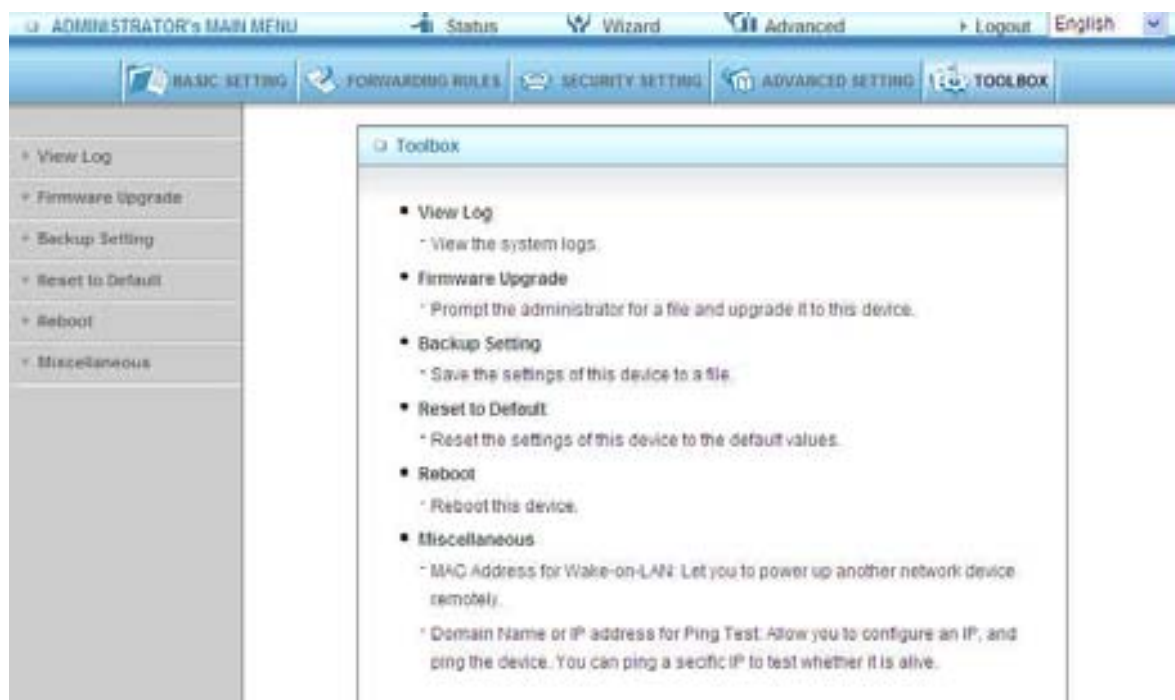
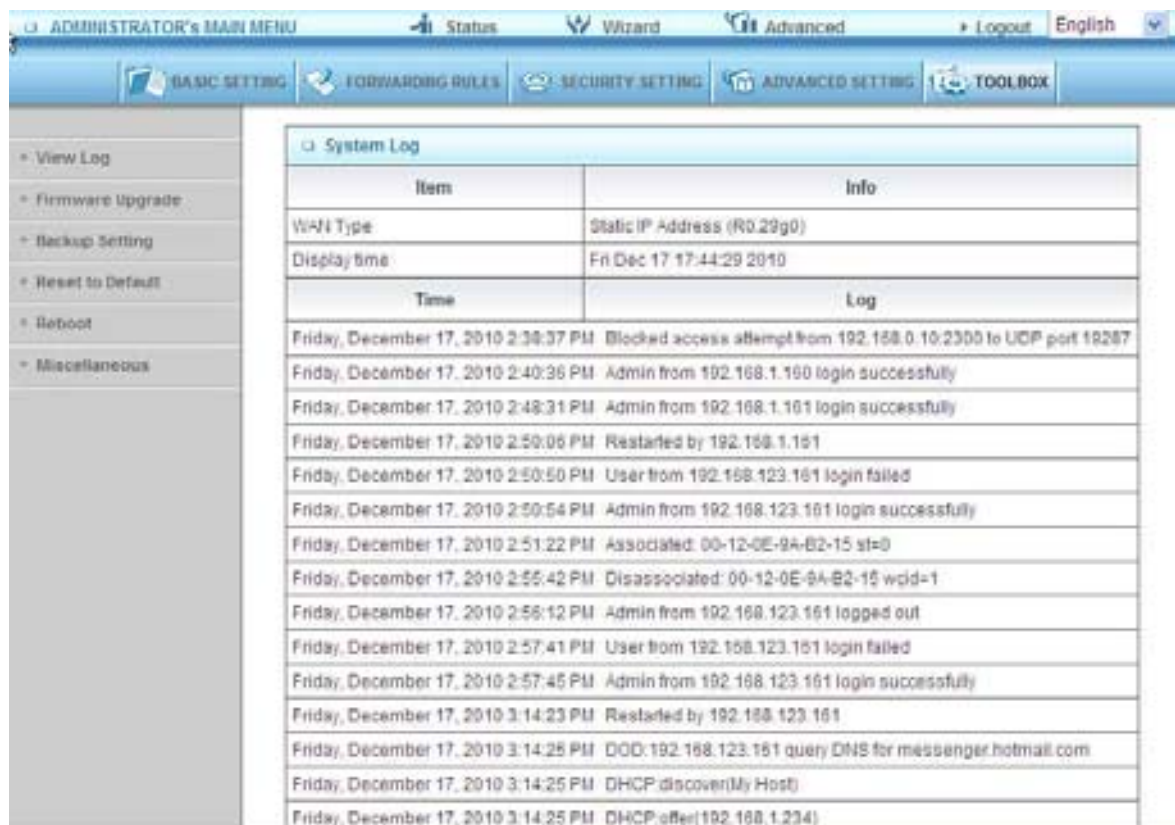


### 3.3.5 Toolbox

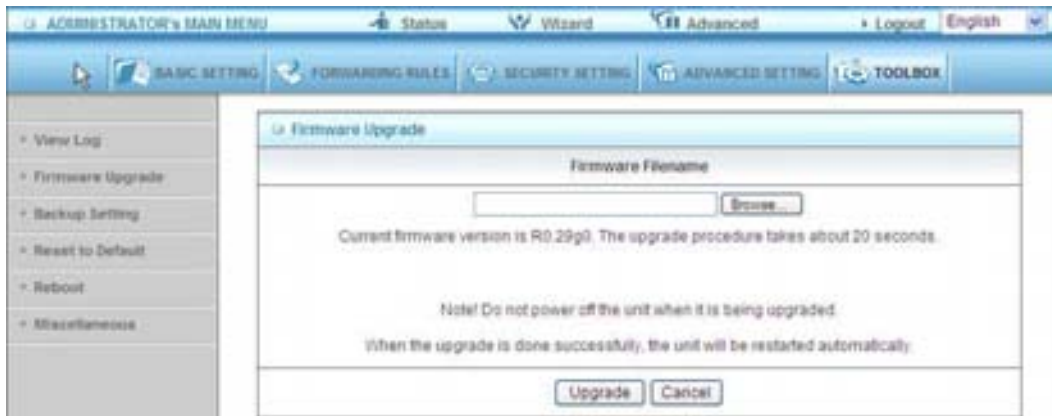


#### 3.3.5.1 View Log



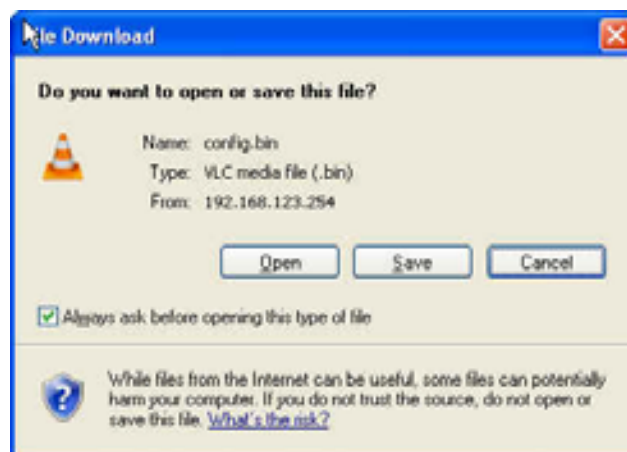
You can View system log by clicking the View Log button

### 3.3.5.2 Firmware Upgrade



You can upgrade firmware by clicking Firmware Upgrade button.

### 3.3.5.3 Backup Setting



You can backup your settings by clicking the Backup Setting button and save it as a bin file. Once you want to restore these settings, please click Firmware Upgrade button and use the bin file you saved.

### 3.3.5.4 Reset to default



You can also reset this product to factory default by clicking the Reset to default button.

### 3.3.5.5 Reboot



You can also reboot this product by clicking the Reboot button.

### 3.3.5.6 Miscellaneous Items



#### MAC Address for Wake-on-LAN

Wake-on-LAN is a technology that enables you to power up a networked device remotely. In order to enjoy this feature, the target device must be Wake-on-LAN enabled and you have to know the MAC address of this device, say 00-11-22-33-44-55. Clicking "Wake up" button will make the router to send the wake-up frame to the target device immediately.

#### Domain Name or IP Address for Test

Allow you to configure an IP, and ping the device. You can ping a specific IP to test whether it is alive.

# Appendices and Index

## 802.1x Setting

### 1 Equipment Details

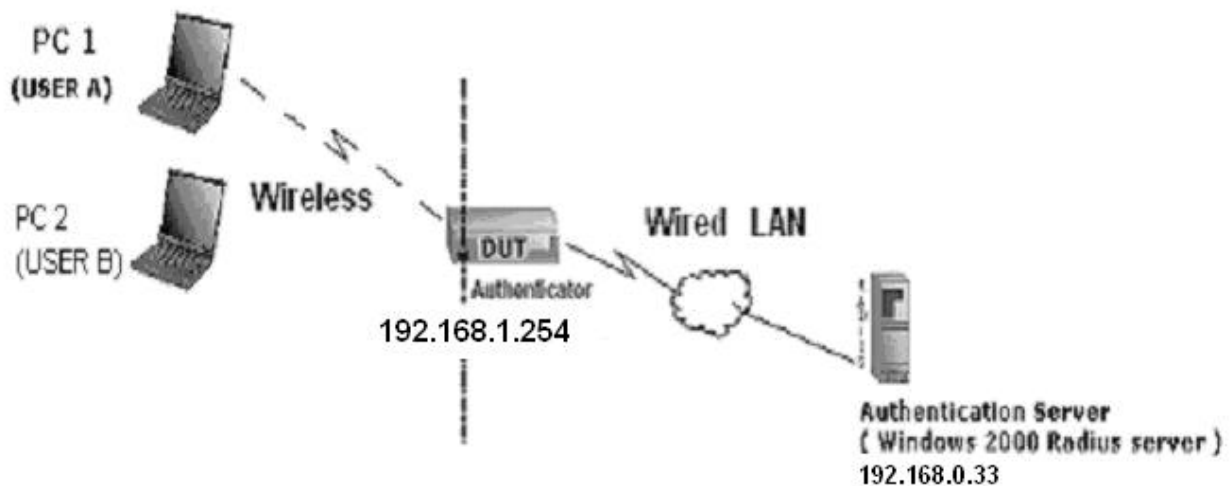


Figure 1: Testing Environment (Use Windows 2000 Radius Server)

PC1:

Microsoft Windows XP Professional without Service Pack 1.

AirLive WN-200USB

Driver version:

PC2:

Microsoft Windows XP Professional with Service Pack 1a or latter.

AirLive WN-200USB

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

[HHhttp://support.microsoft.com/default.aspx?scid=kb;en-us;313664UHH](http://support.microsoft.com/default.aspx?scid=kb;en-us;313664))

## 2 DUT

Configuration:

Enable DHCP server.

WAN setting: static IP address.

LAN IP address: 192.168.1.254/24.

Set RADIUS server IP.

Set RADIUS server shared key.

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.

## 3. DUT and Windows 2000 Radius Server Setup

### 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.

### 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.

### Setup Network adapter on PC

1.Choose the IEEE802.1X as the authentication method. (Fig 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.

3.If choosing use smart card or the certificate as the EAP type, we select to use a certificate on this computer. (Fig 3)

4. We will change EAP type to fit the variable test condition.

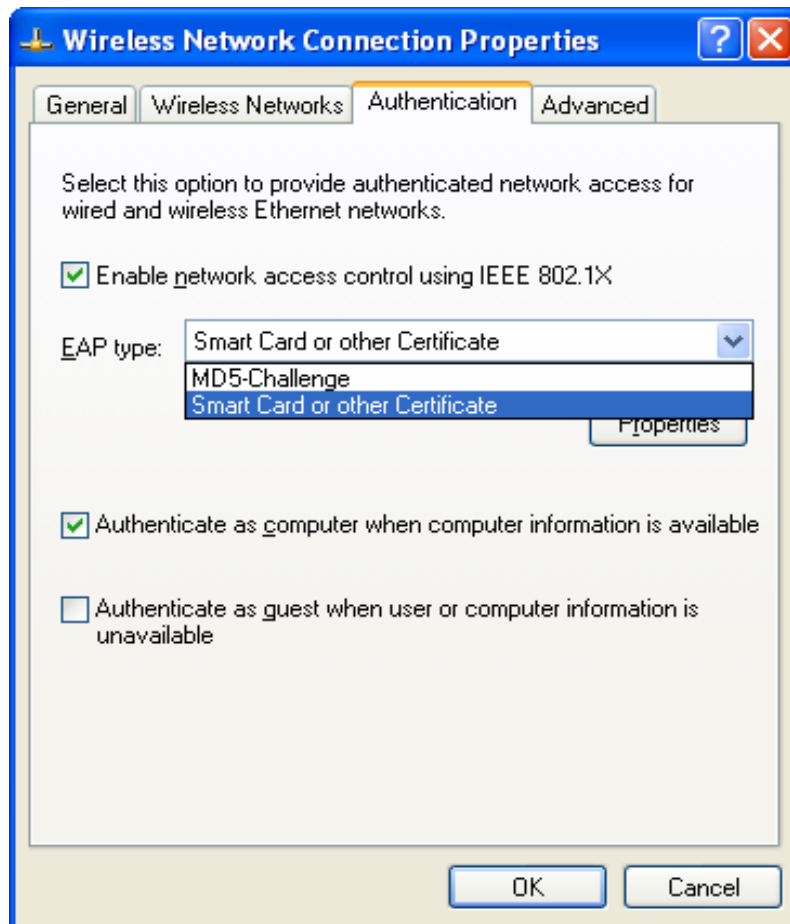


Figure 2: Enable IEEE 802.1X access control

Figure 3: Smart card or certificate properties

#### 4. Windows 2000 RADIUS server Authentication testing:

4.1 DUT authenticate PC1 using certificate. (PC2 follows the same test procedures.)

Download and install the certificate on PC1. (Fig 4)

PC1 choose the SSID of DUT as the Access Point.

Set authentication type of wireless client and RADIUS server both to EAP\_TLS.

Disable the wireless connection and enable again.

The DUT will send the user's certificate to the RADIUS server, and then send the message of authentication result to PC1. (Fig 5)

Windows XP will prompt that the authentication process is success or fail and end the authentication procedure. ( Fig 6)

Terminate the test steps when PC1 get dynamic IP and PING remote host successfully.

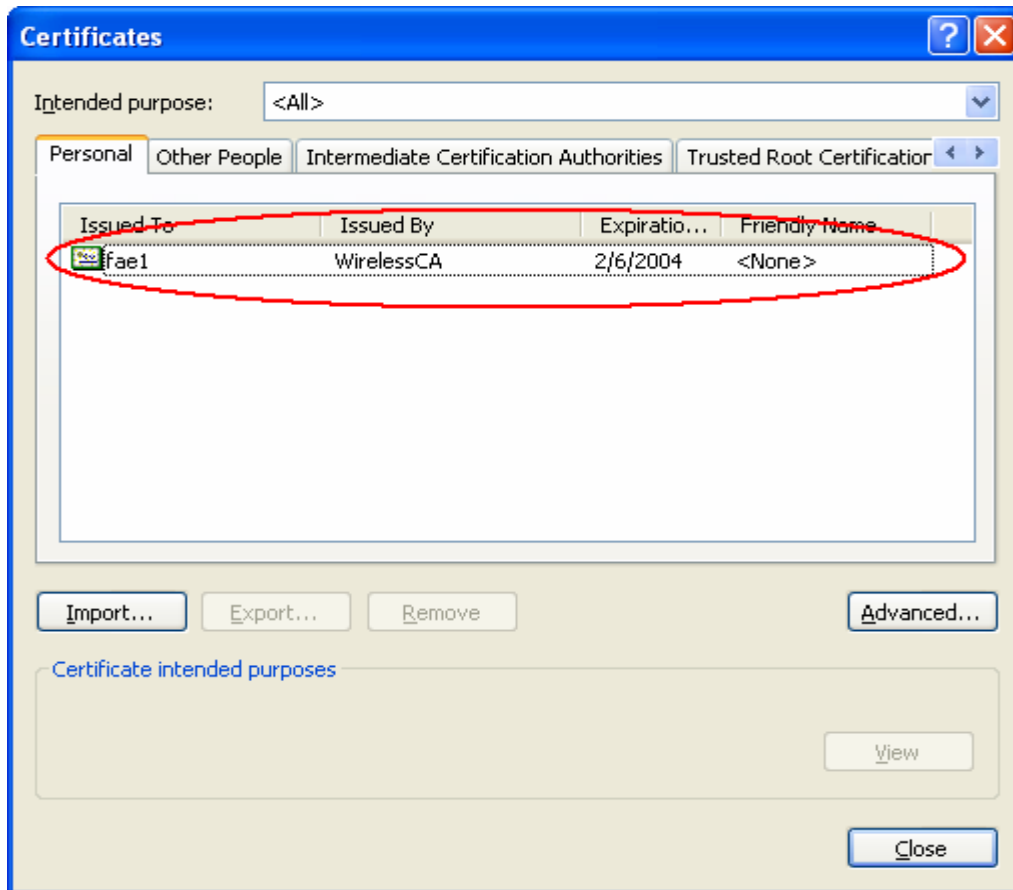


Figure 4: Certificate information on PC1

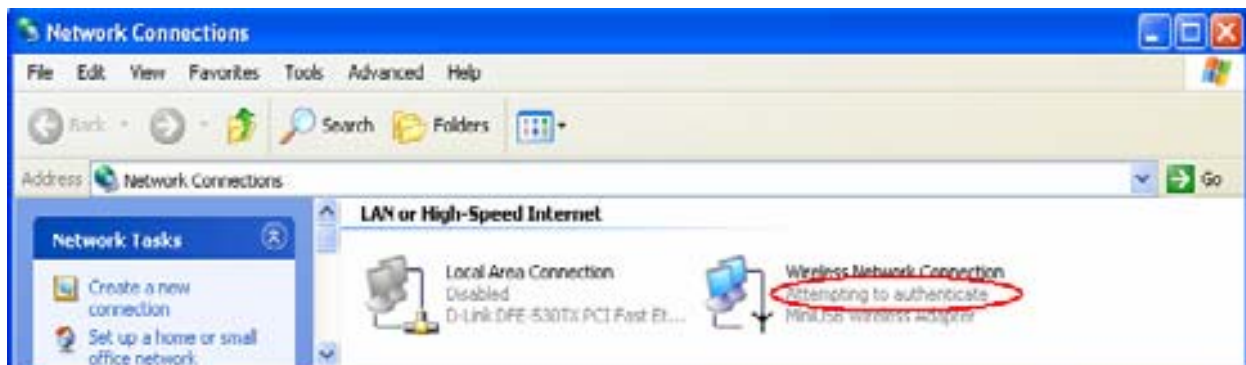




Figure 5: Authenticating



Figure 6: Authentication success

#### 4.2 DUT authenticate PC2 using PEAP-TLS.

PC2 choose the SSID of DUT as the Access Point.

Set authentication type of wireless client and RADIUS server both to PEAP\_TLS.

Disable the wireless connection and enable again.

The DUT will send the user's certificate to the RADIUS server, and then send the message of authentication result to PC2.

Windows XP will prompt that the authentication process is success or fail and end the authentication procedure.

Terminate the test steps when PC2 get dynamic IP and PING remote host successfully.

Support Type: The router supports the types of 802.1x Authentication:  
PEAP-CHAPv2 and PEAP-TLS.

Note.

PC1 is on Windows XP platform without Service Pack 1.

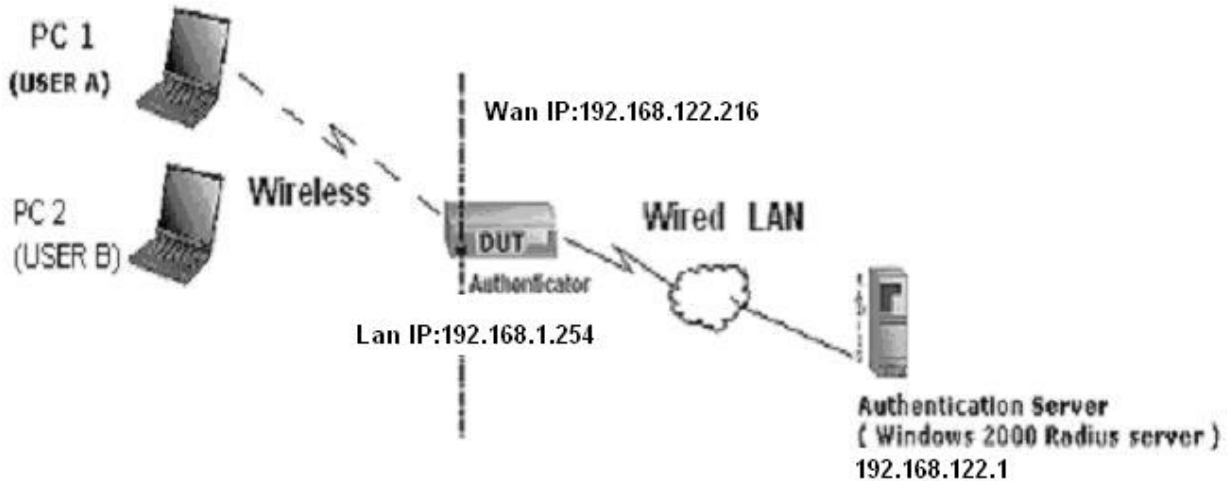
PC2 is on Windows XP platform with Service Pack 1a.

PEAP is supported on Windows XP with Service Pack 1 only.

Windows XP with Service Pack 1 allows 802.1x authentication only when data encryption function is enable.



## WPA Settings



Wireless Router: LAN IP: 192.168.1.254

WAN IP: 192.168.122.216

Radius Server: 192.168.122.1

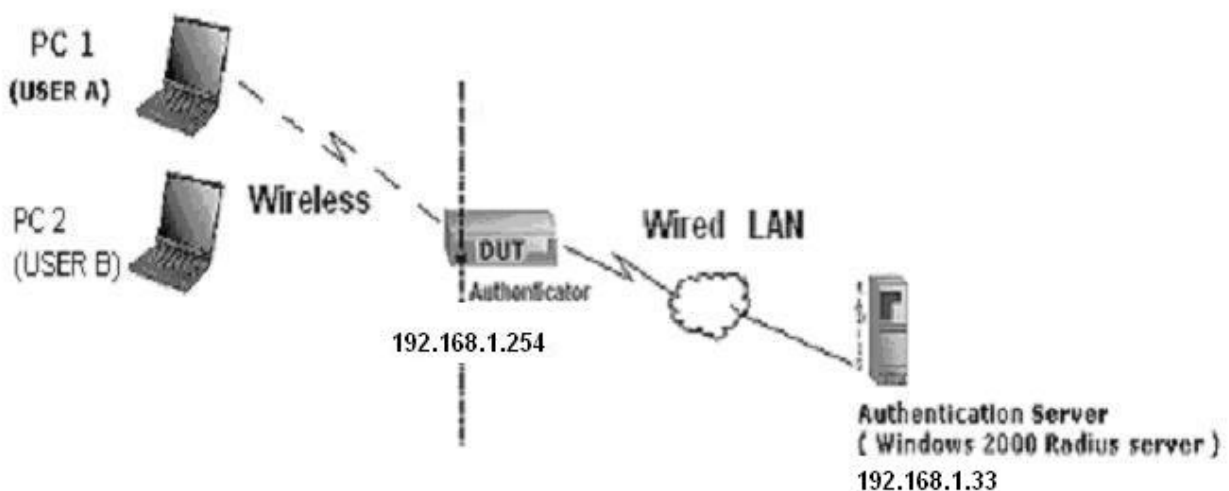
UserA : XP Wireless Card:Ti-11g

Tool: Odyssey Client Manager

Refer to: [HHUwww.funk.comUHH](http://www.funk.com)

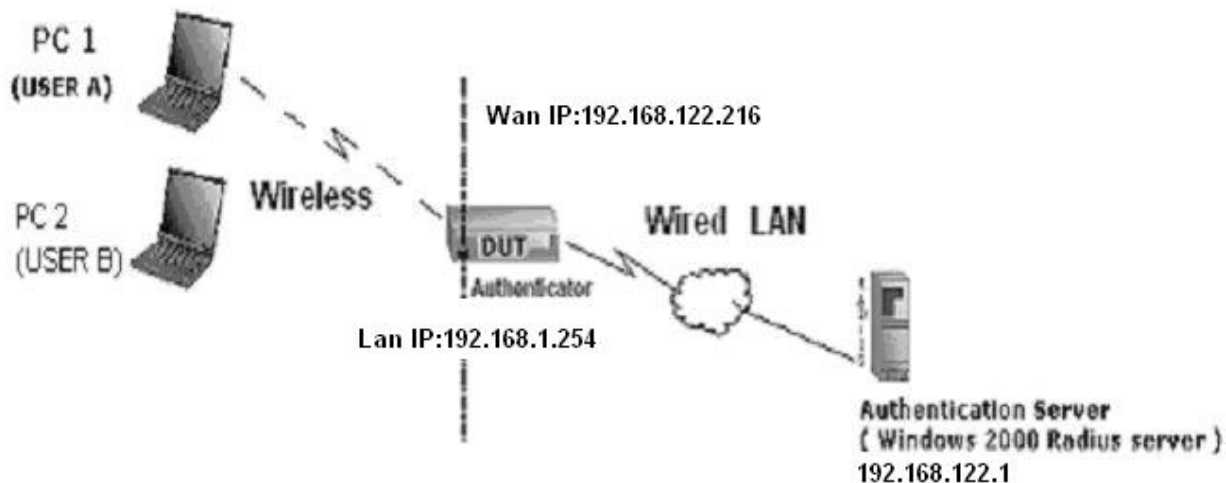
Download: [HHUhttp://www.funk.com/News&Events/ody\\_c\\_wpa\\_preview\\_pn.aspU](http://www.funk.com/News&Events/ody_c_wpa_preview_pn.asp)

Or Another Configuration:



WPA:

For this function, we need the server to authenticate. This function is like 802.1x.



The above is our environment:

Method 1:

1. The UserA or UserB have to get certificate from Radius, first.

HHU<http://192.168.122.1/certsrvU>

account : fae1

passwd : fae1

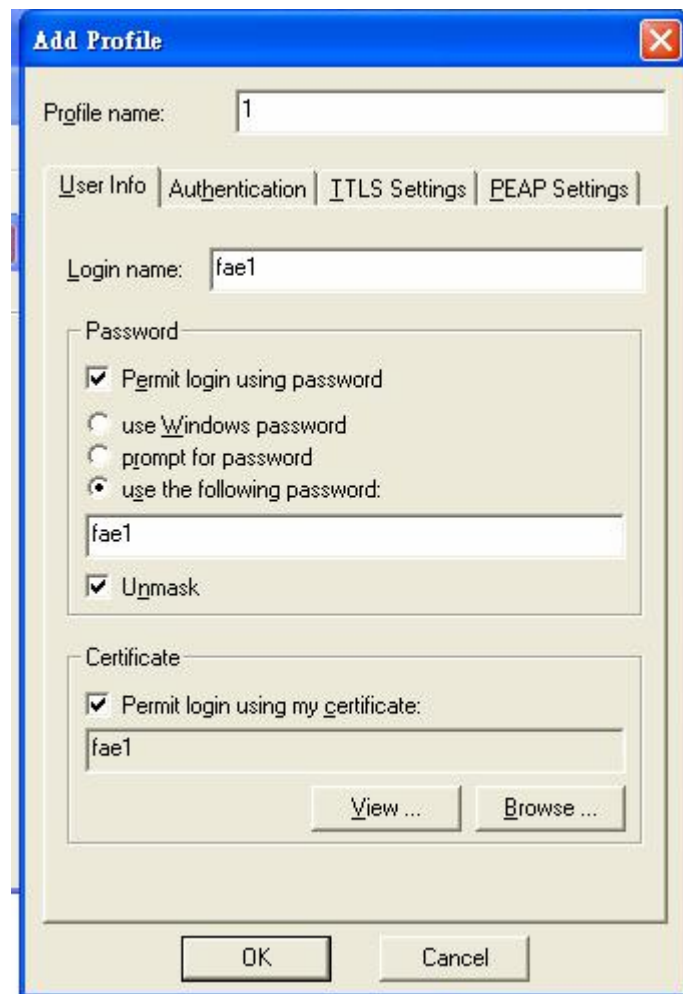


2. Then, Install this certificate and finish.

3. Go to the Web manager of Wireless Router to configure, like below:

Network ID(SSID)	<input type="text" value="123kk"/>
Channel	<input type="text" value="8"/>
Security	<input type="text" value="WPA"/>
<b>802.1X Settings</b>	
RADIUS Server IP	<input type="text" value="192.168.122.1"/>
RADIUS port	<input type="text" value="1812"/>
RADIUS Shared Key	<input type="text" value="costra"/>

4. Go to Odyssey Client Manager, choose “Profiles” and Setup Profile name as “1”



**Add Profile**

Profile name:

User Info | Authentication | ITLS Settings | PEAP Settings

Login name:

Password

Permit login using password

use Windows password

prompt for password

use the following password:

Unmask

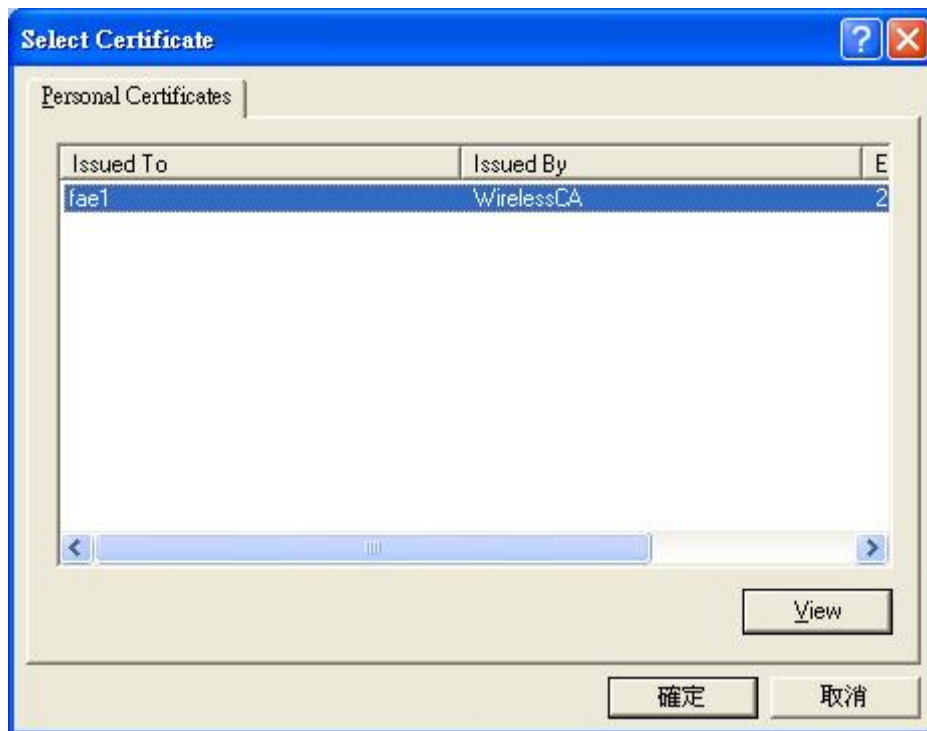
Certificate

Permit login using my certificate:

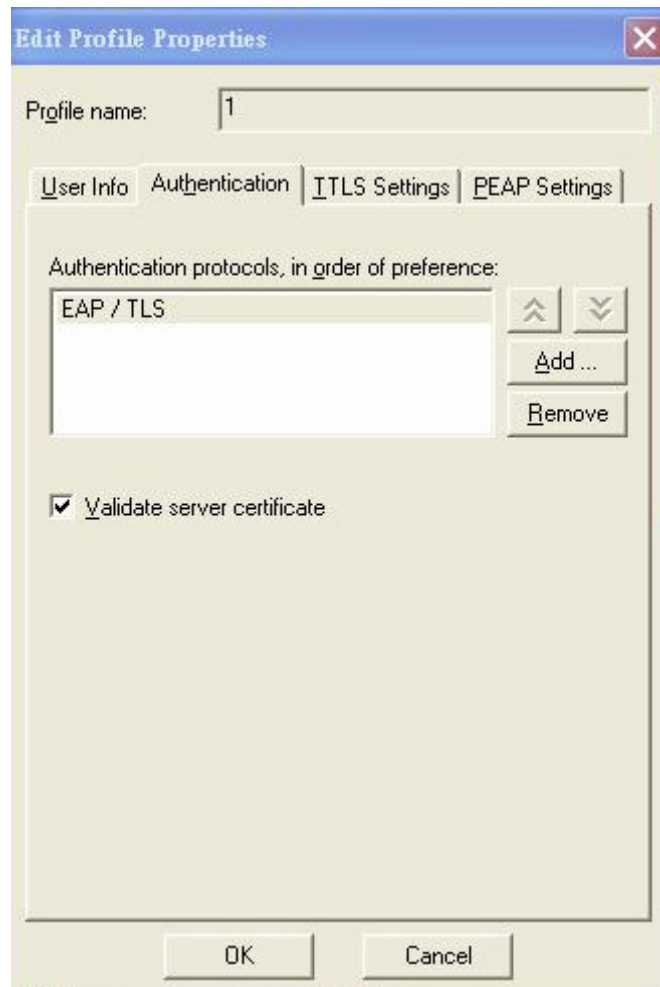
Login name and passwd are fae1 and fae1.

Remember that you get certificate from Radius in Step1.

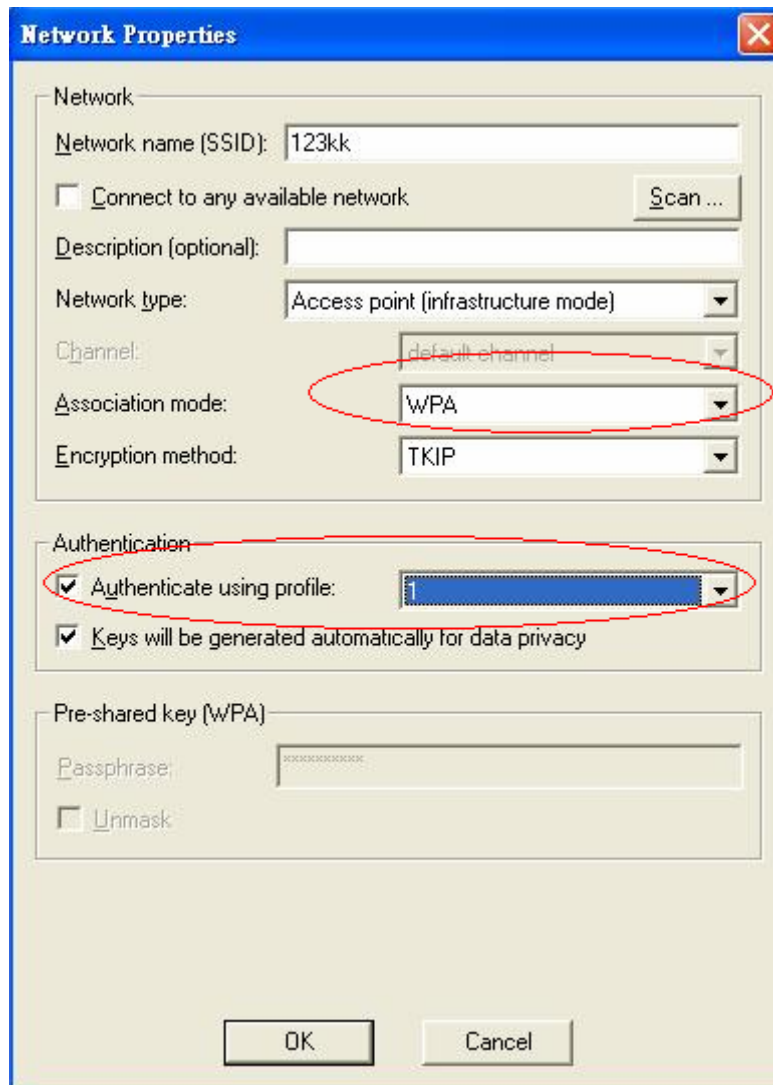
5. Then Choose “certificate” like above.



6. Then go to Authentication and first Remove EAP/ TLS and Add EAP/TLS again.



7. Go “Network” and Select “1” and ok



**Network Properties**

Network

Network name (SSID): 123kk

Connect to any available network Scan ...

Description (optional):

Network type: Access point (infrastructure mode)

Channel: default channel

Association mode: WPA

Encryption method: TKIP

Authentication

Authenticate using profile: [Profile Name]

Keys will be generated automatically for data privacy

Pre-shared key (WPA)

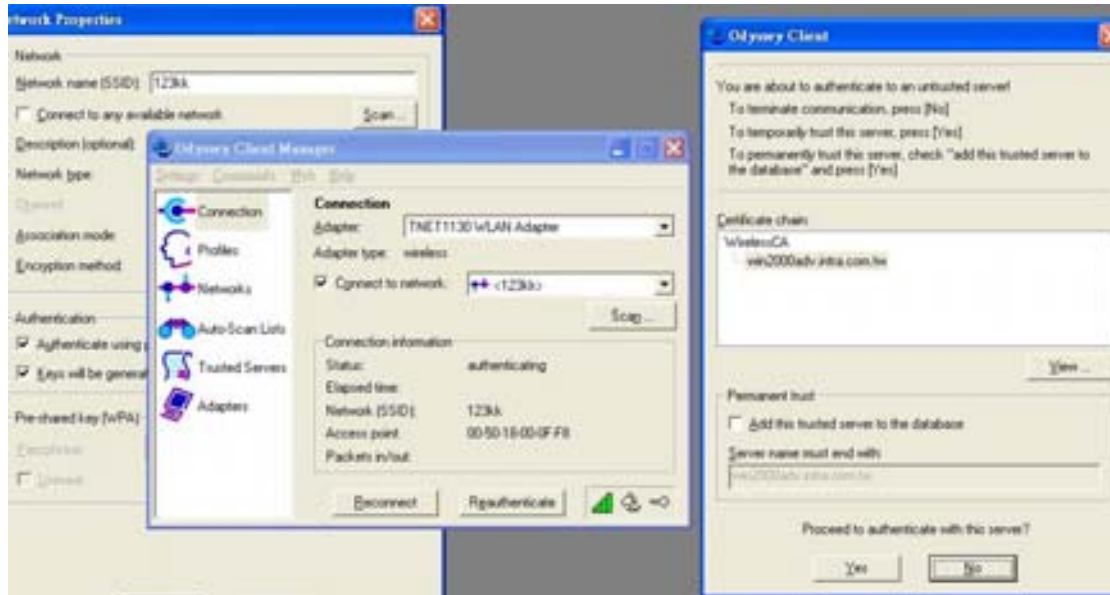
Passphrase: [Masked]

Unmask

OK Cancel

8. Back to Connection and Select “123kk.

If successfully, the wireless client has to authenticate with Radius Server, like below:



9.Result:





Method 2:

1. The UserA or UserB have to get certificate from Radius,first.

HHU<http://192.168.122.1/certsrvU>

account:fae1

passwd:fae1



2. Then Install this certificate and finish.

3. Setting on the router and client:

Router:

Network ID(SSID)	<input type="text" value="123kk"/>
Channel	<input type="text" value="8"/>
Security	<input type="text" value="WPA"/>
<b>802.1X Settings</b>	
RADIUS Server IP	<input type="text" value="192.168.122.1"/>
RADIUS port	<input type="text" value="1812"/>
RADIUS Shared Key	<input type="text" value="costra"/>

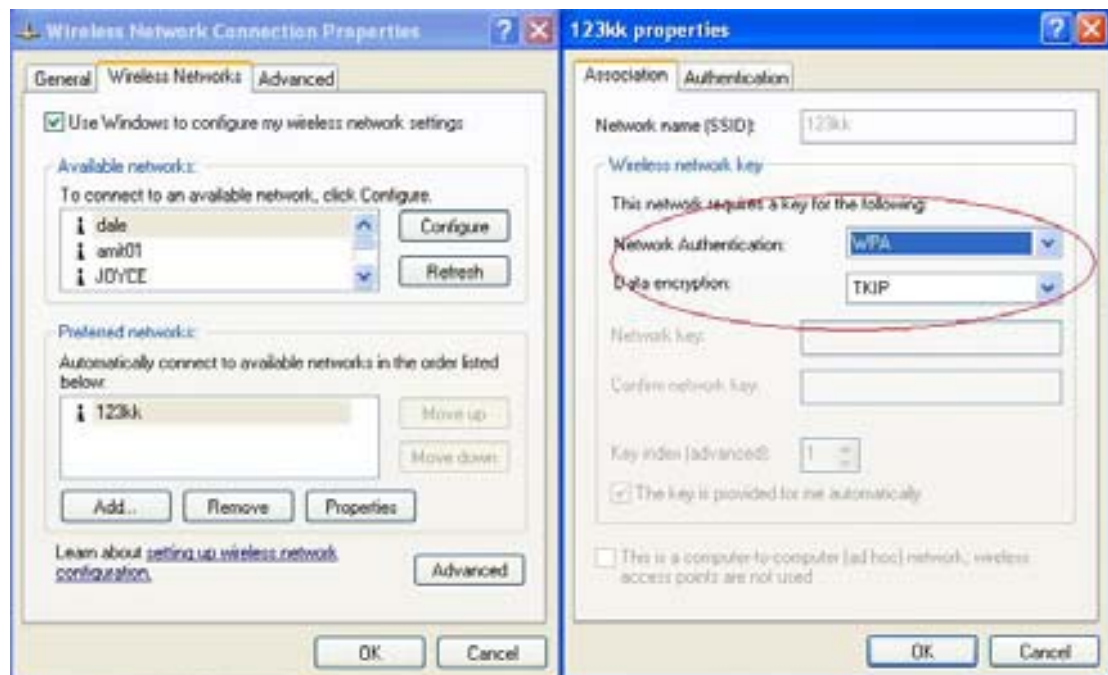
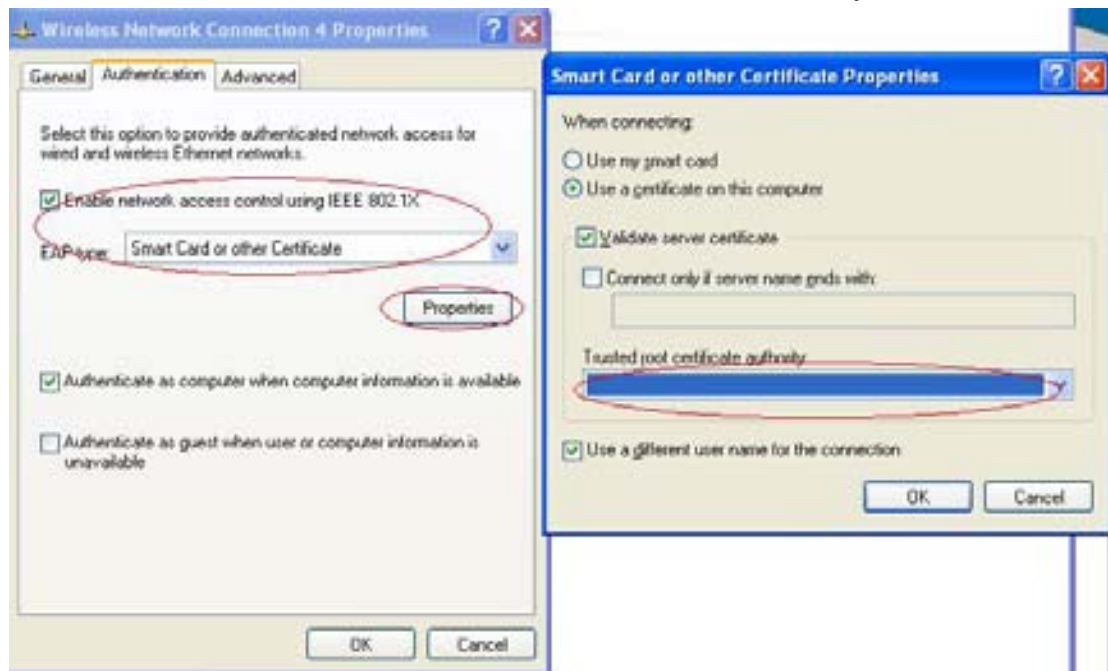
Client:

Go to “Network Connection” and select wireless adapter.

Choose “View available Wireless Networks” like below:

Advanced→ choose “123kk”

Select “WirelessCA and Enable” in Trusted root certificate authority:



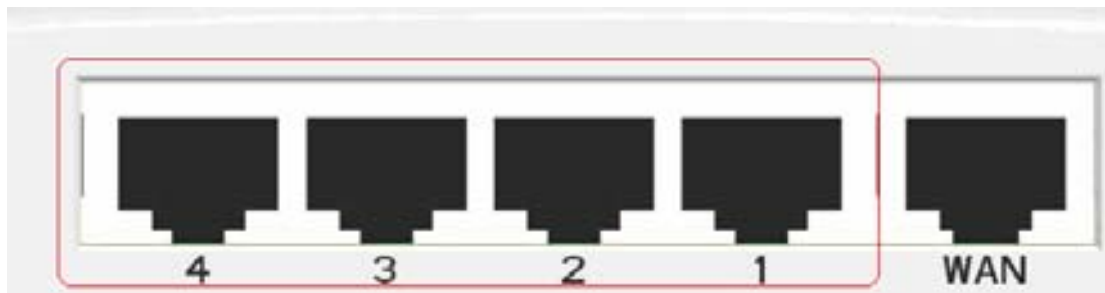
Then, if the wireless client wants to associate, it has to request to authenticate.

## FAQ and Troubleshooting

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

1. Why can I not configure the router even if the cable is plugged in the ports of Router and the led is also light?

A: First, make sure that which port is plugged. If the cable is in the Wan port, please change to plug in Lan port 1 or Lan port 4:



Then, please check if the Pc gets ip address from Router. Use command mode as below:

```
C:\Documents and Settings\airlive-hpnb>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix . : 
    IP Address. . . . . : 192.168.1.199
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.1.254
```

If yes, please execute Browser, like Mozilla and key 192.168.1.254 in address.

If not, please ipconfig /release, then ipconfig /renew.

```
C:\>ipconfig /release
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:\>ipconfig /renew
Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : 192.168.1.199
    IP Address. . . . . : 255.255.255.0
    Subnet Mask . . . . . : 
    Default Gateway . . . . . : 192.168.1.254
```

Whatever I setup, the pc can not get ip. Please check Status Led and refer to the Q2:

## 2.Why can I not connect the router even if the cable is plugged in Lan port and the led is light?

A: First, please check Status Led. If the device is normal, the led will blink per second.

If not, please check How blinking Status led shows.

There are many abnormal symptoms as below:

Status Led is bright or dark in work: The system hanged up .Suggest powering off and on the router. But this symptom often occurs, please reset to default or upgrade latest fw to try again.

Status led flashes irregularly: Maybe the root cause is Flash rom and please press reset Button to reset to default or try to use Recovery mode.(Refer to Q3 and Q4)

Status flashes very fast while powering on: Maybe the router is the recovery mode and please refer to Q4.

## 3.How to reset to factory default?

A: Press Wireless on /off and WPS button simultaneously about 5 sec

Status will start flashing about 5 times, remove the finger. The RESTORE process is completed.

4. Why can I not connect Internet even though the cables are plugged in Wan port and Lan port and the leds are blink. In addition, Status led is also normal and I can configure web management?

A: Make sure that the network cable from DSL or Cable modem is plugged in Wan port of Router and that the network cable from Lan port of router is plugged in Ethernet adapter. Then, please check which wan type you use. If you are not sure, please call the isp. Then please go to this page to input the information isp is assigned.

Choose WAN Type	
Type	Usage
<input type="radio"/> Static IP Address	ISP assigns you a static IP address.
<input checked="" type="radio"/> Dynamic IP Address	Obtain an IP address from ISP automatically.
<input type="radio"/> Dynamic IP Address with Road Runner Session Management.(e.g. Telstra BigPond)	
<input type="radio"/> PPP over Ethernet	Some ISPs require the use of PPPoE to connect to their services.
<input type="radio"/> PPTP	Some ISPs require the use of PPTP to connect to their services.
<input type="radio"/> L2TP	Some ISPs require the use of L2TP to connect to their services.

5. When I use Static IP Address to roam Internet, I can access or ping global IP 202.93.91.218, But I can not access the site that inputs domain name, for example <http://espn.com> ?

A: Please check the dns configuration of Static IP Address. Please refer to the information of ISP and assign one or two in dns item.

## How do I connect router by using wireless?

### 1.How to start to use wireless?

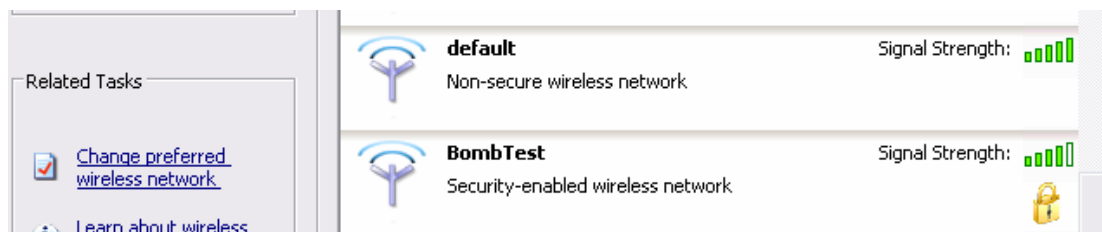
A: First, make sure that you already installed wireless client device in your computer. Then check the Configuration of wireless router. The default is as below:

Wireless Setting [ HELP ]	
Item	Setting
Wireless	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Network ID(SSID)	default
Wireless Mode	<input type="radio"/> 11 b/g/n Mixed <input type="radio"/> 11n only
SSID Broadcast	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Channel	11
Security	None

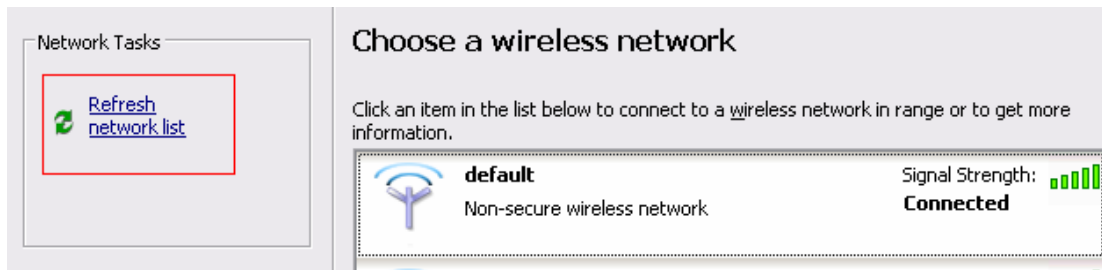
About wireless client, you will see wireless icon:



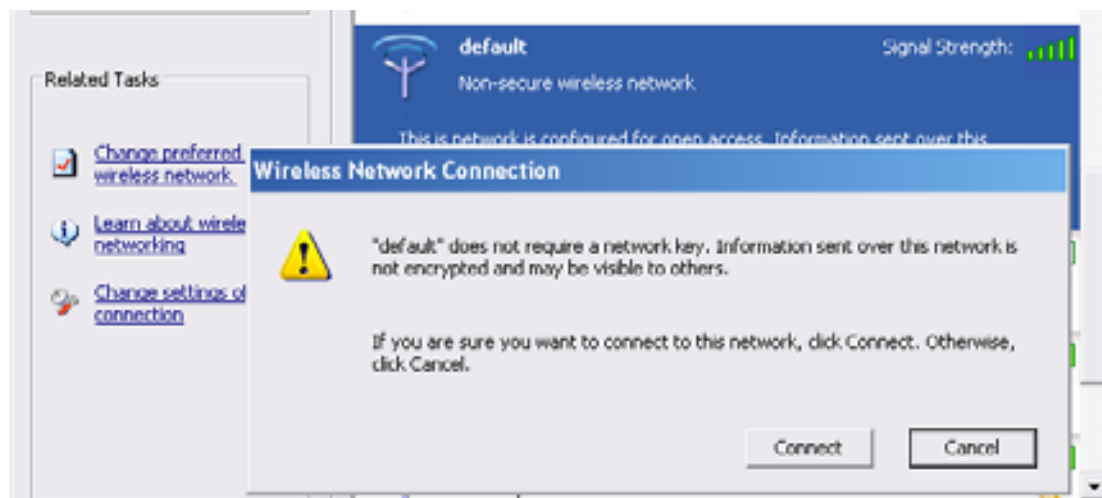
Then click and will see the ap list that wireless client can be accessed:



If the client can not access your wireless router, please refresh network list again. However, I still can not fine the device which ssid is "default", please refer to Q3.



Choose the one that you will want to connect and Connect:



If successfully, the computer will show



and get ip from router:

```

Ethernet adapter Local Area Connection 5:

    Connection-specific DNS Suffix  . : 
    IP Address. . . . .               : 192.168.1.165
    Subnet Mask . . . . .             : 255.255.255.0
    Default Gateway . . . . .         : 192.168.1.254
    
```

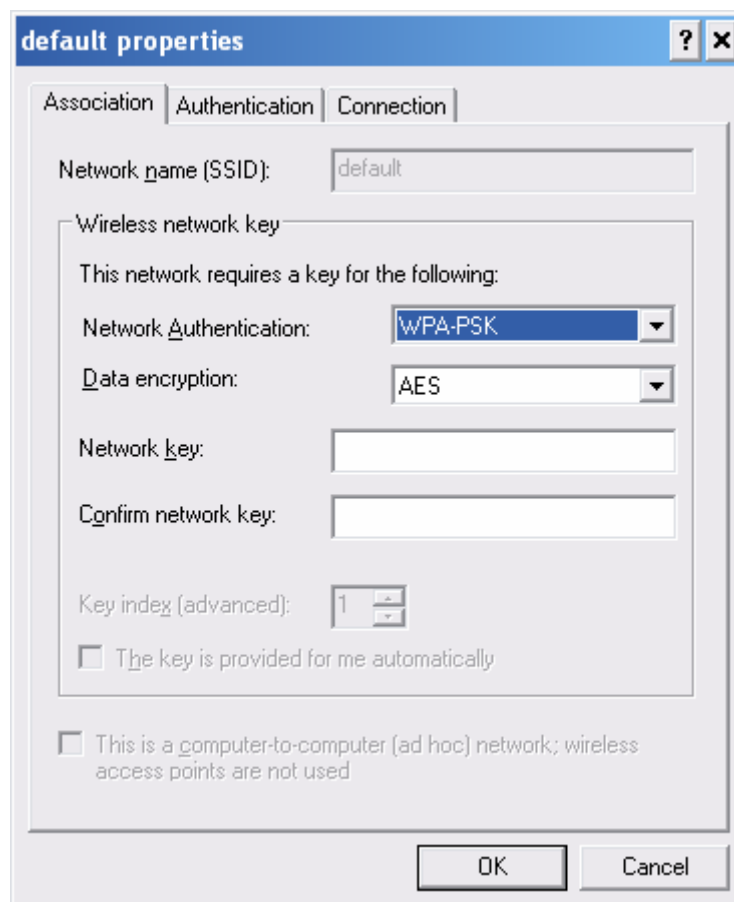


2. When I use AES encryption of WPA-PSK to connect even if I input the correct pre-share key?

A: First, you must check if the driver of wireless client supports AES encryption. Please refer to the below:



If SSID is default and click “Properties” to check if the driver of wireless client supports AES encryption.



3. When I use wireless to connect the router, but I find the signal is very low even if I am close to the router?

A: Please check if the wireless client is normal, first. If yes, please send the unit to the seller and verify what the problem is.

## **FCC statement in User's Manual (for class B)**

### **"Federal Communications Commission (FCC) 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 harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### FCC Caution:

1. The device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:
  - (1) This device may not cause harmful interference, and
  - (2) this device must accept any interference received, including interference that may cause undesired operation.
  
2. This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.
  
3. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

### **IMPORTANT NOTE:**

#### **FCC Radiation Exposure Statement:**

**This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.**

## 低功率電波輻射性電機管理辦法

### 第十二條

型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

### 第十四條

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。

低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

註 1：廠商在出廠時，會利用軟體鎖定頻道，讓終端使用者無法任意選擇頻道。

註 2：此產品頻道選擇，只提供Auto、1、2.11等11個頻道。