

Reyee Series Implementation Cookbook (V1.2)



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1 Preface

Audience

Network Engineers

Network Administrator

Obtain Technical Assistance

Ruijie Networks Websites: https://www.ruijienetworks.com

Ruijie Service Portal: https://caseportal.ruijienetworks.com

Welcome to report error and give advice in any Ruijie manual to Ruijie Service Portal

Revision History

Date	Change contents	Reviser
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2020.11	V1.1 Fix a typo.	Nick Chen
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2 Product Introduction

2.1 Cloud-managed Access Points

Reyee cloud-managed access point is a high performance for indoor/outdoor/wall scenarios. Compliant with 802.11ac wave2 Wi-Fi protocol, cloud-managed series access points support MU-MIMO dual stream technology. The industrial product design makes the product is simple to install and maintenance.

Cloud-managed access points support self-organizing network.

Provide better performance based on Dual-band Wi-Fi

Supports 2.4GHz and 5GHz dual-band communication, providing access rate of 400Mbps at 2.4GHz, 867Mbps at 5GHz and up to 1267Mbps per AP. It can provide 5GHz frequency band with less interference, wider channel, and faster speed for the terminals, allowing the users to enjoy excellent wireless experience.

Seamless Layer 3 Roaming

The device supports Layer 3 roaming for the complex Layer 3 network. When users move across the Layer 3 networks, seamless roaming can be achieved without service interruption.

Support Self-organizing networking feature

Self-organizing networking feature, which breaks through the product limitations and realizes auto-discovery, auto-networking and auto-configuration between routers, switches, and wireless APs without the need for controllers or Internet access. With the mobile app, users can quickly complete the device deployment and configuration, remote management, operation and maintenance of the entire network, which greatly reduces the investment of equipment cost, labor cost and time cost in the process of wireless network construction.

2.2 Reyee Switch

Reyee switches are designed to offer reliable and professional choices to businesses of all sizes. Unmanaged switches are well suited for businesses requiring no management or monitoring of their LAN, smart/L2 switches provide a cost-effective solution for small and medium-sized businesses, and L3 managed switches provide a scalable and stable solution for large organizations, campus networks and ISP networks.

Ruijie Cloud App/ Ruijie Cloud Platform Remote Management

The Reyee managed switches not only support web interface management, but also support life time free Ruijie Cloud App and Ruijie Cloud platform remote management. Users can view the network status, modify the configuration, and troubleshooting at home. In addition, the PoE port can be restarted remotely to restart the faulty PoE camera. With the mobile

app, users can quickly complete the device deployment and configuration, remote management, operation and maintenance of the entire network, such as NVR/ Camera recognition, configure VLAN, real time monitoring, real time alarm, and reboot remotely, which greatly reduces the investment of equipment cost, labor cost and time cost in the process of wireless network construction.

Self-Organizing Networking Feature

Self-organizing networking feature, which breaks through the product limitations and realizes auto-discovery, auto-networking and auto-configuration between routers, switches, and wireless APs without the need for controllers or Internet access.

Full-Power PoE Supporting PoE Cameras at Maximum Capacity

Ruijie Reyee smart surveillance switches support full-power PoE output, powering PoE network cameras for all PoE ports simultaneously. Whether it is day or night, the infrared light of the camera is on or off, it can ensure that all PoE network cameras are powered.

2.3 EasyGate Series Router

Ruijie Reyee RG-EG series Router is a cloud managed router designed for villas and smart home, restaurant, small offices, homestay hotel. it is affordable, small and easy to use, but at the same time comes with 500M-600M bandwidth and supporting up to 200 terminals.

RG-EG series can perform per-port VLAN configuration to achieve port isolation, and integrate with smart flow control to achieve comprehensive network planning and perform local and remote network diagnosis.

2.4 EST310 Bridge

5GHz wireless bridge, including 2 devices for the recorder-end and camera-end, paired by default without requiring any configuration, 1 100M LAN port, up to 867Mbps throughput, built-in directional antenna, support one-to-many bridging, EWeb/ Ruijie Cloud app management, 12VDC and 24VDC non-standard PoE, wall-mounted/ pole-mounted installation

3 Daily Maintenance

3.1 Device Login

eWeb is a Web-based network management system that manages or configures devices. You can access eWeb via browsers such as Google Chrome.

Web-based management involves a Web server and a Web client. The Web server is integrated in a device, and is used to receive and process requests from the client, and return processing results to the client. The Web client usually refers to a browser, such as Google Chrome IE, or Firefox.

Network Topology

As shown in the figure below, you can access the eWeb management system of an access or aggregation switch via a PC browser to manage and configure the device.



1) Set PC's IP assignment mode to Obtain an IP address automatically.

2) Visit http://192.168.110.1 by Chrome browser.

3) Enter the password on the login page and click "Login".

Default Password: admin

亡 Password Login

Google Chrome and IE browser 9, 10 or 11 are supported. Copyright@2000-2020 Ruijie Networks Co., Ltd.

For the Reyee EG device, you may use either 192.168.110.1 or 10.44.77.254 to access the device.

For the Reyee switches, you may use 10.44.77.200 to access the device.

For the Reyee AP, you may use either 192.168.120.1 or 10.44.77.254 to access the device.

For the EST, you may use 10.44.77.254 to access the device.

The default login password for all Reyee devices is admin.

You may visit https://10.44.77.253 to login to the master device of Reyee network.

3.2 Change Password

Login to the master device and choose **Network → Password** to change the device password.

Ruijie	Reyee > Ruijie (Masker) 0	English 🗸 🛆 MAC	C 🔁 Download App	🚖 Network Setup	ଷ୍ଟ Network Check	<u> 처</u> Alarms	🕞 Exit
윰Overview	Device Paceward						
Online Clients	Change the device password. Please log in again with the	new password later.				C	D
🖽 Gateway	* Old Password						
₩ireless	* New Password	P					
🖻 Switches	* Confirm Password	P					
Setwork ^	Save						
Time							
Password							
Scheduled Reboot							
Reboot & Reset							

3.3 Factory Reset

Option 1: Press the "Reset" button on the device for more than 5 seconds to factory reset the device.

Option 2: Login to the eWeb of the device reset all device in the network.

Ruijie	Reyee > Ruijie (Mission) O C English - C MACC C Download App & Network Setup & Network Check K Alarms	🕞 Exit
융Overview		2
Online Clients		9
🖽 Gateway	In the action here may affect the whole network. Please be cautious. If the page does not respond, please log in again.	
分 Wireless ∨	Network Management	
Switches	Action Reboot Reset	
Setwork ^	Option Unbind Account (The devices of this account will be removed from MACC and will not be managed by this account).	
Time	ОК	
Password		
Scheduled Reboot		
Reboot & Reset		

4 Quick Provisioning

4.1 Quick provisioning via Ruijie Cloud APP





1) If your mobile phone does not have the Ruijie Cloud App installed, please search "Ruijie Cloud" on App Store and install it on your mobile phone. Below is an example of searching "Ruijie Cloud" on Google Play Store. Tap INSTALL to install the App directly.

2) Ruijie Cloud App provides a quick start to Create Network and Add Device. You can follow the steps below to finish provisioning.

Step1: Connect to the Wi-Fi with Reyee AP.

Step2: Choose the SSID of "@Ruijie_mXXXX".

Step3: Check all the devices are detected.

Step4: Add the project name and password.

Step5: Finish the WAN configuration.

Step6: Add the wireless configuration.

Step7: Finish all the configuration.

Step8: Devices all online in Ruijie Cloud.

Visite Connect VI-Fhons Visite Visite Visite Visite <th></th> <th>Choose How to Create Project</th> <th>C Discover Device Can not find device?</th>		Choose How to Create Project	C Discover Device Can not find device?
Image: Config Project Config Projec	My Shared Project Case	Connect Wi-Fihome Please connect to the WiFi:	3 devices are detected. Unmanaged/NBS switches are not displayed.
Let 4 digits of doce MAC Let 4 digits of doce MAC The service states Concess front to Crash Project Concess front to SSD and preservert. Spont Front Concess front to SS	ReyeeOnlineDemo Com		
Image: State Stat	🕮 1/1 🖬 1/1 On-site Cloud	Last 4 digits of device MAC	indernet
Image: Image	Reyee321 (3 : Creation Time: 2020-07-08 16:09:34	Wait until ີ appears, and return to Ruijie Cloud App to continue.	EGIDSO
Image: set of the set	The set of the se		53290C-P
01 02 03	Scan or enter SN For Enterprise/Reyee devices	OK	Test Again Start Config
K Basic Config Project Config + WAN Config Project Name Testin P Testin P <th>01</th> <th>02</th> <th>03</th>	01	02	03
Basic Config K Basic Config K Add WFI Project Config > WAN Config Project Co			
Project Config + WAN Config Project Config + WAN Config Project Config + WAN Config Project Config + WAN Config Project Config + Wan Config Project Config + Wan Config Project Config + Wan Config Project Config + Wan Config Project Config + Wan Config <th>< Basic Config</th> <th>< Basic Config</th> <th>< Add WiFi</th>	< Basic Config	< Basic Config	< Add WiFi
Project Name TestRY Management Password IP Incel Subnet Mask 255.255.55.0 Conjump Gateway T72.18.158.1 DNS Server 192.168.58.95 Next Open	Project Config → WAN Config	Project Config → WAN Config	Please enter the SSID and password.
TestRY PPPDE PPPDE PPDE PPDE	Project Name	Link1(WAN0)	SSID
Vanagement Password	TestRY	PPPoE DHCP Static IP	Reyeetest
image:	Management Password	IP.	Open
VpP Hotel Not Not Not Not Not Not Not Not	<u> </u>	172.18.158.150	
Note 255.255.0 company Gateway 172.18.158.1 DNS Server 192.168.58.95 Next	lype	Subnet Mask 555	(19)
Gateway 172.18.158.1 DNS Server 192.168.58.95 Next Save	nue.	255.255.255.0 Contiguring	Londing
Noxt Next Save		Gateway	
Next OF OF OF		1/2.10.130.1	
		192.168.58.95	
04 05 06	Next	Next	Save

< Add succeeded	<	TestRY	o	<	TestRY	o
Ø	Hotel Proje	ect Status C	ptime d Oh	Hotel Proj Exceller	iect Status	Uptime Od Oh
	Online Devices:3 Offline Devices:0	()		Tip New report is n	eady for the project.	•
Add succeeded				Online Devices: 3 Offline Devices: 0	Internet	Topology 🤇
• Wi-Fi @Ruijie-m1111						Camera 🔿
Password No Password		E52260C-P			EGIOSO	Dotect Camera
Management Password ruljie123						
		RAP1200(E)			ES226GC-P	
		Online Client 2			RAP1200(E)	
Enter Project	User Experience				Online Client 4	
				User Experience		
		No Data				
		<u></u>				
	Tool Kit Hotel Con	nfig		Tool Kit Hotel Co	onfig	
07	k	00			00	
07		08			09	

4.2 Quick provisioning via Reyee EWeb

Network Topology



Step 1: Login to Reyee EWeb (<u>http://192.168.110.1</u>), the local devices will be discovered automatically.

Net Status (Online Devices / Total)		_	_		Refresh C
	Internet	Gateway 1 Gateway	1/1 Switches	ିକ 0/0 APs	
My Network					
New Device (2 devices)					~
Model	SN	IP Address	MAC	Software Ver	
Gateway EG105G [Master]	1234567890123	192.168.110.1	00:D0:F8:11:11:11	EG_3.0(1)B11P30,Release(07181202)	
Switch RG-ES226GC-P	G1NW12E000307	192.168.110.223	00:D0:F8:20:99:99	ESW_1.0(1)B1P2,Release(07181013)	

Step 2: Create a network based on the actually scenario (PPPoE/DHCP/Static IP Address).

		English 🕥 🗗 Exit
* Network Nam	Reyee	
* Passwor	ا	
IP Assignmen	t O PPPoE O DHCP O Static IP Address Current IP	
* IP Addres	Current Settings: DHCP 172.18.158.150	
* Submas	255.255.255.0	
* Gatewa	172.18.158.1	
* DNS Sense	102150 6005	
	152.100.3033	
- 221	кеуееооо	
	Encrypted Open	
* Time Zon	GGMT+8:00)Asia/Shanghai	
	Previous Create Network & Connect	

Ruije Create Network	English 👻 🕒 Ext
* Network Name	Rej
* Password	- Operation
	succeeded.
IP Assignment	Curren • Project Name: Revee
* IP Address	172 • SSID: Reyee666
	Password: ruijie123
- Submask	Redirecting
* Gateway	172.18.198.1
5 DINS Server	
	176.196.2633
* SSID	Reyee556
	C Encrypted O Open
* Time Zone	(GMT+8:00)Asia/Shanghai
	Previous Create Network & Connect

Step 3: Login to your Ruijie Cloud Account.

Ruíjie	Network Setup	English 🖂 🗗 Exit
	Please enter your Ruijie Cloud account to log in.	

Step 4: Select the project type.

ijie	Network Setup						English 🗠
			1 Select Template	2 Enabl	e Services	Complete	
select the proj	ject type.						
	Project Type						
	Office		Hotel				
	Hotel	0	You can add V	/LAN, wired network, and enable	e loop prevention, DHCP Snoopin	g and flow control by one click	
	CCTV						
	Other		Preview				
			Typical topology	A Sample hotel		A tepinal topology	Add a security gateway
			Create Areas Career Statistical Control Contro	Hold beneficit participants of the second participant of the second pa	When ensues have the start for the second star		Configure the switch for the camera connection Cardred 0 res: TRCA: here tanks the outgrade one the Ath hydrogical values one with the spectra of the spec
				Hotel applications: durating the work of the second s	natural intelligence in a second s		We interface We determine the second secon

Step 5: Enable the services as you need and apply the config.

Ruijie Network Setup			English 🛹 🕒 Ex
	Select Template	Enable Services	- 3 Complete
Topology C Refresh a Gateway1 & Switch1 & AC(0 & AP(0 Tip: Drag to move the topology @ @ @ @	Reyee Hotel Succeeded to generate the actual top	ology. Click Refresh to update.	≆ VLAN Management on AP
()	You can enable the following services I. Configure Network Wired Network	according to your requirements.	WIAN
T T	+	Add (Divide VLAN)	+ Add (WiFi)
			1 Hotel WLANs are configured and can be enabled.
60056 5N:12265780123			Reyee666 IP Segment192.168.125.2-192.168.125.250 Dynamic VLAN: 125
[an-3]			중 Guest WiFi
E5226C-P SN: G1NW12E000307			IP 3egment152.106.130.2°152.106.130.230 Uynamic VUAN: 130
	2. Configure Function		
	Smart Flow Control	IPTV Connect modem and gateway, and	
Back			Apply Config



5 Reyee EG Series Router Configuration

5.1 WAN Load balance

The load balancing function distributes the data to multiple WAN interfaces to avoid the traffic congestion and provide redundancy.

Network Topology



Configuration Steps

Step 1: Choose **Gateway** \rightarrow **Basics** \rightarrow **WAN**

Ruíjie	Reyee > Ruijie (Mastor) 🕖	Engli	sh 🗸 🛆 MACC	EDownload App	🗟 Network Setup	ଷ୍ଟ Network Check	濟 Alarms 🕞 i	Exit
움Overview	Hostname: Ri	iiie SN: 123456789012	IP Address: 17	2 18 158 150				
Online Clients	• EG105G	MAC: 00:D0:F8:11:11:	11				() Reboot	
A Gateway	Device Overview Basics A Sec	urity ~ Behavior ~ VPN ~	Advanced ~ Dia	gnostics ~ System	ı ~			
	WAN Settin						0	
Switches	Configure W/ LAIN						()	
Network	Single Line Dual-Line							
	* IP Assignment Static IP A	ldress ~						
	* IP Address 172.18.158	.150						
	* Submask 255.255.25	5.0						
	* Gateway 172.18.158	.1						
	* DNS Server 192.168.58	.95						
	Advance	d Settings						
	Sav	e						

Step 2: Configure the WAN interface accordingly

Ruíjie	Reyee > Ruijie (Master) 0 CMACC 🗄 Download App & Network Setup & Network Check	<u>눩</u> Alarms 🕞 Exit
움Overview	Hortzame: Duillio SN: 1224557890122 IB Addreer: 172 19 159 150	
Online Clients	• EG105G MAC: 00:D0:F8:11:11:11	(1) Reboot
A Gateway	Device Overview Basics Security Behavior VPN Advanced Diagnostics System	
	WAN Settings	0
Switches	Configure WAN settings.	
-o- -o- -o- Network	Single Line Dual-Line	
	WAN WAN1 ISP/Load Settings	
	* IP Assignment Static IP Address	
	* IP Address 172.18.158.150	
	* Submask 255.255.255.0	
	* Gateway 172.18.158.1	
	* DNS Server 192.168.58.95	
	Advanced Settings	
	Save	

Step 3: Choose ISP/Load Settings, and configure the load mode and interface weight

1. Balanced mode: The traffic will be spread across multiple links according to the weight of each WAN port. For example, if WAN and WAN1 weight are set to 3 and 2 respectively, 60% of the total traffic will be routed over WAN and 40% over WAN1.

2. Primary & secondary mode: All traffic is routed over the primary interface. Once the primary interface fails, traffic will be switched over to the secondary interface. If there are multiple primary and secondary interfaces, please configure their weight (See balanced mode).



Step 4: Save the configuration

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움Overview	Gateway Hostname: Ruijie SN: 1234567890123 IP Address: 172.18.158.150	() Reboot
(8) Online Clients	• EG105G MAC: 00:D0:F8:11:11:11	
A Gateway	Device Overview Basics Security Behavior VPN Advanced Diagnostics System	
ି Wireless 🗸	WAN Settings Configure WAN settings.	0
🖾 Switches		
-o- -o- Network	Single Line Dual-Line	
	WAN WAN1 ISP/Load Settings	
	Load Balancing Settings	
	 Traffic will be routed based on ISP settings preferentially. The remaining traffic will be managed according to load mode. 1. Balanced mode: The traffic will be spread across multiple links according to the weight of each WAN port. For example, if WAN and WAN1 weight are set to respectively, 60% of the total traffic will be routed over WAN and 40% over WAN1. 2. Primary & secondary mode: All traffic is routed over the primary interface. Once the primary interface fails, traffic will be switched over to the secondary interfaces, please configure their weight (See balanced mode). 	9 3 and 2 erface. If
	Load Mode Balanced \lor	
	Balancing Policy Based on Link If you fail to access online bank service, please	
	* WAN Weight 100	
	* WAN1 Weight 100	
	Save	1

5.2 IPsec VPN

Networking Requirements

The HQ and branch routers use static IP addresses. The HQ router needs to verify the IP address of the branch router.

Network Topology



Configuration Key Points

- 1. Configure router A in the HQ as the IPsec server.
- 2. Configure router B in the branch as the IPsec client.
- 3. Keep parameter settings at both ends consistent. The parameter settings in this case are as follows:

Authentication mode: pre-shared key, with the key set to *ruijie*.

IKE algorithm: 3DES-MD5, DH2

IPsec negotiation scheme: ESP(3DES-MD5)

Configuration Steps

Step 1: Configure the HQ router. Choose **Gateway** \rightarrow **VPN** \rightarrow **IPSec** \rightarrow **Add** to add a policy.

Ruíjie	Reyee > Ruijie (Maskar) 0	English 🗸 🛆 MACC	금Download App	Setup 🔍 Network Check	👸 Alarms 🕞 Exit
名Overview					
(8) Online Clients	Gateway Hostname: Ruijie SN: 12 EG105G MAC: 00:	:D0:F8:11:11:11	/2.18.158.150		(U) Reboot
🖽 Gateway	Device Overview Basics ~ Security ~ Behavior ~	VPN ^ Advanced Y Dia	agnostics ~ System ~		
₩ireless	IPSec Security Policy IPSec Connection Status	IPSec			
🖻 Switches	IPSec Security Policy				0
^{-a-} -a- Network ∨	Tip: If it is set to 192.168.110.x/24, the address range is from	om 192.168.110.1 to 192.168.110.	254.		Ċ
	Policy List				+ Add
	Up to 1 entries can be added.				
	Policy Type Policy Name Peer Gateway	Local Subnet	Peer Subnet	Status	Action
		No Data			

Step 2: Configure the server site's subnet and pre-shared key. For building VPN with other Reyee EG series routers, you may keep the default setting of "Set IKE Policy" and "Connection Policy"; For other devices, the parameters need to be configured accordingly.

Ruijie	Reyee > Ruijie Minetori	
[₽] Overview	Hostname: Ruilie SN: 1234567890123 JP Address: 172.18.158.150	
Online Clients	EG105G MAC: 00:D0:F8:11:11:1	
A Gateway	Device Overview Basics ~ Edit	
ি Wireless	IPSec Security Policy IPSec C Policy Type O Client O Server	
Switches	IPSec Security Policy * Policy Name IPSEC_VPN_1	
-e-Network	Tip: If it is set to 192.168.110	
	Policy List + Add	
	* Local Subnet 192.168.110.0/24 Up to 1 entries can be added.	
	* Pre-shared ruijie	
	Policy Type Policy Nam Key	
	Server IPSEC_VPN_ Status ◯ 0.0.0/0 Enable ⊗ Edit Delete	
	1. Set IKE Policy 2. Connection Policy	
	Cancel OK	

Step 3: Configure the branch router. Fill in the **Peer Gateway** (HQ's public IP address or domain), **Local Subnet**, **Peer Subnet** and **Pre-shared Key (need to be the same as HQ's key)**

Ruijie	Reyee > Ruijie [Master] Ø		English 🗸	DMACC 🗄 D	ownload Ap	op 🛯 Network Setu	p 🔍 Network Cheo	k 📺 Alarms 🕞 Exit
A Overview			1 100 10 100 100 100 100 100 100 100 10					
Online Clients	• EG105G	Ruijie Sf MAG	N: 1234567890123 IP Addi C: 00:D0:F8:11:11:11	ress: 172.18.158	.150			(U) Reboot
🖽 Gateway	Device Overview Basics ~	Edit			×	em ~		
ି Wireless 🌱	IPSec Security Policy IPSec C	Policy Type 🧧	Client O Server					
Switches	IPSec Security Policy	* Policy Name	IPSEC_VPN_1					0
-a- -a-Network ∽	Tip: If it is set to 192.168.110	* Peer Gateway	IP/Domain		+			Ö
	Policy List	Interface	Auto	~	0			+ Add
	Up to 1 entries can be added.							
	Policy Type Policy Nam	* Local Subnet	192.168.1.0/24			Subnet	Status	Action
	Server IPSEC_VPN_	* Peer Subnet	192.168.110.0/24		+	0.0.0/0	Enable ⊘	Edit Delete
		* Pre-shared	ruijie					
		Key						
		Status						
			1. Set IKE Policy					
			2. Connection Policy					
				Cancel	ОК			

5.3 Smart Flow Control

Reyee Smart Flow Control is a feature used to avoid congestion by optimizing user traffic. The working principle is shown as below: when the total user traffic is low than the maximum WAN bandwidth, the rate limit policy will not be applied, every user will get the required bandwidth; However, when the total user traffic exceeds the maximum WAN bandwidth, the user-based rate limit will take effect. The total WAN bandwidth will be equally allocated to every user. For example, If there are 10 users in the network, the total user traffic is 200Mbps and WAN bandwidth is 100Mbps, every user will get 10Mbps bandwidth after enabling the smart flow control feature.

Configuration Steps

Step 1: Choose Gateway \rightarrow Advanced \rightarrow Flow Control and enable the feature.



Step 2: Fill in the WAN bandwidth and Save the configuration.

Ruíjie	Reyee > Ruijie [Minitian] O MACCDownload App & Network Setup & Network Check	👸 Alarms 🕞 Exit
움Overview		
Online Clients	Optimizer Control (Control (Contro) (Contro) (Control (Control (Contro) (Control (Contro) (Contro)	(U) Reboot
A Gateway	Device Overview Basics ~ Security ~ Behavior ~ VPN ~ Advanced ~ Diagnostics ~ System ~	
ି Wireless 🗸 🗸	Smart Flow Control	
E Switches	Smart Flow Control	0
-a- -a- Network	Adjust the bandwidth allocated to each user according to the user count.	()
	Smart Flow Control	
	Smart Flow Control	
	If you want to test the WAN speed, please disable smart flow control first.	
	WAN Bandwidth * Up 100 Mbps * Down 100 Mbps	
	Save	

5.4 Port Mapping

Application Scenario

A customer deploys a server on the LAN and enables the HTTP or other services. The server address is a private address. WAN users can neither access this address directly nor use services provided by the server. In this case, you can enable the port mapping function to allow WAN users to access the LAN server. For example, the server address is 192.168.1.20 and HTTP is enabled. As the server address is a private address, WAN users cannot directly access the HTTP service provided by the server. In this case, you can map the server address and server ports to a public network address on the EG device so that WAN users can access the HTTP service provided by the server.

Networking Requirements

- 1. The WAN line is a single 10 Mbps fixed line. The address is 122.133.2.22, subnet mask is 255.255.255.0, and DNS address is 218.85.157.99.
- There is a remote desktop server on the LAN. The IP address of the server is 192.168.1.20. If the LAN server needs to be accessed from the WAN, port mapping is required to map the interfaces of the LAN server to the public network. Network Topology



Configuration Steps

Step 1: Choose Gateway -> Advanced -> Port Mapping

Ruíjie	Reyee > Ruijie (Mastar) 0	sh 🧹 🔿 MACC 📑 Download App 🛕 Netwo	rk Setup 🔍 Network Check 📺 Alarms 🕞 Exit
움Overview		2 ID Address 172 18 158 150	
Online Clients	• EG105G MAC: 00:D0:F8:11:11	11 PAGGIESS. 172.18.150.150	(U) Reboot
A Gateway	Device Overview Basics \lor Security \lor Behavior \lor VPN \lor	Advanced ^ Diagnostics ~ System ~	
	Port Mapping NAT-DMZ	Routing	
Switches	i Port Mapping	Session Limit	?
-a- -a-Network ∨	Port Mapping List	Port Mapping Local DNS	+ Add 🗇 Delete Selected
	Up to 50 entries can be added.		
	Name Protocol External IP Address	External Port Internal IP Address	Internal Port Action
		No Data	
	Total 0 10/page \checkmark < 1 \Rightarrow Go to page 1		

Step 2: Add a new Policy

Ruijie	Reyee > Ruijie (Master) Ø		English 🗸 🛆 MAC		l App	Setup 🔍 Network	Check 👸 Alarms 🗗 Ex
2 Overview	Hastnamer	Puiiio SN - 123	24567890122 IP Addross: 1				
Online Clients	• EG105G	MAC: 00:	D0:F8:11:11:11	172.10.130.130			(U) Reboot
Gateway	Device Overview Basics ~ S	Add		×	stem ~		
	Port Mapping NAT-DMZ	* Name	HTTP	A			
A Switches	Port Mapping	Protocol	UDP	~			0
-®- -p- Network	Port Mapping List	External IP Address	Default: WAN IP address.			+ Add	The Delete Selected
	Up to 50 entries can be added.	* External Port/Range	80				
	Name	* Internal IP Address	192.168.1.20		al IP Address	Internal Port	Action
		* Internal Port/Range	80				
	Total 0 10/page 🗸 🤞		Cance	ОК			

Internal IP Address: Indicates the IP address of the server.

Internal Port/Range: Indicates the port for the server that is to provide external services.

External IP: Indicates the IP address of a WAN port.

External Port/Range: Indicates the target WAN service port of port mapping.

6 Reyee NBS Series Switch Configuration

6.1 VLAN Setting

A virtual LAN (VLAN) is any broadcast domain that is partitioned and isolated in a computer network at the data link layer. VLANs work by applying tags to network frames and handling these tags in networking systems – creating the appearance and functionality of network traffic that is physically on a single network but acts as if it is split between separate networks. In this way, VLANs can keep network applications separate despite being connected to the same physical network, and without requiring multiple sets of cabling and networking devices to be deployed.

Configuration Steps:





Step 2: Choose VLAN and Add a new VLAN

Rujje &Overview	Reyee > Ruijie 🕅	NBS3200- ABGTAYS-P MAC: 3	tujjie SN: G1PD4 IP Address: 192.168 0:0D:9E:53:0F:E1	9X00172B 8.110.192	(U) Reboot
Online Clients	<i>i</i> Switch Lise View switce	Home VLAN Monitor ~	Ports ~ Security ~ Advanced	✓ Diagnostics ✓ System ✓	
A Gateway	Switch List	VLAN List		+ Batch Add + Add	Delete Selected
☆Wireless	C Acti	Up to 4094 entries can be add	ed.(The default VLAN, management VLA	AN, native VLAN, svi Vlan and access VLAN	cannot be deleted.)
Switches	🔄 Mana	VLAN ID 🗢	Description	Port	Action
Network 🗸	🔲 Mana	1	VLAN0001	Gi1-2,Gi5-48,Te49-52,Ag1	Edit Delete
	Total 2 10/pag	Total 1 10/page 🗸 🤇	1 > Go to page 1		
		Port List			∠ Batch Edit
		-			
Ruíjie	Reyee > Ruijie 🚺				
2 Overview		Switch Hostname:	Ruijie SN: G1PD4	19X00172B	
	Switch Lie	NBS3200- 48GT4XS-P MAC: :	Ruijie SN: G1PD4 IP Address: 192.16 30:0D:9E:53:0F:E1	19X001728 18.110.192	(U) Reboot
Online Clients	Switch Lie View switc	Home VLAN Add	Ruijie SN: G1PD4 IP Address: 192.16 30:00:9E:53:0F:E1	19X001728 8.110.192 Discussion for the Contemport	(U) Reboot
Online Clients Gateway	Switch List	Home VLAN Add	Ruijie SN: G1PD4 IP Address: 192.16 30:0D:9E:53:0F:E1	19X001728 8.110.192	() Reboot × ete Selected
 ⊗ Online Clients 	Switch List	Home VLAN Add VLAN List Up to 4094	Ruijie SN: G1PD4 IP Address: 192.16 30:0D:9E:53:0F:E1	19X001728 16.110.192 Range: 1-4094	(U) Reboot × ete Selected jeleted.)
 Online Clients Gateway Wireless Switches Network 	Switch List	Home VLAN Add	Ruijie SN: G1PD4 IP Address: 192.16 30:0D:9E:53:0F:E1 VLAN ID: 10 scription: IT departmant	99X001728 8.110.192 Range: 1-4094 Max: 32 characters.	(U) Reboot × ete Selected Jeleted.) pn
 Online Clients Gateway Wireless Switches Network 	Switch List Switch List Activ Mana Mana	Home VLAN Add	Ruijie SN: G1PD4 IP Address: 192.16 30:0D:9E:53:0F:E1 VLAN ID: 10 scription: IT departmant	INFORMATION INFORMATIO A ANTA ANTI ANTI ANTI ANTI ANTI ANTI ANT	C Reboot
 Online Clients Gateway Wireless Switches Network 	Switch List Switch List Switch List Action Mana Mana Total 2 10/paç	NBS3200- 48GT4XS-P MAC: Home VLAM Add VLAN List Up to 4094 Des Total 1 10/page V V	1 Go to page 1	192001728 6.110.192 Range: 1-4094 Max: 32 characters. Cancel OK	C Reboot
 Online Clients Gateway Wireless Switches Network 	Switch Lis View switc Switch List Activ Mana Mana Total 2 10/pac	NBS3200- 48GT4XS-P MAC: : Home VLAM Add VLAN List Up to 4094 Des Total 1 10/page S	Ruijie SN: G1PD4 IP Address: 192.16 30:0D:9E:53:0F:E1 VLAN ID: 10 Scription: IT departmant 1 Go to page	99X001728 8.110.192 Diamatic Marce Database Range: 1-4094 Max: 32 characters.	(*) Reboot × ete Selected jeleted.) on)elete 2. Batch Edit

Step 3: Assign the new VLAN to ports.

Reyee Series Implementation Cookbook

Ruíjie	Reyee 🤇 Ruijie р	Switch	Hostname: Ruijie	SN: G1PD4 IP Address: 192.16	19X00172B 8.110.192		(U) Reboot
A Overview	Switch Lie	48GT4XS-P	MAC: 30:0D:9E:53:	OF:E1			
Online Clients	View switc	Home VLAN	Monitor ~ Ports ~	Security ~ Advanced	✓ Diagnostics ✓	System ~	
🕮 Gateway	Switch List	VLAN List			+ Batch Add	+ Add	Delete Selected
	C Actio	Up to 4094 en	tries can be added.(<mark>The de</mark>	fault VLAN, management VL	AN, native VLAN, svi VI	an and access VLAN c	annot be deleted.)
Switches	🔲 Mana		/LAN ID ≑	Description	Port		Action
-e- -e-Network ∽	📄 Mana		1	VLAN0001	Gi1-2,Gi5-48,Te4	49-52,Ag1	Edit Delete
	Total 2 10/pag		10	IT departmant			Edit Delete
		Total 2 10/pag	e ~ < 1 >	Go to page 1			
		Port List					🖉 Batch Edit
		Port	Port Mode	Access VLAN	Native VLAN	Permit VLAN	Action
		Gi1	ACCESS	1			Edit
		Gi2	ACCESS	1			Edit
		Gi3		N	lember port of Ag1.		
		Gi4		Iv	lember port of Ag1.		



6.2 Access Control List (ACL)

An access control list (ACL) is also referred to as firewall or packet filter in some documents. The ACL controls (permits or discards) data packets on a network device interface by defining ACEs (Access Control Entries).

Configuration Steps:

Step 1: Choose Switches \rightarrow Manage to configure the switch

Ruíjie	Reyee > Ruijie [Maater]	0		English 🗸		EDownload Ap	p 🔮 Network Setup 🔍 Network Cheo	k <u>m</u> iAlarms 🕞 Đ
움Overview	Switch List							
Online Clients	<i>View switches in t</i>	he current netwo	rk.					
🖽 Gateway	Switch List						Delete Offline Devices	Batch Upgrade
	Action	Hostname	IP Address	MAC	Status	Model	Software Ver	SN \$
Switches	Mapage	E\$226 A	192 168 110 224	00-00-68-20-00-00	Online	RG-	ESW/ 1.0/1)B1D2 Boloaco/07181012)	C1NW12E000207
-B- Notwork	Wanage	L3220 0_	152.100.110.221	00.00.10.20.33.33	Online	P	L3W_1.0(1)D112,Release(0/101013)	01111122000307
.a- Network	Manage	Ruijie 🖉	192.168.110.193	30:0D:9E:53:0F:E1	Online	NBS32 48GT4 P	SWITCH_3.0(1)B11P30,Release(07181111) ^{new)}	G1PD49X00172B
	Total 2 10/page 🗸	< 1	> Go to page	1				

ullet



RUIJE	Reyee > Ruijie	• NBS3200- 48GT4XS-P	SN: G1PD49X0 MAC: 30:0D:9E:5:	0172B IP Address: 192.168.110.193 3:0F:E1	(U) Reboot
Online Clients	<i>i</i> View switc	Home VLAN Monitor ~ Ports ~	Security ^ Advanced ~	Diagnostics ~ System ~	
🖽 Gateway	Switch List	ACL List ACL Binding	DHCP Snooping		
ି Wireless 🗸 🗸	Actio	ACL	ACL	+ Add	Delete Selected
Switches	Mana	Up to 512 entries can be added.	Port Protection		
 Network					
	Mana	ACL Name	ACL Type	Status	Action
	Total 2 10/pag		No Data		
	10/102	Total 0 10/page \checkmark < 1 >	Go to page 1		

Step 3: Click the "Add" button to add an ACL

Ruíjie	Reyee > Ruijie 🚺	Switch Hostname: Bu	iiia SN: G1PD/49Y	101728 IP Addrase: 192 168 110 193	
A Overview	Switch Lis	• NBS3200- 48GT4XS-P	MAC: 30:0D:9E:5	3:0F:E1	(U) Reboot
Online Clients	View switch	Home VLAN Monitor -	Ports ~ Security ~ Advanced ~	Diagnostics ~ System ~	
🕮 Gateway	Switch List	ACL List ACL Binding			
₩ireless	🗌 Actie	ACL		+ Add	Delete Selected
Switches	Mana	Up to 512 entries can be added.			
-e- -e- -e-Network ∽	Mana	ACL Name	ACL Type	Status	Action
	Total 2 10/pac		No Data		
		Total 0 10/page 🗸 🤇	Go to page 1		

Step 4: Fill in the ACL name and type to create an ACL

Ruijie	Reyee > Ruijie 🚺	Switch	Hostname: Pulija	SN- G10D/09/001738	IP Address: 102 168 110 102	
& Overview	Switch Lis	• NBS3200- 48GT4XS-P	Hostiane. Rujie	MAC: 30:0D:9E:53:0F:E1	TE Address. 192,100,110,195	(U) Reboot
Online Clients	View switch	Home VLAN	Monitor × – Ports ×	Cocurity X Advanced X Diagn	actice V Suctom V	
🖽 Gateway	Switch List	ACL List AC	Add			×
͡≎ Wireless 🌱	🗋 Actie	ACL	* ACL Name:	ACL10		elete Selected
Switches	🔲 Mana	Up to 512 er	ACL Type:	Based on MAC • Based on IP	Address	
-a- -a- Network	Mana					tion
					Cancel OK	
	Total 2 10/paç					
		Total 0 10/page	✓✓	Go to page 1		

Step 4: Click "Details" to configure the ACL rule.

CVerview A Overview Online Clients Gateway Nireless ✓ Switches	Reyee > Ruijie IV	Switch Hostnar Hostnar ACL List ACL	ne: Ruijie Y Ports Y <mark>Security</mark> Y	SN: G1PD49X001728 MAC: 30:0D:9E:53:0F:E1 Advanced \lor Diagn	IP Address: 192.168.110 ostics ~ System ~ + Add	1.193 (U) Reboot
*Network ·	Total 2 10/pag	Up to 512 entries can be a ACL Name ACL Name ACL10 Total 1 10/page >	ACL Ty Based on IP Go to page	rpe Address	Status	Action Details Edit Delete
Ruíie	Reyee > Ruijie (M		[ACL 10]Settings			×
 ↔ Overview ⊗ Online Clients ⊛ Gateway ☆ Wireless ☆ Switches ☆ Network ☆ 	Switch List Switch List Activ	Hostna Hostna Hostna Hostna Home VLAN Monitor ACL List ACL Binding ACL Up to 512 entries can be ACL X:	me: Ruiji ACL IP Protocol Number Src IP Address Dest IF	 ∷ Block ● Al r: ☑ All 192.168.10.0 (Address/Submask) 2: ☑ All Save 	low / 255.255.255.	0
	Total 2 10/pag	ACL Nam	e Existing ACL: (You No. Rule	u can click and drag the ACL	number to swap the ACL)	ontrol Action Type
Reyee Series Implementation Cookbook



Step 5: Bind the ACL to the interface.

Reyee Series Implementation Cookbook

Ruffe & Overview & Online Clients	Reyee > Ruijie () Switch Lis View switch	Switch • NBS3200- 48GT4XS-P Home VLAN	Hostname: Rui MAC: 30: I Monitor ~ I	ijie SN: G1PD49X IP Address: 192.168.1 0D:9E:53:0F:E1 Ports ~ Security ~ Advanced ~	00172B 10.193 Diagnostics ~ System ~	(U) Reboot
Cateway	Switch List	ACL List AC	L Binding ling e only filters incomir	ng packets.		
Network	Mana Mana	ACL Bindin	g		+ Batch Add	The Unbind Selected
	_		Port	MAC-based ACL	IP-based ACL	Action
	Total 2 10/paç		Gi1			Edit Unbind
	_		Gi2			Edit Unbind
			Gi3		Member port of Ag1.	
			Gi4		Member port of Ag1.	
			Gi5			Edit Unbind
			Gi6			Edit Unbind
			Gi7	~		Edit Unbind
			Gi8			Edit Unbind
			Gi9			Edit Unbind
			Gi10			Edit Unbind

Ruijie	Reyee > Ruijie M	Switch	Hostname: Ruijie	SN: G1PD49X0		
8 Overview	Switch Lis	• NBS3200- 48GT4XS-P	MAC: 30:0D:9E:5	IP Address: 192.168.11 3:0F:E1		() Reboot
Online Clients	View switcl	Home VLAN	Monitor V Porte V	Security Advanced X	Disquactice V System	· · · · · · · · · · · · · · · · · · ·
Gateway	Switch List	ACL List AC	Edit			×
	🗌 Actic	ACL Bind	MAC-based ACL:	No Data	\sim	
Switches	Mana	The devic	IP-based ACL:	ACL10	~	
-e- -e-Network		ACL Bindin				ind Selected
	Mana				Cancel	OK on
	Total 2 10/paç		Gi1			Edit Unbind
			Gi2			Edit Unbind
			Gi3		Member port of Ag1.	
			Gi4		Member port of Aq1.	

6.3 Port Isolation

Port isolation implements layer-2 isolation of packets. After port isolation is enabled (which is disabled by default), data cannot be forwarded between isolated ports.

Configuration Step:

Step 1: Choose **Switches** \rightarrow **Manage** to configure the switch

Ruíjie	Reyee > Ruijie [Master]	0		English 🗸		E Download App	💩 💩 Network Setup	୍ଦ୍ୱ Network Checl	د <u>ঈ</u> Alarms	🕞 Exi
A Overview	Switch List									
Online Clients	<i>i</i> View switches in t	the current netwo	rk.							
🖽 Gateway	Switch List						🗇 Delete Offli	ne Devices	Batch Upgrad	de
͡ ↔ Wireless	Action	Hostname	IP Address	MAC	Status	Model	Software Ve	er	SN \$	
Switches	Manage	ES226 Ø_	192.168.110.224	00:D0:F8:20:99:99	Online	RG- ES226 E P	SW_1.0(1)B1P2,Releas	e(07181013)	G1NW12E000	0307
-a-Network ~	Manage	Ruijie 🖉	192.168.110.193	30:0D:9E:53:0F:E1	Online	NBS32 48GT4 s P	WITCH_3.0(1)B11P30,Rele	ease(07181111), new	G1PD49X001	72B
	Total 2 10/page 🗸	< 1	> Go to page	1						

Step 2: Choose $\textbf{Security} \rightarrow \textbf{Port Protection}$ to configure the port isolation

Ruffe ³ Overview [®] Online Clients	Reyee > Ruijie () Switch Lis View switch	Switch Hostname: Ruijie • NB53200- 48GT4XS-P Home VLAN Monitor ~ Ports ~	SN: G1PD49X00172B IP Address: 192.168.110.193 MAC: 30:0D:9E:53:0F:E1 Security ^ Advanced ~ Diagnostics ~ System ~	(U) Reboot
Gateway	Switch List	<i>Port Protection</i> The protected ports are isolated from e	DHCP Snooping Storm Control	
The Wireless Switches	Actio	Port List	ACL Port Protection	🖉 Batch Edit
^{+a−} +a− +a− Network		Port	Action	
	Mana Mana	Gi1		
	Total 2 10/par	Gi2		
	10/12	Gi3	Member port of Ag1.	
		Gi4	Member port of Ag1.	
		Gi5		
		Gi6		
		Gi7		
		Gi8		
		Gi9		
		Gi10		
		Total 53 10/page \checkmark 1 2	3 4 5 6 → Go to page 1	

Step 3: Enable the Port Isolation on Ports.

Reyee Series Implementation Cookbook

Ruijie	Reyee > Ruijie 🚺	Switch Hardware D	• Operation succeeded.	
윩Overview	- Switch Lis	NBS3200- 48GT4XS-P	MAC: 30:0D:9E:53:0F:E1	(U) Reboot
Online Clients	<i>i</i> View switch	Home VLAN Monitor ~ Ports ~	Security ~ Advanced ~ Diagnostics ~ System ~	
Gateway	Switch List	Port Protection		
	Activ	The protected ports are isolated from e	each other.	
Switches	Mana	Port List		🖉 Batch Edit
-a- -a- Network ∽		Port	Action	
	Mana 🗌	Gi21		
	Total 2 10/pag	Gi22		
	Toypa	Gi23		
		Gi24		
		Gi25		
		Gi26		
		Gi27		
		Gi28		
		Gi29		
		Gi30		
		Total 53 10/page \checkmark 1 2	3 4 5 6 > Go to page 3	

6.4 DHCP Snooping

In the DHCP-enabled network, the general problem facing administrator is that some users use private IP addresses rather than dynamically obtaining IP addresses. As a result, some users using dynamic IP addresses cannot access the network, making network application more complex. In dynamic DHCP binding mode, the device records how legal users obtain IP addresses during the course of DHCP Snooping for security purpose.

Enabling DHCP Snooping helps filter DHCP packets. Only forwards DHCP request packets to the trusted port and DHCP response packets from the trusted port. The port connected to the DHCP server is configured as the trusted port generally

Configuration Steps

Step 1: Choose $\textbf{Switches} \rightarrow \textbf{Manage}$ to configure the switch

Ruíjie	Reyee > Ruijie [Mastor]	0		English 🗸		EDownload A	אסף 🛕 Network Setup 🔍 Network Checl	k <u> À</u> Alarms 🕞 Exit
윰Overview	Curitada Lint							
Online Clients	<i>i</i> View switches in t	he current netwo	rk.					
(TE) Gateway	Switch List						Delete Offline Devices	Batch Upgrade
ି Wireless ⊻	Action	Hostname	IP Address	MAC	Status	Model	Software Ver	SN \$
Switches	Manage	ES226 🖉	192.168.110.223	00:D0:F8:20:99:99	Online	RG- ES226 P	ESW_1.0(1)B1P2,Release(07181013)	G1NW12E00030
-a-Network	Manage	Ruijie	192.168.110.192	30:0D:9E:53:0F:E1	Offline	NBS32 48GT4 P	SWITCH_3.0(1)B11P30,Release(07181111)	G1PD49X00172E
	Total 2 10/page 🗸	< 1	> Go to page	1				

Step 2: Choose $\textbf{Security} \rightarrow \textbf{DHCP} \ \textbf{Snooping}$ to configure the DHCP snooping

Ruijie	Reyee > Ruijie 🕪	Switch Hostname: Ruijie SN: G1PD49X00172B IP Address: 192.168.110.193
움Overview	Switch Lis	• NBS3200- MAC: 30:0D:9E:53:0F:E1
Online Clients	View switc	Home VLAN Monitor - Ports - Security - Advanced - Diagnostics - System -
A Gateway	Switch List	DHCP Snooping
ି Wireless 🗸 🗸	🗌 Actio	Description: Enabling DHCP Snooping Storm Control and DHCP response packets from the tr Note: The port connected to the DHCP ACL ad port generally
Switches	Mana	Port Protection
-= -=- Network	Mana	DHCP snooping:
		Option 82:
	Total 2 10/pag	Select Trusted Port:
		1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51
		2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52
		Note: You can click and drag to select one or more ports. Select All Inverse Deselect
		Save



Reyee Series Implementation Cookbook

Ruffe & Overview & Online Clients	Reyee > Ruijie (in Switch Lis View switch	Switch Hostname: Ruijie SN: G1PD 49X001728 IP Address: 192.168.110.193 • NBS3200- 48GT4XS-P MAC: 30:0D:9E:53:0F:E1 IP Address: 192.168.110.193 Home VLAN Monitor ~ Ports ~ Security ~ Advanced ~ Diagnostics ~ System ~
Gateway	Switch List	DHCP Snooping
ଙ୍କ Wireless 🌱	Actio	 Description: Enabling DHCP Snooping helps filter DHCP packets. The device only forwards DHCP request packets to the trusted port and DHCP response packets from the trusted port. Note: The port connected to the DHCP server is configured as the trusted port generally.
Switches	🔲 Mana	DHCP Snooping:
	Mana	Option 82:
	Total 2 10/paç	Select Trusted Port:
		1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51
		2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52
		Note: You can click and drag to select one or more ports. Select All Inverse Deselect

6.5 Link Aggregation

Link aggregation is a technology to combine multiple network connections in parallel in order to increase throughput and provide redundancy in case one of the links should fail.



Configuration Steps

Ruíjie	Reyee > Ruijie [Master]	0		English 🗸	MACC	E Download Ap	pp କ୍ରୁ Network Setup ପ୍ର Network Chec	k 📺 Alarms 🕞 Exit
윰Overview	- Switch List							
Online Clients	<i>i</i> View switches in t	he current netwo	rk.					
🖽 Gateway	Switch List						Delete Offline Devices	Batch Upgrade
ି Wireless 🗸 🗸	Action	Hostname	IP Address	MAC	Status	Model	Software Ver	SN ≑
Switches	Manage	ES226 🖉	192.168.110.223	00:D0:F8:20:99:99	Online	RG- ES226 P	ESW_1.0(1)B1P2,Release(07181013)	G1NW12E00030
Network	Manage	Ruijie	192.168.110.192	30:0D:9E:53:0F:E1	Offline	NBS32 48GT4 S P	WITCH_3.0(1)B11P30,Release(07181111)	G1PD49X00172E
	Total 2 10/page 🖂	۲ (> Go to page	1				

Step 1: Choose $\textbf{Switches} \rightarrow \textbf{Manage}$ to configure the switch

Step 2: Choose Ports \rightarrow Aggregate Ports to configure the link aggregation

Ruíjie	Reyee > Ruijie 🚺	Switch Hostname: Ruijie SN: G1PD49X001728
[©] Overview	Switch Lis	• NB53200- 48GT4XS-P MAC: 30:0D:9E:53:0F:E1
Online Clients	View switc	Home VLAN Monitor V Ports Advanced Advanced Diagnostics System
🖽 Gateway	Switch List	Global Settings
	Activ	Aggregate Ports
Switches	Mana	Algorithm: Rate Limiting
😤 Network 👋	Mana	PoE MGMT IP
	Total 2 10/pag	Aggregate Port Settings
		Up to 16 aggregate ports can be added. An aggregate port contains up to 8 member ports.

Step 3: Fill in the aggregate port number and select the port member.

Ruijie	Reyee > Ruijie 🊺	Global Settings
8 Online Clients	Switch Lis View switch	Load Balance Src & Dest MAC ~ Algorithm:
🕮 Gateway	Switch List	Save
중 Wireless ×	Actio	Aggregate Port Settings
 Network	Mana	Up to 16 aggregate ports can be added. An aggregate port contains up to 8 member ports.
	Total 2 10/pag	Ag1 Delete Selected
		* Aggregate Port:
		* Select Member Ports
		1 3 5 7 9 11 13 11 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 5
		2 4 6 8 10 12 14 10 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 5
		Note: You can click and drag to select onder mode ports. Select All Inverse Deselect Save

6.6 Storm Control

When there are excessive broadcast, multicast or unknown unicast data flows in the LANs, the network speed decreases and packet transmission timeout greatly increases. This is called LAN storm, which may be caused by topology protocol execution errors or incorrect network configuration.

Users can perform storm control separately for the broadcast, multicast, and unknown unicast data flows. When the rate of broadcast, multicast, or unknown unicast packets received by the device port exceeds the specified rate, the number of packets allowed per second, or the number of kilobits allowed per second, the device transmits packets only at the specified rate, the number of packets allowed per second, or the number of kilobits allowed per second, and discards packets beyond the rate range, until the packet rate becomes normal, thereby avoiding flooded data from entering the LAN and causing a storm.

Configuration Steps

Step 1: Choose Switches \rightarrow Manage to configure the switch

Image: Clients Image	
Switch List Delete Offline Device	
Wireless IP Address MAC Status Model Software Ver	es Batch Upgrade
B switches RG-	SN \$
Manage ES226 ∠ 192.168.110.223 00:D0:F8:20:99:99 Online ES226 ESW_1.0(1)B1P2,Release(0718	1013) G1NW12E00030
The Network NBS32 Manage Ruijie 192.168.110.192 30:0D:9E:53:0F:E1 Offline 48GT4 SWITCH_3.0(1)B11P30,Release(07 P P	(181111) G1PD49X00172E
Total 2 10/page \sim < 1 \Rightarrow Go to page 1	

Step 2: Choose $\textbf{Security} \rightarrow \textbf{Storm Control},$ and click Batch Edit

Ruíjie	Reyee > Ruijie 🚺	Switch Hostname: Ruijie	SN: G1PD49X001728 IP Address: 192.168.110.193	
A Overview	Switch Lis	• NBS3200- 48GT4XS-P	MAC: 30:0D:9E:53:0F:E1	leboot
Online Clients	View switch	Home VLAN Monitor ~ Ports ~	Security ^ Advanced ~ Diagnostics ~ System ~	
🖽 Gateway	Switch List	Port List	DHCP Snooping	lected
₩ireless	Actio	Port Br	ACL Aulticast Unknown Unicast Action	
Switches	Mana		Port Protection No Data	
-o- -o- Network	Mana			
		Total 0 10/page \sim $<$ 1 $>$	Go to page 1	
	Total 2 10/pag			

Step 3: Fill in the threshold value and select the port

Reyee Series Implementation Cookbook



7 Reyee ES Series Switch Configuration

7.1 VLAN Setting

A virtual LAN (VLAN) is any broadcast domain that is partitioned and isolated in a computer network at the data link layer. VLANs work by applying tags to network frames and handling these tags in networking systems – creating the appearance and functionality of network traffic that is physically on a single network but acts as if it is split between separate networks. In this way, VLANs can keep network applications separate despite being connected to the same physical network, and without requiring multiple sets of cabling and networking devices to be deployed.

Configuration Steps:

Step 1: Choose Switches \rightarrow Manage to configure the switch



Step 2: Enable the VLAN settings (disabled by default)



Step 3: Add a VLAN member

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Step 3: Assign the new VLAN member to ports.



7.2 Port Isolation

Port isolation implements layer-2 isolation of packets. After port isolation is enabled (which is disabled by default), data can be forwarded only between uplink ports and downlink ports, and downlink ports cannot forward packets to each other.

Configuration Steps

Step 1: Choose Switches \rightarrow Manage to configure the switch

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A Overview	Switch List								
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-e- -s- Network	Manage	Ruijie	192.168.110.192	30:0D:9E:53:0F:E1	Offline	NBS32 48GT4 P	SWITCH_3.0(1)B11P30,	Release(07181111)	G1PD49X00172E
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Step 2: Choose $\textbf{Basic Settings} \rightarrow \textbf{Port Isolation}$ to enable the Port Isolation

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					Loop Protection Ø		
品 Overview	Switch List				Port Isolation ()		
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Network					DHCP Snooping Ø		>
			192.168.110.192	30:0D:9E:53:0	QoS Settings		
					Rate Limiting		>
	Total 2 10/page 🗸		> Go to page	1	Storm Control		>
					PoE Settings		
					PoE Settings		>

7.3 DHCP Snooping

In the DHCP-enabled network, the general problem facing administrator is that some users use private IP addresses rather than dynamically obtaining IP addresses. As a result, some users using dynamic IP addresses cannot access the network, making network application more complex. In dynamic DHCP binding mode, the device records how legal users obtain IP addresses during the course of DHCP Snooping for security purpose.

Enabling DHCP Snooping helps filter DHCP packets. Only forwards DHCP request packets to the trusted port and DHCP response packets from the trusted port. The port connected to the DHCP server is configured as the trusted port generally **Configuration Steps**

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움Overview	Switch List							
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Gateway	Switch List						Delete Offline Devices	Batch Upgrade
ି Wireless 🗸	Action	Hostname	IP Address	MAC	Status	Model	Software Ver	SN ≑
Switches	Manage	ES226 🖉	192.168.110.223	00:D0:F8:20:99:99	Online	RG- ES226 P	ESW_1.0(1)B1P2,Release(07181013)	G1NW12E00030
-a- -a-Network	Manage	Ruijie	192.168.110.192	30:0D:9E:53:0F:E1	Offline	NBS32 48GT4 P	SWITCH_3.0(1)B11P30,Release(07181111)	G1PD49X00172E
	Total 2 10/page 🗸	۲ (> Go to page	1				

Step 1: Choose Switches \rightarrow Manage to configure the switch

Step 2: Choose **Basic Settings** \rightarrow **DHCP Snooping**, and enable the setting.

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					Trusted Port: D phrase.	all_select	
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					Port 11	Port 12 Port 13	Port 14
					Port 15	Port 16 Port 17	Port 18
					Port 19	Port 20 Port 21	Port 22
					Port 23	Port 24 Port 25	Port 26
					Save		

Step 3: Select the trusted port and save the configuration

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a a overview	Switch List	Port Isolation ()	
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		Port Mirroring 🕲	>
↔ wireless	Action Hostname IP Address MAC	Static MAC @	>
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		Port 6 Port 7 Port 8	Port 9 Port 10
		Port 11 Port 12 Port 13	Port 14
		Port 15 Port 16 Port 17	Port 18
		Port 19 Port 20 Port 21	Port 22
		Port 23 Port 24 Port 25	Port 26
		Save	

7.4 Speed Rate Limit

Rate limiting feature is used to limit the transmit speed rate on a specific port.

Configuration Steps:

Step 1: Choose Switches \rightarrow Manage to configure the switch

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움Overview	- Switch List							
Online Clients	<i>i</i> View switches in t	the current networ	rk.					
🖽 Gateway	Switch List						Delete Offline Devices	Batch Upgrade
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Switches 🖉	Manage	ES226 🖉	192.168.110.223	00:D0:F8:20:99:99	Online	RG- ES226 P	ESW_1.0(1)B1P2,Release(07181013)	G1NW12E00030
-a- -a-Network ♥♥	Manage	Ruijie	192.168.110.192	30:0D:9E:53:0F:E1	Offline	NBS32 48GT4 P	SWITCH_3.0(1)B11P30,Release(07181111)	G1PD49X00172E
	Total 2 10/page 🗸	< 1	> Go to page	1				

Step 2: Choose **Basic Settings** \rightarrow **Rate Limiting**, and fill in the Port, Type, Status and Rate information.

Rume	Reyee > Ruijie Mission 0 English	움 System Info	Basic Settings	🛆 Upgrade
Reijie		Loop Protection 🕖		
and Overview	Switch List	Port Isolation ()		
Online Clients	View switches in the current network.	Port Settings		
🕮 Gateway	Switch List	Port Settings 🛛		>
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• Wireless	Action Hostname IP Address MAC	Static MAC 🕖		>
A Switches	☐ Manage ES226	Search by MAC		>
-e- -e- Network		DHCP Snooping Ø		>
	Manage Ruijie 192.168.110.192 30:0D:9E:53:0	QoS Settings		
		Rate Limiting		~
	Total 2 10/page < 1 > Go to page 1	* Port Select	Type All	~]
		Status Enable	V Rate 100	
		Save		
		Port Rx S	speed (Mbps) Tx Sp	peed (Mbps)
		1	No Limit M	No Limit
		2	No Limit	No Limit
		3	No Limit	No Limit
		4	No Limit	No Limit
		5	No Limit N	No Limit
		Storm Control		>
		PoE Settings		
		PoE Settings		>

7.5 Storm Control

When there are excessive broadcast, multicast or unknown unicast data flows in the LANs, the network speed decreases and packet transmission timeout greatly increases. This is called LAN storm, which may be caused by topology protocol execution errors or incorrect network configuration.

Users can perform storm control separately for the broadcast, multicast, and unknown unicast data flows. When the rate of broadcast, multicast, or unknown unicast packets received by the device port exceeds the specified rate, the number of packets allowed per second, or the number of kilobits allowed per second, the device transmits packets only at the specified rate, the number of packets allowed per second, or the number of kilobits allowed per second, and discards packets beyond the rate range, until the packet rate becomes normal, thereby avoiding flooded data from entering the LAN and causing a storm.

Configuration Steps:

Step 1: Choose Switches \rightarrow Manage to configure the switch

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Online Clients	View switches in th	e current networ	k.						
/ Gateway	Switch List						🖻 Delete Off	line Devices	Batch Upgrade
ି Wireless 🗸	Action	Hostname	IP Address	MAC	Status	Model	Software	Ver	SN ≑
Switches	Manage	ES226 🖉	192.168.110.223	00:D0:F8:20:99:99	Online	RG- ES226 P	ESW_1.0(1)B1P2,Rele	ease(07181013)	G1NW12E00030
Network	Manage	Ruijie	192.168.110.192	30:0D:9E:53:0F:E1	Offline	NBS32 48GT4 P	SWITCH_3.0(1)B11P30,F	Release(07181111)	G1PD49X00172E
т	Total 2 10/page \vee	< 1	Go to page	1					

Step 2: Choose **Basic Settings** \rightarrow **Rate Limiting**, and fill in the Port, Type, Status and Rate information.

Ruíie	Reyee > Ruijie (Moster) 🛛	English	윰 System In	fo 🕀	Basic Settings	🛆 Upgrade
ిం Overview	Switch List View switches in the current network.		Dire * Dest	t Port Select ~		
A Gateway	Switch List			Save		
	Action Hostname IP Address	MAC	Src Port	Directio	n Dest F	Port Action
Switches	☐ Manage ES226 ∉ 192.168.110.223	00:D0:F8:20:9	Static MAC @			
-an-Network	Manage Ruijie 192,168,110,192	30:0D:9E:53:0	Search by MAC	0		>
	Total 2 10/page V C 1 O Go to page 1		QoS Settings Rate Limiting	U		>
			Storm Control * Port Status	Port 1 × × ×	Type B Rate 1	roadcast V
			Port	Save Broadcast (Mbit/sec)	Unknown Unicast (Mbit/sec)	Unknown Multicast (Mbit/sec)
			1	Disable	Disable	Disable
			2	Disable	Disable	Disable
			3	Disable	Disable	Disable
			4	Disable	Disable	Disable

8 Reyee AP Configuration

8.1 Wi-Fi Setting

The Wi-Fi Settings module allows you to configure the Wi-Fi pomewaters.

Ruíjie	Reyee > Ruijie (Muster) • @MACC 🔁 Download App 🔅 Network Setup 🔍 Network Check 🛉	ក្នុ Alarms 🕞 Exit
응 Overview ⑧ Online Clients	WiFi Settings Guest WiFi WiFi List Healthy Mode Image: Tip: Changing configuration requires a reboot and will force online clients to go offline. Image: Tip: Changing configuration requires a reboot and will force online clients to go offline.	0
Cateway	WiFi Settings Device Group: Default	Ū
APs Clients WiFi	* SSID Reyee123	
Advanced LAN Ports	Encryption Open ~	
LED	Active Time All Time VLAN Default VLAN V	
-e- -e-Network	Hide SSID (The SSID is hidden and must be manually entered.)	
	SG Prior (The 5G-supported client will access 5G radio preferentially.)	
	XPress (The client will experience faster speed.) Layer-3 Roaming (The client will keep his IP address unchanged in this WiFi network.)	
	Save	

Device Group: Choose the AP group, the following setting will only be applied to the chosen group.

SSID: The Wi-Fi name which the APs broadcasted.

Frequency: Choose the radio which the following setting will be applied to. Both2.4GHz and 5GHz radio will be applied by default.

Encryption: Choose the encryption mode.

Active Time: Choose the time period that the Wi-Fi signal will be broadcasted.

VLAN: The VLAN number that the WIFI will be associated with.

Hide SSID: The SSID is hidden and must be manually entered.

Client Isolation: The client joining this Wi-Fi network will be isolated, which means the clients cannot be accessed by each other.

5G Prior: The 5G-supported client will access 5G radio preferentially.

Xpress: The QoS setting will be automatically applied to optimize the game experience.

8.2 Multiple SSID setting

In some scenario, multiple SSIDs are needed in the network.

Configuration Steps:

 $\texttt{Step1: Choose Wireless} \to \textbf{WiFi} \to \textbf{WiFi List}$

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Online Clients	ip: Changing configurati	on requires a reboot and will force	e online clients to go offline.				Ć	?)
🖽 Gateway		•						
	WIFI LISE Device Group:	Default					TAC	
APs	Up to 8 SSIDs can be added.	-						
WiFi	SSID	Frequency	Encryption	Hidden	VLAN ID	N Fail	Iction	
Advanced	Reyee125	2.40 + 30	OPEN	NO	Default VLA	IN EGI	Delete	
LAN Ports								
LED								
Switches								
Network Y								

Step 2: Choose a Device Group and click the "Add" button

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움 Overview	WiEi Sottings Guast WiEi	WiEi List Healthy Mode						
(8) Online Clients	Wirrsettings Guest Wirr							
🖽 Gateway	<i>i</i> Tip: Changing configuratio	n requires a reboot and will force o	nline clients to go offline.				(?)
? Wireless ∧	WiFi List Device Group:	Default					+ Ac	d
APs	Up to <mark>8</mark> SSIDs can be added.	Default						
Clients	SSID	test	Encryption	Hidden	VLAN ID	A	ction	
WiFi	Reyee123	2.4G + 5G	OPEN	No	Default VLA	N Edit	Delete	
Advanced								
LAN Ports								
LED								
E Switches								
$^{-\alpha-}_{-\alpha-}$ Network $^{\vee}$								

Step 3: Fill in the SSID name WiFi related settings

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² Overview	WiFi Settings Guest WiFi	WiFi List Health	/ Mode					
⊗ Online Clients	<i>i</i> Tip: Changing configur	Add			×			0
Gateway	WiFi List Device Grou	<i>i</i> The configuration EAP.	n will take effect after	being delivered to				+ Add
APs	Up to 8 SSIDs can be add	* SSID	<u>SSID2</u>	<u>۱</u>				
Clients	SSID	Frequency	2.4G + 5G	\sim		VLAN ID		Action
WiFi Advanced	Reyee123	Encryption	Open	~		Default VLA	N Ed	it Delete
LAN Ports			Collapse					
LED		Active Time	All Time	\sim				
Switches		VLAN	Default VLAN	~				
ENetwork Y		Hide SSID	(The SSID is hid	den and must be manua	ally			

8.3 AP Group

Reyee APs can be divided into different AP groups with different WiFi settings

Configuration Steps

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움Overview		
@ Online Clients	() AP List)
∰ Gateway	AP List Group: All Groups Expand Advanced Search List Filter Batch Action ~	
	Action Hostname	S
APs Clients	Manage Ruijie 192.168.110.203 30:0D:9E:0C:1F:0A Online RAP120 0(E) 1 AP_3.0(1)B11P26,Release(07172301) CA	NL(
WiFi	Total 1 10/name \checkmark \langle 1 \rightarrow Go to page 1	
Advanced		
LAN Ports		
LED		
Switches		
-=- -=- Network		

Step 1: Choose Wireless \rightarrow AP and click the "Expand" button

Step 2: Click the "+" button to add an AP group

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용 Overview	i AP List							0
f Gateway	AP List		Group: All Groups	Collapse Ad	vanced Search	List	Filter	Batch Action V
	Search by Group *	Group Group 1	IP Address \$	MAC \$	Status	Model ¢	Clients	Softwa
APs Clients	Default 🖉 💼	OK Cancel	192.168.110.203	30:0D:9E:0C:1F:0A	Online	RAP120 0(E)	1	AP_3.0(1)B11P26,R
WiFi	Total 1	10/page 🗸 🤇	1 > Go to page	1				
LAN Ports								
LED								
Network								

Step 3: Move the AP to the new group

Ruíjie	Reyee > Ruijie [Master] 0	English 🗸 🛆	MACC 🔁 Download App	ବ୍ଧ Network Setup 🔍	Network Che	eck 👸 Alarms 🕞 Exit
යි Overview ⑧ Online Clients	i AP List					0
/ Gateway	AP List	Group: All Group	s Collapse Advan	nced Search List	t Filter	Batch Action V
	Search by Group	Action Hostname	\$ MAC \$	Status 🔶	Clients	Upgrade Device Delete Device
APs Clients	Default 🖉 💼	Manage Ruijie 192.168.110	.203 30:0D:9E:0C:1F:0A	Online RAP120 0(E)	1	Change Group
WiFi		Total 1 10/page \vee (1 \rightarrow Go to page	age 1			
LAN Ports						
LED						
Rufile	Reyee > Ruijie [Master] 🕖	English 🗸 🙆		ର୍ଭ Network Setup ାର୍		eck 👸 Alarms 🕞 Exi
RUIJIE	Reyee > Ruijie (Manter) @	English v	MACC 🗄 Download App	♠ Network Setup Q	Network Ch	eck <u>m</u> i Alarms []→ Exi
IRUIJIE Image: State of the state of t	Reyee > _{Ruijie} (Maxwe) 0	English V	MACC Download App	الله Network Setup	Network Ch	eck <u>m</u> Alarms ⊡Exi
Contine Clients Gateway Wireless	Reyee > Ruijie (Maakar) 0	Change Group	MACC Download App	A Network Setup	, Network Ch	eck <u>m</u> Alarms 🗗 Ext
Coverview Contine Clients Coverview Cove	Reyee > Ruijie (Maxwell © AP List AP List Search by Group All Groups H Default I I I I I I I I I I I I I I I I I I	English ~ C Change Group Select Group Group 1	MACC Download App X Adva	Network Setup Network Setup Network Setup Status Status RAP120	Network Ch	eck <u>m</u> Alarms ⊖Ext ② Batch Action ~ Softwa
Clients	Reyee > Ruijie (Massier) 0	Change Group Select Group Group 1 OK	MACC Download App X Adva Cancel	♦ Network Setup A network Setup Inced Search Lis Status Model ♦ Online RAP120 0(F)	, Network Ch at Filter Clients 1	eck <u>M</u> Alarms ⊖Ext ② Batch Action ~ Softwa AP_3.0(1)B11P26,R
Clients WiFi Advanced	Reyee > Ruijie (Monokar) 0 AP List AP List Search by Group All Groups Group 1 2 1 1 1 1 1 1 1 1	Change Group Select Group Group 1 OK Total 1 10/page × < 1 > Go to p	MACC Download App X Adva Cancel age 1	♦ Network Setup <td>t Filter Clients</td> <td>eck MArms ⊋Ext ② Batch Action ∨ Softwa AP_3.0(1)B11P26,R</td>	t Filter Clients	eck MArms ⊋Ext ② Batch Action ∨ Softwa AP_3.0(1)B11P26,R
Clients WiFi Advanced LAN Ports LED	Reyee > Ruijie (Monoran) 0	Change Group Select Group Group 1 OK Total 1 10/page V C 1 > Go to p	MACC Download App X Adva Cancel 1 1 1 1 1 1 1 1 1	♦ Network Setup Inced Search Lis Status Model Online RAP120 O(E)	, Network Ch at Filter Clients 1	eck <u>M</u> Alarms ⊖Ext ② Batch Action ~ Softwa AP_3.0(1)B11P26,R
Correction Correction Solution Correction Correction Correction APs Correction Correction Correction AVA Correction AVA Correction Advanced Correction LAN Ports Correction LED Switches	Reyee > Ruijie (Monoran) ©	Change Group Select Group Group 1 OK Total 1 10/page < 1 > Go to p	MACC Download App X Adva Cancel 1F:0A age 1	♦ Network Setup Anced Search List Status Model ♦ Online RAP120 Ø(E)	, Network Ch et Filter Clients	eck Marms ⊋Ext ② Batch Action → Softwa AP_3.0(1)B11P26,R

8.4 Blacklist/Whitelist

The Blacklist/Whitelist module allows you to configure client blacklist and whitelist.

Blacklist: the devices are added into blacklist will not be able to access the network

Whitelist: only the devices in the whitelist are allowed to access the network

The blacklist and whitelist take effect based on the whole network based or SSID based blacklist/whitelist are not supported.

Configuration Steps

Step 1: Choose Wireless \rightarrow Clients \rightarrow Blacklist/Whitelist

Ruíjie	Reyee > Ruijie [Master] 0	English 🗸 🛆 MACC 🔂 Download App	아 🗛 Network Setup 🔍 Network Check 👸 Alarms I
용 Overview	Clients Blacklist/Whitelist		
Online Clients	Riskligt Mode Whitelift Mode		
🖽 Gateway	DIACKIIST MIQUE WHITEHST MIQUE		
	III STAs except blacklisted STAs are allowed to access	: WiFi.	0
APs	Blacklist		+ Add 🗇 Delete Selected
Clients	Up to 30 members can be added.		
WiFi	MAC	Remark	Action
Advanced		No Data	
LAN Ports			
Switches			
-®= Natural			
-a- Network			

Step 2: Click the "Add" button to add the client's MAC address

Ruijie	Reyee > Ruijie (Master) 🕖	English 🗸 🛆 MACC 🗄 Download App	출 Network Setup 🔍 Network Check 👸 Alarms 📑 Exi
a ^c aOverview	Clients Blacklist/Whitelist		
Online Clients	Blacklist Mode	×	
A Gateway	All STAs except black		0
		* MAC AA:BB:CC:DD:11:22	
APs	Blacklist	Remark	Add Delete Selected
WiFi	Up to 30 members can be a		
Advanced	-	Cancel OK	Action
LAN Ports	-	NO Data	
LED			
Switches			
-o- -o-Network			

8.5 Turn on/off LED indicator

The LED indicators on APs could be turned on/off according to the actual requirement.

Configuration Steps:

Choose $\textbf{Wireless} \rightarrow \textbf{LED},$ and turn on/off the LED setting.

Ruíjie	Reyee > Ruijie (Waster) 🕖	English 🗸	☐ MACC	Download App	le Network Setup	ଷ୍ଟ Network Check	<u>ന്</u> റ്റ് Alarms	🕞 Exit
움Overview	LED Status Control							
Online Clients	Control the LED status of the downlink AP.							
🕮 Gateway	LED							
	Save							
APs								
Clients								
WiFi								
Advanced								
LAN Ports								
LED								
 Network								

9 EST Series Configuration

9.1 Basic Setting

The devices are paired by default and can be used without requiring any configurations.

Change the Admin password

Ruijie	[®] Rcycc =			English \vee VCR (AP) 🖉 Pair Again 🧆 Lo
습 Overview	• Alarm			
💮 LAN	Configuration is un Hostname Not Set: 2. Configuration is uni	itialized.		×
🛞 Wireless 🛛 👋	Admin Password Not S Admin Password Not S Country/Region: China Country/Region: China	t: 2 . Click <u>here</u> to change the password. CN) @		
🏷 Diagnostics 🗠	Time Zone: (GMT+8:0) Time Zone: (GMT+8:00	Asia/Shanghai 🕲		
🔀 System Tools 🛛 🗸	WDS Group Info WDS Groups 1			X Password K IP Allocation K SSID
	WDS Group1			
	AP: 1. (Ruijie)	Channel :52	Latency (): Fluent(1) Jitter(0) Freeze(0) Bandwidth (): Good(1) Medium(0)	Poor(0)
	CPE: 1 . (Online: 1 , Offline: 0)	WDS SSID :@Ruijie-wds-a4cc	Interference (D. Good(1) Medium(0) Poor(0) RSSI (D. Good(1) Medium(0) Poor(0)	
			Strong Signal: Medium Signal: Poor Signal:	
	୦ VCR (AP)			◇ Camera (CPE)
	Ruijie <u>2</u> MAC: 30.00.9e.07.a4.cc ESTR0 IP: 172.26.4.155 Online		Latency Zms Rate → 400Mbps Plow → 62.38/bpt RS31-39db ← 360Mbps Plow ← 6.56/kps Uptme 01Min4/2Sec	- Contraction Con

Password			×
* Password	•••••	\odot	
* Confirm Password	•••••	\odot	
	Save		
E.			

Change the country code. Note: After you change the region, all WDS links will be off. If the specified region does not support the channel settings, the auto channel will be used instead.

Ruijie	Reyce ≡	English \vee VCR (AP) 🖉 Pair Again 🗢 Log
습 Overview	• • • • • • • • • • • • • • • • • • •	
💮 LAN	Configuration is un Hostrame Not Set 2 Configuration is uninitialized.	×
[™] Wireless ✓	Admin Password Not S Admin Password Not Set 1. Click here to change the password. Country/Region: China Country/Region: China (CN)	
Vy Diagnostics	Time Zone: (GMT+8:0) Time Zone: (GMT+6:00)Asia/Shanghai •	
ightarrow System Tools $ ightarrow$	WDS Group Info WDS Groups 1	X Password 🕘 🕴 X IP Allocation 🕘 🕴 X SSID 🔍
	,	
Ruíjie	[®] Rcycc ∈	English \vee VCR (AP) 🖉 Pair Again 🗢 Log Out
☐ Overview	Region After you channe the region, all WDS links will be off. If the specified region does not support the channel settings, the auto channel will be used instead.	
ô LAN	Country/Region	
	Country/Region	
් Region	Singapore (SG) Republic of Korea (KR)	
𝔅 Diagnostics ∨	Indonesia (ID) Hono Kono (HK)	
$ ightarrow$ System Tools $\ ^{\vee}$	Macau (MO)	
	Thalland (TH) Baketon (BK)	

Change the Time Zone and NTP server

Ruijie	Reyce	Œ			English 🗸 VCF	(AP) 🖉 Pa	air Again	tog €
	• Alarm							~
LAN	Configuration is Hostname Not Set	uninitialized.						
™ Wireless ✓	Country/Region: C Time Zone <mark>: (GMT</mark> +	hina (CN) 🛿 8:00)Asia/Shanghai 🖗						
Vy Diagnostics 🗸 🗸	WDS Group Info	WDS Groups 1			X Password 🛛 🗴 IP All	cation 🔞	X SSID @	
Svstem Tools	着 Rcycc	Œ			English 🗸	VCR (AP)	🖉 Pair Agai	n to Le
☆ Overview	Time Configure and view	v time (The device has no RT(; module. The ti	ettings will not be saved upon reboot).				(?
💮 LAN	Current Time	2020-11-17 15:04:16	it					
C Diagnostics	* Time Zone	(GMT+8:00)Asia/Shangh	ai v					
System Tools	NTP Selver	1.cn.pool.ntp.org	Delete					
☆ Management		cn.pool.ntp.org	Delete					
☆ Update ☆ Reboot		pool.ntp.org asia.pool.ntp.org	Delete Delete					
		europe.pool.ntp.org	Delete					
		rdate.darkorb.net	Delete					

9.2 Devices status monitor

The status of EST310 is shown on overwiew, including channel, WDS SSID, latency, bandwidth, interference, RSSI, link signal, Rate, Flow and online status.

Ruíjie	[≜] Rcycc ≔			English \vee	VCR (AP) 🖉 Pair Again	🗢 Log Ou
습 Overview	Alarm					~
② LAN	Configuration is uninitialized.					
ର Wireless · ·	Hostname Not Set: 2 . Country/Region: China (CN) Time Zone: (GMT+8:00)Asia/Shanghai					
𝔇 Diagnostics ∨]
🖁 💥 System Tools 🛛 🗸	WDS Group Info WDS Groups : 1			X Password 🕑	X IP Allocation 🕘 🛛 X SSID	9
	di WDS Group1					
	AP: 1 . (Ruijie)	Channel :52	Latency : Fluent(1) Jitter(0) Freeze(0) Bandwidth : Good(1) Medium(0) Po	ır(0)		\sim
	CPE: 1 . (Online: 1 , Offline: 0)	WDS SSID :@Ruijie-wds-a4cc	Interference : Good(1) Medium(0) Poor(0) RSSI : Good(1) Medium(0) Poor(0)			
			Strong Signal: — Medium Signal: — Poor Signal: —			
	◇ VCR (AP)		4	Camera (CPE)		
	Ruijie @ ~ MAC: 30.0d;9e:07:a4:cc E513300 IP: 172:26:4.155		Latency tms Rate → 400Mbps Flow → 6.75Kbps RSSI-40db ← 5.07Kbps Uptime 13Min298ec	Ruijie 2 MAC: 30:0d:9 EST310 IP: 172.26.4.1	 ▶ 16 ☺ ∨ be:07:a9:88 157 Online 	

Show more details for the EST310



Click the LAN to edit the LAN configuration

Ruíjie	[®] Rcycc ≡			English VCR (AP) Z Pair Again D Log Out
습 Overview	• Alarm			Device: Group 1 / CPE / Ruijie Select a device to view its details)
② LAN	Configuration is uninitialized. Hostname Not Set: 2	LAN	×	Setup: LAN WDS Reboot
℅ Wireless ✓	Country/Region: China (CN) Time Zone: (GMT+8:00)Asia/Shanghai	IP Assignment DHCP V		WDS SSID: Ruijie 2
 ♀ Diagnostics ✓ ♀ System Tools 	WDS Group Info WDS Groups 1	DHCP does not require an account.		Met Status Connected Model: EST310 SYS SN: CANAZ7V002980 Softwarf Ver AP. 30(105926 Release(0210111)
	WDS Group1	IP Address 172.26.4.157		Hardware Ver:: 1.00 MAC : 30:0d:9e:07:a9:88
	AP 1. (Ruijie) Channel 4 CPE 1. (Online: 1., Offline: 0) WD5 SSID	Subnet Mask 255 252 0	Bandwidth ©: Good(1) RSSI 0: Good(1) Mediu	IP Address: 172 26.4 157 Subnet Mask: 255 255 252.0
	◇ VCR (AP)	DNC Server 102.169.58.04		LAN0; Disconnected
	Ruijie 2 0 ~ MAC: 30.0d 9e 07.44 cc ESSED IP: 472.26.4.155 Online	192.168.58.110 Submit	s2Kbps RSSI-40db t0Kbps Uptime 14Min3	Note Floor/Utilization104 dBm / 3% Distance : 1000M Channel :52 Transmit Power: 270Bm Channel Kith : 40MHz Channel :58G

Click the AP's WDS to edit the WDS configuration

Ruíjie	[®] Rcycc ⁼			English \vee Camera (CPE) & Pair Again 🗢 Log Out
C Overview	WDS Group Info WDS Groups : 1			Device: Group 1 / AP / AP V (Select a device to view its details)
(i) LAN		WDS	×	Setup: LAN WDS Rebool
🛞 Wireless 🛛 👋	AP: 1. (AP) Channel :		Bandwidth 0: Good(2)	WDS SSID: AP 2
𝔥 Diagnostics →	CPE: 2 . (Online: 2 , Offline: 0) WDS \$510	Channel & Transmit Power	RSSI (0: Good(2) Mediu	Uptime: 7Day20Hr22Min25Sec
💥 System Tools 🛛 🗠	◇ VCR (AP)	Channel Auto ~		SYS SN: CANA27K001708
		Channel Width 40MHz ~	RSSI -44db Uptime 1Day01Hr11Min3;	MAC: 30:0d:9e:07:a4:cc
	EST310 IP: 192.168.110.151 Online	Transmit Power Auto ~	RSSI -46db	IP Address: 192.168.110.151 Subnet Mask: 255.255.0
		Distance 1KM V	Uptime 1Day01Hr11Min1-	LAN LANO: 100baseT/Full-Duplex
		Save		Noise Floor/Utilization: -101 dBm / 1% Distance: 1000M Channel: 116 Transmit Power: 27dBm Wi-Fi Channel Width: -

For the CPE, only show the WDS configuration and can't edit



Ruíjie	[≜] Rcycc ≔	English \vee VCR (AP) 🖉 Pair Again 🗢 Log C
습 Overview	Alarm	Device: Group 1 / CPE / Ruijie
(i) LAN	Configuration is uninitialized.	Setup: LAN WDS Reboot
n Wireless 🗸 🗸	Country/Region: China (CN) ● Time Zone: (GMT+8:00)Asia/Shanghai ●	Uock Status: Locked
😵 Diagnostics 🛛 🗸		Uptime: 17Min10Sec
💥 System Tools 🛛 👋	WDS Group Info WDS Groups: 1	SYS SN: CANA27V002980 Software Ver; AP 3.0(1)B2P28.Release(07210111)
	WDS Group1	Hardware Ver: 1.00 MAC: 30:0d:9e:07:a9:88
	AP:1. (Ruijie) Channel:52 eeze(0) Bandwidth @: Good(1) ×	
	CPE: 1 (Online: 1, Offline: 0) WDS SSID @Ruge-wids-on OK SSID @Ruge-wids-on Cancel OK Signal: —	IP Address: 172 26 4.157 Subnet Mask: 255 255 252 0 LAN LANO. Disconnected
	◇ VCR (AP)	
	Ruijie 2 ○ △ 400Mbps Flow → 6.99K0ps RSSI-404b MAC: 30.0d.9c.07.a3.cc 5.55Kbps Uptime 15Min 12 E3333 IP: 172.26.4.155 Online <	Noise Floor/Utilization : -104 dBm / 6% Distance : 1000M Channel : 52 Wi-Fl Wi-Fl Channel Width : 40MHz R \$51 : -400b B and : 536

9.3 LAN setting

Ruíje | ≋Rcycc = English \vee Camera (CPE) 🖉 Pair Again 🗢 Log Out ☆ Overview Configure LAN settings ? (2) LAN IP Assignment DHCP 3 Wireless DHCP 𝔥 Diagnostics Static IP Address IP Address 192.168.110.164 💥 System Tools 🛛 🗸 Subnet Mask 255,255,255.0 Gateway 192.168.110.1 DNS Server 192.168.110.1

Change LAN settings, support DHCP and Static IP Address, default is DHCP

9.4 Wireless Setting

WDS SSID configuration, only support change the SSID and the default encryption mode is WPA/WPA2-PSK

Ruíjie	[≜] Rcycc	Œ	
습 Overview	<i>WDSVCR (AP)</i> Configure WDS para	imeters.	
လို့ LAN	WDS		
🗟 Wireless 🔷	* WDS SSID	@Ruijie-wds-a4cc	Scan
☆ WDS		Paua	
☆ Region		Save	
🖓 Diagnostics 🗸 🗸	Channel & Transr	nit Power	
💥 System Tools 🗠	5G Channel	Auto ~	⊟ Interference
	Channel Width	40MHz ~	
	Transmit Power	Auto ~	
	Distance	1KM ~	
	2.5141100		
		Save	

Choose Channel & Transmit Power \rightarrow 5G Channel, change the channel

Click the interference, will show the analysis of 5G channel and click to select a channel you want

Ruíjie	l ≋Rcycc ⊑
	WDSVCR (AP) Configure WDS parameters.
贷 LAN	WDS
중 Wireless ^	* WDS SSID @Ruijie-wds-a4cc Scan
☆ Region	Save RFI Strength 1000
𝔥 Diagnostics ∨	Channel & Transmit Power
💥 System Tools 🛛 🗸	5G Channel 56 (5.28Ghz) ✓ 🗎 Interference
	Channel Width 40MHz · 200 - Lowest
	Transmit Power Auto ~
	Distance 1KM V Image: Channel 30 40 44 48 52 50 60 64 149 153 157 101 RFI Count 6 5 4 2 1 2 0 1 8 4 16 3 Tip : Click to select a channel. Tip : Click to select a channel.
	Save

Choose Channel & Transmit Power \rightarrow Channel Width, change the band width Default is 40MHz, EST310 LAN only support 100M, so 40MHz is enough



Choose Channel & Transmit Power \rightarrow Transmit Power, change the power

	Ruíjie	∣ ≋Rcycc	Œ	
	습 Overview	<i>WDSVCR (AP)</i> Configure WDS para	ameters.	
	{ဂ္ဂ်} LAN	WDS		
	🙃 Wireless 🔷 🗠	* WDS SSID	@Ruijie-wds-a4cc	Scan
	☆ WDS		Save	
	☆ Region		3000	
)	Ve Diagnostics V	Channel & Transr	nit Power	
	X System Tools V	5G Channel	56 (5.28Ghz) ~	⊟ Interference
		Channel Width	40MHz ~	
		Transmit Power	Auto ^	
		Distance	Auto	
			Low Medium	
			High	

Choose Channel & Transmit Power \rightarrow Distance, change the distance

Note: The distance does not refer to the actual physical distance. For example, if there are obstructions at a distance of 1KM, the performance requirements can be met by increasing the distance to 2KM

Ruíjie	Reyce		
	<i>WDSVCR (AP)</i> Configure WDS para	ameters.	
िं LAN	WDS		
Reverses A	* WDS SSID	@Ruijie-wds-a4cc	Scan
값 WDS		Save	
🏷 Diagnostics 🗸 🗸			
🔀 System Tools 🛛 🗸	Channel & Transr	nit Power	
	5G Channel	56 (5.28Ghz) ~	Interference
	Channel Width	40MHz V	
	Transmit Power	Auto ~	
	Distance	1KM ^	
		1KM	
		2KM	

9.5 System Setting

Choose System Tools $\rightarrow \mbox{Time},$ change the time and NTP server
Ruíjie	[∉] Rcycc ^Ξ	English	VCR (AP) & Pair Again	tog Out ⊅
습 Overview	Time Configure and view time (The device has no RTC module. The time settings will not be saved upon reboot).			?
(i) LAN	Current Time 2020-11-17 16:49:15 Edit			
🗟 Wireless 🗸 🗸	* Time Zone (GMT+8:00)Asia/Shanghai \checkmark			
𝔥 Diagnostics ∨	* NTP Server Add			
💥 System Tools 🗠	Save			
☆ Time				
☆ Update				
☆ Reboot				



 $Choose \ \textbf{System Tools} \rightarrow \textbf{Management}, \ support \ backup \ and \ import \ setup, \ reset \ the \ device \ and \ set \ the \ session \ timeout$



English V VCR (AP) & Pair Again 5 Log Out	≋Rcycc ≞	т гијје
	Backup & Import Reset Session Timeout	습 Overview
(\mathfrak{I})	Reset Resetting the device will clear the current configuration. If you want to keep the configuration, please Export Setup first.	绞 LAN
	Reset	R Wireless
		♀ Diagnostics ∨
		💥 System Tools 🔷 ^
		☆ Time
		☆ Management
		☆ Update
		් Reboot



Choose System Tools \rightarrow Upgrade, support online upgrade, local upgrade and update all the devices in the network

Rujie	Second s	English	VCR (AP) 🖉 Pair Again	tog Out 5 €
습 Overview	Online Update Local Update All Devices			
🔅 LAN	Online Update Online update will keep the current configuration. Please do not refresh the page or close the browser. You will be redirected to the login page automatically after update.			
🛞 Wireless 🗸 🗸	Current Version AP_3.0(1)B2P28,Release(07210111) (Your version is the latest.)			
𝔅 Diagnostics ∨				
🔀 System Tools 🔷 🗠				
☆ Time				
습 Management				
☆ Update				
☆ Reboot				



Choose System Tools → Reboot to reboot the device



9.6 PTMP setting

Access to the device, if the device mode is AP, need to switch to CPE mode



Access to the device, if the mode is CPE, no need to switch mode

Ruijie	^煮 Rcycc ≡	English \vee Camera (CPE) 🖉 Pair Again	🕁 Log Ou
습 Overview	Alarm		~
② LAN	Configuration is uninitialized, Hostname Not Set: 1. •		
🗟 Wireless 🗸 🗸	Admin Password Not Set: 1. Click here to change the password. Country/Region: China (CN) I		
🏷 Diagnostics 🗸	Time Zone: (GMT+6:00)Asia/Shanghal 🛛		
💥 System Tools 🛛 👋	WDS Group Info WDS Groups : 1	X Password I X IP Allocation I X SSID I	
	WDS Group1		
	AP. 0. () Channel CPE. 1. (Online: 0, Offline: 1) WDS SSID :-		~
	Strong Signat: — Poor Signat: —		
	◊ VCR (AP)	Camera (CPE)	
	No Device Available	Ruijie Image: Constraint of the second	

Choose Wireless \rightarrow WDS, scan the SSID list and select a SSID, click Save

Ruíjie	Í ŜRcycc ≘	English \vee	Camera (CPE) 🖉 Pair Again 🐤 Log
습 Overview	WDS-camera (CPE) Configure WDS parameters.		?
② LAN	WDS		
국상 Wireless · · · · · · · · · · · · · · · · · ·	* WDS SSID @Ruijie-wds-c5a5 Scan WDS SSID List (Click to select a SSID.) Save WDS SSID R5SI SN		
🏷 Diagnostics 🗸 🗸	Channel & Transmit Power		
💥 System Tools 🗠	5G Channel Auto V 🗎 Interferer		
	Channel Width 40MHz V		
	In CPE mode, the local channel and channel		
	Transmit Power Auto ~		
	Distance 1KM V		
	Save		
Ruíjie	ैैं Rcycc ≡	English V	Camera (CPE) 🖉 Pair Again 🛛 🗢 Log
		English 🗸	Camera (CPE) & Pair Again 🗢 Log
Coverview	意Rcycc 王 WDSCamera (CPE) Configure WDS parameters.	English V	Camera (CPE) /2 Pair Again > Log
Coverview	Image: State of the state	English 🗸	Camera (CPE) // Pair Again > Log
Cuerview Cu	WDS-Camera (CPE) Configure WDS parameters. WDS *WDS SSID @Rulije-wds-a4cc Save	English v	Camera (CPE) /2 Pair Again > Log
CVERVIEW C OVERVIEW C LAN WIRELESS WIRELESS WIRELESS C Region C Diagnostics	WDS-Camera (CPE) Configure WDS parameters. WDS *WDS SSID @Ruije-wds-a4cc Save	English v	Camera (CPE) & Pair Again + Loc
CVerview C Overview C		English v	Camera (CPE) /2 Pair Again > Loc
CVerview CVerview CLAN CVMVreless CVMVS CVMVVS CVMVS CVMVS CVMVS CVMVS CVMVS C	Configure WDS-Camera (CPE) WDS * WDS SSID @Rulije:wds:adcc Scan Save Channel & Transmit Power 6 Interference Tip × The network service will be unavailable for a while. Do you want to continue?	English v	Camera (CPE) /2 Pair Again > Loc
CVerview C Overview C LAN Wireless WIDS C Region C Region C Diagnostics S System Tools C	WOS-Camera (CFE) Configure WDS parameters. WDS * WDS SSID @Ruijie-wds-adcc Save Channel & Transmit Power SG Channel In CFE mode, the local channel width are consist TP In CFE mode, the local channel width are consist	English v	Camera (CPE) /2 Pair Again > Loc
CVERVIEW C OVERVIEW C LAN C WIRELESS C	WDS-Camera (CPE) Configure WDS parameters. WDS *WDS SSID @Rulije-wds-a4cc Save Channel & Transmit Power Gannel Wuth #MHz In CPE mode; the local channel width are consist	English	Camera (CPE) /2 Pair Again + Loc
CVerview CVerview LAN CVErviews CVErviews <td< th=""><th>WDS-Camera (CFE) Configure WDS parameters. WDS * WDS SSID @Ruije-wds-sacc Save</th><th>English</th><th>Camera (CPE) /2 Pair Again > Loc</th></td<>	WDS-Camera (CFE) Configure WDS parameters. WDS * WDS SSID @Ruije-wds-sacc Save	English	Camera (CPE) /2 Pair Again > Loc
CVerview CVerview LAN CVErviews WDS Region Diagnostics System Tools	WOS-camer (CPE) *WOS SSID *WOS SSID @Ruije-wds-a4cc Stree Channel & Transmit Power Channel Wuth #Money In CPE mode, the local channel width are consist Transmit Power Auto In CPE mode, the local channel width are consist	English	Camera (CPE) /2 Pair Again > Loc

PTMP success and show the actual topo on the overview

Ruijie	[≜] Rcycc [⊑]			En	iglish 🗸 Camera (CP	E) 🖉 Pair Again	👈 Log C
 Overview 	◆ Alarm Configuration is uninitialized. Hostname Not Set: 3. ● Country/Region: China (CN) ● Time Zone: (GMT+8:00)Asia/Shanghal ●						~
් Region	WDS Group Info WDS Groups : 1			*	Password 🔞 🛛 💥 IP Allocal	ion 🕘 🛛 💥 SSID	0
V₂ Diagnostics ∨	WDS Grapt AP: 1. (Ruijie) CPE: 2. (Online: 2., Offline: 0)	Channel :52 WDS SSID :@Ruijie-wds-a4cc	Latency @: Fluent(2) Jitter(0) Freeze(0) Bandwidth @: Good(2) Medium() Interference @: Good(2) Medium(0) Poor(0) RSI @: Good(2) Medium(0) Poor	0) Poor(0) or(0)			~
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1. Does Reyee Device support Telnet or SSH login?

No. Reyee device only support web management.

- 2. What is the default IP address of the Reyee switch? 10.44.77.200.
- 3. What is the IP address of the master device on the self-organizing network? 10.44.77.253
- 4. What is the device priority of the self-organizing network master selection? EG > AP > Switch
- 5. What is the difference between the default SSID @Ruijie-s and @Ruijie-m?

@Ruijie-m is generated after successful network self-organization, while @Ruijie-s is generated on a standalone device.

6. Does the self-organizing network support to be formed between Reyee series devices and other Ruijie devices (Running RGOS)?

No. Self-organizing network can only be formed between Reyee Series devices.

7. I failed to log into the eWeb management system. What can I do?

Perform the following steps:

- (1) Check that the network cable is properly connected to the LAN port of the device and the corresponding LED indicator blinks or is steady on.
- (2) Before accessing the configuration GUI, set the IP assignment mode to Obtain an IP address automatically (recommended), so that the server with DHCP enabled can automatically assign an IP address to the PC. To designate a static IP address to the PC, set the IP address of the PC in the same network segment as the IP address of the management interface. For example, if the default IP address of the management interface is 192.168.110.1 and the

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subnet mask is 255.255.255.0, set the IP address of the PC to 192.168.110.X (X is any integer ranging from 2 to 254), and the subnet mask is 255.255.255.0.

- (3) Run the ping command to test the connectivity between the PC and the device.
- (4) If the login failure persists, restore the device to factory settings.

8. What can I do if I forget my username and password? How to restore the factory settings?

To restore the factory settings, power on the device, and press and hold the Reset button for 5s or more, and release the Reset button after the system LED indicator blinks. The device automatically restores the factory settings and restarts. The original configuration will be lost after the factory settings are restored. After the restoration, the default management address is http://10.44.77.254. You can set the username and password upon first login.

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