

Getting Internet access from labs in Practice Labs

When you create a VM connected to the external switch in Practice Labs you will end up with an IP address starting 192.168.0. This is called an APIPA (Automatically Provisioned IP Address). These addresses are used when no DHCP is available, and a static address has not been configured. It can't go anywhere.

The networks that have been provisioned within Practice Labs are very specific in the IP addressing that can be used to access the Internet. The provided host has the IP configuration.

IP address: 192.168.0.1

Subnet Mask: 255.255.255.0 (=24 bits)

Prefix Length: 24 (another way of stating the subnet mask)

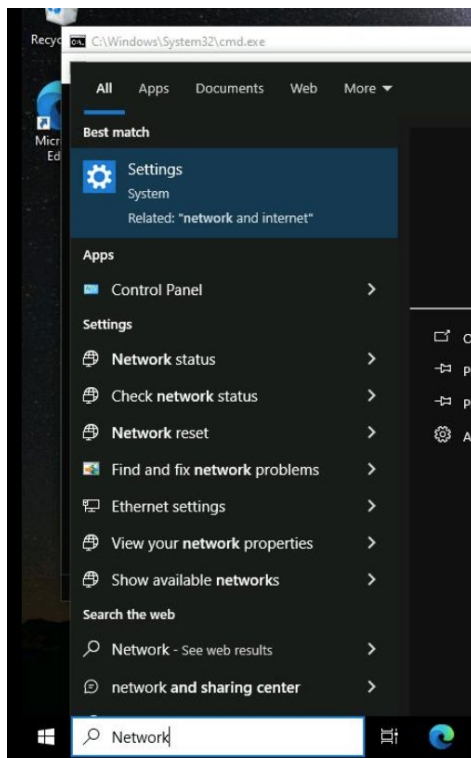
Default Gateway: 192.168.0.250

The IP addresses that can be used to access the internet are 192.168.0.[1 – 7]

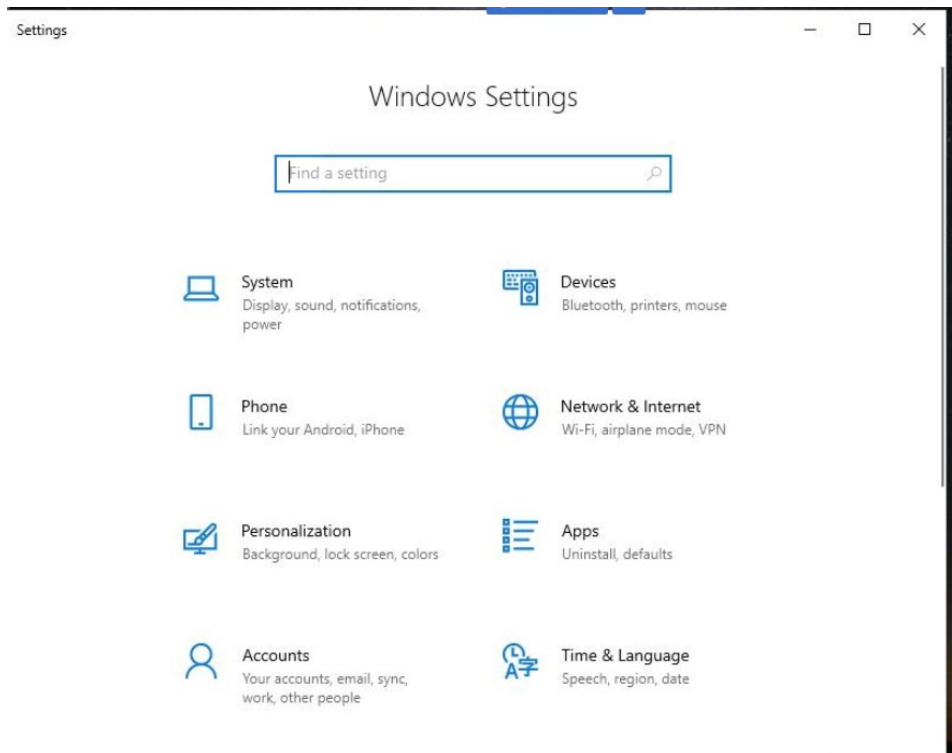
Configuring an IP address in Windows 11

As with most Microsoft products there are a number of ways to do things. For example, to access the network settings there are three common ways to do it. This document only includes one. It is being used because Microsoft uses it in some of their documentation.

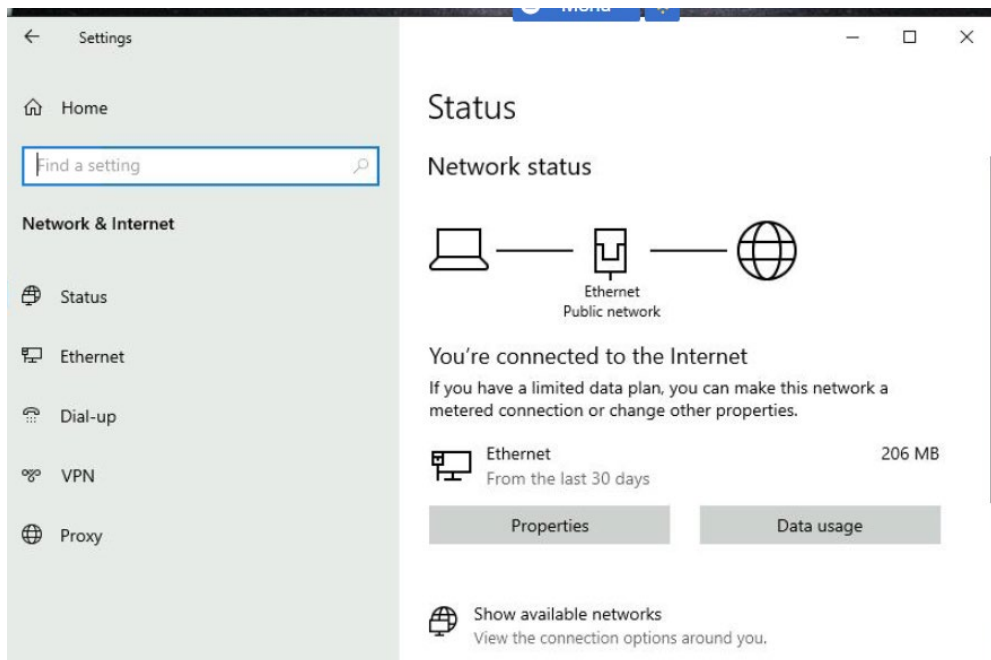
If configuring a Windows 11 workstation will start by type "network" into the search box



And open the settings result.



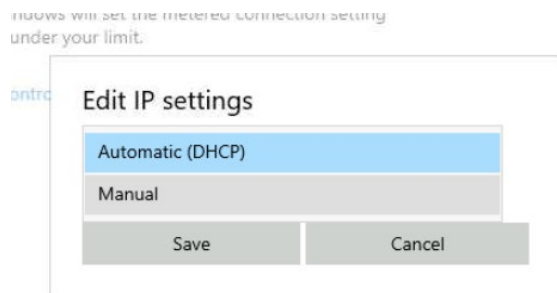
Select Network and Internet



Go to Properties under Ethernet and then scroll down to IP settings



Click the edit button and the drop down to “Manual”



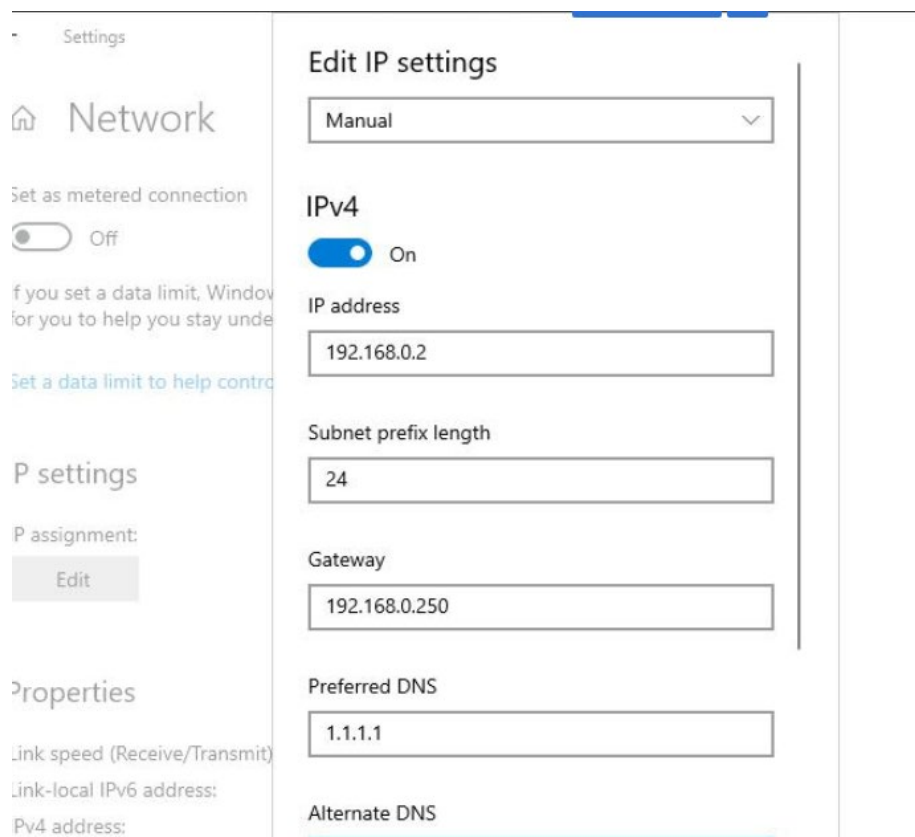
Two extra options appear and enable IPv4 and enter the following details

IP Address from range of 192.168.0.2 to 192.168.0.7

Subnet prefix length: 24

Gateway: 192.168.0.250

Preferred DNS: Any public DNS server – suggest 1.1.1.1 (Cloudflare) or 8.8.8.8 (Google). For other options see <https://www.lifewire.com/free-and-public-dns-servers-2626062>.



Once have entered the required details click save and the details will be displayed. Note that the same IP address cannot be used in two machines that are running at the same time.

🏠 Network

Set as metered connection

Off

If you set a data limit, Windows will set the metered connection setting for you to help you stay under your limit.

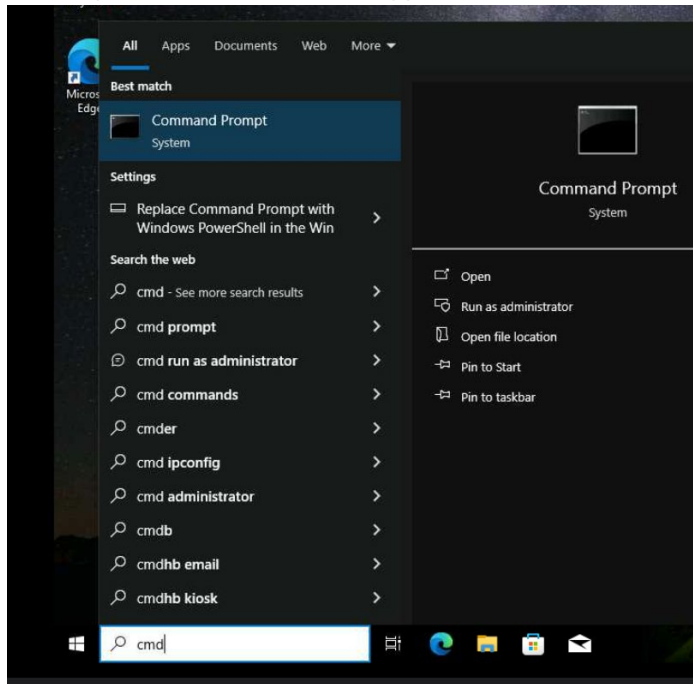
[Set a data limit to help control data usage on this network](#)

IP settings

IP assignment:	Manual
IPv4 address:	192.168.0.2
IPv4 subnet prefix length:	24
IPv4 gateway:	192.168.0.250
IPv4 DNS servers:	1.1.1.1 8.8.8.8

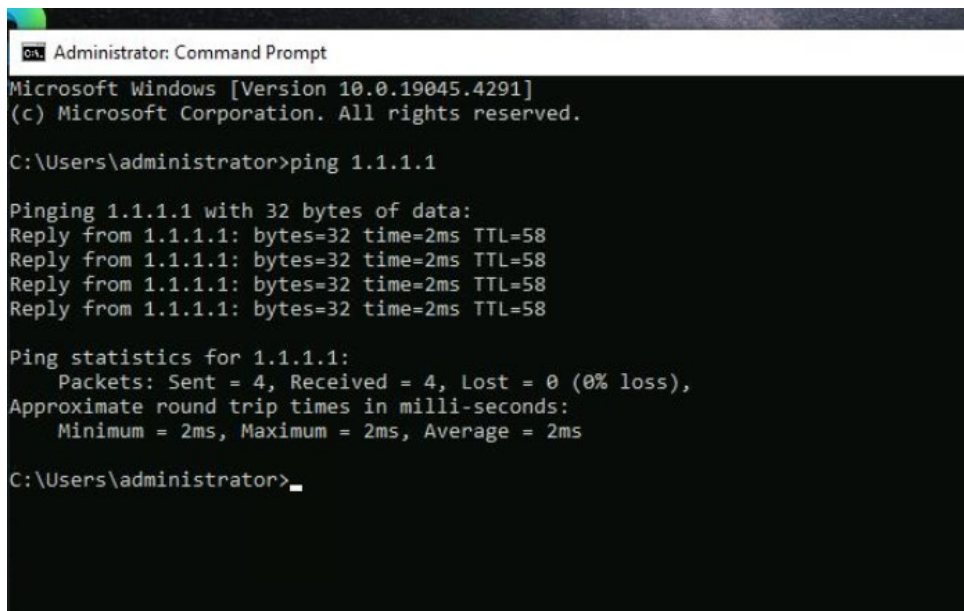
Edit

To verify have Internet access type cmd in the search box



And click on “Command Prompt”.

In the resulting command line environment type ping 1.1.1.1 (or IP address of DNS server entered into configuration) to verify access to the DNS server



Now ping a common website by name (e.g. www.microsoft.com) to verify DNS working properly

```
Minimum = 2ms, Maximum = 2ms, Average = 2ms
C:\Users\administrator>ping www.microsoft.com
Pinging e13678.dscb.akamaiedge.net [184.25.165.167] with 32 bytes of data:
Reply from 184.25.165.167: bytes=32 time=3ms TTL=56
Reply from 184.25.165.167: bytes=32 time=2ms TTL=56
Reply from 184.25.165.167: bytes=32 time=2ms TTL=56
Reply from 184.25.165.167: bytes=32 time=2ms TTL=56

Ping statistics for 184.25.165.167:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 3ms, Average = 2ms
C:\Users\administrator>
```

You have verified that you have functioning Internet access. You may get four “request timed out” if the website does not respond to ping (also called ICMP echo) requests.

While the IP addressing will be the same the way of configuring will be different, even for different versions of Windows.

These can also be done using tools such as the net command and PowerShell commands.