Answers: 8.1.2.12 Lab - Configure Wireless Router in Windows

Introduction

In this lab, you will configure and test the wireless settings on a wireless router.

Recommended Equipment

- A computer with Windows installed
- A Wireless NIC installed
- An Ethernet NIC installed
- A wireless Router
- Ethernet patch cable

Note: All wireless settings in this lab are for a 2.4 GHz wireless connection. Follow the same steps for setting up a 5 GHz wireless connection or when setting up both 2.4 GHz and 5 GHz connections.

Step 1: Gathering Information

Ask the instructor for the following information:

Router IP Information (IP address and subnet mask):

Router name:

DHCP Server Information (start IP address and maximum number of hosts):

Static DNS 1 (optional):

SSID:

Channel number:

Router Username/Password:

Wireless Security (passphase key):

Note: Only use configurations assigned by the instructor.

Step 2: Connecting to the Wireless Router

a. Plug in the power of the wireless router. Boot the computer and log in as an administrator.

b. Connect the computer to one of the **Ethernet** ports on the wireless router with an Ethernet patch cable.

 Note: If this is the first time connecting to the lab router, you must set the network location in Windows.

c. Open the command prompt. Type **ipconfig /renew** to force the computer to request an IP address from the wireless router via DHCP.

 What is the IP address of the default gateway for the computer?

 What device took the role of default gateway?

Step 3: Logging into the Wireless Router

a. Open a web browser, type the IP address of your default gateway in the URL field, and then press **Enter**.
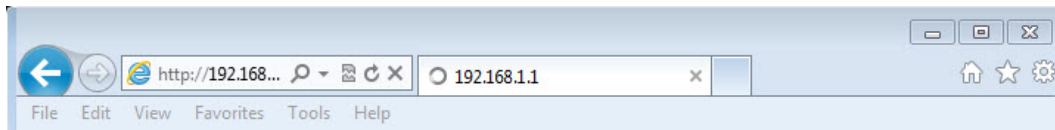
b. The **Windows Security** window opens. Type the password provided by the instructor in the **Password** field then click **OK**.
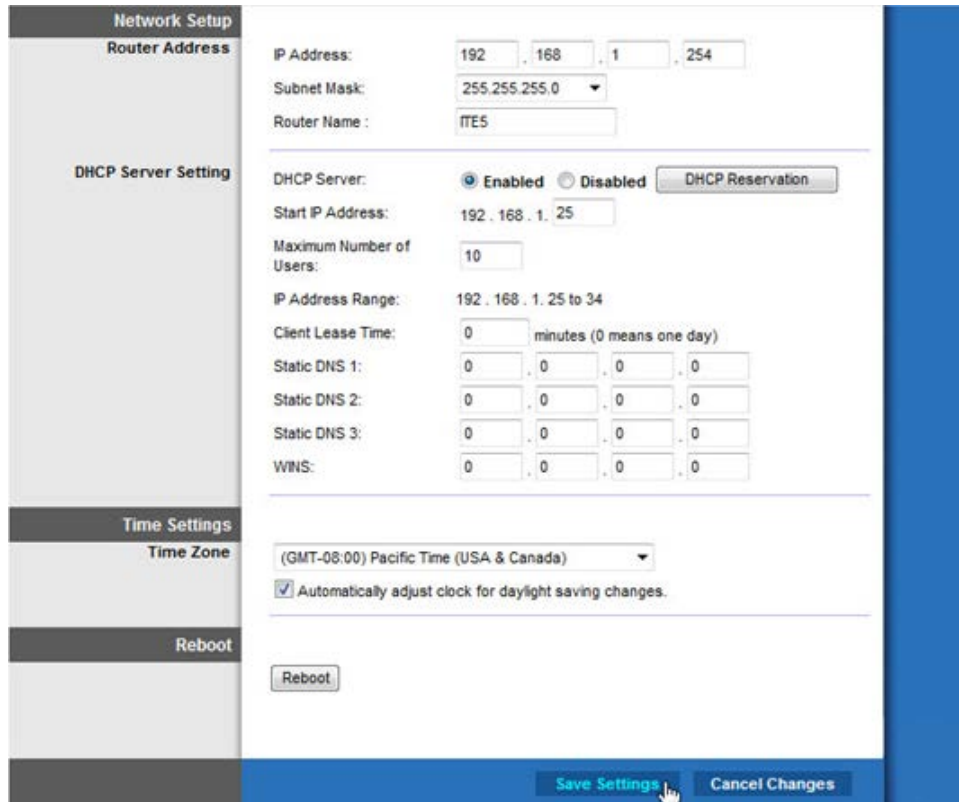
Step 4: Configuring Basic IP Information

a. The Setup screen opens. Using the information provided by the instructor in **Step 1**, fill in the fields under **Router Address** and **DHCP Server Setting.** The information includes **IP Address**, **Subnet Mask**,

Router Name, **Start IP Address**, and **Maximum Number of Users**. Click **Save Settings** to save the changes.


b.   The **Your settings have been successfully saved. A system reboot is in progress and may take up to 60 seconds** message is displayed.
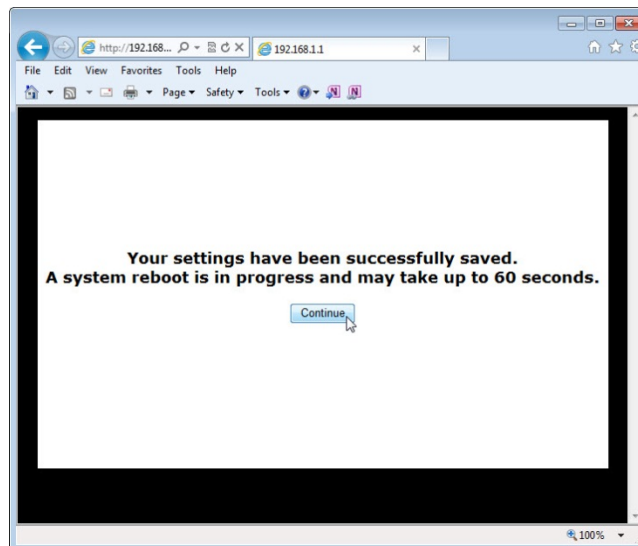
c.   Click **Continue** and wait for the wireless router boot process to complete before proceeding. After the router reboots, you may need to log back into it using the router IP address that was configured in this step.
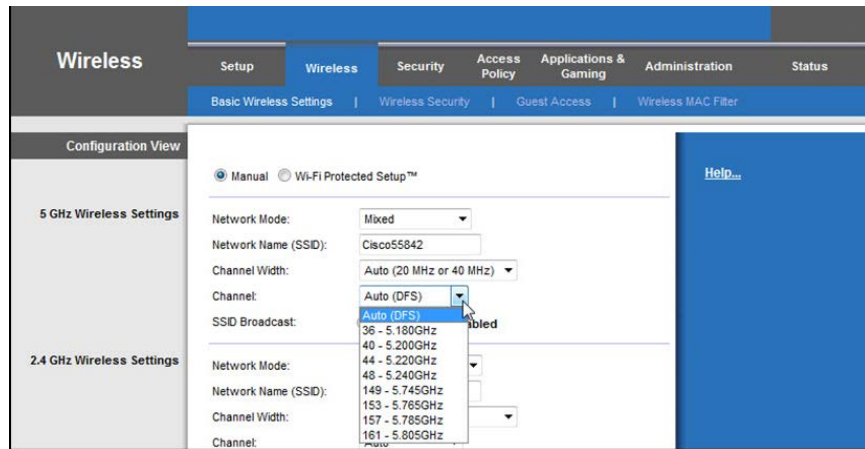
Step 5: Configuring Wireless Settings

a. In a web browser, enter the router IP address that you had configured in step 4 in the URL field. When prompted, enter the username and password.

b. Click the **Wireless** tab.

c. Click the **Network Mode** drop-down menu for the **5 GHz Wireless Settings**.
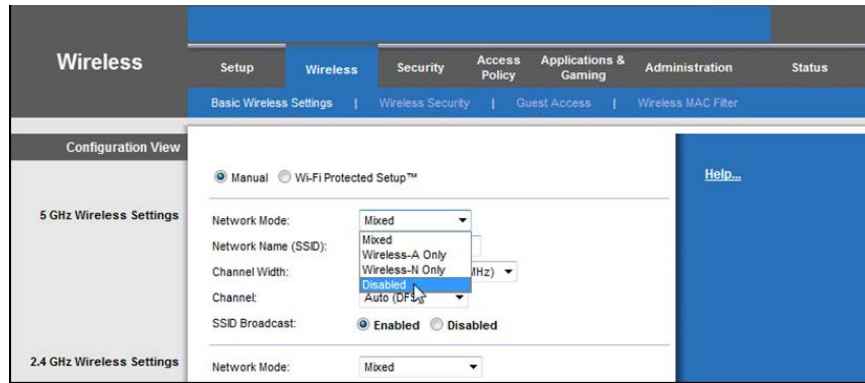
What 802.11 technologies are supported?

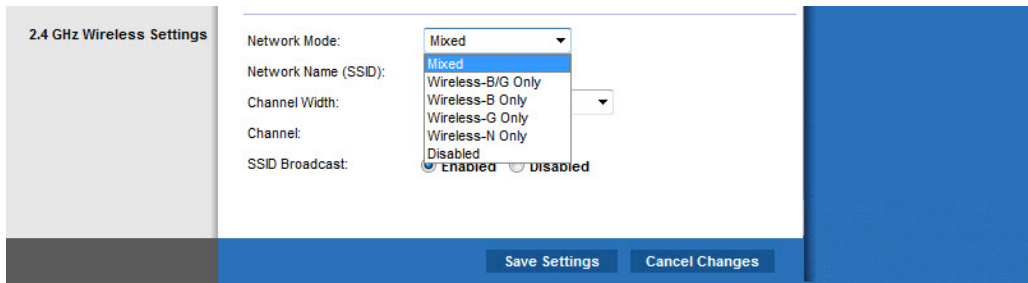d. Click the **Channel** drop-down menu under **5 GHz Wireless Settings**.

What channels are listed?

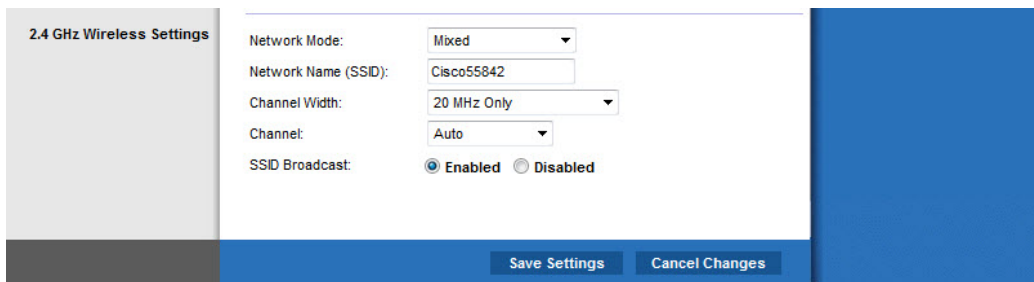e. Disable **Network Mode** for the **5 GHz Wireless settings**.

f. Click the **Network Mode** drop-down menu under 2.4GHz Wireless Settings.

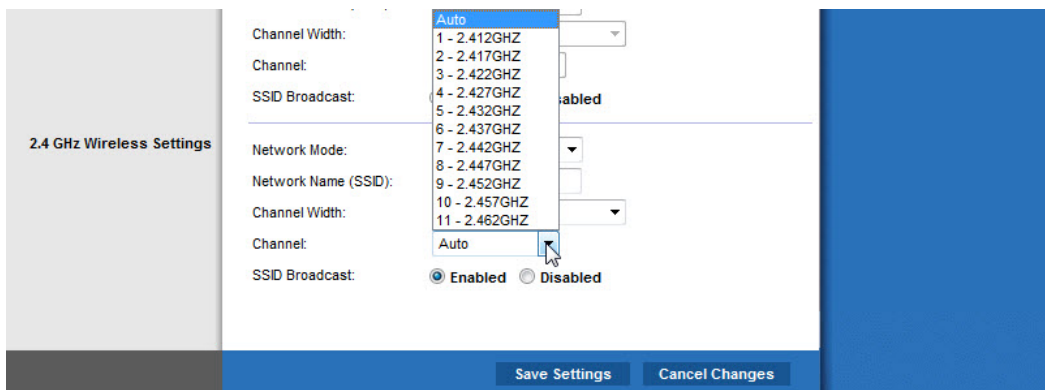What 802.11 technologies are supported?

g. Choose **Mixed** in the **Network Mode** drop-down menu.

What is the default SSID for the wireless router?

h. Type **Cisco#** in the **Network Name (SSID)** field, where # is the number assigned by the instructor.

i. Click the **Channel** drop-down menu for the **2.4GHz Wireless Settings**.

What channels are listed?

j. Select the Channel number that was provided by the instructor.

k. Click **Save Settings > Continue**, then close the browser.

Step 6: Connecting the Computer to the Wireless Network

a. Unplug the Ethernet cable from the computer.

b. View wireless networks associated with the wireless adapter configured for the computer by following the path:

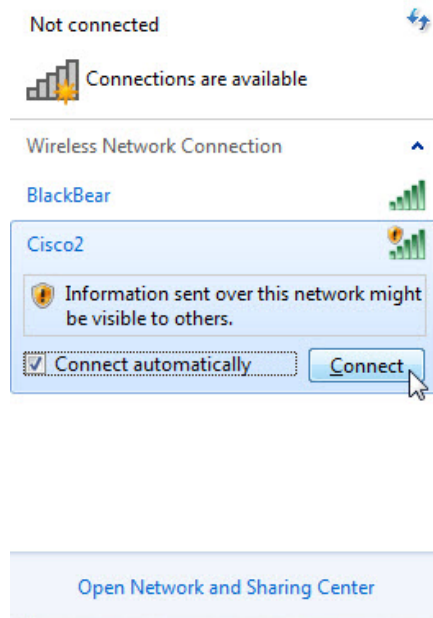**Start > Control Panel > Network and Sharing Center > Connect to a network**
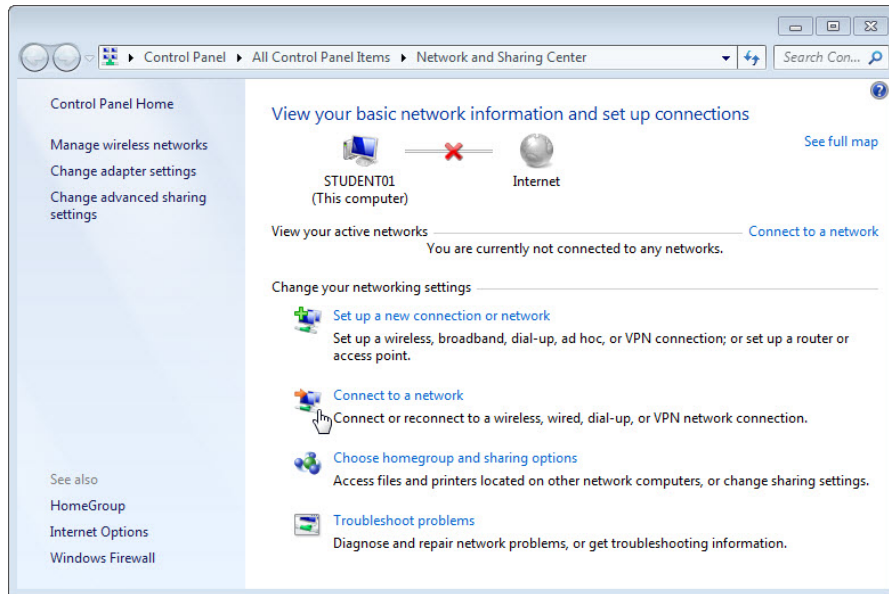
A list of available wireless networks is displayed.
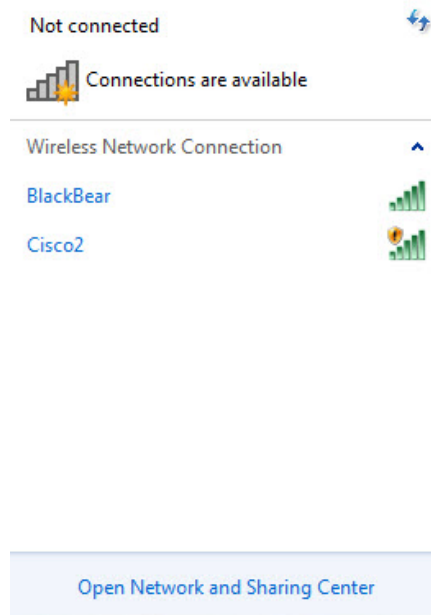
What wireless network(s) are available?

c. Choose **Cisco#**, where # is the number assigned by the instructor, make sure **Connect automatically** is selected, and then click the **Connect** button.

d. When the **Set Network Location** window opens, select **Public network > Close**.

Step 7: Hiding the SSID

a. Open a browser. Type the IP address of your default gateway in the URL field, and then press **Enter**.

b. The **Windows Security** window opens. Type the password provided by the instructor in the **Password**: field.

c. The Setup screen opens. Navigate to **Basic Wireless Settings**. Select **Disable** for the 2.4 GHz SSID broadcast**.**
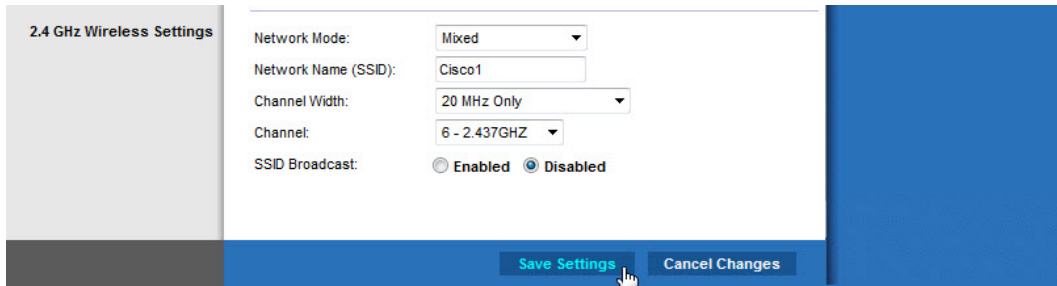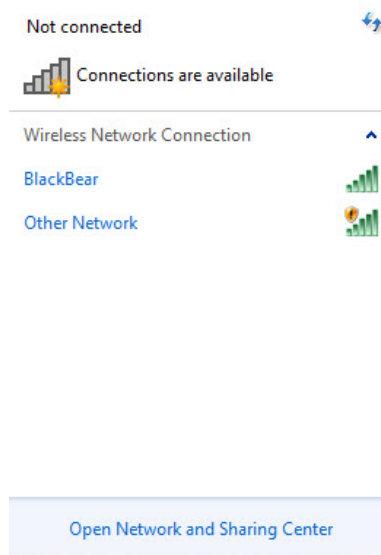

d. Click **Save Settings > Continue**.

Why would you disable SSID broadcast?

e. Close all open windows.

f. View wireless networks associated with the wireless adapter configured to the computer by following the path:

**Start > Control Panel > Network and Sharing Center > Connect to a network**

What wireless network(s) are available?

g. Because the wireless router is not broadcasting the SSID, the wireless network name does not appear in the wireless networks list detected by **Windows**. To connect **Windows** to a wireless network that does not broadcast its SSID, the SSID you must know the wireless network's SSID.

h. Go back to **Network and Sharing Center**. If **Network and Sharing Center** is no longer open, open it again.

i. Click **Manage wireless networks**.
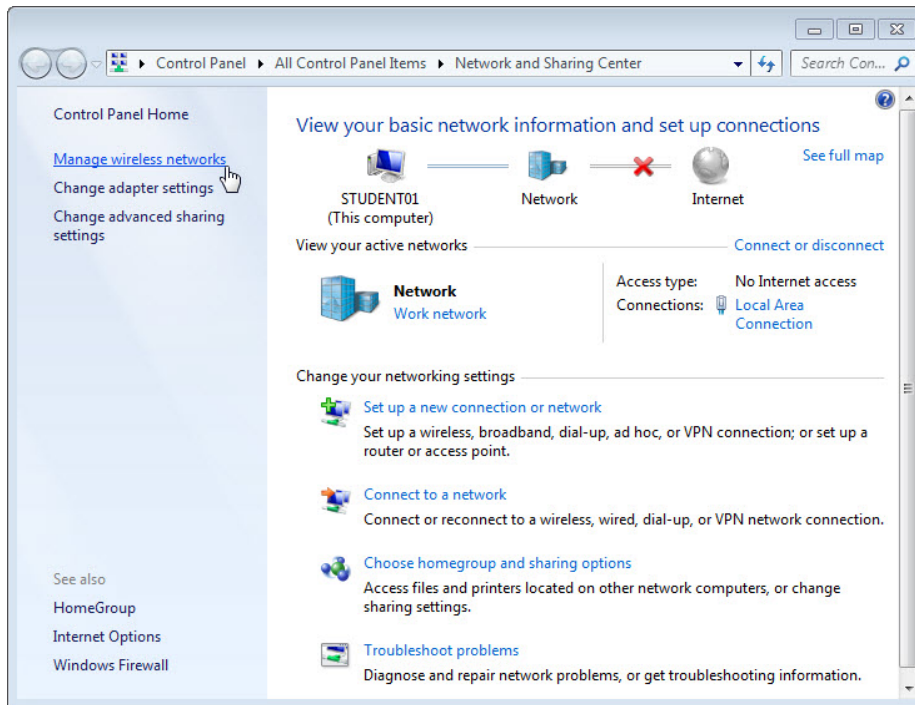
j. When the **Manage Wireless Networks** window opens, double click **Cisco#**, where # is the number assigned to you.

Note: The wireless router is currently configured to not broadcast the wireless network SSID. The reason why it appears in this list is that the **Cisco#** network was added to this computer before.
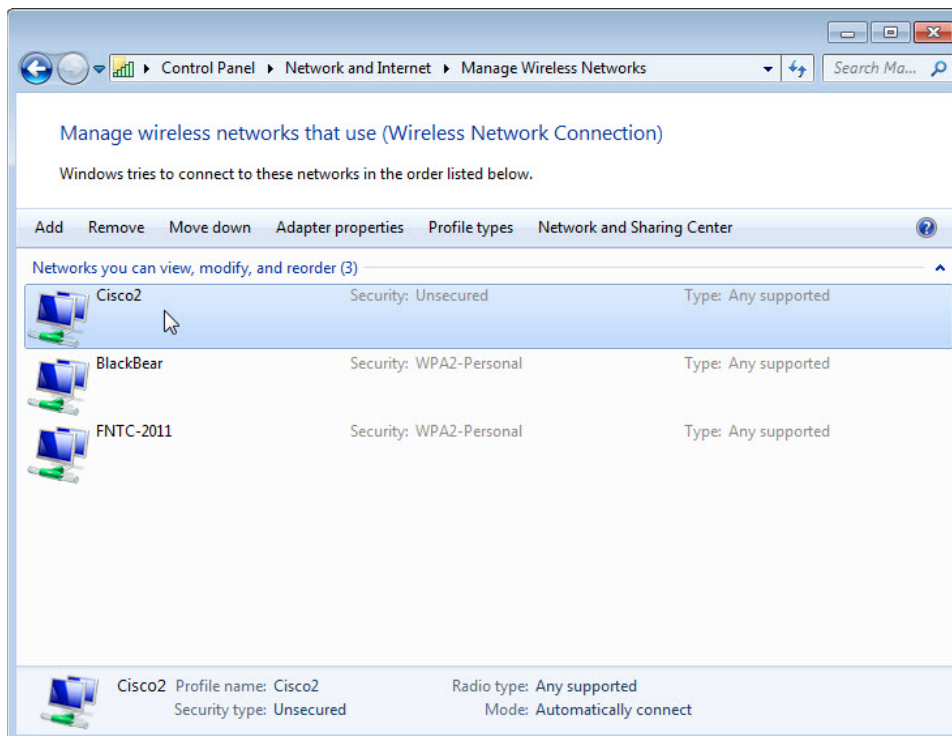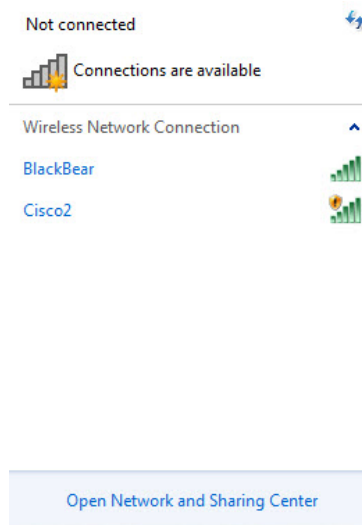
k. Select the check box **Connect even if the network is not broadcasting its name (SSID)**, then click **OK**.
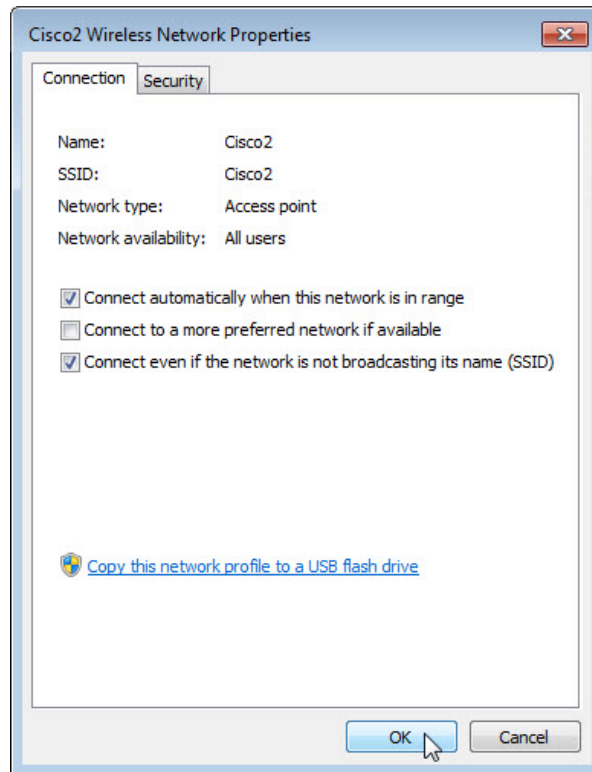
l. View wireless networks associated with the wireless adapter configured for the computer.
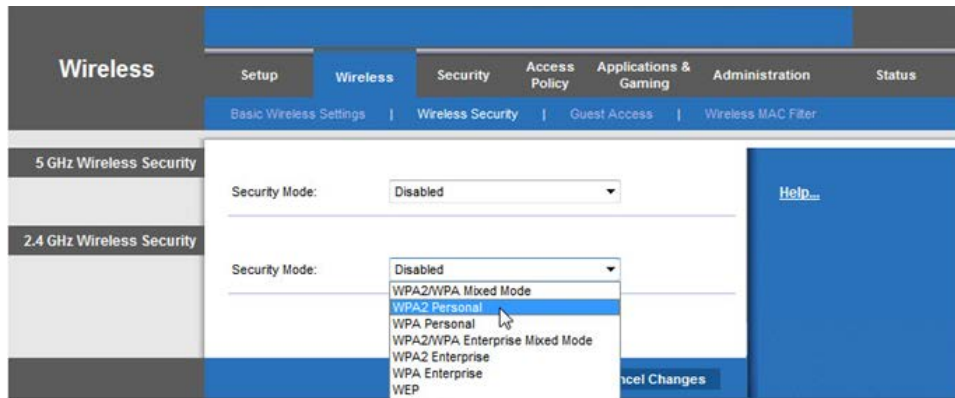
What wireless network(s) are available?

## Step 8: Adding Security to the Wireless Network

a. Connect to **Cisco#**, where # is the number assigned by the instructor and log into the router using a web browser.

b. Click the **Wireless** tab and then select **Wireless Security**.

c. In the **Security Mode** drop-down box, for the **2.4GHz Wireless Security**, select **WPA2 Personal**.

d. Type **ITEv6.0!** for the Passphrase and click **Save Settings > Continue**.
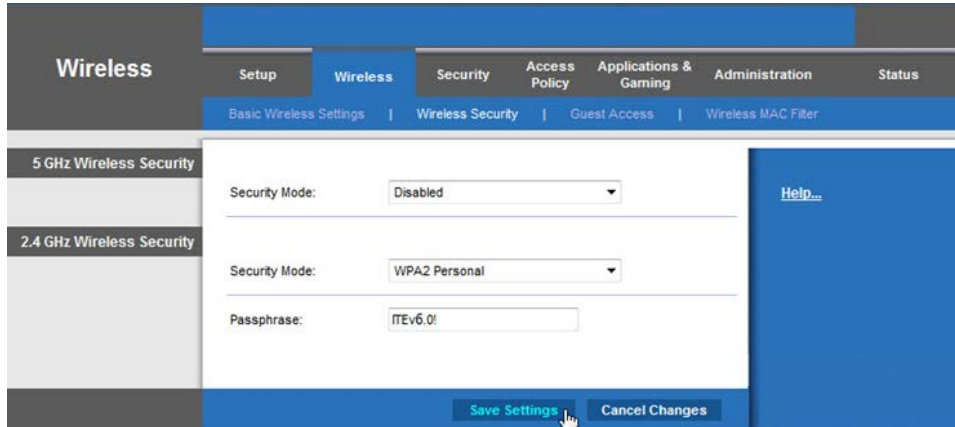
You should have lost connection to the wireless router. Why did that happen?

Step 9: Connecting the Computer to a Secure Wireless Network

a. View wireless networks associated with the wireless adapter configured to the computer.

b. Choose **Cisco#**, where # is the number assigned by the instructor, make sure **Connect automatically** is selected, and then click the **Connect** button.

c. When the **Connect to a Network** window opens, type **ITEv6.0!** for the **Security key**, and then click **OK**.

Step 10:Cleaning Up

a. Connect the computer to one of the **Ethernet** ports on the wireless router with an Ethernet patch cable.

b. Return configurations by restoring to factory default or using the following settings:

Router Address Information:
   - o   IP address 192.168.1.1
   - o   Subnet mask 255.255.255.0
   - o   Router name Linksys

DHCP Server Setting Information:
   - o   Start IP address 192.168.1.100
   - o   Maximum number of users 50
   - o   Static DNS 1 (optional): 0.0.0.0 or leave it blank

SSID Values:
   - o   Network Name (SSID): Linksys
   - o   SSID Broadcast: Disabled

Channel number:
   - o   Channel: Auto

Router Access:
   - o   Router Password: admin

Wireless Security:
   - o   Security Mode: Disable

c. Close the browser and logoff the computer.