



Troubleshooting & Resetting Network Connections

There are many ways to “reset” network settings on a Windows machine. Below are just a few things you can try to reset settings related to network services. If one method does not fix your problem, try another as there may be multiple things prohibiting your use of the Internet.

Table of Contents

[Contents](#)

Table of Contents.....	1
Basic Troubleshooting.....	2

Windows 7

Windows 7	3
IP Addresses	3
Renewing an IP Address on a Local Workstation.....	3
Renewing an IP Address on a Remote Workstation	5
Network Adapters.....	6
DNS Cache.....	9
TCP/IP Stack	10

Windows 10

Windows 10	11
IP Addresses	11
Renewing an IP Address on a Local Workstation.....	11
Renewing an IP Address on a Remote Workstation	13
Network Adapters.....	14
DNS Cache.....	16
TCP/IP Stack	17



Basic Troubleshooting

Here is a list of troubleshooting steps to check before undergoing more technical and advanced steps. After each step, be sure to check if the connection issue has been solved. If none of these steps yield network access, move forward to the more technical suggestions below.

1. If you are connecting using an Ethernet cable, try unplugging the cable plugging it back in after 15 seconds.
2. If you are connected wirelessly, try disconnecting from your current Wi-Fi network and re-joining it.
3. Have you registered your devices? UWNet requires each device to be registered in order to access the network.
4. Make sure your network adapters are enabled. This document shows you how to check for that below.
5. Try rebooting your computer
6. Do you have viruses prohibiting your use of the internet? Try running a virus scan with an application like Malwarebytes or AVAST Antivirus.
7. If you connect to a router either wired or wirelessly, make sure that it is connected to the wall jack.
8. Routers need to be registered with UWNet in order to use them.
9. If you are using an Ethernet cable, make sure that that cable is not faulty by testing your connection with another wall jack. Or by testing the same jack with a different cable.



Windows 7

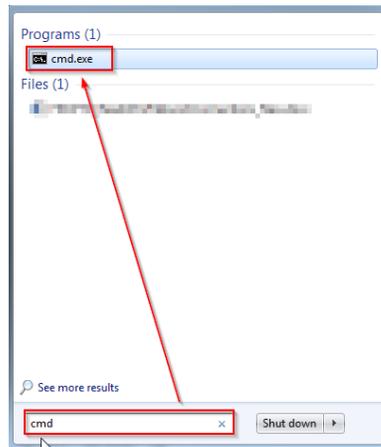
IP Addresses

Renewing an IP Address on a Local Workstation

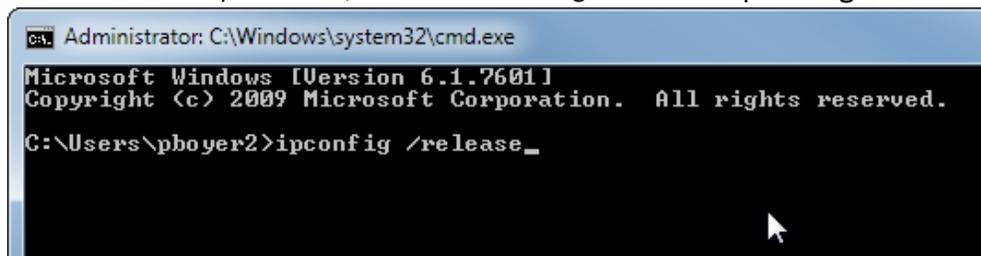
This is common when users call in and complain that they cannot access the Internet. It is easily diagnosable by the small yellow triangle in the task bar on the network connection icon.



1. Open a new window in Command Prompt
 - a. You can do this by going to the Start Menu and searching for “cmd”. This should yield a search result for “cmd.exe”. Launch the executable.



2. From the Command Prompt window, enter the following command: `ipconfig /release`



- a.
- b. Then press Enter
 - i. ⚠ This will disconnect you from the Internet



```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\pboyer2>ipconfig /release

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . :
    Default Gateway . . . . . :

C:\Users\pboyer2>
```

ii.

c. Then in the same window, run the following command: `ipconfig /renew`

```
Administrator: C:\Windows\system32\cmd.exe
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\pboyer2>ipconfig /release

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . :
    Default Gateway . . . . . :

C:\Users\pboyer2>ipconfig /renew

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : housing.wisc.edu
    IPv4 Address. . . . . : 128.104.57.197
    Subnet Mask . . . . . : 255.255.254.0
    Default Gateway . . . . . : 128.104.56.1

C:\Users\pboyer2>
```

i.

Your computer will receive a new IP address from the network. This commonly solves most connectivity issues.

An IP address is analogous to a passport, it gives your computer permission to access the Internet after its identity is confirmed by the network.

You'll notice that now you have a connection to the Internet and the network status symbol in the taskbar has been updated.





Renewing an IP Address on a Remote Workstation

The process for renewing an IP Address on a remote workstation is similar to on a local workstation, however you need to prepare everything before releasing the old IP Address since it will disconnect you from the remote session. Follow the steps below to help a remote user renew their IP Address.

```
ipconfig /renew && ipconfig /flushdns && ipconfig /release && ipconfig /renew && ipconfig /flushdns &&
```

```
ipconfig /renew &&
```

```
ipconfig /renew &&
```

```
ipconfig /renew && ipconfig /flushdns &&
```

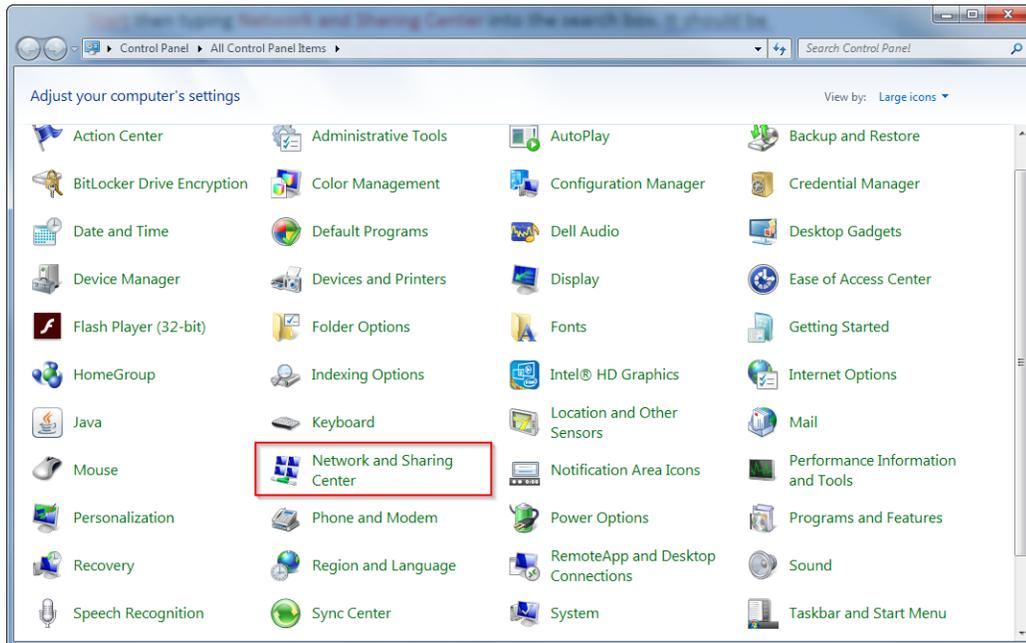
```
ipconfig /renew && ipconfig /flushdns &&
```

```
ipconfig /renew && ipconfig /flushdns && ipconfig /release && ipconfig /renew && ipconfig /flushdns &&
```

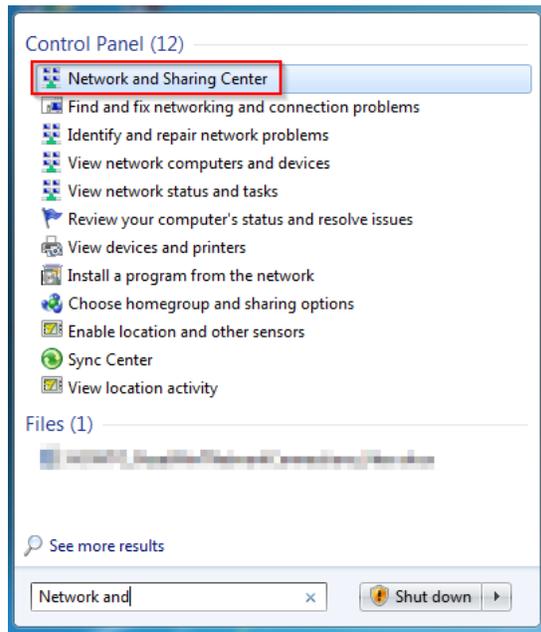


Network Adapters

1. Open the Network and Sharing Center by going through Control Panel → Network and Sharing Center



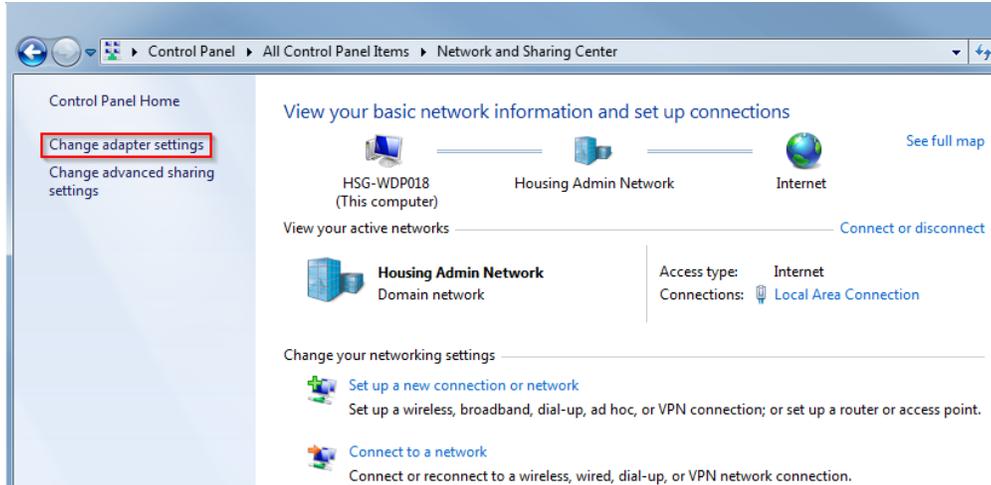
- a.
- b. Optionally, you can open the Network and Sharing Center by searching for it from the Windows Start Menu



- i.



2. From the left action pane, click Change adapter settings



a.

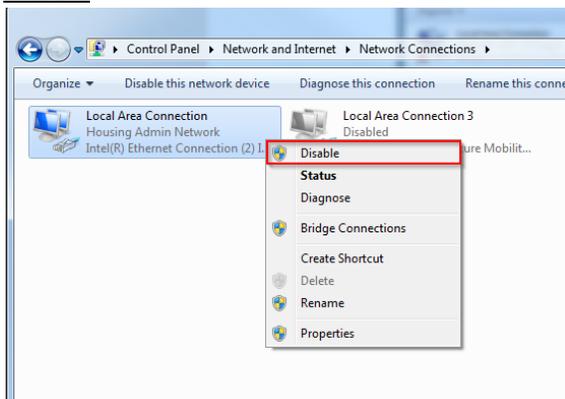
3. In this window you will be able to view all of the computer's network adapters. This includes both Ethernet and Wireless adapters (if available). Depending on the issue you are troubleshooting, choose the appropriate adapter.

- a. Local Area Connection → Ethernet Adapter
- b. Wireless Network Connection → Wi-Fi Adapter



i.

4. Disable the adapter that is having issues with connectivity by right-clicking on the adapter and then clicking Disable



a.



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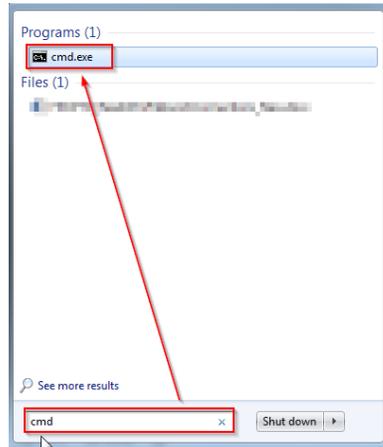
5. Re-enable the adapter you disabled in the previous step by double-clicking it.
 - a. You can also re-enable it by right clicking on the adapter icon and selecting Enable.
6. Once the adapter has been re-enabled, open a web browser and navigate to a website to test if Internet connectivity has been restored.
7. If you can access the Internet, then this process is complete.



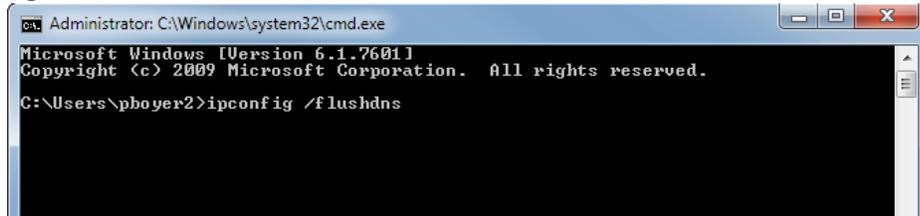
DNS Cache

The DNS resolver acts as a translator between the names of website and their respective IP Addresses. For example, www.google.com = 172.217.8.206 . By removing the record that has all the names cached, the computer can re-establish connections to websites by resolving the translation between URL and IP Address and re-caching this information.

1. Open a new window in Command Prompt
 - a. You can do this by going to the Start Menu and searching for “cmd”. This should yield a search result for “cmd.exe”. Launch the executable.



- i.
2. In the Command Prompt Window, type the following command and press Enter:
`ipconfig /flushdns`



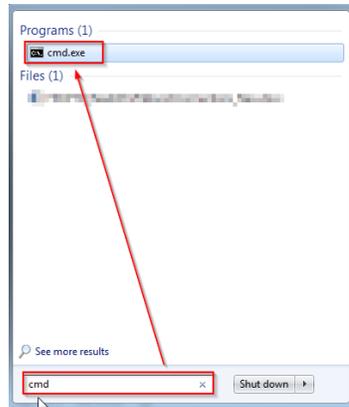
- a.
3. After the process finishes executing, you are complete.



TCP/IP Stack

The TCP/IP stack is what your computer uses to communicate between your device and incoming data.

1. Open a new window in Command Prompt
 - a. You can do this by going to the Start Menu and searching for “cmd”. This should yield a search result for “cmd.exe”. Launch the executable.



- i.
2. In the Command Prompt window type the following command and press Enter
 - a. netsh int up reset
3. After you hit Enter, some text will appear and may look similar to the image below.

```
C:\Users\Administrator>netsh int ip reset resetlog.txt
Reseting Echo Request, OK!
Reseting Global, OK!
Reseting Interface, OK!
Reseting Unicast Address, OK!
Reseting Route, OK!
A reboot is required to complete this action.

C:\Users\Administrator>_
```

- a.
4. When the command prompt finishes processing, enter the following command and press Enter
 - a. For a wired connection
 - i. netsh int ip set address name="Local Area Connection" dhcp
 - b. For a wireless connection
 - i. netsh int ip set address name="Wireless Network Connection" dhcp

```
C:\Users\hdadmin1>netsh int ip set address name="Local Area Connection" dhcp
DHCP is already enabled on this interface.
```

5. These commands enable DHCP to run through the specified adapter(s). You have completed this process.

*NOTE: If your adapters are NOT named the same as the above, simply replace the string of text between the quotation marks in the command with the EXACT name as your adapter’s e.g. I have an adapter named Generic Adapter, therefore, the command I will type is:

```
netsh int ip set address name="Generic Adapter" dhcp
```

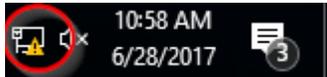


Windows 10

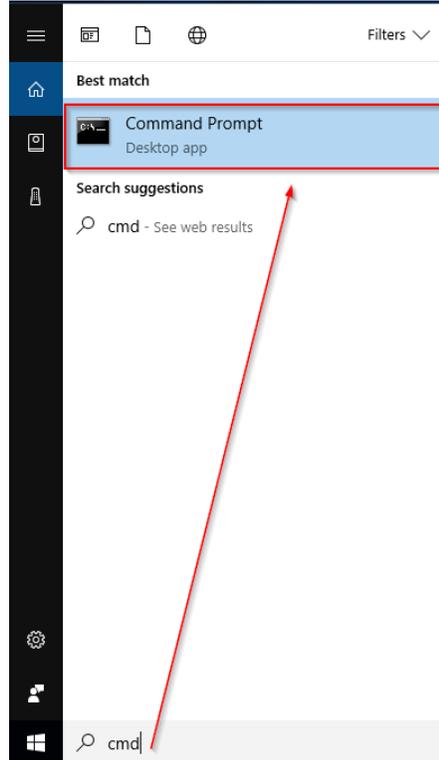
IP Addresses

Renewing an IP Address on a Local Workstation

This is common when users call in and complain that they cannot access the Internet. It is easily diagnosable by the small yellow triangle in the task bar on the network connection icon.



1. Open a new window in Command Prompt
 - a. You can do this by going to the Start Menu and searching for “cmd”. This should yield a search result for “Command Prompt (Desktop app)”. Launch the application.



2. From the Command Prompt window, enter the following command: `ipconfig /release`

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.15063]
(c) 2017 Microsoft Corporation. All rights reserved.
C:\Users\hdadmin>ipconfig /release
```

a.



- b. Then press Enter
- i.  This will disconnect you from the Internet

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.15063]
(c) 2017 Microsoft Corporation. All rights reserved.

C:\Users\hdadmin>ipconfig /release

Windows IP Configuration

No operation can be performed on Ethernet while it has its media disconnected.

Ethernet adapter Ethernet 2:

    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80::481d:d5a8:e33c:6b61%2
    Default Gateway . . . . . : 

Ethernet adapter Ethernet:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . : 

C:\Users\hdadmin>
```

- ii.
- c. Then in the same window, run the following command: `ipconfig /renew`

```
Administrator: Command Prompt

    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80::481d:d5a8:e33c:6b61%2
    Default Gateway . . . . . : 

Ethernet adapter Ethernet:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . : 

C:\Users\hdadmin>ipconfig /renew

Windows IP Configuration

No operation can be performed on Ethernet while it has its media disconnected.

Ethernet adapter Ethernet 2:

    Connection-specific DNS Suffix  . : housing.wisc.edu
    Link-local IPv6 Address . . . . . : fe80::481d:d5a8:e33c:6b61%2
    IPv4 Address. . . . . : 128.104.174.217
    Subnet Mask . . . . . : 255.255.255.128
    Default Gateway . . . . . : 128.104.174.129

Ethernet adapter Ethernet:

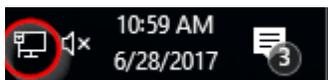
    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . : 

C:\Users\hdadmin>
```

3. Your computer will receive a new IP address from the network. This commonly solves most connectivity issues.

An IP address is analogous to a passport, it gives your computer permission to access the Internet after its identity is confirmed by the network.

You'll notice that now you have a connection to the Internet and the network status symbol in the taskbar has been updated.

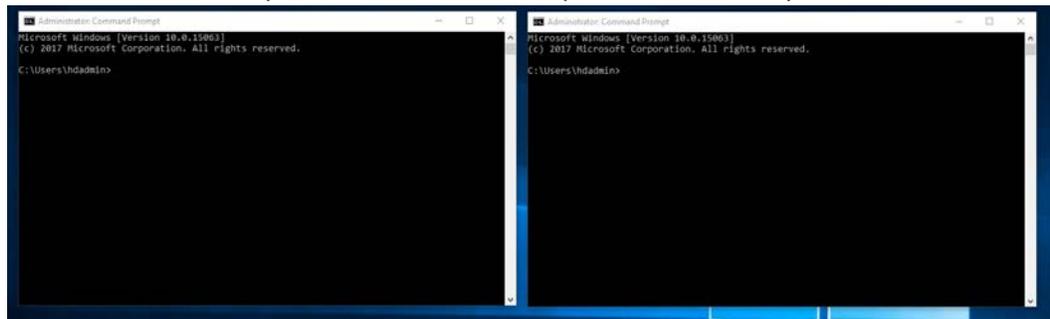




Renewing an IP Address on a Remote Workstation

The process for renewing an IP Address on a remote workstation is similar to on a local workstation, however you need to prepare everything before releasing the old IP Address since it will disconnect you from the remote session. Follow the steps below to help a remote user renew their IP Address.

1. Use Remote Assistance to connect to the user who is having trouble connecting to the Internet.
 - a. *Note if this is a user that has a laptop, they need to be connected to our network via a wired connection for you to use remote assistance.
2. On the remote workstation, open two Command Prompt Windows side-by-side

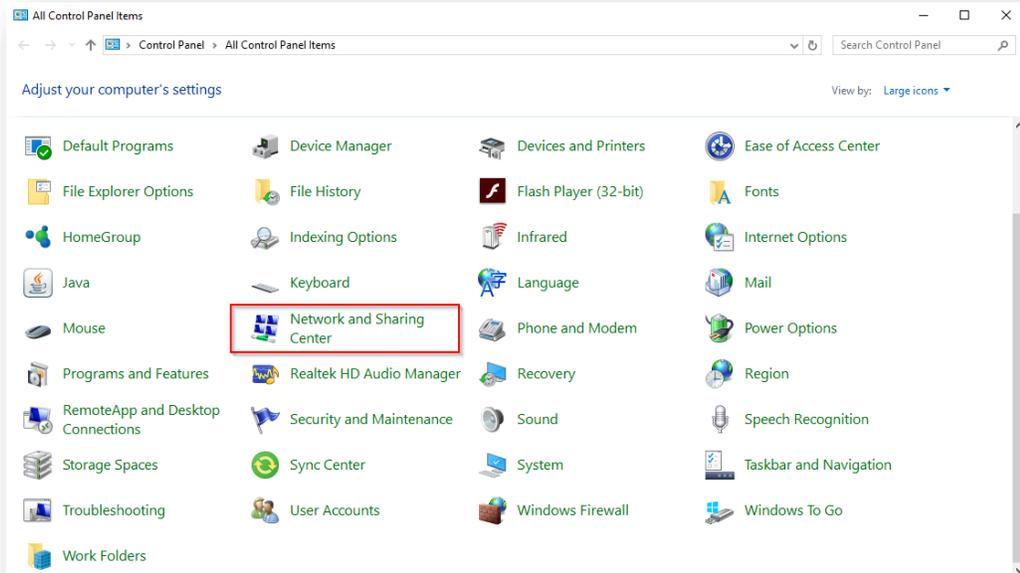


- a.
 3. In the right window, type `ipconfig /renew` but do not press Enter yet
 4. In the left window, type `ipconfig /release` but do not press Enter yet
 5. Inform the remote user that you will be disconnected after pressing Enter in the left Command Prompt window.
 6. Instruct the user to wait until the process in the left command prompt window finishes, then click on the right command prompt window to bring it to active focus. Then they will need to press Enter and wait for that process to complete.
 7. After the command prompt window process completes execution, the remote user can close both windows.
 8. Have the user attempt to browse to a website to confirm that they have Internet access.
 9. If the user is able to access the Internet, then this process is complete.

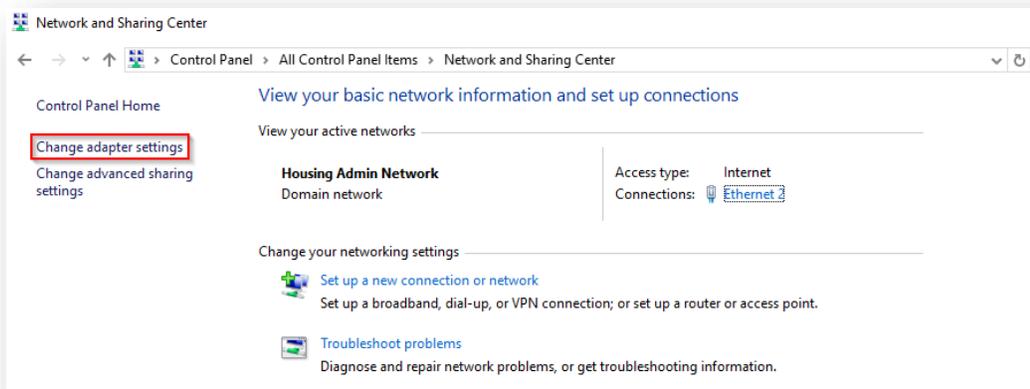


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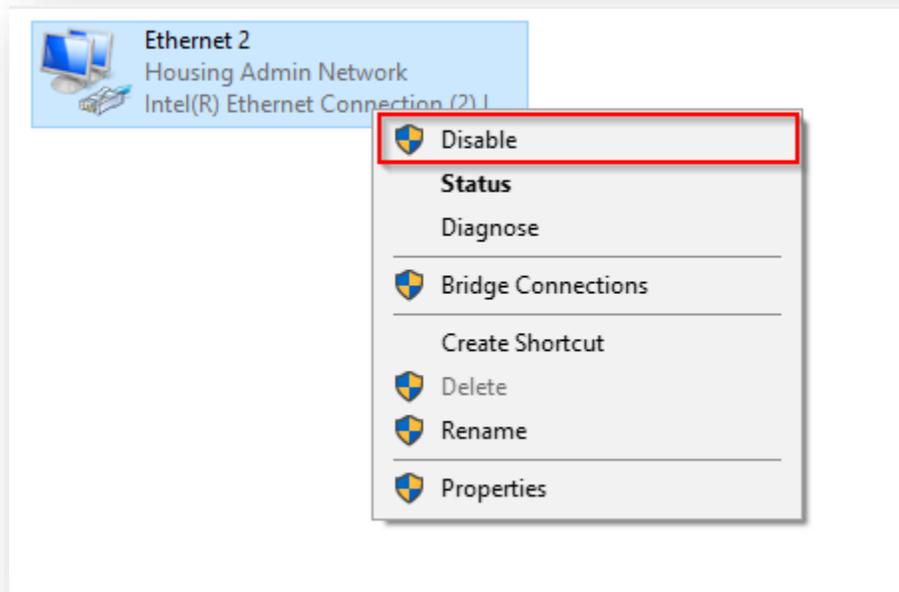
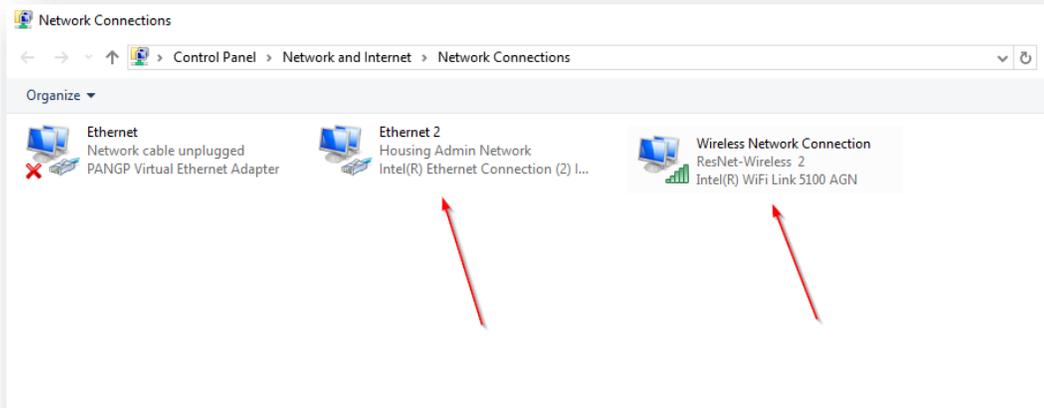
2. From the left action pane, click Change adapter settings



3. In this window you will be able to view all of the computer's network adapters. This includes both Ethernet and Wireless adapters (if available). Depending on the issue you are troubleshooting, choose the appropriate adapter.
 - a. Local Area Connection → Ethernet Adapter
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4. Disable the adapter that is having issues with connectivity by right-clicking on the adapter and then clicking Disable



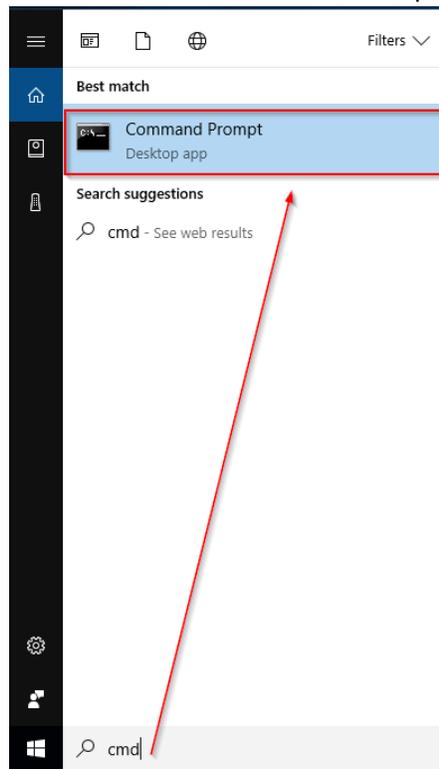
5. Re-enable the adapter you disabled in the previous step by double-clicking it.
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Administrator: Command Prompt
Microsoft Windows [Version 10.0.15063]
(c) 2017 Microsoft Corporation. All rights reserved.

C:\Users\hdadmin>ipconfig /flushdns
```

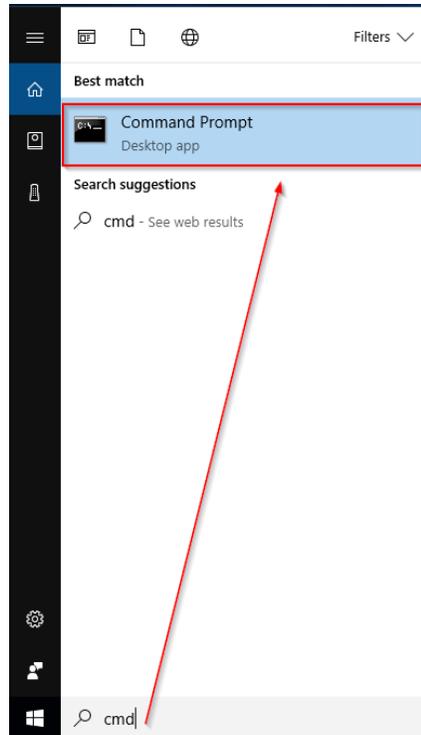
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Resetting Global, OK!
Resetting Interface, OK!
Resetting Unicast Address, OK!
Resetting Route, OK!
A reboot is required to complete this action.

C:\Users\Administrator>_
```

a.



-
4. When the command prompt finishes processing, enter the following command and press Enter
 - a. For a wired connection
 - i. `netsh int ip set address name="Local Area Connection" dhcp`
 - b. For a wireless connection
 - i. `netsh int ip set address name="Wireless Network Connection" dhcp`

```
C:\Users\hdadmin1>netsh int ip set address name="Local Area Connection" dhcp
DHCP is already enabled on this interface.
```

5. These commands enable DHCP to run through the specified adapter(s). You have completed this process.

*NOTE: If your adapters are NOT named the same as the above, simply replace the string of text between the quotation marks in the command with the EXACT name as your adapter's e.g. I have an adapter named Generic Adapter, therefore, the command I will type is:

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