

DCN Wireless AP WL8200-X2 Operation Manual

1	Pre	face		4	ł -						
	1.1		Ma	nual Description4	1 -						
	1.2		Сог	Conventions 4							
	1.3		Rev	rision Record	5 -						
	1.4		Арј	olicable version5	5 -						
2	AP	Basic	: Op	perationse	5 -						
	2.1		WE	B Login e	5 -						
	2.2		AP	Mode7	1 -						
	2.3		Rur	nning Status7	1-						
	2.4		Sta	tistics E	3 -						
		2.4.	1	Flow Statistics	3 -						
		2.4.	2	Radio Statistics 8	3 -						
		2.4.	3	Client Statistics 8	3 -						
	2.5		Sys	tem Maintenance) -						
		2.5.	1	Modify Password) -						
		2.5.	2	Configuration Management 10) -						
		2.5.	3	System Log 10) -						
		2.5.4	4	Radius Template 11	L -						
		2.5.	5	Authentication Management 12	<u>?</u> -						
		2.5.	6	SNMP Configuration 13	3 -						
		2.5.	7	SSL Certificate Management 14	+ -						
3	FIT	AP N	/lod	e 16	5 -						

	3.1	Sys	tem Settings	17 -
		3.1.1	Ethernet Settings	17 -
		3.1.2	Manage AC Settings	19 -
		3.1.3	WDS Settings	21 -
4	FAT	Bridge	Mode	23 -
	4.1	Set	up Wizard	24 -
	4.2	Bas	sic Settings	26 -
		4.2.1	Ethernet Settings	26 -
		4.2.2	Wireless Settings	27 -
	4.3	Adv	vanced Settings	30 -
		4.3.1	Radio Settings	30 -
		4.3.2	WDS Settings	31 -
		4.3.3	WDS Precautions	32 -
	4.4	Sys	tem Maintenance	32 -
		4.4.1	IP Session Control	32 -
		4.4.2	Network Timing	33 -
	4.5	Co	nfiguration example	34 -
		4.5.1	Open Wireless Connection	34 -
		4.5.2	WPA2-PSK Wireless Connection	36 -
		4.5.3	WPA2-Enterprise Wireless Connection	38 -
5	FAT	Routing	g Mode	42 -
	5.1	WE	B Login	43 -

5.2	Set	up Wizard	- 43 -
	5.2.1	Dynamic IP	- 45 -
	5.2.2	Static IP	- 45 -
	5.2.3	PPPoE	- 46 -
5.3	Net	work Parameter Settings	- 47 -
	5.3.1	LAN Port Setting	- 47 -
	5.3.2	WAN Port Settings	- 48 -
5.4	Wir	eless Settings	- 51 -
5.5	Rac	lio Settings	- 52 -
5.6	DH	CP Server	- 53 -
	5.6.1	DHCP Server	- 53 -
	5.6.2	Client List	- 54 -
	5.6.3	Static IP Distribution	- 55 -
5.7	Sys	tem Maintenance	- 57 -
	5.7.1	IP Session Control	- 57 -
	5.7.2	Network Timing	- 58 -
Appendix	A FAQS		- 60 -

1 Preface

1.1 Manual Description

This manual mainly helps users use AP products correctly with the three working modes of AP.

- FIT AP Mode
- > FAT AP Bridge Mode
- FAT AP Routing Mode

This manual takes the WL8200-X10 as an example for configuration. Because there are certain differences in hardware and software specifications for each model, all issues involving product specifications need to be confirmed with Yunke China Information Technology Limited.

1.2 Conventions

In this manual,

- > For nouns such as buttons on the page, use "" to indicate them, such as "Edit";
- > Use >> to indicate the sequence of entering the configuration interface, such

as "first-level menu" >> "second-level menu";

This manual also uses various eye-catching signs to indicate places that should be paid special attention to during operation. As following:

Caution & Attention: Remind the matters needing attention in the operation, and improper operation may cause the setting to be invalid, data loss or equipment damage.

Instructions & Tips: Make necessary additions and explanations to the description of the operation content.

1.3 Revision Record

Date	Modify the content	Modifier
	Edit DCN Wireless AP WL8200-X4 Operation	
2021/3/23	Manual	Yafei Li

1.4 Applicable version

Version	Release time
3. 13. 1. x	2021. 3

2 AP Basic Operations

2.1 WEB Login

Use POE (or local power) to charge the AP, connect the network port of the management computer to the AP's LAN port (or the management host connects to the AP's WLAN wirelessly), open the browser (recommended: Google, Firefox or IE11) and enter the management IP address on the LAN side (the default is https://192.168.1.10) to access the web configuration interface of the wireless AP. The default login user name is admin, and the password is admin.

Welcome to the AP Web Management System			中文 English
	🛓 admin		
	Login		
Recommended use: Chrome, Firefo	x, 360 browser (extreme mode) or more than IE11 browsers.	

If the AP has no LAN port or no wired client, you can use the wireless client to connect to the AP's SSID (the default is DCN_WLAN) to access the AP.

If the network accessed by the AP has a DHCP server, the address of the AP may be obtained dynamically. In this situation, the user should access the current IP address of the AP.

2.2 AP Mode

After logging into the AP's WEB page, if you want to switch to a certain mode, you can switch to the specified mode by clicking "AP Mode" on the left menu. As following:

=	0	Fit Mode	admin	Logout
tunning Status AP Mode ×				
Route Mode; if AP is used as bridge device, please select Bridge Mode. The default is Fit Mode. If you want to chang				
Save Return				
	AP Mode × AP can work in two modes: Fat Mode or Fit Mode. In the Fat Mode, AP exists as an independent entity in the networt through AC. The Fat Mode can be broken down into two specific modes - Route Mode and Bridge Mode. If AP is use	AP Mode × AP can work in two modes: Fat Mode or Fit Mode. In the Fat Mode, AP exists as an independent entity in the network. In Fit through AC. The Fat Mode can be broken down into two specific modes - Route Mode and Bridge Mode. If AP is used as ga Route Mode; If AP is used as bridge device, please select Bridge Mode. The default is Fit Mode. If you want to change it, clic AP Mode Switch AP Mode Switch Fat Mode	AP Mode × AP Can work in two modes: Fat Mode or Fit Mode. In the Fat Mode, AP exists as an independent entity in the network. In Fit Mode, you can in through AC. The Fat Mode can be broken down into two specific modes - Route Mode and Bridge Mode. If AP is used as gateway device ple Route Mode; if AP is used as bridge device, please select Bridge Mode. The default is Fit Mode. If you want to change it, click the Edit button AP Mode Switch Fat Mode To Fat Mode Fit Mode.	AP Mode × AP can work in two modes: Fat Mode or Fit Mode. In the Fat Mode, AP exists as an independent entity in the network. In Fit Mode, you can manage it through AC. The Fat Mode can be broken down into two specific modes - Route Mode and Bridge Mode. If AP is used as gateway device, please select Bridge Mode. The default is Fit Mode. If you want to change it, click the Edit button. AP Mode Switch Fat Mode Fit Mode

2.3 Running Status

After logging into the system, the homepage displays the system running status, including device information, network information, wireless information and system resource status. Ticking "Turn on Auto Refresh" in the system resource status panel, the interface will display the CPU utilization and memory utilization in real time, and refresh every 5 seconds.

✓ Device Information		✓ Network Informatio	in
Serial Number:	8102002V13047307	IP Address:	192.168.124.11
Device Model:	WL8200-X4	MAC Address:	00:03:07:73:07:00
Startup Mode:		Default Gateway:	192.168.124.254
Firmware Version:	3.13.1.8	DNS Server:	114.114.114
Boot Version:	2.3.3	Downlink VLAN:	10
Running Time:	0 days 0 hours 3 minutes 12 seconds	Manage Status:	Have Been Managed 192.168.124.160
✓ System Resource St ☐ Turn o	atus in Auto Refresh		
100% 80% 40% 20%			
0%	5a tõu tšu 25a 25a 35a 45a 45a 45a 55a 85a 85a		⁰⁷¹ du 54 104 154 204 254 304 354 404 454 504 556 604
	CPU Utilization (the last 1 minutes)		Memory Utilization (the last 1 minutes)

2.4 Statistics

The statistics contains three parts: flow statistics, radio statistics and client statistics.

2.4.1 Flow Statistics

Flow Statistics interface shows the message sent and received by different SSIDs. As following:

ng Status Flow Stati	stics ×				
Refresh					
		Tran	ismit		
SSID	Total Packets	Total Bytes	Total Dropped Packets	Errors	Total Packets
Guest Network	0	0	5358628	0	0
DCN-RD-WIFI	175535291	147347438476	6142431	0	95893047
12F-TV-hidden	8	7442	31796966	0	0
DCN-WIFI-1X	395363	362773538	12544323	0	221962

2.4.2 Radio Statistics

Radio statistics interface displays different radio statistics sending and receiving message information from radio statistics perspective. As following:

SSID	VLAN	Radio	Status	Mode	Channel Bandwidth	Channel	Transmit Power(dBm)	Channel Utilization(%)	Client Number
DOM WEAK		2.4G	Enabled	11axg	HT20	11	23	61	0
DCN_WLAN	1	5G	Enabled	11axa	HT40	36	22	10	0

2.4.3 Client Statistics

Client statistics list displays all client information related with the device, including client IP address, client MAC address, SSID, radio, channel, RSSI, portal authenticated status, up-time, etc. As following:

AP Mode	This page shows th	e basic information of all cl	lients connected	to this wire	less network.			
System Settings 🔹	Refresh							
Statistics	Client Count	16						
 Flow Statistics 								
Radio Statistics	Client IPv4 Address	Client MAC Address	SSID	Radio	Channel	RSSI	Portal Authenticated Status	Up-Time
Client Statistics	172.30.1.146	9C:30:5B:C0:B4:DF	DCN-RD- WIFI	2.4G	1	1 30	Success	2019-12-18 15:47:28
System Maintenance	172.30.1.150	D4:6A:6A:34:4B:63	DCN-RD- WIFI	2.4G	1	1 26	Success	2019-12-20 09:09:09
	172.30.1.108	28:56:5A:91:D8:B3	DCN-RD- WIFI	2.4G	1	1] 37	Success	2019-12-20 09:16:07
	172.30.1.124	F4:BF:80:F2:4A:D5	DCN-RD- WIFI	2.4G	1		Success	2019-12-20 15:37:26

2.5 System Maintenance

2.5.1 Modify Password

Click "System Maintenance">>"Modify Password" on the left menu, you can modify the username and password on the AP management interface. When modifying password, enter the original password first, then enter the new password twice, and click "Save ". As following:

DCN	≔		China(CN)
Running Status	Running Status Client Sta	atistics × Modify Password ×	
AP Mode	✓ Modify Password		
🔇 System Settings 🔻	User Name	admin	
Statistics	Current Password		
 Flow Statistics 	Current Password		
 Radio Statistics 	New Password	Please Input New Password	
- Client Statistics	Confirm Password	Please Input New Password	
🔀 System Maintenance 🔺		Save	
 Modify Password 			
- Configuration			
Management			
 System Log 			

2.5.2 Configuration Management

In this interface, the user can perform related operations such as configuration import and export, restore factory setting, system upgrade, reboot, etc. As following:

🔓 Running Status	Running Status Client Statistics × Configuration Management ×
🛃 Setup Wizard	✓ Import Configuration
B AP Mode	Select the file Import
😥 Basic Settings 🛛 🔻	
Advanced Settings •	V Export Configuration
🖂 Statistics 🔺	Export
 Flow Statistics 	V Restore factory setting
 Radio Statistics 	After the device is reset to factory default setting,all configuration will be removed.
 Client Statistics 	Reset
💥 System Maintenance 🔺	
 Modify Password 	V System Upgrade
- Configuration	Firmware Version: 3.13.1.8
Management	Select the file Upgrade
 System Log 	After upgrade completed, the device will be reboot automatically
 Network Timing 	V Reboot the Access Point
- Radius Template	Reboot

After the device is reset to factory default, all configurations will be deleted and restored to FIT mode.

2.5.3 System Log

The diagnostic log interface displays the latest log information of the device. It is divided into two sections: remote host and local log.

The remote host includes the log host IP address and the log host port configuration, which can store device logs to a remote syslog server.

The local log supports the log level setting and log packaging export function.

Click the "Export Log" to package and download all log information to the local. As

following:

	DCN	≣		China(CN) Fit Mode	admin	L
습	Running Status	Running Status System	Log ×			
88	AP Mode	✓ Remote Host				
٩	System Settings 🔹	Host IP	Please Input Host IP		Œ	1
2	Statistics 👻	Host Port	514			
×	System Maintenance 🔺		Save			
-	Modify Password		Save			
-	Configuration	V Local Log				
	Management	Loosa Log				
-	System Log	Conlog Level	INFO			Ŧ
-	Radius Template		Save Export Log Refresh			
-	Authentication		":"fe80::203:fff.fe33:3333"}' &			^
	Management		Don user.notice don-mapd[1705]: ubus send udhopo_notify '{"ap_ipv6":"3333:aaaa ":""fe80::203:fff:fe33:3333"\' &	.::1005", "ap_ipv6_prefix":128,		
	SNMP	Dec 20 16:11:36 [Dcn user.notice dcn-mapd[1705]: ubus send udhcpc_notify '{"ap_ipv4":"172.30.111	.106", "ap_ipv4_mask":"255.255	5.255.0",	
	SSL Certificate		":"172.30.111.1")' & Den user.notice den-mapd[1705]: ifconfig br-lan 172.30.111.106 netmask 255.255.2	255.0		
			Ocn user.notice dcn-mapd[1705]: route add default gw 172.30.111.1 dev br-lan	20002000		
	Management		Ocn user.notice dcn-mapd[1705]: ifconfig br-lan up			
		Dec 20 16:11:54 [Ocn user notice don-mapd[1705]: ubus send udhopol notify '{"ap_ipy6":"3333:aaaa	"1005" "ap ipv6 prefix" 128		

2.5.4 Radius Template

Click" System Maintenance ">>" Radius Template " to maintain the Radius server template.

(1) Radius template name, authentication server IP address, and authentication

service shared key are required.

(2) The accounting server IP and the accounting shared key are optional. Both

of them must be filled in or not filled in at the same time, otherwise the system

prompts that they cannot be saved normally.

(3) The key requires 1-64 non-Chinese characters.

Running Status	Running Status System Log $ imes$ Ra	adius Template \times	
AP Mode	Add		
💮 System Settings 🔻	Radius Template Name	Radius Auth Server IP	Radius Accounting Serve
🖂 Statistics 🗸 🗸	٢		
🔆 System Maintenance 🔺			
– Modify Password	Message		- 🛛 ×
 Configuration 	Radius Template Name∗	Please Input Radius Template Name	E
Management	Radius Auth Server IP*	Please Input Radius Auth Server IP	
 System Log 	Radius Auth Server IP*	Please input Radius Auth Server IP	
 Radius Template 	Authentication Server Po	1812	
 Authentication 	Auth Service Shared Key	Please Input Auth Service Shared Key	~
Management	Radius Accounting Serve	er IP Please Input Radius Accounting Server IP(Opti	ional)
 SNMP SSL Certificate 	Accounting Server Port	Please Input Accounting Server Port(Default:18	813)(Optional)
Management	Accounting Shared Key	Please Input Accounting Shared Key(Optional)	~@
		Save	

2.5.5 Authentication Management

Click "System Maintenance" >> "Authentication Management", the user can see authentication management configuration and Telnet status.

(1) Select local authentication and save it directly.

(2) To select Radius server authentication, you need to select a Radius server.

This Radius server has been maintained in the "Radius server template".

Click "System Maintenance" >> "Authentication Management", the user can see authentication management configuration and Telnet status. Choose to open or close telnet and save it.

DCN	≔		China(CN)
🔓 Running Status	Running Status Authentica	tion Management ×	
B AP Mode	✓ Authentication Manage	ement	
💮 System Settings 🔻 🔻	Management Type	Local Authentication Radius Server Authenticati	ion
Statistics 🔹		Save	
💥 System Maintenance 🔺			
- Modify Password	✓ Telnet Status		
 Configuration 	Telnet Status	• On Off	
Management		Save	
 System Log 			
 Radius Template 			
- Authentication			
Management			
— SNMP			
 SSL Certificate 			

2.5.6 SNMP Configuration

Click "System Maintenance" >> "SNMP Configuration" to configure

DCN	≣	
🔓 Running Status	Running Status SNMP	×
B AP Mode	∽ snmp	
💮 System Settings 🔻	SNMP Version	v2 Version v3 Version
Statistics -	Device Location	office
🔀 System Maintenance 🔺	SNMP Password	
 Modify Password 	SINNE Password	
 Configuration 	Trap Receiver Host	localhost
Management		Save
🗕 System Log		Save
 Radius Template 		
 Authentication 		
Management		
— SNMP		
 SSL Certificate 		
Management		

SNMP related information. As shown below:

2.5.7 SSL Certificate Management

Click "System Maintenance ">>" SSL Certificate Management " to upload

the SSL certificate. As shown below:

DCN	=		
G Running Status	Running Status SSL Certifica	te Management \times	
🔠 AP Mode	✓ SSL Certificate Manage	ement	
System Settings	Select Certificate File(.c	rrt .key)	
Statistics	▼ File Name	File Size	File Status
💥 System Maintenance			
 Modify Password 	Start Upload		
 Configuration 			
Management			
– System Log			
 Radius Template 			
 Authentication 			
Management			
_ SNMP			
 SSL Certificate 			
Management			

The SSL certificate establishes an SSL secure channel between the client browser and the Web server, and mainly used to provide a user authentication server, to encrypt data and hide.

A valid SSL certificate includes a public key and a private key. The public key is used to encrypt information, and the private key is used to interpret the encrypted information, When the browser points to a secure domain, SSL will synchronously confirm the server and the client, and create an encryption method and a unique session key. Click System Maintenance->SSL Certificate Management to upload SSL certificate, as shown in the figure.

(1) Upload method

Login web, System Maintenance-> SSL Certificate Management-> Select Certificate(.crt.key), select the server crt and key files in the local ssl certificate, then click to start uploading.

(2) Upload process

Uploaded certificate will replace the original ssl certificate. The page prompts that the certificate is uploaded successfully, restart the WEB service to ensure that the certificate takes effect, Selecting the 'OK' button will immediately restart the HTTP service, The browser needs to add a new certificate to confirm the risk before accessing AP WEB through HTTPS protocol. Uploaded crt and key files after restart the web service, cannot delete in the foreground. If you need to restore the default certificate, restore the AP to the factory and reconfigure the fat AP. If you delete the certificate in the background, it will cause https inaccessibility and https redirection failure.

(3) Certificate View

admin@Dcn:/# cat /etc/ssl/certs/server.crt

3 FIT AP Mode

When there are a large number of APs on the network, the configuration or management one by one will become more complicated. At this time, it is suitable to use the FIT AP mode + AC (AP controller) for unified management and configuration, thereby reducing the configuration and management costs.

The typical topology is as following:



The AP is shipped in FIT AP mode by default. You can also switch to FIT AP mode by restoring the factory setting or following the instructions in the AP mode chapter. The wireless configuration of the FIT mode is operated uniformly through

the AC. For details about this part, please refer to the DCN related AC operation manual. Here, the AP's wired configuration, AC address setting, WDS configuration, and system management are mainly introduced.

3.1 System Settings

3.1.1 Ethernet Settings

Click "System Settings">> "Ethernet Settings" on the left menu to enter the AP Ethernet setting interface. In default, the current status of the uplink port (usually the POE interface) and the downlink port of the AP are displayed. As following:

	DCN	≔	
습	Running Status	Running Status Etherne	et Settings ×
88	AP Mode	Uplink Setting	
ා	System Settings 🔺	Opinik Setting	5
	Ethernet Settings	Management VLAN	1
-	Manage AC Settings	Untagged VLAN	1
-	WDS Settings	Connection Type	DHCP
2	Statistics 🔹	IP Address	172.30.111.106
X	System Maintenance 📥	Subnet Mask	255.255.255.0
-	Modify Password	Default Gateway	172.30.111.1
-	Configuration	DNS Server	202.103.24.68
	Management		
-	System Log	IPv6 Connection Type	DHCP
-	Radius Template		
_	Authentication	IPv6 Address	3333:AAAA::1005
	Management	IPv6 Address Prefix	128
_	SNMP	Length	
_	SSL Certificate	Default IPv6 Gateway	FE80::203:FFF:FE33:3333
	Management		
		IPv6 DNS Server	2019::2019
		Downlink Sett	ings
		VLAN ID	1
			Edit

If you need to modify the related setting of the uplink port, you can click the

"Edit" at the bottom of the interface to edit setting, where you can set the AP wired

VLAN and the IP address configuration mode of the AP. As following:

습	Running Status	Running Status Ethern	et Settings \times
88	AP Mode	Uplink Setting	IS
٩	System Settings 🔺	Management	1
	Ethernet Settings	VLAN∗	
-	Manage AC Settings	Untagged VLAN*	1
-	WDS Settings	Connection Type*	DHCP Static IP
~	Statistics 👻	IP Address	172.30.111.106
*	System Maintenance 🔺	Subnet Mask	255.255.255.0
	Modify Password	Default Gateway	172.30.111.1
	Configuration Management	DNS Server	202.103.24.68
	System Log	IPv6 Connection Type∗	DHCP Static IP
	Radius Template Authentication	IPv6 Address	3333:AAAA::1005
	Management	IPv6 Address Prefix Length	128
	SNMP SSL Certificate Management	Default IPv6 Gateway	FE80::203:FFF:FE33:3333
	management	IPv6 DNS Server	2019::2019
		Downlink Sett	ings
		VLAN ID*	1
			Save Return

3.1.2 Manage AC Settings

Click "System Settings">>"Manage AC Settings" on the left menu to enter the AC management setting interface. From this page, you can view the static AC management address of the current AP setting. If you need to configure the address of the static management AC, you can click the "Edit" at the bottom of the page to enter the setting page, where you can configure multiple IP (v6) addresses of the management AC or domain names of the management AC. As shown below:

	DCN	:≡	
습	Running Status	Running Status Manage AC Settings ×	
88	AP Mode	AC IP Address 1 192.168.1.254	
٩	System Settings 🛛 🔺	AC IP Address 2	
-	Ethernet Settings	AC IP Address 3	
-	Manage AC Settings	AC IP Address 4	
	WDS Settings	AC IPv6 Address 1	
2	Statistics 🔹		
X	System Maintenance 🔺	AC IPv6 Address 2	
-	Modify Password	AC IPv6 Address 3	
-	Configuration	AC IPv6 Address 4	
	Management	AC URL Address www.acaddr.com	
-	System Log		
-	Radius Template	Edit	
-	Authentication		
	Management		
-	SNMP		
-	SSL Certificate		
	Management		

Tip: In addition to static AC IP or AC domain name to find AC, you can also actively find AC through DHCP option. For details, refer to DCN AC related manuals or consult DCN staffs.

3.1.3 WDS Settings

Click "System Settings" >> "WDS Settings" on the left menu to view the WDS current status of the AP. If you need to bridge this AP with other ones, you can click the "Edit" at the bottom of the page to enter the WDS setting page, as shown below:

	DCN	≣	
습	Running Status	Running Status	WDS Settings \times
38	AP Mode	Status∗	Enabled Disabled
ා	System Settings 🔺	Radio*	2.4G 5G
-	Ethernet Settings	SSID	Please Input SSID
	Manage AC Settings		
	WDS Settings	BSSID	Please Input BSSID
~	Statistics 🔫	Password	Please Input Password. If the encryption method is Open, there is
X	System Maintenance 🔻		Save Scan Return

If you want to manually enter the information of the target wireless network or the target wireless network is a hidden network, you can directly enter the corresponding wireless network information and save it.

If you want to connect it through the scanning method, you can first select the radio frequency band to be bridged on this page, click the "Scan" to start scanning, select the target BSSID, and then select "Connect" for WDS connection, as shown below:

DCN	≔							China(CN)
🔓 Running Status	Running Sta	atus WDS Settin	ngs ×					
AP Mode	Status	S* ()	Enabled ODisab	led				
🔇 System Settings 🔺	Radio	• 0	2.4G 💿 5G					
Ethernet Settings	Message						-	- 🛛 ×
 Manage AC Settings 								^
 WDS Settings 	Number	SSID	BSSID	Channel	RSSI	Security Setting	Operation	
Statistics 🔻	1	DCN_WLAN	00:03:0f:8e:29:40	149	50	OPEN	Connect	brd
💥 System Maintenance 🔻	2	Managed SSID 3	00:03:0f:2e:4f:72	149	42	OPEN	Connect	
	3	Managed SSID 2	00:03:0f:2e:4f:71	149	42	OPEN	Connect	
	4	hellopl- 789654321	00:03:0f:2e:4f:70	149	42	WPA2	Connect	
	5	12F-TV-hidden	00:03:10:02:61:22	157	37	WPA2	Connect	
	6	DCN-RD-WIFI	00:03:10:02:61:21	157	36	OPEN	Connect	~

4 FAT Bridge Mode

When there is no AC in the network, you can select the fat mode. If there is a DHCP server in the network, you can switch the AP to the fat bridge mode to use the wireless network.



4.1 Setup Wizard

Clicking "Setup Wizard" on the left menu and then the "Setup Wizard-Start" interface will pop up, which introduces the role of the wizard. If you do not want to use the wizard, you can select "Exit Wizard".



If you want to use the wizard, you can click "Next Step" to enter the "Setup Wizard-Manage IP Settings" interface, where you can configure the AP's IP (v6) address connection method to be dynamic or static, as shown below:

DCN	E		Chi
🔓 Running Status	Running Status Setup Wizard ×		
🛃 Setup Wizard			
AP Mode	Setup Wizard - Manage IP Setting	gs	
 Basic Settings Advanced Settings Statistics System Maintenance 	Connection Type- IP Address- Subnet Mask- Default Gateway DNS Server IPv6 Connection Type- IPv6 Address- IPv6 Address Prefix Length- Default IPv6 Gateway IPv6 DNS Server	 DHCP Static IP 172.18.18.2 255.255.255.0 172.18.18.254 223.5.55 DHCP Static IP 2018:1818::2001 128 FE80::203:FFF:FE06:511 2018:172:18::186 	
	Previous Step Ne	ext Step	

After the management address setting is completed, click "Next Step" to enter the "Setup Wizard-Wireless Settings" interface, where you can set wireless parameters such as wireless name (SSID) and security mode, as shown in the figure below:

DCN =			China(CN)	Fat Mode - Brid
C Running Status Runn	ing Status Setup Wizard	×		
🛃 Setup Wizard				
3 AP Mode S	etup Wizard - Wireless Setti	ngs		- 🛛 ×
🕄 Basic Settings 🛛 🔫	This page configures v	vireless network information. If you need to set more t	than one SSID, pl	ease go to
🗇 Advanced Settings 🔻		ngs" - > "Wireless Settings" to configure.		
🔄 Statistics 👻	SSID.	DCN_WLAN		
🛠 System Maintenance 🕶	Radio.	🗹 2,4G 🗹 5G		
	Client Isolation.	🔿 On 💿 Off		
	Hidden SSID.	On Off		
	Security Setting	WPA/WPA2-Personal		
	Password.	Please Input Password		~
	Previous Step	Next Step		
	1.			

Click "Next Step" and then click "Complete". Finally, before you click "Complete", you can click "Previous Step" to modify the parameters that have been set. After you click "Complete", all parameter settings will take effect.

4.2 Basic Settings

4.2.1 Ethernet Settings

Click "System Settings">> "Ethernet Settings" on the left menu to enter the AP Ethernet setting page. The AP uplink (usually a POE interface) and the current status of the downlink are displayed by default. Then you can click the "Edit" at the bottom of the page to enter the page, where you can set the AP wired interface VLAN and the IP address configuration method of the AP. As shown below:

DCN	≔	
Running Status	Running Status Ethern	het Settings \times
E Setup Wizard	Uplink Setting	gs
음 AP Mode ⓒ Basic Settings 🔺	Management VLAN∗	1
 Ethernet Settings 	Untagged VLAN*	1
— Wireless Settings	Connection Type*	DHCP Static IP
Advanced Settings	IP Address	172.18.18.2
🖾 Statistics 🗸 🗸	Subnet Mask	255.255.255.0
💥 System Maintenance 🔻	Default Gateway	172.18.18.254
	DNS Server	223.5.5.5
	IPv6 Connection Type∗	DHCP Static IP
	IPv6 Address	2018:1818::2001
	IPv6 Address Prefix Length	128
	Default IPv6 Gateway	FE80::203:FFF:FE06:511
	IPv6 DNS Server	2018:172:18::186
	Downlink Set	tings
	VLAN ID*	1
		Save Return

4.2.2 Wireless Settings

Click "Basic Settings">> "Wireless Settings" on the left menu to enter the wireless setting page, where you can set the basic parameters of the wireless

network, as shown below:

SSID	Vlan ID	Radio Enable	Client Isolation	Hidden SSID	WDS Mode	Multicast To Unicast	Security Setting	Operation
DCN_WLAN	1	2.4G/5G 1/5G 2	Off	Off	Disabled	Off	Open	Edit Delete

If you need to create a new wireless network, you can click "Add" and enter the

corresponding parameters, as shown below:

Message	-	· 🛛 >
SSID.	Please Input SSID	A
VLAN ID-	Please Input VLAN ID	
Radio.	🔽 2.4G 🔽 5G 1	
Client Isolation.	On Off	
Hidden SSID.	On Off	
WDS Mode+	Enabled Disabled	
Multicast To Unicast.	On Off	
Security Setting.	Open	v
Uplink Speed Limit(kBps)	Please Input Uplink Speed Limit(Range:0-10485760)(Option	al)
Downlink Speed Limit(kBps)	Please Input Downlink Speed Limit(Range:0-10485760)(Opt	ional)
Uplink Speed Limit Per Client(kBps)	Please Input Uplink Speed Limit Per Client(Range:0-104857	60)(Opt
Downlink Speed Limit Per Client(kBps)	Please Input Downlink Speed Limit Per Client(Range:0-1048	5760)((

The content marked with " * " in the above picture is required, the others are

optional, and the brief introduction is as follows:

Client Isolation: Communication control between wireless clients. When being turned on, wireless clients cannot communicate with each other. Off by default.

Hidden SSID: When the hidden SSID is turned on, the wireless client will not be able to search for this SSID information.

Security Settings: This router supports three security settings, Open, WPA / WPA2-Personal, and WPA / WPA2-Enterprise.

Uplink Speed Limit: Control the uplink speed of all users under this SSID to not exceed the specified speed.

Downlink Speed Limit: Control the downlink speed of all users on a certain radio frequency under the SSID to not exceed the specified speed.

Uplink Speed Per Client: Controls the uplink speed of each client accessing the wireless.

Downlink Speed Per Client: Controls the downlink speed of a single client.

It should be noted that the bandwidth speed limit is for wireless to wired interfaces, and does not include the speed limit between wireless to wireless interfaces or between wireless clients to wireless clients under the same VAP. And one-way SSID speed limit and client speed limit cannot be used at the same time. In addition, each AP can set up to 16 SSIDs. The default SSID can only be edited and cannot be deleted.

In addition, the OPEN mode does not need to set a password, and the wireless client can directly access;

- 29 -

In WPA / WPA2-Persional mode, you need to set a password with a length of 8 to 63 characters;

WPA / WPA2-Enterprise mode is authenticated by the radius server, so you need to bind the radius template. For details, refer to section 2.5.4.

4.3 Advanced Settings

4.3.1 Radio Settings

The radio setting page displays all radio information in a list with no new features. Click " Edit " in the operation column to modify the radio settings, including status, channel, channel bandwidth, transmit power, multicast rate, STBC mode, Beacon interval, DTIM period, RTS period, max clients, etc., as shown below:

Radio	Status	Mode	Channel Bandwidth	Channel	Transmit Power(dBm)	Multicast Rate(Mbps)	STBC Mode	Beacon Interval	DTIM Period	RTS Threshold	Max Clients	Operation
2.4G	Enabled	802.11axg	HT20	11	23	auto	Enabled	100	1	2346	127	Edt
5G	Enabled	802.118x8	HT40	36	22	auto	Enabled	100	1	2346	127	Edt

Status: Setting the Radio on or off. On by default.

Mode: Configure the Radio mode, such as bgn, an, ac, axg, axa.

Channel Bandwidth: Configure the Radio bandwidth to 20Mhz, 40Mhz, 80Mhz.

Channel: Configure the Radio channel.

Transmit Power: Configure the Radio transmit power.

Multicast Rate: Configure the Radio to fixed multicast rate.

STBC mode: Setting the Radio STBC mode on of off. On by default.

Beacon Interval: Configure the Radio beacon interval, 100ms by default.

DTIM Period: Configure the beacon DTIM period, 1 by default.

RTS Period: Configure the packets size that triggers RTS.

Max Clients: Configure the max number of associated client.





Click "Advanced Settings">> "WDS Settings" on the left menu to view the WDS current status of the AP. If you need to bridge this AP with other ones, you can click the "Edit" at the bottom of the page to enter the WDS setting page, as shown below:

Running Status	WDS Settings ×
Status*	Enabled Disabled
Radio*	● 2.4G ○ 5G
SSID	Please Input SSID
BSSID	Please Input BSSID
Password	Please Input Password. If the encryption method is Open, there is no need to enter the password.
	Save Scan Return

If you want to manually enter the information of the target wireless network or the target wireless network is a hidden network, you can directly enter the related wireless network information and save it.

If you want to connect it through the scanning method, you can first select the radio frequency band to be bridged on this page, click the "Scan" to start scanning, select the target BSSID, and then select "Connect" for WDS connection, as shown

below:

Running Status	WDS Settin	ngs ×				
Status*	۲	Enabled ODisable	ed			
Radio*	۲	2.4G 🔵 5G				
Message						
Number	SSID	BSSID	Channel	RSSI	Security Setting	Operation
1	Guest Network	00:03:0f:62:12:20	11	70	OPEN	Connect
2		00:03:0f:aa:88:00	1	60	WPA2	Connect

4.3.3 WDS Precautions

- It is recommended that no more than three WDS series APs, Otherwise the transmission efficiency will be greatly reduced
- RootAP can be fit AP, also can be fat bridge AP
- The rootap SSID used for WDS connection is recommended to use 5G,

because of the 2.4G throughput is too low.

RootAP and Satellite the SSID used to connect to WDS SSID, other VAPs of

the radio frequency can still release the SSID for service connection, WDS

mode will not occupy the entire radio frequency resources.

4.4 System Maintenance

4.4.1 IP Session Control

Click "System Maintenance">>"IP Session Control" on the left menu to enter

the IP session control page, where you can set the number of TCP connections that each client can use simultaneously. If the number of connections reaches the specified number, the new TCP connections will be rejected. Note that closed TCP connections are not counted in the number of connections.

The default is 0, which means unlimited. As shown below:

DCN	:≡
🔓 Running Status	Running Status IP Session Control ×
🛃 Setup Wizard	✓ IP Session Control Settings
B AP Mode	This function is to limit the number of active TCP connections. The number of IP session controls is 0, which means unlimited.
හි Basic Settings ා	-
💮 Advanced Settings 、	IP Session Limits 0
Statistics	Save
🔆 System Maintenance 4	•
 IP Session Control 	

4.4.2 Network Timing

Click "System Maintenance" >>" Network Timing", you can set NTP

network time, turn on or off the NTP server. It supports up to 4 NTP server settings.

As shown below:

🔓 Running Status	Running Status Netwo	rk Timing ×
Setup Wizard	✓ Network Timing	
吕 AP Mode	Current Time:	2019-12-20 16:28:09
Basic Settings ▼	Status	• On Off
Advanced Settings	Time Zone	UTC+8(Beijing, CCT)
Statistics -	NTP Server1	cn.ntp.org.cn
 System Maintenance Modify Password 	NTP Server2	edu.ntp.org.cn
	NTP Server3	hk.ntp.org.cn
	NTP Server4	tw.ntp.org.cn
		Save
– Network Timing		

4.5 Configuration example

4.5.1 Open Wireless Connection

4.5.1.1 Networking Requirements

In order to ensure that staff can access the internal network resources of the department anytime and anywhere, need to achieve through the deployment of the AP. Device administrators can configure wireless access in open mode, the specific requirements are as follows:

- AP provides the SSID is 'service' and the security is the open mode.
- In order to high bandwidth requirements, and compatible with existing
 802.11n wireless networks, adopt 802.11axg (2.4GHz) radio frequency mode.
- In order to high bandwidth requirements, and compatible with existing 802.11ac wireless networks, adopt 802.11axa (5GHz) radio frequency mode.

Wireless network with open mode:



4.5.1.2 Configuration Steps

Login AP basic setting, enter the wireless setting page.

Message	— 🛛 ×
SSID*	server
VLAN ID*	1
Radio*	✓ 2.4G ✓ 5G
Client Isolation*	On Off
Hidden SSID*	On Off
WDS Mode*	Enabled Isabled
Multicast To Unicast*	On Off
Security Setting*	Open 👻
Speed Limit Mode*	SSID Speed Limit Client Speed Limit
Uplink Speed Limit(kBps)	Please Input Uplink Speed Limit(Range:0-524286)(Optional)
Downlink Speed Limit(kBps)	Please Input Downlink Speed Limit(Range:0-524286)(Optional)
	Save

- Radio 2.4G、5G check to enable
- VLAN ID configure according to actual situation
- SSID configure to "service"
- Security setting select "Open"
- Click <save> button

4.5.1.3 Verify configuration results

Enter the client statistics page, you can view the successfully online client.
4.5.2 WPA2-PSK Wireless Connection

4.5.2.1 Networking Requirements

In a small office, device administrators can complete WPA2-PSK wireless access configuration through the web page, the specific requirements are as follows:

- AP provides the SSID is 'service' and the security is the WPA2-PSK.
- In order to high bandwidth requirements, and compatible with existing
 802.11n wireless networks, adopt 802.11axg (2.4GHz) radio frequency mode.
- In order to high bandwidth requirements, and compatible with existing
 802.11ac wireless networks, adopt 802.11axa (5GHz) radio frequency mode.

Wireless network with WPA2-PSK mode:



4.5.2.2 Configuration Steps

Login AP basic setting, enter the wireless setting page.

SSID*	psk		
VLAN ID*	1		
Radio*	✓ 2.4G ✓ 5G		
Client Isolation*	On Off		
Hidden SSID∗	On Off		
WDS Mode*	Enabled Disabled		
Multicast To Unicast*	On Off		
Security Setting*	WPA/WPA2-Personal		
Password*			
Speed Limit Mode*	SSID Speed Limit Client Speed Limit		
Uplink Speed Limit(kBps)	Please Input Uplink Speed Limit(Range:0-524286)(Optional)		
Downlink Speed Limit(kBps)	Please Input Downlink Speed Limit(Range:0-524286)(Optional)		
	Save		

- Radio 2.4G、5G check to enable
- VLAN ID configure according to actual situation
- SSID configure to "psk"
- Security setting select "WPA/WPA2-Personal"
- Security configure to "12345678"
- Click <save> button

4.5.2.3 Verify configuration results

• Operation station connects to wireless network (ssid: psk) ,enter password

12345678. After the client successfully associates with the AP, it can access the

wireless network.

• Enter the client statistics page, you can view the successfully online client.

4.5.3 WPA2-Enterprise Wireless Connection

4.5.3.1 Networking Requirements

In a company's office, employees need to be able to access the office environment through wireless, mobile devices that are not employees of the company cannot be accessed, Administrators can configure WPA2-Enterprise by the web page, specific requirements are as follows:

- AP provides the SSID is 'WPA-Enterprise' and the security is the WPA2-Enterprise.
- In order to high bandwidth requirements, and compatible with existing
 802.11n wireless networks, adopt 802.11axg (2.4GHz) radio frequency mode.
- In order to high bandwidth requirements, and compatible with existing

802.11ac wireless networks, adopt 802.11axa (5GHz) radio frequency mode.

Wireless network with WPA2-Enterprise:



4.5.3.2 Configuration Steps

1. Login system maintenance, enter Radius template page.

Message		_	2	×
Radius Template Name∗	Please Input Radius Template Name			
Radius Auth Server IP*	Please Input Radius Auth Server IP			
Authentication Server Port*	Please Input Authentication Server Port			
Auth Service Shared Key*	Please Input Auth Service Shared Key		~	¥
Radius Accounting Server IP	Please Input Radius Accounting Server IP(Optional)			
Accounting Server Port	Please Input Accounting Server Port(Default:1813)(Optional)			
Accounting Shared Key	Please Input Accounting Shared Key(Optional)		~	Ł
	Save			

- Configure Radius template name to 'Radius'
- Configure the authentication server IP address and server port according to the actual Radius server address
- Configure shared key for authentication server settings
- Click <save> button
- 2. Logging AP web, edit wireless configuration

Message	- 2	X
SSID*	Dot1X	
VLAN ID*	1	
Radio*	✓ 2.4G ✓ 5G	
Client Isolation*	On Off	
Hidden SSID*	On Off	
WDS Mode*	Enabled Disabled	
Multicast To Unicast*	On Off	
Security Setting*	WPA/WPA2-Enterprise	Ŧ
Radius Server*	Radius	-
Speed Limit Mode*	SSID Speed Limit Client Speed Limit	
Uplink Speed Limit(kBps)	Please Input Uplink Speed Limit(Range:0-524286)(Optional)	
Downlink Speed Limit(kBps)	Please Input Downlink Speed Limit(Range:0-524286)(Optional)	
	Save	

- Radio 2.4G、5G check to enable
- VLAN ID configure according to actual situation
- SSID configure to "Dot1X"
- Security setting select "WPA/WPA2- Enterprise"
- Radius server is selected as the configured Radius
- Click <save> button

4.5.3.3 Verify configuration results

• The wireless client configures wireless network settings in windows, click

<add>button, enter in the "Network Name (SSID)" in the pop-up window "WPA-Enterprise", Select "WPA/WPA2- Enterprise " for the network authentication type, click next. Change connection settings, click<setting>in safe page, select EAP authentication method "Secure password (EAP-MSCHAP v2)", cancel "Verify server identity by verifying certificate", click ok. Refresh the wireless network list, select the configured network service (WPA-Enterprise) in the list, click<connect>, enter the user name and password existing in the Radius server in the pop-up box. After the client successfully associates with the AP, it can access the wireless network.

• Enter the client statistics page, you can view the successfully online client.

5 FAT Routing Mode

The AP in the FAT routing mode can access broadband lines to provide DHCP and wireless access for LAN phones, laptops, etc. to achieve the shared Internet access. The typical topology is as follows:



On the WAN side of the AP, set the WAN port address through PPPoE, DHCP, or static address, and then connect to the Internet or other network through the gateway device. LAN and WLAN constitute a private subnet. Devices on this network apply to the AP for dynamic or static IP addresses through DHCP. The WAN side and the LAN (WLAN) side network are isolated by a firewall. The LAN side host performs IP masquerading (NAT) and is not visible to the WAN side device.

5.1 WEB Login

Unlike the fit mode and the fat bridge mode, in the fat routing mode the AP can only be accessed from the LAN side, so it can only be accessed by using a LAN-side wired device connected to the AP's LAN port or a wireless terminal connected to the AP's SSID (the default is DCN_WLAN). Open the browser after connecting and enter the LAN side management IP address (the default address is: 192.168.1.10), you can access the web setting interface of the wireless AP, recommended use: Google, Firefox, 360 browser (speed mode) or IE11 browser. The default username is: admin, and the password is: admin, which supports https access.



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5.2 Setup Wizard

Welcome to the AP Web

Click "Setup Wizard" on the left menu to configure the device. The detailed

steps are as shown below:

DCN	≡
G Running Status	Running Status Setup Wizard ×
🛃 Setup Wizard	Setup Wizard - Start – 🖓 🗙
AP Mode	With this wizard, you can set up the basic network parameters needed for accessing the Internet. Even if
Metwork Parameters	you're not familiar with the network and the product, you can easily follow the tips to complete the setup. If you are an expert, you can exit and go to the menu to select the settings modify directly .
혂 Wireless Settings	To continue, please click "Next Step".
(川) Radio Settings	
DHCP Server	Exit Wizard Next Step
Statistics 🔻	
💥 System Maintenance 🔻	

There are three Internet access modes supported by the device: PPPoE,

dynamic IP and static IP, which can be configured according to the Internet access provided by the network service provider. As shown below:

DCN	≡
Running Status	Running Status Setup Wizard ×
🛃 Setup Wizard	Setup Wizard - Internet Connection Type — 🖸 🗙
AP Mode	This device supports three commonly used ways of accessing the Internet. Please choose according to your
① Network Parameters	own situation.
	ADSL virtual dialing method using required username and password (PPPoE) Getting the IP address automatically allocated by DHCP from the internet service provider (DHCP)
	Using the static IP address provided by the internet service provider (Static IP)
DHCP Server	Previous Step Next Step
🔆 System Maintenance 🔻	

5.2.1 Dynamic IP

Setup Wizard - Internet Connection Type	- 🛛 ×
This device supports three commonly used ways of accessing the Internet. Please choose according own situation.	to your
O ADSL virtual dialing method using required username and password (PPPoE)	
Getting the IP address automatically allocated by DHCP from the internet service provider (DHC)	CP)
O Using the static IP address provided by the internet service provider (Static IP)	
Previous Step Next Step	

Select the way the Internet is dynamic IP, will jump directly to the next wireless

setting.

5.2.2 Static IP

Select the way the Internet is static IP, need to configure static IP address, as

	shown	below:
--	-------	--------

Setup Wizard - Static IP	- 3
provide you with som	thernet Broadband Service with a static IP address, the internet service provider will e basic network parameters, please fill in the following box. If you forget or do not know t your internet service provider.
IP Address*	0.0.0.0
Subnet Mask*	0.0.0.0
Default Gateway	0.0.0.0
DNS Server	0.0.0.0
Previous Step	Next Step

5.2.3 PPPoE

PPPoE topology:



Select the way the Internet is PPPoE, need to fill in the online account and

password provided by the ISP, as shown below:

When you apply for	ADSL virtual dialing service, the internet service provider will provide you with	the	
Internet account and consult your interne	d password, please enter the box below. If you forget or do not know clearly, p et service provider.	lease	
Internet Account*	Please Input Internet Account		
	Please Input Internet Password	-	

Dialing successful, after completing the AP wireless network settings, you can

see the following picture:

DCN	=					
Running St.	Running Status					
Setup Wizard	Device Information					
B AP Mode	WL8200X2SUNKZ003					
Network Paz. Wireless Se	Seria Number : Device Model :	WL8200-X4				
Radio Setti DHCP Server	Firmware Version :	3.121.8				
Statistics -	Boot Version :	232				
E System Mai.z	Bunning Time :	Running 0 days 0 hours 21 minutes 4 seconds Time :				
	VLAN Port S	tatus				
	MAC Address :	00:03:0F:72:12:30				
	IP Address :	192.168.1.10				
	Subnet Mask :	255.255.255.0				
	WAN Port	Status				
	MAC Address :	00:03:0F:72:12:30				
	IP Address :	172.28.0.246 (PPPoE) 0 days 0 hours 3 minutes 0 seconds Disconnect				
	Subnet Mask :	255.255.255.255				
	Default Gateway :	172.28.0.200				
	DNS	114.114.114.110				

5.3 Network Parameter Settings

5.3.1 LAN Port Setting

Click "Network Parameters">> "LAN Port Settings" on the left menu to set the LAN side IP address and subnet mask. When the LAN port IP parameters are changed, to ensure that the DHCP server can work normally, the address pool, static address set in the DHCP server and the new LAN port IP should be on the same network segment. After saving the settings, please enter IP address to visit this page.

As shown below:

	DCN	≣		
습	Running Status	Running Status	LAN Port Set	tings ×
•	Setup Wizard	This page sh	nows the basic ne	etwork parameters of LAN port.
38	AP Mode	MAC Addres	s	00:03:0F:8C:B8:81
۲	Network Parameters 🔺	IP Address		192.168.1.10
-	LAN Port Settings	Subnet Mask	c	255,255,255,0
-	WAN Port Settings	oublict mush		
((;-	Wireless Settings			Edit
((†))	Radio Settings			
	DHCP Server 🔹			

MAC Address: The MAC address of the AP to the LAN is used to identify the local area network and cannot be changed.

IP Address: The IP address of the AP to the LAN. The factory default value of

this IP address is 192.168.1.10 and you can change it if needed.

Subnet Mask: The subnet mask of this AP to the LAN. You can enter different subnet masks based on the actual network status.

5.3.2 WAN Port Settings

Click "Network Parameters">> "WAN Port Settings" on the left menu to modify the basic parameters of the WAN port.

There are currently three ways to obtain the IP address of the WAN port: static IP, dynamic IP, and PPPoE, which can be set according to the Internet access method provided by the service provider. Compared to the setup wizard, the information configured on this page is more comprehensive.

If the selected IP address acquisition method is static IP, as shown below:

DCN	≣	
Running Status	Running Status WAN Port	t Settings ×
E Setup Wizard	This page shows the ba	sic network parameters of WAN port.
吕 AP Mode	MAC Address	00:03:0F:60:12:20
Wetwork Parameters A	Connection Type*	Static IP
 LAN Port Settings 	IP Address*	172.18.18.2
WAN Port Settings Wireless Settings	Subnet Mask*	255.255.255.0
((1)) Radio Settings	Default Gateway	172.18.18.254
■ DHCP Server ▼	DNS Server	172.18.0.186
🖂 Statistics 🗸 🗸	Packet MTU*	1500
🔀 System Maintenance 🔻		Save Return

- 48 -

IP Address: The IP address of the AP to the WAN. Please enter the public IP address provided by the ISP. It must be set.

Subnet Mask: The subnet mask of this AP to the WAN. Please enter the subnet mask provided by the ISP. According to different network types, the subnet mask is different, generally 255.255.255.0 (class C).

Default Gateway: Please enter the gateway provided by the ISP. It is the IP address of the connected ISP.

DNS Server: Please enter the DNS server provided by the ISP.

Packet MTU: The MTU is a data transmission unit throughout, and the default value is 1500. Please ask the ISP if you need to change it, but don't change it unless it is specifically needed.

If the selected IP address acquisition method is dynamic IP, as shown below:

🔓 Running Status	Running Status LAN Port	Settings × WAN Port Settings ×
Setup Wizard	This page shows the ba	sic network parameters of WAN port.
B AP Mode	MAC Address	00:03:0F:60:12:20
Network Parameters	Connection Type*	Static IP
- LAN Port Settings	IP Address*	172.18.18.2
 WAN Port Settings 	IF Address*	172.10.10.2
ᅙ Wireless Settings	Subnet Mask*	255.255.255.0
(۱۱) Radio Settings	Default Gateway	172.18.18.254
📰 DHCP Server 🔹 🔻	DNS Server	172.18.0.186
Statistics	Packet MTU*	1500
🏑 System Maintenance 🔻		Save Return

DNS Server: This shows the DNS server address automatically obtained from

the ISP.

Packet MTU: The MTU is a data transmission unit throughout, and the default

value is 1500. Please ask the ISP if you need to change it, and don't change it unless it is specifically needed.

Running Status	Running Status AP Mode ×	WAN Port Settings X
Setup Wizard	This page shows the basic	network parameters of WAN port.
AP Mode	MAC Address	30:87:5A:E3:2C:E0
Network Parameters 🔺	Connection Type*	PPPoE
LAN Port Settings	Internet Account*	Please Input Internet Account
WAN Port Settings	Internet Password+	Please Input Internet Password
Wireless Settings Radio Settings	Packet MTU*	1492
DHCP Server 🔹	Automatic break waiting	15
Statistics 💌		Save

If the selected IP address acquisition method is PPPoE, as shown below:

Internet Account and Password: Please enter the Internet account and password provided by the ISP correctly. This item must be filled in.

On-demand Connection: If you select the on-demand connection mode, the system will automatically connect when there is a network access request from the local area network. If there is no network request within the set time (automatic disconnection waiting time), the system will automatically disconnect. For users who are billed based on usage time, this connection method can be selected to effectively save Internet access costs.

Automatic Connection: If the automatic connection mode is selected, the system will automatically connect after power on. During use, if the network is disconnected due to external reasons, the system will try to connect at regular intervals until the connection is successful. If your network service is a monthly subscription, you can choose this connection method.

Manual Connection: Select this option to require the user to dial-up manually after power-on. If there is no network request within the specified time (automatic disconnection waiting time), the system will automatically disconnect. You can choose this connection method if your Internet service pays according to the time of use

Automatic Break Waiting Time: The default value is 15 minutes. If there is no network access traffic for this set period of time, the network connection will be automatically disconnected to protect your online resources. This setting is only effective for "On-demand connection" and "Manual connection".

Packet MTU: The MTU is a data transmission unit throughout. The default value is 1492. Please ask the ISP if you need to change it, and don't change it unless it is specifically needed.

5.4 Wireless Settings

The wireless settings mainly set the basic parameters of the router wireless network. The first SSID is reserved by the system and can be edited but not deleted. The maximum number of SSIDs is 16. As shown below:

Client Isolation: Communication control between wireless clients. After being turned on, wireless clients cannot communicate with each other. Off by default.

Hidden SSID: When the hidden SSID is turned on, the wireless client will not be able to search for this SSID information.

Security Settings: This router supports three security settings: open, WPA /

DCN	≣			
🔓 Running Status	Running Status Wireless Settings	×		
E Setup Wizard				
AP Mode	Message		- 🛛 >	× Hidd
① Network Parameters	SSID*	!!DCN_WLAN	<u> </u>	
奈 Wireless Settings	Radio	✓ 2.4G ✓ 5G 1 ✓ 5G 2		
⁽⁽ † ⁾⁾ Radio Settings	Client Isolation*	On Off		
DHCP Server	Hidden SSID*	On Off		
📈 Statistics 🗸 🗸	Multicast To Unicast*	On Off		
💥 System Maintenance 🔻	Security Setting*	Open	-	
	Uplink Speed Limit(kBps)	Open		
	Downlink Speed Limit(kBps)	WPA/WPA2-Personal WPA/WPA2-Enterprise		
	Uplink Speed Limit Per Client(kBps)	Please Input Uplink Speed Limit Per Client(Range:0-10485	5760)(C	
	Downlink Speed Limit Per Client(kBps)	Please Input Downlink Speed Limit Per Client(Range:0-104	485760	
		Save	~	,

WPA2-Personal, WPA / WPA2-Enterprise.

The OPEN mode does not need to set a password, and the wireless client can directly access;

In WPA / WPA2-Persional mode, the user need to set a password with a length

of 8 to 63 characters;

WPA / WPA2-Enterprise mode is authenticated by the radius server, so you need to bind the radius template. For details, refer to section 2.5.4.

5.5 Radio Settings

The radio setting page displays all radio information in a list with no new

features. Click "Edit " in the operation column to modify the radio settings, including status, channel, channel bandwidth, transmit power, multicast rate, STBC mode, Beacon interval, DTIM period, RTS period, max clients, etc., as shown below:

nning Statu	IS Radio Set	tings ×										
Radio	Status	Mode	Channel Bandwidth	Channel	Transmit Power(dBm)	Multicast Rate(Mbps)	STBC Mode	Beacon Interval	DTIM Period	RTS Threshold	Max Clients	Operation
2.4G	Enabled	802.11ng	HT20	6	27	auto	Enabled	100	1	2346	127	Edit
5G 1	Enabled	802.11ac	HT40	52	20	auto	Enabled	100	1	2346	127	Edit
5G 2	Enabled	802.11ac	HT40	149	23	auto	Enabled	100	1	2346	127	Edit

5.6 DHCP Server

DHCP refers to the Dynamic Host Control Protocol. The WL8200-T3 (IT3) has a built-in DHCP server that can automatically assign IP addresses to computers in the local area network. It is not easy for users to configure TCP / IP protocol parameters for all computers in the local area network. It includes IP address, subnet mask, gateway, DNS server, etc. The DHCP service can solve these problems.

5.6.1 DHCP Server

Click "DHCP Server" >> "DHCP Server" on the left menu to set the DHCP server parameters. As shown below:

DC	N =	
🔓 Running State	us Running Status DHC	P Server ×
📳 Setup Wizard	The DHCP server is	built in this device. It can automatically configure the TCP/IP protocol of your computer in LAN.
吕 AP Mode	LAN Port IP Address	192.168.1.10
① Network Para	DHCP Server	Enabled Disabled
혂 Wireless Setti	ings IP Pool Start Addres	s+ 192.168.1.100
⁽⁽ † ⁾⁾ Radio Setting	IP Pool End Address	s- 192.168.1.199
DHCP Server	Lease(minutes)*	120
 DHCP Server Client List 	Default Gateway	0.0.0.0
 Client List Static IP Distr 	ibution DNS Server	0.0.0.0
Statistics	-	Save Return
∑ System Maint	tenance 🔻	

IP Pool Start Address and IP Pool End Address: These two items are the start address and end address when the DHCP server automatically allocates IP addresses. After setting these two items, the IP address obtained by the intranet host will be between these two addresses.

Address Lease: This item refers to the valid use time of the dynamic IP address assigned by the DHCP server to the client host. During this time, the server will not assign IP addresses to other hosts.

Default Gateway: This item should be filled in the IP address of the router LAN port. The default is 192.168.1.10.

DNS Server: Enter the DNS server provided by the ISP.

5.6.2 Client List

Click "DHCP Server"-> "Client List" on the left menu, you can see the information of all the hosts that have obtained the IP address through the DHCP server. As shown below:

DCN	≣				China(CN)	Fat Mode - Route Mod	le admin	Log
Running Status	Running Stat	cus Client List ×	10					
Setup Wizard	This pa	ge shows the informa	tion of all hosts that get the IP	address through the DHCF	server. Click 'Refre	sh' button to update the info	rmation in the	e table
AP Mode	ID	Client Name	MAC Address	IP Address	Ff	fective Time	Statu	IS
Network Parameters	1	fupsde-iPad	BC:B8:63:94:ED:29	192.168.1.104		s19minutes55seconds	Offli	
Wireless Settings	Refres	h						
🕅 Radio Settings								
DHCP Server								
 Client List 								
🔄 Statistics 🔹 👻								
🛠 System Maintenance 🔻								

Client Name: This field displays the client name that has obtained the IP address.

MAC Address: This field displays the MAC address of the client that obtained the IP address.

IP Address: This field displays the IP address assigned by the DHCP server to the client host.

Effective Time: This item refers to the lease period of the IP address obtained by the client host. Each IP address has a certain lease time, and the client software will automatically renew the lease before it expires.

Status: The online / offline status of the client that has obtained the IP address is displayed here.

5.6.3 Static IP Distribution

Click "DHCP Server">> "Static IP Distribution" on the left menu to manually set a static IP address.

The static reserved IP address assignment function can reserve IP addresses for

specific clients, allowing IP addresses to establish a fixed binding relationship with MAC addresses.

For a client that has established a binding relationship, when requesting an IP address, the DHCP server preferentially assigns a bound IP address to it. As shown

below:

DCN	≡			c	China(CN) Fat M	lode - Route Mode admin Logout
🔓 Running Status	Running Status	Statio	: IP Distribution \times			
E Setup Wizard	This page s	ets the	static address assignment function of	the DHCP server.		
B AP Mode		ID	MAC Address	IP Address	Status	Operation
① Network Parameters		1	BC:B8:63:94:ED:29	192.168.1.104	Effective	Edit Delete
Wireless Settings	New Entry		Disable Entry Enable Entry	Delete Entry Refresh		
⁽⁽ † ¹⁾⁾ Radio Settings						
DHCP Server						
 DHCP Server Client List 						
 Static IP Distribution 						
🗁 Statistics 🗸 🗸						
💥 System Maintenance 🔻						

MAC Address: The MAC address of the client that will reserve the IP address.

IP address: Refers to the IP address reserved for the client.

Status: The status displays "Effective" or "Ineffective", that is, only binding rules marked as "Effective" will take effect.

New Entry: Click this button, you can add a new reserved address entry in the

subsequent interface, as shown below:

nning Status	Static IF	P Distribution ×	_				_
This page	sets the sta	atic address assignmen	t function of the [HCP server.			
	ID	MAC Addre	ess	IP Address	Status	Operati	ion
	1	BC:B8:63:94:E	:D:29	192.168.1.104	Effective	Edit D	elet
New Entr		Message				- 🛛 ×	
		This page sets the MAC Address*	static address assi BC:B8:63:94	gnment function of the DHC	P server.	- 1	
		IP Address*	192.168.1.10	04			
		Status*	• Effective				
			Save	Return			

Enable Entry: Click this button to make the selected item effective.

Disable Entry: Click this button to invalidate selected items.

Delete Entry: Click this button to delete all entries in the table.

5.7 System Maintenance

5.7.1 IP Session Control

Click "System Maintenance"-"IP Session Control" on the left menu to enter the IP session control page, where you can set the number of TCP connections that each client can use simultaneously. If the number of connections reaches the specified number, the new TCP connections will be rejected. Note that closed TCP connections are not counted in the number of connections.

The default is 0, which means unlimited. As shown below:

DCN	≣
🔓 Running Status	Running Status Static IP Distribution \times IP Session Control \times
E Setup Wizard	✓ IP Session Control Settings
🔠 AP Mode	This function is to limit the number of active TCP connections. The number of IP sessic
Metwork Parameters	IP Session Limits 0
Wireless Settings	
⁽⁽ † ¹⁾⁾ Radio Settings	Save
DHCP Server	
Statistics 🔻	
💥 System Maintenance 🔺	
 Modify Password 	
 Configuration 	
Management	
 System Log 	
 IP Session Control 	

5.7.2 Network Timing

Click "System Maintenance" >>" Network Timing", you can set NTP network time, turn on the off status and NTP server. It supports up to 4 NTP server settings. As shown below:

DCN	i=	China(CN)
🔓 Running Status	Running Status Netw	vork Timing ×
🛃 Setup Wizard	✓ Network Timing	
吕 AP Mode	Current Time:	2019-12-20 17:14:03
① Network Paramet	ers ▼ Status	● On ○ Off
🛜 Wireless Settings	Time Zone	UTC+8(Beijing, CCT)
⁽⁽ † ¹⁾⁾ Radio Settings	NTP Server1	cn.ntp.org.cn
DHCP Server	NTP Server2	edu.ntp.org.cn
Statistics	NTP Server3	hk.ntp.org.cn
 System Maintena Modify Password 	NTP Server4	tw.ntp.org.cn
- Configuration		Save
Management		
– System Log		

- Network Timing

Appendix A FAQS

Question 1: How to restore the factory settings if the user forgets the device password?

Take WL8200-X10 as an example. In the power-on state, long press the Reset button for 5 seconds and release the reset button, the AP will restore the factory settings and restart. After restart, the user name and password are reset to the initial user name and password.

After restoring the factory settings, all settings will be deleted and restored to fit mode.

There may be differences between different products. For details, please refer to the product specifications.

Question 2: Can't open the device webpage using the default address of 192.168.1.10?

The address 192.168.1.10 is the default static address of the device. It may happen that the device webpage cannot be opened through this address in the following situations:

1. When the AP is in fit mode or fat bridge mode

(1) The device may have obtained another IP address through the POE port.

Please access it through the current address of the AP.

(2) The IP address of the device may be modified;

2. When the AP is in fat routing mode:

(1) The device used to access the AP is located on the WAN side of the AP.

Please access the AP from the lan side.

(2) The address on the LAN side of the device may have been modified by the administrator;

Question 3: After switching from thefit mode or the fat bridge mode to the fat routing mode, the page cannot be returned, and refresh cannot be accessed?

When switching from other modes to routing mode to access the network, in order to ensure security, WAN-side device access is blocked by default. If the device is accessed from the POE port side before the switching, the switching will fail to return and cannot access. You need to ensure that you are accessing the device using https://192.168.1.10 on the LAN side or WLAN device.