Configure a Wireless Router

Introduction

Net Beans is a client for Nerdify Enterprises that is a coffee shop and Internet Café. Net Beans would like to provide a secure wireless network for their employees and a guest network for their customers. Your supervisor would like you to take on the project and gives you a new router in the box.

Objective

In this lab the student will:

- Set up a wireless network for both secured and unsecured connections.

Equipment/Supplies

- Cisco Packet Tracer
- Configure a Wireless Router.pka downloaded from HERE

Assignment

- Completed Packet Tracer using grading rubric (80 points)
- Submit answers to the reflections questions (20 points)

Procedure

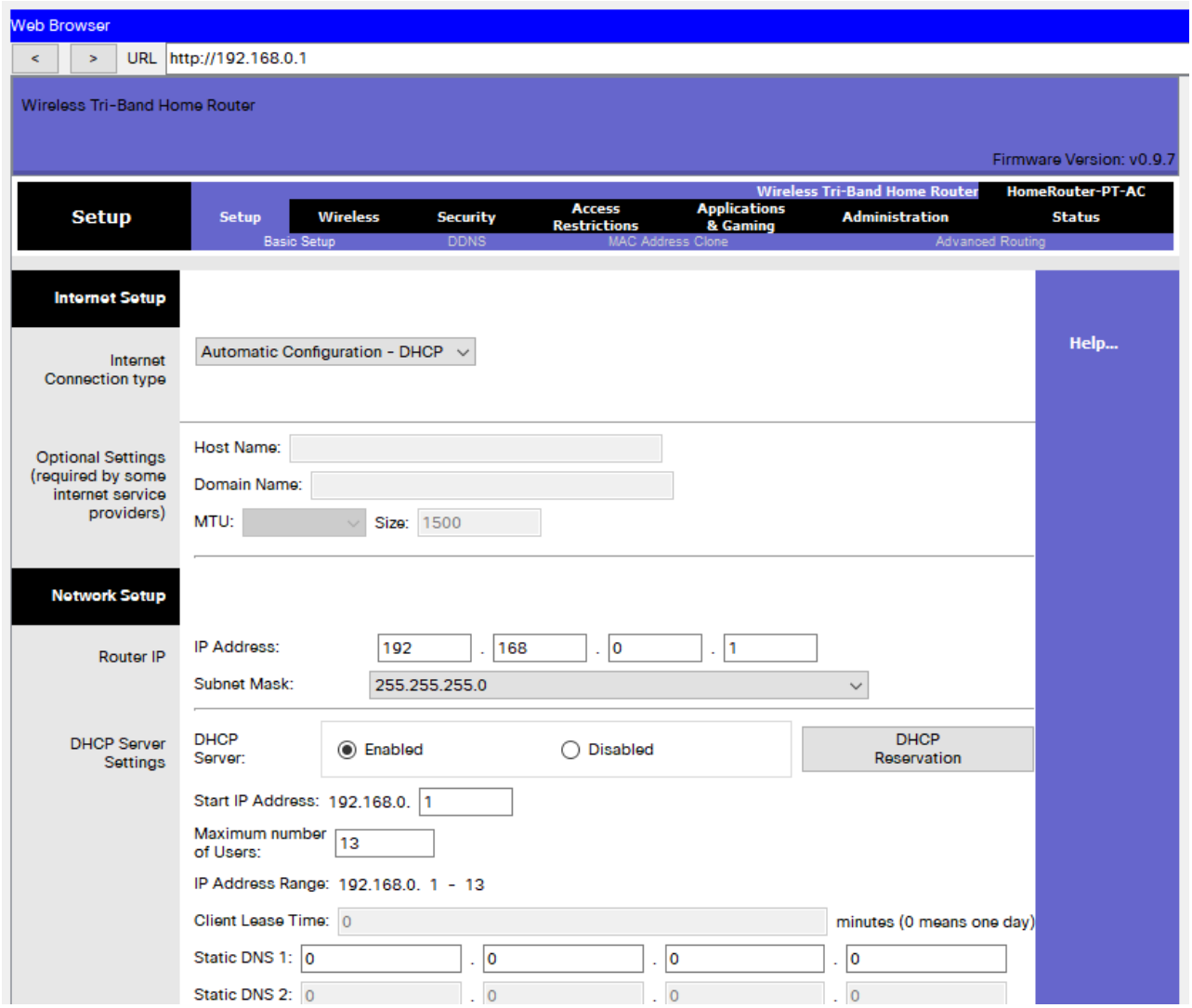
1. Open the Configure a Wireless Router.pka file in Cisco Packet Tracer.

   Notice you cannot click on the router and configure it directly. The Desktop PC is connected to the Router via a straight-through Ethernet cable, so we will use the Desktop PC to configure the router. Click on the Desktop PC.

2. Click the Desktop tab and open the browser. Type 192.168.0.1 in the address bar and press Enter or click “Go”.

3. In the router login screen in your browser, type in the username and password as the word admin in all lowercase letters and press enter or click OK.. “admin”

4. Once logged in, you should see the Basic Setup Interface. Expand the window to see the whole screen.



5. Spend a few minutes browsing through menu options and looking at what kind of settings are available for the firmware on this router.

6. Begin by changing the username and password to access the router. Go to the Administration menu and enter the router password as itnw1325 in both fields and click “Save Settings.”

It's a good practice to click Save Settings before moving around in the router menu. Now if you need to log into the router management interface again, you will use the password "itnw1325" instead of the default password, "admin."

7. Go back to the setup screen and change the following options:
    a. Ensure DHCP is enabled
    b. Change the starting IP address to 192.168.0.10
    c. Change the maximum number of users to 100
    d. Change the Static DNS 1 address to 8.8.8.8
    e. Click Save Settings.

8. Go to the wireless menu and change the following options:
    a. In 2.4 GHz settings, set the SSID to NetBeans2.4GHz and disable SSID broadcast.
    b. In 5 GHz settings, set the SSID to NetBeans5GHz and disable SSID broadcast.
    c. Click Save Settings.

9. Click the "Wireless Security" submenu.
    a. In 2.4 GHz settings, set the Security Mode to WPA2 Personal, and Passphrase to "Coff33Luvr!"
    b. In 5GHz -1 settings, set the Security Mode to WPA2 Personal, and Passphrase to "Coff33Luvr!"
    c. Click Save Settings.

10. Click the "Guest Network" submenu.
    a. Allow Guest Access. This is for NetBeans customers to use.
    b. In the 2.4GHz section, change the network name to "NetBeansGuests", Security Mode to WPA2 Personal, and the password to "Surf&Brew"
    c. Click Save Settings.

11. Go to the Administration again to harden your router:
    a. In the Management submenu, disable RemoteManagement Access.
    b. Click Save Settings.

Reflection

1. What settings on the router configuration prevent customers from accessing the employee network?
2. What settings on the router configuration prevent customers from changing network settings on the router?
3. What settings on the router configuration prevent a customer from seeing what other customers are doing on the shared Wi-Fi network?
4. Why are both 2.4 and 5 GHz connections used in this network setup?
5. What is the benefit of having a guest network for customers?
6. How could you access the router to make changes to the configuration in the future?

Standards for This Competency	**Points**	**Exemplary**	**Beginning**
Router Administration password set to itnw1325	4 pts		
Starting IP set to .10	4 pts		
Maximum users set to 100	4 pts		
5GHz network SSID set to NetBeans5GHz	4 pts		
5GHZ network security mode set to WPA2 Personal	4 pts		
5GHZ network Passphrase set to Coff33Luvr!	4 pts		
5GHZ network SSID Broadcast Disabled	4 pts		
5GHz network Encryption set to AES	4 pts		
2.4GHz network SSID set to NetBeans2.5GHz	4 pts		
2.4GHZ network security mode set to WPA2 Personal	4 pts		

2.4GHZ network Passphrase set to Coff33Luvr!	4 pts		
2.4GHZ network SSID Broadcast Disabled	4 pts		
2.4GHz network Encryption set to AES	4 pts		
Guest Access network SSID set to NetBeansGuests	4 pts		
Guest Access network Encryption set to AES	4 pts		
Guest Access network security mode set to WPA2 Personal	4 pts		
Guest Access network passphrase set to Surf&Brew	4 pts		
Guest Access network SSID Broadcast Enabled	4 pts		
Remote Management Access Disabled	4 pts		
Wireless Testing Laptop is able to connect to WiFi	**4 pts**		
TOTAL POINTS (20 items at 4 pts each)	**80 pts**		

Standards for This Competency	EXEMPLARY	ACCOMPLISHED	BEGINNING
Reflection #1	Answer is fully developed. (4 pt)	Answer is partially developed. (2 pt)	Answer shows a lack of understanding. (0 pt)
Reflection #2	Answer is fully developed. (4 pt)	Answer is partially developed. (2 pt)	Answer shows a lack of understanding. (0 pt)
Reflection #3	Answer is fully developed. (4 pt)	Answer is partially developed. (2 pt)	Answer shows a lack of understanding. (0 pt)

Reflection #4	Answer is fully developed. (4 pt)	Answer is partially developed. (2 pt)	Answer shows a lack of understanding. (0 pt)
Reflection #5	Answer is fully developed. (2 pt)	Answer is partially developed. (1 pt)	Answer shows a lack of understanding. (0 pt)
Reflection #6	Answer is fully developed. (2 pt)	Answer is partially developed. (1 pt)	Answer shows a lack of understanding. (0 pt)