

**WAC-2003**  
**Gigabit Wireless LAN Controller**  
**User's Manual**

HW Ver.: V2

# Content

Chapter 1: Product Main Features and Packing Content.....	3
Chapter 2: Hardware Introduce and Connection .....	4
Chapter 3: Login .....	5
Chapter 4: WEB GUI Configuration.....	5
4. 1. AC .....	7
4.1.1: Address Server: .....	7
4.1.2: Zero Config.....	8
4.1.3 Device Group .....	10
4.1.4: Device Log .....	11
4.1.5: AC Setting: .....	11
4.2 LAN .....	13
4.3. WAN .....	14
4.3.1 WAN Setting:.....	14
4.3.2 Load Balance .....	15
4.3.3 Policy Routing .....	15
4.4 Behavior .....	18
4.5 Flow Control .....	19
4.6 Routing Management.....	19
4.7 Port Mapping .....	20
4.8 URL Filter .....	21
4.9 IP Filter .....	21
4.10 MAC Filter.....	21
4.11 DMZ .....	22
4.12 IP/Time Group.....	22
4.13 Authentication .....	22
4.14 Device Management .....	23
Appendix A LICENSE STATEMENT / GPL CODE STATEMENT .....	24

## Chapter 1: Product Main Features and Packing Content

Item		Specification
Standard		IEEE 802.3, IEEE 802.3u
QTY of managed AP		1~300PCS wireless AP can be managed, Max 300PCS
Ports		1*10/100/1000Mbps WAN Port in Default, max 4 WAN Ports
		4*10/100/1000Mbps LAN Ports in Default, min 1 LAN port
LED indicator	Power	Power LED Indicator
	Run	System LED Indicator
Environment		Working Temperature: -10°C ~ 50°C
		Working Humanity: 10% ~ 90%RH (No condensation)
		Storage Temperature: -40°C ~ 70°C
		Storage Humanity: 5% ~ 90%RH (No condensation)
Packing Content		WAC-2003
		Power Adapter
		Setting Accessory
		User Manual

## Chapter 2: Hardware Introduce and Connection

### Hardware:



WAN1: WAN Port in Default

WAN2/LAN4; WAN3/LAN3; WAN4/LAN2: LAN Port in default, but can set up as WAN port in gateway operation mode based on needs.

LAN1: LAN Port in default

Reset: Press it 15 second, it return to default setting.

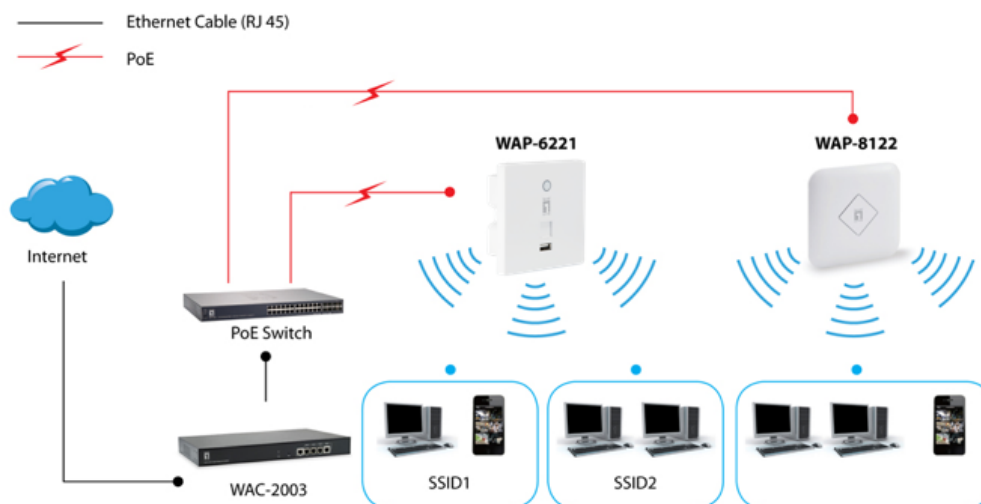
Power: When power on, power LED indicator will be on;

RUN: When this device run in good status, this LED indicator will be flashing

### Application and Connection:

If there is a Gateway in the whole network, then this WLAN controller work as Controller to manage wireless AP only;

The working diagram show as follow:



## Chapter 3: Login

3.1: Setup an IP address for PC, The IP address should be anyone between 192.168.1.2~192.168.1.254;

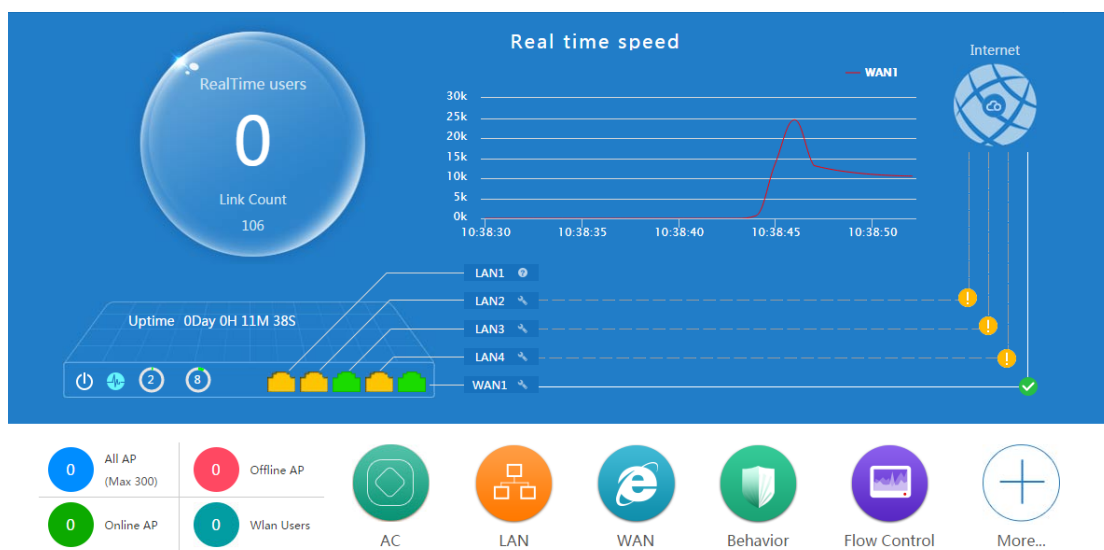
3.2 Open IE browser, input WAC-2003 IP address **192.168.1.1**, Enter to log in WAC-2003 WEB GUI.

3.3 Choose the Language, then input **admin** and Login



## Chapter 4: WEB GUI Configuration

When login this WAC-2003, the following home page will pop up; let's introduce it first!



**RealTime Users:** Mean the QTY of end users access into it when it work as Gateway.

**Link Count:** Mean the QTY of internet link.

**Real time speed:** Mean the WAN Ethernet speed

**Internet** : WAN Ethernet

**Uptime:** Mean AC controller running time



: Click to Reboot this AC controller



: Examination: disable in default, can enable



: CPU Usage



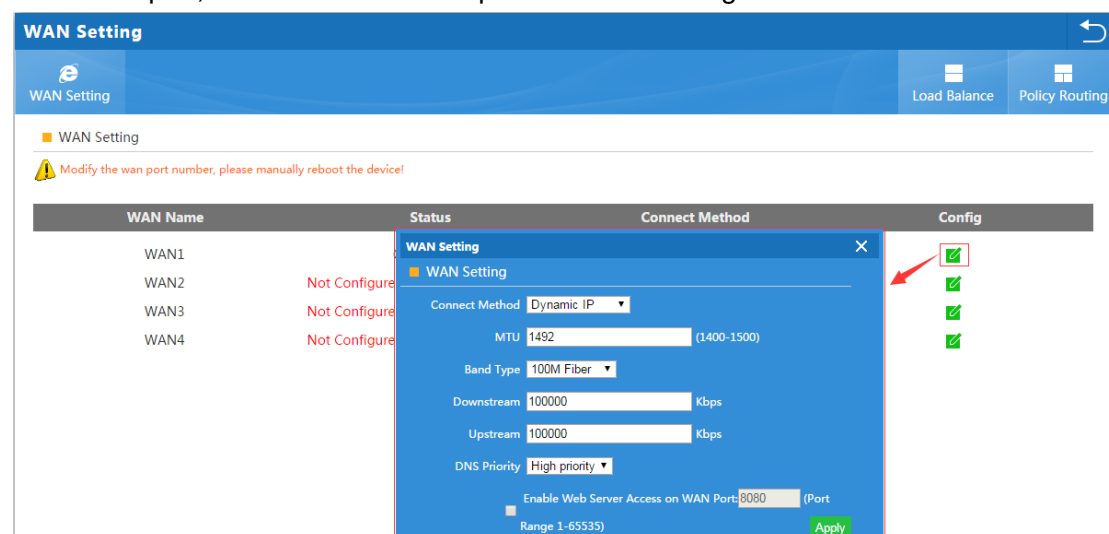
: Memory usage



: Yellow show disconnect, Green show connected



: Setup button, click it, will show following picture to show the status and setup WAN/LAN port; will show more in chapter 4.3 WAN settings.



WAN Name	Status	Connect Method	Config
WAN1	Not Configure	Dynamic IP	✓
WAN2	Not Configure		✓
WAN3	Not Configure		✓
WAN4	Not Configure		✓

All AP: Show QTY of wireless AP which connected with this WLAN controller

Offline AP: Show QTY of wireless AP which offline already

Online AP: Show QTY of wireless AP which online

WLAN Users: Show QTY of end users which access into this wireless AP.

AC: Wireless AP control and management

LAN: mean Local Area Network, is a computer network locally managed

WAN: Wide Area Network, it involves internet links

Behavior: end users actions based on rules or policy

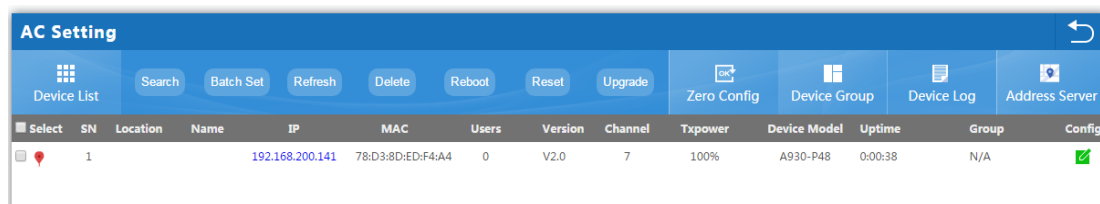
Flow Control: manage the rate of data transmission between two nodes to prevent a fast sender from overwhelming a slow receivers

More: including network function and device management

Let's introduce AC, LAN, WAN, Behavior, Flow Control and other function one by one to make users with more understanding in this product.

## 4. 1. AC

Click **AC** button , it will pop up following picture, which showed all the wireless AP connected into this WLAN controller.

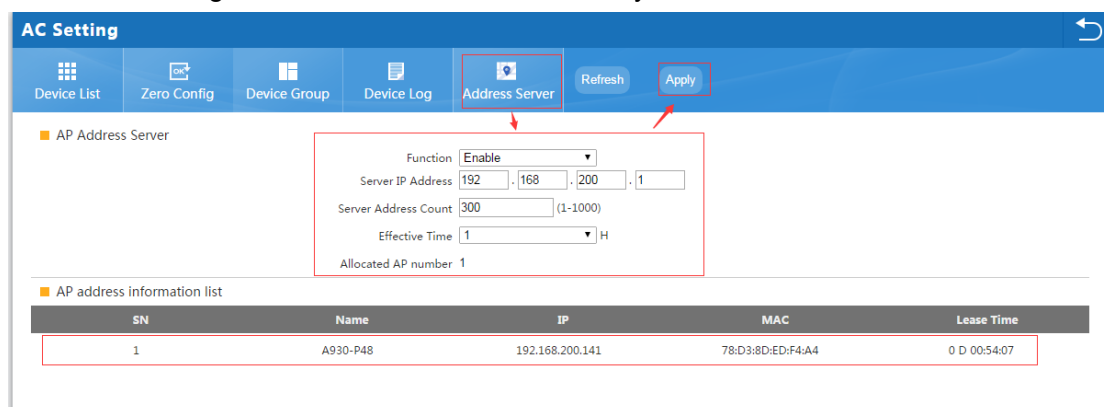


The screenshot shows the 'AC Setting' interface. At the top, there's a 'Device List' tab and several action buttons: Search, Batch Set, Refresh, Delete, Reboot, Reset, Upgrade, Zero Config, Device Group, Device Log, and Address Server. Below these is a table with columns: Select, SN, Location, Name, IP, MAC, Users, Version, Channel, Txpower, Device Model, Uptime, Group, and Config. One device is listed with SN 1, IP 192.168.200.141, MAC 78:D3:8D:ED:F4:A4, Users 0, Version V2.0, Channel 7, Txpower 100%, Device Model A930-P48, Uptime 0:00:38, Group N/A, and a green checkmark in the Config column.

Select	SN	Location	Name	IP	MAC	Users	Version	Channel	Txpower	Device Model	Uptime	Group	Config
<input type="checkbox"/>	1			192.168.200.141	78:D3:8D:ED:F4:A4	0	V2.0	7	100%	A930-P48	0:00:38	N/A	<input checked="" type="checkbox"/>

### 4.1.1: Address Server:

Address Server: Mean this WAC-2003 can assign IP address for wireless AP automatic, no need to change wireless AP's IP address one by one



The screenshot shows the 'AC Setting' interface with the 'Address Server' tab selected. The 'AP Address Server' section contains the following fields: Function (set to 'Enable'), Server IP Address (192.168.200.1), Server Address Count (300), Effective Time (1 H), and Allocated AP number (1). Below this is the 'AP address information list' table.

SN	Name	IP	MAC	Lease Time
1	A930-P48	192.168.200.141	78:D3:8D:ED:F4:A4	0 D 00:54:07

**Refresh:** to refresh the wireless AP's IP address

**Function:** Enable/Disable, default is Enable

**Server IP address:** default is 192.168.200.1; can change to anyone you like, but pls note, if server IP is 192.168.200.1, then wireless AP's IP address will be one from 192.168.200.2~192.168.200.254 if server address count is 300.

**Server Address Count:** default is 300, can be 1~1000, based on the QTY of wireless AP.

**Effective Time:** can be 1~24 hours

**Allocated AP number:** show the QTY of wireless AP which assigned IP address by this WLAN controller.

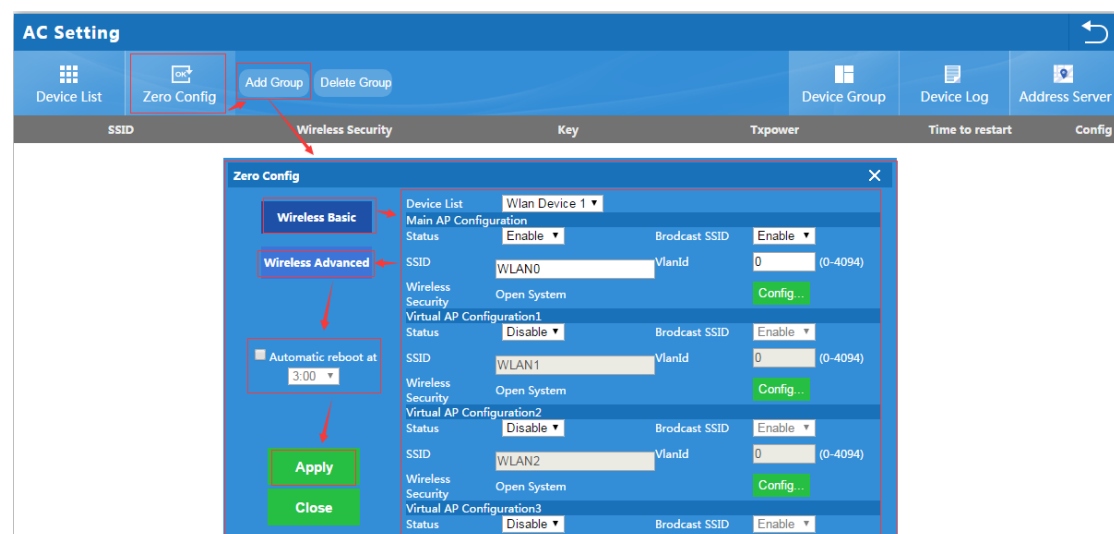
When setup the above data, click Apply to save it.

AP address information list: to show wireless AP's model number, IP address, MAC address and running time.

### 4.1.2: Zero Config

This function make wireless AP plug and play, but recommend to config this function before connect wireless AP into this network as following reason:

1. If config this function after wireless AP connected into this network, then all wireless AP should be reboot, then wireless AP will get the configuration from Zero config.
2. There is one group only in Zero config, which will make all wireless AP in same SSID, password, channel..., if want to different AP in different group, recommend Device Group function in 4.1.3.



**Wireless Basic:** to setup wireless AP's SSID, password, Tag VLAN

**Device List:** Wlan Device 1 and Wlan Device 2; Wlan Device 1 mean 2.4G Radio mainly; Wlan Device 2 mean 2.4G or 5.8G radio, based on wireless AP.

**Main AP Configuration:** setup the wireless AP's main SSID, Tag VLAN, Config Password.

**Virtual AP Configuration:** setup the wireless AP's virtual SSID, Tag VLAN, Config Password. The default status is disable for this virtual SSID.

**Automatic Reboot at:** Mean can setup this wireless AP reboot at certain time automatic, to improve the performance.

**Wireless Advanced:** to set up the channel, RF power, ShortGI, Coverage Threshold of wireless AP



**Wlan Group Config**

**Wireless Basic**

**Wireless Advanced**

☐ Automatic reboot at 3:00

**Apply**

**Close**

Device List	Wlan Device 1
Channel	Auto
Client Isolation	Disable
Fragment Threshold	2346 (256-2346)
RTS Threshold	2347 (1-2347)
Beacon Interval	100 (50-1024)ms
Aggregation	Enable
ShortGI	Enable
Rev Option	5
RF Output Power	100%
Coverage Threshold	-90 (-65dBm ~ -95dBm)

Channel: Auto in default, but recommend to setup channel by manual based on environment.

RF Output Power: 100%, 75%, 50%, 25%, 12.5%, can adjust it based on application.

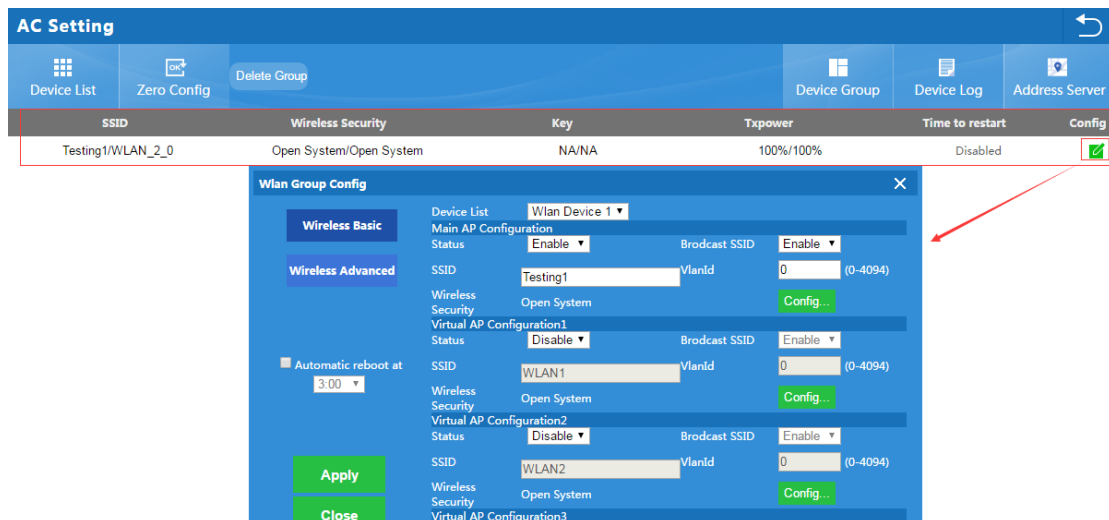
More RF Power, mean more WiFi Range;

**Coverage Threshold:** This make end users to connect the outdoor CPE with stronger signal strength;

For example, If one outdoor CPE with -80dBm coverage threshold data, another outdoor CPE with -95dBm coverage threshold data, then end users will connect the outdoor CPE with -95dBm coverage threshold always even this outdoor CPE with very weak signal strength.

After setup all the data, click Apply to add zero config group as follow:


Pls note, click config button  , can modify the data if need.



**Delete Group:** If need, can delete this zero config group.

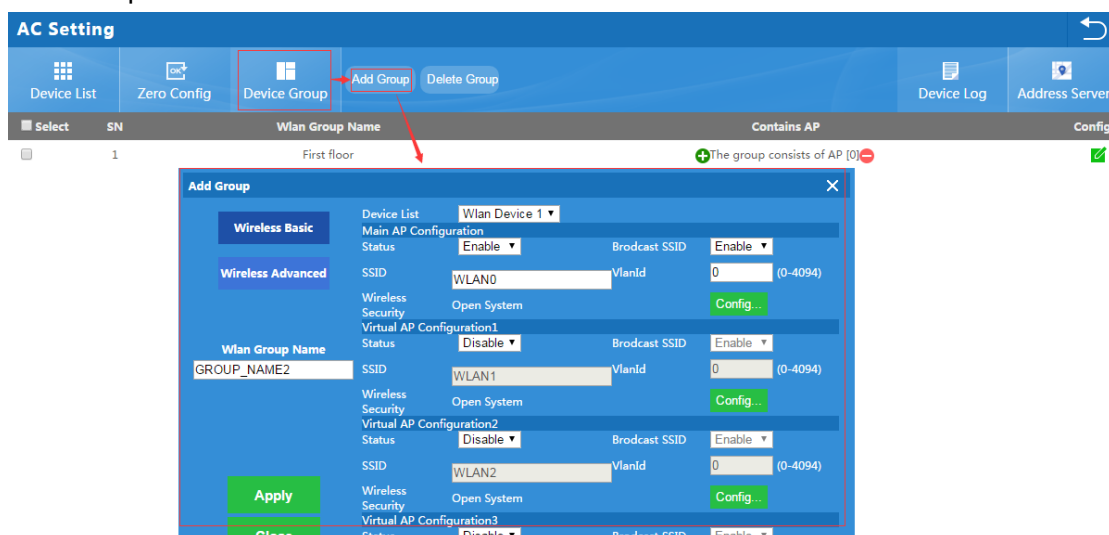
### 4.1.3 Device Group

In device group, can be more than one group, then different AP can be in different group.

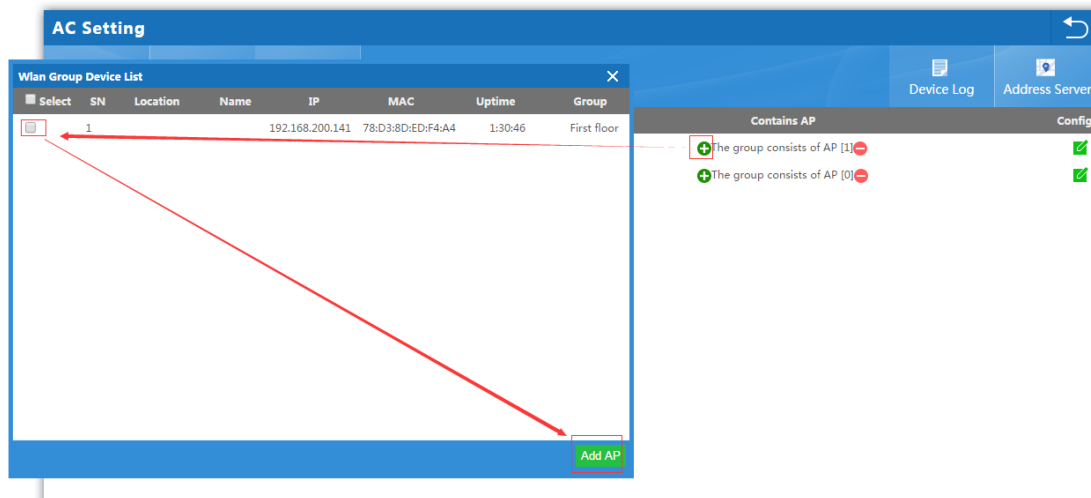
The steps is: Add Group----Config Group----Click  to Add AP into this group----Wireless AP will get data from this group.

Pls note, the configuration in device group is same as Zero Config.

**Add Group**

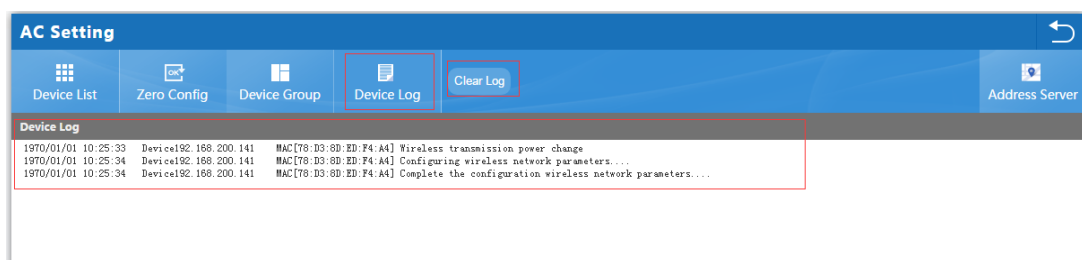


Add AP to Group:



#### 4.1.4: Device Log

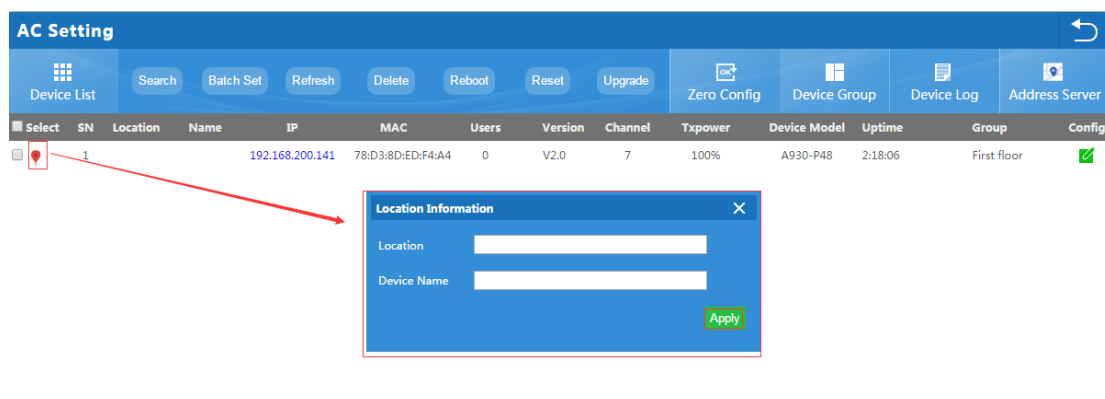
Device Log is keeping the management record of this WLAN controller.




When finish the Address Server, Zero Config and Device Group, can connect wireless AP into this network.

#### 4.1.5: AC Setting:

When back to AC setting, let's introduce more management functions:



**Location**  : Click it to setup the location and name of Wireless AP.

**Search:** Search wireless AP by IP address or MAC address

**Batch Set:** Set Channel, TX Power, Time to restart, Max users, device login password in batch.


**Refresh:** Fresh the status of wireless AP

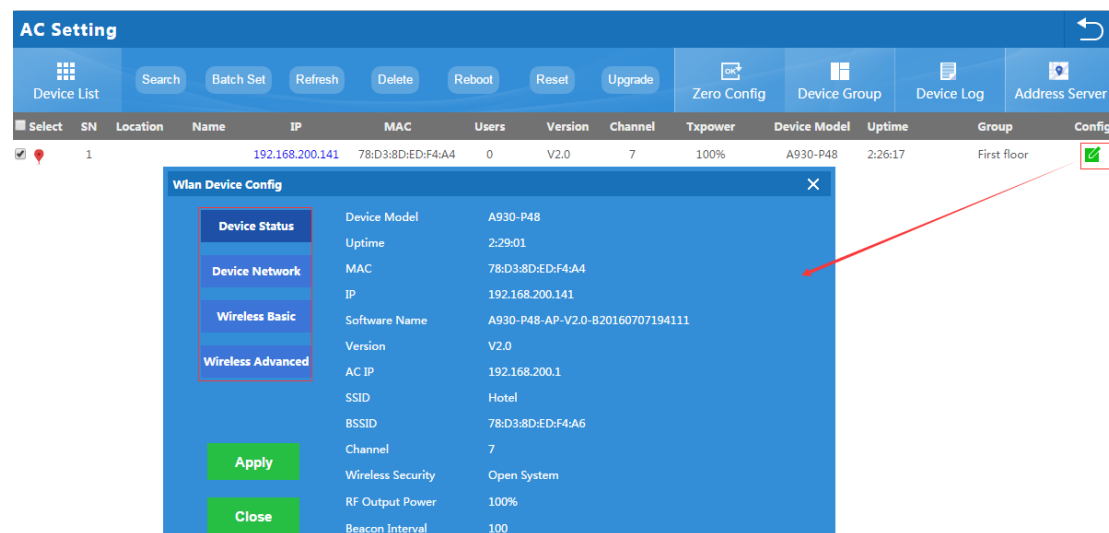
**Delete:** Delete wireless AP from this device list

**Reboot:** Restart this wireless AP


**Reset:** return to factory default

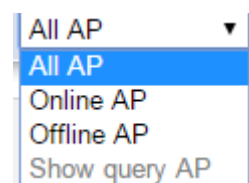
**Upgrade:** Upgrade firmware.

If need to setup wireless AP one by one, can click cofig button  to check device status, modify device network, wireless basic and wireless advanced also:



The screenshot shows the 'AC Setting' interface. At the top, there's a 'Device List' section with buttons for Search, Batch Set, Refresh, Delete, Reboot, Reset, and Upgrade. Below this is a table of wireless APs. The first row is selected, showing details for an AP with IP 192.168.200.141. A 'Config' button (green checkmark icon) is visible in the 'Group' column. A modal window titled 'Wlan Device Config' is open, displaying various settings for the selected AP, including Device Status, Device Network, Wireless Basic, and Wireless Advanced. The modal has 'Apply' and 'Close' buttons.

Select	SN	Location	Name	IP	MAC	Users	Version	Channel	Txpower	Device Model	Uptime	Group	Config
<input checked="" type="checkbox"/>	1			192.168.200.141	78:D3:8D:ED:F4:A4	0	V2.0	7	100%	A930-P48	2:26:17	First floor	



The screenshot shows a dropdown menu with the following options: All AP, All AP (highlighted), Online AP, Offline AP, and Show query AP.

This button can show all AP, online AP or Offline AP;

Per page show **Default ▼**

: this show how many AP in each page for better checking.

## 4.2 LAN

This including LAN setting,DHCP Server Setting and Static DHCP

**LAN**

LAN Settings Apply Static DHCP

■ LAN Settings

IP Address 192 . 168 . 10 . 1

Subnet Mask 255 . 255 . 252 . 0

Spanning Tree Enable ▼

■ DHCP Server Setting

DHCP Server Setting Enable ▼

Initial allocation base address 50

Maximum DHCP address allocation 500

DHCP Lease Time 24 ▼ H

DHCP allocation quantity 1 [DHCP List](#)

**IP address:** mean WAC-2003 IP address

**Subnet Mask:** to set the subnet of LAN

**Spanning Tree:** Enable to show the assigned IP list in DHCP list; Disable mean will not show it.

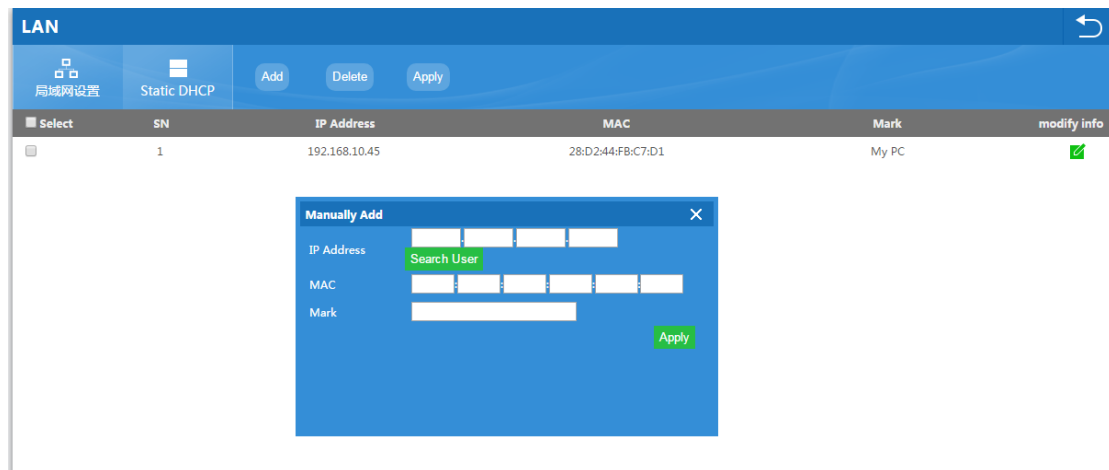
**DHCP Server Setting:** Enable mean can assign IP address automatic.

**Maximum DHCP address allocation:** QTY of max DHCP address

**DHCP Lease Time:** the IP address lease time by DHCP server

**DHCP allocation quantity:** QTY of IP address that DHCP assigned.

**Static DHCP:** Can add, delete the IP address set by static.



## 4.3. WAN

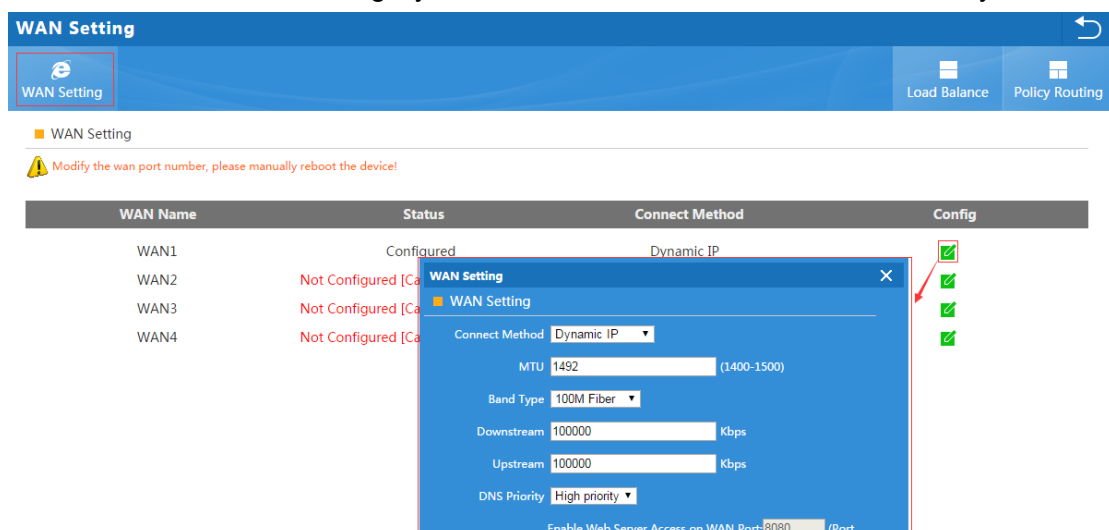
If WAC-2003 work as Gateway also in the whole networking, then we should click WAN, which including WAN setting, Load Balance, Policy Routing

### 4.3.1 WAN Setting:

WAN1 is WAN port in default; WAN2, WAN3, WAN4 is LAN ports in default, but can config as WAN ports, which make Ethernet backup and Ethernet superposition.

When click WAN, it will show following picture, click config button, will show Connect Method, MTU, Band Type, Downstream, Upstream, DNS Priority, Remote control

In connect method, it including Dynamic IP, PPPoE, Static IP, here show one by one:



WAN Setting

WAN Setting

Connect Method

PPPOE(ADSL)

User Name

User Password

MTU

1452

(1400-1492)

Service Name

If not, please do not fill out

Server Name

If not, please do not fill out

Band Type

100M Fiber

Downstream

100000

Kbps

Upstream

100000

Kbps

DNS Priority

High priority

Enable Web Server Access on WAN Port:8080

(Port Range 1-65535)

Apply

WAN Setting

WAN Setting

Connect Method

Static IP

IP Address

172

.

1

.

1

.

1

Subnet Mask

255

.

255

.

255

.

0

Default Gateway

172

.

1

.

1

.

254

MTU

1500

(1400-1500)

Primary DNS

8

.

8

.

8

.

8

Secondary DNS

4

.

4

.

4

.

4

Band Type

100M Fiber

Downstream

100000

Kbps

Upstream

100000

Kbps

DNS Priority

High priority

Enable Web Server Access on WAN Port:8080

(Port Range 1-65535)

Apply

### 4.3.2 Load Balance

Load Balance is set bandwidth when there are multiple WAN ports; It can detect the IP address auto or manual;

But pls note, when WLAN controller is in multiple WAN, pls restart the WLAN controller by manual.

WAN Setting

WAN Setting

Load Balance

Apply

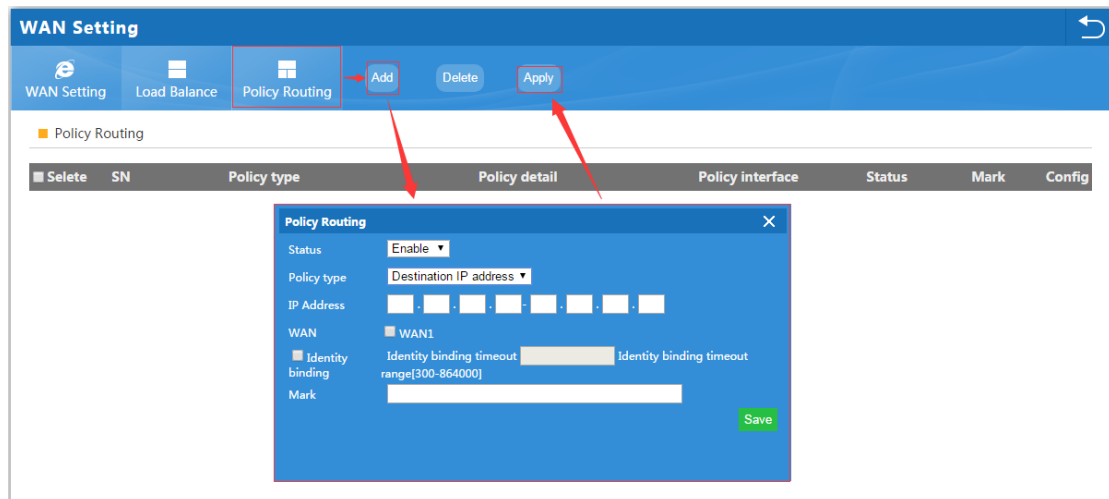
Policy Routing

Load Balance

WAN Name	Detection IP	Bandwidth Ratio(%)
WAN1	<input checked="" type="checkbox"/> 114.114.114.114 / 114.115.115	100
WAN2	Not Configured [Can serve as Lan port]	
WAN3	Not Configured [Can serve as Lan port]	
WAN4	Not Configured [Can serve as Lan port]	

### 4.3.3 Policy Routing

Policy Routing is some policy to control the router; Manager can make this policy to control the router.



Policy Type:

Source IP Address: Policy based on source IP address

This screenshot shows the 'Policy Routing' configuration window with the 'Policy type' set to 'Source IP address'. The fields are:

- Status: Enable (dropdown)
- Policy type: Source IP address (dropdown)
- IP Address: [ ] . [ ] . [ ] . [ ] - [ ] . [ ] . [ ] . [ ]
- WAN: WAN1 (checkbox)
- Identity binding: Identity binding timeout [ ] Identity binding timeout range[300-864000]
- Mark: [ ]
- Save (button)

Destination IP address: Policy based on destination IP address

This screenshot shows the 'Policy Routing' configuration window with the 'Policy type' set to 'Destination IP address'. The fields are:

- Status: Enable (dropdown)
- Policy type: Destination IP address (dropdown)
- IP Address: [ ] . [ ] . [ ] . [ ] - [ ] . [ ] . [ ] . [ ]
- WAN: WAN1 (checkbox)
- Identity binding: Identity binding timeout [ ] Identity binding timeout range[300-864000]
- Mark: [ ]
- Save (button)

Source MAC address: Policy based on source MAC address



Policy Routing

Status

Enable

Policy type

Source MAC address

MAC

:

:

:

:

:

Scan MAC

WAN

☒ WAN1

☒ Identity binding

Identity binding timeout

Identity binding timeout range[300-864000]

Mark

Save

Network Interface: Policy based on router interface

Policy Routing

Status

Enable

Policy type

Network Interface

LAN

☒ LAN1
☐ LAN2
☐ LAN3
☐ LAN4

WAN

☒ WAN1

☒ Identity binding

Identity binding timeout

Identity binding timeout range[300-864000]

Mark

Save

Domain Policy: Policy based on router domain

Policy Routing

Status

Enable

Policy type

Domain policy

URL

WAN

☒ WAN1

☒ Identity binding

Identity binding timeout

Identity binding timeout range[300-864000]

Mark

Save

Destination Port: Policy based on destination port.

Policy Routing

Status

Enable

Policy type

Destination port

Destination port

can not be empty, port range:1-65535

WAN

☒ WAN1

☒ Identity binding

Identity binding timeout

Identity binding timeout range[300-864000]

Mark

Save

## 4.4 Behavior

In behavior part, it allow/reject end users some behavior based on rules.

The screenshot shows the 'Behavior' management interface. At the top, there are buttons for 'Add', 'Delete', and 'Apply'. Below this is a table titled 'Behavior Setting' with columns: Select, SN, Group Name, Time Group, Application Info, Action, Status, Mark, and Config. The table contains one entry with SN 1, Group Name 'Any', Time Group 'Any', Application Info 'WeChat', Action 'Reject', Status 'Enable', and a green checkmark in the Config column. A red arrow points from the 'Add' button to a 'Behavior Setting' modal. The modal contains fields for Status (Enable), IP Group (Any), Time Group (Any), Application Class (Instant messaging), Application Info (WeChat), Action (Reject), and Mark. There are also buttons for 'Add IP Group', 'Add Time Group', and 'Apply'.

**Status:** Enable or Disable

**IP Group:** Can add the IP group if need based on following picture

The screenshot shows the 'IP/Time Group' management interface. At the top, there are buttons for 'Add' and 'Delete'. Below this is a table titled 'IP Group Management' with columns: Select, SN, Group Name, IP Range, Mark, and Config. The table contains one entry with SN 1, Group Name 'Sales', IP Range '192.168.10.10-192.168.10.39', Mark 'Sales Department', and a green checkmark in the Config column. A red arrow points from the 'Add' button to an 'IP Group' modal. The modal contains fields for Group Name (Sales), IP Range (192.168.10.10 - 192.168.10.39), and Mark (Sales Department). There are also buttons for 'Search User' and 'Apply'.

**Time Group:** Can add time group based on requirement in following picture:

The screenshot shows the 'IP/Time Group' management interface. At the top, there are buttons for 'Add' and 'Delete'. Below this is a table titled 'Time Group Management' with columns: Select, SN, Time Group, Time Range, Work date, Mark, and Config. The table contains one entry with SN 1, Time Group 'sales department', Time Range '10:00-19:00', Work date 'Monday Tuesday Wednesday Thursday Friday', Mark, and a green checkmark in the Config column. A red arrow points from the 'Add' button to a 'Time Group' modal. The modal contains fields for Time Group (sales department), Time Range (10:00 - 19:00), Work date (Monday, Tuesday, Wednesday, Thursday, Friday), and Mark. There are also checkboxes for 'Monday', 'Tuesday', 'Wednesday', 'Thursday', 'Friday', 'Saturday', and 'Sunday'. A note says 'Note: do not choose any work date represented for each day'. There is an 'Apply' button.

### Application Class: Including

Instant messaging (QQ, Trade Manager, WeChat);

Network Download (Thunder, BT, Edonkey);

Network Video (Youtube, PPTV, Tencent Video, Ppstream, Youku, Sohu Video, Letv, RSTP, Douyu, Storm web version, funsh, YY)

Office (FTP, DNS, Http, NTP, NFS, DHCP, RTSP, IRC, Telnet, Stun, System Log, IPSEC, IGMP, SSH, TFTP, PPTP, Radius, OpenVPN)

Finance and other (ICMP, Flush, DZH, Eastmoney)

## 4.5 Flow Control

### Speed Limit

Speed Limit: Mean limit end users Ethernet speed;

Should add IP group first, then choose the limited mode.

Pls note: Shared Mode: mean all users in this IP group share the downstream and upstream Ethernet speed; Exclusive Mode mean each end users in this IP group get the downstream and upstream fairly.

The screenshot shows the 'Flow Control' interface with the 'Speed Limit' tab selected. Below the tab, there is a table titled 'IP speed limit setting' with columns: Select, SN, Group Name, Time Group, Limited Mode, Upstream, Downstream, Status, Mark, and Config. A row is visible with SN 1, Group Name Sales, Time Group sales department, Limited Mode Shared mode, Upstream 2000Kbps, Downstream 1000Kbps, Status Enable, and a green checkmark in the Config column. A red arrow points from the 'Add' button in the top bar to a modal dialog titled 'IP speed limit setting'. The dialog contains fields for Status (Enable), IP Group (Sales), Time Group (sales department), Limited Mode (Shared mode), Downstream (2000 Kbps), Upstream (1000 Kbps), and Mark, with an 'Apply' button at the bottom right.

## 4.6 Routing Management

Including system routing and static route

In System routing, it show system routing form as follow:

The screenshot shows the 'Routing Management' interface with the 'System Routing' tab selected. Below the tab, there is a table with columns: SN, Destination, Gateway, Subnet Mask, Metric, and Network Interface. The table contains two rows of data:

SN	Destination	Gateway	Subnet Mask	Metric	Network Interface
1	192.168.8.0	0.0.0.0	255.255.252.0	0	br0
2	192.168.200.0	0.0.0.0	255.255.252.0	0	br0

Static Route: add the static router based on destination IP address.

The screenshot shows the 'Routing Management' interface. At the top, there are tabs for 'System Routing' and 'Static Route'. Below the tabs are buttons for 'Add', 'Delete', and 'Apply'. A table header is visible with columns: 'Selele', 'SN', 'Destination', 'Gateway', 'Subnet Mask', 'Metric', 'Network Inter face', 'Status', 'Mark', and 'Config'. A 'Static Route Settings' dialog box is open, showing fields for: Status (Enable), Destination (IP address), Subnet Mask (IP mask), Gateway (IP address), Metric (0), Network Interface (WAN1), and Mark. An 'Apply' button is at the bottom right of the dialog.

## 4.7 Port Mapping

Port forwarding: called port forwarding also, it an application of network address translation(NAT) that redirects a communication request from one address and port number combination to another while the packets are traversing a network gateway, such as a router or firewall

The screenshot shows the 'Port Mapping' interface. At the top, there are tabs for 'Port Mapping' and 'Add'. Below the tabs are buttons for 'Delete' and 'Apply'. A table header is visible with columns: 'Selele', 'SN', 'Rule Name', 'Lan IP', 'Protocol', 'External port', 'Internal port', 'Line', 'Status', 'Mark', and 'Config'. A 'Port Mapping' dialog box is open, showing fields for: Status (Enable), Rule Class (User defined), Rule Name, Protocol (TCP+UDP), Lan IP (with a 'Search User' button), External port, Internal port (both with a note 'can not be empty, port range:1-65535'), Line (WAN1), and Mark. An 'Apply' button is at the bottom right of the dialog.

**Status:** Enable/Disable

**Rule Class:** Including user defined, http, https, FTP, POP3, SMTP, DNS, telnet, IPSEC, Remote Desktop

**Rule name:** Show the name of choosed rule class;

**Protocol:** Including TCP, UDP, TCP+UDP

**LAN IP:** port mapping LAN IP address

**External Port:** Set external port rule

**Internet Port:** Set internal port rule

**Line:** the Ethernet Line which will be applied in this rules

## 4.8 URL Filter

When enable URL filter, the router can reject users to visit the denied URL.

**Url Filter**

Enable Url filter function ☐

Select	SN	Rule Name	Time Group	URL	Status	Mark	Config
<input type="checkbox"/>	1	google	Any	www.google.com	Enable		<input checked="" type="checkbox"/>

**Url Filter**

Status: Enable

Rule Name: google

Time Group: Any [Add Time Group](#)

URL: www.google.com

Mark:

[Apply](#)

## 4.9 IP Filter

When enable this function, router will allow or limited this IP address to access into this router based on rules.

**IP Filter**

IP Filter: Prohibit

Select	SN	Rule Name	Time Group	IP Address	Port Range	Protocol	Status	Mark	Config
<input type="checkbox"/>		IP Filter	Any	192.168.9.139		TCP+UDP	Prohibit		

**IP Filter**

Status: Enable

Rule Name: IP Filter

Time Group: Any [Add Time Group](#)

IP Address: 192.168.9.139 [Search User](#)

Port Range:  -  can not be empty, port range:1-65535

Protocol: TCP+UDP

Mark:

[Apply](#)

## 4.10 MAC Filter

When enable MAC filter, router will allow or prohibit this MAC address to access into this router based on rules.

**MAC Filter**

MAC Filter | Add | Delete | Apply

MAC Filter | Allows the device to pass in the rule

Selete	SN	Rule Name	Time Group	MAC	Status	Mark	Config
<div> <div>MAC Filter</div> <div> <div>Status: Enable</div> <div>Rule Name:</div> <div>Time Group: Any</div> <div>MAC: 28 d2 44 fb c7 d1</div> <div>Mark:</div> </div> <div> <div>Add Time Group</div> <div>Scan MAC</div> <div>Apply</div> </div> </div>							

## 4.11 DMZ

DMZ or Demilitarized Zone is a physical or logical subnetwork that contains an exposes an organization's external-facing service to a usually larger and untrusted network, usually the Internet. The purpose of a DMZ is to add an additional layer of security to an organization's local area network, an external network node can access only what is exposed in the DMZ, while the rest of organization's network is firewalled.

**DMZ**

DMZ | Apply

DMZ

Enable DMZ Function ☒

DMZ Host: 192.168.10.45 | Search User

## 4.12 IP/Time Group

For this part, pls check more on chapter 4.3.4 Behavior

## 4.13 Authentication

### Local Authentication:

Local authentication, no need access into cloud server, but can show advertisement only.

A. set up the local authentication in following picture:



## **Appendix A LICENSE STATEMENT / GPL CODE STATEMENT**

This product resp. the here

(<http://global.level1.com/downloads.php?action=init>) for downloading offered software includes software code developed by third parties, including software code subject to the GNU General Public License Version 2 ("GPLv2") and GNU Lesser General Public License 2.1 („LGPLv2.1“).

## **WRITTEN OFFER FOR GPL/LGPL SOURCE CODE**

We will provide everyone upon request the applicable GPLv2 and LGPLv2.1 source code files via CDROM or similar storage medium for a nominal cost to cover shipping and media charges as allowed under the GPLv2 and LGPLv2.1. This offer is valid for 3 years. GPLv2 and LGPLv2 inquiries: Please direct all GPL and LGPL inquiries to the following address:



Digital Data Communications GmbH  
Hohe Straße 1, 44139 Dortmund, Germany

Email: [support@level1.com](mailto:support@level1.com)

Web: [www.level1.com](http://www.level1.com)

## **NO WARRANTY**

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES

SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

# **GNU GENERAL PUBLIC LICENSE**

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.  
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301,  
USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

## **Preamble**

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation

software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too. When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you

legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all. The precise terms and conditions for copying, distribution and modification follow.

## **TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION**

**0.** This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you". Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

**1.** You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and

disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

**2.** You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

**a)** You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

**b)** You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

**c)** If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for

other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

**3.** You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

we use this doubled UL to get the sub-sections indented, while making the bullets as unobvious as possible.

**a)** Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,



**b)** Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

**c)** Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include

anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

**4.** You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

**5.** You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its

derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

**6.** Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

**7.** If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a

consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program. If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances. It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

**8.** If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

**9.** The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a

version number of this License, you may choose any version ever published by the Free Software Foundation.

**10.** If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

## **NO WARRANTY**

**11.** BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A

PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

**12.** IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

# END OF TERMS AND CONDITIONS

## How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

one line to give the program's name and an idea of what it does.

Copyright (C) yyyy name of author

This program is free software; you can redistribute it and/or

modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2

of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful,



but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

```
Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for
details
type `show w'. This is free software, and you are welcome
to redistribute it under certain conditions; type `show
c'
for details.
```

The hypothetical commands ``show w'` and ``show c'` should show the appropriate parts of the General Public License.

Of course, the commands you use may be called something other than ``show w'` and ``show c'`; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright

disclaimer" for the program, if necessary. Here is a sample;

alter the names:

```
Yoyodyne, Inc., hereby disclaims all copyright  
interest in the program `Gnomovision'  
(which makes passes at compilers) written  
by James Hacker.
```

```
signature of Ty Coon, 1 April 1989  
Ty Coon, President of Vice
```

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the [GNU Lesser General Public License](#) instead of this License.

## Notification of Compliance

---

### Europe - EU Declaration of Conformity



For complete DoC please visit  
<http://global.level1.com/downloads.php?action=init>

### GPL License Agreement

GPL may be included in this product, to view the GPL license agreement goes to  
<http://download.level1.com/level1/gpl/GPL.pdf>

For GNU General Public License (GPL) related information, please visit  
<http://global.level1.com/downloads.php?action=init>