



### Lab 2.5.2.2 Install Aironet Desktop Utility (ADU)

Estimated Time: 30 Minutes

Number of Team Members: six teams with two students per team

#### Objective

The student will learn the procedures for installing the Aironet Desktop Utility (ADU). Also, the student will configure, select, and manage profiles.

#### Scenario

Install and configure the ADU to allow a user to configure, manage, and monitor wireless connections when using Cisco® Aironet® IEEE 802.11a/b/g Wireless Adapters.

The Cisco Aironet IEEE 802.11a/b/g Wireless LAN Client Adapters (CB21AG and PI21AG) are radio modules that provide transparent wireless data communications between fixed, portable, or mobile devices and other wireless devices or a wired network infrastructure. The client adapters are fully compatible when used in devices supporting "plug-and-play" (PnP) technology.

The AIR-CB21AG PC-Cardbus card is an IEEE 802.11a/b/g-compliant 2.4- and 5-GHz 54-Mbps client adapter card radio module with a Cardbus interface that can be inserted into any device equipped with an external 32-bit Cardbus slot. Host devices can include laptops and notebook computers.



The AIR-PI21AG PCI card is an IEEE 802.11a/b/g-compliant 2.4- and 5-GHz 54-Mbps client adapter card radio module that can be inserted into any device equipped with an empty PCI expansion slot, such as a desktop personal computer.



Two client utilities are available for use with the client adapters: Aironet Desktop Utility (ADU) and Aironet System Tray Utility (ASTU). These utilities are optional applications that interact with the client adapter's radio to adjust settings and display information.

ADU enables you to create configuration profiles for your client adapter and perform user-level diagnostics. Because ADU performs a variety of functions, it is documented by function throughout this manual.

ASTU, which is accessible from an icon in the Windows system tray, provides a small subset of the features available through ADU. Specifically, it enables you to view status information about your client adapter and perform basic tasks.

## Topology



## Preparation

This lab will require the following materials:

- Desktop or Laptop PC
- Appropriate wireless client adapter card
- One Cisco Aironet CB21AG or PI21AG Client Adapter Network Interface Card.
- Aironet Desktop Utility installer
- 2 configured APs (instructor must setup)
  - Office Profile    AP1 – SSID of AP1
  - Home Profile    AP2 – SSID of AP2

## Step 1 Configure XP to use the ADU

To configure the client adapter through ADU instead of through Windows XP, follow the steps below:

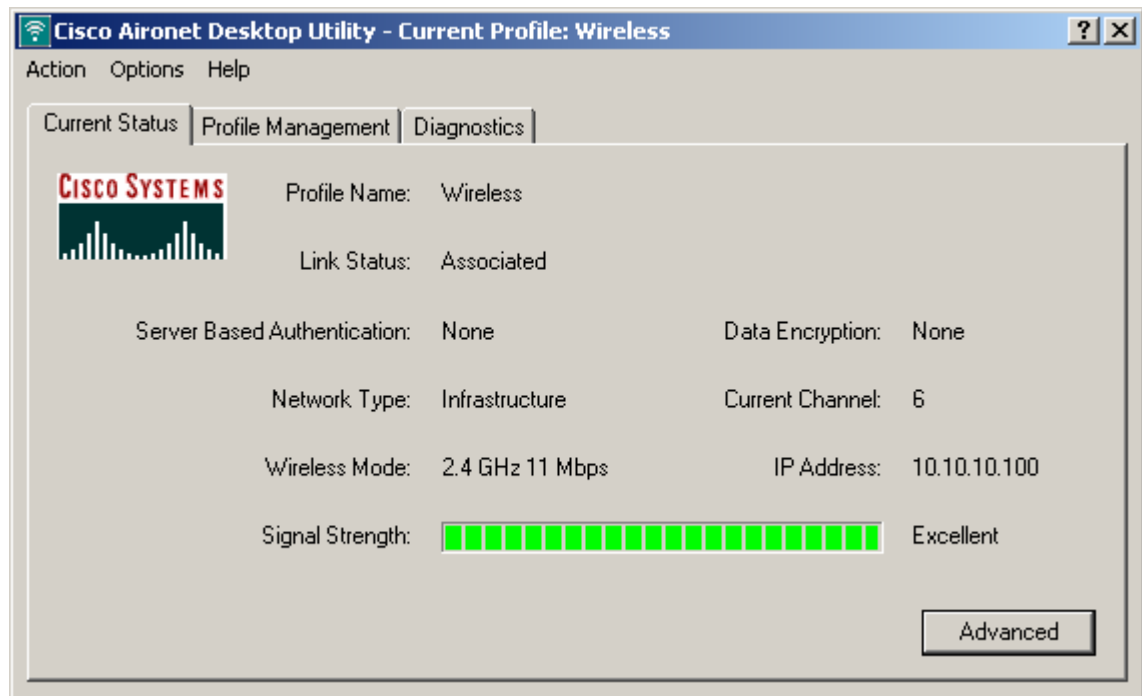
- a. Open the Control Panel. See the instructor for instructions for other operating systems.
- b. Right-click Wireless Network Connection and click Properties.
- c. Select the Wireless Networks tab.
- d. Verify that the Use Windows to configure my wireless network settings check box is deselected.
- e. Follow the instructions in the "Installing ADU" section to install ADU.

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**Note**    If the client adapter will be configured through Windows XP but the ADU's diagnostic tools will be used, then install ADU but do not create any profiles.

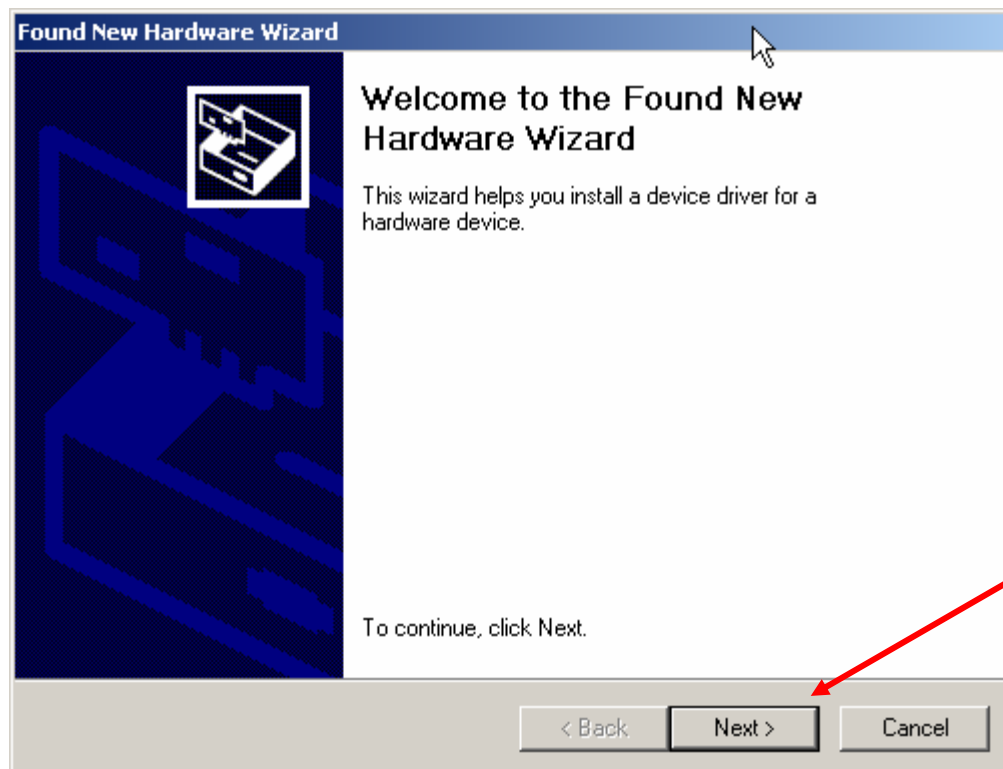
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## Step 2 Install the Aironet Client Utilities (ADU)

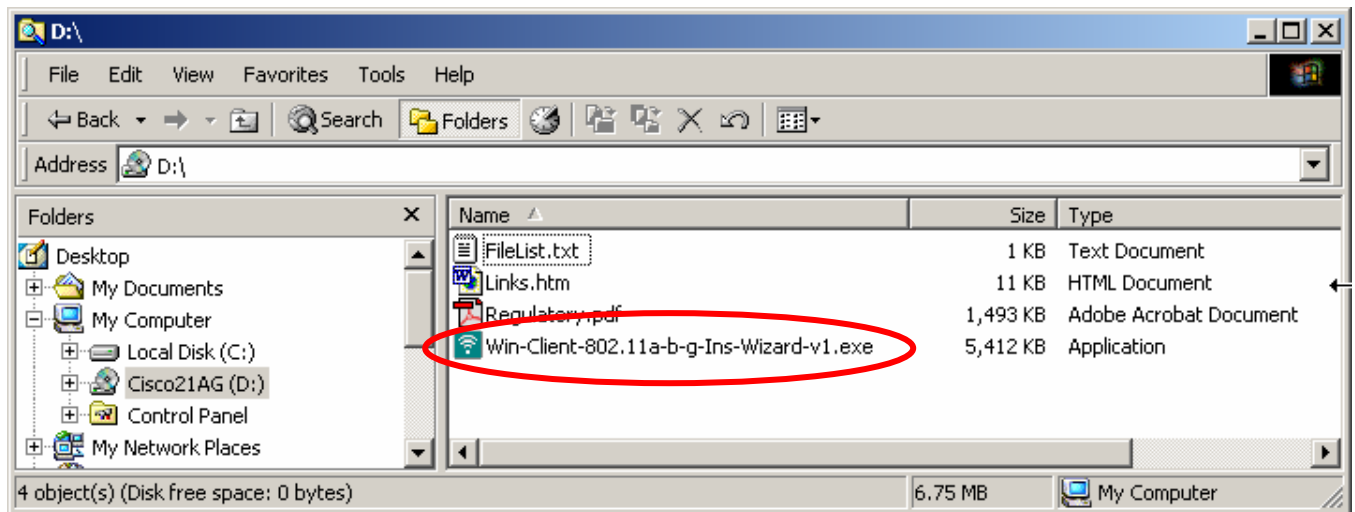


Prior to installing ADU software and card drivers, the client adapter should be installed into the laptop or desktop computer. When the computer reboots, Windows may recognize that hardware has been installed.

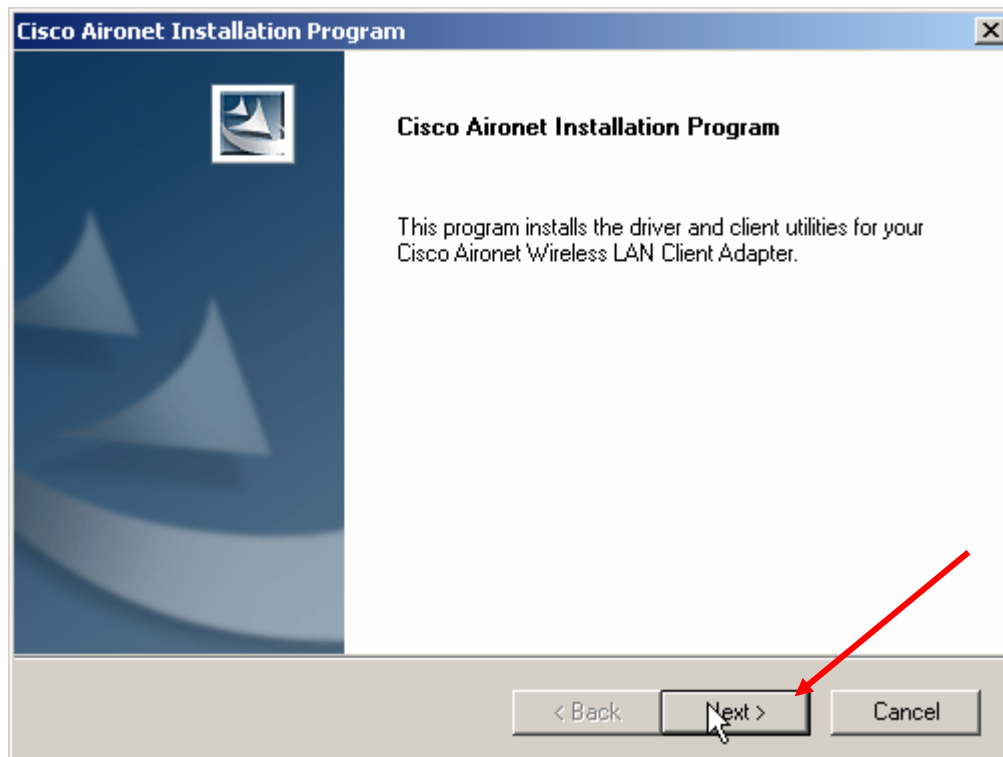
- a. Click Cancel on the Windows **Found New Hardware Wizard** to continue.



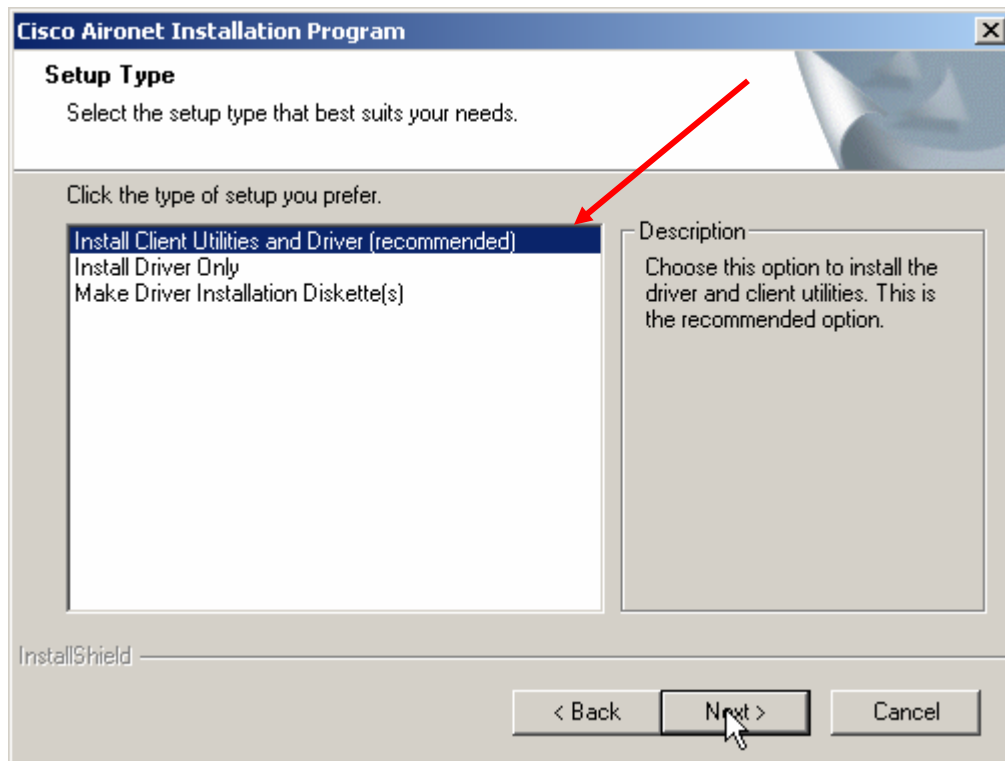
- b. Navigate to the installation file for the client adapter. This file can be found either on the CD that came in the package with the CD or on the local PC if this file was downloaded from Cisco.com. Double click the file to begin installation.



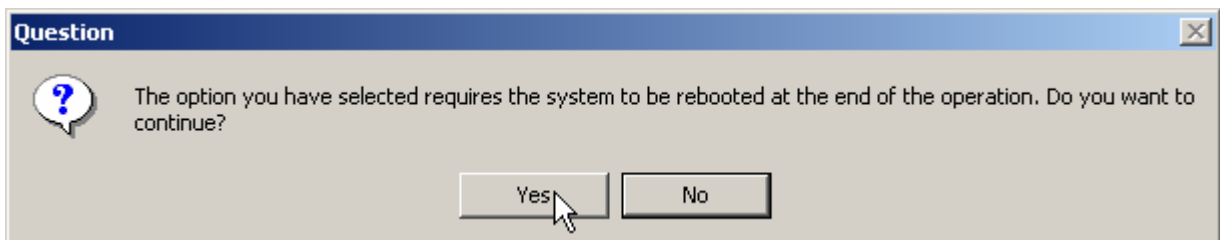
- c. The Installation Program will open and prompt for any necessary input. Click **Next** to continue.



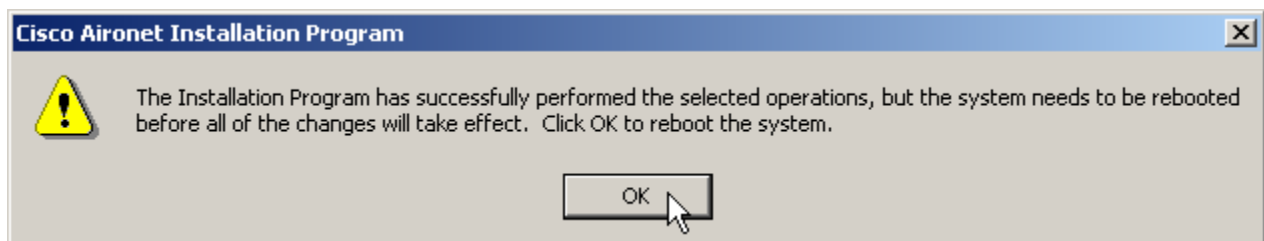
- d. From the available Setup types, select the first option: **Install Client Utilities and Driver**. This option will install all of the necessary files for both the client adapter and the desktop utility. Click **Next** to continue.



- e. Now there is a prompt to accept a system reboot after installation completes. Click **Yes** to continue installation. Clicking No will cause installation to abort.



- f. The default settings can be accepted for the destination folder. Remember to reboot the computer when installation has completed.



### Step 3 Complete the driver installation without a DHCP server

- Double-click **My Computer**, **Control Panel**, and **Network and Dial-up Connections**.
- Right-click **Local Area Connection**.
- Click **Properties**, **Internet Protocol (TCP/IP)**, and **Properties**.
- Click **Use the following IP address** and enter the IP address, subnet mask, and default gateway address obtained from the instructor. Click **OK**.

- e. In the Local Area Connection Properties window, click **OK**.
- f. If prompted to restart the computer, click **Yes**.
- g. The driver installation is complete.

#### Step 4 Verify the TCP/IP settings

- a. Select **Start > Run** and enter the following:
- b. On Win2000 or XP, enter **cmd** to bring up the command prompt. While at the command prompt, type in **ipconfig /all** to verify the IP settings.

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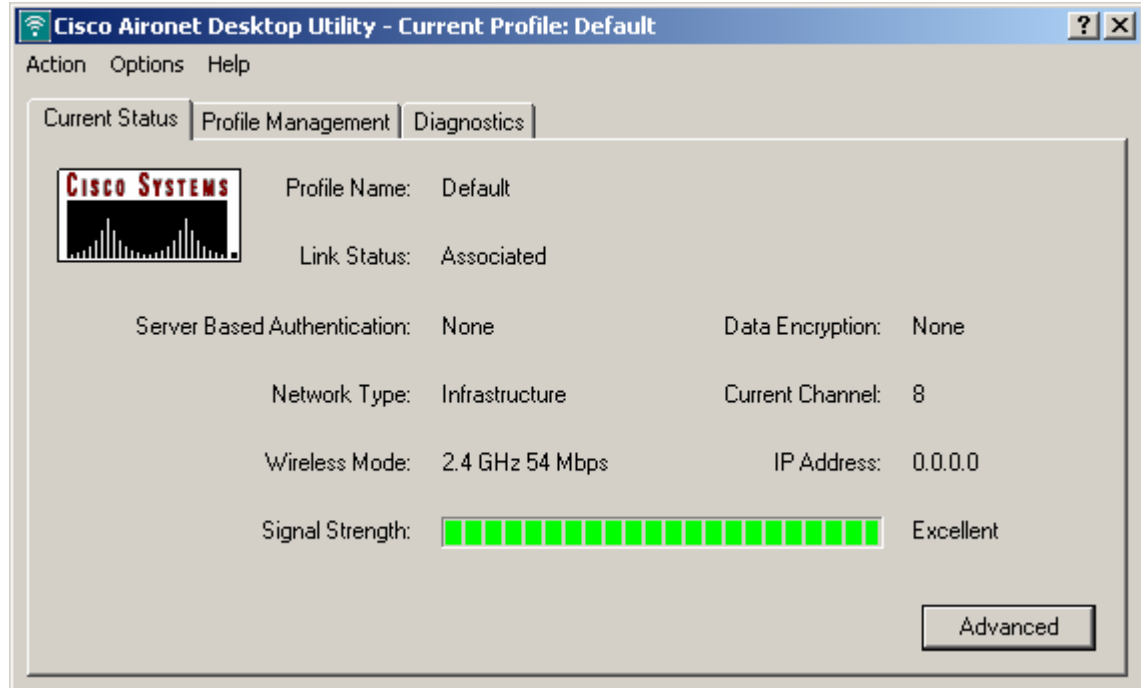
C:\WINNT\system32\cmd.exe

Ethernet adapter Cisco G:

    Connection-specific DNS Suffix  . : 
    Description . . . . . : Cisco Aironet 802.11a/b/g Wireless Adapter
    Physical Address. . . . . : 00-40-96-A5-24-23
    DHCP Enabled. . . . . : No
    IP Address. . . . . : 10.10.10.100
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 10.10.10.1
    DNS Servers . . . . . : 64.102.6.247
                             171.68.226.120
    Primary WINS Server . . . . . : 64.102.2.51
    Secondary WINS Server . . . . . : 171.68.235.228
  
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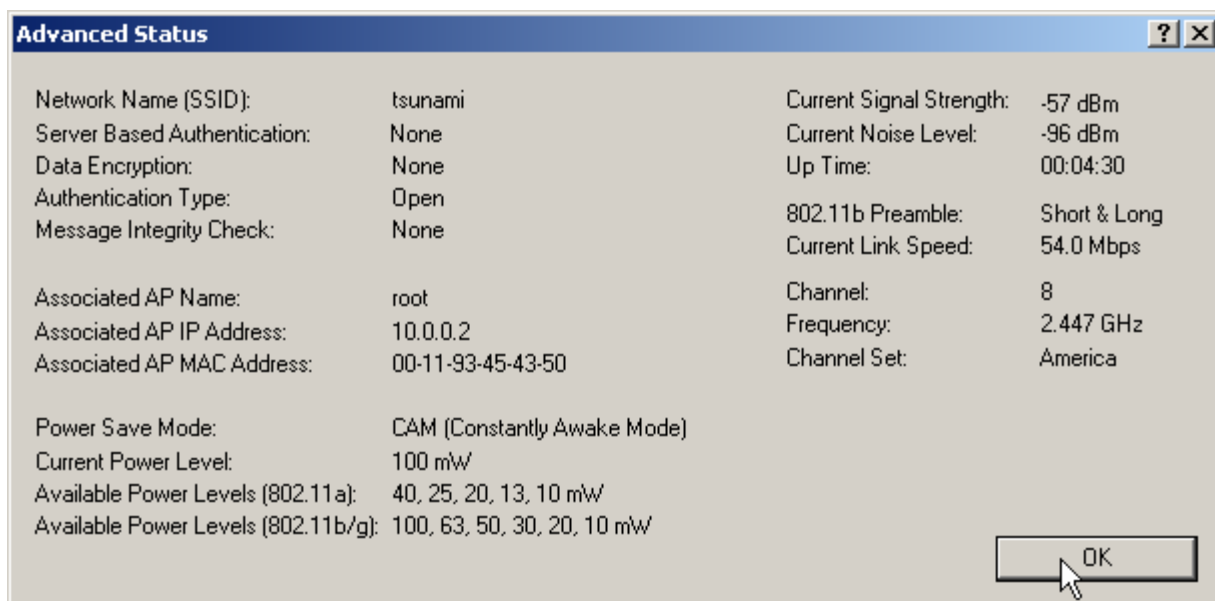
#### Step 5 Running ADU

To open the ADU double-click the desktop icon or navigate to the program shortcut from the Start button: Start>Programs>Cisco Aironet>Aironet Desktop Utility. Alternately, the System Tray icon can be used to launch the desktop utility.



The tabbed interface of the ADU allows access to each of the necessary tasks to configure and monitor the client adapter.

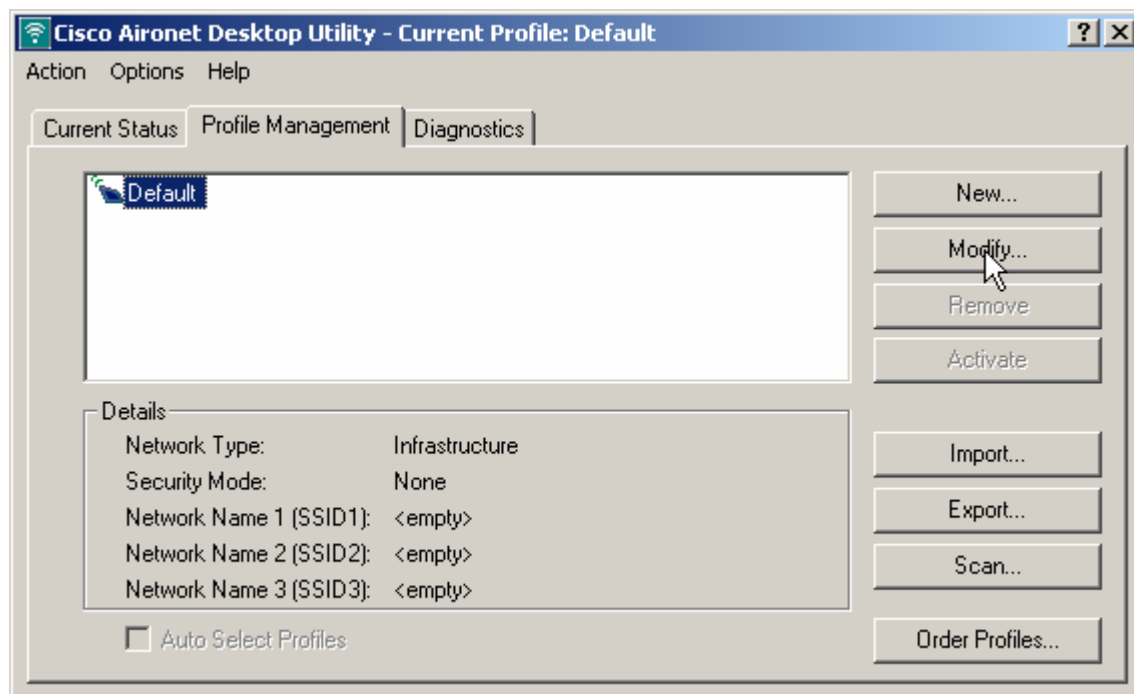
- a. Click the Advanced tab to view detailed setting information for the card. The Advanced Status tab can provide useful information about the current SSID as well as association information for the card. Click **OK** to close the window and return.



## Step 6 Profile Management

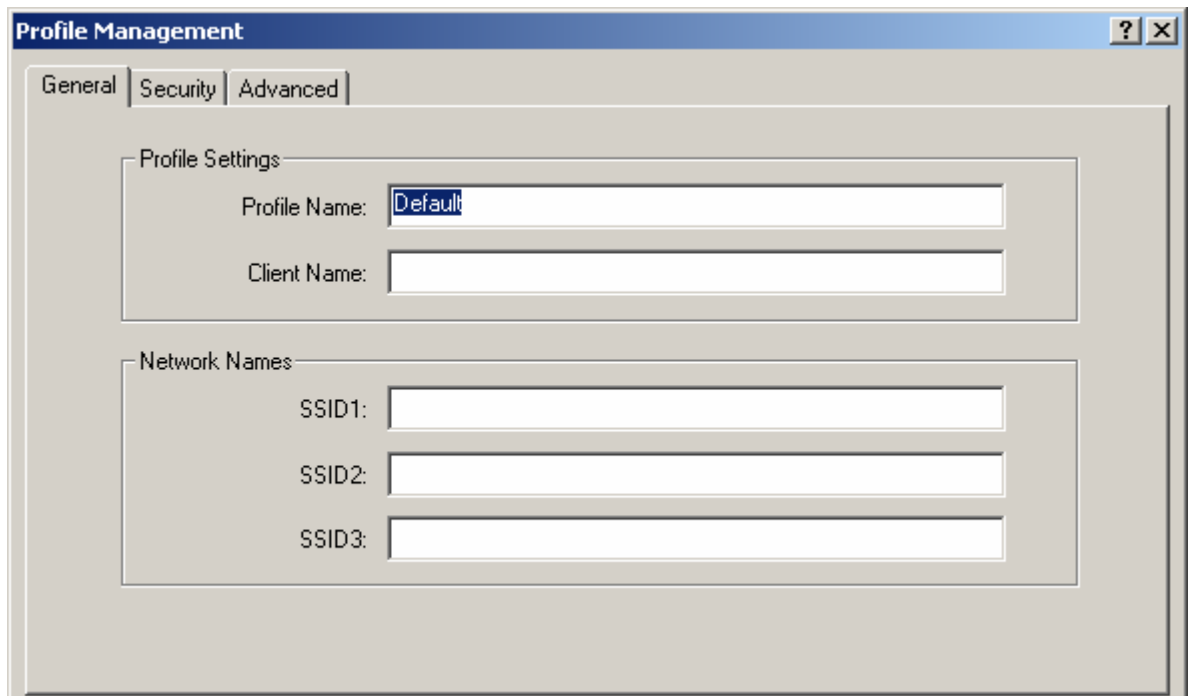
The Profile Management tab allows the creation, modification, removal or activation of client adapter profiles. Each profile can contain a unique set of authentication and encryption settings. Using multiple profiles will allow the adapter to work in a variety of settings.

- The Default profile was created when the adapter was installed. Click the Modify button to view the settings associated with this profile. (If the Default profile has been deleted, click any available profile to modify.)



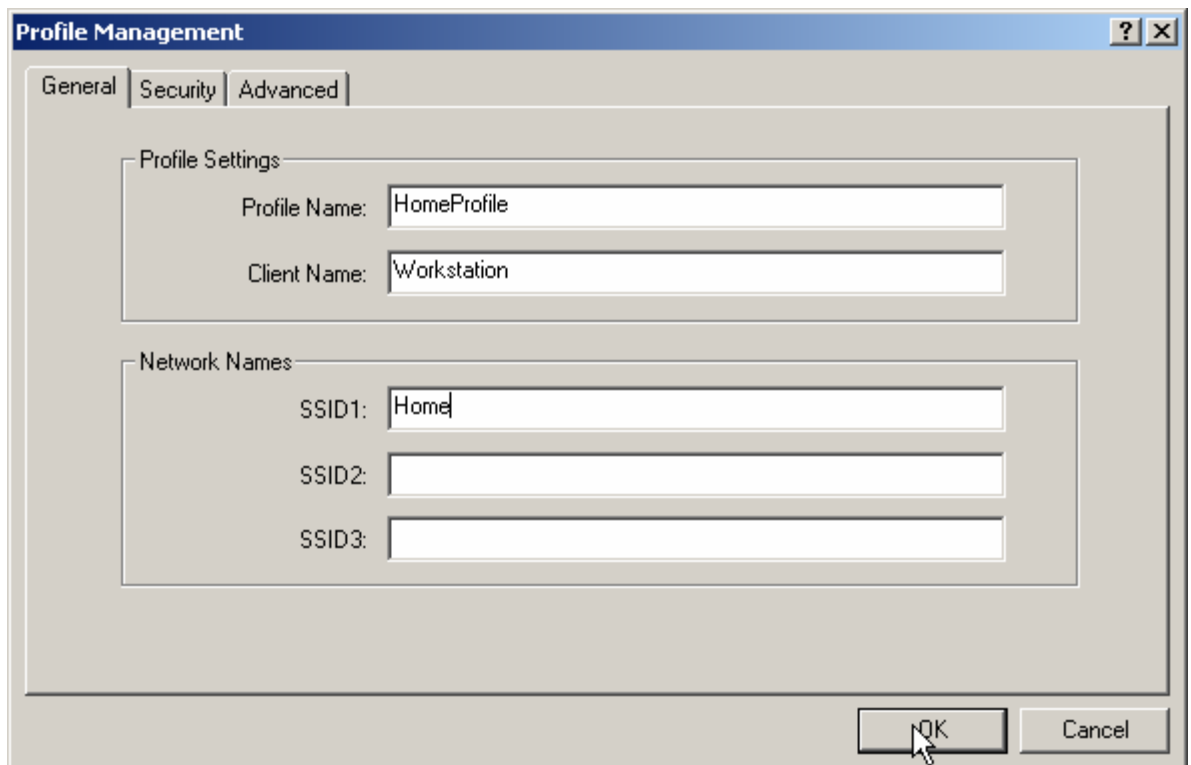


- b. View the General, Security and Advanced settings for the profile. Notice that each profile has many configuration options available. Click the **Cancel** button to return to the Profile Management window.



The screenshot shows the 'Profile Management' window with the 'General' tab selected. The window has a title bar with a question mark and a close button. Below the title bar are three tabs: 'General', 'Security', and 'Advanced'. The 'General' tab contains two main sections: 'Profile Settings' and 'Network Names'. In the 'Profile Settings' section, the 'Profile Name' field is filled with 'Default' and the 'Client Name' field is empty. In the 'Network Names' section, there are three fields labeled 'SSID1:', 'SSID2:', and 'SSID3:', all of which are empty.

- c. To create two new profiles named "Home" and "Airport", select the **New...** button. First create the Home profile. Use a **Profile Name** that makes it easier to remember where this profile is used. The **Client Name** should be a useful identifier for the computer. In the **SSID1** field, type "Home." SSIDs are case sensitive and must match the AP or bridge exactly. Click OK to continue.



This screenshot shows the 'Profile Management' window with the 'General' tab selected, after creating a new profile. The 'Profile Name' field is now filled with 'HomeProfile' and the 'Client Name' field is filled with 'Workstation'. In the 'Network Names' section, the 'SSID1:' field is filled with 'Home', while 'SSID2:' and 'SSID3:' remain empty. At the bottom right of the window, there are two buttons: 'OK' and 'Cancel'. A mouse cursor is pointing at the 'OK' button.

- d. Create a second profile for use at the airport.

The screenshot shows the 'Profile Management' dialog box with the 'General' tab selected. It contains two main sections: 'Profile Settings' and 'Network Names'. In 'Profile Settings', 'Profile Name' is 'AirportProfile' and 'Client Name' is 'Workstation'. In 'Network Names', 'SSID1' is 'Airport', while 'SSID2' and 'SSID3' are empty. At the bottom right are 'OK' and 'Cancel' buttons.

Section	Field	Value
Profile Settings	Profile Name	AirportProfile
	Client Name	Workstation
Network Names	SSID1	Airport
	SSID2	
	SSID3	

### Step 7 Selecting profiles

With multiple profiles, it is important to know which profile is currently selected for use. From the Profile Management window, any of the listed profiles can be selected. Follow the steps below to specify the profile that the client adapter is to use.

- a. From the list of profiles in the Profile Management window, click the **HomeProfile** and then the **Activate** button. If the AP has been configured with the Home SSID, the client should associate. If the client does not associate troubleshoot with your instructor.

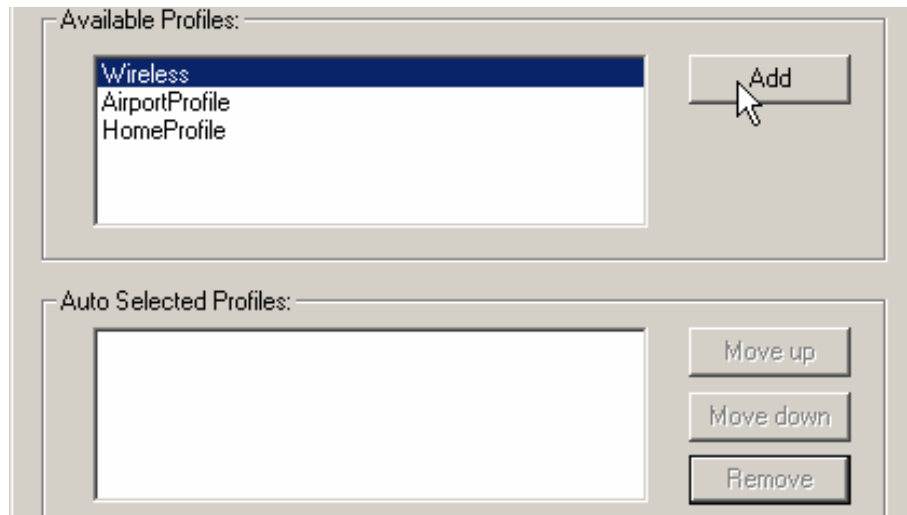
The screenshot shows the 'Cisco Aironet Desktop Utility - Current Profile: Wireless' window. The 'Profile Management' tab is active, showing a list of profiles: 'Wireless', 'Default', 'AirportProfile', and 'HomeProfile'. 'HomeProfile' is selected. To the right are buttons: 'New...', 'Modify...', 'Remove', 'Activate' (with a mouse cursor), 'Import...', 'Export...', 'Scan...', and 'Order Profiles...'. Below the list is a 'Details' section with the following information:

Field	Value
Network Type	Infrastructure
Security Mode	None
Network Name 1 (SSID1)	Home
Network Name 2 (SSID2)	<empty>
Network Name 3 (SSID3)	<empty>

At the bottom left is an unchecked checkbox labeled 'Auto Select Profiles'.

Configured profiles can be tried in a specified order. This is useful when a laptop is used in multiple areas consistently. For instance, a laptop might be used daily at work and then at home during the evening. Auto selected profiles in this case would be an easy way to ensure that the laptop associated with the access point at each site.

- b. From the Profile Management window, select the **Order Profiles...** button.
- c. The configured profiles will appear in the top window as Available Profiles. One or more of these profiles can be added to the Auto Selected Profiles list by selecting the profile and clicking the **Add** button. Once in the list, the profiles can be ordered by preference. The adapter will try each profile in order until one associates with an access point.



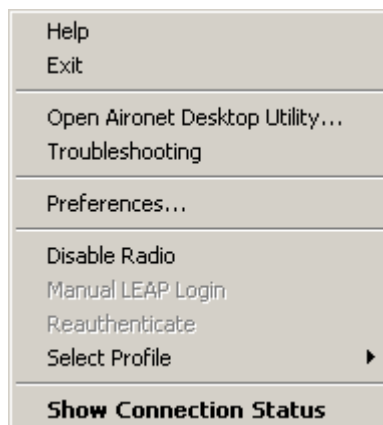
## Step 8 Using the Aironet Client Monitor (ACM)

The ACM is an optional application that provides a small subset of the features available through ADU. Specifically, it provides access to status information about the client adapter and the ability to perform basic tasks. The ACM is accessible from an icon in the Windows system tray, making it easily accessible and convenient to use.







The profile can also be quickly switched through the system tray using ACM.



- a. Right click on the ADU icon and go to **Select Profile**, then choose the Home profile.
- b. The client will now associate to the second AP. Observe the ACM icon.
- c. Now select the Airport profile. Observe the ACM icon turn gray
- d. Finally, re-select the Office profile to connect to the first AP. The ACM icon should turn green.



The appearance of the ACM icon indicates the connection status of the client adapter. The ACM reads the client adapter status and updates the icon every 2 seconds

Icon	Description
	The client adapter's radio is turned off.
	The client adapter is not associated to an AP.
	The client adapter is associated to an AP, but the user is not authenticated.
	The client adapter is associated to an AP, and the link quality is excellent or good.
	The client adapter is associated to an AP, and the link quality is fair.
	The client adapter is associated to an AP, and the link quality is poor.

### Step 9 Modifying a Profile

Existing profiles may need to be edited to maintain consistency with the access point configuration or if the SSID was misconfigured.

- Open the ADU, select the profile to modify, and then click the **Modify** button.
- Change the configured client name for this profile.
- Click **OK** or **Apply** to save the configuration changes.

### Step 10 Removing a Profile

During lab activities, a number of profiles may be created. To ease troubleshooting, profiles may be deleted if they are no longer needed.

- Click the profile that will be deleted.
- Click the Remove button. Note that there is no confirmation for this action! Take care when removing profiles from the client adapter.

### Step 11 Importing and exporting profiles

This section provides instructions for importing and exporting profiles. The import/export feature may be used for the following reasons:

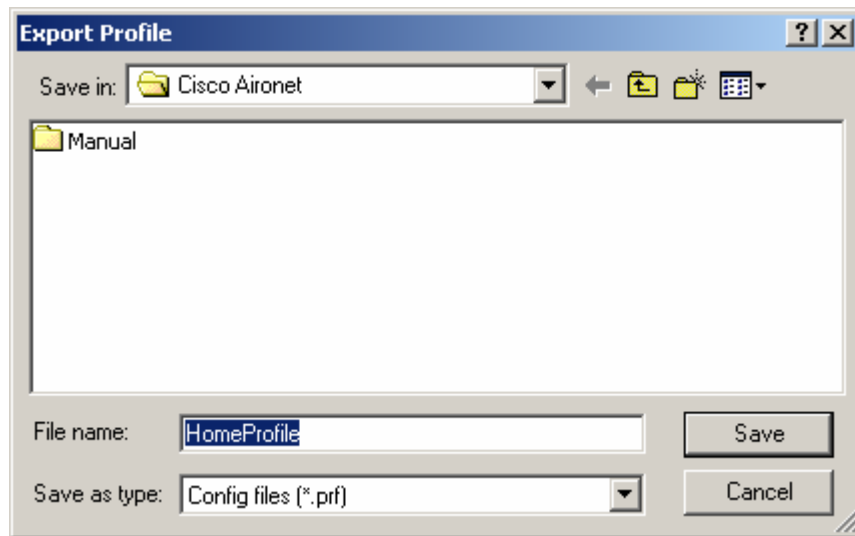
- To back up profiles before uninstalling the client adapter driver or changing radio types
- To set up a computer with a profile from another computer
- To export one of the profiles and use it to set up additional computers

Follow the steps in the corresponding section below to import or export profiles.

#### Exporting a Profile

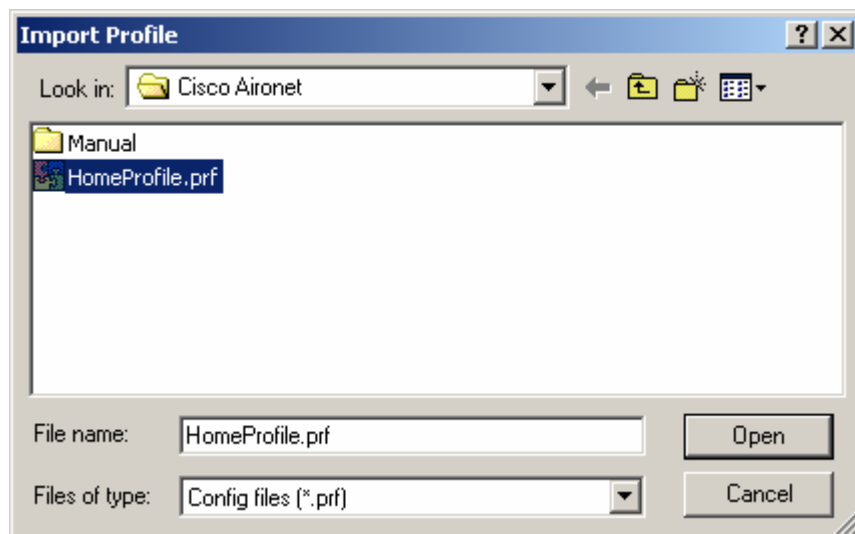
- Insert a blank floppy disk into the computer's floppy drive, or save the file to the PC hard disk.
- Open the ADU. From the **Profile Management** tab, select the profile to export. Click the **Export** button.
- The **Export Profile** screen appears. The filename and directory can be changed.

- d. Click **Save** to export the profile.



### Importing a Profile

- Open the ADU and click the **Profile Management** tab.
- Click **Import**. The Import Profile window appears. Navigate to the directory where the profile is located. Click the profile so it appears in the File name box at the bottom of the Import Profile screen.
- Click **Open**. The imported profile appears in the list of profiles on the Profile Manager screen.



## Step 12 Scanning for available networks

The Profile Management tab also includes a **Scan** button that displays Available APs and Ad Hoc Networks. Those network names listed with a key icon demonstrate that the network is secured. If no key is displayed, the network is not secured and will likely accept guest associations.

Highlight a network name and click the **Activate** button to connect to an available network. If no configuration profile exists for that network, the Network Configuration Settings window opens to the General tab. Fill in the network name and click OK to create the configuration profile for that network.

