


Air Live®

www.ovislink.com.tw

WMU-6000FS

Portable Wireless AP Storage

User's Manual



Powered by OvisLink Corp.

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FCC Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against radio interference in a commercial environment. This equipment can generate, use and radiate radio frequency energy and, if not installed and used in accordance with the instructions in this manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures are necessary to correct the interference.

CE Declaration of Conformity

This equipment complies with the requirements relating to electromagnetic compatibility, EN 55022/A1 Class B.

Note. The content of user manual will be revised without notice.

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Chapter 1: Introduction

Congratulations on your purchase of **AirLive WMU-6000FS**. This product is specifically designed for Small Office and Home Office needs. It provides a complete SOHO solution for Internet surfing, and is easy to configure and operate even for non-technical users. Instructions for installing and configuring this product can be found in this manual. Before you install and use this product, please read this manual carefully for fully exploiting the functions of this product.

1.1 Overview

The **AirLive WMU-6000FS** is an ultra slim design and compact size of Portable Wireless AP Storage. It is an ideal device for travelers and home users who need to back up and share files more efficiently and easily anytime and anywhere. Additionally, Network storage and fully compliant IEEE 802.11g WLAN device functions let you share files easily.

The **AirLive WMU-6000FS** offers WLAN mobility for home user and business people to maintain continuous network connectivity. Home users can stay connected to the network anywhere through a building without being limited by LAN cables via **AirLive WMU-6000FS**'s AP functionality. This device also has the additional advantage of providing network storage with its 2.5-inch hard disk drive which allows you to share information and storage capacity via

wireless or wired network. The **AirLive WMU-6000FS** supports the UPnP content directories and users can share the music and video files easily. Besides, the click-and-copying of files from a flash drive to the **AirLive WMU-6000FS** hard disk make the user backup files efficiently.

1.2 Features

Basic functions

- Ultra DMA 133 IDE controller to adapt for 2.5-inch hard disk drive.
- Network File Storage and File Sharing via the Network Neighborhood (or My Network Places) in Windows or Samba in Linux.
- Support FAT, FAT32, Ext2 files system and can read NTFS file system. (Only can copy files from NTFS folder to another FAT, FAT32, or Ext2 folder.)
- Built-in FTP server.
- Support Security level as guest or Authorization user for file sharing.
- UPnP (Universal Plug and Play) feature for Windows XP and Windows Me.
- Real time clock to synchronize the computer time setting.
- Easy to upgrade: using Web or Windows Application to upgrade new version of firmware.
- Browser-based interface configuration and management: OS

independent, easy-to-use for consumer installation.

USB device

- Built-in USB2.0 host to connect to USB mass storage device, like USB flash drive, USB Hard Drive, etc...
- Easy to button: Offer the Button to Copy folders and files from USB device to HDD.

Wireless functions

- Up to 54Mbps data rate by incorporating Orthogonal Frequency Division Multiplexing (OFDM).
- IEEE 802.11b compatible (11Mbps): Allowing inter-operation among multiple vendors.
- IEEE 802.11g compatible (54Mbps): Allowing inter-operation among multiple vendors.
- Wireless data rate supported: 6/12/18/24/36/48/54 Mbps in 802.11g mode; 1/2/5.5/11Mbps in 802.11b mode.
- 64/128-bit WEP encryption.
- Support 802.1X authentication.
- Support WPA with TKIP and AES encryption.
- Support AP and WDS wireless modes.

1.3 System Requirements

To start to use the **AirLive WMU-6000FS**, your system must have the following minimum requirements:

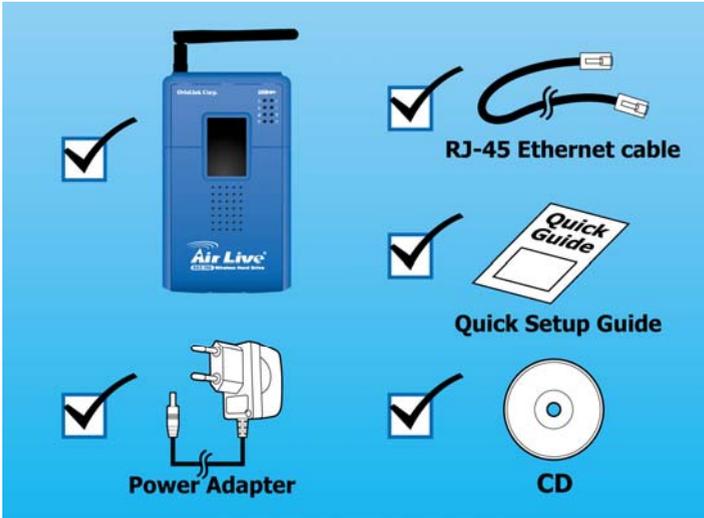
- Windows 95 / 98 / ME / 2000 / XP.
- An Ethernet (10BaseT or 10/100 BaseT) adapter for wired client.
- At least one WLAN client adapter of 802.11g(54Mbps) or 802.11b(11Mbps) for wireless connection.
- TCP/IP and NetBIOS network protocol installed.
- Internet Browser installed.

The **AirLive WMU-6000FS** requires an external 5V, 3A power supply which is included in the **AirLive WMU-6000FS** package. For safe operation, please use **only** the power adapter provided by **AirLive WMU-6000FS** .

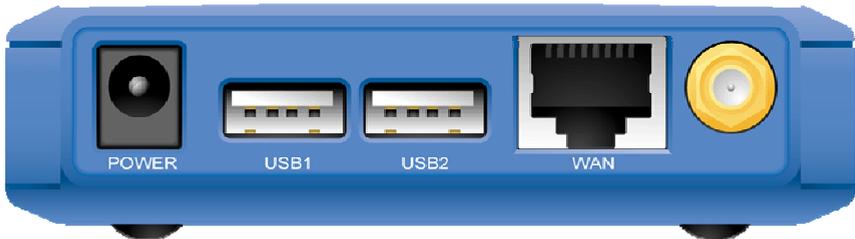
1.4 Package List

The **AirLive WMU-6000FS** package contains the following items:

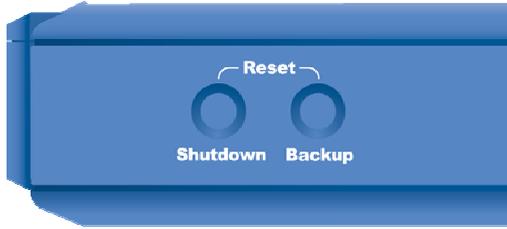
- **AirLive WMU-6000FS** x 1
- 2.4GHz dipole antenna x 1
- Power Adapter (5 Volts DC, 3A) x 1
- RJ-45 Ethernet cable
- Quick Setup Guide
- CD(utilities and user manual) x 1
- Screws x 2 (Fix hard drive)



1.5 Hardware Ports and Buttons

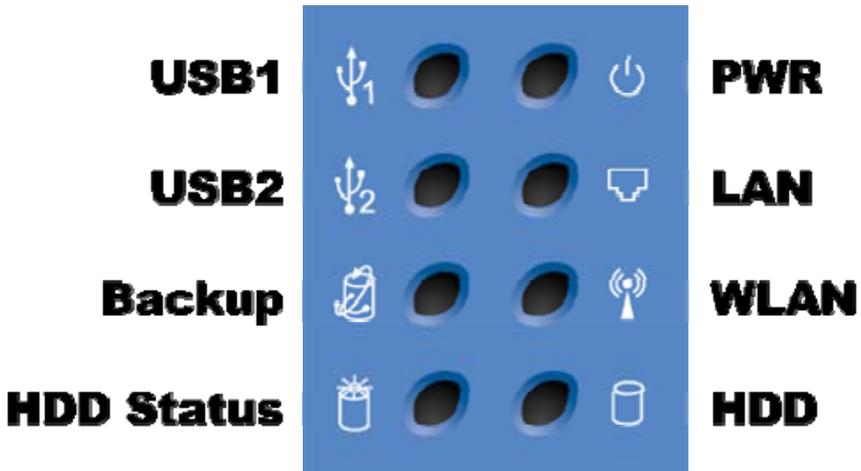


Ports	Description
Power	5V/3A Power inlet
USB1 / USB2	The ports where you can connect to any USB storage.
LAN	Automatically MDI/MDIX LAN port can sense the cable type when connecting to Ethernet-enabled computer, network of hub, switch or router



Buttons	Description
Shutdown	Press the button for 4 seconds to shut down the whole system before power-off.
Backup	Press the button over 4 seconds to copy data from USB device to HDD.
Reset	Press the buttons of “Shutdown” and “Backup” simultaneously over 6 seconds to reset the system to the factory default setting.

1.6 LED Indicators



LED	Off	On	Blinking
PWR	Power off	Power on	
LAN	No device	Linked	In use
WLAN	No packet	On Transmitting	
HDD	Not in use	HDD read/write	
USB1 / USB2	No device	USB drive ready	
Backup			Backup files from USB to HDD
HDD Status	No HDD	HDD full or error	More blinking quickly, fewer available HDD capacity.

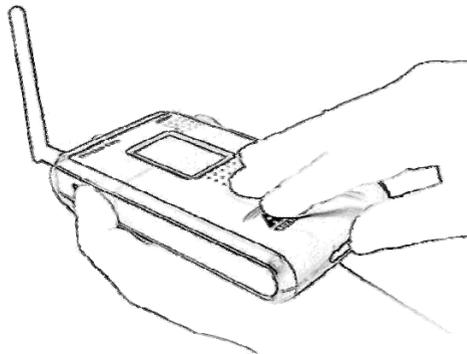
Chapter 2: Getting Started

2.1 Hard Disk installation

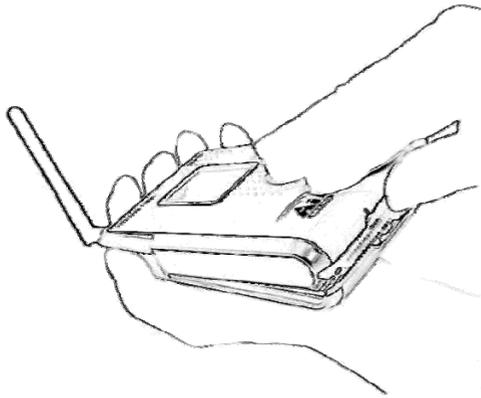
Follow the steps below to insert the 2.5-inch hard disk and assemble the device before using the **AirLive WMU-6000FS**.

Warning: The **AirLive WMU-6000FS** is not hot-swappable. Please make sure that it is turned off and not connected to the power outlet when performing the following assembly procedure.

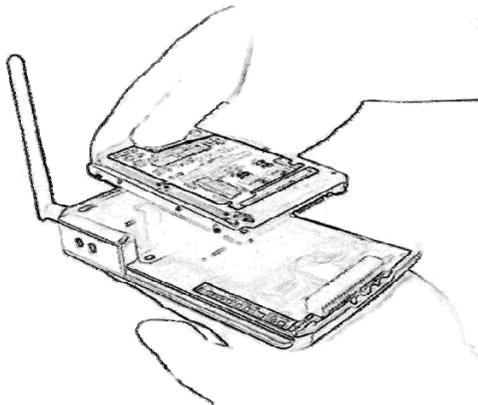
Step 1: Use one hand to hold on the **AirLive WMU-6000FS**, and the other hand to open the upper cover carefully.



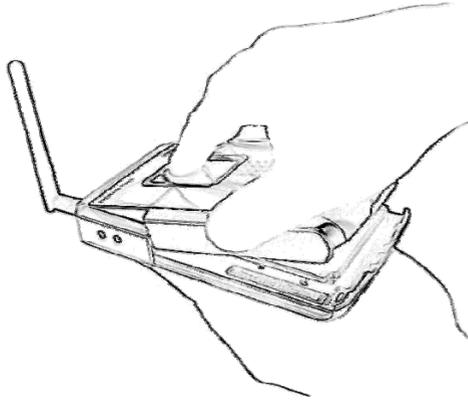
Step 2: Remove the upper cover



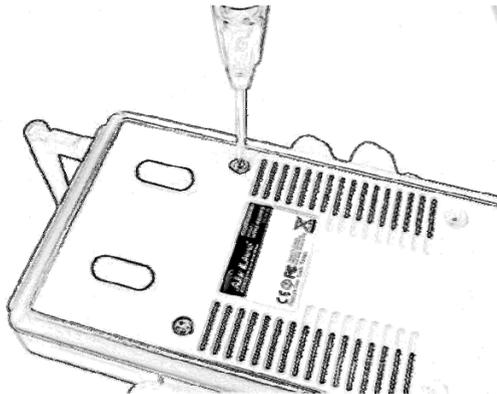
Step 3: Insert the 2.5-inch hard drive into the slot. **Make sure the hard drive connecting pins and the connectors are properly aligned.**



Step 4: Put the upper cover back and assemble the cover tightly.



Step 5: Fasten the screw to make sure the hard drive would not loosen.



2.2 Making Connections

In order to access the **AirLive WMU-6000FS** as the network storage drive or as an AP, you may need to configure the TCP/IP settings correctly. Either the “Wired Ethernet settings” or “Wireless Connection” can be used to connect the **WMU-6000FS** easily.

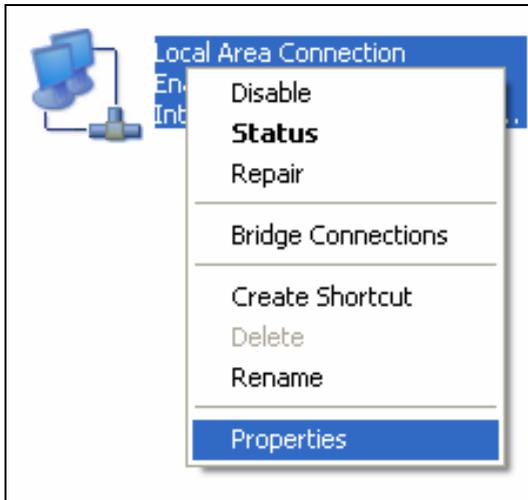
2.2.1 Check TCP/IP Settings

To install the “**Client for Microsoft Networks**”, “**File and Printer Sharing for Microsoft Networks**”, and “**Internet Protocol (TCP/IP)**” as follows:

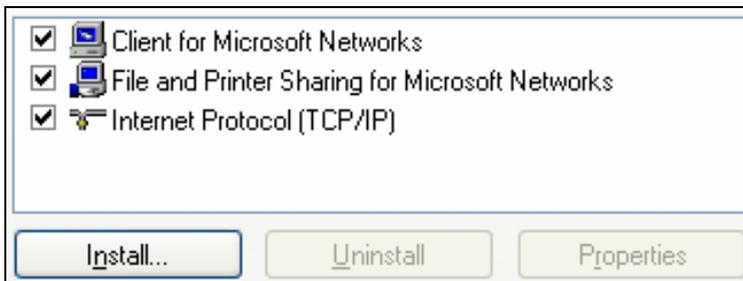
Step 1: Select the “My Network Places” on the Desktop Menu, and click the right button of mouse to choose the “Properties”



Step 2: Choose the “**Properties**” of **Local Area Connection**.



Step 3: Check the “**Client for Microsoft Networks**”, “**File and Printer Sharing for Microsoft Networks**”, and “**Internet Protocol (TCP/IP)**” are installed or not. If not, please install those communication protocols.

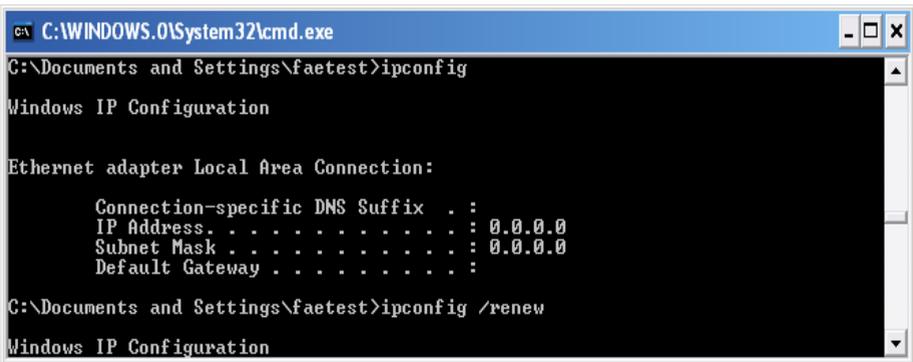


If you use other operating system, such as Linux X-window or Mac OS, please refer to original manual of your OS to finish the configurations of TCP/IP and other required communication protocols.

2.2.2 Wired Ethernet Connection

AirLive WMU-6000FS will detect automatically if the DHCP server is existed, it will get a IP address form DHCP server. If there is no DHCP server, **AirLive WMU-6000FS** will assign a random IP to client and you can get some information as below shown.

Use one Ethernet cable to connect the AP Storage and your computer directly. Then go to the command mode and key “**ipconfig**”. If the IP address and subnet is 0.0.0.0, please type “**ipconfig /renew**” to retrieve a IP address:



```
C:\WINDOWS.0\System32\cmd.exe
C:\Documents and Settings\faetest>ipconfig

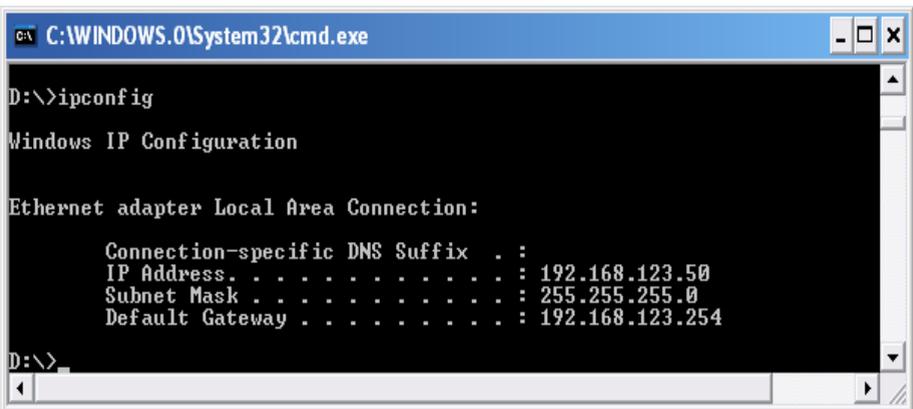
Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : 
    IP Address. . . . .               : 0.0.0.0
    Subnet Mask . . . . .            : 0.0.0.0
    Default Gateway . . . . .        : 

C:\Documents and Settings\faetest>ipconfig /renew

Windows IP Configuration
```



```
C:\WINDOWS.0\System32\cmd.exe
D:\>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

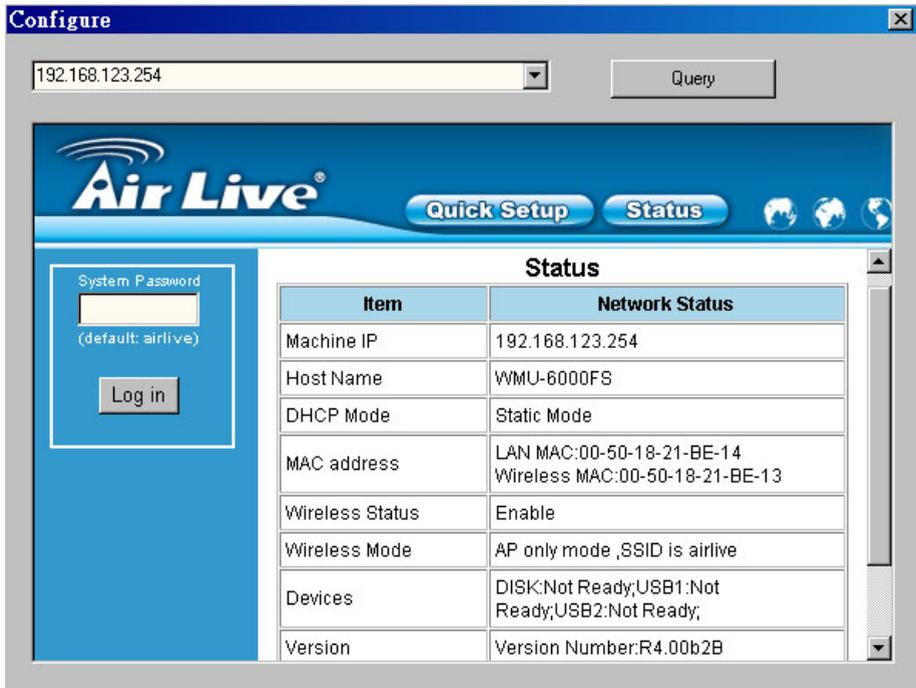
    Connection-specific DNS Suffix  . : 
    IP Address. . . . .               : 192.168.123.50
    Subnet Mask . . . . .            : 255.255.255.0
    Default Gateway . . . . .        : 192.168.123.254

D:\>
```

Method 1: Use Configure.exe to Setup

Before you can do this, you need to install the configuration tool from installation CD first. After that, please use the configuration tool to “Query” and you will see the status page and input “airlive” to start.

NOTE. The default login password is “airlive”

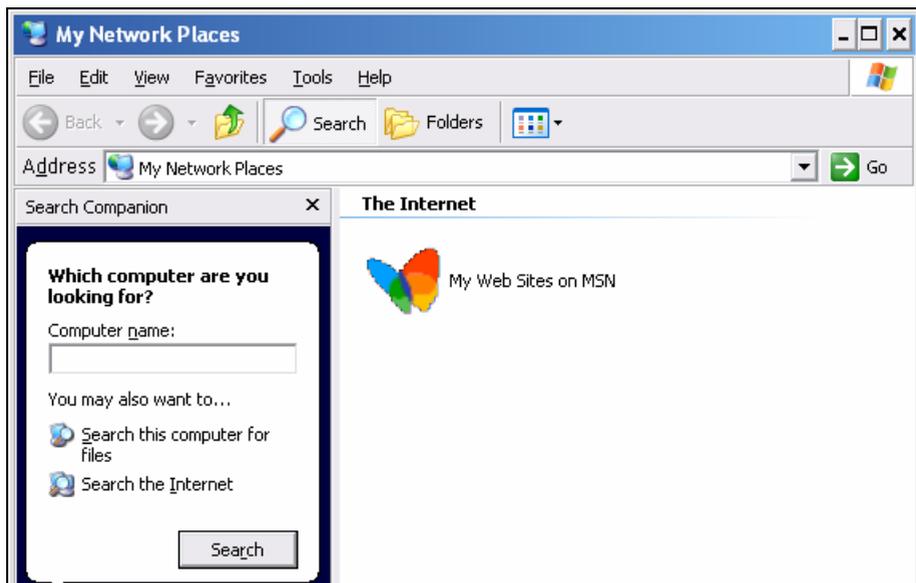


If there is a DHCP server in the network, **AirLive WMU-6000FS** will be as the client and get one IP address from DHCP server. You can also use configuration utility to Query to find the IP address that **WMU-6000FS** gets.

About other operating systems, such as Linux X-window or Mac OS, please use web browser to configure.

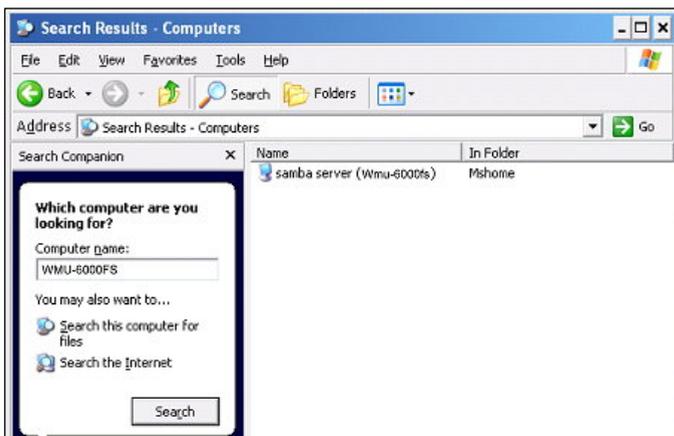
Method 2: Use “My Network Places” to Search and Setup

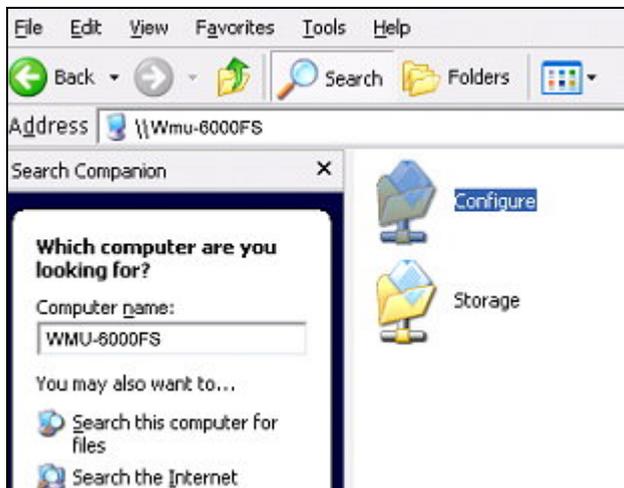
First, go to **My Network Places** and search “Computer name”.



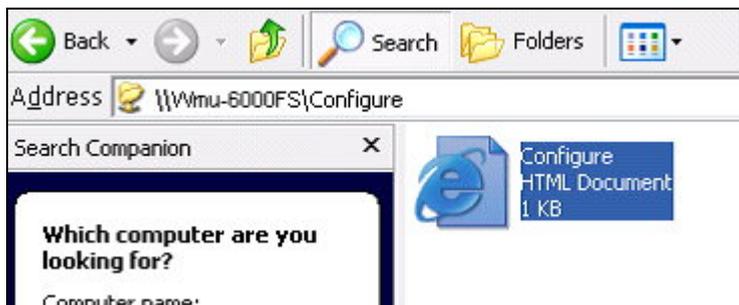
Input **“WMU-6000FS”** and start to search and you will find one device.

Click “samba server” and you will see two folders. Then click the folder “Configure”.



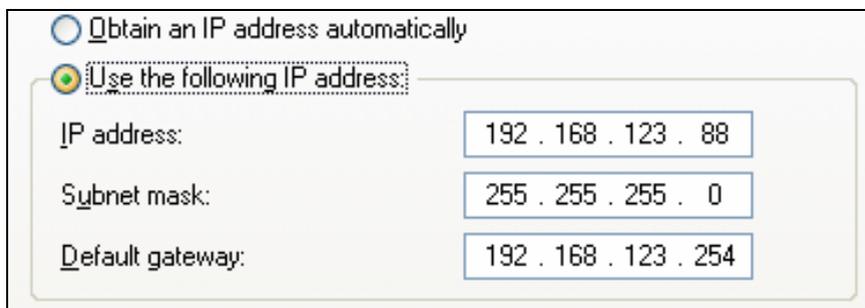


Please click "Configure.html" directly to see configuration page.



In addition, the user can allocate the IP by himself as below:

Step 1: Find the **Internet Protocol (TCP/IP) Properties** from the **My Network Places** and check the **Properties of Local Area Network Connection**. And click the **“General”** icon and assign one **IP address** which can be from 192.168.123.1 to 192.168.123.253. Here we use the 192.168.123.88 as the IP address. The **Subnet mask** must be 255.255.255.0, and the **Default gateway** must be 192.168.123.254. Then click **“OK”** button to complete TCP/IP setup.



Obtain an IP address automatically

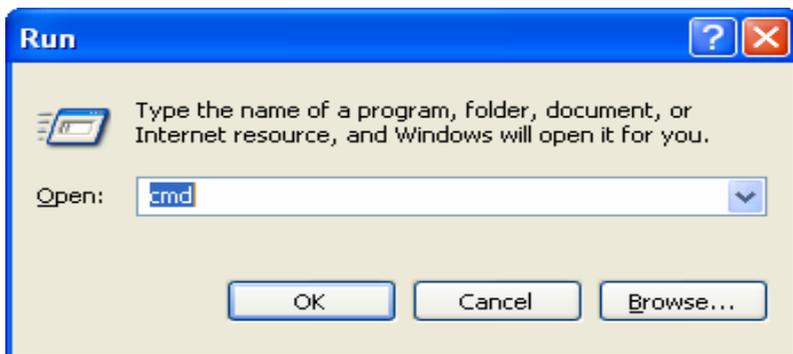
Use the following IP address:

IP address: 192 . 168 . 123 . 88

Subnet mask: 255 . 255 . 255 . 0

Default gateway: 192 . 168 . 123 . 254

Step2: Open the DOS command from the **Start Menu->Run**, and type **“cmd”** then click **OK**.



Step 3: Type the “ipconfig” and press the “Enter”. Then the following message should be found. Check the IP address, Subnet Mask, and Default Gateway addresses are same as previous setting. If same, you are successful to set up the network configuration.

```
C:\Documents and Settings\plm>ipconfig

Windows IP Configuration

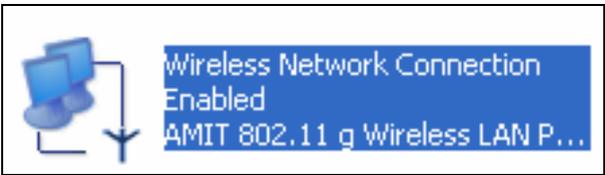
Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : 
    IP Address. . . . .               : 192.168.123.88
    Subnet Mask . . . . .             : 255.255.255.0
    Default Gateway . . . . .         : 192.168.123.254
```

2.2.3 Wireless Connection

Follow the steps below to connect to the **AirLive WMU-6000FS** in a wireless environment. We assume that there is at least one WLAN card installed on your computer, and AP Storage is powered on

Step 1: Enabling the WLAN card first, and check the **Wireless Network Connection** properties from **My Network Places**.

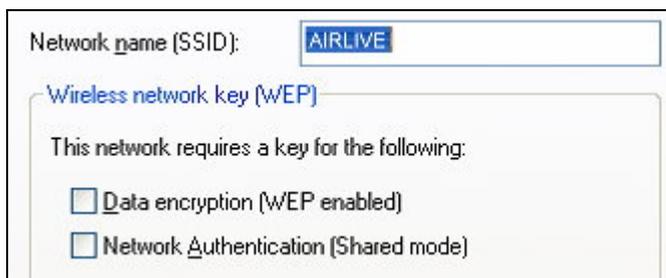


Step 2: Select the **Wireless Networks** icon after entering the “**Wireless Network Connection Properties**”. You will find the **WMU_6000FS** in the **Available networks**, then select the **WMU_6000FS**, and click **Configure** to connect.

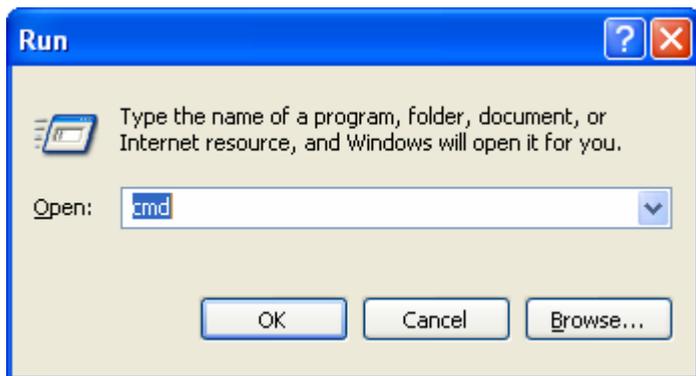
Otherwise, if you can't find **WMU_6000FS**, please refresh network list again.



After clicking the "Configure" icon, the **Network name (SSID)** is supposed to be **AirLive**.



Step 3: Open the DOS command from the **Start Menu->Run**. Type "**cmd**" in the **Open** folder, then click **OK** to enter the DOS environment.



Step 4: type the "**ipconfig**" and press the "**Enter**" in the DOS environment.

Then the following message should be found.

```
Ethernet adapter Wireless Network Connection :
Connection-specific DNS Suffix . :
IP Address . . . . . : 192.168.123.50
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.123.254
```

Check the **IP address**, **Subnet Mask**, and **Default Gateway** address are same as previous settings. If same, you are successful to set up the network configuration.

WARNING:

We strongly recommended that you enable wireless encryption feature or add ACL rules on WMU-6000FS. Otherwise, everyone can connect to it wirelessly and access data in your hard drive.

2.3 File sharing

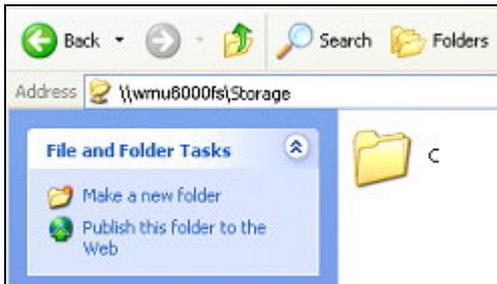
The **AirLive WMU-6000FS** can be a shared network hard drive in an existing wireless or wired network environment. The users in the same network area can read or write data from the device as required. The following various steps are for users to start using the network hard drive.

2.3.1 Accessing the network hard drive via my network places

Select the **“My Network Places”** and type the address of **“\\Wmu6000fs”** and press **“Enter”**, then you will find the **Storage** icon.



Click the **“Storage”** icon, and will find the **C folder** as below. This means you are successfully connected to the **AirLive WMU-6000FS** storage function.



2.3.2 Searching the computers

Open “**My Computer**” on the desktop menu, and use the “**Search**” function to search the computer of “**wmu6000fs**” as below:



2.3.3 Search the “Entire Network” Manually

Open **Windows Explorer**, and then click the **My Network Places** icon.

Double click the **Entire Network** to view the components of the network.

Select and click the Microsoft Windows Network icon, then the various network components showed in the list.

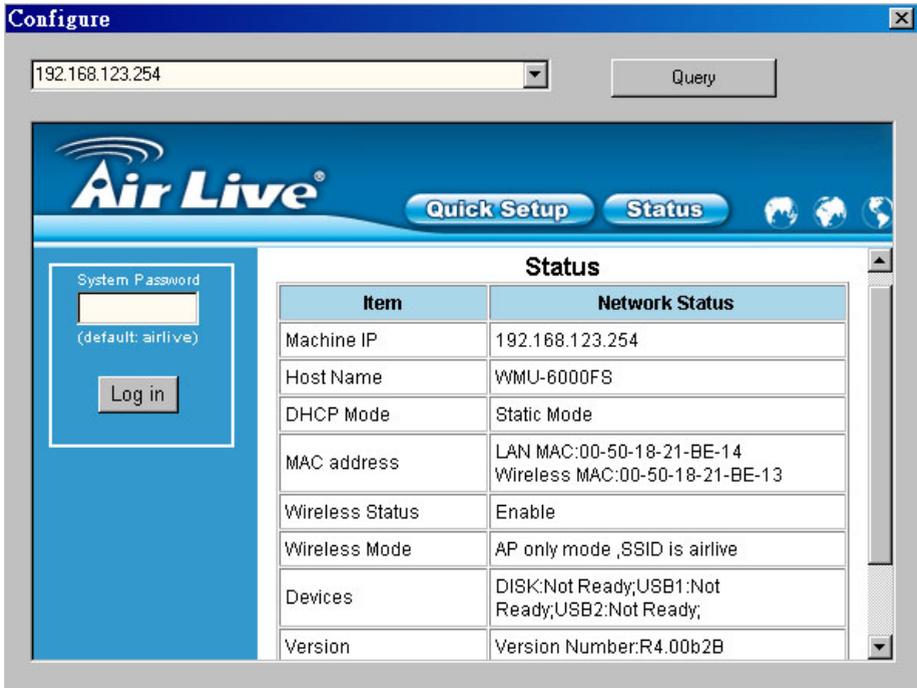


2.3.4 Accessing Files via FTP

AirLive WMU-6000FS offers FTP service for the clients which don't support Microsoft Windows File sharing. You can use any FTP client utility to connect to **WMU-6000FS** with anonymous username and password (username: ftp, and without password) when the permission setting is set to "Guest Only". But if you change to "Authorization users" mode, the accessing permission is limited, and then users have to input specified username/password to access any permitted folders.

Chapter 3: Making Configuration

The **WMU-6000FS** can be configured various settings through the Configuration Tool. Even you don't know which IP is being used by **AirLive WMU-6000FS**, the Configuration Tool will help you to find it. All you have to do is click the "Query" button of the Configuration Tool.



When you enter the Web configuration page, you are requested to provide the “**System Password**” to activate the configurations. The default authorization password is “**airlive**”.

A blue rectangular box with a white border. At the top, the text "System Password" is displayed in a light blue font. Below this is a white rectangular input field. Underneath the input field, the text "(default: airtive)" is shown in a light blue font. At the bottom of the box is a grey rectangular button with the text "Log in" in a dark grey font.

After login, you could see these buttons:

Please press [Wizard](#) or [General](#) to configure the MGB100,
or press [Log out](#) to log out MGB100 configurator.

Press “Wizard” if you want to do basic settings with simpler way. (Please check chapter 3.1)

Press “General” if you want to make some advanced settings. (Please check each item from chapter 3.2)

Press “Log out” if you don’t want to do anything.

3.1 Wizard

With wizard setting steps, you could configure **AirLive WMU-6000FS** in a very simple way. Press button Next to start configuration.

Wizard Setting Steps

Step	Name	Description
0.	Language	Set device's language.
1.	IP & DHCP	Set device's IP and DHCP mode.
2.	Wireless	Set device's wireless capability.
3.	Time	Set device's time.
4.	Disk	Make only one partition on disk of total capacity or not.
5.	Save	Save your configuration or not.

Step 0: Select Language

Step 0: Set Language

Please select language:

Step 1: You have to choose the DHCP option, default setting is Auto.

Step 1: Set IP & DHCP

Option	Mode	Description
<input type="radio"/>	Client	Device will connect to a DHCP Server, then ask for an IP.
<input type="radio"/>	Server	Device will become a DHCP Server, and it will provide IP.
<input checked="" type="radio"/>	Auto	If there is any DHCP Server in the Network, device will ask for an IP from those server. If not, device will become a DHCP server.
<input type="radio"/>	Static	Device will use the static IP which set by yourself. And device will not provide IP.

If you use Server/Auto/Static mode, you need to set some TCP/IP settings for **WMU-6000FS**. If you are not sure these values, ask your MIS or ISP.

IP Settings

Item	Input
1. Machine IP:	<input type="text" value="192.168.123.254"/>
2. Subnet Mask:	<input type="text" value="255.255.255.0"/>
3. Primary DNS:	<input type="text" value="0.0.0.0"/>
4. Secondary DNS:	<input type="text" value="0.0.0.0"/>
5. Gateway:	<input type="text" value="0.0.0.0"/>

Step 2: You have to choose the Wireless mode, default setting is AP Only Mode.

Step 2: Setup Wireless

Option	Mode	Description
<input checked="" type="radio"/>	AP Only Mode	Device will become a wireless Access Point
<input type="radio"/>	Wireless Client Mode	Device will become a wireless client

If you choose to use AP Only Mode, in next page, you could specify the SSID and the wireless channel number for WMU-6000FS.

Wireless AP Setting

Item	Input
1 SSID	<input type="text" value="airlive"/>
2 Channel	<input type="text" value="1"/>

If you select the Wireless Client Mode, in next page, you would have to specify the AP that you want **WMU-6000FS** to connect to.

Add AP

Option	Method	Description
1 <input checked="" type="radio"/>	Select Searched AP	We have Search APs in the network, you can choose one to be your AP
2 <input type="radio"/>	Add AP Manually	You can add an AP ,if you have one

Previous

Next

You have two ways to do this job. One is searching the AP that **WMU-6000FS** could get.

Scanning AP ...

Please Wait for a few seconds!

In this page, you could select the AP you want **WMU-6000FS** to connect with.

Add AP From Search Table

Select AP:

Previous 4 items

Next 4 items

ID	Add	CH	SSID	MAC address	Encryption
1	<input checked="" type="radio"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2	<input type="radio"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3	<input type="radio"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
4	<input type="radio"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Previous

Next

The other way to add an AP is adding the SSID manually.

Add AP Manaully

Item	Input
Add AP Manually	SSID <input type="text"/> (Limit in 32 Char)

Step 3: You have two ways to set time for **WMU-6000FS**. You could sync time with your PC, or set time manually.

Step 3: Set Time

Item	Setting
<input checked="" type="radio"/> Set Date and Time using PC's Date and Time	
PC Date and Time:	<input type="text" value="Friday, December 09, 2005 7:04:21 PM"/>
<input type="radio"/> Set Date and Time manually	
Date	Year: <input type="text" value="2002"/> Month: <input type="text" value="Jan"/> Day: <input type="text" value="1"/>
Time	Hour: <input type="text" value="0"/> Min.: <input type="text" value="0"/> Sec.: <input type="text" value="0"/>
	(0-23) (0-59) (0-59)

Step 4: If you use a whole new hard disk, please select “Yes”. If you already have data in this hard disk, you might want to select “No”. This option would format your hard disk to one partition if you select “Yes”.

Step 4: Set DISK

Description	Yes	No
Do you want to make only one partition on disk or total capacity?	<input checked="" type="radio"/>	<input type="radio"/>
<div style="display: flex; justify-content: space-around; gap: 20px;"> Previous Next </div>		

To confirm your decision, WMU6000FS would ask you one more time.



Step 5: Check your settings again before saving. Click “Discard Settings” and you could return the first page. If you want to change any setting, please click “Previous” button. If everything is okay, click “Save Settings”.

Step 5: Save Your Configuration

Steps	Name	Settings
0	Language	United States, Canada.
1	IP & DHCP	Auto mode, IP=192.168.123.254, Subnet Mask=255.255.255.0, Primary DNS=0.0.0.0, Secondary DNS=0.0.0.0, Gateway=0.0.0.0.
2	Wireless	Wireless Client mode, remote AP SSID=airlive.
3	Time	Set Date and Time using PC's Date and Time.
4	Disk	Do not make only one partition on disk or total capacity.

Previous

Discard Settings

Save Settings

If you need to format disk, please wait the progressing bar become 100%.

Format progressing

Please Waiting for format...0 %

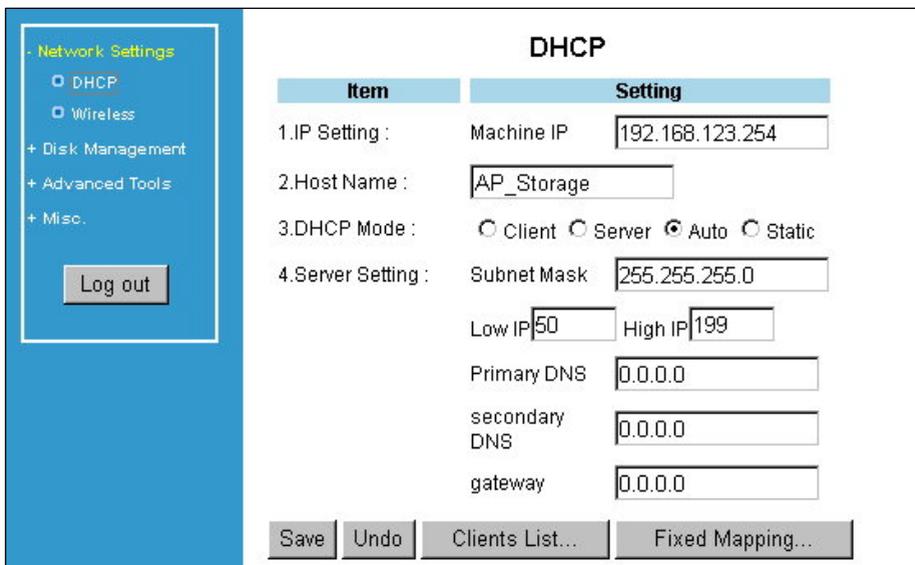
After all done, system would reboot automatically. Please wait 30 seconds at least for system restarting.

System is restarting! Wait a moment to reconnect...

Note! Your LAN IP might change, Please reconnect.

3.2 Network Settings

3.2.1 DHCP Setting



Item	Setting
1.IP Setting :	Machine IP <input type="text" value="192.168.123.254"/>
2.Host Name :	<input type="text" value="AP_Storage"/>
3.DHCP Mode :	<input type="radio"/> Client <input type="radio"/> Server <input checked="" type="radio"/> Auto <input type="radio"/> Static
4.Server Setting :	Subnet Mask <input type="text" value="255.255.255.0"/>
	Low IP <input type="text" value="50"/> High IP <input type="text" value="199"/>
	Primary DNS <input type="text" value="0.0.0.0"/>
	secondary DNS <input type="text" value="0.0.0.0"/>
	gateway <input type="text" value="0.0.0.0"/>

Save Undo Clients List... Fixed Mapping...

network.

- ✓ Auto: Select this option to let **WMU-6000FS** send out a DHCP request during boot up. If you have a DHCP server on the network, the **WMU-6000FS** will receive an automatic IP address and subnet mask assignment. If no DHCP server on the network, the **WMU-6000FS** will be a DHCP server on the network.
- ✓ Static: You can manually configure the IP address and subnet mask.
- Server Setting:
 - ✓ Subnet Mask

- ✓ Low IP and High IP: decide the IP address range that DHCP server could offer.
- ✓ Primary DNS / Secondary DNS: This feature allows you to assign DNS Servers. You could get this information from your ISP.
- ✓ Gateway: The gateway IP address would be the IP address of an alternate Gateway. If you do not know how to set up the Gateway, leave this option blank.
- ✓ Client List: When **WMU-6000FS** is as a DHCP server, here will show some information of DHCP client.
- ✓ Fixed Mapping: DHCP server can assign the same IP address to a certain “MAC address”.

3.2.2 Wireless Setting

Select the **Wireless** option in the configuration mode.

Wireless four operational modes

1. Wireless Enable Disable

2. Status: Portable AP Storage is in **AP only mode**, SSID is **airlive**.

3. Wireless modes descriptions:

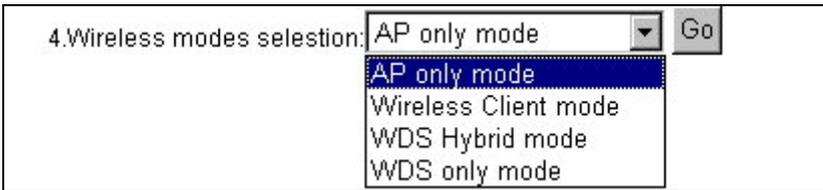
	Mode	Description
▶	AP only mode	Create a wireless lan.
▶	Wireless Client mode	Wirelessly connect ethernet devices.
▶	WDS Hybrid mode	Wirelessly connect multi networks with AP operation.
▶	WDS only mode	Wirelessly connect multi networks without AP operation.

4. Wireless modes selection: AP only mode

Followings information will let you know the current wireless operation status.

- Wireless: you can select “**Enable**” or “**Disable**” the wireless function.
- Status: to show the current wireless mode you are using.
- Wireless mode description: to describe the each wireless mode's major function.
- Wireless modes selection: **WMU-6000FS** provides four wireless modes to select.

Choose the wireless mode you need and click “**Go**” to set up detail functions.

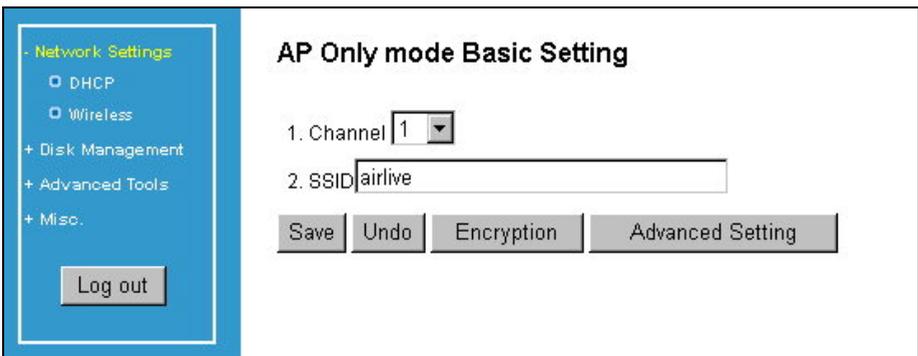


4. Wireless modes selection:

- AP only mode
- Wireless Client mode
- WDS Hybrid mode
- WDS only mode

3.2.2.1 Wireless AP only

When you are in the AP only mode, you can set up the basic wireless functions as below:



AP Only mode Basic Setting

1. Channel

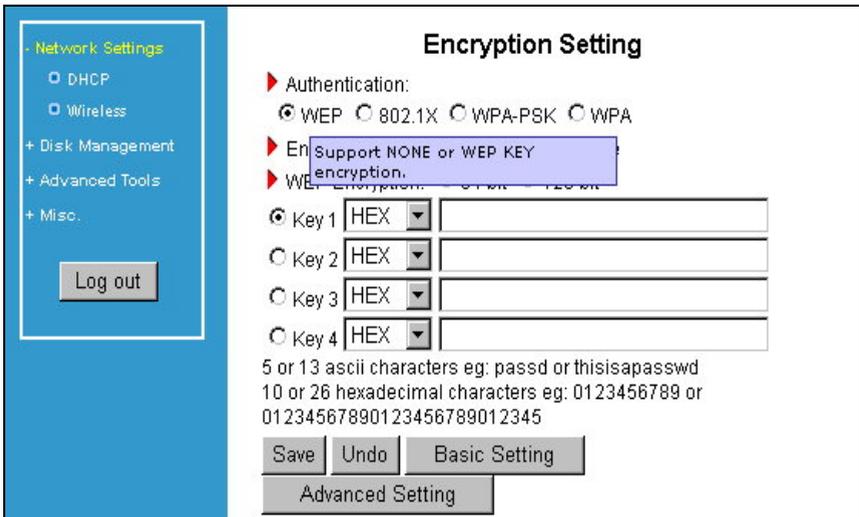
2. SSID

AP setting:

- SSID: The SSID identifies a specific wireless LAN. Before associating

with a particular wireless LAN, a station must have the same SSID as the access point. The default SSID setting is “airlive”. **NOTE: Please DO NOT set the same SSID with your current wireless network.**

- Channel: The radio channel number. The default channel is “6”. **NOTE: Please DO NOT set the same Channel with your current wireless network.**



- Authentication: Authentication ensures that digital data transmissions are delivered to the intended receiver. This option enables you to set the authentication method for various encryption schemes for the selected AP.
- Open or shared WEP Encryption: Select “64” or “128” bits in the pull-down menu for encryption method to protect your data by encrypting it. The WEP key can be 5–13 ASII characters or 10–26 hexadecimal characters based on whether you select 64 bit or 128 bit WEP encryption.

- 802.1X: IEEE802.1x authentication can be done by using an external RADIUS server.

Encryption Setting

▶ Authentication:
 WEP 802.1X WPA-PSK WPA

▶ 802.1X configuration:
 Server Setting IP: Port:
 Shared Secret

Save Undo Basic Setting
 Advanced Setting

Please input the IP address of RADIUS server and Shared Secret.
 Please refer to FAQ in Chapter 7 to get more detailed information.

- WPA-PSK: AP and Client need to use identical Pre-shared key (PSK). Please input 64 Hex key (0~F) or 8~63 characters in ASCII Type.
 Note. This device only supports WPA version 1.
- WPA: WPA applies IEEE802.1x and Extensible Authentication Protocol (EAP) to authenticate wireless clients using an external RADIUS server.

Encryption Setting

▶ Authentication:
 WEP 802.1X WPA-PSK WPA

▶ Encryption Type: TKIP AES

▶ Passphrase:

Save Undo Basic Setting
 Advanced Setting

Please input the IP address of RADIUS and Shared Secret.

Please refer to FAQ in Chapter 7 to get more detailed information.

Advance Setting:

AP Only mode Advanced Setting

1. Wireless Mode: 11b/g mixed 11g only
2. Beacon interval: msec (1~1000,default 100)
3. RTS Threshold: (1~2347,default 2347)
4. Fragmentation: (256~2346,default 2346,even number only)
5. DTIM interval: (1~255,default 3)
6. Preamble Type: Long Preamble Short Preamble
7. SSID Broadcast: Disable Enable

Basic Setting Encryption Save Undo Next

- Wireless mode: **11b/g mixed** can let 11g or 11b computers both exist on the network, but the speed will be reduced. Select **11g only** for maximum speed, but no 11b users will be allowed on the network.
- Beacon interval: This represents the amount of time between beacon transmissions. The interval tells receiving devices on the network how long they can wait in low-power mode before waking up to handle the beacon. Beacons are packets sent by an Access Point to synchronize a wireless network. Specify a Beacon interval value between 1 and 1000. The default value is set to 100 milliseconds.
- RTS Threshold: The RTS threshold specifies the packet size of an RTS transmission. This helps control traffic flow through an access point, especially one with many clients. The setting value range is from **1 to 2347**, and default value is set to **2347**.

- Fragmentation: In a network, the maximum size or length of a fragment is determined by the protocol used to transport the data. This value should remain at its default setting of **2346**. If you experience a high packet error rate, you may slightly increase your "Fragmentation" value within the value range of **256 to 2346, even number only**. Setting the Fragmentation value too low may result in poor performance.
- DTIM interval: A Delivery Traffic Indication Message (DTIM) is a countdown informing clients of the next window for listening to broadcast and multicast messages. When the Access Point has buffered broadcast or multicast messages for associated clients, it sends the next DTIM with a DTIM Interval value. AP clients hear the beacons and awaken to receive the broadcast and multicast messages. Enter a value from **1 to 255** for DTIM. The default value for DTIM interval is set to **3**.
- Preamble Type: The Preamble Type defines the length of the CRC (Cyclic Redundancy Check) block for communication between the Access Point and roaming wireless adapters.
- SSID Broadcast: **Enable** or **Disable** a SSID broadcast. When enabled, the SSID of **WMU-6000FS** is sent to wireless enabled devices on the LAN.

Press "Next" button, you could see the Wireless MAC Filtering setting.

- Network Settings
 - DHCP
 - Wireless
- + Disk Management
- + Advanced Tools
- + Misc.

Wireless MAC filtering

8. MAC filtering: (Only filter wireless client)

Disable
 ALL accept
 ALL Reject

MAC Table:

ID	Del	MAC address	ID	Del	MAC address
0	<input type="checkbox"/>	00-00-00-00-00-00	1	<input type="checkbox"/>	00-00-00-00-00-00
2	<input type="checkbox"/>	00-00-00-00-00-00	3	<input type="checkbox"/>	00-00-00-00-00-00
4	<input type="checkbox"/>	00-00-00-00-00-00	5	<input type="checkbox"/>	00-00-00-00-00-00
6	<input type="checkbox"/>	00-00-00-00-00-00	7	<input type="checkbox"/>	00-00-00-00-00-00
8	<input type="checkbox"/>	00-00-00-00-00-00	9	<input type="checkbox"/>	00-00-00-00-00-00

The default setting is “**Disable Mac filtering**”, every wireless client could connect to this AP. When you select “**ALL accept**”, the wireless clients with the MAC addresses you enter bellow will be accepted to connect to this AP, the others will be rejected. When you select “**ALL Reject**”, the wireless clients with the MAC addresses you enter bellow will be rejected to connect to this AP, the others will be accepted.

After press “Save” button, **WMU-6000FS** would show you this page about the wireless settings you have done.

- Network Settings

- DHCP
- Wireless
- + Disk Management
- + Advanced Tools
- + Misc.

Wireless MAC filtering

8. MAC filtering: (Only filter wireless client)

Disable
 ALL accept
 ALL Reject

MAC Table:

ID	Del	MAC address	ID	Del	MAC address
0	<input type="checkbox"/>	00-00-00-00-00-00	1	<input type="checkbox"/>	00-00-00-00-00-00
2	<input type="checkbox"/>	00-00-00-00-00-00	3	<input type="checkbox"/>	00-00-00-00-00-00
4	<input type="checkbox"/>	00-00-00-00-00-00	5	<input type="checkbox"/>	00-00-00-00-00-00
6	<input type="checkbox"/>	00-00-00-00-00-00	7	<input type="checkbox"/>	00-00-00-00-00-00
8	<input type="checkbox"/>	00-00-00-00-00-00	9	<input type="checkbox"/>	00-00-00-00-00-00

Saved! Take effective right now !

3.2.2.2 Wireless client mode

Select the “**Wireless client mode**” and click “Go” to set up under the Wireless client mode.

4. Wireless modes selection:

AP only mode

Wireless Client mode

WDS Hybrid mode

WDS only mode

After entering the Wireless client mode setting, click the **AP List** icon to set up the AP connecting list.

• Network Settings

- DHCP
- Wireless

+ Disk Management

+ Advanced Tools

+ Misc.

Log out

Wireless Client mode Basic Setting

1. AP list: AP List Save

ID	Del	Mod	CH	SSID	Encription
1	Del	Mod			
2	Del	Mod			
3	Del	Mod			
4	Del	Mod			
5	Del	Mod			
6	Del	Mod			

2. Force SSID: (0~6, 0: automatically sequential search)

3. Add AP Manually: SSID (Limit in 32 Char) Add

Click the “**Scan AP**” to scan the existing AP list. Select the AP you want to connect and click “**Add**” to set up the AP list.

• Network Settings

- DHCP
- Wireless

+ Disk Management

+ Advanced Tools

+ Misc.

Log out

AP List

Active AP: Scan AP Previous Next Back

ID	Add	CH	SSID	MAC address	Enc	Quality
1	Add					
2	Add					
3	Add					
4	Add					

Select the AP you want to connect and click “**Add**” to set up the AP list.
 Click “**Mod**” to specify the AP information. After clicking the “Mod” button, you

will find the following information and modify it depending on your actual wireless environment; this should be done necessarily when you are in the secured wireless network with WEP.

- Network Settings

DHCP

Wireless

+ Disk Management

+ Advanced Tools

+ Misc.

Log out

Wireless Client mode Basic Setting

1.AP list: AP List Save

ID	Del	Mod	CH	SSID	Encription
1	Del	Mod	1	airlive	NONE
2	Del	Mod			
3	Del	Mod			
4	Del	Mod			
5	Del	Mod			
6	Del	Mod			

2.Force SSID: (0~6, 0: automatically sequential search)

3.Add AP Manually:SSID (Limit in 32 Char) Add

Click the “Next” for advanced setting, or click “Save” or “Undo” for your need.

- Network Settings

DHCP

Wireless

+ Disk Management

+ Advanced Tools

+ Misc.

Log out

Wireless Client mode AP Configure

1. SSID

2. Authentication WEP WPA-PSK

3. Encryption type Disable Enable

4.WEP Encryption 64 bit 128 bit

Key 1 HEX

Key 2 HEX

Key 3 HEX

Key 4 HEX

5 or 13 ascii characters eg: passd or thisisapasswd
 10 or 26 hexadecimal characters eg: 0123456789 or
 01234567890123456789012345

Back
Save
Undo
Next

The advanced setting items are shown as below:

Wireless Client mode Advanced Setting

1. Wireless Mode: 11b/g mixed 11b only

2. RTS Threshold: (1~2347, default 2347)

3. Fragmentation: (256~2346, default 2346, even number only)

Basic Setting Save Undo

For the meanings of above items, please refer to “Advanced setting”.

After saving the values of client mode, you have to go back the “Wireless Client mode Basic Setting” page and click “Save” on the top of the page. Then you could check the settings that you have done.

3.2.2.3 WDS Hybrid mode

Select the “**WDS Hybrid mode**” and click “Go” to set up

4. Wireless modes selection:

- AP only mode
- Wireless Client mode
- WDS Hybrid mode**
- WDS only mode

After entering the WDS Hybrid mode setting, click the **AP List** icon to set up the AP connecting list. Then click the “**AP Setting**” icon and set up the AP.

· Network Settings

- DHCP
- Wireless
- + Disk Management
- + Advanced Tools
- + Misc.

Log out

WDS Hybrid mode Basic Setting

1.AP SSID: airlive , Remote AP table:

AP List		AP Setting		Save	
ID	Del	Mod	CH	SSID	MAC address
1	Del	Mod			
2	Del	Mod			
3	Del	Mod			
4	Del	Mod			
5	Del	Mod			
6	Del	Mod			

2.Add An AP manually:

CH	SSID	MAC	option
<input type="text"/>	<input type="text"/>	<input type="text"/>	add

NOTE: You **MUST** use the same channel with the AP you want to bridge. In this example, we set the channel to **6**.

· Network Settings

- DHCP
- Wireless
- + Disk Management
- + Advanced Tools
- + Misc.

Log out

WDS Hybrid mode AP Basic Setting

1. Channel

2. SSID

Click the **Advanced Setting** icon, and you could set more values. About the meanings of these please refer to 3.2.2.1.

Go back to Basic Setting, and click “Save”.

Network Settings

- DHCP
- Wireless
- + Disk Management
- + Advanced Tools
- + Misc.

Log out

WDS Hybrid mode AP Advanced Setting

1. Wireless Mode: 11b/g mixed 11g only
2. Beacon interval: msec (1~1000,default 100)
3. RTS Threshold: (1~2347,default 2347)
4. Fragmentation: (256~2346,default 2346,even number only)
5. DTIM interval: (1~255,default 3)
6. Preamble Type: Long Preamble Short Preamble
7. SSID Broadcast: Disable Enable

If everything goes fine, you could see the confirm page, and let you know configurations have been saved.

3.2.2.4 WDS only mode

Select the “**WDS only mode**” and click “Go” to set up.

4. Wireless modes selection:

AP only mode

Wireless Client mode

WDS Hybrid mode

WDS only mode

After entering the WDS only mode setting, click the **AP List** icon to set up the AP connecting list, or add it manually.

- Network Settings

- DHCP
- Wireless
- + Disk Management
- + Advanced Tools
- + Misc.

WDS Only mode Expert Setting

1. Remote AP MAC address:

ID	Del	Mod	CH	SSID	MAC address
1	<input type="button" value="Del"/>	<input type="button" value="Mod"/>			
2	<input type="button" value="Del"/>	<input type="button" value="Mod"/>			
3	<input type="button" value="Del"/>	<input type="button" value="Mod"/>			
4	<input type="button" value="Del"/>	<input type="button" value="Mod"/>			
5	<input type="button" value="Del"/>	<input type="button" value="Mod"/>			
6	<input type="button" value="Del"/>	<input type="button" value="Mod"/>			

2. Add An AP manually:

CH	SSID	MAC	option
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="add"/>

NOTE: In WDS only mode, each AP that bridged together **MUST** use the same channel.

Configure ✖

- Network Settings

- DHCP
- Wireless
- + Disk Management
- + Advanced Tools
- + Misc.

AP List

Active AP:

ID	Add	CH	SSID	MAC address	Enc	Quality
5	<input type="button" value="Add"/>	8	minitar1	00-4F-18-00-0F-07	NONE	72
6	<input type="button" value="Add"/>	9	airlive	00-4F-18-29-31-9A	NONE	15
7	<input type="button" value="Add"/>	11	default	00-4F-F6-0C-9E-5	NONE	2
8	<input type="button" value="Add"/>	11	default	00-4F-18-00-0F-FE	NONE	35

After all, click "Save" to make it work.

NOTE: Each WDS device **MUST** set the others' MAC addresses, or the WDS mode would be failed.

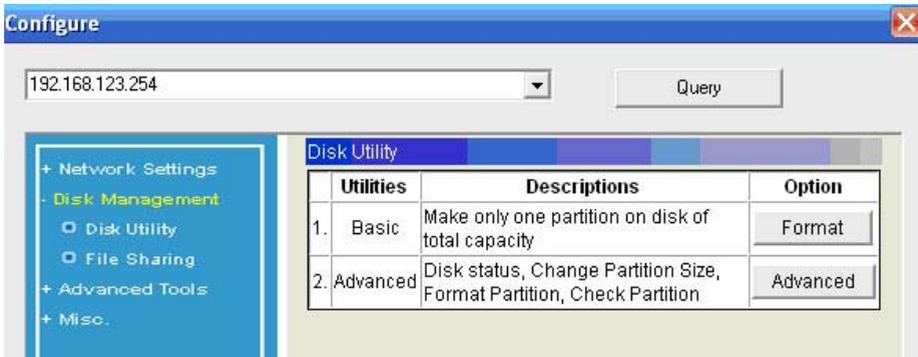
Chapter 4: Disk Management

In this section, you will know how to use the “**Disk Management**” tools to configure the hard disk setting.

4.1 Disk Utility

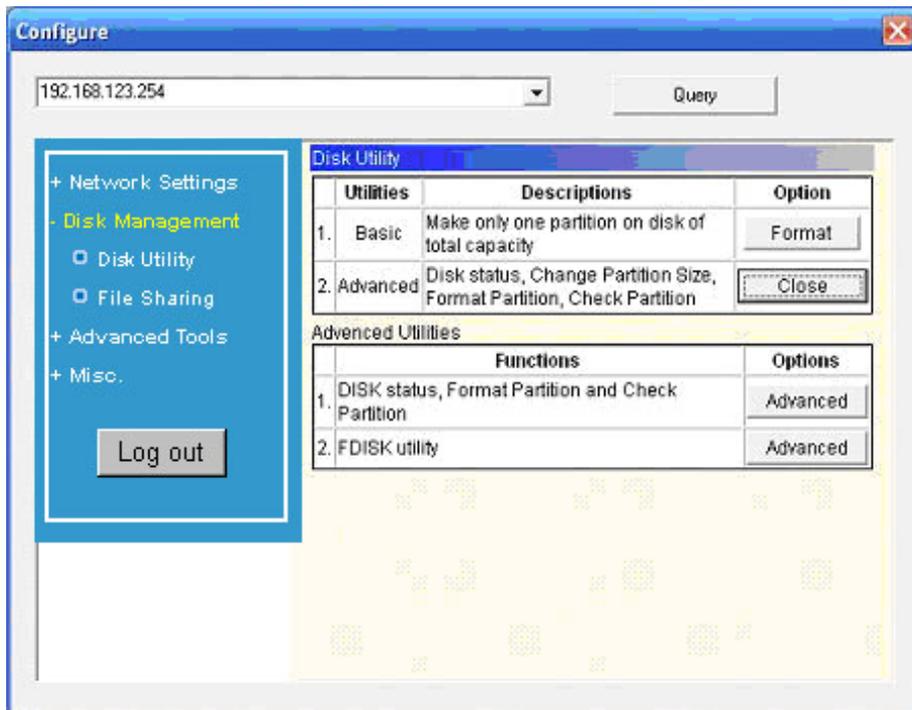
Before using the hard disk, users need to format this hard disk first. Click “Format” button, and the **WMU-6000FS** will start to format the hard disk automatically. Once finishing the format, the **WMU-6000FS** will reboot automatically, and please reconnect the network in 30 seconds.

The Hard disk will be formatted as “ext2” file system.



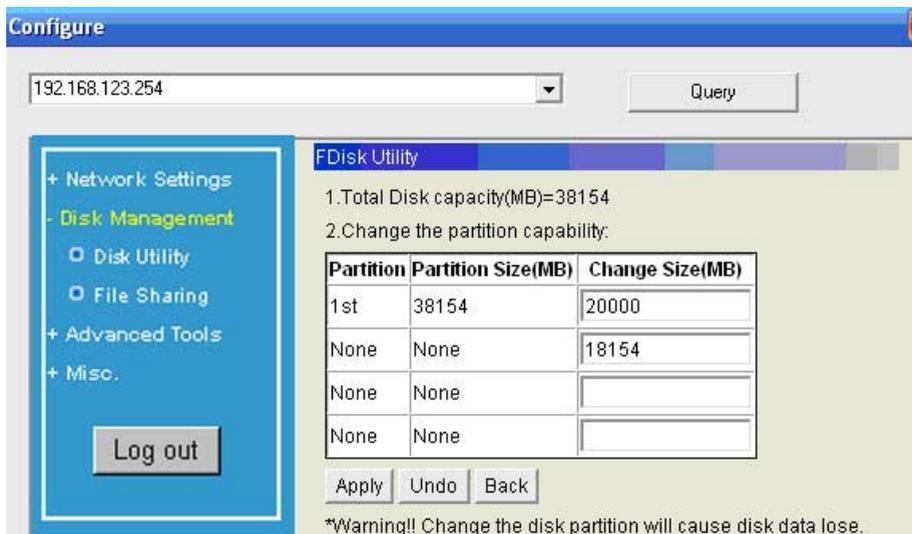
Advanced Function

In the advanced function, two more options will be shown:



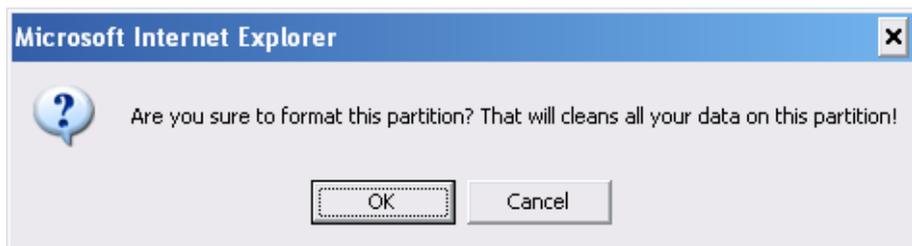
The first option is used for disk checking. If you power off **WMU-6000FS** before normally shut down the system, you are recommended to do this. With second option, you could partition your hard disk to the size you want.

Total Disk Capacity: to indicate the total capacity of the hard disk. This page shows the partitions of internal hard disk, you could format/check one of them.



Change the partition capacity: this tool can make you create up to four partitions. Specify the size of the partitions in megabytes and click the **“Apply”** to apply the new settings.

When you click **“Apply”**, system would alert this message to confirm if you really want to do the format action.



Warnings:

Any data in the hard disk will be lost after creating the new partitions.

The hard disk is formatted to EXT2 file system. It can not be connected directly to a Microsoft Windows system without reformatting.

Chapter 5: ADVANCED FUNCTIONS

Click the **Advanced Functions** option on the left panel to display its submenus. The **Advanced Functions** menus enable you to configure the various system settings. Refer to the following sections for more details.

5.1 Config Backup

This option enables you to back up your settings. Once you want to restore these settings, please click the F/W Upgrade option and use the bin file you saved.

5.2 Reset to Default

This option enables you to reset the **WMU-6000FS** to its default factory settings.

5.3 Reboot

This option enables you to reboot the device.

5.4 F/W Upgrade

This option enables you upgrade the new firmware to this product

Chapter 6: MISC

6.1 Administrator Timeout

If users login, and idles for a period of time (e.g. 600 seconds), then that user will be logged out automatically.

Item	Setting
▶ Administrator Timeout	<input type="text" value="600"/> seconds (0 to disable)

Save Undo

Log out

6.2 Change Password

To change the password, you have to enter the old password and confirm the new password twice.

Change Password	
Item	Setting
Old Password	<input type="text"/>
New Password	<input type="text"/>
Reconfirm	<input type="text"/>

6.3 System Time

The **System Time** provides two options for you to select.

Set Date and Time using PC's Date and Time: synchronize the date and time with the computer.

Set Date and Time manually: Manually setting up the date and time.

System Time

Set Date and Time using PC's Date and Time

PC
Date and Time:

Set Date and Time manually

Date Year: Month: Day:

Time Hour: Min.: Sec.:

(0-23) (0-59) (0-59)

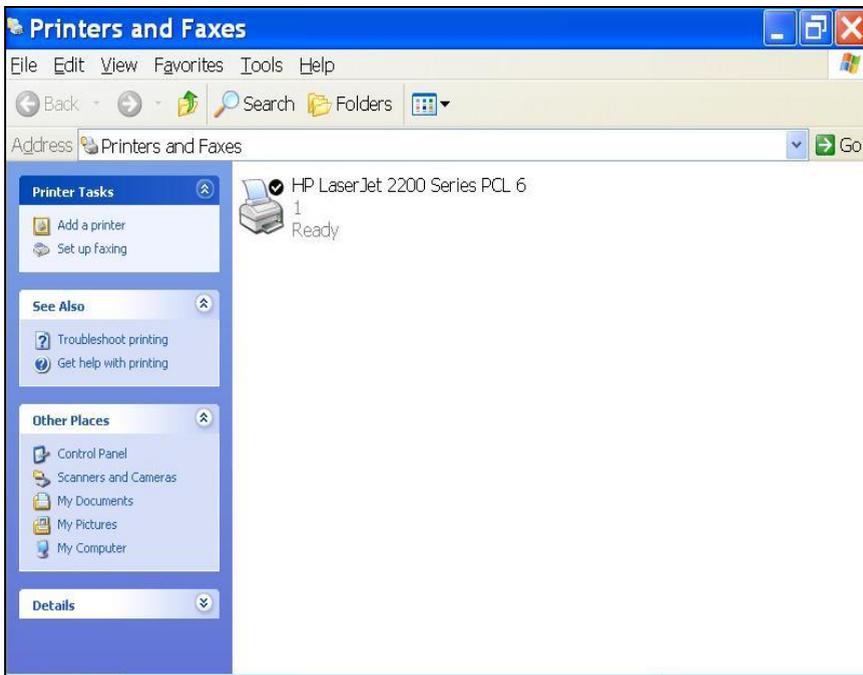
Chapter 7: Printer Server Setup

7.1 Windows Operating system(NT based)

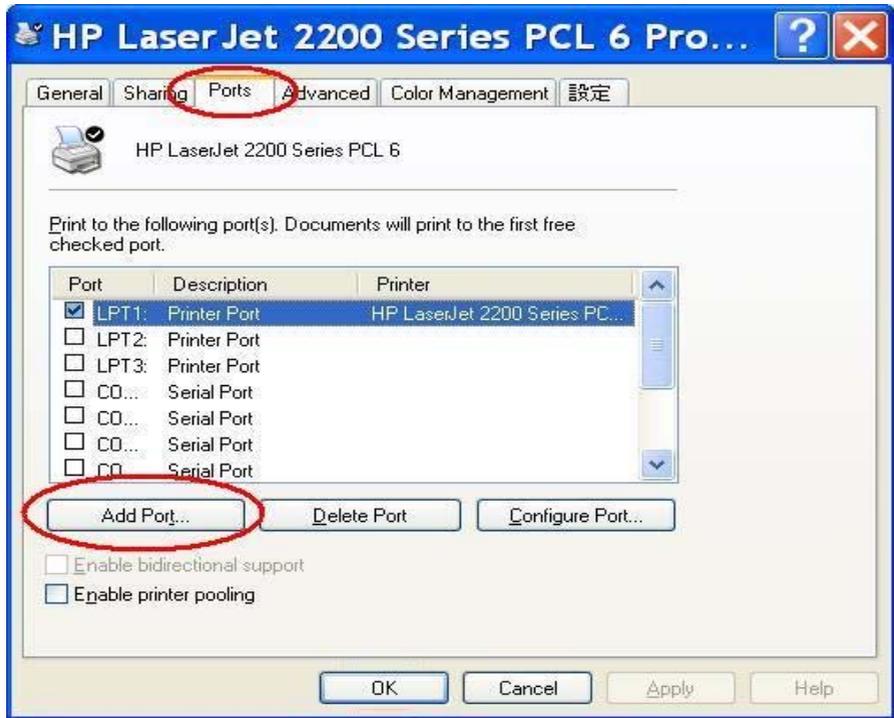
Windows 2000 and XP have built-in LPR client, users could utilize this feature to Print.

You have to install your Printer Driver on LPT1 or other ports (Standard TCP/IP port)

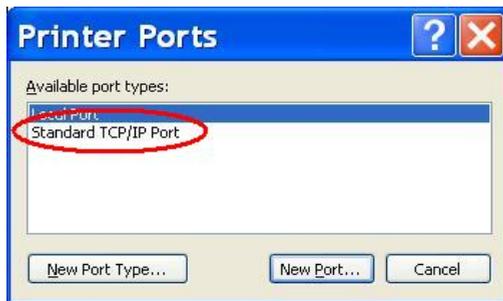
1.Open Printers and Faxes.



2. Select “Ports” page, Click “Add Port...”



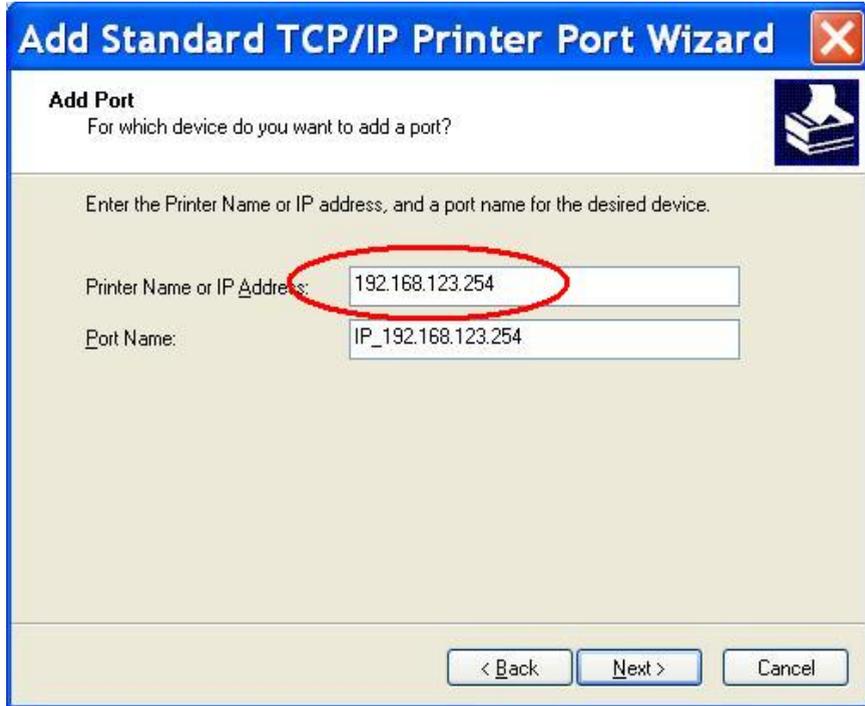
3. Select “Standard TCP/IP Port”, and then click “New Port...”



4. Click Next and then provide the following information:

Type address of server providing LPD that is our NAT device:

192.168.123.254



Add Standard TCP/IP Printer Port Wizard

Add Port
For which device do you want to add a port?

Enter the Printer Name or IP address, and a port name for the desired device.

Printer Name or IP Address: 192.168.123.254

Port Name: IP_192.168.123.254

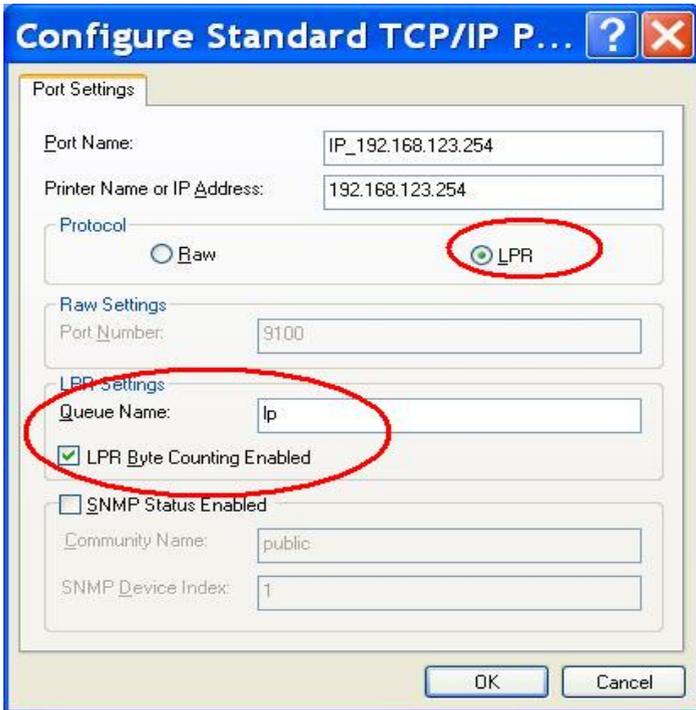
< Back Next > Cancel

5. Select Custom, then click “Settings...”

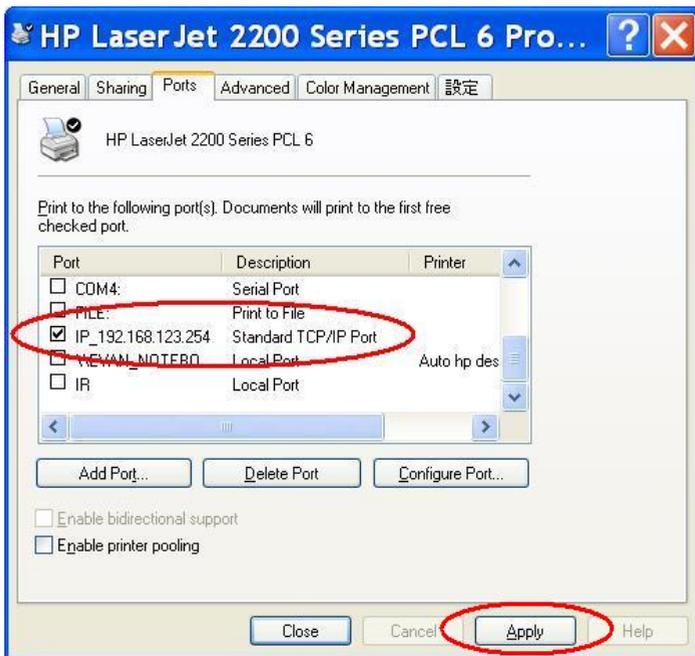
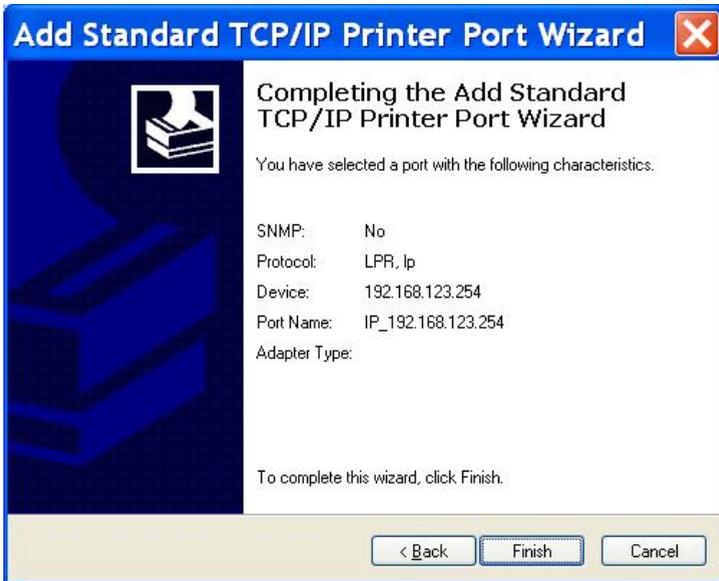


6. Select “LPR”, type ” **lp**“ lowercase letter in “Queue Name:”

And enable “LPR Byte Counting Enabled”.



7. Apply your settings



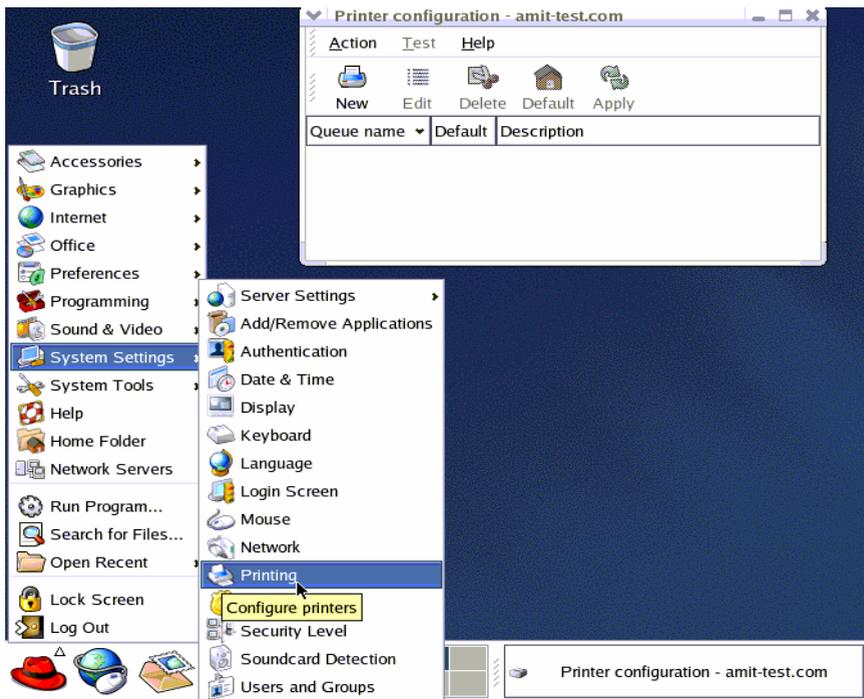
7.2 Configuring on Unix-like based Platforms

Please follow the traditional configuration procedure on Unix platforms to setup the print server of this product. The printer name is "lp."

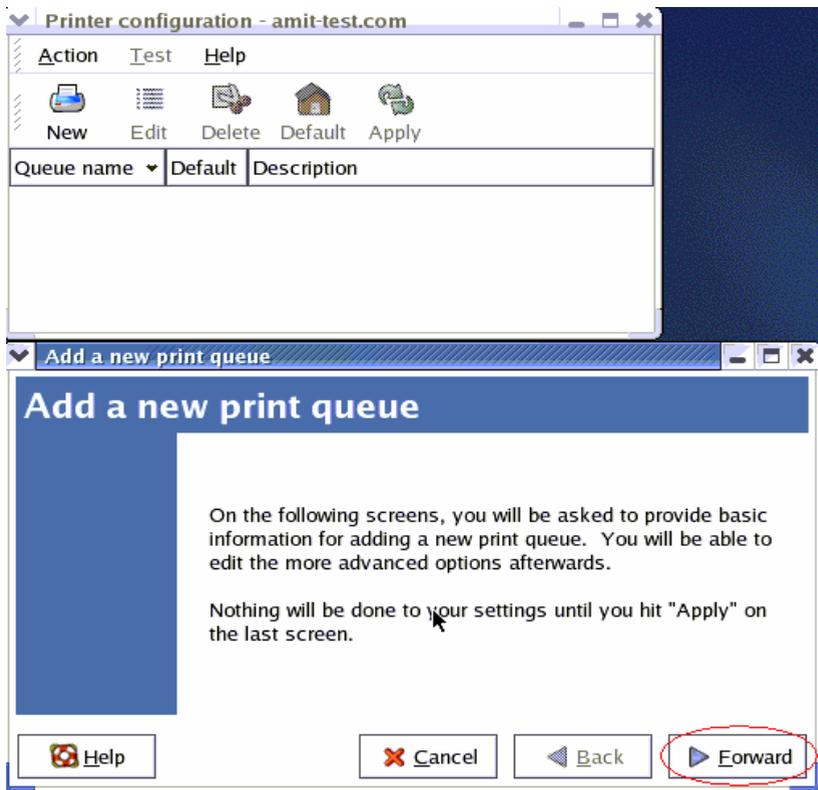
In X-Windows, for example, In Redhat Platforms,

Please follow the below steps to configure your printer on Red Hat 9.0.1. Start

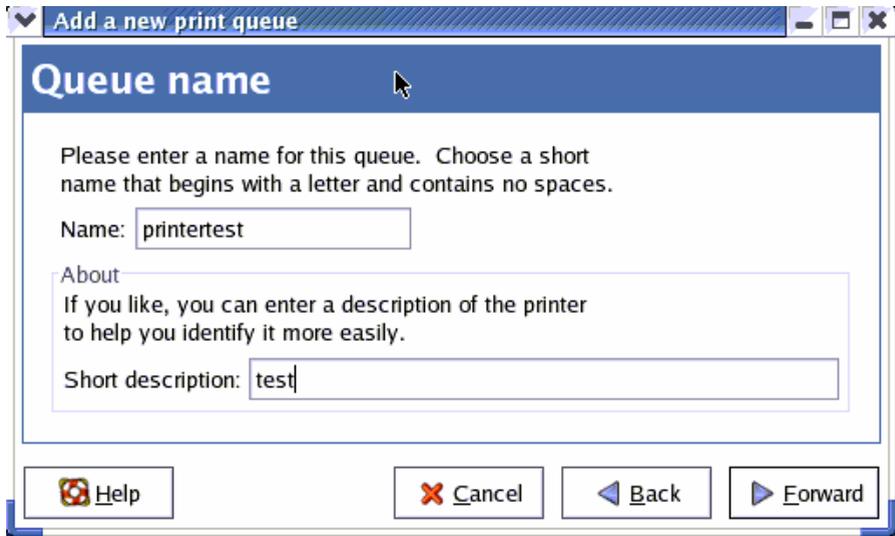
from the Red Hat---> System Setting---> Printing.



2. Click New--> Forward.



3. Enter the Printer Name, Comments then forward.



Add a new print queue

Queue name

Please enter a name for this queue. Choose a short name that begins with a letter and contains no spaces.

Name:

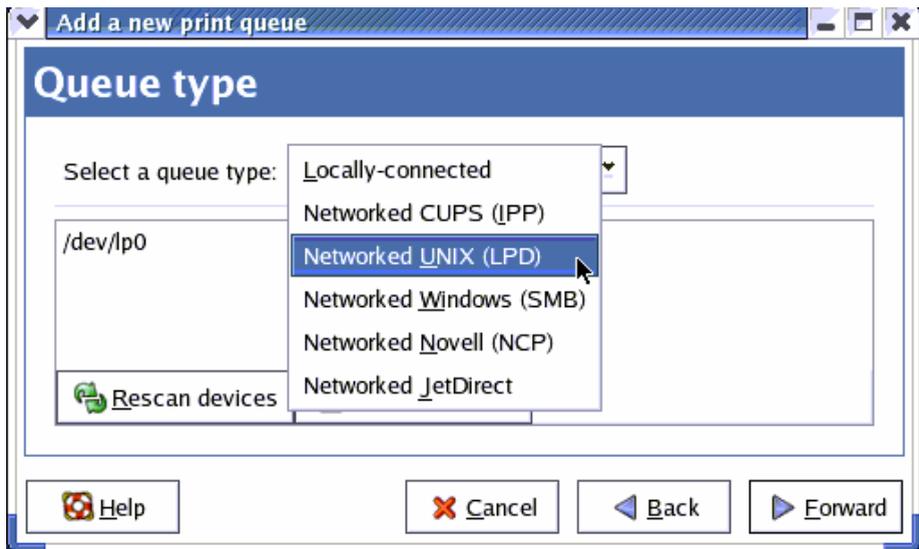
About

If you like, you can enter a description of the printer to help you identify it more easily.

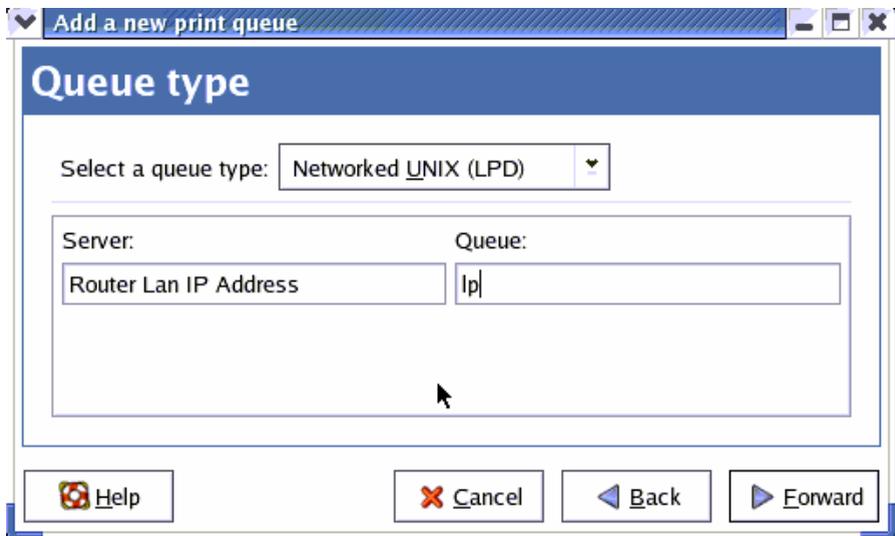
Short description:

 Help  Cancel  Back  Forward

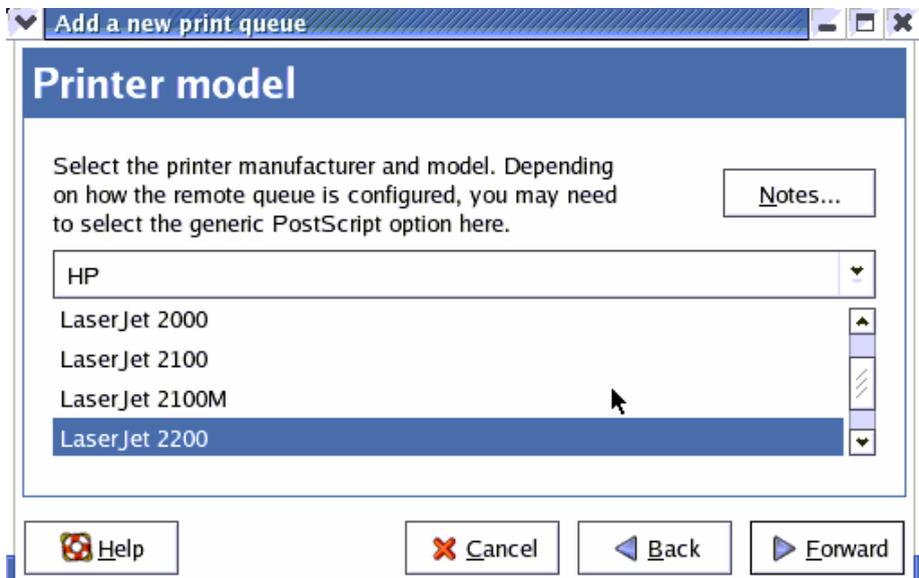
4. Select LPD protocol and then forward.



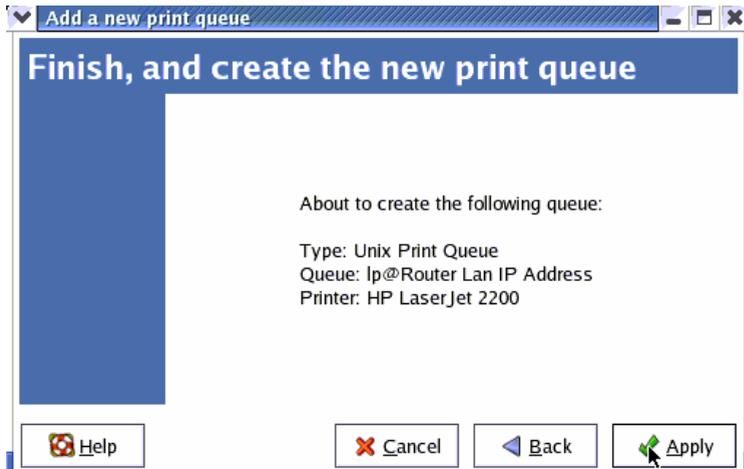
5. Enter Router LAN IP Address and the queue name "lp". Then forward.



6. Select the Printer Brand and Model Name. Then Forward.



7. Click Apply to finish setup.



8. At last you must click Apply on the toolbox to make the change take effective.

In Command Mode:

Linux has built-in LPR client ,You can utilize it for printing.

You can manual set it or via the tool "printtool" in X-windows.

PS: The spool name is "lp"-----all lowercase letter.

Below is my setting.

```
/etc/printcap
```

```
-----  
lp:\  
:sd=/var/spool/lpd/lp:\  
:mx#0:\  
:sh:\  
:rm=192.168.123.254:\  
:rp=lp:\ ----->key point  
:if=/var/spool/lpd/lp/filter:  
-----
```

Then add the corresponding directory

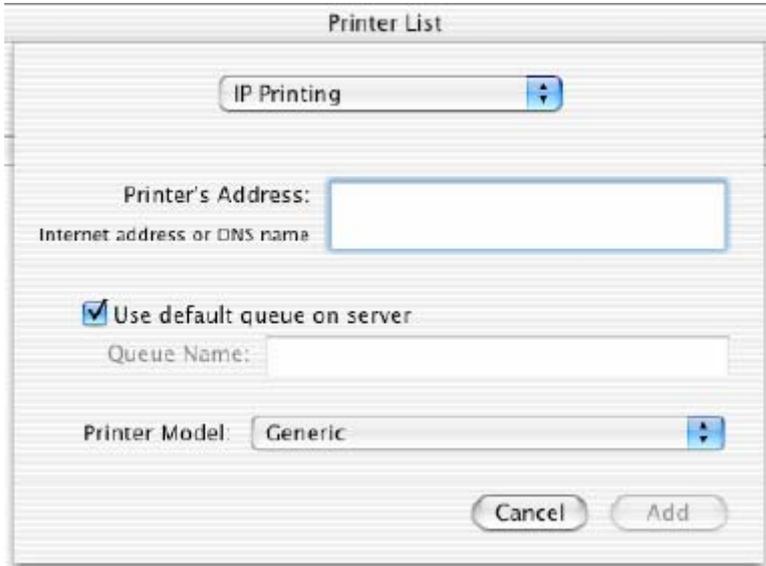
```
#mkdir /var/spool/lpd/lp
```

Too see the detail ,please refer to the online manual in linux.

```
#man printcap
```

7.3 Apple OS

1.First, go to Printer center (Printer list) and add printer



Printer List

IP Printing

Printer's Address:
Internet address or DNS name

Use default queue on server
Queue Name:

Printer Model: Generic

Cancel Add

2. Choose **IP print** and setup **printer ip address** (router Lan ip address).
3. Disable “**Default Queue of Server.**” And fill in ‘ **Ip** ’ in Queue name item.
4. Printer Model: Choose “**General**” or Printer as below.

Printer List

IP Printing

Printer's Address: Router Lan IP Address
Internet address or DNS name
Incomplete or invalid address.

Use default queue on server

Queue Name: Ip

Printer Model: HP

Model Name
HP LaserJet 2100 Series
HP LaserJet 2200
HP LaserJet 3200M
HP LaserJet 3300/3310/3320

Cancel Add

Chapter 8: Trouble Shootings

What can I do when I have some trouble in the first time?

1. How do I make the client to connect the WMU-6000FS?

A: Please prepare for one RJ45 cable and connect the LAN port directly. **WMU-6000FS** already supports MDI/MDIX.

2. How to “Reset to default”?

A: Press the buttons of “Shutdown” and “Backup” simultaneously over 6 seconds to reset the system to the factory default setting.

3. When I login the storage of WMU-6000FS via my network place, but I can not find any files of Folders even if I have plugged HDD in WMU-6000FS.

A: First, check your HD status LED. If the HD is correctly connected, the HD status LED will flash. If the LED didn't flash, maybe you forget to format the new HD before using it, or maybe the HD is not connected correctly, or maybe the HD is corrupted.

Ⓜ WMU-6000FS supports FAT/FAT32/EXT2 file systems. If the format of HDD is NTFS, the device just can read files and can not copy any files to NTFS folders.

4. No matter what I do, I can not configure WMU-6000FS even if I setup fixed IP and can search or Ping WMU-6000FS.

A: Please check the WLAN Led or HDD LED. If normal, they will be flash.

Otherwise Reset to Default and try it again.

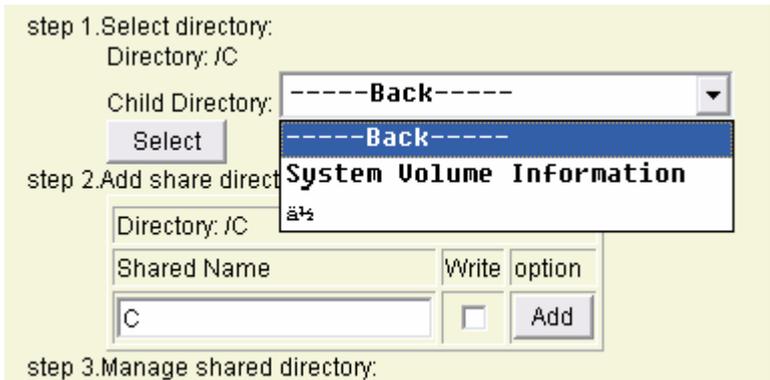
5. I can not save the file which size is large than 2GB.

A: Please check the file system of your HDD. If it is FAT or FAT32. This problem is existed. Suggestion: To convert to ext2.

6. I can't access the shared folder with 98/Me.

A: If you use Windows 98/Me, and want to access the authorized folder, you **MUST** have the same account and password in **WMU-6000FS** and your computer.

7. Why do I see the wrong name of file during the setting or in the my network place?



A: Please select the language as you need. Please configure again.

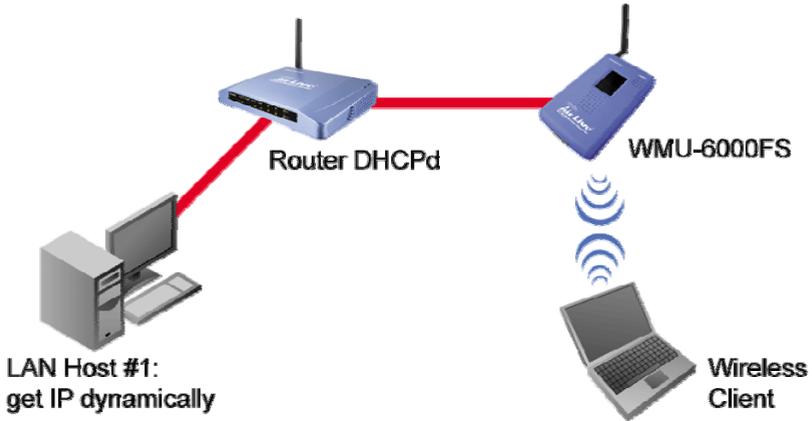


How to setup wireless function?

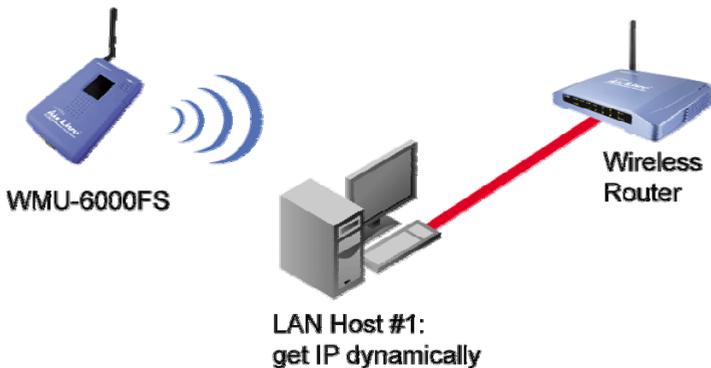
1. How can I use the wireless function?

A: Generally speaking, there are four modes to setup in this device. The common function is “AP mode”. The user can make this device as Wireless AP device as follows:

First, the wireless client sets up the same SSID with **WMU-6000FS** and get IP from Router. Then Wireless client can associate the network or roam Internet via Router.



Wireless Client Mode: First, please configure the wireless setting of **WMU-6000FS** via wire. Then use Scan AP of AP-List and join it. Plug up the cable form **WMU-6000FS**. The client from LAN can use “Configure” utility to Query.



WDS only mode: WDS→Wireless Distribution system. This device also supports this function. How to configure this in your circumstance? The below Figure1 is for the reference. First, check which channel you want to use. For example, channel 10. Scan other AP which channel is 10 and supports WDS function. Second, add the wireless MAC address of **WMU-6000FS** in this Wireless Router # 2. (Figure2). And use Scan AP to find the wireless which SSID is “WR-2” and join it in the list. Third, if it is normal, LAN-Host#1 can find the devices, like Wireless Router #2 and LAN-Host#2.

Figure 1:

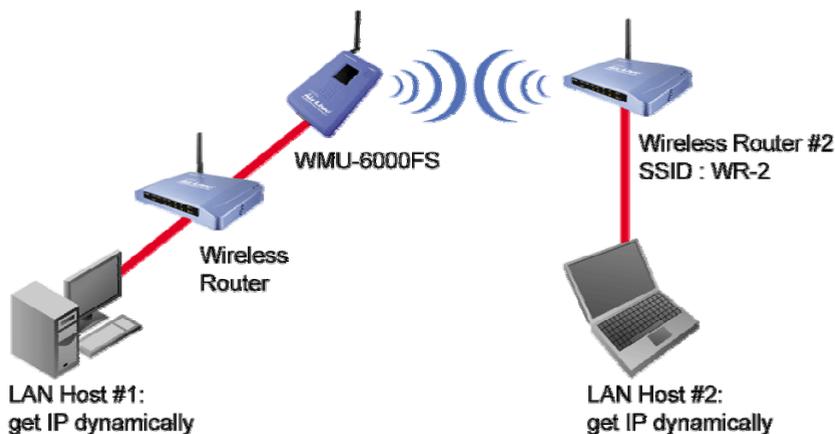
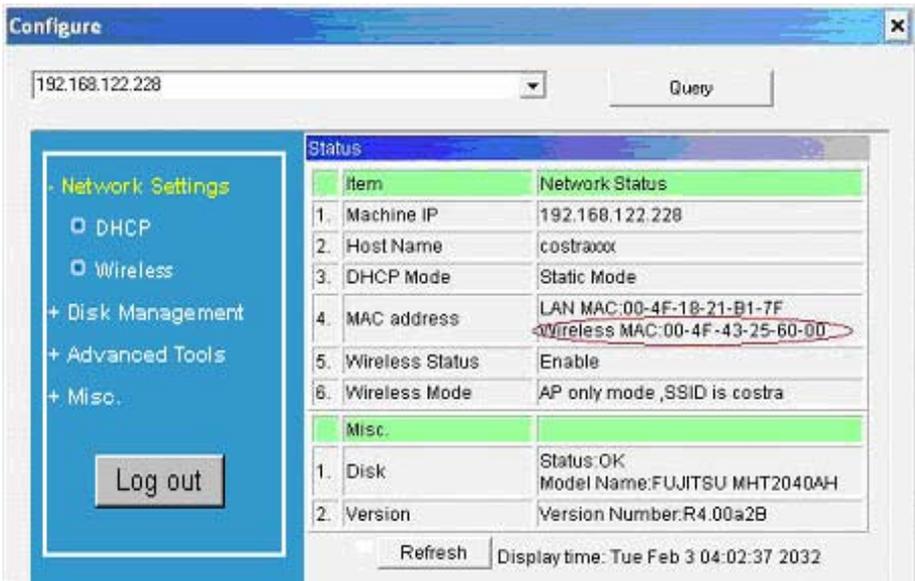
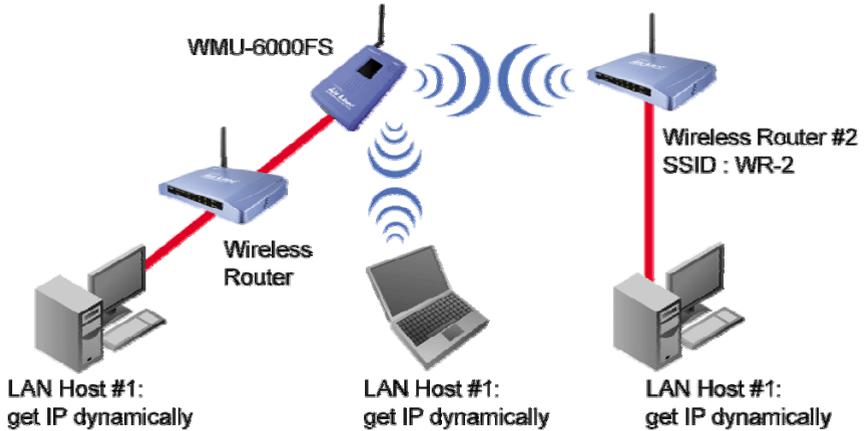


Figure2:

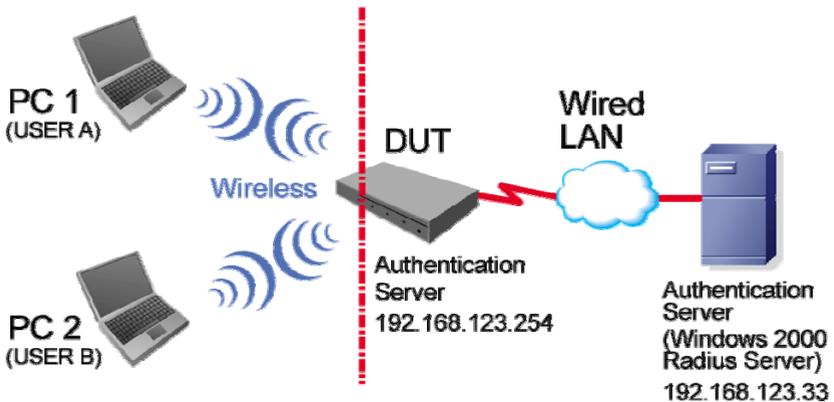


WDS Hybrid mode: This device also supports WDS and AP mode at the same time. How to configure this in your circumstance? The below figure is for the reference.



For the setting of WDS, please refer to the above WDS only mode.
 For AP setting, please refer to the AP mode.

2. How to configure 802.1x or WPA with Radius server?



■ Equipment Details

PC1:

Microsoft Windows XP Professional without Service Pack 1.

D-Link DWL-650+ wireless LAN adapter

Driver version: 3.0.5.0 (Driver date: 03.05.2003)

PC2:

Microsoft Windows XP Professional with Service Pack 1a.

Z-Com XI-725 wireless LAN USB adapter

Driver version: 1.7.29.0 (Driver date: 10.20.2001)

Authentication Server: Windows 2000 RADIUS server with Service Pack 3 and HotFix Q313664.

Note. Windows 2000 RADIUS server only supports PEAP after upgrade to service pack 3 and HotFix Q313664 (*You can get more information from <http://support.microsoft.com/default.aspx?scid=kb;en-us;313664>*)

DUT Configuration:

1. Enable DHCP server.
2. WAN setting: static IP address.
3. LAN IP address: 192.168.123.254/24.
4. Set RADIUS server IP.
5. Set RADIUS server shared key.

6. Configure WEP key and 802.1X setting.

The following test will use the inbuilt 802.1X authentication method such as EAP_TLS, PEAP_CHAPv2 (Windows XP with SP1 only), and PEAP_TLS (Windows XP with SP1 only) using the Smart Card or other Certificate of the Windows XP Professional.

■ DUT and Windows 2000 RADIUS Server Setup

1. Setup Windows 2000 RADIUS Server. We have to change authentication method to MD5_Challenge or using smart card or other certificate on RADIUS server according to the test condition.

2. Setup DUT

- ✓ Enable the 802.1X (check the “Enable checkbox”).
- ✓ Enter the RADIUS server IP.
- ✓ Enter the shared key. (The key shared by the RADIUS server and DUT).
- ✓ We will change 802.1X encryption key length to fit the variable test condition.

3. Setup Network adapter on PC

- ✓ Choose the IEEE 802.1X as the authentication method.
(Figure 2)

Note. Figure 2 is a setting picture of Windows XP without service pack 1. If users upgrade to service pack 1, then they can't see MD5-Challenge from EAP type list any more, but they will get a

new Protected EAP (PEAP) option.

- ✓ Choose MD5-Challenge or Smart Card or other Certificate as the EAP type.
- ✓ If choosing use smart card or the certificate as the EAP type, we select to use certificate on this computer.
- ✓ We will change EAP type to fit the variable test condition.

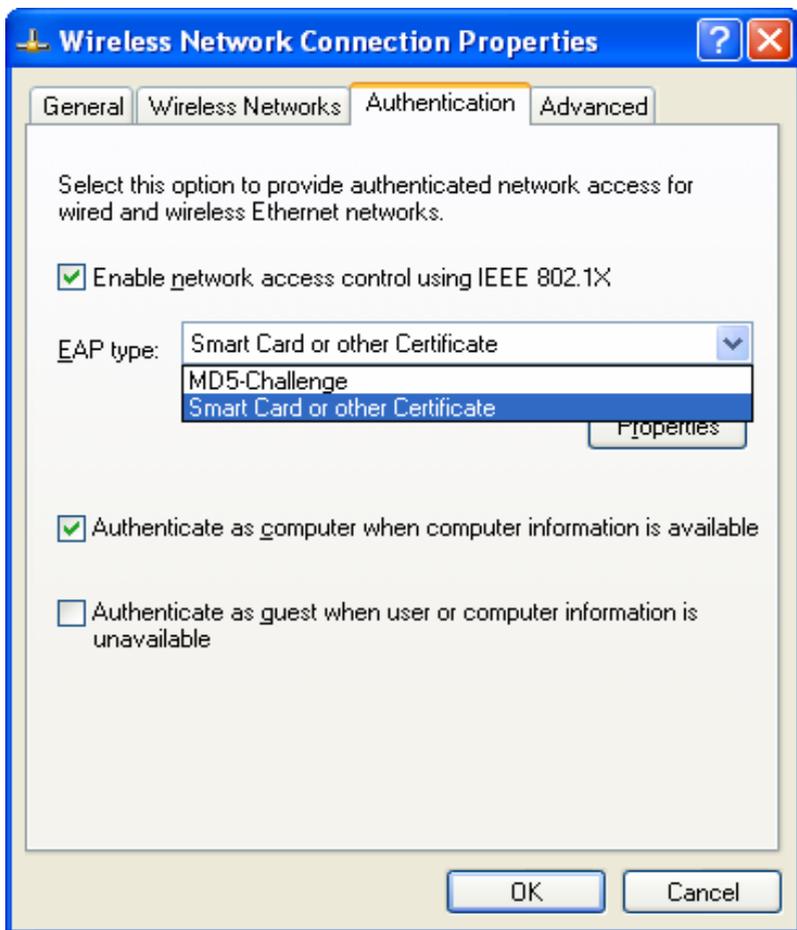


Figure 2: Enable IEEE 802.1X access control

- Windows 2000 RADIUS server Authentication testing:
 1. DUT authenticate PC1 using certificate. (PC2 follows the same test procedures.)
 2. Download and install the certificate on PC1. (Figure 4)
 3. PC1 choose the SSID of DUT as the Access Point.
 4. Set authentication type of wireless client and RADIUS server both to EAP_TLS.
 5. Disable the wireless connection and enable again.
 6. The DUT will send the user's certificate to the RADIUS server, and then send the message of authentication result to PC1. (Figure 5)
 7. Windows XP will prompt that the authentication process is success or fail and end the authentication procedure. (Figure 6)
 8. Terminate the test steps when PC1 get dynamic IP and PING remote host successfully.

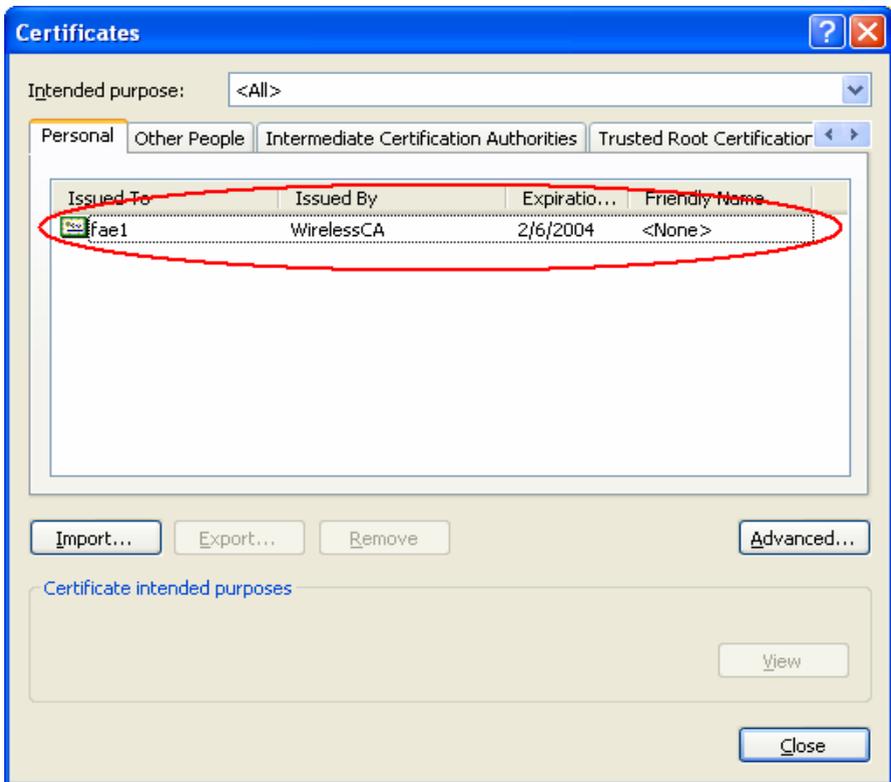


Figure 4: Certificate information on PC1

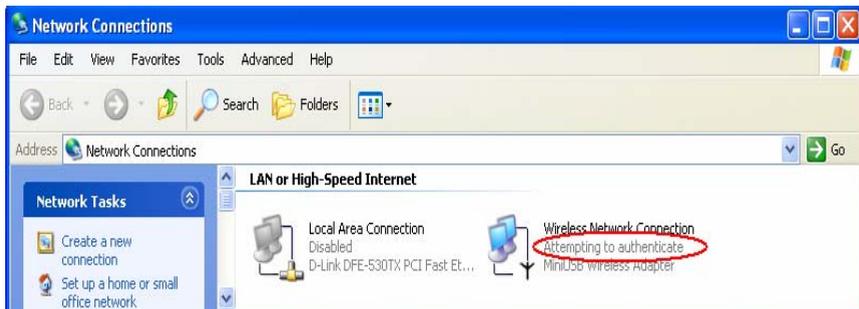


Figure 5: Authenticating

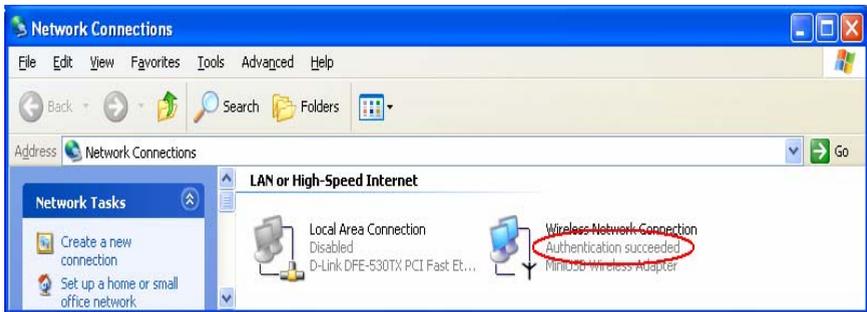


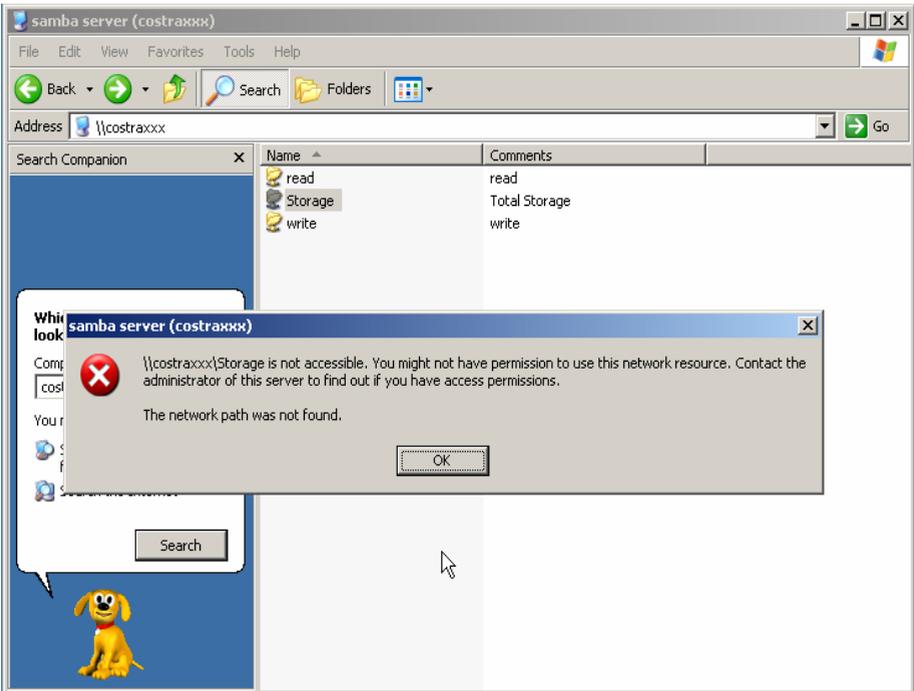
Figure 6: Authentication success

- DUT authenticate PC2 using PEAP-TLS.
 1. PC2 choose the SSID of DUT as the Access Point.
 2. Set authentication type of wireless client and RADIUS server both to PEAP_TLS.
 3. Disable the wireless connection and enable again.
 4. The DUT will send the user's certificate to the RADIUS server, and then send the message of authentication result to PC2.
 5. Windows XP will prompt that the authentication process is success or fail and end the authentication procedure.
 6. Terminate the test steps when PC2 get dynamic IP and PING remote host successfully.

Problems of security level

1. Why can't I access the file from my places after enabling Security Level?

A: Sometimes, I can not access the folders via my places after enabling Security Level, like below:



If the user sees the warning message, please restart windows and try it again. But there are some situations that the users can not access this folder if even they input correct the account and password as below:

Situation 1: The users can access the files or folders before **WMU-6000FS** is not enabled “security Level”. But when **WMU-6000FS** is enabled it, the authorization users can not login by inputting the account and password. Please restart your window OS and It can be accessed.

Situation 2: Change the account and password of **WMU-6000FS**. In brief, the users have some Limit authority to access the folders, but if someone changes account and password this time, other authorization users can not access at all. Please restart your window OS.

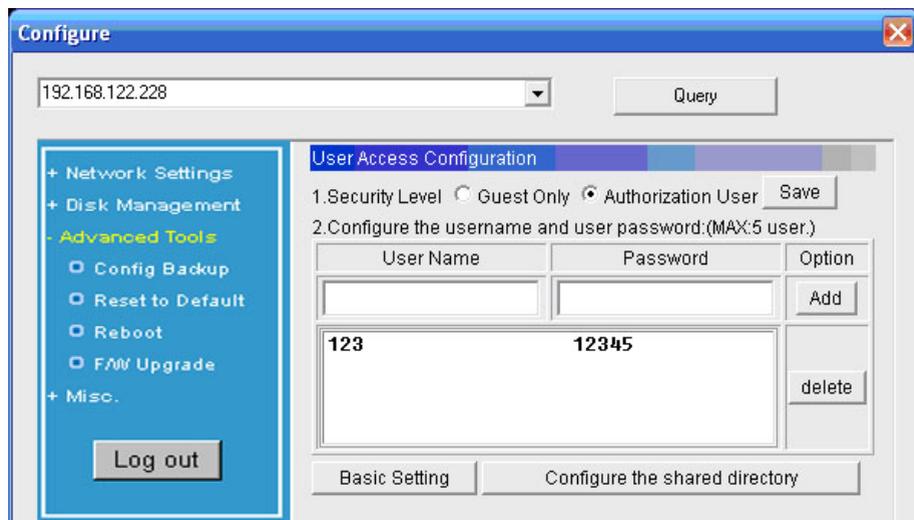
This is because the windows will cache some records so that the settings can not work immediately and the users have no idea to restart the device.

2. How do I configure the authority of file-shared by my places and ftp service?

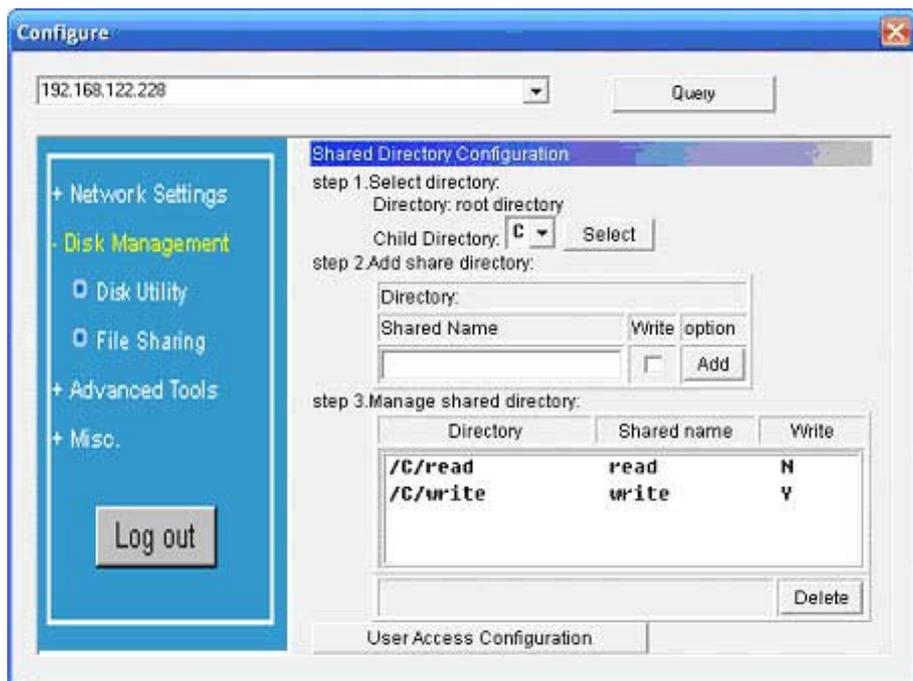
A: Take an example as follows:

First, Set account 123 and password 12345.

Then Click Configure the shared directory.



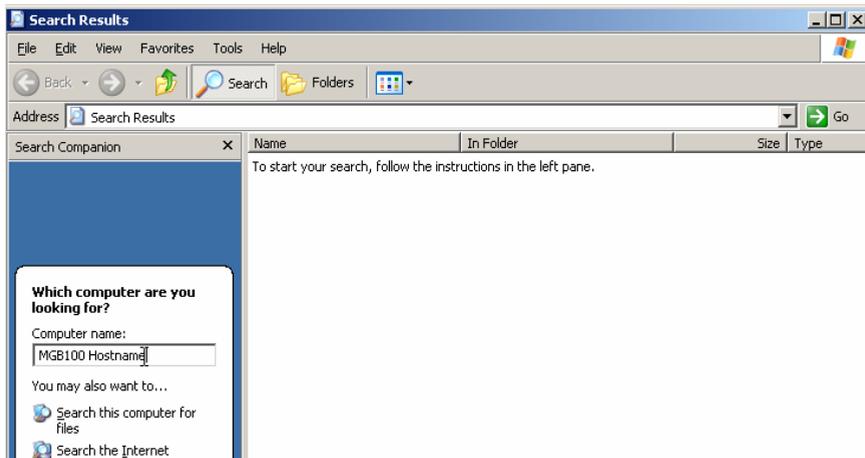
Create two folders. One is “read”, and the other is “write”. The authority is as follows:



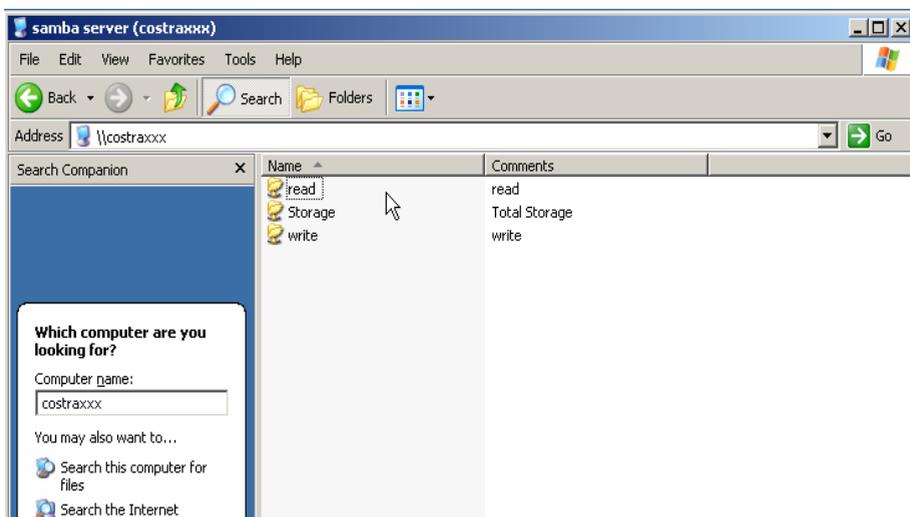
Then click the User Access Configuration and save “Security Level”.



Use search **WMU-6000FS** hostname, if you can not access the directory “Storage”.



Then you will find the **WMU-6000FS** and will find some folders, like read, write and Storage.



If you are a guest and you just can copy the files in the folder "read" and copy, move and delete the files or folders in the folder "write".

※But if you are an Authorization user. Anyway you directly click the folders "read and write". However, you just have the same limits of authority with guests. Please login the folder "Storage" to begin.

This product also defines two user-level(Guest and Authorization users) to share files by ftp service.

The configuration is the same with above. There are two folders to share. If the users use guest to login ftp service, he just accesses read or write folders. Or login as Authorization users, he can access all.