

Answers: 8.1.2.14 Lab - Test the Wireless NIC in Windows

Introduction

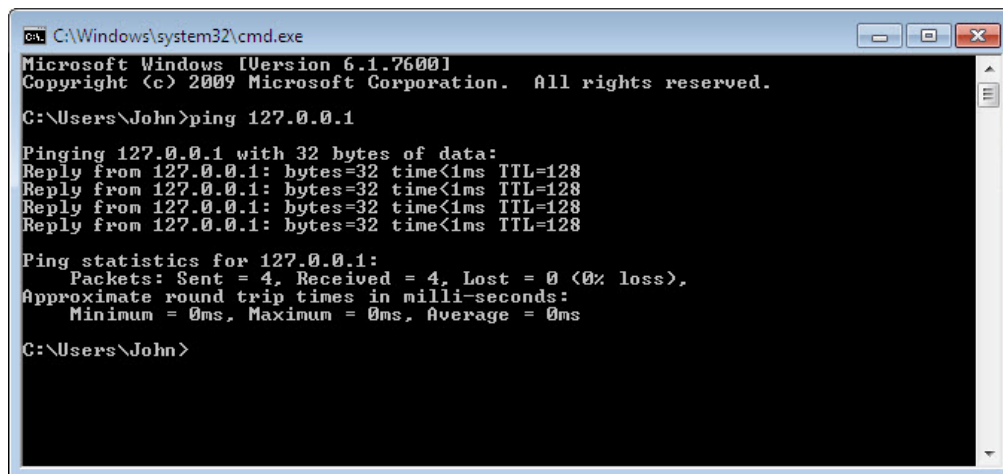
In this lab, you will check the status of your wireless connection, investigate the availability of wireless networks, and test connectivity.

Recommended Equipment

- A computer running Windows
- A wireless NIC installed
- An Ethernet NIC installed
- A wireless router
- Internet connectivity

Step 1: Ping the loopback.

- Disconnect the Ethernet cable from your computer.
What are the names of the wireless connections that are available?
- Connect to the classroom wireless network. Ask your instructor for the SSID and log on credentials if necessary.
- Open a command window.
- Ping **127.0.0.1** to test the loopback.



```

C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7600]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\John>ping 127.0.0.1

Pinging 127.0.0.1 with 32 bytes of data:
Reply from 127.0.0.1: bytes=32 time<1ms TTL=128
Reply from 127.0.0.1: bytes=32 time<1ms TTL=128
Reply from 127.0.0.1: bytes=32 time<1ms TTL=128
Reply from 127.0.0.1: bytes=32 time<1ms TTL=128

Ping statistics for 127.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

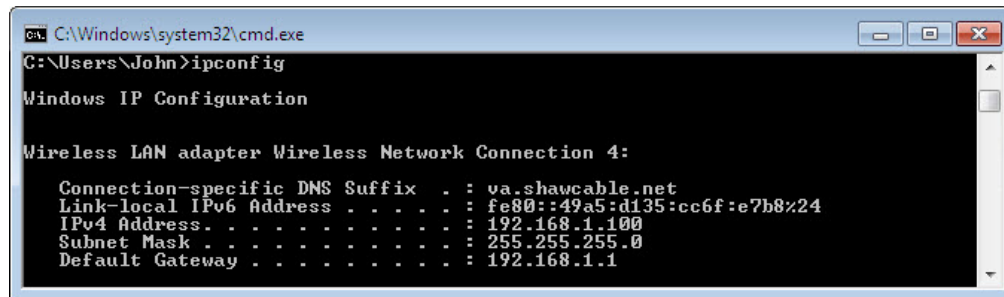
C:\Users\John>
  
```

How many Replies did you receive?

Why would you perform this test?

Step 2: Ping the default gateway.

- Use the **ipconfig** command.



```
C:\Windows\system32\cmd.exe
C:\Users\John>ipconfig

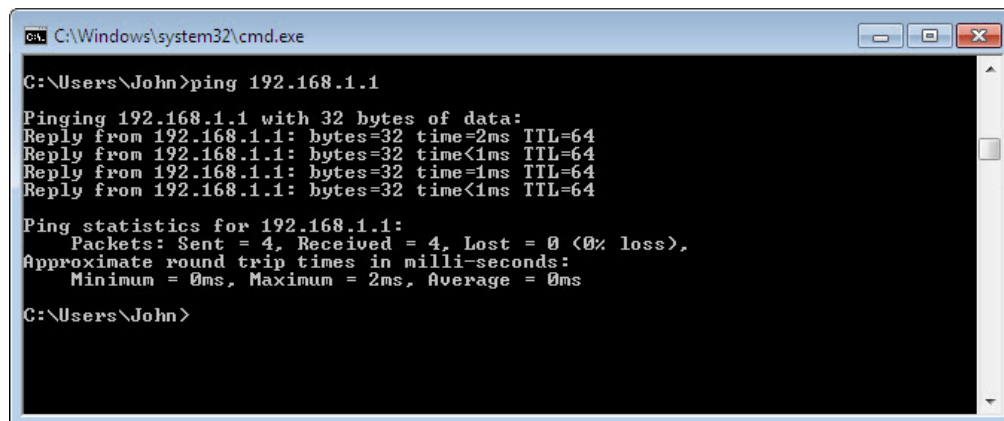
Windows IP Configuration

Wireless LAN adapter Wireless Network Connection 4:

    Connection-specific DNS Suffix  . : va.shawcable.net
    Link-local IPv6 Address . . . . . : fe80::49a5:d135:cc6f:e7b8%24
    IPv4 Address. . . . . : 192.168.1.100
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.1.1
```

What is the IP address of the default gateway?

- Ping the default gateway.** A successful ping indicates that there is a connection between the computer and the default gateway.



```
C:\Windows\system32\cmd.exe
C:\Users\John>ping 192.168.1.1

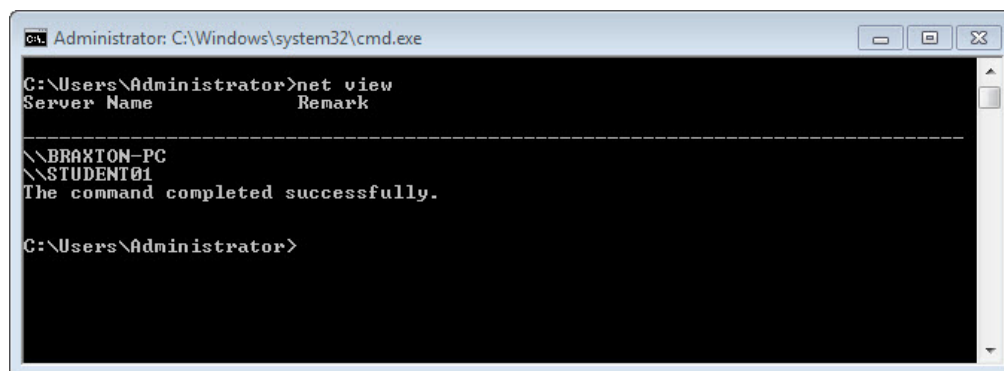
Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time=2ms TTL=64
Reply from 192.168.1.1: bytes=32 time<1ms TTL=64
Reply from 192.168.1.1: bytes=32 time=1ms TTL=64
Reply from 192.168.1.1: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms

C:\Users\John>
```

Step 3: Find computers on the network.

- Type **net view** to make sure that you can see the other computers on the network. This indicates that there are no problems with the network between your computer and other computers on the same network.



```
C:\Windows\system32\cmd.exe
C:\Users\Administrator>net view

Server Name                Remark
-----
\\BRAXTON-PC
\\STUDENT01
The command completed successfully.

C:\Users\Administrator>
```

List the computer names that are displayed.

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- b. Use the **tracert** command along with your school's Web site or the Cisco Networking Academy Web site. Example: type **tracert www.netacad.com**.

```

Administrator: C:\Windows\system32\cmd.exe
C:\>tracert www.netacad.com

Tracing route to liferay-prod-1009279580.us-east-1.elb.amazonaws.com [107.21.30.124]
over a maximum of 30 hops:

  0  3 ms      3 ms      5 ms      redn-dmzbb-891.cisco.com [10.99.57.17]
  1  37 ms     36 ms     37 ms     redn-access-hub-tun10.cisco.com [10.88.208.1]
  2  37 ms     36 ms     36 ms     redn9-sdfd-access-gw1-gig3-2.cisco.com [10.101.9.89]
  3  37 ms     37 ms     36 ms     redn9-cd2-sbb-gw2-eth7-25.cisco.com [72.163.16.1]
  4  37 ms     37 ms     38 ms     redn9-cd1-corp-gw1-ten0-1-0.cisco.com [72.163.16.54]
  5  37 ms     37 ms     38 ms     redn9-cd1-dmzbb-gw1-vla777.cisco.com [72.163.0.7]
  6  37 ms     38 ms     38 ms     redn9-cd1-isp-gw1-ten0-0-0.cisco.com [72.163.0.6]
  7  38 ms     38 ms     37 ms     redn9-sdfc-isp-ssw2-ten1-1.cisco.com [72.163.0.8]
  8  40 ms     37 ms     38 ms     redn9-sdfa-isp-ssw1-vla851.cisco.com [72.163.0.9]
  9  38 ms     36 ms     38 ms     redn9-cd1-isp-gw1-ten0-1-0.cisco.com [72.163.0.8]
 10  38 ms     39 ms     39 ms     xe-10-0-3.edge9.Dallas1.Level3.net [4.30.74.45]
 11  48 ms     48 ms     49 ms     vlan60.csv1.Dallas1.Level3.net [4.69.145.62]
 12  38 ms     38 ms     38 ms     ae-63-63.ebr3.Dallas1.Level3.net [4.69.151.134]
 13  57 ms     58 ms     58 ms     ae-7-7.ebr3.Atlanta2.Level3.net [4.69.134.22]
 14  71 ms     71 ms     71 ms     ae-2-2.ebr1.Washington1.Level3.net [4.69.132.86]
 15  72 ms     85 ms     77 ms     ae-91-91.csv4.Washington1.Level3.net [4.69.134.1]
 16 166 ms    150 ms     71 ms     ae-4-90.edge2.Washington1.Level3.net [4.69.149.2]
 17 164 ms    75 ms    140 ms     AMAZON.COM.edge2.Washington1.Level3.net [4.79.22.74]
 18 134 ms    85 ms    80 ms     80-81-88-150

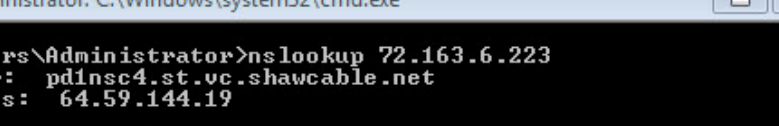
```

What IP address was returned?

How many devices (hops) are displayed?

Why would you perform this test?

- c. Use the **nslookup** command with the IP address you just discovered. Type **nslookup 72.163.6.233**.



The screenshot shows a Windows command prompt window titled "Administrator: C:\Windows\system32\cmd.exe". The command prompt is running the command `nslookup 72.163.6.223`. The output of the command is displayed as follows:

```
C:\Users\Administrator>nslookup 72.163.6.223
Server:      pdinsc4.st.vc.shawcable.net
Address:     64.59.144.19

Name:        cna-prod-nv.cisco.com
Address:     72.163.6.223

C:\Users\Administrator>
```

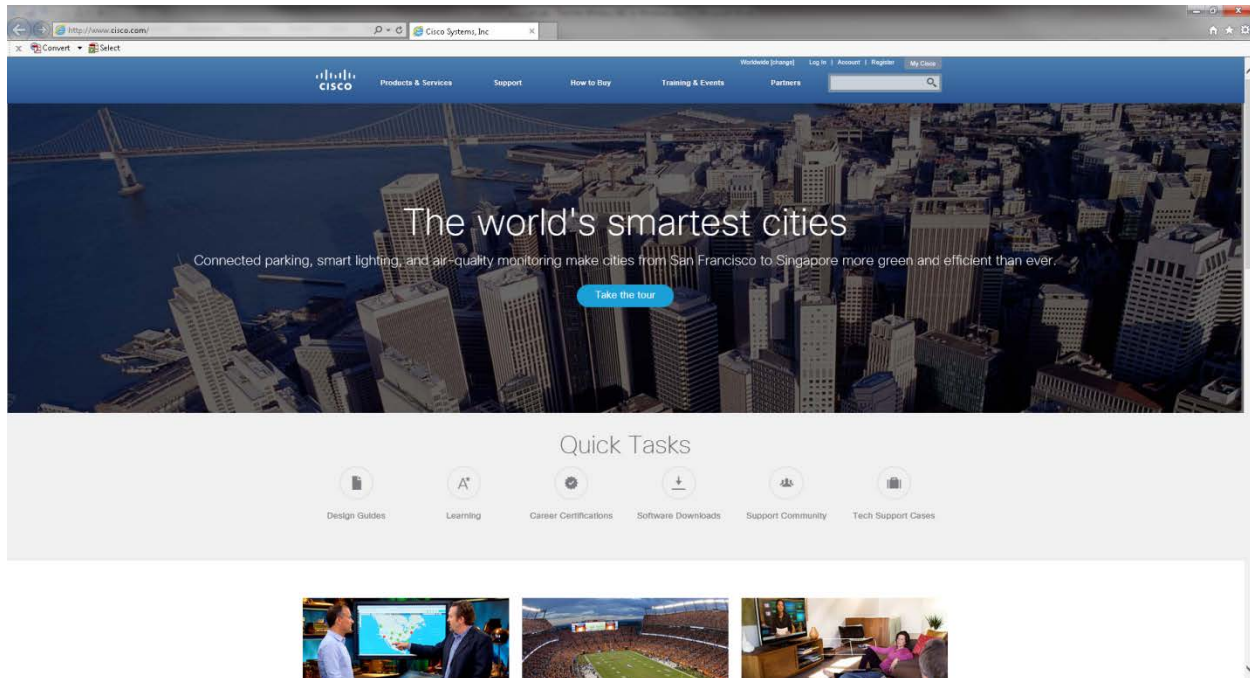
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What name was returned?

Why would you perform this test?

Step 4: Test your Internet connection.

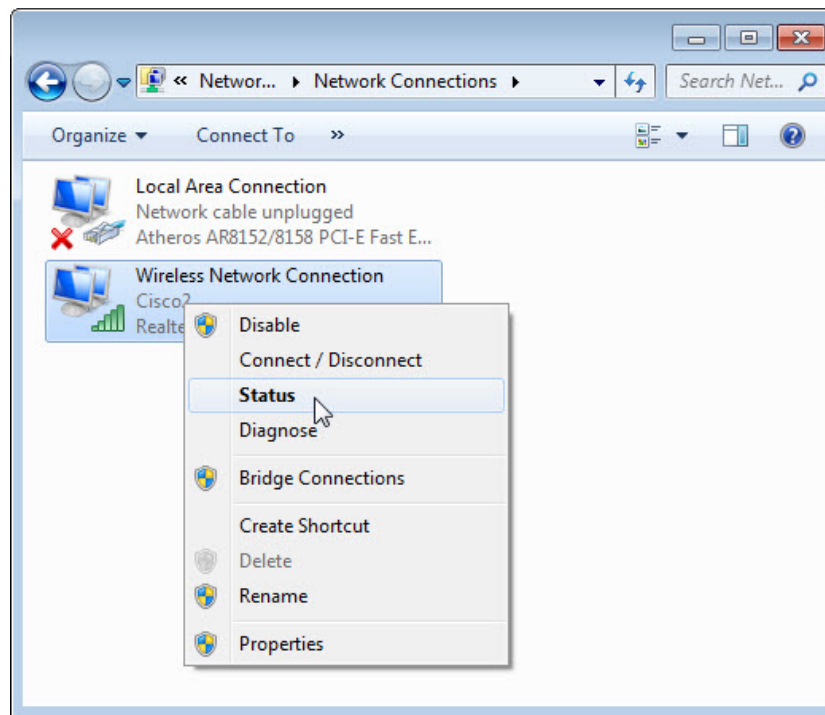
- Open a web browser.
- Type **www.cisco.com** in the **Address** field, and then press **Enter**.



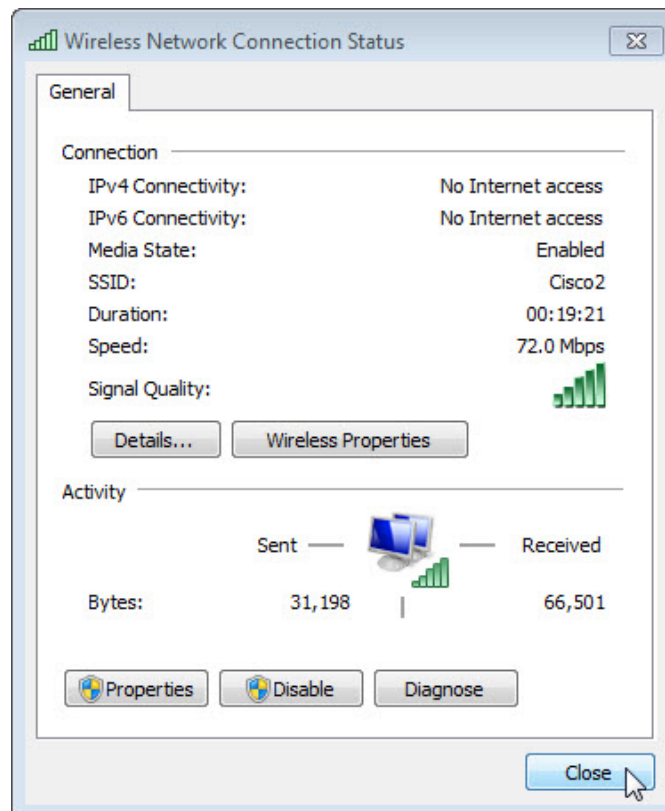
- Click **Control Panel > Network and Sharing Center > Change adapter settings**

Note: In Windows Vista, click **Control Panel > Network and Sharing Center > Manage network connections**

- d. Right-click the **Wireless Network Connection** icon > **Status**.



The **Wireless Network Connection Status** window opens.



What is the state of the Media?

What is the signal quality?

e. Click **Close**.

Reflection

1. What information does a positive response from the default gateway provide for you when the computer has no Internet connection?
2. If you receive a positive response from the default gateway, but you have no Internet access, where is the problem?