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Lab 7.2.5 Configuring a Wireless Access Point

Objective

- Configure the wireless access point (AP) portion of a multi-function device to allow access to a wireless client.

Background / Preparation

The Linksys WRT300N includes an integrated 4-port switch, a router and a wireless Access Point (AP). In this lab, you will configure the AP component of the multi-function device to allow access for wireless clients. The basic wireless capabilities of the multi-function device will be configured but this will not be a secure wireless network. Setting up a secure wireless network will be covered in a later lab.

The following resources are required:

- Windows XP based computer that is cabled to the multi-function device
- Linksys WRT300N

Step 1: Verify connectivity between the computer and the multi-function device

a. The computer used to configure the AP should be attached to one of the multi-function device's switch ports.

b. On the computer, click the **Start** button and select **Run**. Type **cmd** and click **OK** or press **Enter**.

c. At the command prompt, ping the multi-function device using the default IP address 192.168.1.1 or the IP that has been configured on the multi-function device's port. Do not proceed until the ping succeeds.

d. Write down the command used to ping the multi-function device.

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NOTE: If the ping is not successful, try these troubleshooting steps:

- Check to make sure the IP address of the computer is on the 192.168.1.0 network. The computer must be on the same network as the multi-function device to be able to ping it. The DHCP service of the multi-function device is enabled by default. If the computer is configured as a DHCP client it should have a valid IP address and subnet mask. If the computer has a static IP address, it must be in on the 192.168.1.0 network and the subnet mask must be 255.255.255.0.
- Make sure the cable is a known-good straight-through cable. Test to verify.
- Verify that the link light for the port where the computer is attached is lit.
- Check whether the multi-function device has power.

If none of these steps correct the problem, check with your instructor.

Step 2: Log in to the multi-function device and configure the wireless network

    a.   Open a web browser. In the address line, type **http://***ip_address*, where *ip_address* is the IP address of the wireless router (default is 192.168.1.1). At the prompt, leave the user name textbox empty, but type the password assigned to the router. The default password is **admin**. Click **OK**.

    b.   In the main menu, click on the **Wireless** option.
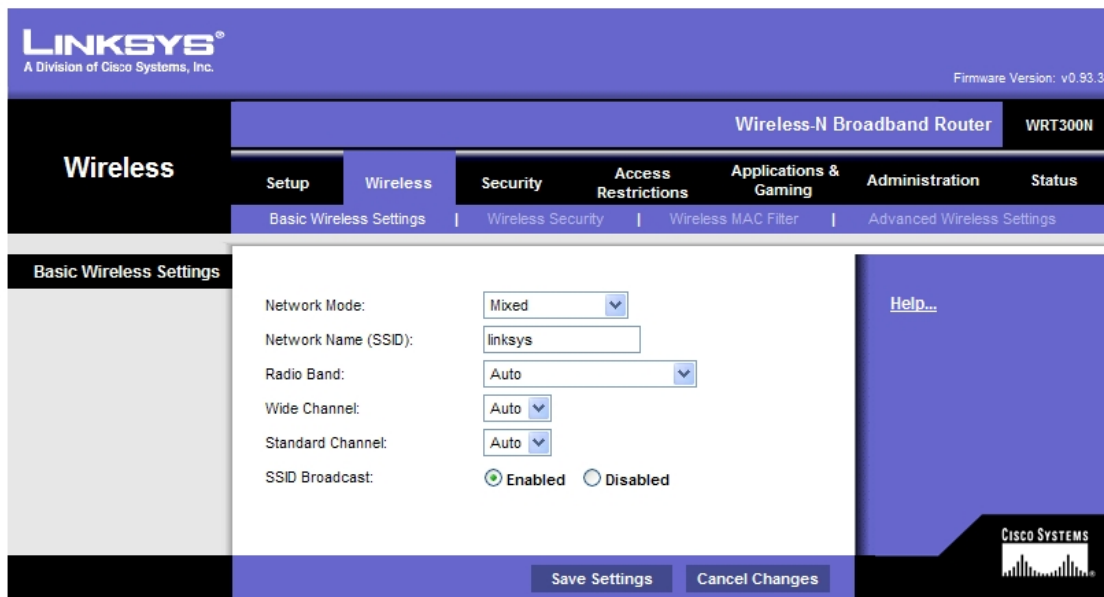
    c.   In the **Basic Wireless Settings** window, the **Network Mode** shows **mixed** by default, because the AP supports 802.11b, g, and n wireless devices. You can use any of these standards to connect to the AP. If the wireless portion of the multi-function device is *NOT* being used, the network mode would be set to **Disabled**. Leave the default of **Mixed** selected.

    d.   Delete the default SSID (linksys) in the **Network Name (SSID)** textbox. Enter a new SSID using your last name or name chosen by your instructor. SSIDs are case-sensitive.

    e.   Write down the exact SSID name that you are using. _____

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    f.   Click on the **Radio Band** drop-down menu and write down the two options.

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    g.   For a wireless network that can use 802.11b, g, or n client devices, the default is **Auto**. Auto allows the **Wide Channel** option to be chosen and gives the best performance. The **Standard Channel** option is used if the wireless client devices are 802.11b or g, or both b and g. The **Wide Channel** option is used if only 802.11n client devices are being used. Leave the default of **Auto** selected.

    h.   **SSID Broadcast** is set to **enabled** by default, which enables the AP to periodically send out the SSID using the wireless antenna. Any wireless devices in the area can detect this broadcast. This is how clients detect nearby wireless networks.

    i.   Click on the **Save Settings** button. When the settings have been successfully saved, click on **Continue.**

    j.   The AP is now configured for a wireless network with the name (SSID) that you gave it. It is important to write down this information before starting the next lab or attaching any wireless NICs to the wireless network.

Step 3: Reflection

    a. How many wireless networks do you think could be configured in one classroom? What would limit this?

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    b. What do you see as a potential security problem when you broadcast your SSID from the AP?

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