

Packet Tracer – Configure Wireless Security

Objectives

- Create a home network with a secure wireless router

Introduction

In this activity, you will configure a wireless router to:

- Modify the default password.
- Modify the default SSID and do not broadcast
- Use WPA2 Personal as security method.
- Rely on MAC filtering to increase security.
- Disable remote management.

Step 1: Load the .pkt file

- a. Load the 5.1.2.6 Packet Tracer – Configure Wireless Security.pkt file.
- b. Press the **power** button on Laptop1 to turn it off.
- c. Drag the **Ethernet** port to the **Modules** list to remove it.
- d. Drag the **WPC300N** module to the empty slot on **Laptop1** and press the **power** button to boot **Laptop1**.

Step 2: Modify the default password.

- a. Click on the wireless router and select the **GUI** for configuration.
- b. Click **Administration > Management**
- c. Modify the router password to a stronger one. Change the password to **aC0mpAny3**. Note that the new password has 8 characters with upper and lower case digits and some of the vowels have been changed to numbers. Select **Save Settings** at the bottom of that screen.

Step 3: Modify the default SSID name and disable the broadcast feature.

- a. Click **Wireless** and modify the SSID name to **aCompany**.
- b. Select **SSID Broadcast** and click **Disabled**. Click **Save Settings** at the bottom of that screen.

Check the topology. Has Laptop0 lost connectivity with the wireless router? If so, why?

Step 4: Configure WPA2 security on the wireless router.

- a. Return to the wireless router GUI tab. Click **Wireless > Wireless Security**. Change Security Mode to **WPA2 Personal**. **AES** is currently the strongest encryption protocol available. Leave it selected.
- b. Configure the passphrase as **aCompWiFi**. Scroll to the bottom of the window and click **Save Settings**.

Step 5: Configure Laptop0 as a wireless client.

- a. Configure **Laptop0** to connect to the wireless network using the security settings you configured on the wireless router.
 - 1) Select **Laptop0 > Desktop > PC Wireless**.
 - 2) Select **Profiles > New** and add any name for the profile.
 - 3) Select **Advanced Setup** in the lower right hand corner.
 - 4) Select **Wireless Network Name** and enter the new SSID name: **aCompany**
 - 5) Accept the default network settings by selecting **Next**
 - 6) Modify the Security using the dropdown box to **WPA2-Personal** and select **Next**
 - 7) Enter the pre-shared key: aCompWiFi and select **Next**.
 - 8) Save the profile.
 - 9) Select **Connect to Network**.
 - 10) If the Laptop does not connect successfully, return to the profile and edit. Check your typing of the SSID name and the pre-shared key.
- b. Close the **PC Wireless** window and click **Command Prompt**.
- c. Type **ipconfig /all** and take note of the IP address and MAC addresses.

Step 6: Configure WRS1 to support MAC filtering.

- a. Return to the wireless router's configuration page.
- b. Navigate to **Wireless > Wireless MAC Filter**.
- c. Select **Enabled** and **Permit PCs listed below to access wireless network**.
- d. Type in the MAC address for **Laptop0** in the **MAC 01:** field. Notice the MAC address must be in the **XX:XX:XX:XX:XX:XX** format.
- e. Scroll to the bottom of the window and click **Save Settings**.
- f. Reconnect **Laptop0** to the **WRS1** network.

Step 7: Test the MAC filtering of WRS1

- a. Add a second laptop to the topology.
- b. Press the **power** button on the new laptop to turn it off and replace the Ethernet card with a wireless one.
- c. Configure the new laptop with the security settings required to connect to the wireless router.
Why are you unable to associate with the access point?

Step 8: Disable remote management on the wireless router.

- a. Check the current status of remote management on the wireless router. Select **Administration > Remote Access**. If it is disabled, enable it.
- b. Select the **Hacker PC** and select the **Desktop > Web Browser**. Enter the address **192.31.7.100** and tap **Go**. You should be presented with the request for a userID and a password. Enter the valid information and you should be able to access the wireless router GUI. Exit the Desktop.

- c. Return to the wireless router's configuration page.
- d. Navigate back to **Administration > Management** and scroll down to **Remote Management**. Select **Disabled** and click **Save Settings** at the bottom of that screen.
- e. Return to **the Hacker PC** and select the **Desktop > Web Browser**. Enter the address **192.31.7.100**. You should no longer be able to connect via the Web browser.