# Lab – Configuring NIC Teaming on Windows Servers

**Overview**

In this short lab, you will learn how to configure NIC teaming for a Windows server. This lab applies to Server 2012 r2, Server 2016, and Server 2019. NIC teaming is the process of combining multiple network cards for performance, load balancing, and redundancy reasons. Use NIC teaming to group two or more physical NICs into a single logical network device is called a bond.

For this lab to work with virtual machines, we will need to add a second network interface card using the network settings for the virtual machine. Regardless of the emulation software, you are using, you can add a second networking adapter using the settings of the virtual machine. For this lab, we will be using VirtualBox.

**Adding a Second Network Adapter Using VirtualBox**

To add a second network adapter using VirtualBox, your virtual machine must be powered off. For this demonstration, I will be adding a second network adapter to our forest root.

Ensure that your DC1 or your forest root is power off. In the left-hand windowpane, right-click on the name of your forest root, and from the context menu, select Settings.
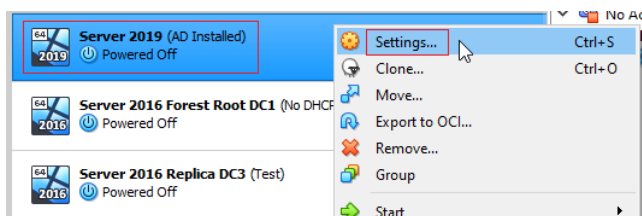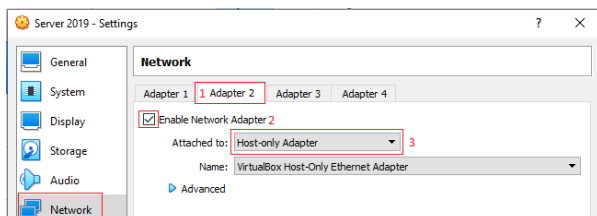


On the next screen, in the left windowpane, click **Network** and in the right windowpane, click on the tab, marked **Adapter 2**.
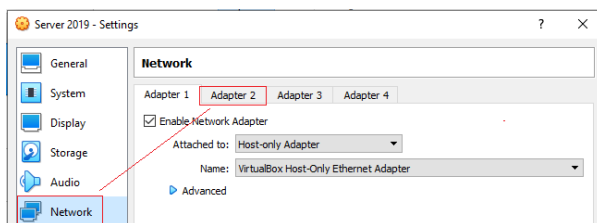


Checked the box to **Enable Network Adapter**.

For the **Attached to**, pull down the window and select **Host-only Adapter**.
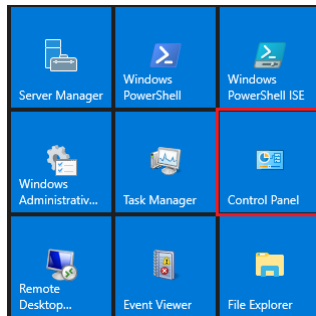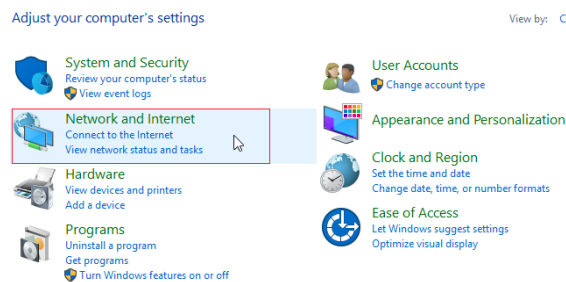
Click OK and close the settings window.

That's it! You can now launch your virtual machine and continue with the lab.
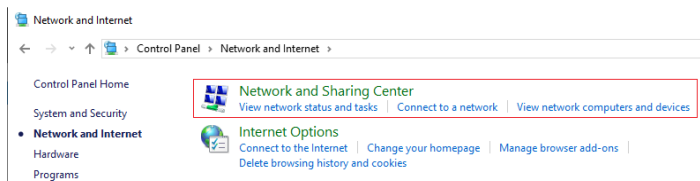
Begin the lab!

Log into your Windows server. Once the Server Manager has loaded, click on **Start**, and from the tile menu, click on **Control Panel**.
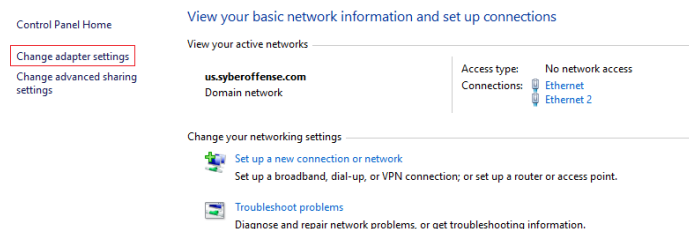


Inside the **Control Panel**, click on **Network and Internet**.
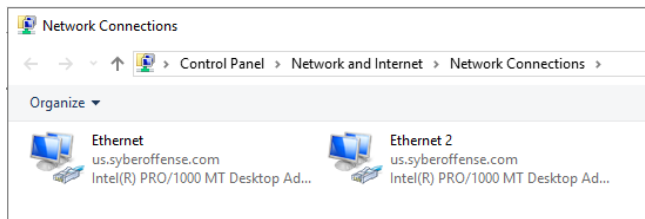


On the next screen, click on Network and Sharing Center.



On the next window, click the link to **Change adapter settings**.



On this next screen, you should see two network adapters. Once you confirm, you have two adapters; you can close out the window and return to your desktop and Server Manager.

From the left windowpane in the Server Manager Dashboard, click on Local Server. In the right windowpane, find NIC Teaming and x2 click where is says Disabled.
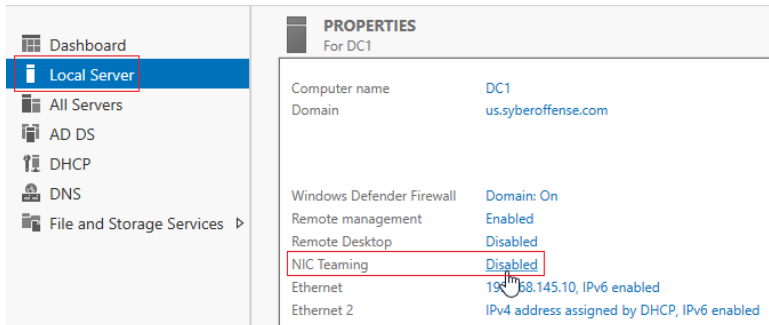


On the next screen, in the lower right of the window marked **ADAPTERS AND INTERFACES**, find your two network adapters. Select both using your keyboard shift key. Right-click on the highlighted network adapters, and from the context menu, select **Add to New Team**.
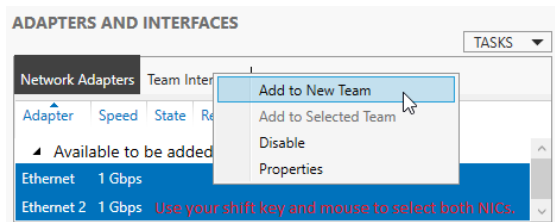


On the next screen, give the new NIC team, a user-friendly name. Note that both nice have their box checked. Click OK.



3
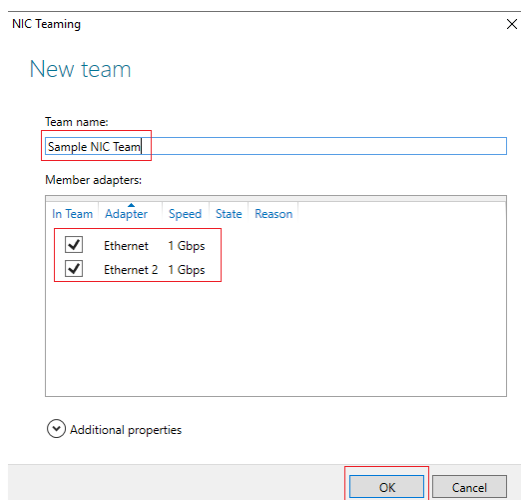
It takes a minute or more for the team to build. Once the team has been configured, you'll see they both have a green arrow indicating they are configured correctly.
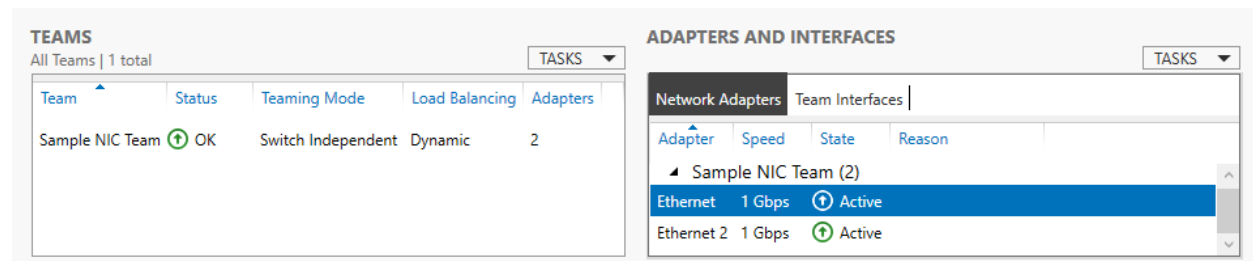


Under the TEAMS window, you can x2 the name of your team to access more gain access to more properties by clicking on the down arrow to expand the property settings of the NIC Team. There is nothing for you to configure here. Click OK.
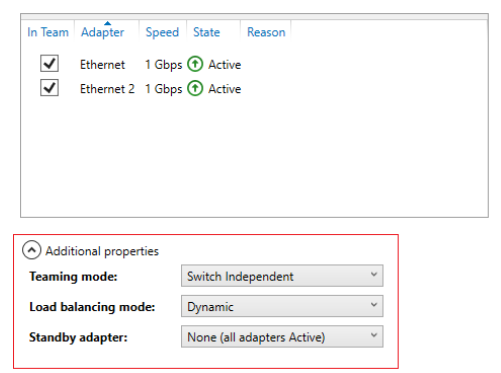


We next need to find an available IPv4 address that we can statically assign to the new NIC team. To do this, we open a command prompt and the prompt we type **ipconfig /all.**

Note that our network adapters are missing. This is because the IPv4 addressing has been removed from the TCP/IP properties, and only the NIC has this available. I have been assigned a dynamic IP using DHCP of 192. 168.56.105, which we will now assign statically to our NIC team. ==This is my assigned IP address; yours will differ!==
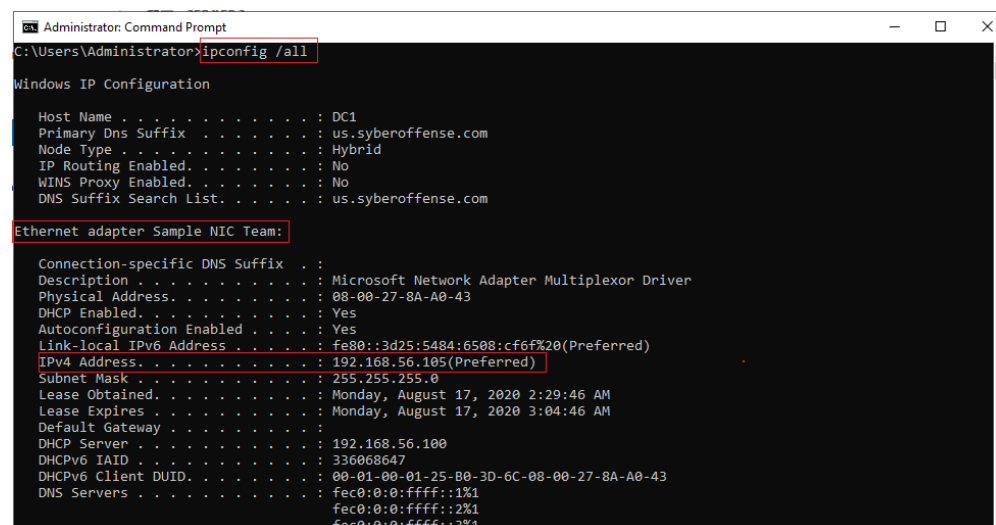
Close the command prompt and retuned to Server Manager. Click on Local Servers and from the right Windowpane x2 click under NIC Teaming, where it states the name assigned to your NIC team.



This opens your network connections. Here we see we have our two network adapters and a third one that represents our new NIC Team.  We can statically configure the TCP/IP properties of this adapter just as we would any network adapter.
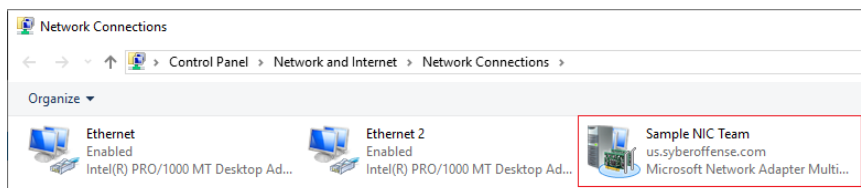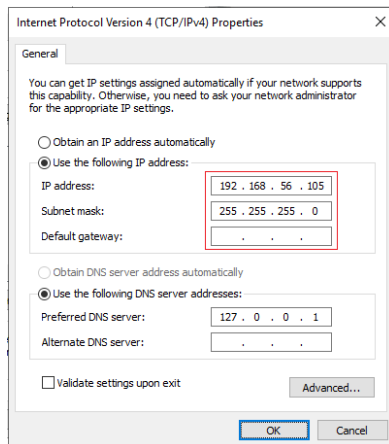


Right-click on the NIC Team adapter and from the context menu, select properties.
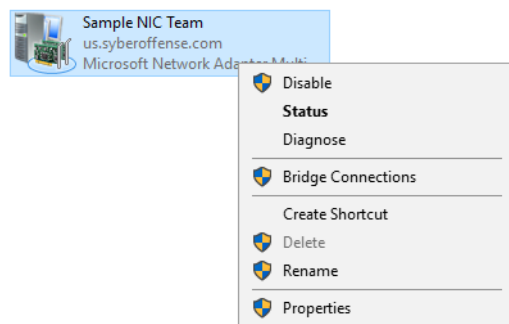


From the item menu, x2 click the option for configuring TCP/IPv4.
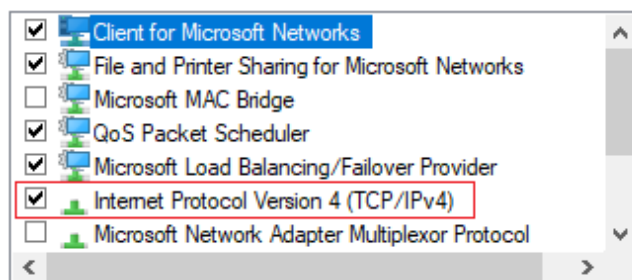


On the next window, add in the IP information to statically configure your NIC Team adapter.

I configured the primary DNS address to use the loopback because my DC1 is a DNS server. Click OK to close the properties window.

A couple of things about NIC teaming.

1. You can add up to 8 network adapters per NIC team.
2. You can add any NIC to the team as long as the NIC is team capable.
3. All network adapters should be rated for the same speed; otherwise, issues may arise.
4. NIC teaming provides redundancy, not load balancing.

End of the lab!