

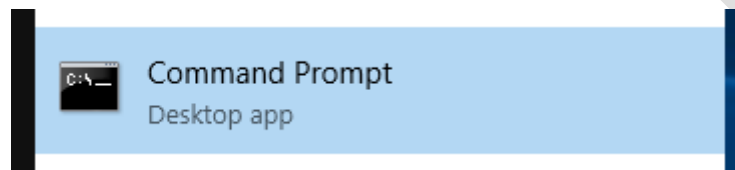


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In this lecture we are going to learn how to create a DHCP reservation. We are going to create a reservation for our Windows 10 workstation with an IP address of 192.168.0.113. In order to create the DHCP reservation we will need to have our Domain Controller and Windows 10 VMs powered on.

The first step is to grab the MAC address from our Windows 10 workstation and then we will create the reservation on our DHCP server (ITFDC01). Next we will configure our Windows 10 VM to use DHCP for our second networking adapter and see if it grabs the IP address we reserved for it.

Start by logging in to your Windows 10 VM. Open Command Prompt by clicking the Windows button and searching for "cmd". Start command prompt by selecting it in the list.



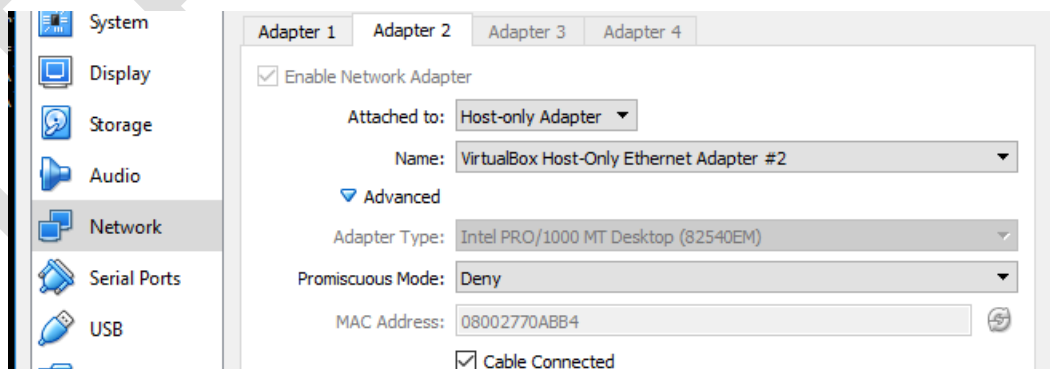
We can get the MAC address of our VM by typing the "getmac" command:

```
C:\Users\paul.hill.local>getmac

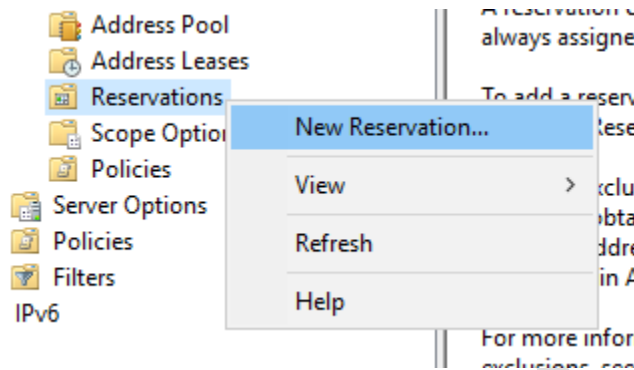
Physical Address    Transport Name
=====
08-00-27-65-A5-BC   \Device\NPF{A9E506FD-AD86-42DF-86C2-4CA811763B1C}
08-00-27-70-AB-B4   \Device\NPF{270CD992-44FC-4543-8D47-4BC3DA050154}

C:\Users\paul.hill.local>
```

Notice that there are two MAC addresses present. This is because we are using two network adapters. We can figure out which MAC address belongs to which networking adapter by looking at the advanced settings of our VMs network configuration. On the VM window, click **Machine > Settings**. Click the **Network** tab and select **Adapter 2**. Expand the **Advanced** drop down list and look for the MAC address. We can see that the MAC address listed here matches that of the second MAC address listed by command prompt. This is the MAC address we will use to create our DHCP reservation because our Adapter 2 is using the same Host-only network that our DC and DHCP server is using.



Click **OK** to close the Settings window. Switch over to our DHCP server (ITFDC01) and in Server Manager open the DHCP management console by clicking **Tools > DHCP**. Expand the ITFDC01 and IPv4 dropdown lists. Right-click on the **Reservations** tab and choose **New Reservation**.

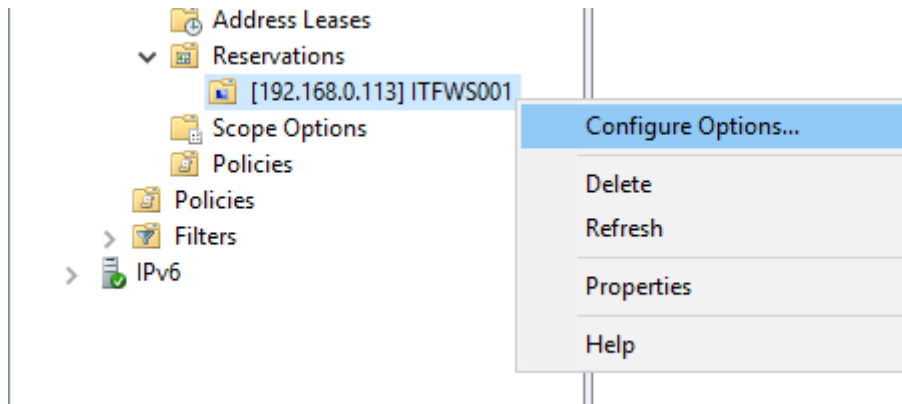


For the **Reservation name** I am going to enter the computer name ITFWS001. Now I am going to enter the IP address that I want this computer to get, which will be 192.168.0.113. For the **MAC address** I am going to enter the MAC address of the Windows 10 Workstation. For the description I am going to enter ITF Workstation 001.

A screenshot of the 'New Reservation' dialog box. The title bar says 'New Reservation' with a question mark and a close button. The main text says 'Provide information for a reserved client.' There are four text input fields: 'Reservation name:' with 'ITFWS001', 'IP address:' with '192 . 168 . 0 . 113', 'MAC address:' with '08-00-27-70-AB-B4', and 'Description:' with 'ITF Workstation 001'. Below these is a section titled 'Supported types' with three radio button options: 'Both' (selected), 'DHCP', and 'BOOTP'. At the bottom right are 'Add' and 'Close' buttons.

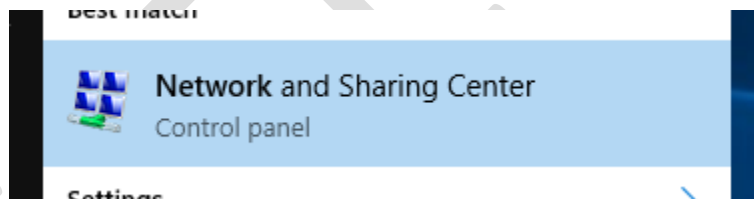
For the **Supported types** we are going to leave the default checkbox **Both** checked. You might be wondering what the BOOTP option is. BOOTP (Bootstrap Protocol) was designed to dynamically assign IP addresses when computers booted up or powered on. BOOTP is also capable of pointing the client computer to an image file containing operating systems. Unlike DHCP, BOOTP can only configure the TCP/IP settings when a client computer was being booted and not while it was already booted to Windows.

Click the **Add** button then click **Close**. Now we can see the new reservation listed. If we right-click on the new reservation we can configure the reservation, delete it or edit its properties.



We can also double click the reservation and see the settings for the **Router**, **DNS servers** and **Domain name**. Note that you cannot edit these settings here but must change them by right-clicking on the reservation and select **Configure Options...**

Let's switch over to our Windows 10 VM and switch the IP configuration to DHCP and see if it grabs the new IP settings we reserved for it. Log in to the Windows 10 VM. When the desktop fully loads click the Windows button and search for "Network".



Click the **Network and Sharing Center** when it appears. Select **Ethernet 2** and choose **Properties**. Double click **IPv4** and check the **Obtain an IP / DNS address automatically** checkboxes. Click **OK** and close all of the network windows.

Now open Command Prompt (press the Windows Key and search for CMD) and run the "ipconfig" command.

```
Ethernet adapter Ethernet 2:

Connection-specific DNS Suffix  . : itflee.com
IPv4 Address. . . . . : 192.168.0.113
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.0.1
```

Here we can see our Windows 10 VM has received the IP address we reserved for it in DHCP. Switch back over to our DHCP server (ITFDC01) and navigate to the **Address Leases** tab. Notice we can now see our workstation listed. Also notice under the Lease Expiration we see that is says "Reservation (Active)".



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<div>DHCP</div> <div>itfdc01.itflee.com</div> <div>IPv4</div> <div>Server Options</div> <div>Scope [192.168.0.0] IPv4 Scope</div> <div>Address Pool</div> <div>Address Leases</div>	Client IP Address	Name	Lease Expiration	Actions
	192.168.0.113	ITFWS001.itflee.com	Reservation (active)	Address Leases
				More Action

Now you know how to create a DHCP reservation! Great job learning that and I will see you in the next lecture!