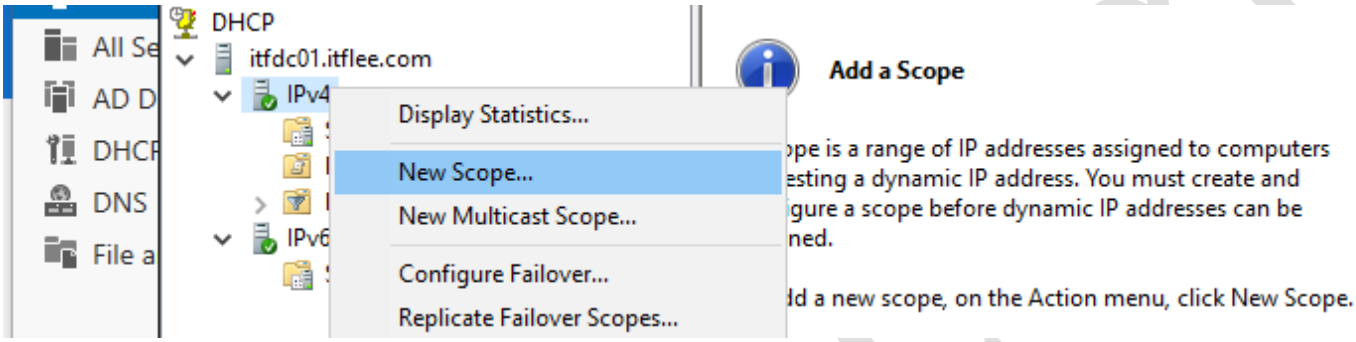
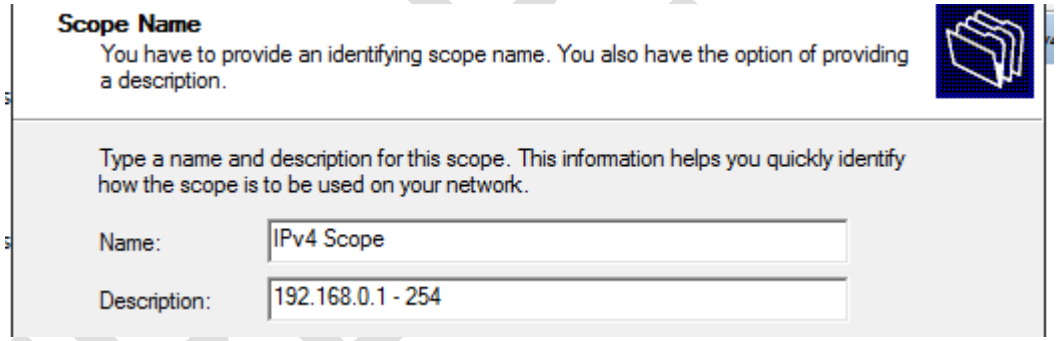
In this lecture you are going to learn how to create a DHCP scope. A DHCP scope is a pool of IP addresses on a specific subnet that can be leased by the DHCP server. Each subnet can only contain one scope with a continuous range of IP addresses. This means that you cannot create scope ranging from 192.168.0.1 – 25 and 192.168.0.30 – 50. The scope would instead need to be 192.168.0.1 – 50 and you would need to create an exclusion for the IPs ending with 25 - 30.

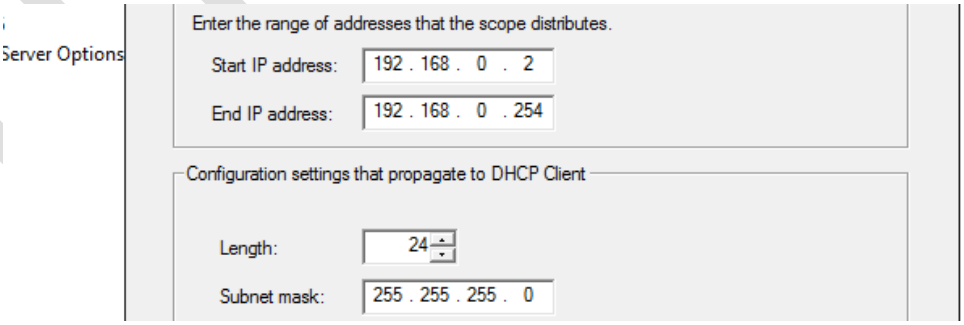
To create a DHCP scope, open the DHCP management console by opening Server Manager and selecting Tools > **DHCP**. Click on the DHCP server we want to configure (in my case, itfdc01.itflee.com). Right-click on IPv4 and select **New Scope**.



The New Scope Wizard will appear, click **Next** and specify a scope name and description. For the name I am going to enter "IPv4 Scope". For the description I am going to enter to scope I intend to use which is "192.168.0.2 – 254".



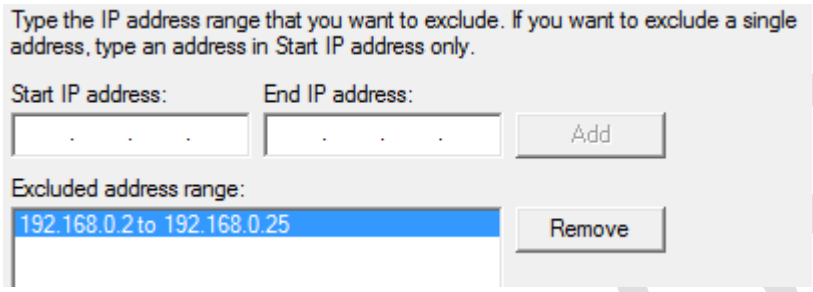
Click **Next**. Enter your start and end IP addresses. Again I am going to use .2 as my start and .254 as my end. We start on .2 because .1 is our default gateway and we use .254 because .255 is the network broadcast address.



The length and subnet mask are automatically input based on the IP range we specified for the scope. We can leave these settings at default. These numbers basically come down to math and are out of the scope of this course. If you are

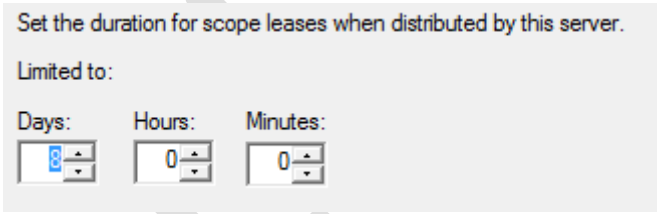
interested in learning how they are calculated you should learn about subletting and subnet masks. In the resources of this lecture I have included a link to cisco where it explains subnet masks and sub netting. Click **Next**.

On the next screen we are able to specify any exclusions we may want to create for the scope we entered. I am going to exclude the IP range 2 – 25 so I can keep them for my servers.

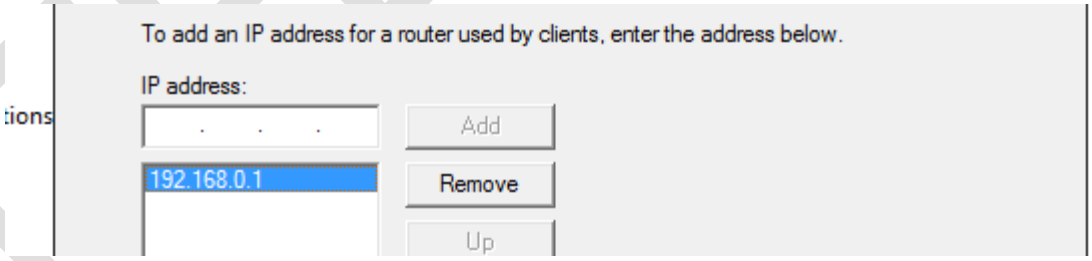


Once you've entered the range click the **Add** button and click **Next**.

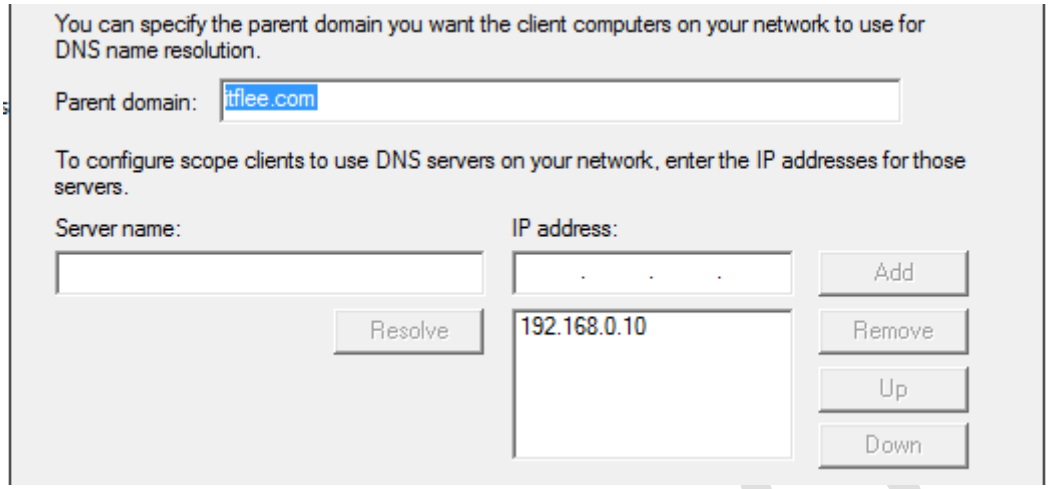
On the next window we can specify how long we want the DHCP lease to last. As we have covered before the lease is how long the client can keep the TCP/IP settings before it needs to come back to the DHCP server for a new lease or configuration. I am going to keep the default setting of 8 days and click **Next**.



On the next screen we have the ability to configure the default gateway, DNS server and WINS settings for this scope. Leave the default option **Yes, I want to configure these options now** checked and click **Next**. Enter the default gateway (we are using the IP of our VirtualBox Host-Only network address which is 192.168.0.1). Click **Add** and click **Next**.

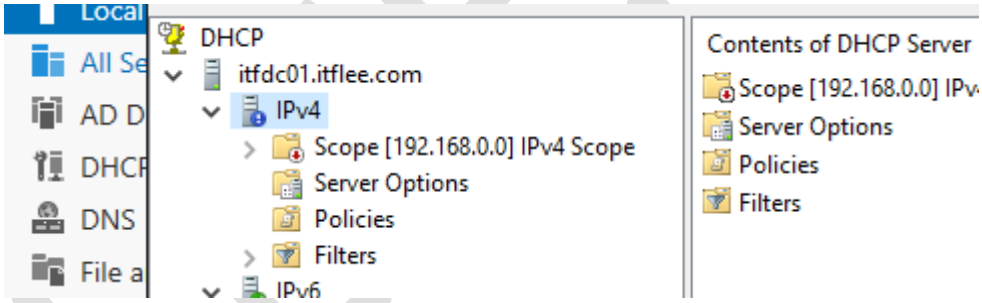


The next screen asks us to specify the domain and IP address of our DNS server. This information is automatically populated with the IP address of our DC and DNS server (192.168.0.10).



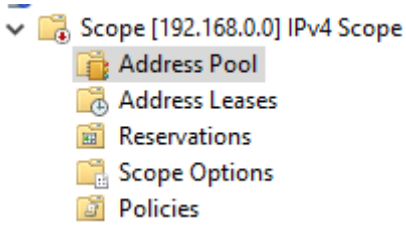
Click **Next** and continue. The next screen allows us to specify a WINS server. A WINS server works like a DNS server in that it relates host names with IP addresses, but it uses a different protocol than DNS. We do not have a WINS server because DNS has replaced this out of date feature. Click **Next** and check the checkbox that reads **No, I will activate this scope later**.

Click **Next** and **Finish** to complete the wizard.



We can see the new scope that we just created. Notice the red down arrow inside of the icon. This means that the scope has not been activated. Right-click the scope and select **Activate**.

Expand the newly created scope.



Here we can see the Address Pool, Address Leases, Reservations, Scope Options and Policies. The **Address Pool** lists the available IP addresses as well as all exclusions. The **Address Leases** screen shows all of the client computers who have received a TCP/IP configuration from DHCP. **Reservations** simply lists all the computers or servers that have a DHCP

reservation. The **Scope Options** allow you to change other network settings like the default gateway (referred to here as the router), DNS servers and the Domain Name. A **DHCP Policy** allows an administrator to assign a certain IP address range to certain devices like printers, IP Phones, Desktop Computers or unknown devices.

That is everything we need to cover for this lecture. Great job and I will see you in the next one!