

# Lab - Configure a NIC to Use DHCP in Windows

#### Introduction

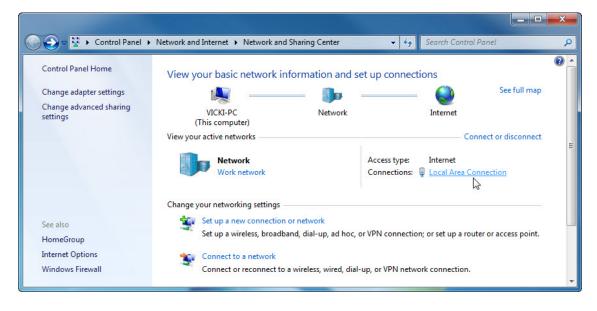
In this lab, you will configure an Ethernet NIC to use DHCP to obtain an IP address and test connectivity between two computers.

## **Recommended Equipment**

- Wireless router
- Two computers running Windows
- Ethernet patch cables (straight-through cable)

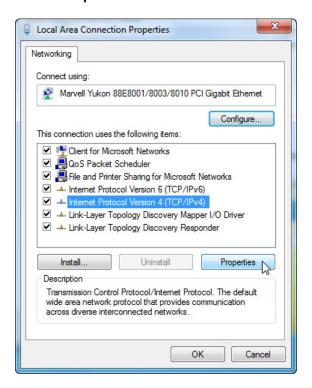
### Step 1: Connect the hosts to the router.

- a. For Host A, plug one end of the Ethernet patch cable into Port 1 of the router.
- b. For **Host A**, plug the other end of the Ethernet patch cable into the **network** port on the computer.
- c. For Host B, plug one end of the Ethernet patch cable into Port 2 on the back of the router.
- d. For **Host B**, plug the other end of the Ethernet patch cable into the **network** port on the computer.
- e. Plug in the power cable of the router, if it is not already plugged in.
- f. Turn on both computers and log on to Windows on Host A as an administrator.
- g. Click Control Panel > Network and Sharing Center. The Network and Sharing Center window opens.



#### Step 2: Set Host A's NIC to use DHCP.

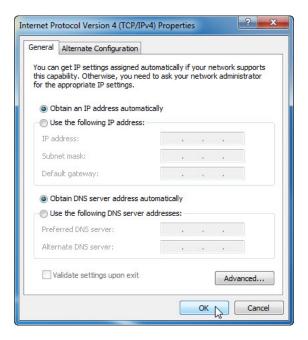
a. Click Local Area Connection > Properties. The Local Area Connection Properties window opens.



What is the name and model number of the NIC in the Connect using: field?

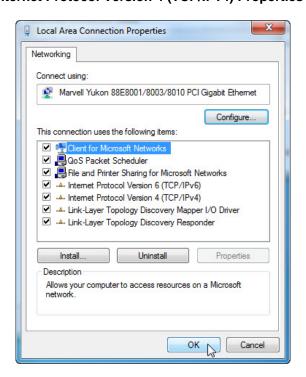
What are the items listed in the **This connection uses the following items:** field?

b. Click Internet Protocol Version 4 (TCP/IPv4) > Properties. The Internet Protocol Version 4 (TCP/IPv4) Properties window opens.

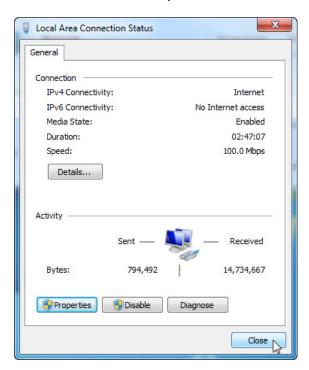


What is listed for the IP address, Subnet mask, and Default gateway in the fields of the **Use the following IP address:** area?

- c. Select the **Obtain an IP address automatically** radio button, if it is not already selected.
- d. Select the **Obtain DNS server address automatically** radio button, if it is not already selected.
- Click OK to close the Internet Protocol Version 4 (TCP/IPv4) Properties window.



f. Click OK to close the Local Area Connection Properties window.



g. Click Close to close the Local Area Connection Status window.

# Step 3: Record Host A's IP address information.

- a. Check the lights on the back of the NIC. These lights will blink when there is network activity.
- b. Open a command window.

c. Type ipconfig /all, and then press the Enter key.

```
_ D X
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7600]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.
C:\Users\Vicki>ipconfig /all
Windows IP Configuration
      . . . : Vicki-PC
                                                          . . . : Hybrid
. . . : No
. . . : No
. . . : va.shawcable.net
                                                                                Hybrid
Ethernet adapter Local Area Connection:
      Connection-specific DNS Suffix .: va.shawcable.net
Description . . . . . . . . . . . . . Marvell Yukon 88E8001/8003/8010 PCI Gigab
     Connection—specific DNS Suffix
Description
Ethernet Controller
Physical Address
DHCP Enabled
Autoconfiguration Enabled
Link—local IPv6 Address
IPv4 Address
Subnet Mask
Lease Obtained
Lease Expires
Default Gateway
DHCP Server
                                                                                00-11-2F-BD-08-C4
                                                                             00-11-2F-BD 66
Yes
Yes
fe80::54c7:9580:7107:3514x11(Preferred)
192.168.1.112(Preferred)
255.255.255.0
Sunday. November 21, 2010 11:12:38 AM
Monday. November 22, 2010 11:12:38 AM
192.168.1.1
192.168.1.1
234885423
00-01-00-01-14-67-04-99-00-11-2F-BD-08-
      DHCP Server . . . . DHCPv6 IAID . . . . DHCPv6 Client DUID.
                                                                                00-01-00-01-14-67-04-99-00-11-2F-BD-08-C4
                                                                               64.59.144.18
64.59.144.19
64.59.150.133
Enabled
      DNS Servers
      NetBIOS over Topip. . . . . .
```

What is the IP address of the computer?

What is the subnet mask of the computer?

What is the default gateway of the computer?

What are the DNS servers for the computer?

What is the MAC address of the computer?

Is DHCP enabled?

What is the IP address of the DHCP server?

On what date was the lease obtained?

On what date does the lease expire?

d. Type ping your IP address. For example, ping 192.168.1.112.

```
C:\Users\Uicki\ping 192.168.1.112

Pinging 192.168.1.112 with 32 bytes of data:
Reply from 192.168.1.112: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.112:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Users\Uicki\
```

Record one of the replies from your ping command.

If the ping was not successful, ask the instructor for assistance.

#### Step 4: Record Host B's IP address information.

- a. Log in to **Host B** as an administrator and ensure the **Obtain an IP address automatically** and the **Obtain DNS server address automatically** radio buttons are selected.
- b. Click OK > OK.
- c. Open a command window.
- d. Type ipconfig /all.

What is the IP address of the computer?

What is the subnet mask of the computer?

What is the default gateway of the computer?

What are the DNS servers for the computer?

What is the IP address of the DHCP server?

#### Step 5: Set static IP address information.

- a. Select the radio buttons Use the following IP address and Use the following DNS server address.
- b. Enter in the IP address information for the NIC from the previous step.
- c. Click OK > OK.
- d. Open a command window.
- e. Type ping IP address for Host B.

If the ping was not successful, ask the instructor for assistance.

#### Step 6: Verify Connectivity.

a. From Host B, type ping IP address for Host A.

Was the ping successful?

b. From Host A type ping IP address for Host B.

Was the ping successful?

- c. Return all network configurations to their original settings, unless stated otherwise by the instructor.
- d. Set the NIC to Obtain an IP address automatically and Obtain DNS server address automatically.
- e. Click OK > OK.