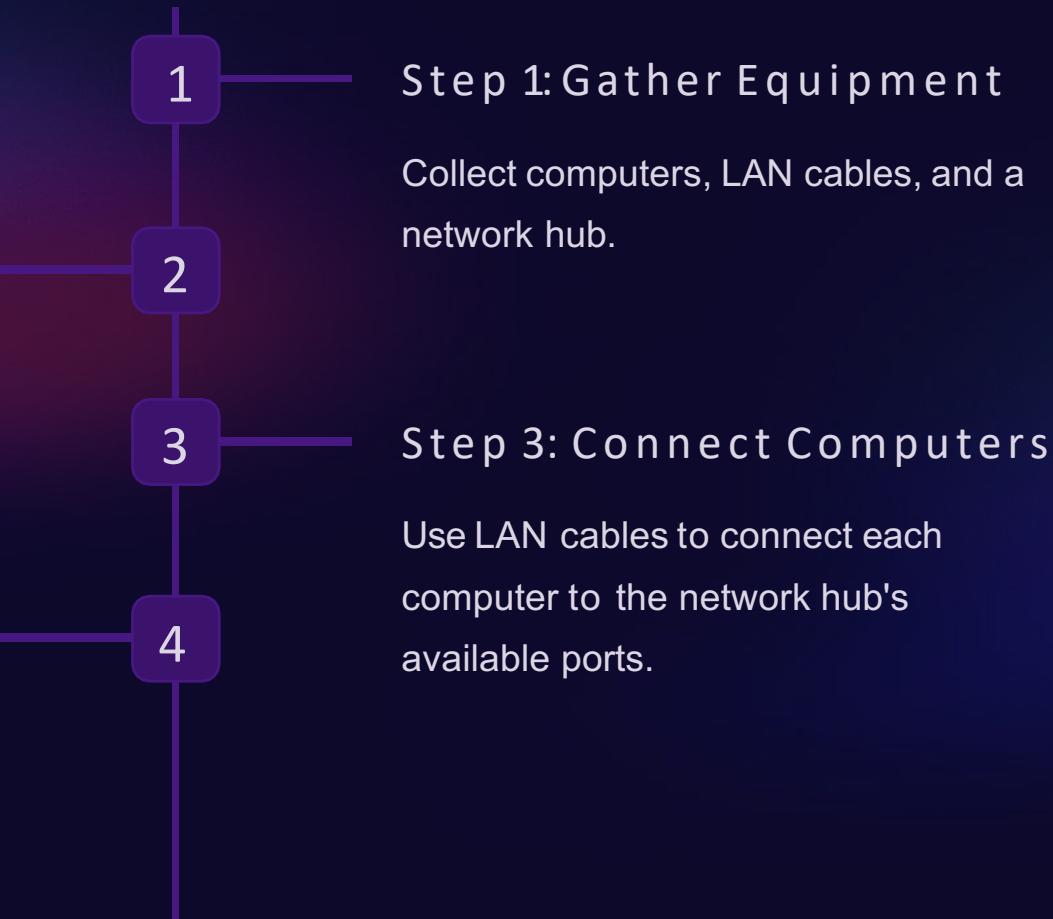
Step-by-step guide to connecting computers

Step 2: Power Up the Hub

Connect the power adapter to the hub and plug it into a power outlet.

Step 4: Test Connectivity

Ensure all computers can communicate with each other and access shared resources.



Step 1: Gather Equipment

Collect computers, LAN cables, and a network hub.

Step 3: Connect Computers

Use LAN cables to connect each computer to the network hub's available ports.

Troubleshooting common issues

Disconnected Cables

Check if any LAN cables are unplugged or loose.

IP Address Conflicts

Ensure no two computers have the same IP address.

Hub Power Issues

Test the power connection of the network hub.

Firewall Settings

Adjust firewall settings to allow network communication.

Network security considerations

Keep your LAN secure by following these best practices:

1. Change default passwords on the network hub and connected devices.
2. Enable encryption, such as WPA2, for wireless LAN connections.
3. Regularly update firmware and security patches on network devices.
4. Implement secure access controls to limit unauthorized connections.

Follow the Following Step in pcs
to convert them in to create a
lan

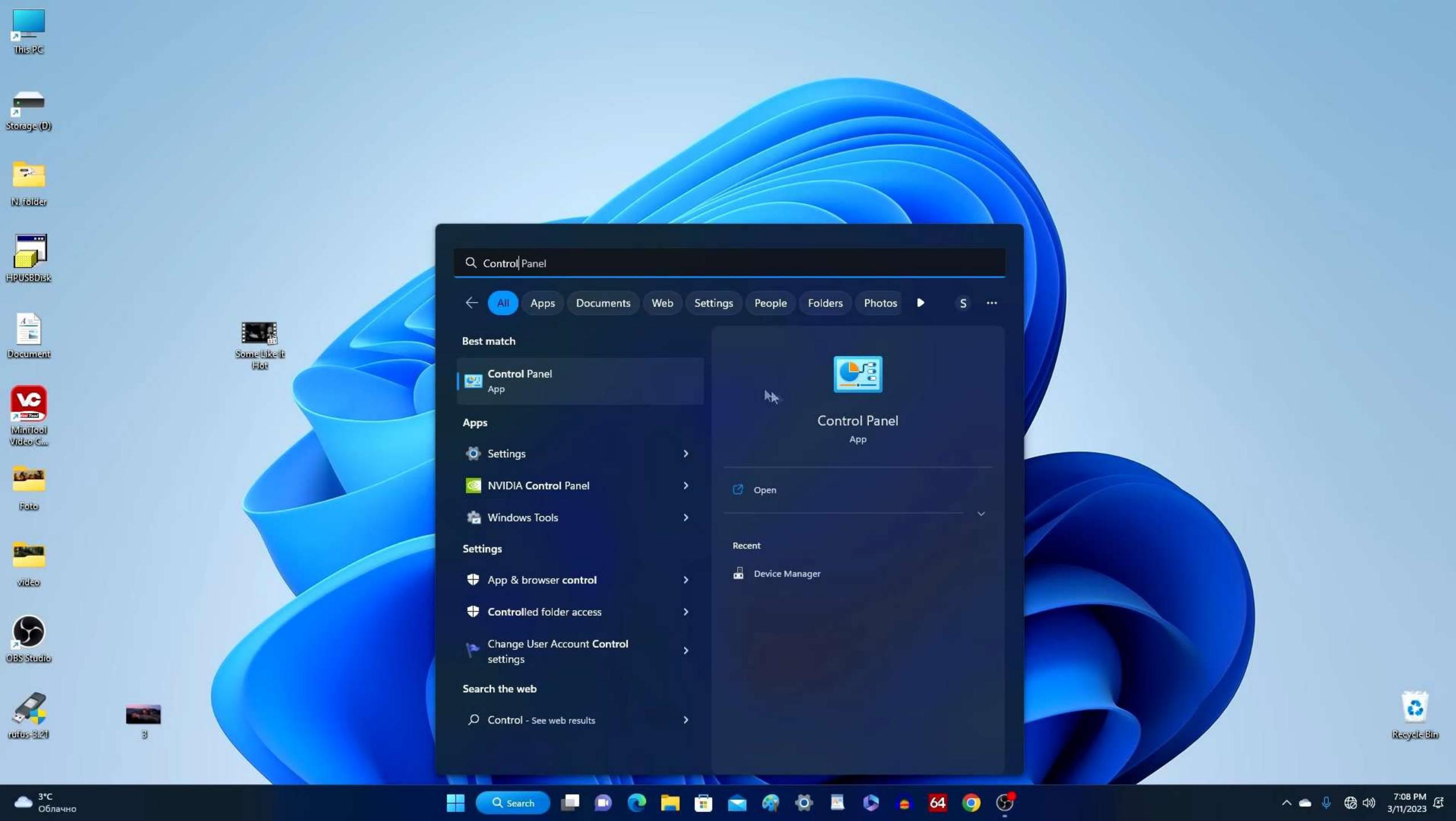
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PC-1**



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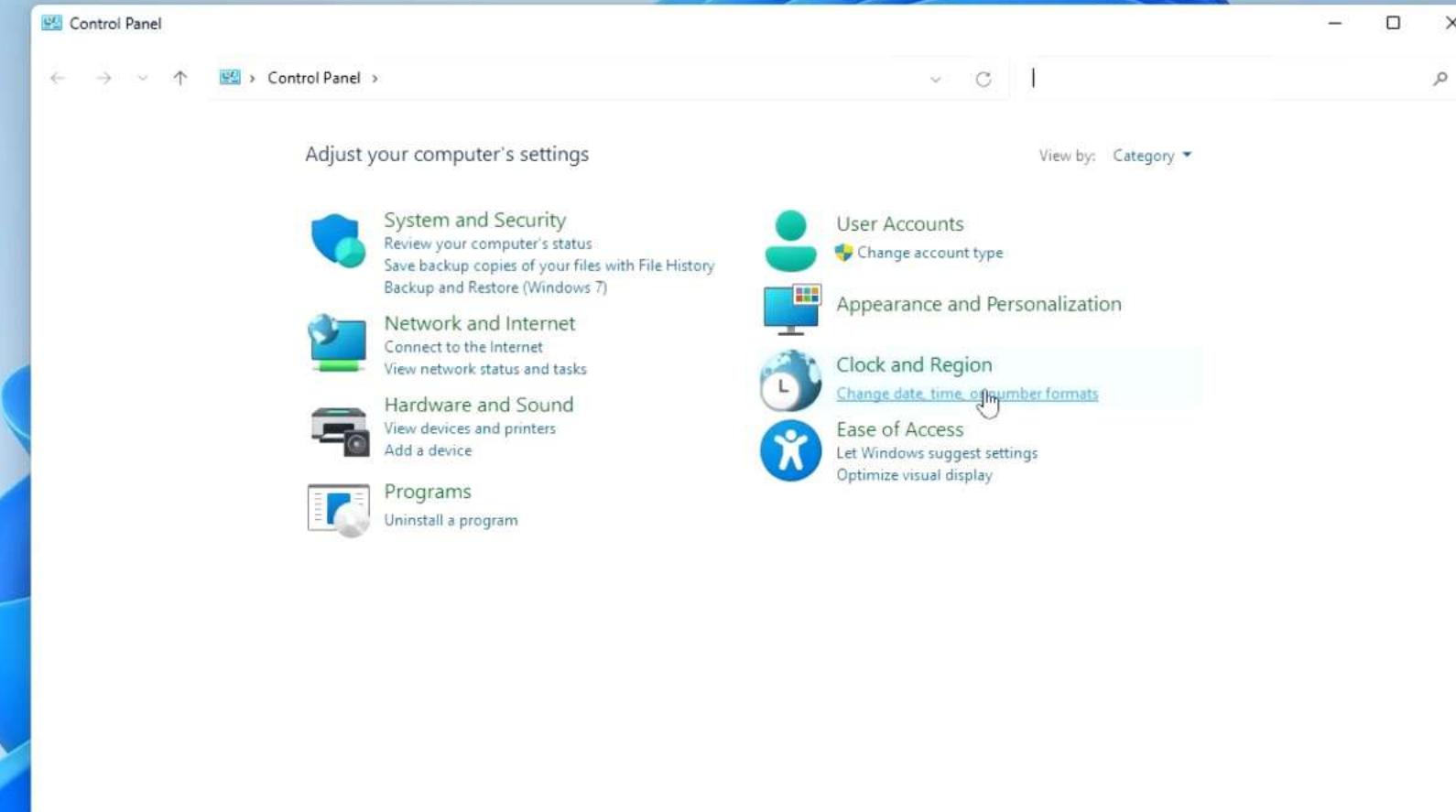
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Rec

Network and Internet

Control Panel > Network and Internet >

Control Panel Home
System and Security
Network and Internet
Hardware and Sound
Programs
User Accounts
Appearance and Personalization
Clock and Region
Ease of Access

[Network and Sharing Center](#)
View network status and tasks | Connect to a network | View network computers and devices

[Internet Options](#)
Connect to the Internet | Change your homepage | Manage browser add-ons |
Delete browsing history and cookies

Some Like It Hot

Network and Sharing Center

Control Panel Home

Change adapter settings

Change advanced sharing settings

Media streaming options

Some Like It Hot

Control Panel > Network and Internet > Network and Sharing Center

View your basic network information and set up connections

View your active networks

Unidentified network

Public network

Access type: No network access

Connections: Ethernet

Change your networking settings

Set up a new connection or network

Set up a broadband, dial-up, or VPN connection; or set up a router or access point.

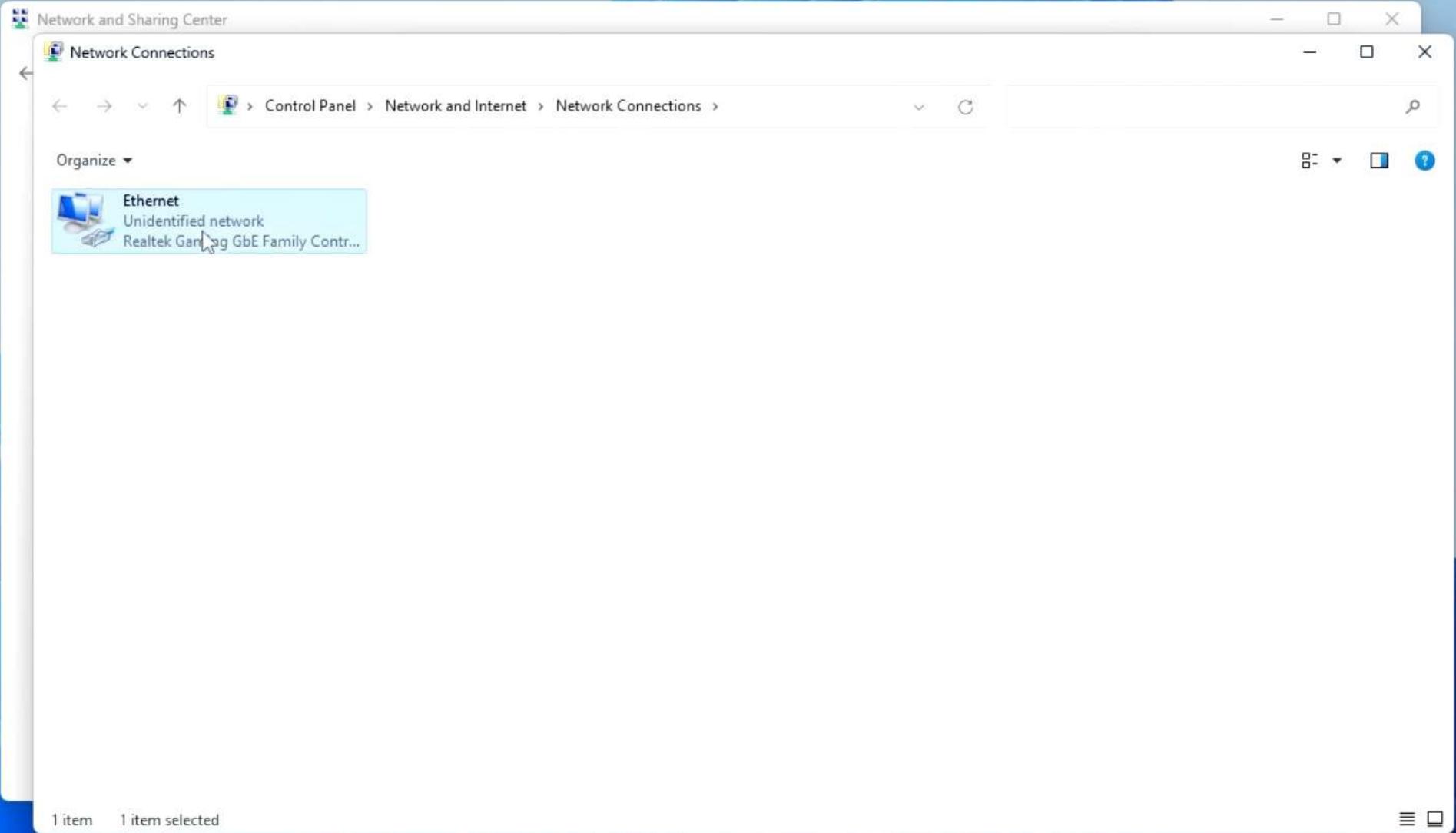
Troubleshoot problems

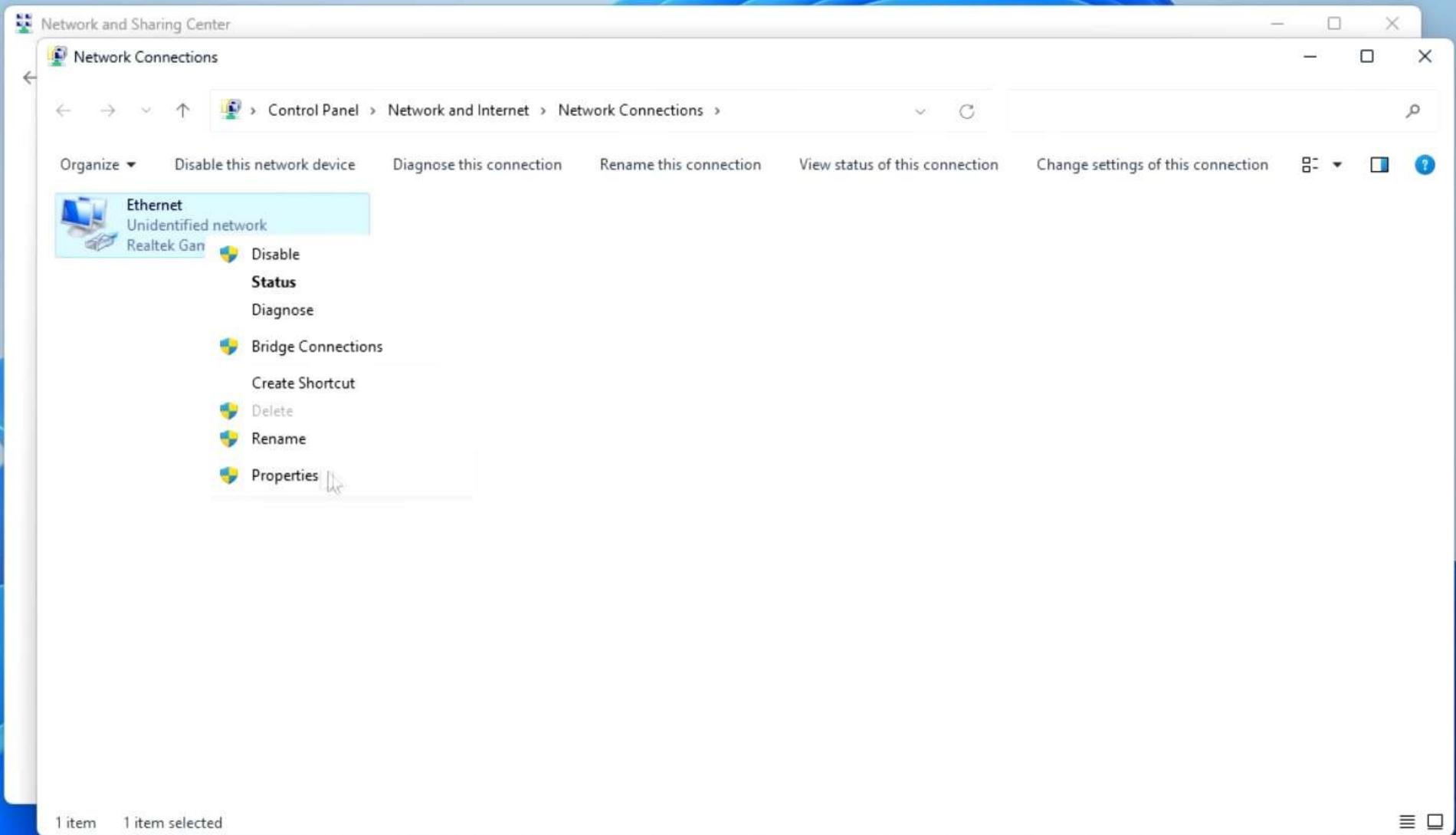
Diagnose and repair network problems, or get troubleshooting information.

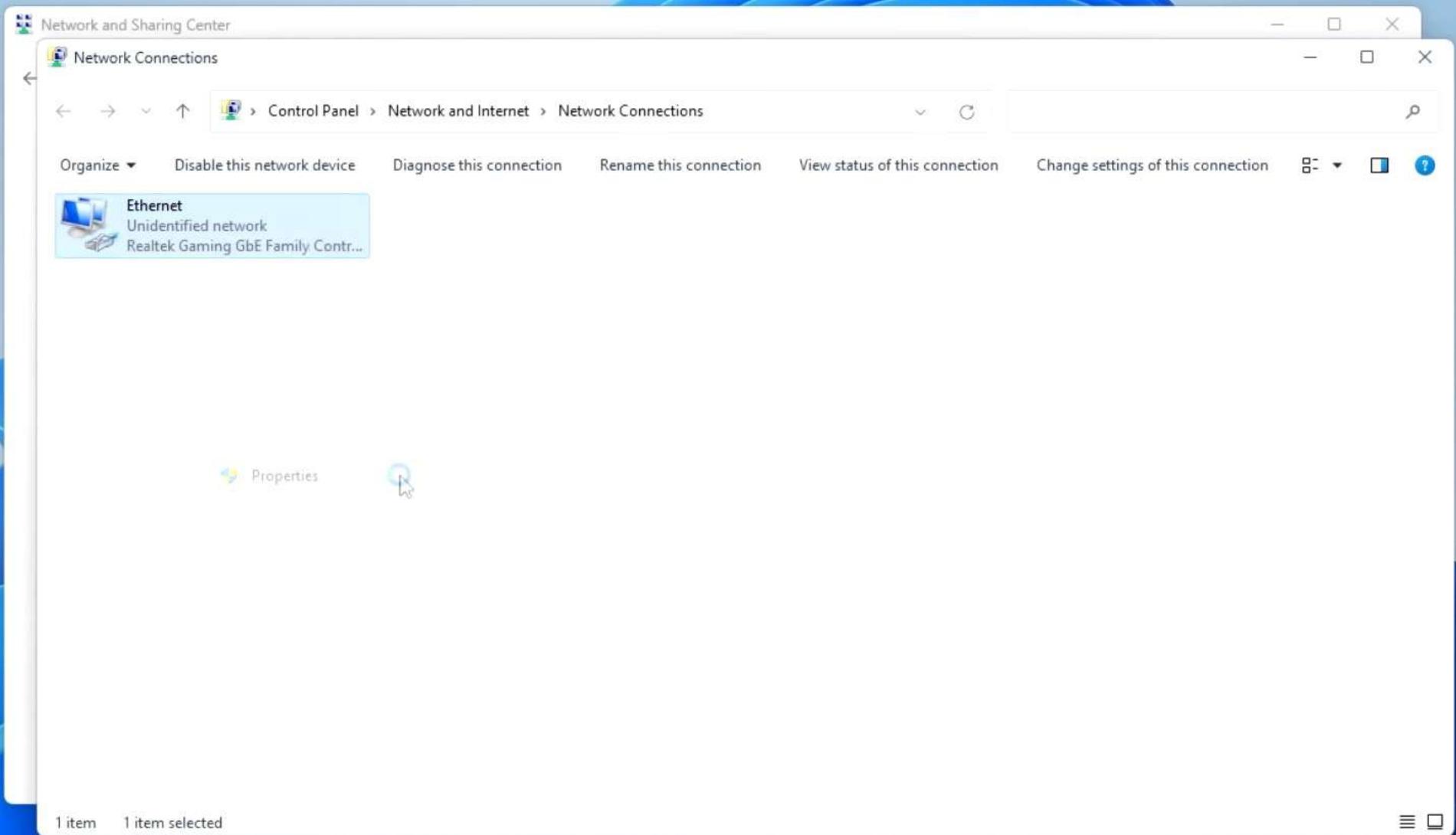
See also

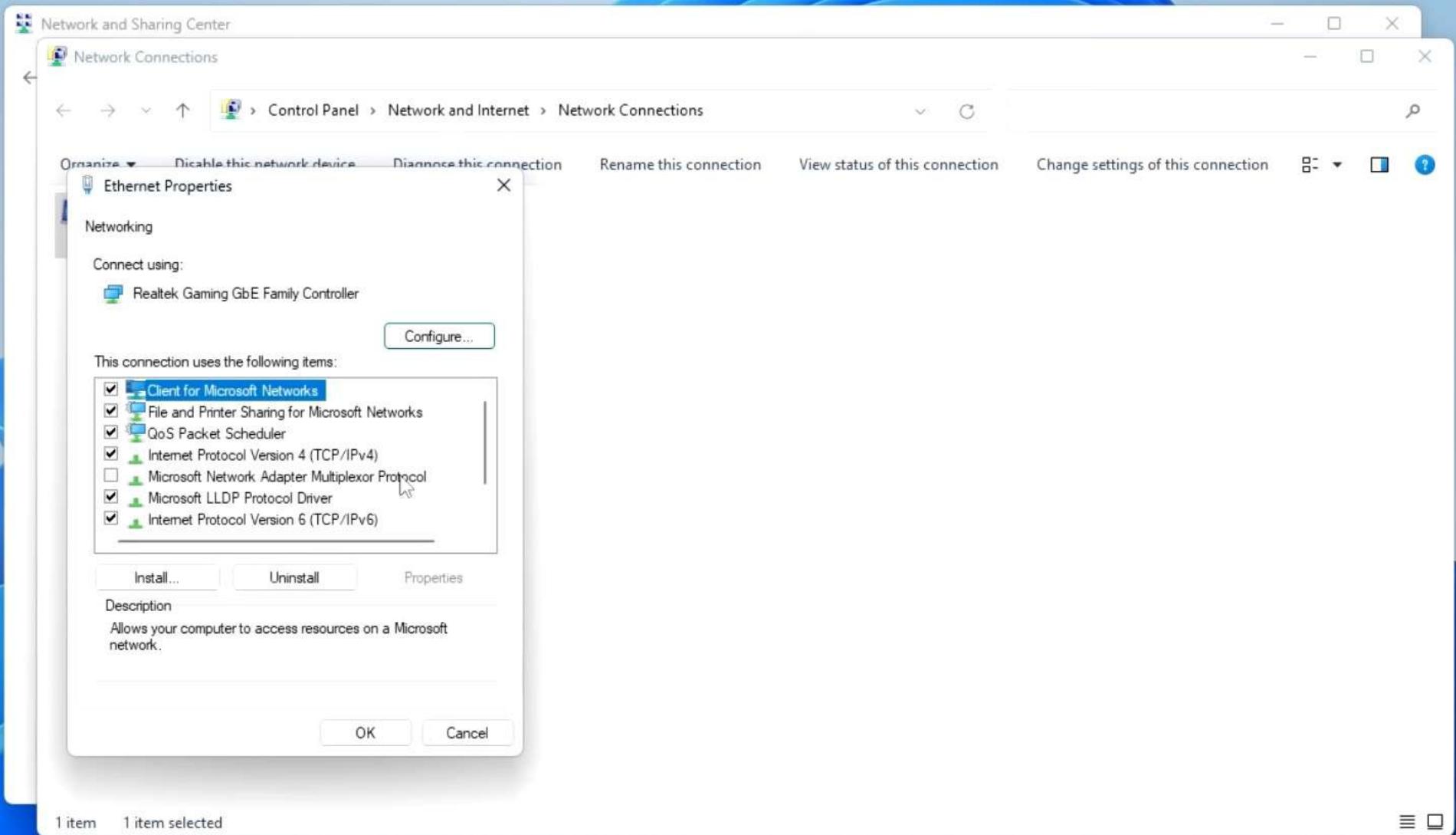
Internet Options

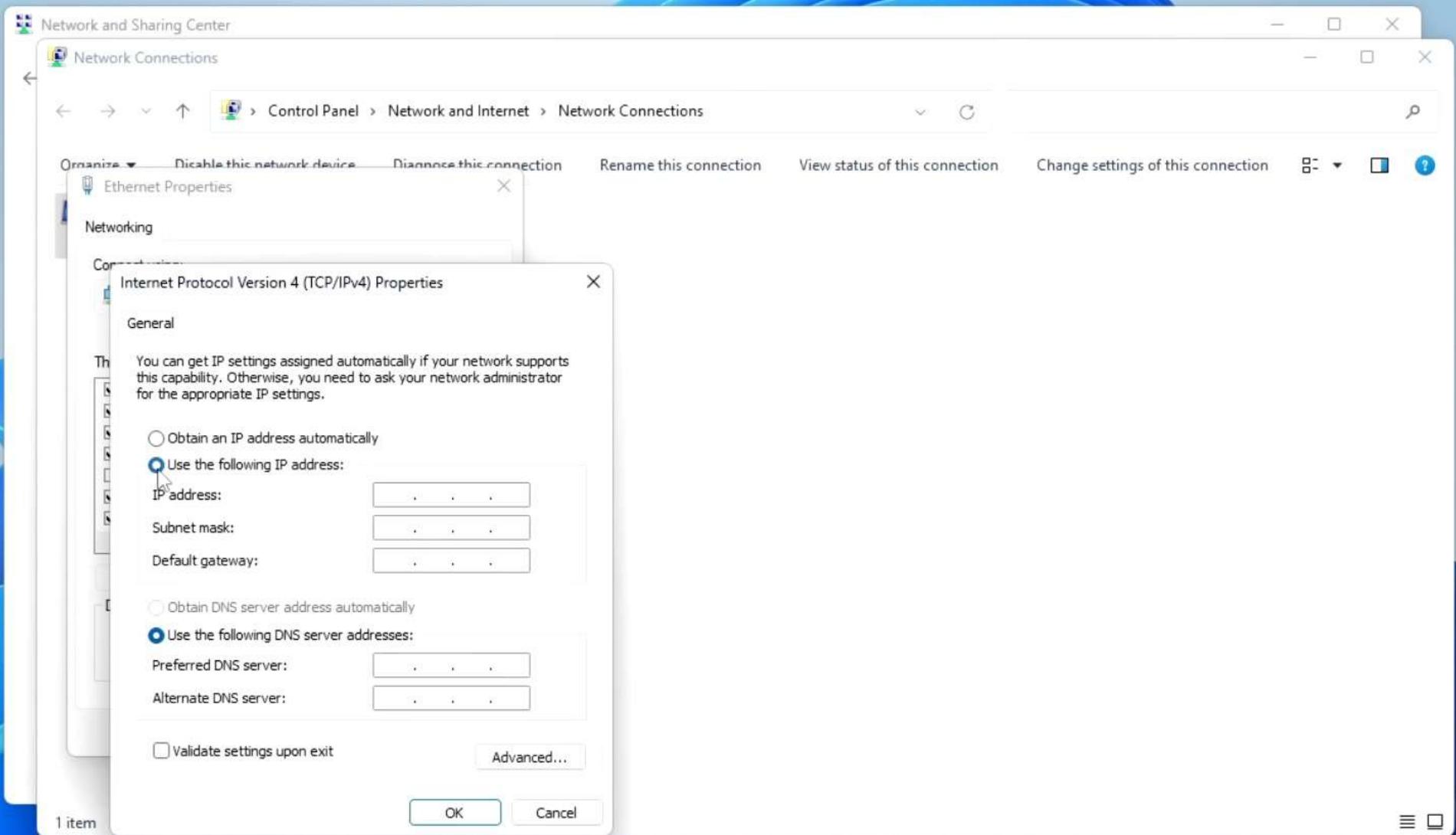
Windows Defender Firewall

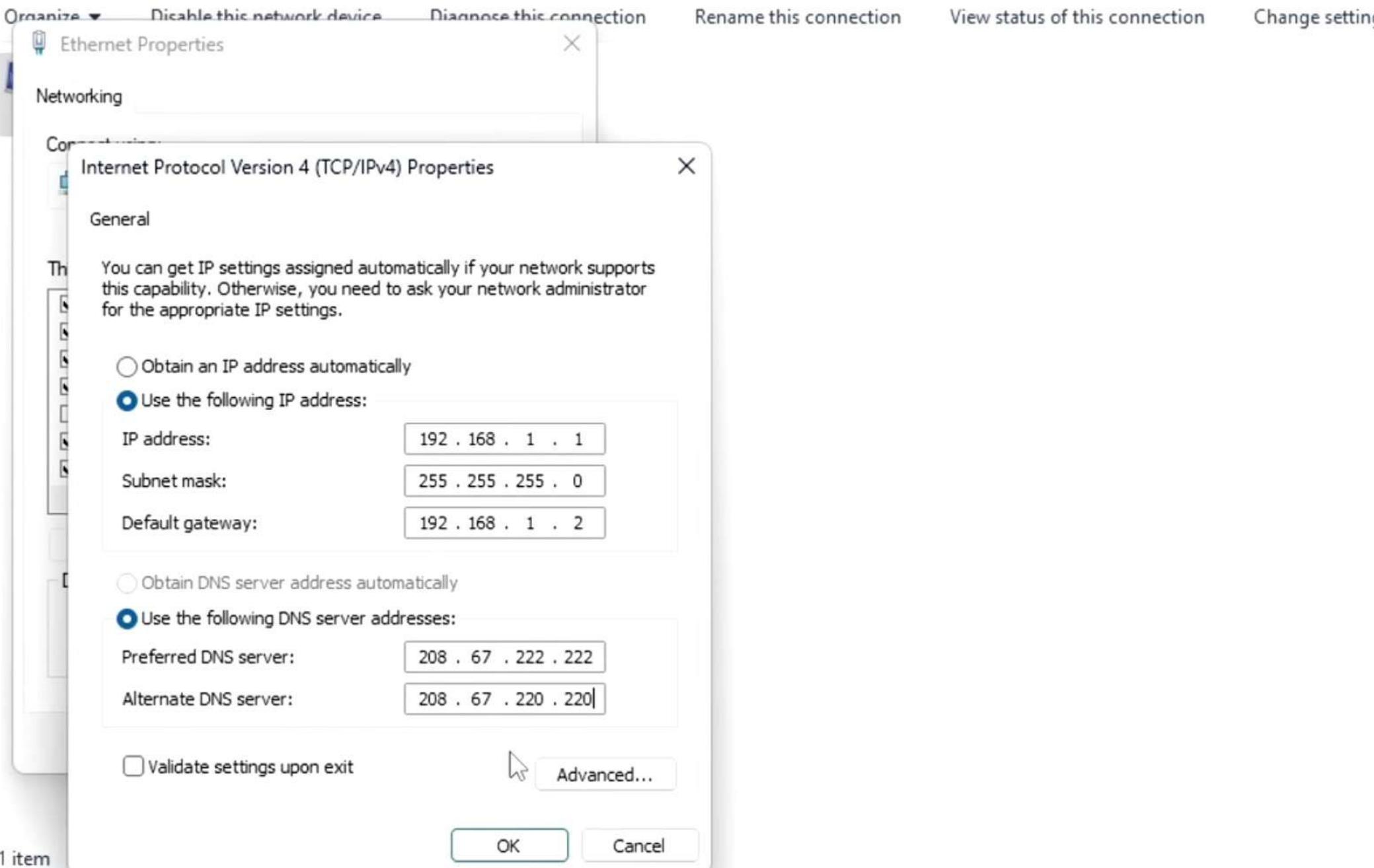


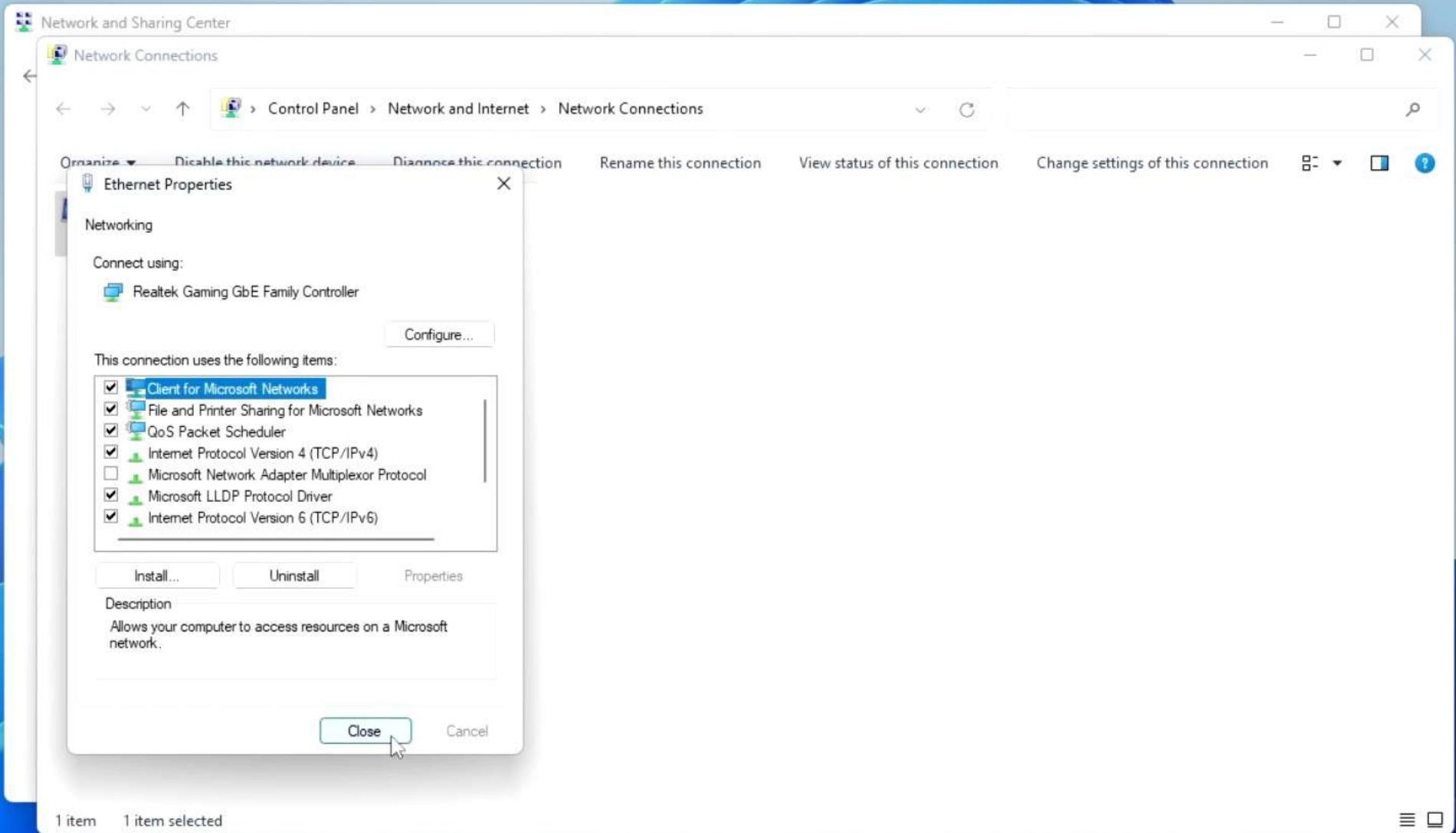












Network and Sharing Center

Control Panel Home

Change adapter settings

Change advanced sharing settings

Media streaming options

Some Like It Hot

Control Panel > Network and Internet > Network and Sharing Center

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See also

Internet Options

Windows Defender Firewall



← Settings



ip Malik
ssd.chipmalik@outlook.com



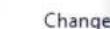
Find a setting



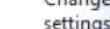
System



Bluetooth & devices



Network & internet



Personalization



Apps



Accounts



Time & language



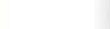
Gaming



Accessibility



Privacy & security



Windows Update

See also

Internet

Window

... > Advanced network settings > Advanced sharing settings

Private networks

Network discovery

Your PC can find and be found by other devices on the network

On



Set up network connected devices automatically

File and printer sharing

Allow others on the network to access shared files and printers on this device

Off



Public networks

All networks

Get help

Give feedback

Current profile ▾





← Settings



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Find a setting



System



Bluetooth & devices



Network & internet



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On

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Some Like It
Hot

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Internet
Windows

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Find a setting



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Network & internet



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Privacy & security



Windows Update

... > Advanced network settings > Advanced sharing settings

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Find a setting

Network

System

Bluetooth & devices

Network & internet

Personalization

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Time & language

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Accessibility

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Windows Update

Private networks

Public networks

All networks

Public folder sharing

Allow others on the network to read and write files in Public folders

File sharing connections

Use 128-bit encryption for devices that support it

128-bit encryption (Recommended)

On

Password protected sharing

Only people who have a user account and password on this PC can access shared files, printers, and Public folders

Get help

Give feedback

Some Like It Hot

See also

Internet

Window

... > Advanced network settings > Advanced sharing settings

Current profile



← Settings



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Find a setting



System



Bluetooth & devices



Network & internet



Personalization



Apps



Accounts



Time & language



Gaming



Accessibility



Privacy & security



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... > Advanced network settings > Advanced sharing settings

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Get help



Give feedback



System

Advanced sharing settings

File Edit View Tools

Change sharing options for different network profiles

Windows creates a separate network profile for each network you use. You can choose specific options for each profile.

Private

Guest or Public (current profile)

Network discovery

When network discovery is on, this computer can see other network computers and devices and is visible to other network computers.

Turn on network discovery
 Turn off network discovery

File and printer sharing

When file and printer sharing is on, files and printers that you have shared from this computer can be accessed by people on the network.

Turn on file and printer sharing
 Turn off file and printer sharing

All Networks

Save changes Cancel

The main content area displays sharing settings for 'Private' and 'Public' profiles. Under 'Private', 'Network discovery' is turned off. Under 'File and printer sharing', 'Turn off file and printer sharing' is selected. A 'Save changes' button is at the bottom left, and a 'Cancel' button is at the bottom right. The background shows a blue taskbar with icons for File Explorer, Task View, Start, and others.



System

Advanced sharing settings

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File and printer sharing

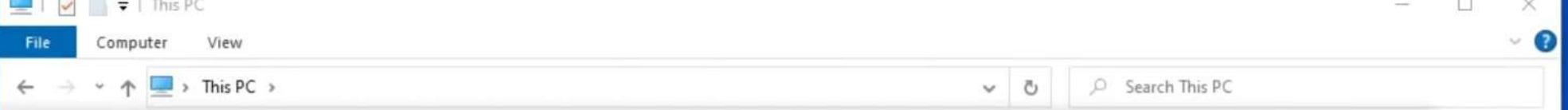
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Turn on file and printer sharing
 Turn off file and printer sharing

All Networks

Save changes Cancel

This screenshot shows the 'Advanced sharing settings' section of the Windows Control Panel. It displays configuration options for three network profiles: Private, Guest or Public (current profile), and Network discovery. For Network discovery, the 'Turn on network discovery' option is selected. For File and printer sharing, the 'Turn off file and printer sharing' option is selected. At the bottom, there are 'Save changes' and 'Cancel' buttons.



System

Advanced sharing settings

File Edit View Tools

Network and Internet > Network and Sharing Center > Advanced sharing settings

All Networks

Public folder sharing

When Public folder sharing is on, people on the network, including homegroup members, can access files in the Public folders.

Turn on sharing so anyone with network access can read and write files in the Public folders
 Turn off Public folder sharing (people logged on to this computer can still access these folders)

Media streaming

When media streaming is on, people and devices on the network can access pictures, music, and videos on this computer. This computer can also find media on the network.

Choose media streaming options...

File sharing connections

Windows uses 128-bit encryption to help protect file sharing connections. Some devices don't support 128-bit encryption and must use 40- or 56-bit encryption.

Use 128-bit encryption to help protect file sharing connections (recommended)
 Enable file sharing for devices that use 40- or 56-bit encryption

Password protected sharing

When password protected sharing is on, only people who have a user account and password on this computer can access shared files, printers attached to this computer, and the Public folders. To give other people access, you must turn off password protected sharing.

Save changes Cancel



System

Advanced sharing settings

File Edit View Tools

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Password protected sharing

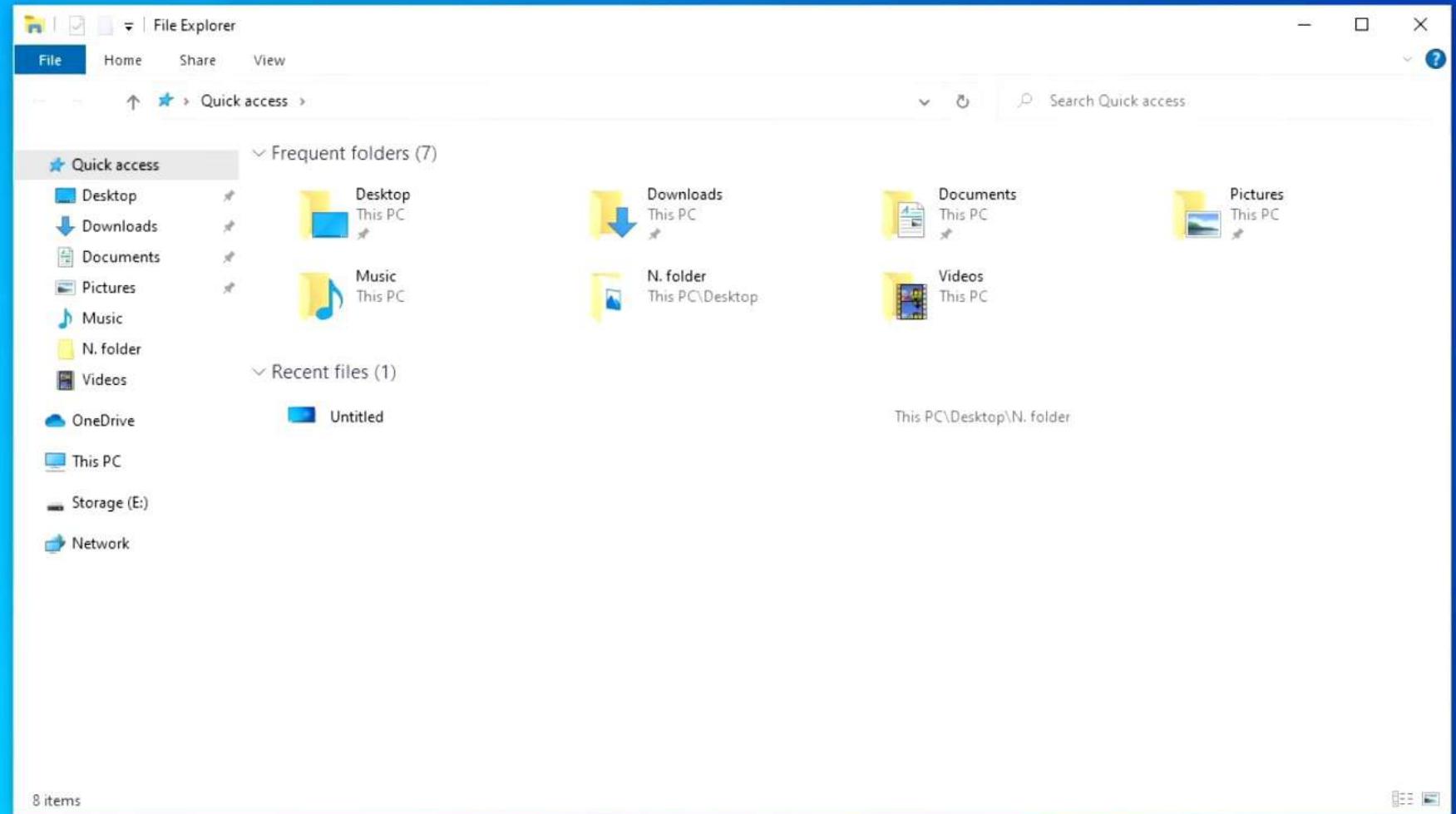
When password protected sharing is on, only people who have a user account and password on this computer can access shared files, printers attached to this computer, and the Public folders. To give other people access, you must turn off password protected sharing.

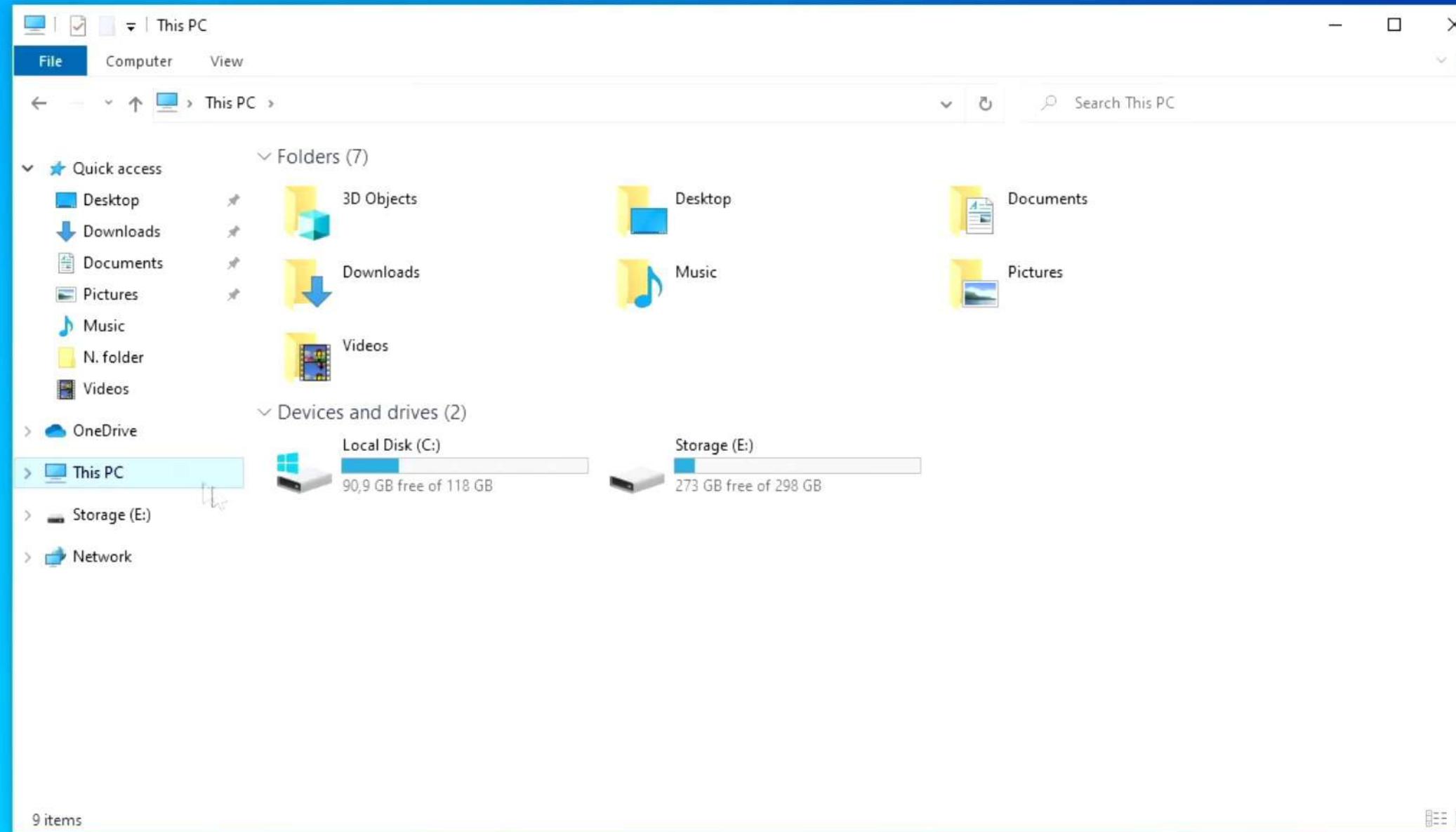
Turn on password protected sharing
 Turn off password protected sharing

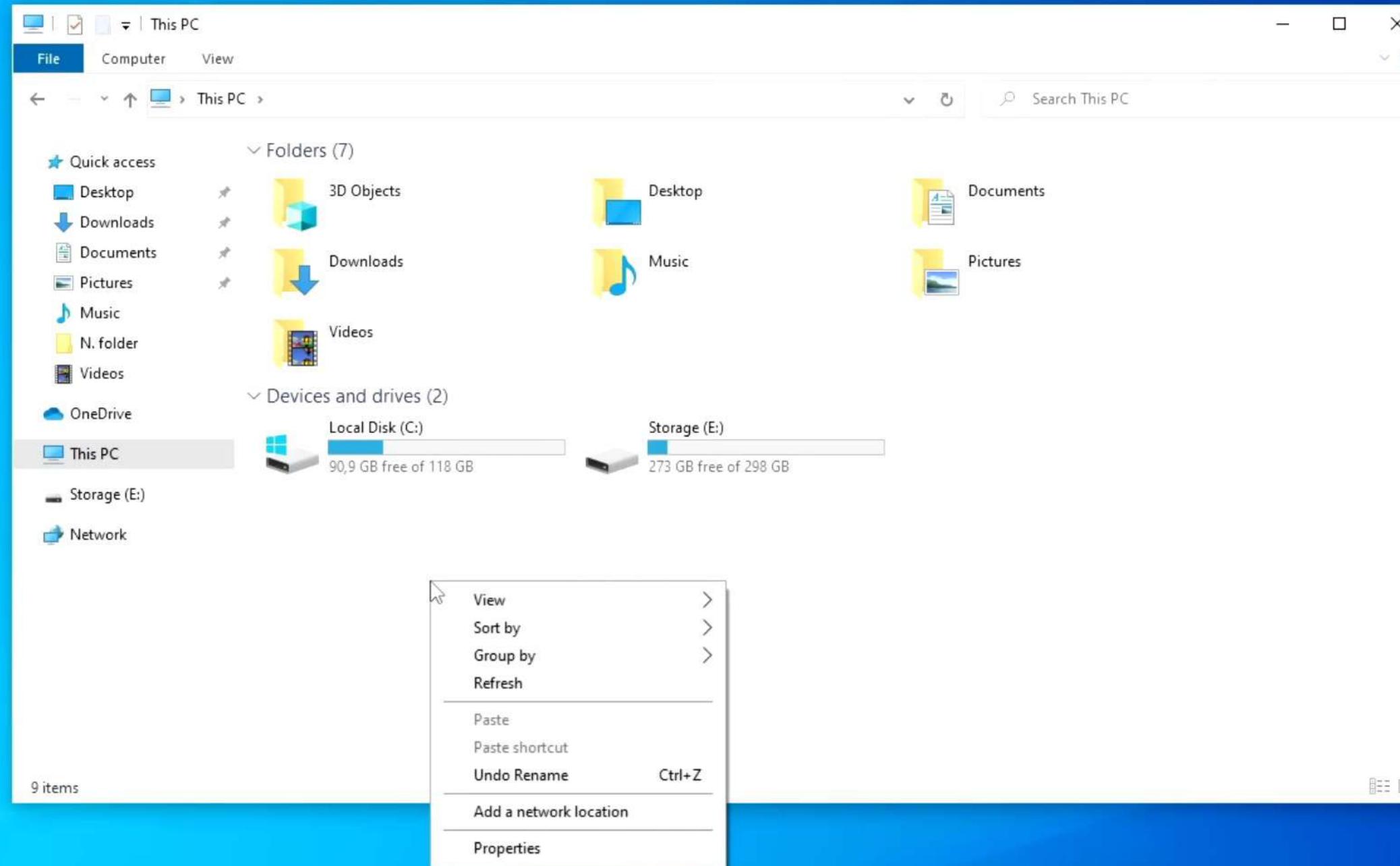
Save changes Cancel

The main content area displays several sections related to sharing settings: 'Public folder sharing', 'Media streaming', 'File sharing connections', and 'Password protected sharing'. Each section contains descriptive text and configuration options. The 'Password protected sharing' section is currently active, with the 'Turn off password protected sharing' option selected. At the bottom, there are 'Save changes' and 'Cancel' buttons.

**computer
PC-2**







This PC

File Computer View

System

Control Panel > System and Security > System

File Edit View Tools

Control Panel Home

View basic information about your computer

Windows edition

Windows 10 Pro

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Device Manager

Remote settings

System protection

Advanced system settings

System

Processor: Intel(R) Core(TM) i5-4440 CPU @ 3.10GHz 3.10 GHz

Installed memory (RAM): 16,0 GB

System type: 64-bit Operating System, x64-based processor

Pen and Touch: No Pen or Touch Input is available for this Display

Computer name, domain, and workgroup settings

Computer name: DESKTOP-E0CHRQL

Full computer name: DESKTOP-E0CHRQL

Computer description:

Workgroup: WORKGROUP

Change settings

Windows activation

Windows is activated [Read the Microsoft Software License Terms](#)

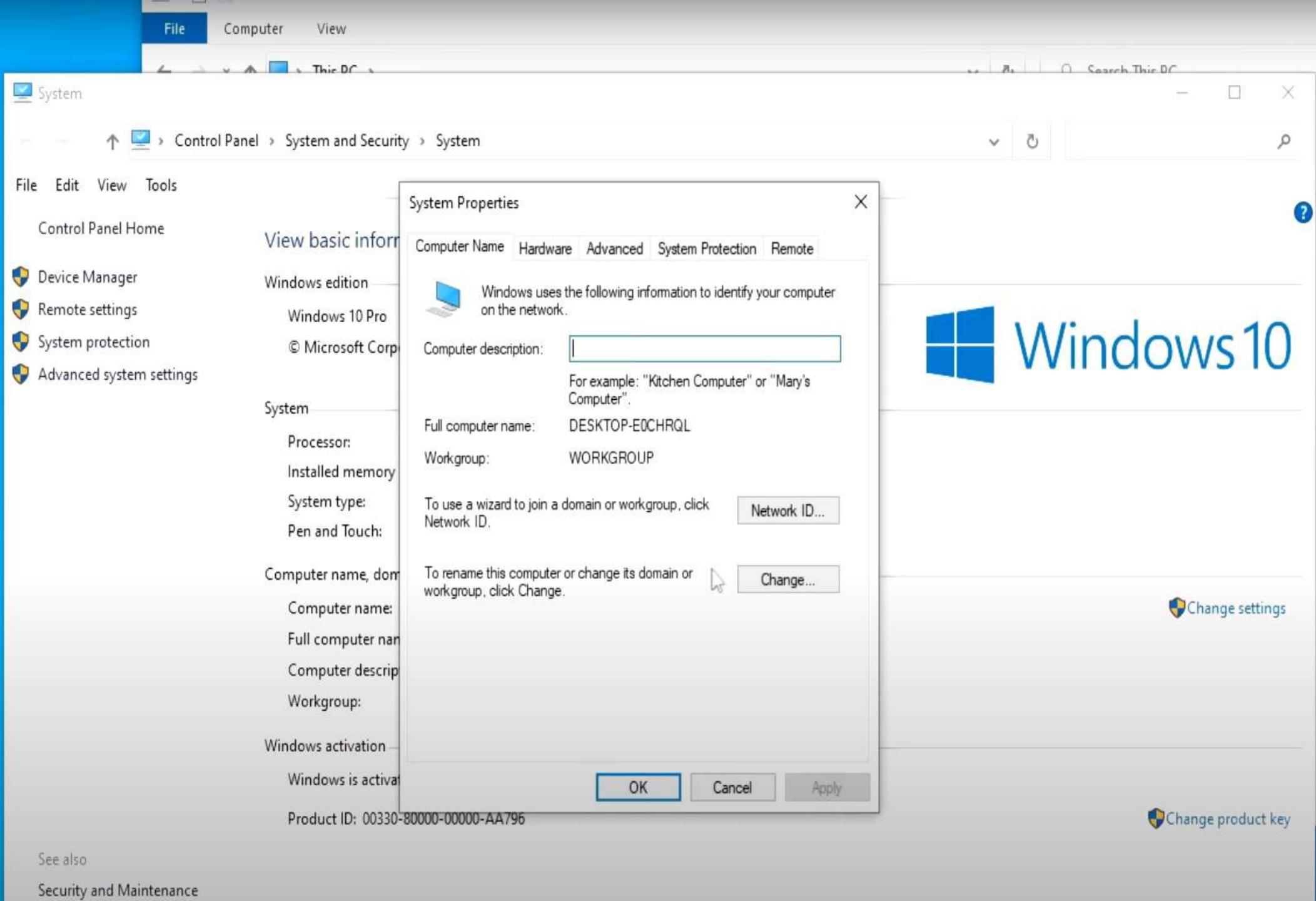
Product ID: 00330-80000-00000-AA796

Change product key

See also

Security and Maintenance

Windows 10



System

Control Panel > System and Security > System

File Edit View Tools

Control Panel Home

- Device Manager
- Remote settings
- System protection
- Advanced system settings

View basic information

Windows edition

Windows 10 Pro

© Microsoft Corp.

System

Processor:

Installed memory

System type:

Pen and Touch:

Computer name, domain

Computer name:

Full computer name

Computer description

Workgroup:

Windows activation

Windows is activated

Product ID: 00330-80000-00000-AA796

System Properties

Computer Name/Domain Changes

You can change the name and the membership of this computer. Changes might affect access to network resources.

Computer name:

DESKTOP-E0CHRQL

Full computer name:

DESKTOP-E0CHRQL

More...

Member of

 Domain: Workgroup:

WORKGROUP

OK

Cancel

OK

Cancel

Apply

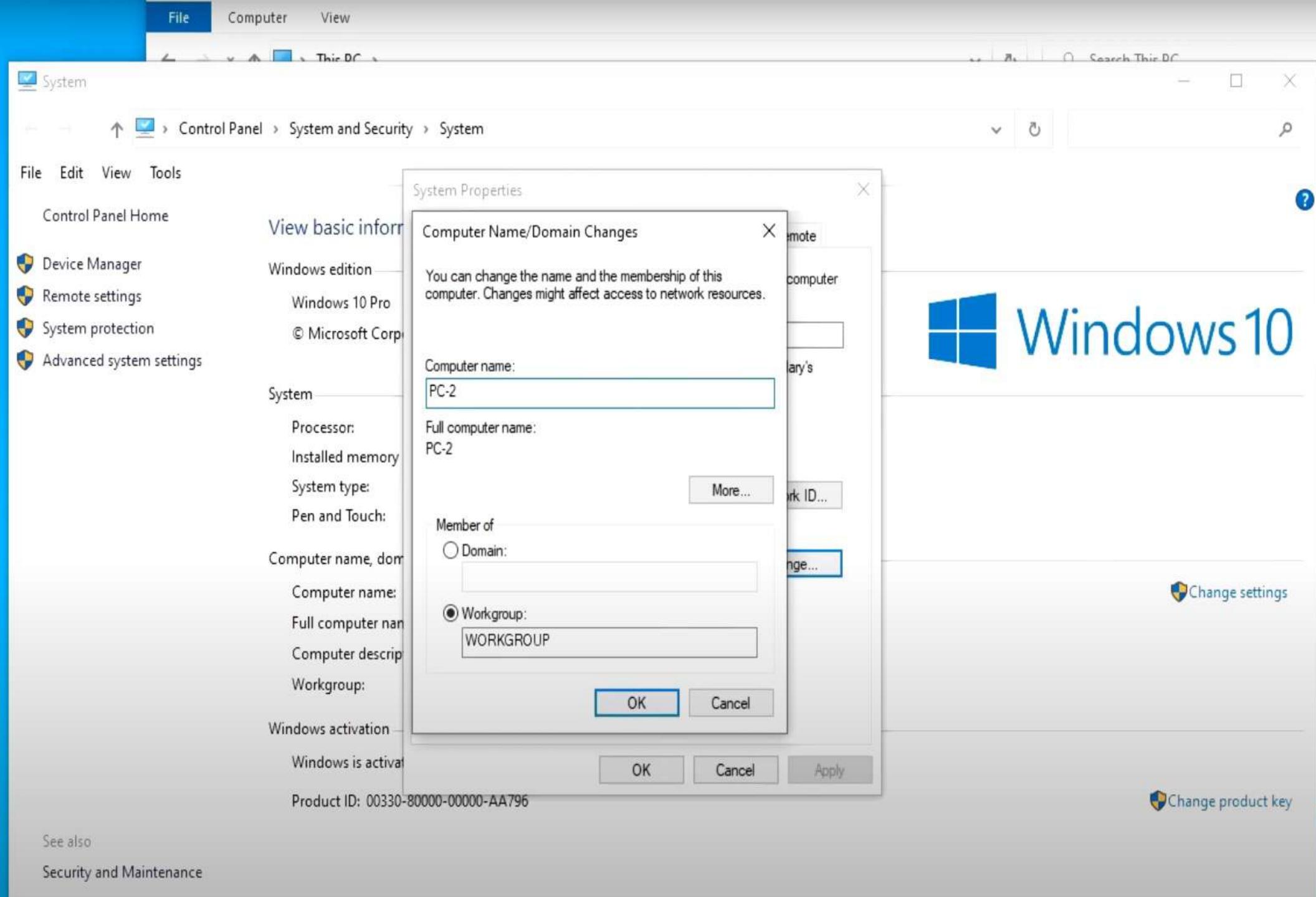


Change settings

Change product key

See also

Security and Maintenance





This PC -
Shortcut



Storage (E)



CDBurnerXP



AIDA64

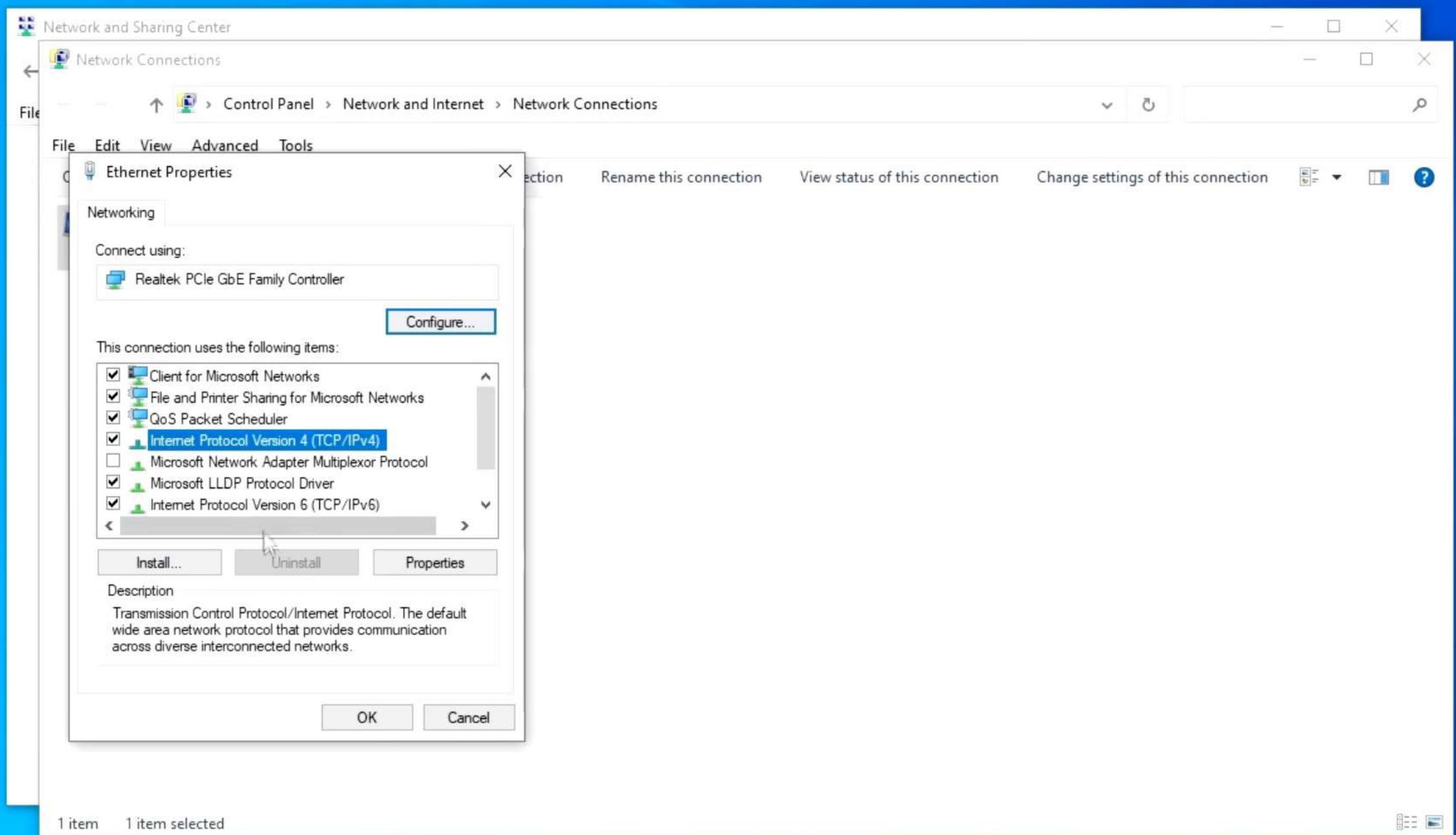
The screenshot shows the Windows Start Menu search interface. The search bar at the bottom contains the text "control". The results are listed under several categories:

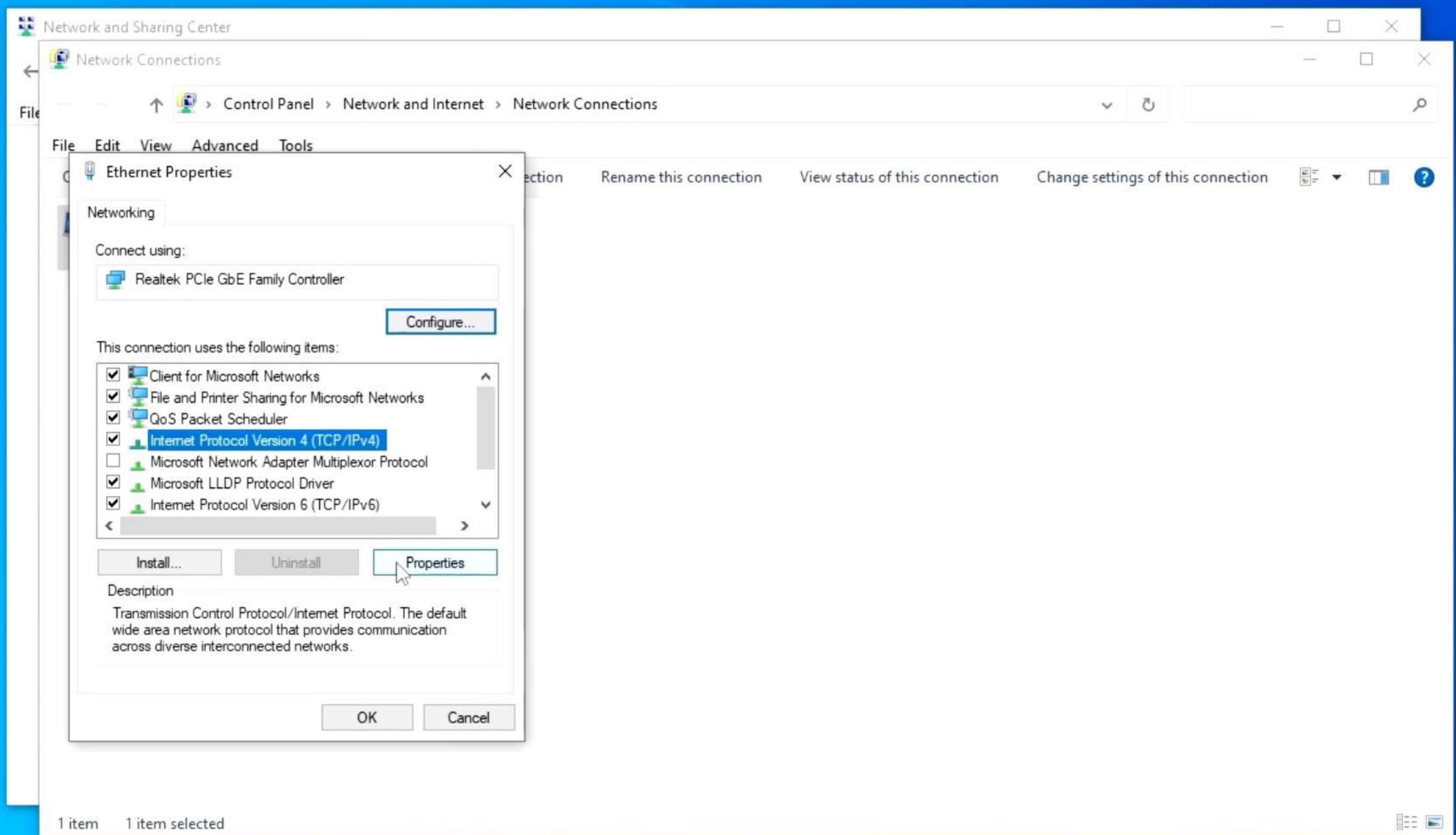
- Best match**:
 - Control Panel** (highlighted in blue)
- Apps**:
 - Settings
 - Run
 - Windows Administrative Tools
- Settings**:
 - Change User Account Control settings
 - Controlled folder access
 - App & browser control
 - Set up USB game controllers
 - System
 - See if you have a 32-bit or 64-bit version of Windows
- Search the web**:
 - control - See web results

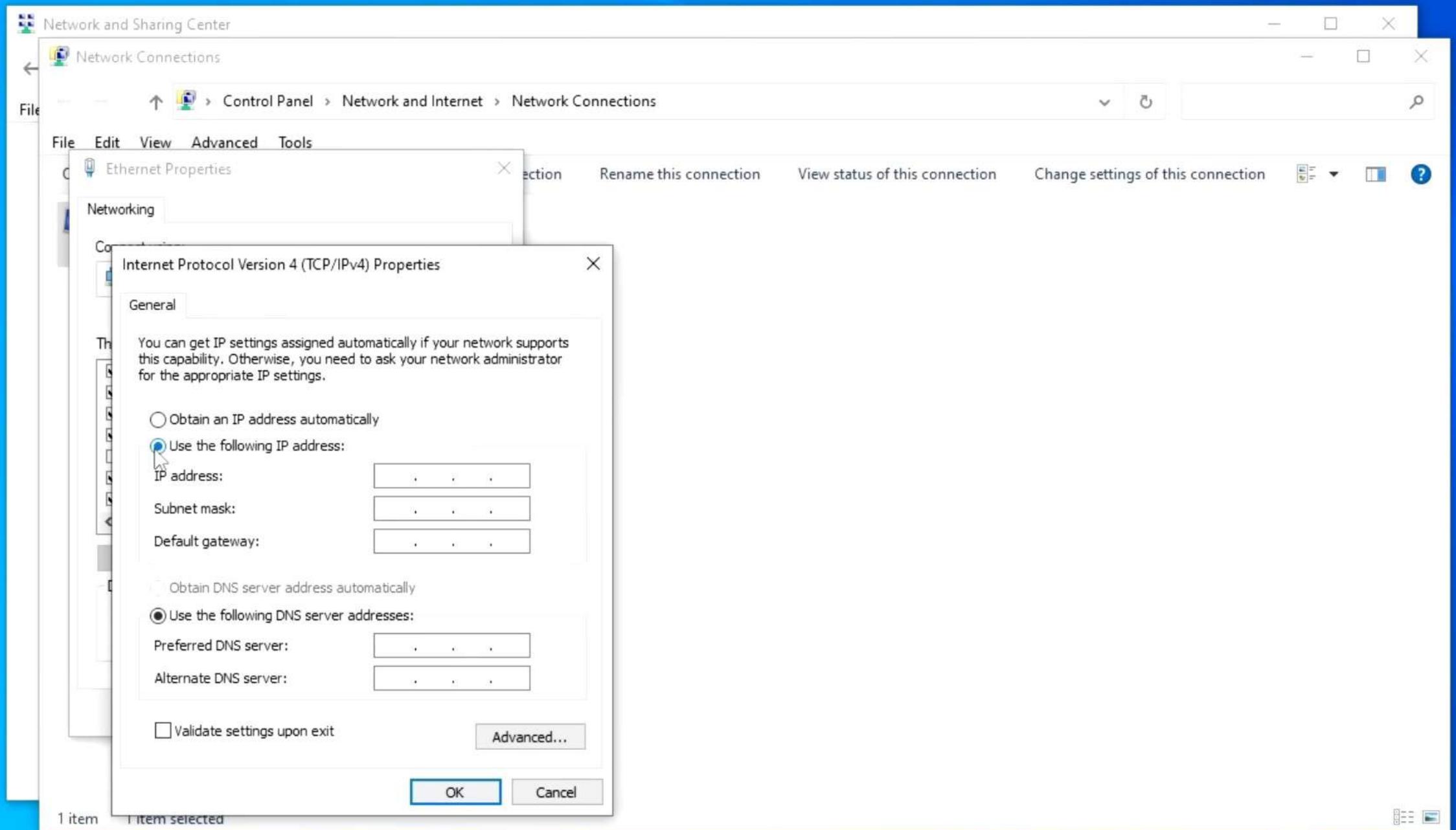
On the right side of the screen, there is a preview window showing a thumbnail of the Control Panel icon and the text "Control Panel" with "App" below it.

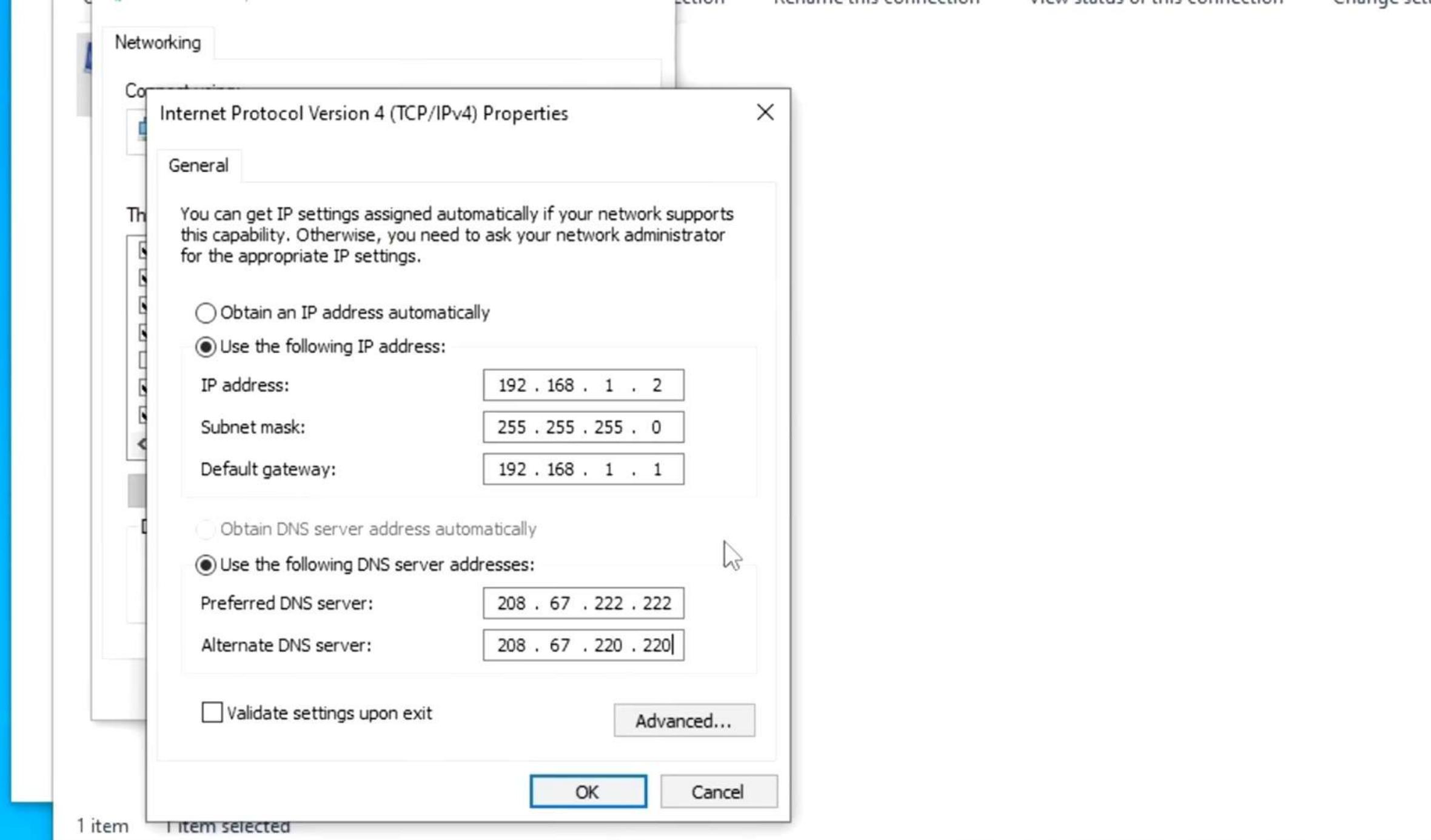


Recycle Bin









Advanced sharing settings

Control Panel > Network and Internet > Network and Sharing Center > Advanced sharing settings

Search Control Panel

File Edit View Tools

Change sharing options for different network profiles

Windows creates a separate network profile for each network you use. You can choose specific options for each profile.

Private (current profile)

Network discovery

When network discovery is on, this computer can see other network computers and devices and is visible to other network computers.

- Turn on network discovery
- Turn on automatic setup of network connected devices.
- Turn off network discovery

File and printer sharing

When file and printer sharing is on, files and printers that you have shared from this computer can be accessed by people on the network.

- Turn on file and printer sharing
- Turn off file and printer sharing

Guest or Public

All Networks

 Save changes

Cancel

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All Networks



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[Choose media streaming options...](#)

File sharing connections

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- Use 128-bit encryption to help protect file sharing connections (recommended)
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Password protected sharing

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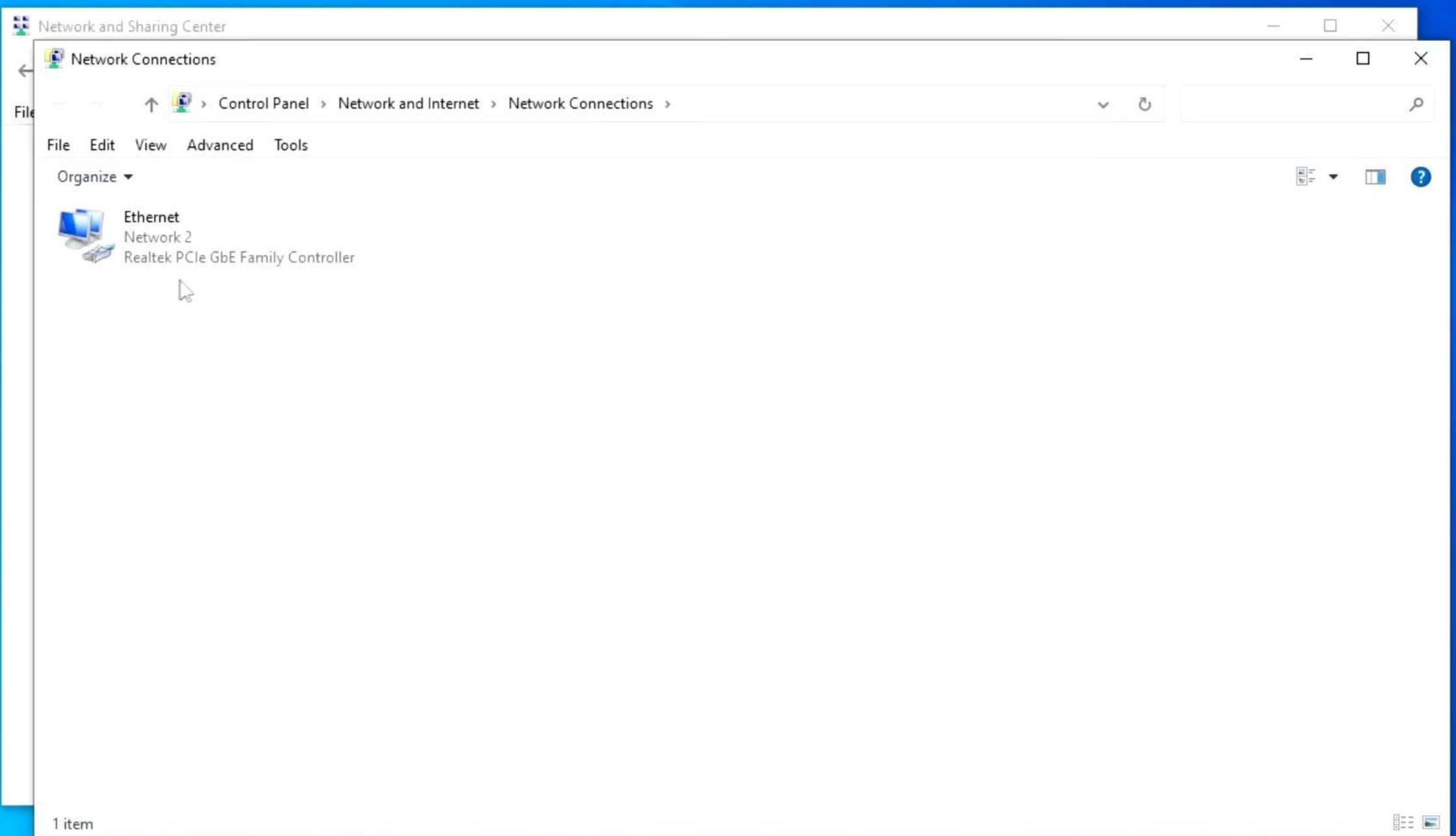
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 Save changes

Cancel





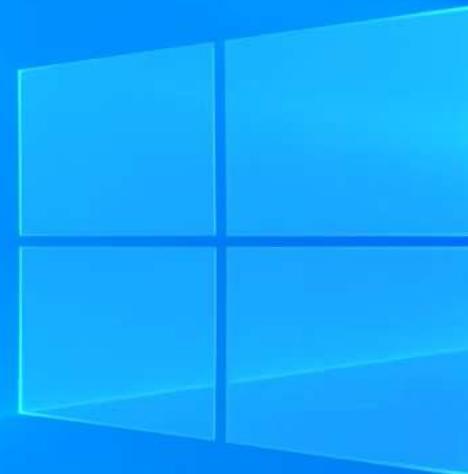
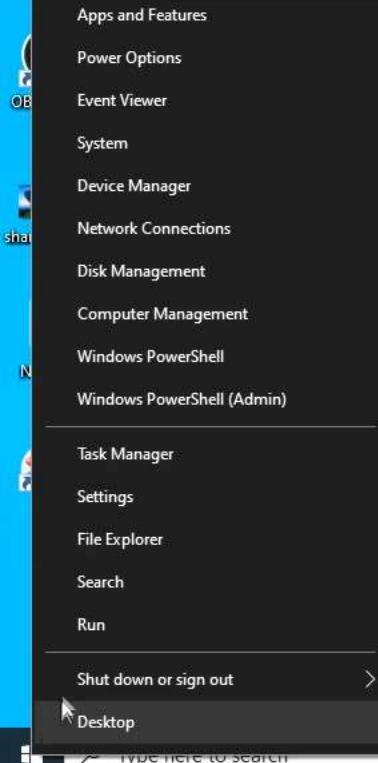
This PC -
Shortcut



Storage (E)



Audacity



Recycle Bin

type here to search



44°F Cloudy 19:18
12.03.2023



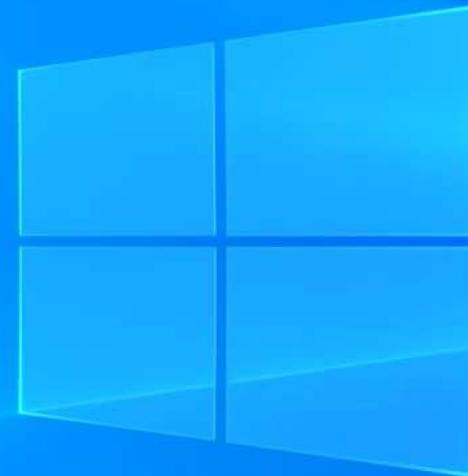
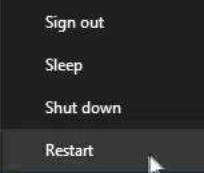
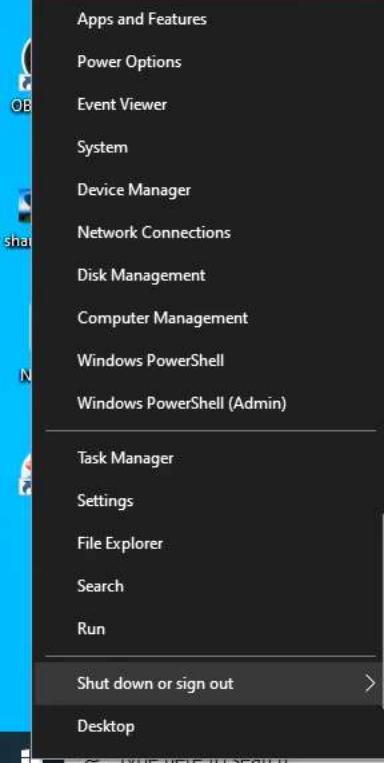
This PC -
Shortcut



Storage (E)



Audacity



Recycle Bin

type here to search



44°F Cloudy 19:18
12.03.2023

Network and Internet

Control Panel > Network and Internet >

Search Control Panel

Control Panel Home

System and Security

• Network and Internet

Hardware and Sound

Programs

User Accounts

Appearance and Personalization

Clock and Region

Ease of Access

Network and Sharing Center

View network status and tasks | Connect to a network | View network computers and devices

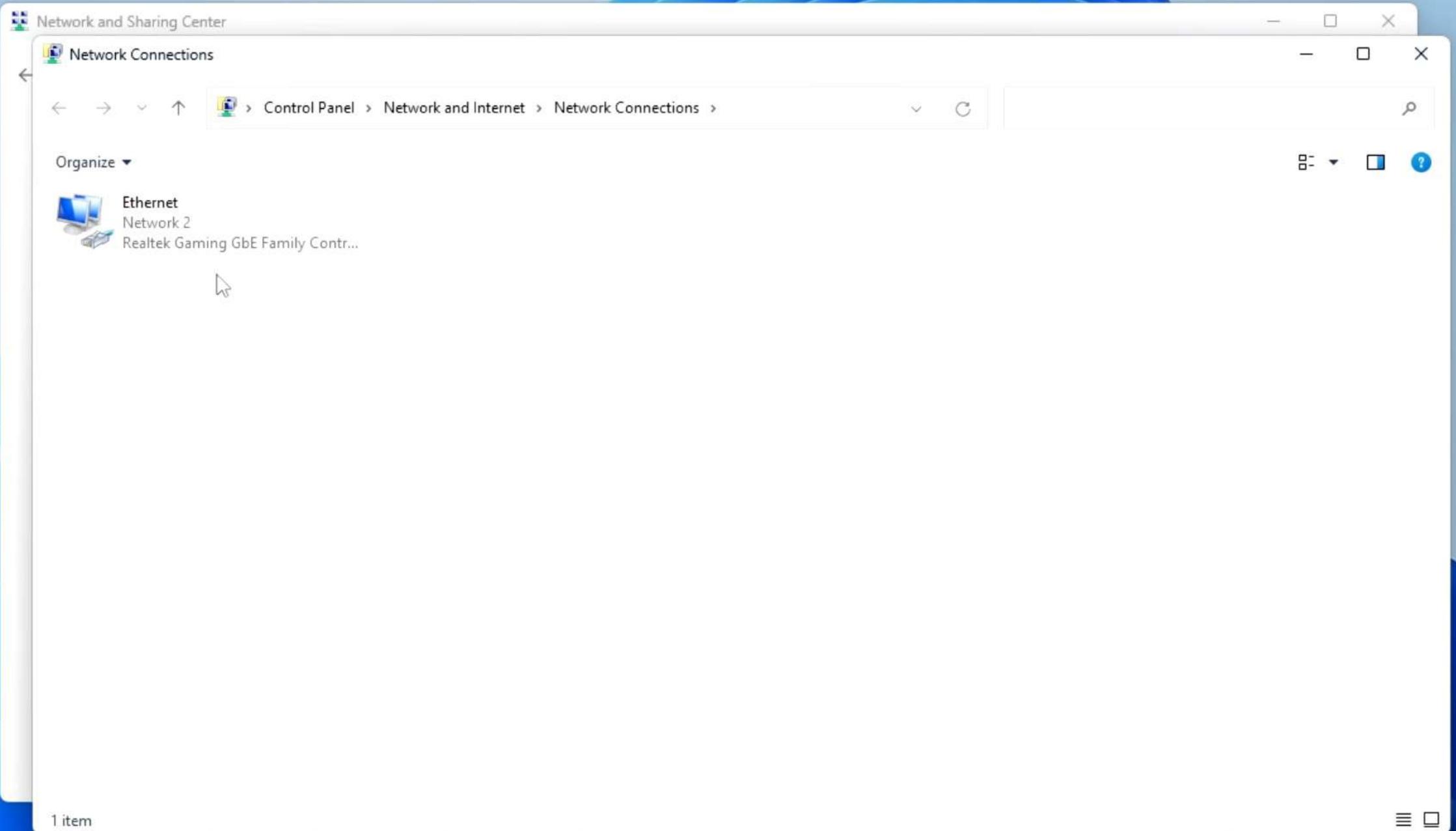
Network and Sharing Center

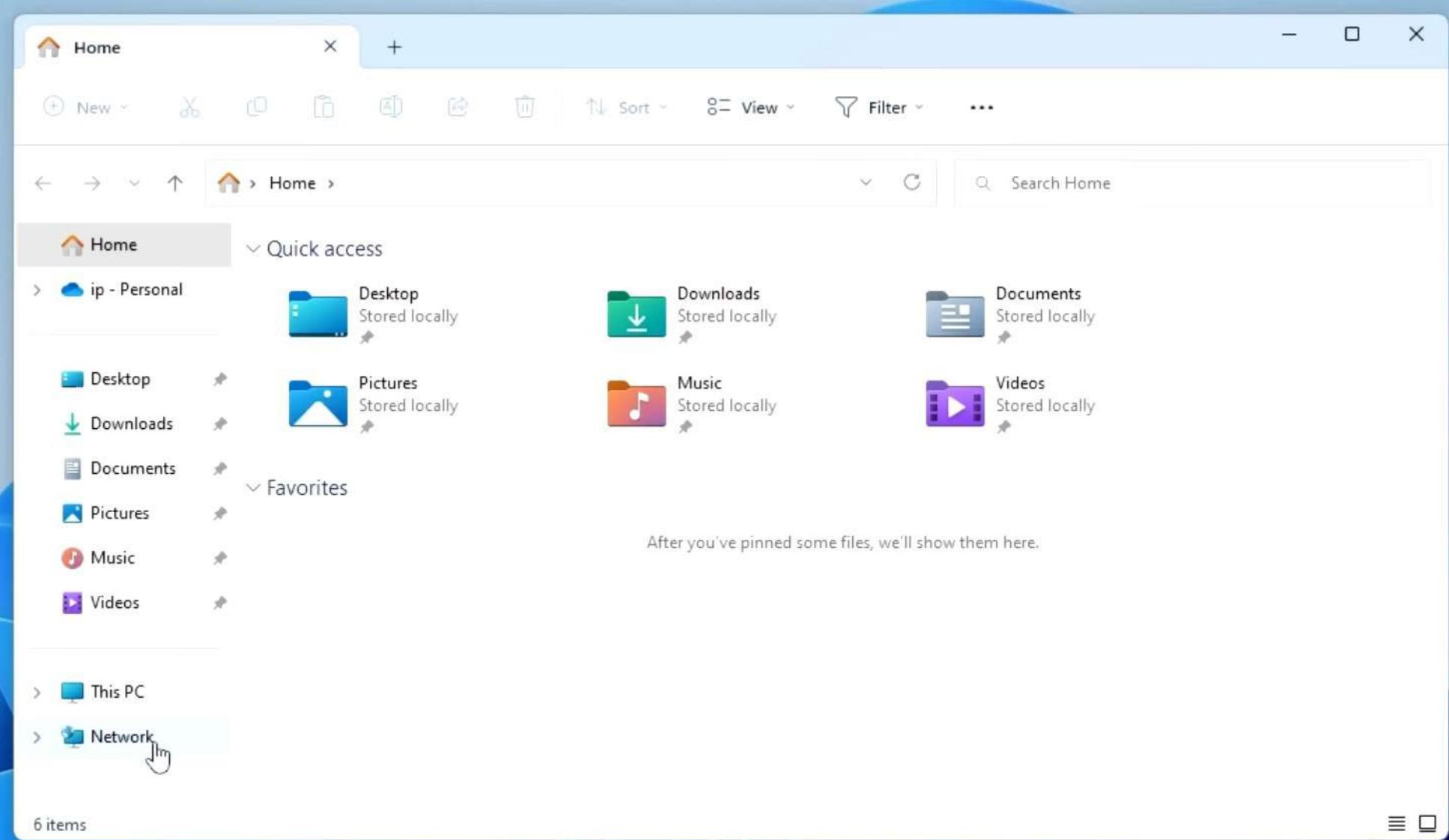
Internet Options

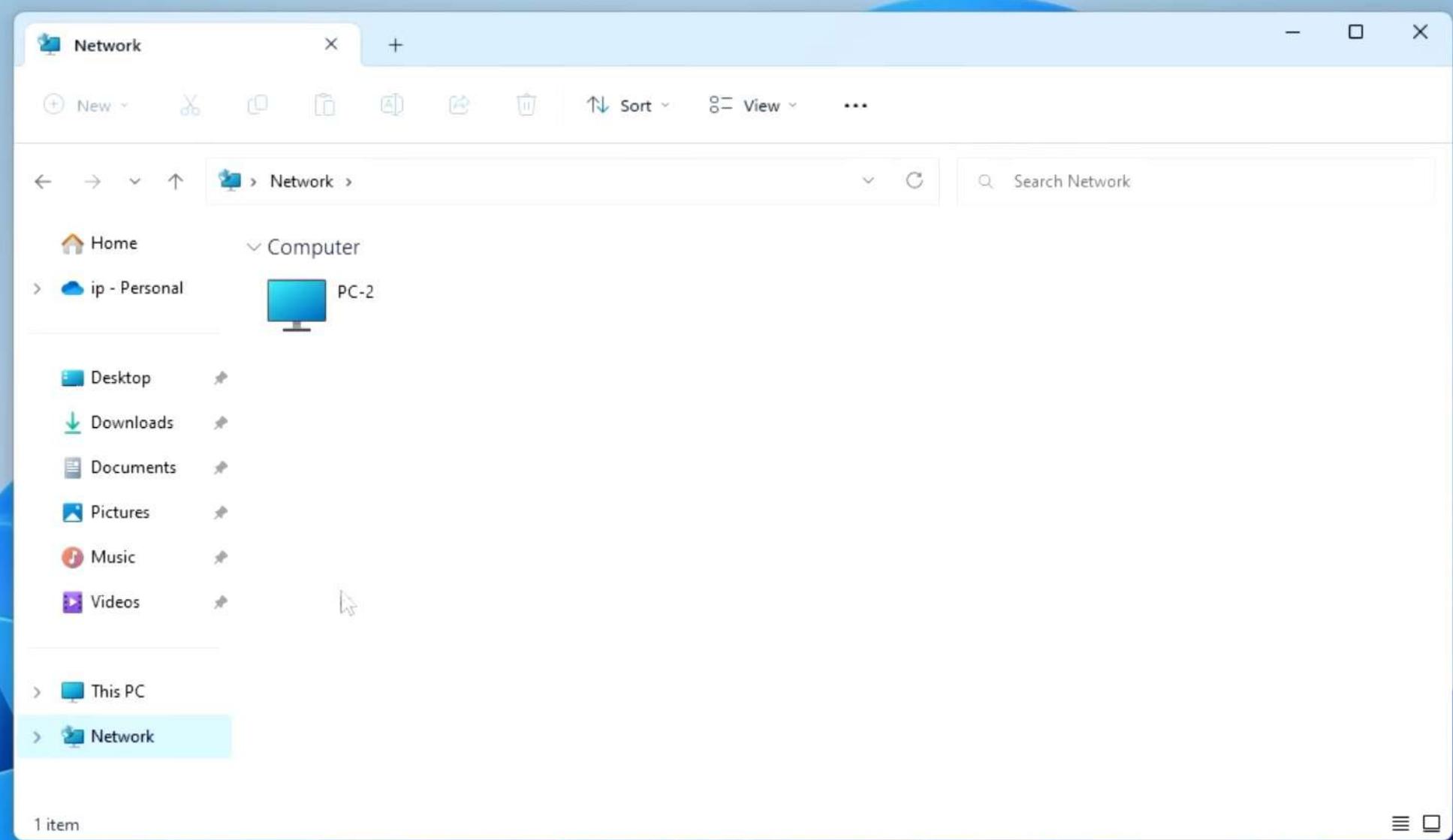
Check network status, change
Connect to the network settings and set preferences
Delete browsing history and cookies

Manage browser add-ons

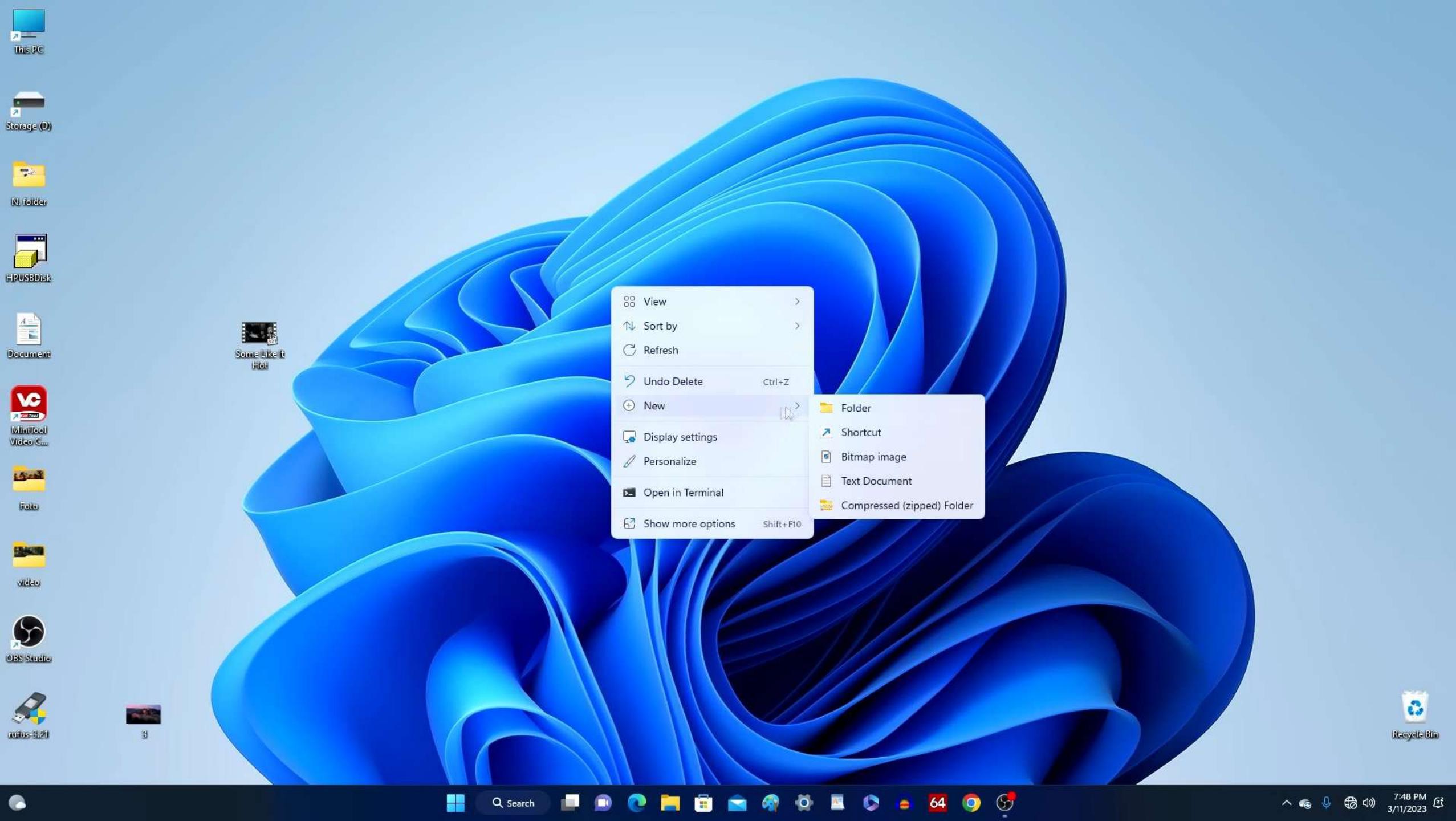
Some Like It Hot

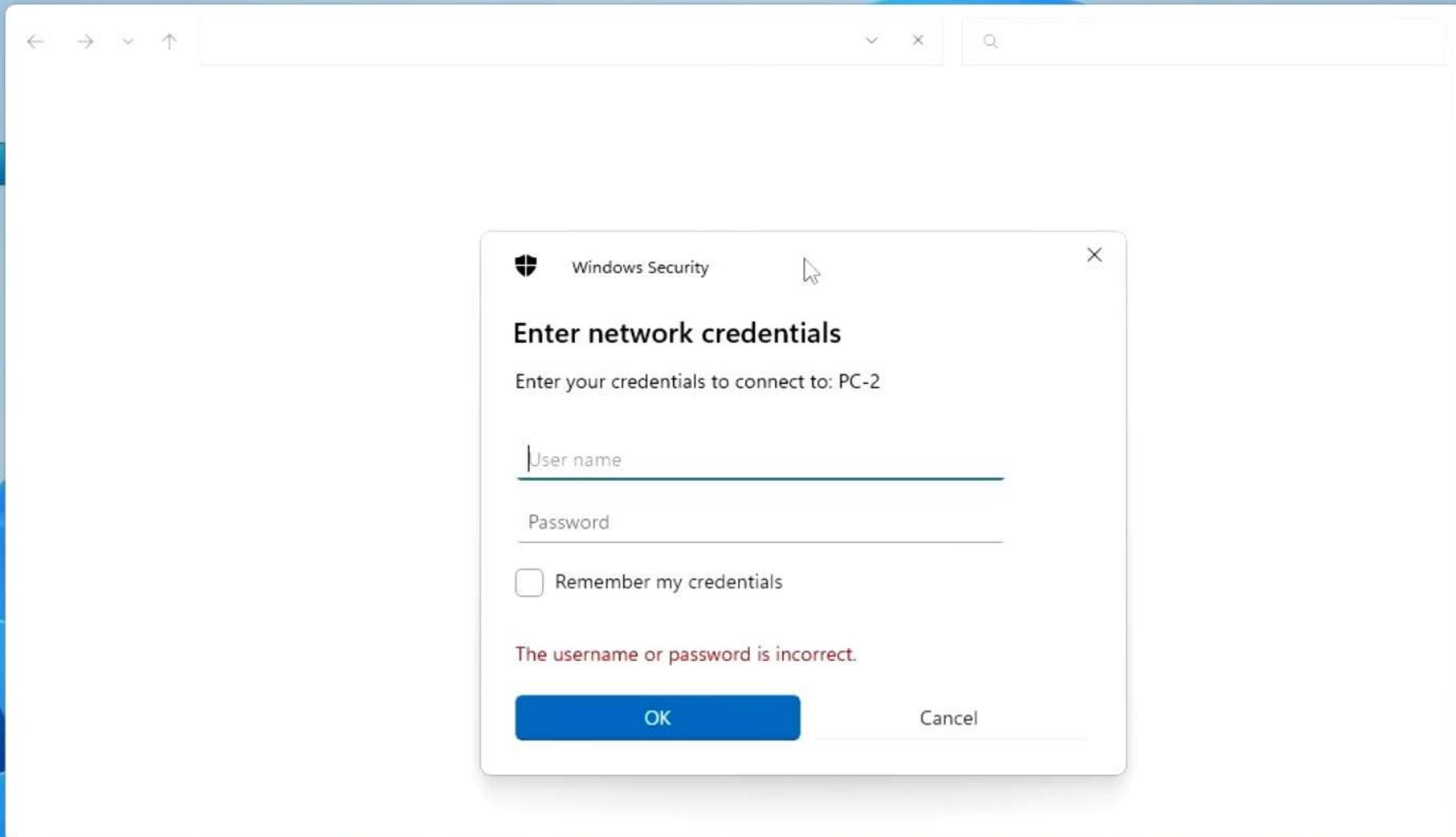


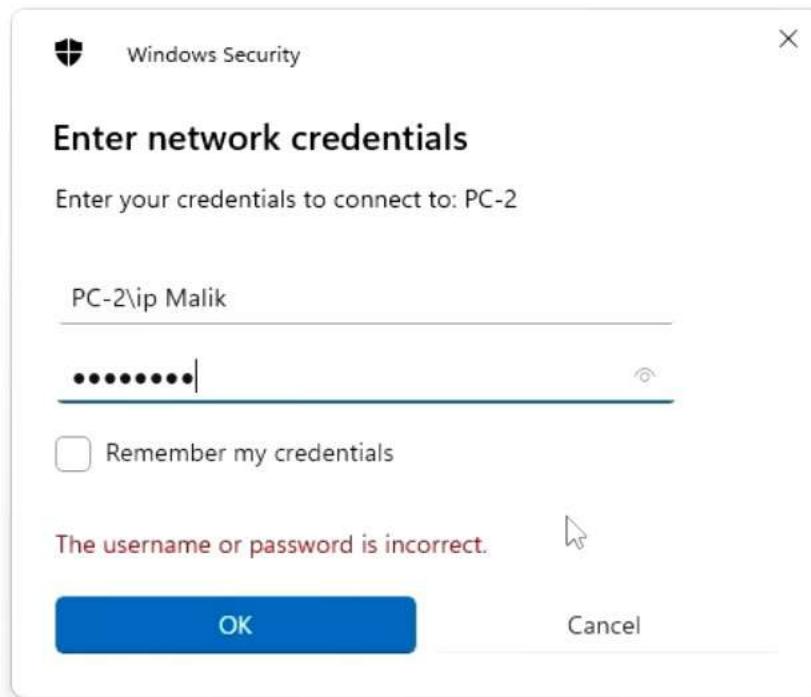


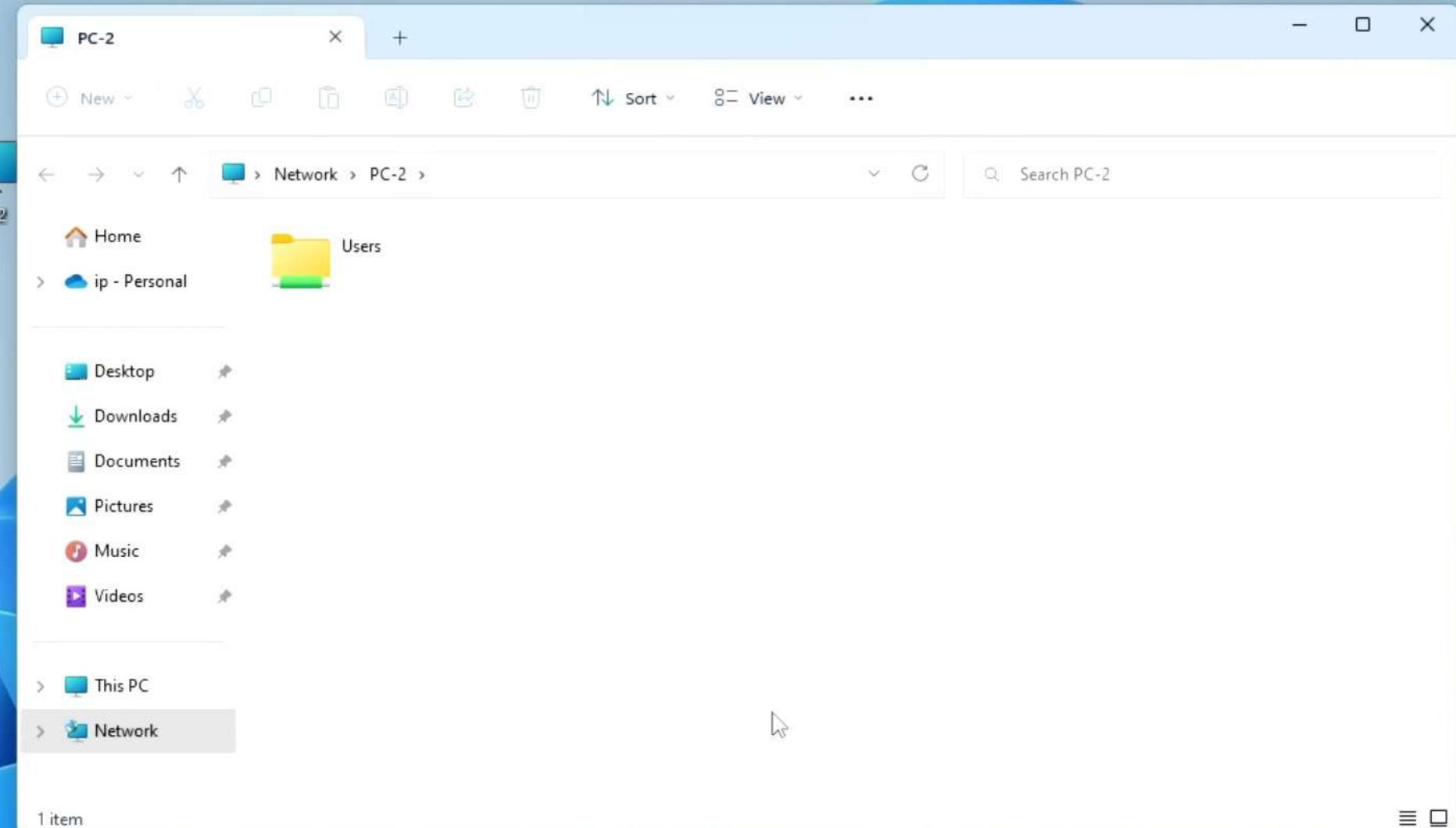


Some Like It
Hot









Some Like It Hot



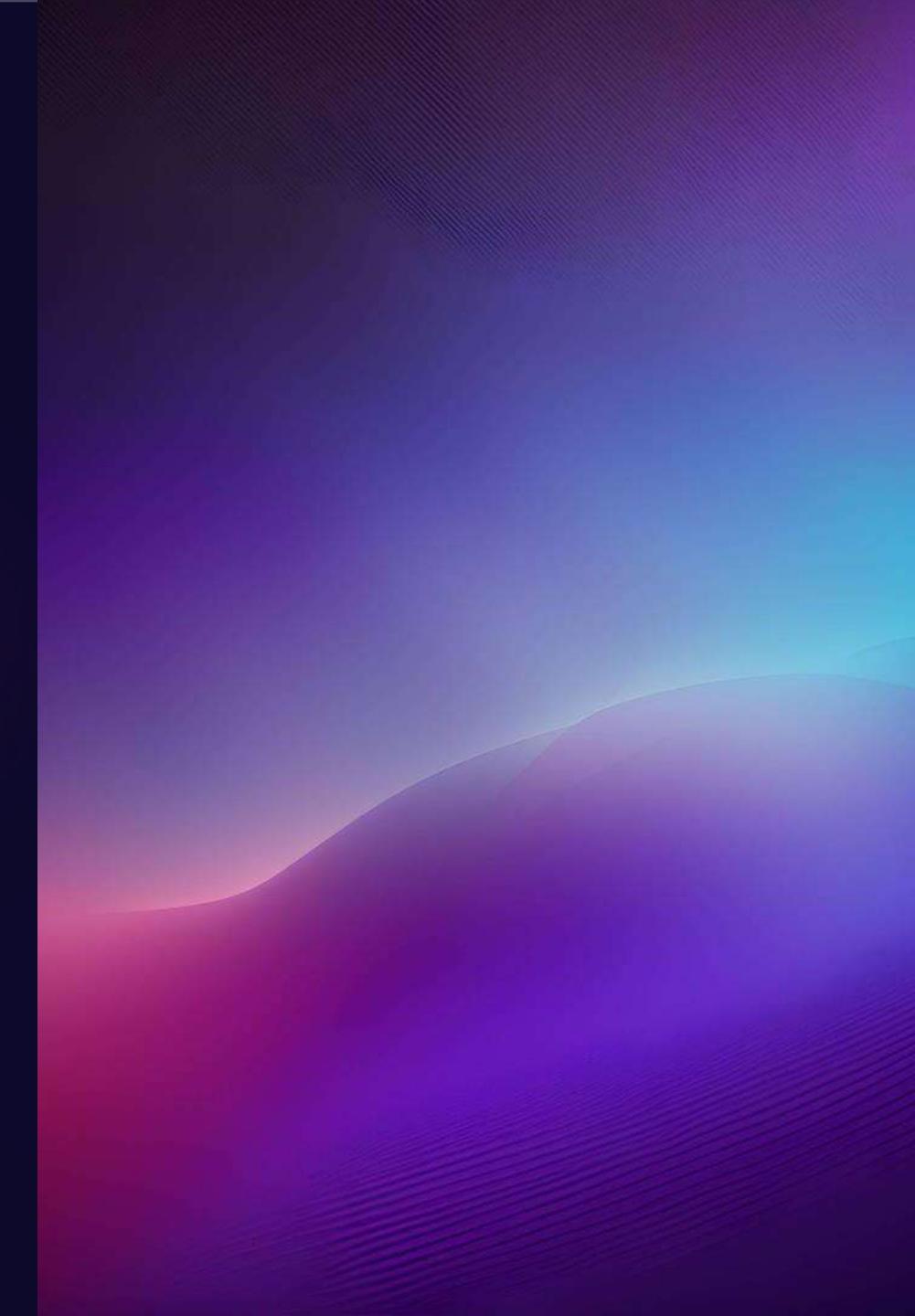
PC-1



PC-2

Conclusion and next steps

Congratulations! You're now equipped with the knowledge to create your own LAN. Explore further networking technologies like switches and routers to expand your network capabilities.



THANK YOU