



Lab 8.3.3.1 Configure WEP on AP and Client

Estimated Time: 20 minutes

Number of Team Members: Students will work in teams of two.

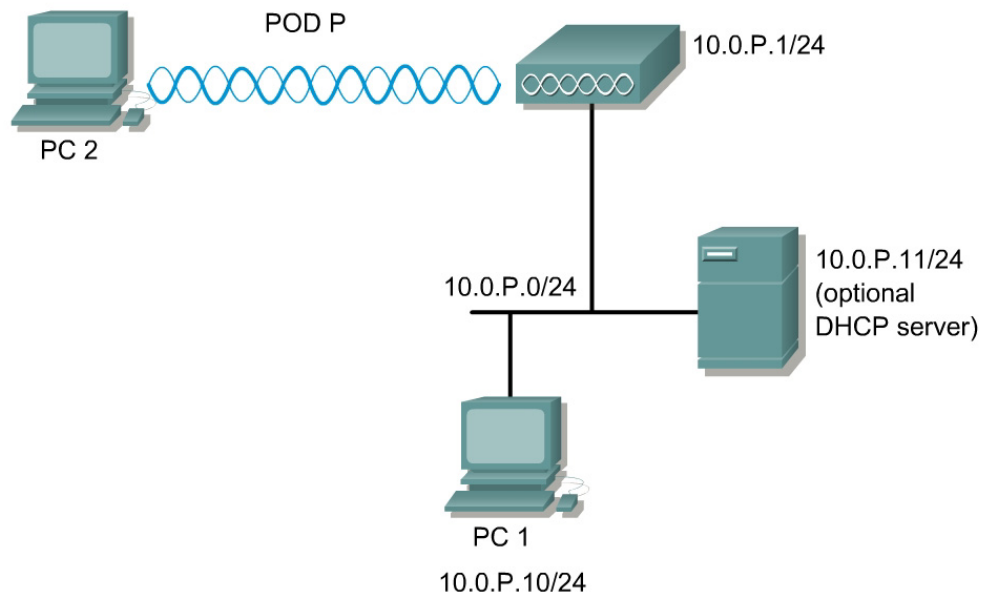
Objective

In this lab, students will demonstrate an understanding of the role of a Wired Equivalent Privacy (WEP) key in network security. Additionally, students will learn how to enable WEP on an AP and on the client PC.

Scenario

The purpose of WEP is to protect the privacy of transmitted data. WEP keys are used to encrypt the data signals the AP transmits and to decrypt the data signals the AP receives (and includes data transmitted and received by the client).

Topology



Preparation

The students will read and understand FWL Chapter 8 prior to the lab.

All APs and PCs will be properly setup according to the topology prior to the lab. Ensure an existing wireless connection is present from PC2 to the AP.

Tools and Resources

Each team of students will require the following:

- Cisco Aironet APs
- PCs with the Cisco Aironet client adapter and utility properly installed

Step 1 Configuring WEP on the access point

Cisco 1200 Access Point

Hostname **ap** ap uptime is 11 minutes

Security Summary

[Administrators](#)

Username	Read-Only	Read-Write
Cisco	✓	

[Radio0-802.11B SSIDs](#)

SSID	VLAN	Open	Shared	Network EAP
AP1	none	✓		

[Radio1-802.11A SSIDs](#)

SSID	VLAN	Open	Shared	Network EAP
AP1	none	✓		

In order to configure WEP on the AP, complete the following steps:

- Verify connectivity from the wireless client (PC2) to the AP
- Open a Web browser on the PC1 and type the IP address of the AP to configure in the browser address bar.
- Go to the **Security** Setup page of the AP and click on the **Encryption Manager** option.

Step 2 Configuring WEP (continued)

Cisco 1200 Access Point

RADIO0-802.11B RADIO1-802.11A

Hostname ap ap uptime is 12 minutes

Security: Encryption Manager - Radio0-802.11B

Encryption Modes

☒ None

☐ WEP Encryption Optional

Cisco Compliant TKIP Features: ☐ Enable MIC ☐ Enable Per Packet Keying

☐ Cipher WEP 128 bit

Encryption Keys

	Transmit Key	Encryption Key (Hexadecimal)	Key Size
Encryption Key 1:	<input type="radio"/>	<input type="text"/>	128 bit
Encryption Key 2:	<input checked="" type="radio"/>	<input type="text"/>	128 bit
Encryption Key 3:	<input type="radio"/>	<input type="text"/>	128 bit
Encryption Key 4:	<input type="radio"/>	<input type="text"/>	128 bit

WEP keys can be entered in ASCII or hexadecimal on most equipment. Cisco Aironet equipment requires WEP keys to be entered in hexadecimal. 40-bit WEP keys are 10 hexadecimal characters long. 128-bit WEP keys are 26 hexadecimal characters long. To configure WEP, follow the steps below:

- Check the radio button WEP Encryption Mode for **WEP Encryption**
- Use the Pull Down Menu to select **Mandatory**
- Select the **Transmit Key**
- Enter the Encryption key (for lab purposes will be) **12345678909876543210123456**
- Select the Key size **128 bits**
- Click the **Apply-All** button to apply these options.
- Once WEP is configured on the AP with a **Mandatory** option, all the clients will become disassociated to this AP.

Step 3 Verify the WEP configuration

Cisco 1200 Access Point

RADIO0-802.11B RADIO1-802.11A

Hostname ap ap uptime is 15 minutes

Security: Encryption Manager - Radio0-802.11B

Encryption Modes

☐ None

☒ WEP Encryption Mandatory

Cisco Compliant TKIP Features: ☐ Enable MIC ☐ Enable Per Packet Keying

☐ Cipher WEP 128 bit

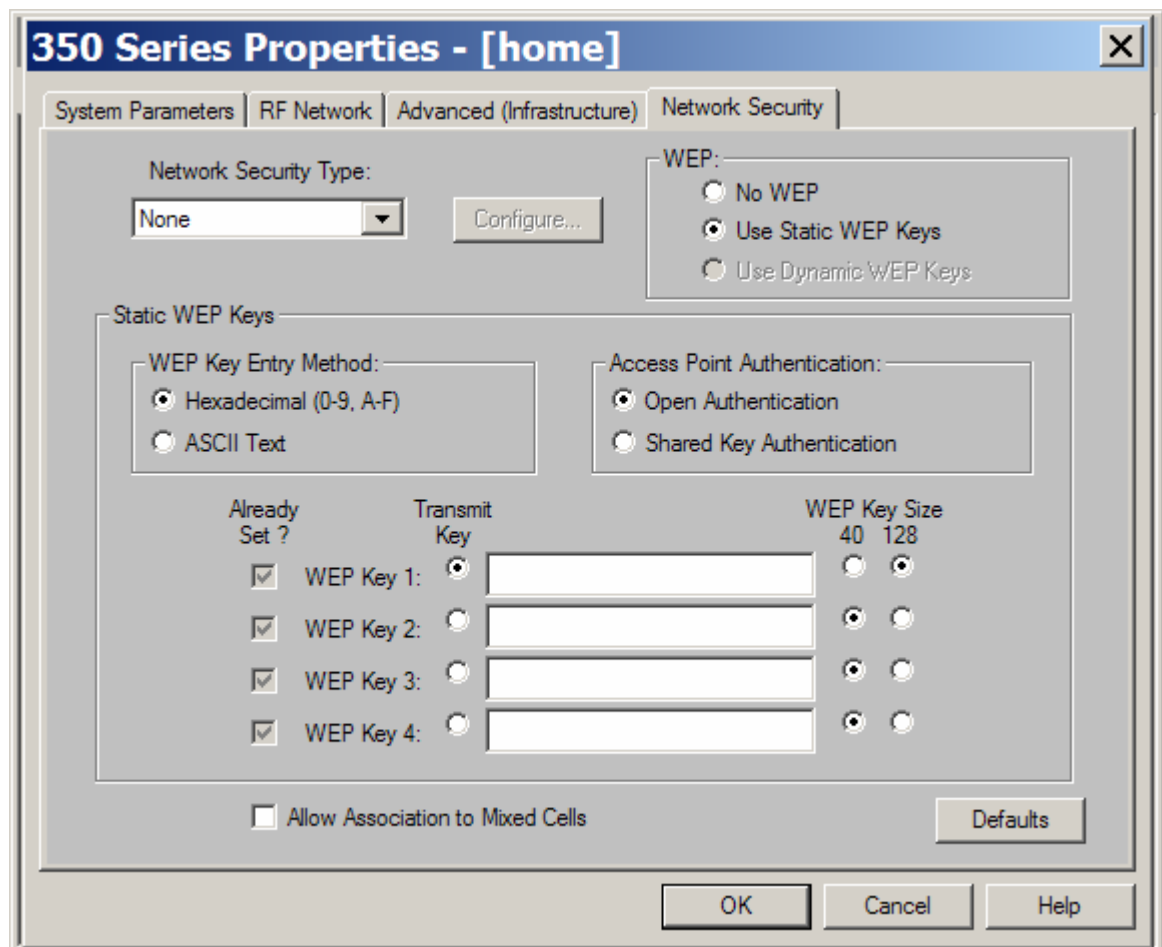
Encryption Keys

	Transmit Key	Encryption Key (Hexadecimal)	Key Size
Encryption Key 1:	<input checked="" type="radio"/>	128 bit
Encryption Key 2:	<input type="radio"/>		128 bit
Encryption Key 3:	<input type="radio"/>		128 bit
Encryption Key 4:	<input type="radio"/>		128 bit

View the **SECURITY>Encryption Manager** page. The WEP settings should be configured and the Encryption Key field should be stored in the AP. However, the Key field should be encrypted with asterisk symbols to prevent unauthorized users from viewing the Encryption Key.

1. What Encryption option allows client devices that can communicate with the AP either with or without WEP?

Step 4 Configure WEP on PC2 using the client adapter utility



In order to configure the WEP settings on the wireless client adapter, complete the following steps:

- a. Open the Aironet client utility by clicking on the ACU icon.
- b. Click Profile Manager to edit the WEP settings.
- c. Under the Profile Management section, choose the profile being used for this lab, and click Edit.
- d. Go to the **Network Security** tab of the profile that is being used for the lab.
- e. Configure the following settings for WEP:
 1. Select the WEP setting – **Use Static WEP keys**
 2. Select the Static WEP key entry method – **Hexadecimal**
 3. Select the AP Authentication – **Open authentication**
 4. Select and enter the Transmit key [for lab purposes will be] **12345678909876543210123456**
 5. Select the WEP key Size – **128 bits**
 6. Click the **OK** button to apply the WEP settings to the client
 7. The client should re-associate to the AP once WEP is enabled properly on the AP and the client adapter utility.

f. How many WEP keys can be stored on the Cisco client adapter?

g. What happens if a device receives a packet that is not encrypted with the appropriate key?

h. What is the more secure authentication method, shared key or open?
