

Ruijie RG-WIS Cloud Management Network Solution RG-WIS_5.23(b1)

User Manual

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Preface

Intended Audience

This document is intended for:

- Network engineers
- Technical support and servicing engineers
- Network administrators

Technical Support

- Ruijie Networks Website: <u>https://www.ruijienetworks.com/</u>
- Technical Support Website: <u>https://ruijienetworks.com/support</u>
- Case Portal: <u>https://caseportal.ruijienetworks.com</u>
- Community: <u>https://community.ruijienetworks.com</u>
- Technical Support Email: service_rj@ruijienetworks.com
- Live Chat: <u>https://www.ruijienetworks.com/rita</u>

Conventions

1. Conversions

Convention	Description	
Bold font	Commands, command options, and keywords are in bold font.	
Italic font	Arguments for which you supply values are in <i>italic</i> font.	
[]	Elements in square brackets are optional.	
{ x y z }	Alternative keywords are grouped in braces and separated by vertical bars.	
[x y z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.	
&<1-n>	The argument before the sign (&) can be input for consecutive 1- n times.	
//	Double slashes at the beginning of a line of code indicate a comment line.	

2. Signs

The signs used in this document are described as follows:

Warning

An alert that calls attention to important rules and information that if not understood or followed can result in data loss or equipment damage.

🛕 Caution

An alert that calls attention to essential information that if not understood or followed can result in function failure or performance degradation.

🚺 Note

An alert that contains additional or supplementary information that if not understood or followed will not lead to serious consequences.



An alert that contains a description of product or version support.

3. Note

The manual offers configuration information (including model, port type and command line interface) for indicative purpose only. In case of any discrepancy or inconsistency between the manual and the actual version, the actual version prevails.

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Product Overview

RG-WIS cloud management network ("WIS Cloud Network" for short) provides full-lifecycle intelligent network management services covering network procurement, planning, deployment, acceptance, and O&M. It integrates the big data, cloud computing, and AI technologies to improve the efficiency in network construction and O&M management for enterprises and partners. WIS Cloud Network provides rich northbound interfaces regardless of whether it is deployed in public cloud, private cloud, or hybrid cloud mode. It helps customers better operate networks and facilitates digital transformation of enterprises.

The digital transformation of enterprises is accompanied by various network use changes such as service cloudification, use of wireless STAs, and diversified access modes. The network O&M architecture is also required to meet the needs of elastic expansion. Traditional network management is confronted with difficulties in access, analysis, and expansion. For example, a network management system (NMS) reads data through the Simple Network Management Protocol (SNMP), but it cannot access devices that span a wide area network (WAN). When traditional relational databases are used to store data, data cannot be stored or analyzed if the volume of collected data is ultralarge. In addition, for large parks and multi-branch chain enterprises, the access of over ten thousand devices to the network is beyond the management capacity of the traditional NMS.

Cloud management network is a new network form that integrates IT cloud with the communication technology (CT) network. It migrates the management, control, and O&M functions in the traditional network architecture to the cloud, and provides the functions as services for many different enterprises. The local network infrastructure of enterprises provides only data forwarding capability. WIS Cloud Network uses the cloud native, big data, AI, and other cutting-edge technologies to build a highly reliable, scalable, and intelligent analysis platform architecture. It can meet requirements for the access of mass devices as well as the storage and real-time analysis of big data, and supports intelligent applications such as prediction, optimization, and diagnosis.

2 Logging In to WIS Cloud Network

2.1 Logging In to WIS Cloud Network

On Google Chrome, visit the address of WIS Cloud Network: <u>https://wiscloud.ruijienetworks.com</u>. Enter the correct username and password and click **Login** to log in to WIS Cloud Network.

If you have no account, register one before login. For the account registration process, see <u>Registering an</u> <u>Account</u>.

Figure 2-1 Logging In to WIS Cloud Network



You are required to read and agree to Licenses before login. Click Licenses to learn about detailed content in Disclaimer, Intellectual Property Statement, Privacy Statement, and User Experience Improvement Program. Please read through the content before using WIS Cloud Network formally. If you agree to clauses in Licenses, select I have read and agreed to Licenses, and enter the correct username and password to log in to WIS Cloud Network.

Figure 2-2 Selecting and Viewing Licenses

Jsername				
A Please enter y	our usemame.			
Password				
Please enter your password. Ø				
I have read and agreed to Licenses				
Login				

Figure 2	2-3 De	etails in	Licenses
----------	--------	-----------	----------

Licenses		×
Disclaimer	The WIS team reminds you that before installing and using Wireless Intelligent System ("WIS"), please be sure to	
Intellectual Property Statement	carefully read and thoroughly understand this Statement. You may choose not to install and use WIS, but if you use WIS, your installation and use will be deemed to be an acceptance of this Statement in its entirety.	
Privacy Statement User Experience Improvement Program	Unless otherwise agreed by the WIS team with other parties, while every endeavor is made to ensure that materials and information provided on WIS are accurate, including but not limited to text, images, data, suggestions, web pages, and links, the WIS team does not guarantee the accuracy, completeness, sufficiency, and reliability of such materials and content, and expressly disclaims any liability whatsoever for any error or omission in such materials and content, and provides no warranty regarding such materials and content, whether express or implied, including but not limited to, the warranty of title, non-infringement of third party rights, quality, and absence of computer virus. When using WIS, user validity needs to be verified through the Internet. Although the WIS team strives to provide a stable and reliable link and third-party hosting platform for the WIS cloud, it does not guarantee such link and third-party hosting platform are always free from any problem, and it specifically disclaims any liability for the unavailability of timely use of WIS due to network problems.	

2.2 Visitor Login

WIS Cloud Network allows you to log in as a visitor to view demo projects.

Figure 2-4 Visitor Login

Password Login	
Username	
A Please enter y	our usemame.
Password	
🔒 Please enter y	/our password. 💋
I have read and	agreed to Licenses
	Login
Geiter Lerein	Forget Dasswor

Figure 2-5 Demo Projects

Home Home	My Network Management & Mainte	nance Intelligent Analysis Sy	stern Management	+ Add Sile
AP • 15	2 Gateway 2 2	AC . 2 . 0	er Di lot Device Firewall	Online STA 1 Alarm Active 223299 Today 3305
Egress Traffic Peak Trend (Mbps)	Toda	Yesterday Last 7 Days	Online STA Trend	Today Yesterday Last 7 Days
	- Uplink Rate - Downlink Rate		- Wa	eless STA — Fit AP
180			6	
120			5	
90			4	
60			3 M	N
30				
0 00:00 01:15 02:30 03:45 05:00 0	06:15 07:30 08:45 10:00 11:15 12:30 13	45 15:00 16:15 17:30 18:45	0 00:00 01:15 02:30 03:45 05:00 06:15 07:30	28.45 10.00 11:15 12:30 13:45 15:00 16:15 17:30 18:45
Site List (3)				Search for site Q
Site Name	Group	Total Number of Devices 👙	Number of Online ST	'As Health
AC-Group	ProjectGroup	14 / 26	1	Good
FAT-AP-Group	ProjectGroup	7/15	0	Good
lindatest1	TestGroup	0/10	0	

2.3 Registering an Account

If you are using WIS Cloud Network for the first time, you'll need to register an account first. Visit <u>https://wiscloud.ruijienetworks.com</u> on Google Chrome. Click **Sign up** in the upper right corner of the page to redirect to the account registration page.



		2 - A.	
Password Login			
Username			
A Please enter your use	mame.		
Password			
🔒 Please enter your pas	sword. 🧖	5	
I have read and agreed	to Licenses		
Login			
Visitor Login	Forgot Passw	ord	

On the registration page, enter your username, password, email address, and captcha, select **I have read and agreed to Licenses**, and click **Register**. After successful registration, WIS Cloud Network automatically redirects to the login page. Enter the registered username and password to log in to WIS Cloud Network.



Welcome to WIS				
* Username:	Please set your username			
* Password:	Please set your password 💋			
* Email:	Please enter your email			
* Captcha:	Please enter Get Captcha			
I have rea	I have read and agreed to Licenses			
Register				
Already Have an Account?Login				



Password Login Username
R Please enter your username. Password Image: Construction of the second se
I have read and agreed to Licenses Login
Visitor Login Forgot Password

3 Project Management

Service providers bear responsibilities for maintaining and constructing customers' networks. For service providers, each customer is a separate tenant, or project.

3.1 Project List

When you log in to WIS Cloud Network for the first time, the **Project Management** page is displayed by default, on which you can view the project list.

Figure 3-1 Tenant List

Project	Management						
Project List 1 Project Trans	fer 0/0 Project Receive	0/0			+ Create Projec	t Transfer Project Pro	oject Name Q
Project Name	Management Type	Industry	Creator	Site Quantity	Online Devices/Total Devices	Creation Time	Operation
*		General Education		3	21/51	2022-07-21 10:40:12	Add Device …
						1-1 of 1 items <	1 > 10 / page∨

The project list displays the project name, management type, industry, creator, site quantity, number of online devices/total devices, and creation time. You can search for a specified project by project name.

You can click the **Project Transfer** or **Project Receive** tab to view applications for project transfer to other managers or applications for project transfer from other managers.

Figure 3-2 Project Transfer and Project Receive

Project Management			٢
Project Transfer 0.0 Project Receive 0.0		+ c	reate Project Transfer Project Project Name Q
Troject Name	Receiver	Change Time 👙	Operation
	Project Management Project Transfer 00 Project Receive 00 Troject Name	Project Management Project Transfer 00 Project Receive 00 Project Name Receiver No Data	Project Management + c Project Transfer 00 Project Receive 00 + c Total Project Name Receiver Change Time : No Data No Data

3.2 Creating a Project

Click Create Project and add information about a new project.

Figure 3-3 Creating a Project

Project List 1 Project Transfer 0/0 Project Receive 0/0	Create Project X	+ Create Project Transfer Project Project Name Q
Status I Project Name	* Project Name	Coperation
	Please enter Project Name	
	* Project type	
	WIS5	
	* Industry	
	Please select Industry V	
	Time Zone	
	(GMT+8:00)Asia/Singapore V	
	Project Logo	
	Select Picture	
	 Transparent .png images on light background present the best effect and will be displayed on the homepage and About page of the system. 	
	* Recommended size: 170*48; the image size does not exceed 512 KB.	
	Cancel Create Project	

Enter the following information when creating a project:

- **Project Name**: (Required) It identifies a tenant. It is a string of up to 50 characters containing only letters, digits, underscores (_), hyphens (-), @, and &.
- Industry: (Required) Select the proper industry scenario type from the drop-down list.
- Project Logo: (Optional) You can set a personalized logo for a tenant.

3.3 Transferring a Project

Click **Transfer Project**. Enter the account of a user who receives a project and the name of the project to be transferred, and click **Continue Transfer**.



Project List 1 Project Tr	ansfer 0.0 Project Receive 0.0	Transfer Project X	וו	+ Create Project Transfer Project Project Name Q
Status	Troject Name	* Receiving Account	e Time 👙	Operation
		Please enter Receiving Account		
		* Project Name		
		Please enter Receive		
		Cancel Continue Transfer		

Figure 3-5 Successful Initiation of a Transfer Application

	✓ 1 projects h	ave initiated tr	ansfer application	1
ustry	To be received records on the	d by user (xiexu e Project Transf	anqian). You can check er tab of the list.	evices/Total Devices
neral Education			ОК	
her Education	wis_demo	0	0/0	

3.4 Project Management

3.4.1 Adding a Device

Click Add Device in the Operation column for a project. The Device Management page of the project is displayed, on which you can add devices to the project. For details about how to add a device, see "Adding a Device" in "My Network" > "Device Management."

Figure 3-6	Adding a Device			
		+ Create Project	Transfer Project	Project Name Q
Creator	Site Quantity	Online Devices/Total Devices	Creation Time	Operation
	3	21/51	2022-07-21 10:40:12	Add Device ···
			1-1 of 1 items	1 > 10 / page <>

3.4.2 Setting as Default Project

After a project is created, if you want WIS Cloud Network to automatically open the project each time you log in to WIS Cloud Network, you can set the project as the default project. Click ... in the **Operation** column for a project and select **Set as Default Project** to set the project as the default project.

Figure 3-7 Setting as Default Project

	+ Create Project	Project Name Q
es	Creation Time	Operation
	2022-09-24 18:13	31 Add Device
	2022-09-21 22:38	Edit Project User Management
	2022-09-20 18:13	☆ Set as Default Project
	2022-09-20 09:49	30 Add Device ···

🛕 Caution

- After a project is set as the default project, the tenant project is automatically opened each time you log in to WIS Cloud Network.
- Only one project can be set as the default project at a time.
- If the default project already exists and you set another project as the default project, the default project configuration of the original default project will be automatically canceled.

3.4.3 Editing a Project

Click ... in the **Operation** column for a project and select **Edit Project** to edit the project information.

```
Figure 3-8 Entry for Editing a Project
```

	+ Create Project	Project Name Q
:es	Creation Time	Operation
	2022-09-24 18:13:	31 Add Device
	2022-09-21 22:38:	Edit Project User Management
	2022-09-20 18:13:	☆ Set as Default Project Delete project
	2022-09-20 09:49:	30 Add Device

The requirements for parameters for editing a project are the same as those for parameters for creating a project. After editing, click **Save**.

		+ Create Project	Transfer Project	Project Name Q
	Edit Project X			
Industry	* Project Name	Devices/Total Devices	Creation Time	Operation
(2022-07-21 10:40:12	Add Device
	* Project type			
	• WIS5		1-1 of 1 items	1 > 10 / page ~
	* Industry			
	×			
	Time Zone			
	(GMT-8:00)America/Ensenada V			
	Project Logo			
	U by Ruijie			
	Select Picture			
	* Transparent .png images on light background present the best effect and will be displayed on the homepage and About page of the system.			
	* Recommended size: 170*48; the image size does not exceed 512 KB.			
	Cancel Save			

3.4.4 Deleting a Project

Click ... in the **Operation** column for a project and select **Delete project** to delete the project. When a project is of the invited management type, the project cannot be deleted directly. If the project is no longer managed, you can click **Exit Project**.



Creation Time	Operation
2022-07-21 10:40:12	Add Device …
1-1 of 1 items <	Edit Project User Management
	 ★ Cancel Default Delete project

Figure 3-11 Deleting a Project

? Are you sure you want to delete the project?



3.4.5 User Management

Click ... in the **Operation** column for a project and select **User Management** to manage members of the project. For details about the member management function, see the description in "System Management" > "User Management."

Figure 3-12 User Management



3.5 Opening a Project

On the **Project List** tab page, click a project name to open the project.

Figure 3-13 Opening a Project

Project List 1 Project Transfe	er 0/0 Project Receive	0/0			+ Create Projec	t Transfer Project	Project Name Q
Project Name	Management Type	Industry	Creator	Site Quantity	Online Devices/Total Devices	Creation Time	Operation
*				3	21/51	2022-07-21 10:40:12	Add Device …
						1-1 of 1 items <	1 > 10 / page >

If you have opened a project, you can click the project name in the upper right corner and select **Project Management** to return to the **Project Management** page.

 Hone
 My Network
 Management & Maintenance
 Intelligent Analysis
 System Management

 AP
 Switch
 Gateway
 AC
 Router
 IOT Device
 Frewall
 Online STA
 Project Management

 Image: AP
 15
 2
 2
 0
 Iot Device
 Frewall
 Imagement
 Search Project
 Search Project

 Egress Traffic Peak Trend (Mbps)
 Totary
 Vesterday
 Last 7 Days
 Online STA Trend
 Totary
 RuijeProject

 100
 Uplink Rate
 Downlink Rate
 Online STA Trend
 Totary
 Imagement
 Imagement

 100
 Uplink Rate
 Downlink Rate
 0
 Imagement
 Imagement
 Imagement

 100
 0
 0
 0
 Imagement
 Imagement
 Imagement
 Imagement

 100
 0
 0
 0
 Imagement
 <

Figure 3-14 Returning to the Project Management Page

4 Quick Start

4.1.1 Organizational Planning

WIS Cloud Network supports branch-based network management. Therefore, make organizational planning before connecting the devices to WIS Cloud Network.

Choose **Management & Maintenance** > **Organizational Planning** to go to the **Organizational Planning** page. Add branches and sites to the organizational tree. Branches can be added at multiple levels. A site is the smallest unit of network management. One or more sites can be added under each branch. You can click **Batch Import** to bulk add sites.

Note

For details about operations in organizational planning, see the description in "Management & Maintenance" > "Organization Planning."

Figure 4-1 Adding a Branch



Figure 4-2 Adding a Site

Management & Maintenance /	Organization	nal Planning		_				
Search	Q	Site List	Add Site	Х		+ Add Site	Move Site	Batch Import
•			After creation, you can add administrators configuration templates on the site homep	and age.	Full name of place	Admini	strator Role	Operation
• (miles 18			Network Type			σ 🚛		Edit Delete
			Common Small Network Large	Network		0		Edit Delete
			* Site Name Please enter Site Name			σ		Edit Delete
			AP management mode WIS Cloud Controller Management Local Controller Administration (AC)			1-3 of 3 iter	ns < 1	> 10 / page ~
			Canc	еј ОК				

4.1.2 Network Configuration

WIS Cloud Network automatically delivers configurations to new online devices. The administrator can create a configuration template and bind the template to a specific branch or site. After the configuration template is bound, all new online devices in the branch or site will automatically obtain the configuration of the configuration template.

Choose **Management & Maintenance** > **Configuration** > **Template** to add configurations. A template can be configured in WLAN SSID configuration mode and CLI command set configuration mode. The WLAN SSID configuration mode is used to configure WLANs such as SSIDs of cloud APs and the configuration does not take effect on devices other than cloud APs. CLI command sets apply to all devices regardless of the device type.

1 Note

For details about network configuration, see the description in "Management & Maintenance" > "Configuration."

Figure 4-3 Adding an SSID

Management & Maintenance / Configuration	/ Template / Edit Template		
Edit Template	Add SSID	X	+ Save
Template Name:	* SSID (?)		
hostname	Please enter SSID	UTF-8 V	
Template Description	* Encryption Mode		
Please enter Template Description	OPEN		
	Forwarding Mode ③		
	bridge V	Same VLAN with AP	h
WLAN Configuration ③ CLI Lis	* Radio 🕐		+ Add SSID Deliver Config
	🔽 radio1 🔽 radio2 🗌 radio3		
WLAN ID SSID	Single-User Rate Limit		Associate Radio Operation
4	Uplink: KB/s	Downlink: KB/s	1,2 Edit Delete Deliver Config
	All-User Rate Limit		
	Uplink: KB/s	Downlink: KB/s	1-1 of 1 Items < 1 > 10 / page >
	Advanced Config		
	5G-preferred Enable SSID Hiding		
	Auth Config		
	Enable Auth Config >	>	
		Cancel	

Figure 4-4 Adding a CLI Command Set

Management & Maintenance / Configuration / Template	/ Edit Template			_	
1 Edit Tamalata	Add CLI Command Set		×		
Cort veripate Temptate Name : hostname Temptate Description :	Device Type AC AP Switch Gateway Device Model Please select Device Model	CLI Command Set Please enter CLI Command Set	Configure Variable 💿		+ Save
WLAN Configuration () CLI List	SN Please select SN Delivery Mode S Deliver Increment via CLI Replace All Config via config text Descriptions			nption	(3) + Add CLI Skt Deliver Config Operation
_	Please enter Description		Create Variable		
			Cancel		

CLI command sets can be delivered in two modes: incremental CLI delivery and full replacement. APs do not support the full replacement mode.

- Incremental delivery: A device incrementally executes a user-defined CLI command set based on the current configuration. This mode applies to incremental configuration scenarios.
- Full replacement: The **config.text** configuration file of a device is directly replaced. After replacement, the device automatically restarts for the configuration to take effect. This mode is suitable for the full replacement of the system configuration or for scenarios, in which incremental configuration cannot meet requirements, for example, incremental configuration may cause network path changes (resulting in device disconnection),

and configuration involves multiple interactions and command transformation (resulting in interaction and command identification timeout).

4.1.3 Device Access

1. Adding a Device

Choose My Network > My Site > Device Management to go to the Device Management page. Click Add Device. Select the device type and enter the device name, or enter a device SN to add a device.

Figure 4-5 Adding a D)evice
-----------------------	--------

wis_demo	My Network / My Site / Device Management						
wis_demo	AP on FillAP 3/7 AC 1/4 Switch 1/4 Gateway	Add Device	\times	+ Add Device Import Expos			
R 11, 01,		* Device Type					
My Site A	Status T Device Name SN MAC Addre	AP AC Switch Gateway Router IoT Device		Number of Online Users	Last Offline Time	Remarks	Operation
 Site Overview 		Firewall					
 Network Configur 		Device Name					
Device Manage		Please enter Device Name					
 Network Topology 		* SN					
e Network Optim ~		Piease enter SN					
STA Insight Y		Select site Please selectSite					
		Remarks					
Access Security							
🖻 Alarm Manage 👻							
🗎 Report 🛛 👻			lle.				
			_				
		Cancel	ок				

A device SN can be obtained in two ways:

Command query: Run the show version command on a device to display the device SN.

The following uses an AC as an example. G1L60EW000233 is the SN of the AC.

```
Ruijie#show version
System description : Ruijie Gigabit Wireless Switch (WS6008) By Ruijie
Networks.
System start time : 2020-06-07 11:52:26
System uptime : 0:01:38:50
System hardware version : 1.00
System software version : AC RGOS 11.9(5)B1T2
System patch number : NA
System serial number : G1L60EW000233
System boot version : 1.2.12
Module information:
Slot 0 : WS6008
Hardware version : 1.00
Boot version : 1.2.12
Software version : AC RGOS 11.9(5)B1T2
Serial number : G1L60EW000233
```

• Label query: Check the label on the back of a product to obtain the device SN.

2. Configuring Device Access Addresses

The device access addresses can be configured in two ways:

Manual configuration

Run the following commands on the device to be connected to configure the CPE WAN Management Protocol (CWMP) and domain name system (DNS) (the actual DNS address shall prevail).

```
Hostname#config
Hostname(config)#ip name-server 8.8.8.8
Hostname(config)#cwmp
Hostname(config-cwmp)#acs url http://wiscloud.ruijienetworks.com/acs
Hostname(config-cwmp)#cpe inform interval 60
Hostname(config-cwmp)#end
Hostname#write
```

 Use DHCP Option 43 to distribute CWMP interconnection addresses (for devices obtaining addresses via DHCP).

Run the following commands on the DHCP server (the actual addresses shall prevail).

```
Hostname#config
Hostname(config)#ip dhcp pool pool_Gi0/0
Hostname(dhcp-config)#option 43 ascii http://wiscloud.ruijienetworks.com/acs
Hostname(dhcp-config)#lease 0 8 0
Hostname(dhcp-config)#network 192.168.1.0 255.255.255.0
Hostname(dhcp-config)#dns-server 8.8.8.8
Hostname(dhcp-config)#default-router 192.168.1.1
Hostname(dhcp-config)#end
Hostname#write
```

3. Device Go-Online

If a device can connect to WIS Cloud Network properly, you can view the device status on the **Device Management** page of WIS Cloud Network 3–6 minutes after you complete the configuration above.

5 Home

As shown in <u>Figure 5-1</u>, the home page displays basic information about a tenant's network, such as network traffic, alarms, devices, and STAs. The following describes each area of the page.

AP • 15	Sateway 2 • 2	AC • 2	Router • 0 IOT Device	Firewall Online	STA Alarm Active 229494 Today 3500
Egress Traffic Peak Trend (Mbps)	- Uplink Rate - Downlink Rate	oday Yesterday Last 7 Days	Online STA Trend	- Wonless STA - Fit AP	Today Yesterday Last 7 Days
Site List (3)					Search for site Q
Site Name	Group	Total Number of Devices $\ \ \diamondsuit$	Number of C	Online STAs	Health
	Transformer .	14 / 26	1		Good
	-	7/15	0		Good
		0 / 10	0		

Figure 5-1 Home

5.1 Traffic

As shown in <u>Figure 5-2</u>, traffic information, that is, **Egress Traffic Peak Trend**, is displayed in the upper left area.

Contraction of the second seco	Home My Net	twork Management &	Maintenance Intellig	ent Analysis System Manag	jement			+ Add Si	te 🙎 🖣	enant Admin	2
	AP • 14	-	Switch • 2	-	Gateway 2	-	AC • 2		Online STA • 0	Alarm Active 107403 Today 1	896
Egress Traffic Peak Tr	rend (Mbps)	— Uplink Rate — Downl	Today	Yesterday Last 7 Days	Online STA	Trend	— Wireless STA	— Fit AP	Today	Yesterday Last 7 Days	
300 200 100				MM	0						

Figure 5-2 Traffic Information

• Egress Traffic Peak Trend (Mbps): Displays the peak traffic of the egress at different time points of today, yesterday, and the last 7 days on a graph, in Mbps. The horizontal axis represents the time. The statistics interval of today and yesterday is 5 minutes, and the statistics interval of the last 7 days is 1 hour. The vertical axis represents the peak traffic, rounded to two decimal places. Hover the cursor over a curve to view the

uplink/downlink peak rate at a specified time point.

- Uplink Rate: Indicates the uplink peak rate of the egress traffic, represented by a green curve.
- o **Downlink Rate**: Indicates the downlink peak rate of the egress traffic, represented by a blue curve.
- o Today: Collects statistics on the uplink and downlink peak rates of today's egress traffic.
- Yesterday: Collects statistics on the uplink and downlink peak rates of yesterday's egress traffic.
- **Last 7 Days**: Collects statistics on the uplink and downlink peak rates of egress traffic in the last seven days (including the current day).

Figure 5-3 Egress Traffic Peak Trend

	AP • 14		Switch • 2	-	Gateway • 2		AC • 2	G	Online STA • 0	Alarm Active 107403 Today 1896
Egress Traffic Peak T	rend (Mbps)	- Uplink Rate - Downlink Ra	Today	Yesterday Last 7 Days	Online STA Tren	d	- Wireless STA	- Fit AP	Today	Yesterday Last 7 Days
400					1					0.0
300										
200										
100										
00:00 01:15 02:30	03:45 05:00 06:15 07:	30 08:45 10:00 11:15 12:30	13:45 15:00 16:15	17:30 18:45 20:00 21:15	0 00:00 01:10 02:	20 03:30 04:40 05:50 07:00	08:10 09:20 10:30	11:40 12:50	14:00 15:10 16:2	10 17:30 18:40 19:50 21:00

5.2 Alarm

As shown in <u>Figure 5-4</u>, this area displays the number of active alarms and the number of today's alarms. You can click the alarm area to redirect to the alarm management page. For details about alarms, see <u>Alarm</u> <u>Management</u>.

Fiaure	5-4	Alarm
	•	/

	AP • 14	-	Switch 2 		Gateway • 2		AC • 2	•	Online STA • 0	Alarm Active 107403 Today 1896
Egress Traffic Peal	Trend (Mbps)		Today	resterday Last 7 Days	Online STA	Trend			Today	Yesterday Last 7 Days
400		- Uplink Rate - Downlin	nk Rate		1		— Wireless STA	- Fit AP		
300										
200										
100										
0 00:00 01:15 02:	30 03:45 05:00 06:15 0	07:30 08:45 10:00 11:15 12	:30 13:45 15:00 16:15 17	18:45 20:00 21:15	0 00:00 01:10	0 02:20 03:30 04:40 05:50	07:00 08:10 09:20 10:30	11:40 12:50	14:00 15:10 16:	20 17:30 18:40 19:50 21:00

5.3 Online STA

As shown in <u>Figure 4-5</u>, this area displays information about devices on the current network. It includes **Online STA** and **Online STA Trend**.

Figure 5-5 Online STA

AP Switch Gateway AC .	Router • 0 • 0 • 0 • 0 • 0 • 0 • 0 • 0 • 0 • 0
Egress Traffic Peak Trend (Mbps) - Uplink Rate - Downlink Rate	Online STA Trend Today Yesterday Last 7 Days - Woreless STA = Fit AP - Word STA

• Online STA

The **Online STA** area displays the total number of online STAs. When you hover the cursor over **Online STA**, the quantities of STAs connected to different types of devices are displayed. The devices include cloud APs and fit APs.

Figure 5-6 Viewing the Number of Online/Offline Devices



Figure 5-7 Viewing Online STAs

AP • 14	Switch • 2	-	Gateway 2	AC • 2	Online STA	Alarm Active 107403 Today 1896
Egress Traffic Peak Trend (Mbps)	Today — Uplink Rate — Downlink Rate	Yesterday Last 7 Days	Online STA Trend	— Wireles:	Current Network Online STA Wireless STA Fit AP	esterday Last 7 Days
200 200 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- 15 0730 0845 1000 1115 1230 1345 1500 1615	17:30 18:45 20:00 21:15	° 0000 0110 0220 0330 0440 0550 070	0 08:10 09:20 10	10788 230 11:40 12:50 14:00 15:10 16:	20 17:30 18:40 19:50 21:00

Click the device or STA icon to go to the device or STA management page. For details about the device/STA management, see Management and Maintenance.

Online STA Trend

This area shows the number of online STAs at different time points on a graph. The graph is described as follows:

- o Date: You can view graphs of different dates. You can select Today, Yesterday, or Last 7 Days.
- o Horizontal axis: The horizontal axis represents the time. When you select Today or Yesterday, the

statistics interval is 5 minutes. When you select **Last 7 Days**, the statistics interval is 1 day and the number is the total number of online STAs on that day. Hover the cursor on the graph to view the number of online STAs at a specific time point.

- Vertical axis: The vertical axis represents the number of online STAs at a certain time point.
- Sky blue curve: Indicates the number of online wired STAs.
- o Blue curve: Indicates the number of online fit APs.
- o Green curve: Indicates the number of online cloud APs.

Figure 5-8 Online STA Trend Graph

AP • 14	Switch • 2	-	Gateway 2	AC • 2	0	Online STA • 0	Alarm Active 107416 Today 1909
Egress Traffic Peak Trend (Mbps)	Today	Yesterday Last 7 Days	Online STA Trend			Today	Yesterday Last 7 Days
400	— Uplink Rate — Downlink Rate		1	— Wireless STA	↓ — Fit AP		
200							21:15 • Wireless STA: 0
100		N LO					
00:00 01:15 02:30 03:45 05:00 06:15	07:30 08:45 10:00 11:15 12:30 13:45 15:00 16:15	17:30 18:45 20:00 21:15	0 00:00 01:10 02:20 03:30 04:40 05:50 07:	0 08:10 09:20 10:30	11:40 12:50	14:00 15:10 16:	20 17:30 18:40 19:50 21:00

5.4 Site

As shown in <u>Figure 5-9</u>, this area lists the sites, where devices are located.

Figure 5-9 Site A	rea			
AP	2 Gateway 2 2	AC • 2	Router • 0 IOT Device Firewall Online • 0 • 0 • 1	STA Alarm Active 229494 Today 3500
Egress Traffic Peak Trend (Mbps)	- Uplink Rate - Downlink Rate	Say Yesterday Last 7 Days 1510 1620 17.30 18-40 19:50	Online STA Trend - Wireless STA - Fit AP - Wireless STA - Fit AP 	Today Yesterday Last 7 Days
Site List (3)				Search for site Q
Site Name	Group	Total Number of Devices 👙	Number of Online STAs	Health
	instead of the second sec	14/26	1	Good
		7/15	0	Good
		0 / 10	0	-

The site list displays the site name, location, group, total number of devices, number of online STAs, and health. You can search for site records by site name and specify the number of items to be displayed on each page. The list can be sorted by the total number of devices.

Figure 5-10 Site List

Site List (3)				Search for site Q
Site Name	Group	Total Number of Devices 🔶	Number of Online STAs	Health
	Transformer -	14/26	1	Good
		7/15	0	Good 10 / page 20 / page
		0/10	0	- 40 / page
				80 / page 1-3 of 3 items < 1 > 10 / page ∧

Click a site name to go to the **Site Overview** page. For details about site management, see <u>Site Overview</u>. Currently, health check is available at sites that have ACs. The health check scope is all devices at the site. The health check results include excellent, good, fair, and poor. Health check items include device stability, client activity, network saturation, online experience, signal coverage, and association stability. You can hover the cursor over a health check result to view the results of different health check items.

Figure 5-11 Site Name and Health

Egress Traffic Peak Trend (Mbps)		Today Yesterday Last 7 Days	Online STA Trend	Today Yesterday Last 7 Days
	- Uplink Rate - Downlink Rate		- Wireless STA - Fit AP	
180			10	
150			8	- U
90			6	
60			4	
30				Device Stability 100
0.00 01:10 02:20 03:30 04:40 05:50 (D7:00 08:10 09:20 10:30 11:40 12:50 14:0	0 15:10 16:20 17:30 18:40 19:50	0 00:00 01:10 02:20 03:30 04:40 05:50 07:00 08:10 09:20 10:30 11:40 12:50	14:00 Client Activity 160 18:40 19:50
				Network Saturation 60
Site List (3)				Online Experience 100
07 N	0			Signal Coverage 100
Site Name	Group	lotal number of Devices 👙	Number of Online STAs	Association Stability 100
		14 / 26	1	Good
		7/15	0	Good
		0/10	0	

6 My Network

6.1 Site Overview

6.1.1 Site List

Choose **My Network > My Site > Site Overview** to go to the site list. The site list displays the site name, location, group, total number of devices, number of online STAs, and health.

Figure	6-1	Site	List
--------	-----	------	------

My Network / My Site / Site Ove	rview				
Site List (0)					Search for site Q
Site Name	Location	Group	Total Number of Devices 💠	Number of Online STAs	Health
			No Data		

In the site list, you can set the number of items to be displayed on each page (10 items/page, 20 items/page, 40 items/page, or 80 items/page) and sort the site list by the total number of devices.

6.1.2 Site Overview Info

Click a site name to go to the **Site Overview Info** page, which displays site information such as the number of online STAs, alarms, and wireless network indicators. The page provides quick entries for STA experience, network configuration, blacklist/whitelist, WLAN optimization, and roaming optimization.



Figure 6-2 Site Overview Info

At the top of the page, information about the current site is displayed, including the site name, location, and network type. The page allows provides an entry for network configuration, which will be described in later sections.

In the middle and lower parts of the page, the network overview of the site is provided, including the number of online STAs, number of alarms, egress traffic peak trend, online STA trend, statistics on wireless uplink and downlink rates, wireless latency statistics, and wireless packet loss rate (%) statistics. The number of online STAs, number of alarms, egress traffic peak trend, and online STA trend graph are similar to those in <u>Home</u> except that the dimension is accurate to site. Therefore, they are not described here. Other network indicators are described in <u>Network Indicators</u>.

6.1.3 Switching a Site

You can click the site area in the upper left corner to switch to a different site, as shown in <u>Figure 6-3</u>. Site switching allows you to search for a specified site by site name. Click a site name to view the information about the site.

Note

When you click a level-1 site, the system returns to the site list page.

Figure 6-3 Switching a Site



6.1.4 Network Indicators

Wireless Uplink Rate

This graph shows statistics on the uplink rates and average uplink rates of different types of wireless STAs at different time points.



Figure 6-4 Wireless Uplink Rate Curve Graph

The graph is described as follows:

- o Green curve: Indicates the uplink rate of 2.4 GHz wireless STAs.
- o Blue curve: Indicates the uplink rate of 5 GHz wireless STAs.
- Purple curve: Indicates the average uplink rate of wireless STAs.
- Date: The available dates include Today, Yesterday, and Last 7 Days.
- **Horizontal axis**: Represents time. The statistics interval is 5 minutes. You can hover the cursor over a curve to view the uplink rates and average uplink rates of different types of STAs at a specified time point.
- Vertical axis: Represents the uplink rate, in Mbps.

• Wireless Downlink Rate

This graph shows statistics on the downlink rates and average downlink rates of different types of wireless STAs at different time points.
AP Switch Galew • 13 • 1	ay AC	Router • 0 • 0	Firewall CO	Online STA Alarm • 41 Active 40 Today 2				
igress Taffic Peak Trend (Mops) - Upink Tate - Doumlek Tate - Upink Tate - Doumlek Tate - Doumlek Tate - Doumlek Tate - Upink Tate - Doumlek Tate - Doumlek Tate - Doumlek Tate - Upink Tate - Doumlek Tate - Doum								
Wireless Uplink Rate (Mbps) -2.40 - 50 - Amage -2.40 - 50 - 50 - 50 - 50 - 50 - 50 - 50 -	Total Vesterday Last 7 Days	Wireless Downlink Rate (Mbps)	-142 - 52 - Aerope	Today Vesterday Last 7 Days				
Wireless Latency (ms)	Today Yesterday Last 7 Days	Wireless Packet Loss Rate (%)		Today Yesterday Last 7 Days				

Figure 6-5 Wireless Downlink Rate Curve Graph

The graph is described as follows:

- o Green curve: Indicates the downlink rate of 2.4 GHz wireless STAs.
- o Blue curve: Indicates the downlink rate of 5 GHz wireless STAs.
- Purple curve: Indicates the average downlink rate of wireless STAs.
- Date: The available dates include Today, Yesterday, and Last 7 Days.
- Horizontal axis: Represents time. The statistics interval is 5 minutes. You can hover the cursor over a curve to view the downlink rates and average downlink rates of different types of STAs at a specified time point.
- Vertical axis: Represents the downlink rate, in Mbps.

Wireless Latency

This graph shows the wireless latency and average latency of different types of wireless STAs at different time points.

Egress Traffic Peak Trend (Mbps) Vesterday Last 7 Days	Online STA Trend Today Yesterday Lest 7 Days
- Upfink Rate - Downlink Rate	- Weelers STA - Fit AP - Word STA
	50 50 50 50 50 50 50 50 50 50
Today Yesterday Last 7 Days	Wireless Downlink Rate (Mbps) Today Vesterday Last 7 Days
- 2.45 - 56 - Average	- 2.40 - 50 - Average
Wireless Latency (ms)	Wireless Packet Loss Rate (%) Today Testerday Lint 7 Days = 2.45 = 350 = Annige

Figure 6-6 Wireless Latency Curve Graph

The graph is described as follows:

- o Green curve: Indicates the latency of 2.4 GHz wireless STAs.
- o Blue curve: Indicates the latency of 5 GHz wireless STAs.
- o Purple curve: Indicates the average latency of wireless STAs.
- Date: The available dates include Today, Yesterday, and Last 7 Days.
- **Horizontal axis**: Represents time. The statistics interval is 5 minutes. You can hover the cursor over a curve to view the latency and average latency of different types of STAs at a specified time point.
- o Vertical axis: Represents the wireless latency, in ms.

• Wireless Packet Loss Rate (%)

This graph shows the packet loss rates and average packet loss rates of different types of wireless STAs at different time points.

Egress Traffic Peak Trend (Mbps) = Upfink Rate 4	Online STA Trend Today Vesterday Last 7 Days = Wireless STA = Fit AP = Wirel STA
2 2 0 0000 0013 0110 0145 0320 0255 0300 0407 0440 0515 0500 0025 0700 0732 0410 0845 0320 0455 1038 1160 1140 11215 1120 1132	20 21 22 23 24 25 26 26 26 26 26 26 26 26 26 26
Wireless Uplink Rate (Mbps)	Wireless Downlink Rate (Mbps) Today Testerday Last 7 Days
= 2.46 = 56 = Avtrage	= 2.4G = 5G = Average
0 00:00 00:35 01:10 01:45 02:20 02:55 03:30 04:05 04:40 05:15 05:50 06:25 07:00 07:35 08:10 08:45 09:20 09:35 10:30 11:05 11:40 12:15 12:50 13:25	0 00.00 00.05 01:10 01;45 02:20 02:55 03:10 04:05 04:40 05:15 05:50 06:25 07:00 07:35 08:10 08:45 08:20 09:55 10:30 11:05 11:40 12:15 12:50 13:25
Wireless Latency (ms)	Wireless Packet Loss Rate (%)
	1140 2 242 000 5 50 00
	Average 0.15 0000 0035 0110 0145 0220 0253 0230 0240 0440 0515 0550 0625 0740 0733 0810 0645 0920 0823 1530 1140 1215 1230 1323

Figure 6-7 Wireless Packet Loss Rate Curve Graph

The graph is described as follows:

- o Green curve: Indicates the packet loss rate of 2.4 GHz wireless STAs.
- o Blue curve: Indicates the packet loss rate of 5 GHz wireless STAs.
- o Purple curve: Indicates the average packet loss rate of wireless STAs.
- Date: The available dates include Today, Yesterday, and Last 7 Days.
- Horizontal axis: Represents time. The statistics interval is 5 minutes. You can hover the cursor over a curve to view the packet loss rates and average packet loss rates of different types of STAs at a specified time point.
- o Vertical axis: Represents the packet loss rate of wireless STAs, in percentage.

6.2 Network Configuration

The network configuration function allows you to perform network configuration for devices based on sites, such as WLAN configuration and CLI command sets. The configuration includes template configuration and personalized configuration.

🛕 Caution

- Modifying a configuration template and personalized configurations affects only newly connected devices.
 For already online devices, the configuration changes take effect on them only after **Deliver Config** is clicked.
- When a configuration template is inconsistent with a personalized configuration template, the
 personalized configuration overwrites the configuration template, that is, the personalized configuration
 takes precedence over the configuration template.

6.2.1 Binding a Template

As shown in Figure 6-8, if no configuration template has been bound to a site, you can click **Bind Template** to go to the configuration template management page, on which you can bind a configuration template to the site. For details about configuration template management, see the description in "Management & Maintenance" > "Configuration" > "Template."

Figure 6-8 Binding a Configuration Template

My Network / My Site	e / Network Configuration / Ne	twork Configuration Info							
Network Config	Common Scenarios 🗸								
If you want to spip's a changed template to a device already in the network, please deliver the configuration after changing the template. If there is a conflict between a configuration template, and a custom template, the custom template overrides the configuration template.									
Current Templat	Bind Template								
WLAN Configura	tion CLI List					+ Add SSID Deliver Config			
WLAN ID	SSID	Encryption Mode	T SSID Hiding	Forwarding Mode	T Associate Radio	Operation			
1		WPA-PSK/WPA2-PSK	No	bridge	2	Edit Delete Deliver Config			
2		WPA2-PSK	No	bridge	1,2	Edit Delete Deliver Config			
3		WPA-PSK/WPA2-PSK	No	bridge	1,2,3	Edit Delete Deliver Config			
						1-3 of 3 items < 1 > 10 / page ∨			

6.2.2 Personalized Configuration

Personalized configuration includes WLAN configuration and CLI list. WLAN configuration is used to configure SSIDs of cloud APs (fat APs) and other WLANs. It does not take effect on devices other than cloud APs (fit APs indirectly managed via AC management). The CLI list applies to all devices regardless of the device type.

1. WLAN Configuration

The WLAN configuration list is shown in <u>Figure 6-9</u>. You can set the number of items to be displayed on each page and filter items by encryption mode or forwarding mode. You can click **Edit** or **Delete** in the **Operation** column to edit or delete WLAN configuration.

Figure 6-9 WLAN Configuration List

My Network / My Site /	Network Configuration / Network	k Configuration Info						
Network Config Co	mmon Scenarios V							
If you want to apply a changed template to a device already in the network, please deliver the configuration after changing the template. If there is a conflict between a configuration template and a custom template, the custom template overrides the configuration template.								
Current Template 🗅 Bind	I Template							
WLAN Configuratio	n CLI List					+ Add SSID Deliver Config		
WLAN ID	SSID	Encryption Mode	T SSID Hiding	Forwarding Mode	T Associate Radio	Operation		
1	@@WIS-HY	WPA-PSK/WPA2-PSK	No	bridge	2	Edit Delete Deliver Config		
2	FS-wifi	WPA2-PSK	No	bridge	1,2	Edit Delete Deliver Config		
3	test20220906	WPA-PSK/WPA2-PSK	No	bridge	1,2,3	Edit Delete Deliver Config		
						1-3 of 3 items < 1 > 10 / page ∨		

You can configure a personalized network template by adding an SSID. Click **Add SSID**, enter SSID information, and click **OK** to complete the personalized template configuration. To apply the configuration to a connected device, click **Deliver Config** to trigger the configuration delivery and make the configuration take effect.

y Network / My Site / Network Configuration	/ Network Configuration Info		
Vetwork Config Common Scenarios	Add SSID ×		
If you want to apply a changed template to a	* SSID @		
If there is a conflict between a configuration	Please enter SSID UTF-8 V		
Current Template 🗈 Bind Template	* Encryption Mode		
WI AN Configuration CILList	OPEN V		
	Forwarding Mode ⊘		
WLAN ID SSID	bridge V Same VLAN with AP V	Associate Radio	Operation
	* Radio 🕲		
1 @@HY_ZYQ	🗸 radio1 🔽 radio2 🗌 radio3	1,2	Edit Delete Deliver Config
	Single-User Rate Limit		
	Uplink: KB/s Downlink: KB/s		
	All-User Rate Limit		
	Uplink: KB/s Downlink: KB/s		
	Advanced Conlig		
	Auth Config		
	Linable Aun Coning >>		
	Cancel		

Figure 6-10 Adding an SSID

Set the following parameters when adding an SSID:

- SSID: (Required) Enter an SSID name. You need to select the SSID encoding format. The default value is
 UTF-8 and the options include UTF-8 and GBK. If an SSID contains Chinese characters, garbled characters
 are displayed when an STA does not support UTF-8 encoding format.
- Encryption Mode: (Required) Select a value from the drop-down list. The options include OPEN, WPA-PSK, WPA2-PSK, and WPA-PSK/WPA2-PSK. When you select an encryption mode other than OPEN, you need to enter a password.

) Note

OPEN: Indicates the open non-encryption authentication mode.

WPA2-PSK: Indicates a new encryption authentication mode based on WPA-PSK. It adopts the CCMP encryption mode and is compatible with the TKIP encryption mode.

- Forwarding Mode: The bridge mode is supported by default. To switch to the NAT mode, run CLI commands. You can set VIanType to Same VLAN with AP or use other VLANs. If you select other VLANs, enter the VLAN ID. The VLAN ID range is from 2 to 232 and from 234 to 4094.
- Radio: (Required) You can select one or more radios from radio1 to radio3. You can select Single-User Rate
 Limit and All-User Rate Limit and set uplink and downlink rate limits for them separately.

🛕 Caution

The SSID is valid only when the selected radio is in access mode.

• Advanced Config: (Optional) Advanced configuration includes 5G-preferred and SSID Hiding. 5Gpreferred indicates that, when a radio provides both 2.4 GHz and 5 GHz bands and an STA supports both 2.4 GHz access and 5 GHz access, the STA connects to the 5 GHz band preferentially. SSID Hiding indicates that wireless networks are hidden and network signals cannot be searched out by STAs.

After the configuration is completed, new online devices automatically obtain the configuration of the current site. For already online devices, you need to click **Deliver Config** to make the configuration take effect on them.

Site / Network Configurat	ion / Network Configuration	Info			
Common Scenarios					
oply a changed template to flict between a configuratio	a device already in the netw n template and a custom tem	ork, please deliver the configu- nplate, the custom template ov	uration after changing the te verrides the configuration ter	mplate. nplate.	
Bind Template					
uration CLI List					+ Add SSID Deliver Config
SSID	Encryption Mode	T SSID Hiding	Forwarding Mode	T Associate Radio	Operation
@@HY_ZYQ	OPEN	No	bridge	1,2	Edit Delete Deliver Config
					1-1 of 1 items < 1 > 10 / page >
	Site / Network Configurat Common Scenarios Oply a changed template to the between a configuratio Bind Template urationCUL List SSID @@HY_ZYQ	Site / Network Configuration / Network Configuration Common Scenarios upply a changed template to a device already in the network Configuration template and a custom tem Bind Template uration CLI List SSID Encryption Mode @@HY_ZYQ OPEN	Site / Network Configuration / Network Configuration Info Common Scenarios upply a changed template to a device already in the network, please deliver the configuration template and a custom template, the custom template or Bind Template uration CLI List SSID Encryption Mode ¥ SSID Hiding @@HY_ZYQ OPEN No	Site / Network Configuration / Network Configuration info Common Scenarios uply a changed template to a device already in the network, please deliver the configuration after changing the template to the configuration after changing the template to the configuration after changing the template to the configuration after changing the template overrides the configuration after changing the template Bind Template ssliD Encryption Mode @@HY_ZYQ OPEN No bridge	Site / Network Configuration / Network Configuration Info Common Scenarios ply a changed template to a device already in the network, please deliver the configuration after changing the template. ply a changed template and a custom template, the custom template overrides the configuration template. Bind Template wration CLI List SSID Encryption Mode SSID Hiding Poind Template No bridge 1.2

Figure 6-11 Delivering the Configuration

2. CLI List

Click the **CLI List** tab to switch to the **CLI List** tab page. You can click **Edit** or **Delete** in the **Operation** column to edit or delete a CLI command set.

Figure 6-12 CLI Set List

Network / My Site / Networ	rk Configuration / Network Configuration	n Info			
etwork Config Common	Scenarios V				
If you want to apply a change If there is a conflict between a	d template to a device already in the net a configuration template and a custom te	work, please deliver the com mplate, the custom templat	nfiguration after changing the templat e overrides the configuration template	e.	
irrent Template 🗋 Bind Templa	ate				
WI AN Configuration	List				Add CLL Cat
					P Add CEI Sct
Device Type	Device Model	SN	Delivery Mode	Description	Operation
			No Data		

Click Add CLI Set to add a CLI command set for the network.

Figure 6-13	Adding a	CLI	Command	Set
-------------	----------	-----	---------	-----

My Network / My Site / Network Config	guration / Network Configuration Info						
Network Config Common Scenario	os V		Add CLI Command Set	×			
If you want to apply a changed temple If there is a conflict between a configu	ate to a device already in the network, pleas iration template and a custom template, the	se deliver e custom t	AC AP Switch Gateway				
Current Template 🖪 Bind Template	ן		Device Model Please select Device Model SN				+ Add CLI Set Deliver Config
Device Type	Device Model	SN	Please select SN			Description	Operation
		111111	* Delivery Mode Deliver Increment via CLI		via CLI		Edit Delete
- + 		G1ML	Replace All Config via config.text CLI Command Set		via CLI		Edit Delete
AP	AP520-I		Please enter CLI Command Set		via CLI		Edit Delete
			Description Please enter Description	ОК			1-3 of 3 items < 1 > 10 / page >

Configure the following parameters when adding a CLI command set:

- Device Type: (Required) Select the type of devices, to which the CLI command set is to be delivered. The options include AC, AP, Switch, Gateway, and Router. You can select only one of them.
- **Device Model**: (Required) Select the model of the devices, to which the CLI command set is to be delivered. Select a device model from the drop-down list. Multiple models can be selected.
- SN: (Optional) Select an existing SN from the drop-down list. If an SN is selected, the command set will be delivered only to the device matching the SN. If no SN is selected, the command set will be delivered based on the selected device model.
- CLI Command Set: (Required) Enter CLI commands to be configured for devices.
- **Description**: (Optional) Enter a description of the command set. It can be used as a remark.

After the configuration is completed, new online devices automatically obtain the configuration of the current site. For already online devices, you need to click **Deliver Config** to make the configuration take effect on them.

Figure 6-14 Delivering the Configuration



6.3 Device Management

Choose My Network > My Site > Device Management to go to the Device Management page. Device management is to manage all types of devices in terms of site and present basic information about the devices.

My Network	/ My Site /	Device Manageme	nt							
AP 6/10	Fit AP	AC 0/0	Switch 0/0 Ga	teway 1/1		+ Add Devi	Import	Export	Enter an SN or name for quer	с ©
	Status 👻	Device Name	SN	MAC Address	Device Model	Site	Management IP	Egress Address	Number of Online Users	Operation
	Online								0	Details ···
	Online								0	Details ···
	Online								0	Details
	Online								0	Details
	Online								0	Details
	Online								0	Details ···
	Offline								0	Details
	Offline)							0	Details ···
	· Offline								0	Details
	Offline								0	Details
								1-10 0	f 10 items < 1 >	10 / page \vee

Figure 6-15 Device Management

You can select different sites to quickly manage devices at different sites.

Figure 6-16 Switching a Site

V Ruijie	Home My Network	Manageme	nt & Maintenance	Intelligent Analysis	System Management	
	Search ProjectGroup	Q				
🗃 My Site 🛛 ^	▶ TestGroup		Group		Total Number of D	evices 🌲
Site Overview			Project	Group	9 / 18	
 Network Configu 			Project	Group	7/15	
 Device Manage Network Topology 			TestGro	up	0/10	
e Network Optim ×						
모 STA Insight ~						
⊘ Access Security ~						
🖻 Alarm Manage 👻						
🖹 Report 🗸 🗸						

Device management includes the management of fat APs, fit APs, ACs, switches, gateways, routers, IoT devices, and firewalls. The supported management functions are slightly different for different devices. The following uses the management of fat APs as an example.

6.3.1 Device List

The AP list displays the AP status, device name, SN, MAC address, device model, site, last offline time, remarks, and other information. The list supports device query by SN or name. You can manually refresh the list and define fields to be displayed in the list. The list allows you to filter data by device status.

A Caution

The fields displayed in the device list may vary with the device.

Figure 6-17 Device List

My Network	. / My Site	/ Device Managem	ent							~	Set
< AP	1/2 Fit	AP 12/1574 A	C 1/3 Switch	Gateway 1/1	Router 0/0	loT Devi	ice 0/0 >	+ Add Device	Import Export ····	Enter an SN or	name for query Q
	Status 🐨	Device Name	SN	MAC Address	Device Model	Site	Management IP	Egress Address	Number of Online Users	Last Offline Time	Column Display Rese
	Online								0	2022-08-01 11:21	Status Device Name
	Offline								0	2022-07-31 17:17	SN
										1-2 of 2 items 🤇	International States Device Model Site Management IP Egress Address Number of Online Users Last Offline Time Remarks Fland the right Operation

6.3.2 Adding a Device

Before a device goes online, you need to complete the device registration on WIS Cloud Network. Click **Add Device** to add a device.

Figure 6-18 Adding a Device

	My Network / My Site / Device Management						
• · · ·	AP on Fit AP 37 AC 1/1 Switch 1/1 Gateway	Add Device	×	+ Add Device Import Expor			a C @
🗑 My Site 🔷 🔨	Status T Device Name SN MAC Addre	Device Type AP AC Switch Gateway Router IoT Device		Number of Online Users	Last Offline Time	Remarks	Operation
 Site Overview 		Firewall					
Network Configur		Device Name					
Device Manage		Please enter Device Name					
Network Topology		* SN Please enter SN					
Network Optim		Select Site					
🖓 STA Insight 🛛 👻		Please selectSite					
O Access Security		Remarks					
🛆 - Alarm Manage							
🗄 Report 🛛 👻			A				
		Cancel	ОК				

The parameters used to add a device are described as follows:

- Device Type: (Required) Select the type of device to be added. The options include AP, AC, Switch, Gateway, Router, and IOT Device.
- Device Name: (Required) It identifies a device. It is a string of up to 50 characters containing Chinese characters, letters, digits, underscores (_), hyphens (-), @, and &.
- SN: (Required) Enter the device SN. The value is a string of 13–15 characters containing digits or digits+letters.

A device SN can be obtained in two ways:

o Command query: Run the show version command on a device to display the device SN.

The following uses an AC as an example. G1L60EW000233 is the SN of the AC.

Ruijie#show version System description : Ruijie Gigabit Wireless Switch(WS6008) By Ruijie Networks. System start time : 2020-06-07 11:52:26 System uptime : 0:01:38:50 System hardware version : 1.00 System software version : AC_RGOS 11.9(5)B1T2 System patch number : NA System serial number : G1L60EW000233 System boot version : 1.2.12 Module information: Slot 0 : WS6008 Hardware version : 1.00 Boot version : 1.2.12 Software version : AC_RGOS 11.9(5)B1T2 Software version : AC_RGOS 11.9(5)B1T2 Serial number : G1L60EW000233

- o Label query: Check the label on the back of a product to obtain the device SN.
- **Device ID**: This parameter is required only for IoT devices, which are identified by device MAC address. The value is a string of no more than 100 characters.
- Select Site: (Required) Select the site, where the device is located.
- Remarks: (Optional) Enter the remarks of the device. The value is a string of no more than 400 characters.

After completing the configuration above, ensure that the device connects to WIS Cloud Network properly and then the **Device Management** page shows that the device is in the online state 3–6 minutes later.

A Caution

The SN and device type must be correct. Otherwise, the device cannot go online.

6.3.3 Importing Devices

WIS Cloud Network supports batch import of devices. The procedure is as follows:

(1) Click Import.

Click Import. The Batch Import Device dialog box is displayed.

Figure 6-19 Bulk Importing Devices

	Batch Import Device X
	* Select Site
0	1. Download the template and edit content in the .xls file. (Note: A maximum of 500 records can be imported at a time.)
0	占 Download Template
0	2. Upload the template file.
3	+
C	Please select a. xls file.
С	Drag the template file to the box for fast uploading.
148	

(2) Enter information.

Select the site, to which the devices to be imported belong.

Figure 6-20 Entering Information

0	Batch Import Device X	(
	* Select Site	
0	1. Download the template and edit content in the .xls file. (Note: A maximum of 500 records can be imported at a time.)	
00	🕹 Download Template	
00	2. Upload the template file.	
03	+	
00	Please select a. xls file.	
70	Drag the template file to the box for fast uploading.	
0148		

(3) Download a template.

Click **Download Template** to download the device import template to the local device.



0	Batch Import Device X	2)
	* Select Site	
	· · · · ·	
00	1. Download the template and edit content in the .xls file. (Note: A maximum of 500 records can be imported at a time.)	
0	🕹 Download Template	I
Ŀ	2. Upload the template file.	ł
0		l
3	+	1
00	Please select a. xls file.	
70	Drag the template file to the box for fast uploading.	
02-		

(4) Fill in the template.

Open the downloaded device import template and enter device information.

A Caution

A maximum of 500 records can be imported at a time.

Figure 6-22 Filling in the Template

	n	L L	0	U U	Ľ	
	SeriaNumber (13-15 characters, mandatory)	Device Type (mandatory)	Device Name (mandatory)	Device ID (only for iot devices)	Remark (Optional)	
1						
;						
i.						
ı.						
1						
1						
1						
С						
1						
2						
3						
4						
ō						

Parameters in the template are described as follows:

- SN: (Required) Enter the actual device SN. The value is a string of 13–15 characters containing digits or letters.
- **Device Type**: (Required) Select the actual device type.
- **Device Name**: (Required) It identifies a device. It is a string of up to 50 characters containing Chinese characters, letters, digits, underscores (_), hyphens (-), @, and &.
- **Device ID**: This parameter is required for IoT devices and is set to the device MAC address. The value is a string of no more than 100 characters.
- **Remarks**: (Optional) Enter the remarks of the device. The value is a string of no more than 400 characters.
- (5) Upload the template.

Drag the template file to the specified area or click **Please select a.xls file.** and select the template file. Then, the system automatically imports devices that meet requirements from the template.

Figure 6-23 Uploading the Template

Batch Ir	mport Device	Х
* Select	Site	
	· · · · · · · · · · · · · · · · · · ·	
1. Down (Note: A m	load the template and edit content in the .xls file naximum of 500 records can be imported at a time.)	
	🕹 Download Template	
2. Uploa	d the template file.	
	Ŧ	
	Please select a. xls file.	
Drag	the template file to the box for fast uploading.	
187 81		

6.3.4 Deleting a Device

Click --- in the device list and select **Delete** to delete a specified device. Devices can be bulk deleted.

Figure	6-24	Deleting	a Device
--------	------	----------	----------

My Network	My Network / My Site / Device Management											
AP 6/14	Fit AP 8/16	AC 2/7	Switch 2/3	Gateway 2/2			+ Add	Device	Export En	ter an SN or name	for query Q C 🕸	
	Status 👻	Device Name	SN	MAC Address	Device Model	Site	Management IP	Egress Address	Number of Online Users	Last Offline Time	e Operation	
	Online								0	2022-08-28 10:5	0:19 Details	
	Online								0	2022-08-28 10:3	Deliver Config	
	Online								0	-	Upgrade Move	
	Online								0		Restart	
	Online								0		Backup Backup Restoration	
	Online							-	0	-	Access eWeb Access Telnet	
	Offline								0	2022-09-06 16:2	Access SSH	
	Offline								0	2022-09-07 21:1	13:28 Details ···	
	• Offline								0	2022-08-29 16:0	06:20 Details	
	• Offline								0	2022-08-30 13:5	58:18 Details ···	

Figure 6-25 Bulk Deleting Devices

My Network	My Network / My Site / Device Management											
AP 6/14	Fit AP 8/16	AC 2/7	Switch 2/3	Gateway 2/2			+ Add [Device Import	Export	Enter	an SN or name for query	9 C 🕸
	Status 👻 Dev	ice Name	SN	MAC Address	Device Model	Site	Management IP	Egress Address	Number of C	Deliver Config Upgrade	ast Offline Time	Operation
	Online								0	Move Delete	022-08-28 10:50:19	Details ···
	Online								0	Restart Unbind	022-08-28 10:39:01	Details ···
	Online								0			Details ···
	Online								0			Details ···
	Online								0			Details ···
	Online								0			Details ···
	Offline								0	:	2022-09-06 16:24:02	Details ···
	Offline								0	:	2022-09-07 21:13:28	Details ···
	Offline								0		2022-08-29 16:06:20	Details ···
	Offline								0	:	2022-08-30 13:58:18	Details ···

6.3.5 Device Details

Click a device name in the list or click **Details** in the **Operation** column for a device to view device details. The device details mainly include network indicators, basic information, details, and configuration functions of the device.

Caution

Items contained in device details vary with devices. This section uses the details of a fat AP as an example for description.

Figure 6-26 Device Details

lome		k Management & Maintenance Intelligent Analysis System Management							Device Details X				
My Net	y Network / My Site / Device Management							오 Monitor	Equipment history	E Basic Info	کچ Terminal	E Toolbox	
AP 614 Fit AP 616 AC 27 Switch 2/3 Gateway 22 + Ad							+ Add Dev	Number of Uncleared Alarms					
	Status 👻	Device Name	SN	MAC Address	Device Model	Site	Management IP E	τα	oday	Yesterday	Last 7 Day	/S	
	Online						-	Running Status (%)					
	Online						-	CPU Memory					
	Online						-	40					
	Online						4	00:00 0:	1:55 03:50 05:45 07:4	0 09:35 11:30 13:2	5 15:20 17:15 19:10	21:05	
	Online						-	Connectivit	/ Status				
	Online						4	0:00	6:00	12:00	18:00	24:00	
	 Offline 						4	Peak Traffic	Trend (Mbps)	h Bata - Davadiał	0.1.		
	 Offline 						-	0.04	- Opin	k Kate – Downlink	c kate		
	Offline							0.02				h.	
	 Offline 							0 00:00 0	1:55 03:50 05:45 07:	40 09:35 11:30 13:2	5 15:20 17:15 19:10	21:05	

The details of a fit AP are displayed on an independent page. The device details page displays basic information about the device, device load, and device analysis information.



1. Monitor

Click a device name in the list or click **Details** in the **Operation** column for a device to view device details. Click the first icon in **Device Details** to view device status monitoring, including the number of uncleared alarms, running status, connectivity status, peak traffic trend, number of online users, and channel utilization.

	Home My Network Management & Maintenance Intelligent Analysis	Device Details	×
• • • • • • • • • • • • • • • • • • •	My Network / My Site / Device Management	Image: Constraint of the second sec	E Toolbox
	AP 1/2 Fit AP 12/1574 AC 1/3 Switch 1/1 Gateway 1/1 Router 0/0 IoT Device 0/0 > + Add D	Number of Uncleared Alarms	0
🗃 My Site 🔷 🔨	Status III Device Name SN MAC Address Device Model Site Management IP Egress	Today Yesterday Last 7 Da	ys
 Site Overview 	• Online	Running Status (%)	
Network Configur Device Managem	Offline Offline	- CPU - Memory 100 80	
 Network Topology 		60 40 20	
● Network Optim ×		0 00:00 01:15 02:30 03:45 05:00 06:15 07:30 08:45 10:00 11:15 12:	30 13:45
💭 STA Insight 🛛 👻		Connectivity Status	
Access Security		0:00 6:00 12:00 18:00	24:00
🛕 Alarm Manage 🗡		Peak Traffic Trend (Mbps) - Uolink Rate - Downlink Rate	
🖹 Report 🗸 👻		1 0.8	
		0.6 0.4 0.2	
		0 00:00 01:15 02:30 03:45 05:00 06:15 07:30 08:45 10:00 11:15 12:	30 13:45
		Number of Online Users	

Figure 6-28 Network Status Monitoring of a Device

Status monitoring details are described as follows:

- **Number of Uncleared Alarms**: Shows the number of uncleared alarms on the device. You can click the alarm quantity to go to the alarm management page.
- Time: You can switch the time bar to view network details in different periods. The time can be Today, Yesterday, or Last 7 Days.
- Running Status (%): Shows the CPU utilization and memory utilization, in percentage.
- **Connectivity Status**: Shows the connectivity status of the device in different periods.
- Peak Traffic Trend (Mbps): Shows the curve graph of peak traffic in different periods.
- Number of Online Users: Shows the number of currently online users served by the device.
- Channel Utilization: Shows the utilization of different channels on the device at different time points.

Monitoring information varies with devices and is described as follows:

- For cloud APs, status monitoring includes the number of uncleared alarms, running status, connectivity status, peak traffic trend, number of online users, and channel utilization.
- For fit APs, status monitoring includes device details, device load, and device analysis.
- For switches and ACs, status monitoring includes the number of uncleared alarms and running status.
- For routers, status monitoring includes the number of uncleared alarms, running status, and port rate trend.

2. Basic Info

Click a device name in the list or click **Details** in the **Operation** column for a device to view device details. Click the second icon **Basic Info** in **Device Details** to view basic information about the device, including the device name, model, MAC address, version, SSID, and channel. You can modify the device name and remarks on this page. Basic information about an AP also includes basic information about radios, and basic information about an RSR router also includes basic information about SIM cards.

Figure 6-29 Basic Info

Device Detail	S			×
Q Monitor	Equipment history	E Basic Info	Ç Terminal	E Toolbox
Basic Info Device Name Device Model SN MAC Address Software Vers Management SSID Name Site Device Group Remarks	ion P	AP_RGOS 11.	1(9)B1P14, Releas	se(06151415)
radio 1 RF Type Channel Channel Utiliz Power Frequency Ba radio 2 RF Type Channel Channel Channel Utiliz Power Frequency Ba	ation ndwidth ation ndwidth			2.4G 9 75% 100% 40MHz 5G 153 19% 100% 80MHz

3. Terminal

Click a device name in the list or click **Details** in the **Operation** column for a device to view device details. Click the third icon **Terminal** in **Device Details** to view the list of STAs connected to the current AP. The list provides the STA MAC address, signal, online duration, and traffic.

Figure 6-30 Wireless User List

Device Deta	ails				×
Q Monitor	Equipme	nt history	Basic Info	<mark>ک</mark> Terminal	문 Toolbox
Wireless Use	r List (0)				
STA MAC Addr	ess	Signal (dBm)	Online Dura	ation 1	Traffic (MB)
			No Data		
			No Data		

4. Toolbox

Click a device name in the list or click **Details** in the **Operation** column for a device to view device details. Click the fourth icon in **Device Details** to go to the **Toolbox** tab page. This page provides various management tools, including configuration, diagnosis, and operation tools, which meet various device management and control requirements.

- Configure: Includes Deliver Config, Config Backup, Configuration Restoration.
- Diagnosis: Includes Command Debugging, Access eWeb, and Access Telnet.
- Operation: Includes Restart and Device Upgrade.

Entries for these functions are also provided on the device list page. These functions will be described in subsequent sections.

Figure 6-31 Toolbox

Image: Configure Image: Configure Image: Configuration Restoration Deliver Config Config Backup Configuration Restoration Diagnose Command Debugging Access eWeb Access Telnet	Device Details			×
Configure Deliver Config Config Backup Diagnose Command Debugging Access eWeb	Monitor Equipme	nt history Basic Inf	o Terminal	문 Toolbox
Diagnose Command Debugging Access eWeb Access Telnet	Configure Deliver Config	Config Backup	onfiguration Restoration	
Access SSH	Diagnose Command Debugging	Access eWeb	Access Telnet	
Operation Restart Device Upgrade	Operation Restart Device	Upgrade		

6.3.6 Unbinding a Device

If the device to be added has been bound to the system and the device is by your side (you can configure commands on the device console), you can unbind the device. Click … and select **Unbind**. Follow the steps prompted on the page to unbind a device.

Figure	6-32	Unbinding	a Device
--------	------	-----------	----------

My Network	My Network / My Site / Device Management											
AP 6/14	Fit AP 8	AC 2/7	Switch 2/3	Gateway 2/2			+ Add D	Device Import	Export	Enter	an SN or name for query	с ©
	Status 👻	Device Name	SN	MAC Address	Device Model	Site	Management IP	Egress Address	Number of C	Deliver Config Upgrade	ast Offline Time	Operation
	Online								0	Move Delete	022-08-28 10:50:19	Details
V	Online								0	Restart	022-08-28 10:39:01	Details
~	Online								0	Unbind		Details
	Online								0			Details ···
	Online								0			Details ···
	Online								0			Details
	Offline								0		2022-09-06 16:24:02	Details ···
	Offline								0		2022-09-07 21:13:28	Details
	Offline								0		2022-08-29 16:06:20	Details
	• Offline								0		2022-08-30 13:58:18	Details

To unbind a device, do as follows:

(1) Enter the device SN and click **Submit** to request device unbinding.

(i) Note

- For details about how to view the device SN, see the SN acquisition method described in "Adding a Device."
- After submitting a request, complete unbinding within 15 minutes. Otherwise, you need to submit another request after the request expires.
- (2) On the device to be unbound, run the unbinding command. The platform will automatically unbind the device after receiving the device unbinding request. The unbinding commands are as follows:

```
config
cwmp
acs url http://wiscloud.ruijienetworks.com/device/unbind
```

(3) Go to **Status Query** to check the unbinding result.

🚺 Note

If you need to add an unbound device to another project, configure the **acs url** http://wiscloud.ruijienetworks.com/acs command.

Figure 6-33 Status Query

Unbind				×
		Unbind Sta	tus Query	
Status	SN	Submission Time	Expiration Time	Operation
		No Da	ta	

6.3.7 Delivering the Configuration

Click ••• in the device list and select **Deliver Config** to deliver a CLI command set to a device. Configuration delivery is a common task in the configuration management component. After delivery, you can view the configuration execution in **Management & Maintenance** > **Configuration** > **Task**.

Figure 6-34 Delivering the Configuration (01)

My Network	My Network / My Site / Device Management										
AP 6/14	Fit AP 8/16 AC 2/7	Switch 2/3	Gateway 2/2			+ Add	Device Import	Export	Enter	an SN or name for query	с ø
	Status 🛫 Device Name	SN	MAC Address	Device Model	Site	Management IP	Egress Address	Number of C	Deliver Config Upgrade	ast Offline Time	Operation
	Online							0	Move Delete	022-08-28 10:50:19	Details ···
~	Online							0	Restart	022-08-28 10:39:01	Details
~	Online							0	Onbind	-	Details
	Online							0			Details ···

Figure 6-35 Delivering the Configuration (02)

My Network / My Site / Device Management						
< AP 1/2 Fit AP 12/1574 AC 1/3 Switch 1/1	Deliver Config	Х	+ Add Device	Import	Export	
Status T Device Name SN MA	Delivery Time(If no delivery time is selected, the command is delivered immediately.)		> Egress Address	Numbe	r of Online Users	Last Offline Time
 Online 	Please selectDelivery Time CLI Command Set	Ë	-	0		2022-08-01 11:21:20
Offline	Please enter CLI Command Set			0		2022-07-31 17:17:34
	Cancel	ОК				1-2 of 2 items <

Parameters for configuration delivery are described as follows:

- **Delivery Time**: (Optional) Specify the time for delivering a CLI command set. If no delivery time is specified, the CLI command set is immediately delivered.
- CLI Command Set: (Required) Edit the command set to be delivered to a device.

Figure 6-36 Bulk Delivering the Configuration

My N	My Network / My Site / Device Management											
AP	6/14	Fit AP 8/16 AC 2/7	Switch 2/3	Gateway 2/2			+ Add D	Device	(2) Export	Enter a	an SN or name for query	C \$
0		Status 🛫 Device Name	SN	MAC Address	Device Model	Site	Management IP	Egress Address	Number of C	Upgrade	ast Offline Time	Operation
		Online							0	Move Delete	022-08-28 10:50:19	Details ···
		Online							0	Restart	022-08-28 10:39:01	Details ···
		Online							0	-		Details ···

6.3.8 Upgrading Devices

Click --- in the device list and select **Upgrade** to upgrade a device. Batch upgrade is supported.

Figure 6-37 Upgrading a Device (01)

My Network	/ My Site / Device	Manageme	nt									
AP 6/14	Fit AP 8/16	AC 2/7	Switch 2/3	Gateway 2/2			+ Add I	Device	Export	Enter :	an SN or name for query	QC
	Status 🛫 Devi	ice Name	SN	MAC Address	Device Model	Site	Management IP	Egress Address	Number of C	Deliver Config Upgrade	ast Offline Time	Operation
	Online								0	Move Delete	022-08-28 10:50:19	Details ···
	Online								0	Restart	022-08-28 10:39:01	Details ···
	Online								0			Details ···

Figure 6-38 Upgrading a Device (02)

My Network / My Site / Device Management		
< AP 1/2 Fit AP 12/1574 AC 1/3 Switch 1/	Device Upgrade X	Export Enter an SN or name for query Q C 🕲
Status 🖞 Device Name SN	AP730-L 1 Software Version AP_RGOS 11.1(9)81P19	r of Online Users Last Offline Time Remark Operation
Online	Version Upgrade Please selectVersion Upgrade 9	2022-08-01 11:21:20 - Details
Offline	AP850-1 1	2022-07-31 17:17:34 - Details
	Software Version AP_RGOS 11.9(6)B1P6, Release(08210316)	
	Version Upgrade Please selectVersion Upgrade V	1-2 or 2 tiems < 1 3 10 / page ~
	Scheduled Upgrade (If it is not selected, upgrade is performed immediately)	
	Please select upgrade time	
	Maximum Failure Retries (Optional)	
	Otimes 1times 3times 5times	
	Cancel Start Upgrade	

Device upgrade policies are described as follows:

- Version Upgrade: (Required) Select the target version of the upgrade. A device can be upgraded to any available version.
- Scheduled Upgrade: (Optional) Select the upgrade time. If the upgrade time is not specified, upgrade is performed immediately. No upgrade time is set by default.
- Maximum Failure Retries: (Optional) Set the maximum number of retries after an upgrade failure. The options include **0times**, **1times**, **3times**, and **5times**. No value is selected by default, indicating 0 retries.

Figure 6-39 Bulk Upgrading Devices

My Network	My Site / Device Management			
AP 6/14	Fit AP 8/16 AC 2/7 Switch 2/3 Gateway 2	2)	+ Add Device Import Export Enter	an SN or name for query Q C 🕸
	Status g Device Name SN MAC Ac	dress Device Model Site Manaj	Deliver Config gement IP Egress Address Number of C Upgrade	ast Offline Time Operation
	• Online		0 Move Delete	022-08-28 10:50:19 Details ···
	Online		0 Restart	022-08-28 10:39:01 Details ···
	Online		0	Details

6.3.9 Moving a Device

Click ••• in the device list and select **Move** to change the site, to which a device belongs. Devices can be bulk moved.

A Caution

After a device is moved, the system will deliver the configuration of the new site to the device.

Figure 6-40 Moving a Device (01)

My Network	/ My Site / Device Managemen	nt									
AP 6/14	Fit AP 8/16 AC 2/7	Switch 2/3	Gateway 2/2			+ Add D	levice Import	Export	Enter :	an SN or name for query	< C ₿
	Status 🛫 Device Name	SN	MAC Address	Device Model	Site	Management IP	Egress Address	Number of C	Upgrade	ast Offline Time	Operation
	Online							0	Move Delete	022-08-28 10:50:19	Details ···
	Online							0	Restart	022-08-28 10:39:01	Details ···
	Online							0	-		Details ···

Figure 6-41 Moving a Device (02)



Figure 6-42 Bulk Moving Devices

My Network	/ My Site / Device Management										
AP 6/14	Fit AP 8/16 AC 2/7	Switch 2/3 Ga	teway 2/2			+ Add D	evice Import	Export	Enter a	an SN or name for query	с ©
	Status T Device Name S	N	MAC Address	Device Model	Site	Management IP	Egress Address	Number of C	Deliver Config Upgrade	ast Offline Time	Operation
~	Online							0	Move Delete	022-08-28 10:50:19	Details ···
	Online							0	Restart	022-08-28 10:39:01	Details
	Online							0	-		Details

6.3.10 Restarting a Device

Click ••• in the device list and select **Restart** to restart a specified device. Perform this operation in a period, in which services are not affected. Batch restart is supported.

Figure 6-43 Restarting a Device (01)

+ Add [Device Import	Export	··· Enter	an SN or name for query	C \$
Management IP	Egress Address	Number of C	Deliver Config Upgrade	ast Offline Time	Operation
		0	Move Delete	022-08-28 10:50:19	Details ···
		0	Restart Unbind	022-08-28 10:39:01	Details ···

Figure 6-44 Restarting a Device (02)

My Network	k / My Site / Device Managemen	nt : 1/3 Switch 1/1	i Are you sure you wa	nt to restart the device?	+ Add Device	Import Export	中文 P Enter an SN or name	for query
	Status 📱 Device Name	SN M/		Cancel	Egress Address	Number of Online Users	Last Offline Time	Remark:
	Online					0	2022-08-01 11:21:20	
	Offline					0	2022-07-31 17:17:34	
							1-2 of 2 items < 1	

Figure 6-45 Bulk Restarting Devices

My Network	/ My Site / Device Management						
AP 6/14	Fit AP 8/16 AC 2/7 Switch 2/	3 Gateway 2/2		+ Add Device Import	Export	Enter an SN or name for que	ту Q С 🕸
	Status 🛫 Device Name SN	MAC Address	Device Model Site	Management IP Egress Address	Number of C	Upgrade ast Offline Time	Operation
	Online				0	Move 022-08-28 10:50:19 Delete	Details ···
	Online				0	Restart 022-08-28 10:39:01	Details ····
	Online				0	-	Details ···

6.3.11 Backing Up the Configuration

Click ••• in the device list for a specific device and select **Backup** to back up all current configurations of the device. After the backup is completed, you can view the operation configuration backup status of the device on the backup page.

Figure 6-46 Backing Up the Configuration (01)

My Network / My Site / Device Management	
< AP 1/2 Fit AP 12/1574 AC 1/2 Switch 1/1 Gateway 1/1 Router 0/0 IoT Device 0/0 > + Add Device Import Export Enter an SN or name for que	ery Q C 🕸
Z Status 🕱 Device Name SN MAC Address Device Model Site Management IP Egress Address Number of Online Users Last Offline Time Remainder Status	irk: Operation
✓ • Online	Details
☑ ● Offline 0 2022-07-31 17:17:34 De	lete liver Config
Up 1-2 of 2 items < 1 MA Re 8a	grade we start ckup
89	ckup Restoration
AC Ac	cess eweb

Figure 6-47 Backing Up the Configuration (02)

My Network	k / My Site / Device Management							
< AP (1/2 Fit AP 12/1574 AC 1/	3 Switch 1/1	Will Back Up Device Configuration Are you sure you want to click OK to start backing up configuration immediately?	+ Add Device	Import Export ···			۵ C 🅸
	Status 👻 Device Name SN	N MA	Cancel	Egress Address	Number of Online Users	Last Offline Time	Remark:	Operation
	Online		And in case of the local division of the loc	-	0	2022-08-01 11:21:20		Details
	Offline				0	2022-07-31 17:17:34		Details
						1-2 of 2 items < 1		10 / page∨

Figure 6-48 Successful Delivery of the Backup Command

My	Netwo	rk / My	Site / I	Device Manag	emer	nt								
	AP	1/2	Fit AP	12/1574	AC	1/3	Switch		0	The configuration backup command is delivered. It will take 1–3 minutes to upload the backup result.	+ Add Device	Import Export ····		
		Statu	s T	Device Nam	e	SN		Μ	J.	You can go to Backupthe management page to view the backup result.	Egress Address	Number of Online Users	Last Offline Time	Remark:
		• On	line							ок		0	2022-08-01 11:21:20	
		∘ Off	line								1.00	0	2022-07-31 17:17:34	
													1-2 of 2 items < 1	

Click **Backup** in the pop-up box to redirect to the configuration backup management page and view the backup result.

6.3.12 Command Debugging

On the **Device Details** page, click the **Toolbox** tab and then click **Command Debugging** to go to the debugging window. Enter commands in the input box and press **Enter** to remotely debug a device. The command execution results are displayed in the black area shown in the figure.

									Device Details				×
My Ne	twork / My Site	e / Devi	ice Managemen						Q Monitor	Equipment history	E Basic Info	و کچ Terminal	Toolbox
				Switch	Command Debugging	9		X	Configure				
	Status		Device Name	SN	Device Name. AP720-A			Clear	Deliver Cont	ig Config Backu	p Configur	ation Restoration	
								Common Commands	Diagnose G				
								Common	Command F	abunning Acces	e eWeb	crass Tainat	
) • Onlin	е						Version Information Runtime Configuration	Assess COL	abogging Paces			
								Startup Configuration	Access 55P				
				-				Recent Logs	Operation				
		e						Current Time	Restart	Device Upgrade			
								Connectivity					
) • Onlin							Interface IP					
								ARP Entries					
								MAC Entries					
								DNS Information					
								Routing Information					
								User Info					
								User IP (DHCP Server)					
) • Offin	е						E user in (DHCP Shop					
					Deve Estado and								

Figure 6-49 Command Debugging

The command debugging window provides shortcut buttons for common commands, such as **Version Information**, **Runtime Configuration**, **ARP Entries**, **Routing Information**, and **User IP**. You can click a common command and view command output rapidly. Click **Clear** to clear information on the current screen.

· Wi	Home My Network Management & Maintenance	tedelligent Analysis		Dévice Details			×
	14/ Network / My Site / Device Management			Q Monitor	8asic Info	<mark>운</mark> Terminal	Toolbox
	AP MZ: Fit AP 12/1514 AC MZ Switch	Command Debugging	×	Configure			
B My Sta	Status T David Name SN	Device Name: AP850-I	Clear	Deliver Config	Config Backup	Configuration Restora	tion
· Site Overview			Common Commands	Diagnose			
- Network Configu	Online		Common	Command Debu	gging Access eV	Veb Access Teinet	
- Device Manage	Cifline - Offline		Runtime Configuration	Operation			
Network Topology			Startup Configuration Recent Logs	Restart De	vice Upgrade		
e Network Opti			Current Time				
🗘 STA Insight 👻			interface IP				
O Access Security			Interface Status APB Entries				
🗋 Alarm Manage			MAC Entries				
🖽 Report 👻			DNS Information Routing Information				
			User info				
			User IP (DHCP Server)				
		Press Enter to send the command.					

Figure 6-50 Shortcut Common Commands

6.3.13 Restoring the Configuration from Backups

Click •••• in the device list and select **Backup Restoration** to restore the required configuration from configuration backups. You can restore the configuration from configuration backups on the local device or restore the configuration from configuration backups in other similar devices to the local device. The backup list displays the name of the backed up device, backup time, and remarks. You can quickly identify different backups based on information in the backup list, and search for backups by remarks or device name. Select a specified backup and click **Restore to Device** to trigger the backup restoration.

My Netwo	rk / My Site /	Device Management											
AP 1/2	Fit AP 12	/1574 AC 1/3	Switch 1/1	Gateway 1,	/1 Router 0/0	IoT Device 0/0	Firewall 0/0			+ Add Device Import	Export Enter an	SN or nam	e for qu Q 🕲
	Status	T Device Name	SN		MAC Address	Device Model	Site	Management IP	Egress Address	Number of Online Users	Last Offline Time	Rema	ks Operation
	Online				-					0	2022-08-01 11:21:20	-	Details I
	- Offline									0	2022-07-31 17:17:34		Delete Deliver Config
											1-2 of 2 items	< 1	Upgrade Move Restart Backup Backup Restoration Access eWeb Access Telnet

Figure 6-51 Restoring the Configuration from Backups

Home	Му	Network	Management & M	laintenance	Intelligent Analysis							+ Add	Site		Å
My P	letwork	/ My Site /	Device Management	:		Restore Dev	ice			X					
AP	1/2	Fit AP	/1574 AC 1/3	Switch 1/1	Gateway 1/1							+ Add Device Import	Export Enter an		-
		Status	Device Name	SN		Local De	evice Backup 1	All Devices 2	Searc	ch for remarks/na Q	lress	Number of Online Users	Last Offline Time	Remarks	Operation
		 Online 					Device Name	Backup Tim	e \$	Remarks		0	2022-08-01 11:21:20		Details 🖵
		 Offline 				۲		2022-08-05	14:31:50	•		0	2022-07-31 17:17:34		Details 📖
								1-1 of 1 items	< 1	> 5 / page∨			1-2 of 2 items		10 / page 🗸
									Cancel	Restore to Device		_			

Figure 6-52 Restoring the Configuration from Backups in the Local Device

Figure 6-53 Restoring the Configuration from Backups in All Devices

My Network / My Site / Device Management		_			
AP 1/2 Fit AP 12/1574 AC 1/3 Switch 1/1 Gateway 1/1	Restore Device	×	+ Add Device Import	Export Enter an S	
Status T Device Name SN	Local Device Backup 1 All Devices 2	Search for remarks/na Q	Number of Online Users	Last Offline Time	Remarks
Online	Device Name Backup Time 💠	Remarks	0	2022-08-01 11:21:20	
- Offline	0 2022-08-03 09:00:	40 -	0	2022-07-31 17:17:34	
	2022-07-28 23:47:	40 -		1-2 of 2 items	
	1-2 of 2 items	1 > 5 / page ~			
	Car	Icel Restore to Device			

6.3.14 Accessing eWeb

Click ... in the device list and select **Access eWeb** for a device. The system creates a tunnel with the device and the Web management page of the device can be accessed through the tunnel. If the device is offline, the tunnel fails to be created.

A Caution

The eWeb window may be blocked by the browser. Therefore, configure the browser to allow the eWeb window.

Figure 6-54 Accessing eWeb

My Network	k / My Site /	Device Managemen										
AP 1/2	Fit AP 12	/1574 AC (1/3)	Switch 1/1 Gatewa	y 1/1 Router 0/0	IoT Device 0.0	Firewall 0/0			+ Add Device Import	Export Enter an	SN or name	for qu Q 🕸
	Status	T Device Name	SN	MAC Address	Device Model	Site	Management IP	Egress Address	Number of Online Users	Last Offline Time	Remark	s Operation
	Online								0	2022-08-01 11:21:20	-	Details 😐
	Offline								0	2022-07-31 17:17:34		Delete Deliver Config
										1-2 of 2 items	< 1	Upgrade Move Restart Backup Backup Restoration Access eWeb Access Telnet

If the current device does not support the eWeb tunnel, you need to create a tunnel through a transfer device that supports the eWeb tunnel.

Figure 6-55 Creating a Tunnel

My Network	/ My Site / De	ice Management								
AP 1/2	Fit AP 12/1574	AC 1/3	Switch 1/1	Gateway 1/1 Rou	Create Tunnel	×		+ Add Device Import	Export Enter an	
	Status 🐨	Device Name	SN	MAC Add	The device does not support the tunnel function, and data can be transferred through other devices.		ress Address	Number of Online Users	Last Offline Time	Remarks
	Online				Transfer Device EG2000GE/1231112312116			0	2022-08-01 11:21:20	
	- Offline				Tunnel Service Type eWeb			0	2022-07-31 17:17:34	
					Cancel Create Tunn	el			1-2 of 2 items	

Figure 6-56 A Tunnel Is Being Created

My Network / My Site / Device Management	(i) Creating a tunnel. Woit 1.3 minutes. After the	
AP 1/2 Fit AP 12/1574 AC 1/3 Switch 1/1	prompt disappears, you can check the creation result in Management & Maintenance > Tunnel Management.	+ Add Device Import Export Enter an SN or name
Status T Device Name SN I	Got it.	Egress Address Number of Online Users Last Offline Time
Online	· · · · · · · · · · · · · · · · · · ·	0 2022-08-01 11:21:20
Offline		0 2022-07-31 17:17:34
		1-2 of 2 items <

After a tunnel is created successfully, the system automatically redirects to the eWeb login page.

Figure 6-57 eWeb Login Page

Ruffe
Access Point Simplified Network, Excellent Experience
Please enter the password
Forgot your password? 中文 +
Login
Official Website Service Portal Service Mall Google Chrome is recommended. IE11 and 360 browser are also supported. ©2000-2022 Ruijie Network

6.3.15 Accessing Telnet

Click ... in the device list and select **Access Telnet** for a device. The system creates a tunnel with the device and the console of the device can be remotely accessed through the tunnel.

My Network	/ My Site /	Device Managemer	nt								
AP 6/14	Fit AP	AC 2/7	Switch 2/3	Gateway 2/2			+ Add E	Device	Export Ent	er an SN or name f	or query Q C 🕸
	Status 👻	Device Name	SN	MAC Address	Device Model	Site	Management IP	Egress Address	Number of Online Users	Last Offline Time	Operation
	Online								0	2022-08-28 10:50	0:19 (2) Details ···
	Online								0	2022-08-28 10:3	Delete Deliver Config
	Online								0		Upgrade Move
	Online								0		Restart
	Online								0		Backup Backup Restoration
	Online								0	3	Access eWeb Access Telnet
	• Offline								0	2022-09-06 16:2	Access SSH

Figure 6-58 Accessing Telnet

If a device (such as AP or switch) does not support the telnet tunnel function, data needs to be transferred through other devices.

Figure 6-59 Creating a Telnet Tunnel

My Network	/ My Site / De	vice Management								
AP 1/2	Fit AP 12/157	14 AC 1/3	Switch 1/1	Gateway 1/1 Rou	Create Tunnel	×		+ Add Device Import	Export Enter an S	N or name fo
	Status 👻	Device Name	SN	MAC Ado	The device does not support the tunnel function, and data can be transferred through other devices.		ress Address	Number of Online Users	Last Offline Time	Remarks
	Online				Transfer Device EG2000GE/1231112312116	~		0	2022-08-01 11:21:20	
	- Offline				Tunnel Service Type eWeb	V		0	2022-07-31 17:17:34	•
					Cancel Create Tunn	iel			1-2 of 2 items	< 1 >

Parameters for the configuration transfer are described as follows:

- **Transfer Device**: (Required) A transfer device transfers tunnel data. All types of devices except APs can serve as transfer devices.
- **Tunnel Service Type**: (Required) Specify the type of the tunnel to be created. It can be set to **eWeb** or Telnet.

Figure 6-60 A Tunnel Is Being Created

 Creating a tunnel... Wait 1–3 minutes. After the prompt disappears, you can check the creation result in Management & Maintenance > Tunnel Management.

Got it.

Figure 6-61 Accessing Telnet

My Network /	/ My Site / Dev	ice Management					
< AP 1/3	72 Fit AP	Access Telnet	×				۹ C \$
	Status 🐨	CONNECT ING		Jsers	Last Offline Time	Remark	Operation
	• Online	User Access Verification			2022-08-01 11:21:20		Details
	Offline	Password:			2022-07-31 17:17:34		Details
				1	-2 of 2 items < 1		10 / page 🗸

6.4 Network Topology

Choose **My Network > My Site > Network Topology** to view the topology of the current network. The system automatically generates the topology based on the actual network topology.

A Caution

- (1) If there is no gateway or router on a network, the network topology function is unavailable.
- (2) If multiple gateways are added to a network, only one gateway is displayed in the topology.
- (3) If a switch is a third-party switch or is not managed by WIS Cloud Network, the system can only calculate the existence of the switch based on relationships between the switch and other devices, but cannot figure out the status and ports of a switch.
- (4) Devices that never go online are displayed in gray.

Figure 6-62 Network Topology



6.4.1 Device Query

You can search for a specified device by device name or device SN.

Figure 6-63 Searching for a Device

My Network / My Site / Network Topology /	Topology Info			
(Update Time: 2022-10-13 02:	19)			
Search for name or SN V	One-click Discovery	Refresh Topology	Device List	

6.4.2 Topology View

- Turn on or off **Display IP Address** to display the IP addresses or SNs of devices in the topology. Device SNs are displayed by default.
- Turn on or off Expand All to expand or collapse branches under Level 3 in the topology.



Figure 6-64 Switching the Topology View

Click **One-click Discovery**. The system automatically detects information about devices in the topology, including the device name, device type, device model, IP address, MAC address, and SN. The detection is performed by the gateway or router. A device can be successfully detected only after it connects to the WIS. A device can be registered with WIS in two ways:

- Automatic registration: A detected Ruijie device (judged based on OUI) will automatically register with WIS.
- Manual registration: Non-Ruijie devices can be added to the network manually.

You can click **Device List** to view detection results.

Figure 6-65 One-click Discovery

My N	etwork / My Site / Network	Topology /	Topology Info		-
	(Update Time: 2022-08-0	05 15:03)		Places wit	
			One-click Discovery	Please wait.	
			1	Scanning It will take 1–5 minutes	
				(60,7)	
				(00)	
				• 529265-E 5N: 529841-0-0-1	

Figure 6-66 Detection Result

My Network / My Site / Network	Topology / Topolog	ay Info						
(Update Time: 2022	Device Detection I	Result					Х	
Search for name or SN	Device Name	Device Type	Device Model	IP Address	MAC Address	SN	Operation	Display IP Address
	-	-	-			-	Manual Add	
	-	-	-			-	Manual Add	
	-	-	-			-	Manual Add	
	-	-	-			-	Manual Add	
	-	-	-			-	Manual Add	
				1-5 of 25 items	< 1 2 3	4 5	> 5 / page ∨	
		• 529100	G0/7 G0/47 Switch 5-48GT2XS-HP-E	Per2 GQ7 AC • WS6512	(PerB) (G0/1) AP • AP850.	4	(Rer#) (Got) (AP + 00d0/623526f	

Click **Refresh Topology** to re-detect devices on the current network and generate the latest network topology. The time required for refreshing the topology depends on the device quantity and usually takes 1–5 minutes.
Figure 6-67 Refreshing the Topology

(Update Time: 2022-08	-05 15:06)			×
	One-click Discove	ny Refresh Topology	Please wait. Scanning It will take 1–5 m	ninutes
			Ukanan Devis • \$22250-5 Shir tribler, -0-0-1	

Click the zoom icon +/- or scroll the mouse wheel to zoom in/out the topology view.

Figure 6-68 Zooming In/Out the Topology



6.4.3 Device List

You can click **Device List** to view a list of detected devices (last detection result).

Figure 6-69 Device List

ogy / Topology Info								1.0
37)	Device Detection I	Device Detection Result X						
One-click Discovery Refresh Topology Device List	Device Name	Device Type	Device Model	IP Address	MAC Address	SN	Operation	
	-		-			-	Manual Add	
		-	-			-	Manual Add	
	-	-	-			-	Manual Add	
			-			-	Manual Add	
		-	-			-	Manual Add	
				1.5.405 hours				
				1-5 of 25 items		4 0	> 5/page V	

6.4.4 Device Details

You can click a device in the topology to view its basic status and perform routine O&M configuration operations in the right pane.

🛕 Caution

Items displayed on the **Device Details** page vary with devices. This section uses the details of a gateway as an example for description.

1. Monitor

Click a device in the topology. Network details of the device are displayed by default, including the number of uncleared alarms, running status, connectivity status, peak traffic trend, number of sessions, number of online users, Top10 app traffic, and Top10 user traffic.



Figure 6-70 Network Status Monitoring of a Device

Parameters on the Monitor tab page of Device Details are described as follows:

- **Number of Uncleared Alarms**: Shows the number of uncleared alarms on the device. You can click the alarm quantity to go to the alarm management page.
- Time: You can switch the time bar to view network details in different periods. The time can be Today, Yesterday, or Last 7 Days.
- Running Status (%): Shows the CPU utilization and memory utilization, in percentage.
- Connectivity Status: Shows the connectivity status of the device in different periods.
- Peak Traffic Trend (Mbps): Shows the curve graph of peak traffic in different periods.
- Number of Online Users: Shows the number of currently online users served by the device.
- Session Quantity: Shows the number of valid session connections on the device.
- App Traffic TOP10: Shows the top 10 apps that occupy the most traffic.
- User Traffic TOP10: Shows the top 10 users who occupy the most traffic.

2. Basic Info

Click the second icon to switch to the **Basic Info** tab page. You can view basic information about the device, including the device name, model, MAC address, version, and IP address. You can modify the device name and remarks.

Figure 6-71 Basic Info



3. Panel Info

Click the third icon to switch to the **Port** tab page. You can view panel information, Ethernet port details, and port peak traffic trend of the device.

Figure 6-72 Panel Info



Panel information is described as follows:

• **Panel Info**: Shows the status of ports on the panel. Green indicates the port rate higher than 1 Gbps, yellow indicates the 10M/100M rate, black indicates that a port is disconnected, red indicates that a port malfunctions, and gray indicates that a port is disabled.

- **GigabitEthernet 0/0Port Details**: Shows details of the wired network port, including the port name, duplex mode, rate, port type, status, and IP address. On the panel information page of a switch, you can directly configure ports in port details.
- **GigabitEthernet 0/0Peak Traffic Trend (Mbps)**: Shows the peak traffic curve graph of the port on the current day.

4. Toolbox

Click the Toolbox icon to configure, diagnose, and perform operations on the device.

- Configure: Includes Deliver Config, Config Backup, Configuration Restoration.
- Diagnosis: Includes Command Debugging, Access eWeb, and Access Telnet.
- Operation: Includes Restart, Device Upgrade, and Enable AC.

Figure 6-73 Toolbox

Home My Network Management & Maintenance Intelligent Analysis System Management	Device Details ×
My Network / My Site / Network Topology / Topology Info	Q Image: Basic Info Port Toolbox Monitor Equipment history Basic Info Port Toolbox
AC-Group (Update Time: 2022-09-26 22:38)	Configure
Search for name or SN V One-click Discovery Refresh Topology Device List	Deliver Config Config Backup Configuration Restoration
	Diagnose Command Debugging Access eWeb Access Telnet Access SSH Operation Restart Device Upgrade Enable AC

The functions of the tools are described as follows:

(1) Deliver Config

Click **Deliver Config**. Edit a CLI command set to be delivered, and specify the delivery time. If no delivery time is specified, commands are delivered immediately. After commands are successfully delivered, you can view the configuration execution in **Management & Maintenance** > **Configuration** > **Task**.

Note

Commands can be delivered successfully only when a device is online.

Figure 6-74 Delivering the Configuration

Intelligent A	Analysis System Management		Device Details	×
	DeliverOption		Omega Image: Constraint of the second s	D Toolbox
scovery	Delivery Time(If no delivery time is selected, the command is delivered immediately.)	X	Configure Deliver Config Config Backup Configuration Restoration	
	Please select Delivery Time CLI Command Set Please enter CLI Command Set		Diagnose Command Debugging Access eWeb Access Telnet Access SSH	
			Operation Restart Device Upgrade Enable AC	
	Cancel	2XS-HP-E 1570041		

(2) Config Backup

Click Config Backup to back up all configurations of the current device.

Figure 6-75 Backing Up the Configuration

Intelligent	Analysis System Management	Device Details	×
	Will Back Up Device Configuration Are you sure you want to click OK to start backing up configuration immediately?	Q Image: Configure	Toolbox
covery	Cancel OK	Deliver Contig Econtig Backup Configuration Restoration Diagnose Command Debugging Access eWeb Access Telnet Access SSH Operation	
	SN: 11440W6130009	Restart Device Upgrade Enable AC	



Figure 6-76 Successful Delivery of the Backup Command

After the command is delivered, you can view the backup status of the device on the backup page. Click **Config Backup** in the pop-up box to redirect to the configuration backup management page and view the backup result.

(3) Configuration Restoration

Click **Configuration Restoration** to restore the required configuration from configuration backups. You can restore the configuration from configuration backups on the local device or restore the configuration from configuration backups on other similar devices to the local device. The backup list displays the name of the backed up device, backup time, and remarks. You can quickly identify different backups based on information in the backup list, and search for backups by remarks or device name. Select a specified backup and click **Restore to Device** to trigger the backup restoration.

Figure 6-77 Restoring the Configuration

Home My Network Management & Maintenance Intelligent Analysis				Device Details			
sky fertwork / sky Sik / fertwork topology / Topology Infe				Q	Basic Info	E.	E
(Update Time: 2022-06-05 15:21)	Restore Device		×	Configure	basic and	-	100
Description name of SN One-click Discovery Refrect	Local Device Backup 2	All Devices (2) Sear	ch for remarks/na Q	Deliver Config	Config Backup	Configuration Restor	ation
	Device Name	Backup Time 🔅	Remarks	Diagnose			
		2022-08-05 15:28:40	4	Command Del	bugging Access e	eWeb Access Telnet	
		2022-08-03 09:00:40	æ	Operation	Device Upgrade		
		1-2 of 2 items < 🚺	> 5 / page ~				
		Cancel	Restore to Device				
		(#308,D					
		* 52928 G-E 54:交話机 0 0-1					

(4) Command Debugging

On the **Device Details** page, click the **Toolbox** tab and then click **Command Debugging** to go to the debugging window. Enter commands in the input box and press **Enter** to remotely debug a device. The command execution results are displayed in the black area shown in the figure.

Figure 6-78 Command Debugging

me	My Network	Management & Maintlenance	Intelligent Analysis		Device Details			
M _y Net		Network Topology / Topology	নির্ভ		Q Monitor	E Basic Info	Port	Toolbox
		2022-08-05 15:213	Command Debugging	×				1944-000
1000			Device Name	Clear	Configure			
		on the one-click			Deliver Config	Config Backup	Configuration Resto	ration
				Common Commands	Diagnose	1		
				Common	Command Dahua	alan Assars at	linh Record Talant	
				Version Information Runtime Configuration	Command Debug	igning second of	Here and the second second	
				Startup Configuration	Operation			
				Recent Logs	Restart De	vice Upgrade	nable AC	
				Current Time	Contraction ()			
				Connectivity				
				🖾 Interface IP				
				Interface Status				
				ARP Entries				
				MAC Entries				
				Bouting Information				
2				User Info				
				User IP (DHCP Server)				
				User IP (DHCP Snoop				
			Press Enter to send the command.					

The command debugging window provides shortcut buttons for common commands, such as **Version Information**, **Runtime Configuration**, **ARP Entries**, **Routing Information**, and **User IP**. You can click a common command and view command output rapidly. Click **Clear** to clear information on the current screen.

Figure 6-79 Shortcut Common Commands

Home My Network Management & Maintenanc			Device Details	
My Network / My Site / Network Topology / Topolog	y Info		<u>®</u> [9 🖸
(Update Time: 2022-08-05 15:21)	Command Debugging	×	Monitor Basi	c Info Port
	Device Name:	Clear	Deliver Config Conf	ig Backup Configuration Restora
Search for name or SN V One-did		Common Commands		
		Common	Diagnose	
		Version Information	Command Debugging	Access eWeb Access Telnet
		Runtime Configuration		
		Startup Configuration	Operation	
		Recent Logs	Restart Device Upg	ade Enable AC
		Current Time		
		Connectivity		
		Interface IP		
		Interface Status		
		ARP Entries		
		MAC Entries		
		DNS Information		
		Routing Information		
		User Info		
		User IP (DHCP Server)		
		Stop User IP (DHCP Shoop		
	Press Enter to send the command.			
		AP		
	 \$2910C-48GT2XS-HP-E \$W\$6512 \$AP850-1 	00d0.f82	2	

(5) Access eWeb

Click **Access eWeb**. The system creates a tunnel between the WIS and the eWeb of the device. If the device is offline, the tunnel fails to be created.

🛕 Caution

Some devices (such as APs and switches) do not support tunnel creation and a gateway is needed to transfer data. In this case, select a transfer device.

Figure 6-80 Accessing eWeb

gement & Maintenance Intelligent Analysis	Device Details		
C Topology / Topology Mo	Q Monitor	E Basic Info	Port To
Access eWeb Creating a turnel. Walt 1-3 minutes. After the prompt disappears, you can check the creation result in Management. & Maintenance > Turnel Management. Cost #	Configure Deliver Conf Diagnose Command D Operation Restart	ig Corfig Eaclup Nebugging Access	Configuration Restoration

After a tunnel is created successfully, the system automatically redirects to the eWeb login page of the device.

Figure 6-81 eWeb Login

Ruíjie						
	Wireles	s Control, Comn	ame	rolle werywh		
	🕞 Please	e enter the passv	vord			
	Forgot your	password?		中文▶		
		Loç	gin			
Øweb	Official Webs	ite Service Porta	I Service Ma	il Cookbook D	ownload	

IE11 and Google Chrome browsers are recommended ©2000-2022 Ruijie Network

Figure 6-82 Tunnel Creation Failure



Click **View More** in the pop-up dialog box to view the cause for the tunnel creation failure on the tunnel management page.

(6) Access Telnet

Click **Access Telnet**. The system creates a telnet tunnel between the WIS and the device. If the device is offline, the tunnel fails to be created.

🛕 Caution

Some devices (such as APs and switches) do not support tunnel creation and a gateway is needed to transfer data. In this case, select a transfer device.

Figure 6-83 Accessing Telnet

opology Info	Q Monitor	E Basic Info	Port	,
Access Telnet Creating a tunnel Wait 1–3 minutes. After the prompt disappears. you can check the creation result in Management & Maintenance > Tunnel Management.	Configure Deliver Config Config Backup Configuration Restoration Diagnose			
Got n.	Command Debug Operation Restart De	iging Access eW	eb Access Telnet	

The telnet page is displayed after a telnet tunnel is created successfully.

Figure 6-84 Telnet Tunnel Created Successfully

Access Telnet	
	Cartin
<pre> ****CONNECTING**** One-click ******CONNECTING****** *****CONNECT SUCCESS ****** </pre>	Deliv
User Access Verification	Diagno:
Username:	Com
	Operati
	Resta

Figure 6-85 Telnet Tunnel Creation Failed

Create Tunnel		\times
The device does not support the t transferred through other devices	tunnel function, and data can be 5.	
Transfer Device EG2000GE/1231112312116		~
Tunnel Service Type		
Telnet	,	~
	Cancel Create Tunne	el -

Click **View More** in the pop-up dialog box to view the cause for the tunnel creation failure on the tunnel management page.

(7) Restart

Click **Restart** to deliver the restart command to the current device. Perform this operation in a period, in which services are not affected. After the command is delivered, you can check the restart status on the device list page.

Figure 6-86 Restart

letwork Topology / Topology Info		Q Monitor		E Basic Info	E
ate Time: 2022-08-05 15:50)	Are you sure you want to restart the device?	Configure			
SN V One-click Discovery Refresh	Cancel	Deliver Config	Config Backup	Configuration Restorati	on
		Diagnose			
	Y	Command Debu	igging Access eV	Neb Access Telnet	
		Access SSH			
	AC • RJ_W35000_[TB_bitmanger SN G1LA110010489	Operation			
		Restart	levice Upgrade	Enable Gateway	

(8) Device Upgrade

Click **Device Upgrade** to configure an upgrade policy for the current device, including the upgrade target version, upgrade time, and upgrade failure retries. After an upgrade task is delivered, you can check the task information, upgrade status, and upgrade results in **Management & Maintenance > Device Upgrade > Upgrade Task**.

Figure 6-87 Device Upgrade

ione My Network Management & Maintenance Intelligent Analys	8	Device Details			l
My Network / My Site / Network Topology / Topology Info		Q Monitor	Contine log	Basic Info	1
ITB_Jatinangor (Update Time 2022-08-05 15:50)	Device Upgrade X	Configure			ļ
Source for names of SN V One-tick Discovery Ref	WS6008 1	Deliver Config	Config Backup C	onfiguration Restoration	
	Software Version AC_RGOS 11.9(2)82P15, Release(09172019)	Diagnose			
	Version Upgrade Please selectVersion Upgrade	Command Debug	ging Access eWeb	Access Telnet	
	Scheduled Upgrade (If it is not selected, upgrade is performed immediately)	Operation			
	Please select upgrade time	Restart De	vice Upgrade Enable	Gateway	
	Maximum Failure Retries (Optional)	1	£		
	Otimes 1times 3times 5times				
	Cancel Start Upgrade				

Configuration parameters are described as follows:

- Version Upgrade: (Required) Select the target version of the upgrade. You can upload the upgrade file on the Version Management page.
- **Scheduled Upgrade**: (Optional) Select the upgrade time. If the upgrade time is not specified, upgrade is performed immediately. No upgrade time is set by default.
- **Maximum Failure Retries**: (Optional) Set the maximum number of retries after an upgrade failure. The options include **0times**, **1times**, **3times**, and **5times**. No value is selected by default.
- (9) Enable Gateway

Click Enable Gateway to enable the embedded AC function on the gateway.

A Caution

This function can be enabled only on a gateway that supports the AC function.

ome My Network Management & Maintenance Inteligent Analysis		Device Details	
My Network / My Bite / Network Topology / Topology Info		Q 🖬 Manitar Online Ioa	Basic Info
ITB_Jatinanglor (Update Time: 2022-08-05 15.50)	O Are you sure that the AC supports the built-in gateway function and the gateway function is enabled?	Configure	
Search for name of SN	Cancel	Deliver Config Config Backup Co	Infiguration Restoration
·		Diagnose	Cause Print 1
		Access SSH	Access teinet
	• 8. (1996) 17 54 mayor	Operation	
		Restart Device Upgrade Enable	Gateway

Figure 6-88 Enable Gateway

6.5 Network Optimization

6.5.1 WLAN Optimization

Choose My Network > Network Optimization > WLAN Optimization to optimize a WLAN.

Figure 6-89 WLAN Optimization

My Network / Network Optimization / W	LAN Optimization / WILAN Network Optimization Info		
WLAN Optimization		Manual Optimization	Optimization Setup
	We will optimize your network to maximize the WLAN performance. We will optimize channels, power, and roaming, and provide network optimization for specific scenarios. Please use the optimization function after all APs in the area to be optimized go online. History Record Crite: Rick Network Optimization		

1. One-Click Network Optimization

Click **One-Click Network Optimization**. The WIS automatically adjusts the channel, power, roaming, and other WLAN parameters of devices by collecting air interface information obtained through AP scanning at the site, so as to maximize the WLAN performance.

🛕 Caution

- (1) Use this function only after all APs in the region to be optimized go online.
- (2) During optimization, channel switching will occur on devices, which will bring users offline and affect user experience. Therefore, plan the network optimization execution period (you can click **Optimization Setup** to configure scheduled optimization execution time so that the system automatically executes network optimization when the specified time is up).
- (3) The entire process takes about 15–30 minutes (depending on the device scale). After the process is complete, the system automatically switches to the Network Optimization Details page, which shows the channel and power configuration changes of each AP. A configuration task will be generated for delivery based on network optimization planning results. If there are a large number of devices, this process takes a period of time. You can filter tasks by radio optimization type on the Configuration Task menu to view the optimization result.

Figure 6-90 One-Click Network Optimization

My Network / Network Optimization / WL	Optimization / WLAN Network Optimization In	Tip Channel switching may occur during optimization, which may lead to user disconnection. The whole process is estimated to take 30 minutes. You are advised to avoid peak hours. Are you sure you want to start? Cancel OK	i roaming, ∋ in the
	One-Click Network Optimization		

Figure 6-91 Network Optimization In Progress

My Network / Network Optimization / WLAN Optimization / WLAN Network Optimization Info							
WLAN Optimization	We will optimize your network to maximize the WLAN performance. We will optimize channels, power, and roaming, and provide network optimization for specific scenarios. Please use the optimization function after all APs in the area to be optimized go online. History Record						
	One-Click Network Optimization						
	Optimizing the wireless network						
	Scanning Method: Deep Scanning Deliver Optimization Result to Device: Yes						
	Started in: 2022-08-05 16:12:18						
	Expected Completion Time: 2022-08-05 16:34:48						

Figure 6-92 Network Optimization Details

My Network / Network O	ptimization / WLA	N Optimization /	Network Optimization Details						
Network Optimization I	Details								
SN	Radio ID	RF Type	Device MAC Address	Current Channel	Recommended Channel	Channel Change	Current Power (%)	Recommended Power of Current i	Recommended Power of Recomm
-	1	2.4G		6	6	No Change	100	100	100
	2	5G		157	157	No Change	100	100	100
	3	5G		36	36	No Change	100	100	100
	1	2.4G		3	1	No Change	100	100	100
	2	5G		36	36	No Change	100	100	100
	3	5G		149	149	No Change	100	100	100
								1-6 of 6 items	1 > 10/page∀

2. Manual Optimization

Click Manual Optimization to go to the Manual Optimization page.

Figure 6-93 Manual Optimization

My Network / Network Optimization / WLAN Optimization / WLAN Network Optimization Info	
WLAN Optimization We will optimize your network to maximize the WLAN performance. We will optimize channels, power, and ransing, and provide network optimization for specific scenarios. Please use the optimization function after all As is in the area to be optimized go online. History Record Circ Click Network Costimization	Menual Optimization Setup

In the manual optimization list, you can configure radio channels and radio power globally or for a single AP. Click **Apply to Device** to trigger the configuration delivery.

Figure 6-94 Manual Optimization List

My Network / Network Optimization / WLAN Optimization / Manual Optimization											
Manual Optimiza	tion							Batch SetPower Import Data	Export Data		
SN	Device Name	Device MAC Address	Radio 1 (2.4G)Channel	Radio 1 (2.4G)Power	Radio 2 (5G)Channel	Radio 2 (5G)Power	Radio 3 (5G)Channel	Radio 3 (5G)Power	Operation		
			Default Config V	Please enter	Default Config 🔍	Please enter	Default Config V	Please enter	Apply to Device		
								1-1 of 1 items < 1 >	10 / page∨		

You can bulk set power for different radios of different devices.

Figure 6-95 Bulk Setting Power

Home My Network	Management & M	laintenance Intelligent Ana	llysis						+ Add	Site	✓ [*] A
My Network / Network	Optimization / WLAN	Optimization / Manual Optin	nization								
Manual Ontimizat	Batch SetPower		×					Court Data			
initial optimize				* Radio						import Data	Export Data
SN	Device Name	Device MAC Address	Radio 1 (2.4G)Char	Radio 1 (2.4G)	Radio 2 (5G) Ra	adio 3 (5G)	innel	Radio 2 (5G)Power	Radio 3 (5G)Channel	Radio 3 (5G)Power	Operation
			Default Config	Power Please enter Po	%			Please enter	Default Config V	Please enter	Apply to Device
					Cancel	Save & Apply				1-1 of 1 items < 1 >	10 / page ~

Batch power setting is based on radios and power needs to be set for radios separately. You can set the power of one radio at a time.

- Radio: (Required) Select the radio (such as Radio 1).
- **Power**: (Required) Enter the power percentage for a radio. The value is an integer in the range of 1 to 100.

You can bulk configure channels and power by importing a table. The procedure is as follows:

(1) Click **Export Data** to export the current network optimization list.

Figure 6-96 Exporting Data

ation / Manual Optimi	zation						
					E	atch SetPower Import Data	Export Data
ce MAC Address	Radio 1 (2.4G)Channel	Radio 1 (2.4G)Power	Radio 2 (5G)Channel	Radio 2 (5G)Power	Radio 3 (5G)Channel	Radio 3 (5G)Power	Operation
	Default Config V	Please enter %	Default Config 🛛 🗸	Please enter %	Default Config V	Please enter %	Apply to Device
						1-1 of 1 items < 1 >	10 / page∨

(2) Open the exported table and fill in the channels and power of Radio 1 to Radio 3 in the table. The value ranges of channel and power are the same as those of channel and power on the manual optimization page.

Figure 6-97 Filling in the Form

Å1		÷×	$\sqrt{-f_x}$	serial	nunber															
	A	В	С	D	E	F	G	Н	I	J	K	L	M	N	0	Р	Q	R	S	
1	serial r	MAC	device n	radiol c	radio1 p	cradio2 c	łradio2 p	radio3 c	radio3 p	ower										
2	G1QPCF62	74270																		
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Click **Select CSV File**. Select the completed form to import it for network optimization. A maximum of 500 pieces of data can be imported at a time.

Figure 6-98 Importing Data

on / WLAN Optimization / Manual Optimization				×	
	Import Data X			Batch SetPower Import Data	Export Data
Device MAC Address Radio 1 (2.4G)Chann	Please export the current location record first, and then import records after filling (500 records can be imported at most at a time).	Radio 2 (5G)Power	Radio 3 (5G)Channel	Radio 3 (5G)Power	Operation
	Elect CSV File				
	Drag the template file to the box for fast uploading.				

If a device is not managed by WIS Cloud Network or a device to be imported is offline, the network optimization fails.



nagement & Ma	intenan 🔕 line 1	(configured failed, reason [Device does not exist], the	others v	vere configure	ed successfully	
ation / WLAN (Optimization / Manual Op	timization					
			Import Data	Х			
e Name	Device MAC Address	Radio 1 (:	Please export the current location record first, and then import records after filling (500 records can be imported at most at a time).		;)Channel	Radio 2 (5G)Pow	/er
		Default			onfig 🗸	Please enter 1.	%
		Default	+ Select CSV File		onfig 🗸	Please enter 1.	%
			Drag the template file to the box for fast uploading				

3. Optimization Setup

Click **Optimization Setup** to set network optimization parameters.

Figure 6-100 Optimization Setup

WLAN Optimization Marual Optimization Optimization Setup We will optimize your network to maximize the WLAN performance. We will optimize channels, power, and roaming, and provide network optimization for specific scenarios. Please use the optimization function after all APs in the and provide network optimization for specific scenarios. Please use the optimized optimize	My Network / Network Optimization / V	WLAN Optimization / WLAN Network Optimization Info	
One-Cick (Helaro)k Optimization	WLAN Optimization	We will optimize your network to maximize the WLAN performance. We will optimize channels, power, and roaming, and provide network optimization for specific scenarios. Please use the optimization function after all APs in the area to be optimized go online. History Record One-Click Network Optimization	Manual Optimization Optimization Setup

On the **Optimization Setup** page, you can customize channels, and configure scheduled network optimization tasks, synchronization policies, and radio parameters. Radios are automatically planned. By default, radios are planned based on the recommended channel of the selected country code or region code. 20 MHz is adopted for 2.4 GHz/5 GHz. In general, the default configuration is recommended and you do not need to configure channel customization. If 2.4 GHz/5 GHz uses other bandwidth or there are special requirements for candidate channels that are automatically planned, you can use **Channel Customization** to set candidate channels for automatic channel planning.

Му	Network / Network Optimization / WLAN C	Optimization / Optimization Setup
(Optimization Setup	
	Note: Radio frequencies are automatically p recommended and you do not need to cont If 2.4 GHz/5 GHz uses other bandwidth or th	planned. By default, radio frequencies are planned based on the recommended channel of the selected country code or region code. 20 MHz is adopted for 2.4 GHz/5 GHz. In general, the default configuration is figure channel customization. here are special requirements for candidate channels that are automatically planned, you can use Channel Customization to set candidate channels for automatic channel planning.
	Channel Customization:	
	Scheduled Network Optimization:	
	Auto Delivery of Network Optimization Results to AP: Configuration Type:	
	The system automatically allocates	When an AP goes online for the first time, if the 2.4G and 5G channels of the AP are the default channels 1 and 149, the WIS automatically configures channels
	the first time: Radio Parameters	according to the algorithm.
	Country and Region:	CHINA V
	Default Bandwidth of Radio 1 (2.4 GHz):	Please set V
	Default Bandwidth of Radio 2 (5 GHz):	Please set V
	Default Bandwidth of Radio 3 (5 GHz):	Please set V

Figure 6-101 Customizing Network Optimization Parameters

Network optimization parameters are described as follows:

- **Channel Customization**: (Optional) It is disabled by default. You can define channels (including 2.4 GHz channel and 5 GHz channel) that can be allocated for network optimization.
- Scheduled Network Optimization: (Optional) It is disabled by default. You can define the network optimization execution time, accurate to hour. The task is a single task. You can set the time to Monday to Sunday, and time point to 00:00 to 23:00. Select the hour from the drop-down list.
- Auto Delivery of Network Optimization Results to AP: (Optional) It is enabled by default. If it is disabled, the configuration will not be delivered to APs after network optimization is completed.
- Configuration Type: (Required) Only recommended channel configuration is synchronized by default. The
 options include Synchronize only Recommended Channel Config, Synchronize Recommended
 Channel Config and Recommended Power Config, and Synchronize Recommended Power Config in
 Current Channel.
- The system automatically allocates channels when a device goes online for the first time: (Optional) The system allocates channels to new online APs in sequence. For example, common channels for 2.4 GHz are channels 1, 6, and 11, channel 6 is allocated to AP 1 after it goes online, and channel 11 is allocated to

AP 2 after it goes online.

- **Country and Region**: (Required) The default value is **CHINA**. To switch the country and region, select a value from the drop-down list.
- Default Bandwidth of Radio 1 (2.4 GHz): (Optional) Select the default bandwidth of Radio 1 (2.4 GHz) from the drop-down list. The available bandwidths include 20 MHz, 40 MHz, and 60 MHz.
- Default Bandwidth of Radio 2 (5 GHz): (Optional) Select the default bandwidth of Radio 2 (5 GHz) from the drop-down list. The available bandwidths include 20 MHz, 40 MHz, and 60 MHz.
- Default Bandwidth of Radio 3 (5 GHz): (Optional) Select the default bandwidth of Radio 3 (5 GHz) from the drop-down list. The available bandwidths include 20 MHz, 40 MHz, and 60 MHz.

4. History Record

Click History Record to check WLAN optimization execution records.

Figure 6-102 History Record



The history record list displays the network optimization trigger time, update time, optimization execution status, whether to deliver configuration, whether optimization is a scheduled task, and execution result. You can filter history records by execution status, whether to deliver configuration, and whether optimization is a scheduled task.

Figure 6-103	History Record List
--------------	---------------------

My Network / Network Optimization / WLAN Optimization	tion / History Record					
History Record						
Trigger Time	Update Time	Status T	Deliver Config T	Schedule Task	Result	Operation
2022-08-05 16:14:48	2022-08-05 08:14:48	Failed	Yes	No	There is no online device in the group	View
2022-08-05 16:12:06	2022-08-05 08:12:06	Failed	Yes	No	There is no online device in the group	View
					1-2 of 2 items	1 > 10 / page ~

In the history record list, click **View** in the **Operation** column for a history record to redirect to the **Network Optimization Details** page. The **Network Optimization Details** page displays the device SN, radio ID, RF type, device MAC address, channel parameters, and other information.

Figure 6-104	Network O	ptimization	Details

My Network / Network Op	timization / WLA	N Optimization /	Network Optimization Details										
Network Optimization D	Network Optimization Details												
SN	Radio ID	RF Type	Device MAC Address	Current Channel	Recommended Channel	Channel Change	Current Power (%)	Recommended Power of Current (Recommended Power of Recomm				
	1	2.4G		6	6	No Change	100	100	100				
	2	5G		157	157	No Change	100	100	100				
	3	5G		36	36	No Change	100	100	100				
	1	2.4G		1	1	No Change	100	100	100				
	2	5G		36	36	No Change	100	100	100				
	3	5G		149	149	No Change	100	100	100				

1-6 of 6 items < 1 > 10 / page∨

6.5.2 Roaming Optimization

Choose My Network > Network Optimization > Roaming Optimization to configure roaming optimization.

Figure 6-105 Roaming Optimization



Click **Roaming Optimization** to perform roaming optimization, improve the roaming experience of wireless users, and implement seamless roaming for users at a site.

Figure 6-106 Enabling Roaming Optimization



Roaming optimization parameters are described as follows:

Auto Adjustment: (Optional) It is enabled by default. After it is enabled, network optimization parameters
are automatically adjusted to balance signal coverage and roaming optimization after each auto radio
frequency planning.

A Caution

Auto adjustment takes effect only after Auto Trigger is enabled in Configuration > RF Planning > Periodic Scan Configuration.

- Select Scenario: (Required) The default scenario is **General**. You can select an appropriate scenario based on the actual site conditions and deliver preset roaming optimization parameters (access threshold and coverage) or manually adjust the parameters. Optional scenarios include the following:
 - o General: Indoor APs are deployed in general scenarios such as teaching buildings and shopping malls.
 - **Hotel & Dormitory**: One AP is installed in one room to provide wireless services. Such scenarios include school dormitories, hotel rooms, and school office compartments.
 - **Corridor**: An AP is installed in the corridor outside a room, and the signal must cover the room or multiple rooms at the same time.
 - **Office**: In a large zone in an office, APs are visible to each other and high-density office and teaching services are carried out in this scenario.
 - **Conference Hall**: In a rapid deployment scenario, APs are densely deployed within a small distance, and are installed on the ceiling or under a seat.
 - **Outdoor**: APs need to be installed outdoors such as on the utility poles and rooftops, to cover plazas and roads.
 - **Many Interferences**: There are many interference signals around an AP, such as operator network signals and other companies' wireless AP signals.
- Lowest RSSI of Wireless Network for User Access: (Required) The default value varies according to scenarios. You can set the minimum RSSIs for the 2.4G and 5G channels. The value range is from 1 to 30.
- AP Wireless Coverage: (Required) The unit is dBm. The default value varies according to scenarios. You

can set the wireless network coverage scopes for the 2.4G and 5G channels. The value range is from 1 to 32.



Figure 6-107 Configuring Roaming Optimization

6.6 STA Insight

6.6.1 STA Monitoring

Choose **My Network** > **STA Insight** > **STA Monitoring** to go to the STA list. You can click a required tab page to view information about different types of STAs. The list allows you to set the number of items to be displayed on each page. You can search for STAs by STA IP address, MAC address, remarks, and status, define fields to be displayed, and manually refresh the list.

The cloud AP list displays the STA type, MAC address, STA signal, network indicators, AP name, and online duration.

Figure 6-108	Wireless STA List
--------------	-------------------

6		My Network / STA Insight / STA Monitoring
		Windens STA (e) Fit AP (e) Search for STA IPMAChe, Q C (e)
E	∃ My Site ✓	SN IP Address MAC Address Site wireless band ψ STA Type Signal Strength (dBm) φ Total Traffic (MB) φ Uplink Traffic (MB) φ Downlink Traffic (MB) φ Uplink Rate (Mbps) Do Operation
€	Network Optim v	
<u> </u>	STA Insight	
,	STA Monitoring	No Data
	STA Experience	
0	Access Security ~	
E	Alarm Manage V	
E	B Report ~	

The fit AP list displays the IP address, MAC address, vendor, signal strength, total traffic, SSID, AP name, online time, online duration, and other information.

Figure 6-109	Fit AP	List
--------------	--------	------

a	My Network	/ STA Insight /	STA Monitoring									
×	Wireless S	TA 0 Fit	AP 0							Export Se	arch for STAIP/MAC/re	9. C 🕸
🗇 My Site 🗸	SN	P Address	MAC Address	Site	Vendor	Signal Strength (dBm) 👙	Total Traffic (MB)	SSID	AP Name	Online Time 😄	Online Duration	Remarks
Network Optim ~												
🖬 STA Insight 🗠												
STA Monitoring							No Data					
- STA Experience												
O Access Security ~												
🛆 Alarm Manage 🤟												
🖹 Report 🗸 🗸												

6.6.2 STA Experience

Choose **My Network > STA Insight > STA Experience** to go to the STA experience statistics page. This page displays STA experience in a bar graph and lists the STA rate, signal, packet loss rate, and other network experience indicators.

Figure	6-110	STA Experience
Iguie	0-110	

· · · · · · · · · · · · · · · · · · ·	My Network / STA Insi	ight / STA Experience / STA E	xperience Info									
	Cloud AP Fit AP	×							Al	2.4G	5G 2022-0	8-06
🗄 My Site 🗸 🗸	STA Experience @)										
€ Network Optim ~					- Goo	od experience 🛛 = Fair	- Inactive - Poor expe	rience				
🖾 STA Insight 🔷 🔺	40										_	
STA Monitoring	30											al E
STA Experience	20											
 STA Analysis 	10									- 11- III		
O Access Security 🔤	00:00 00:15 00:30	00;45 01:00 01:15 01:30 01:4	15 02:00 02:1	5 02:30 02:45	03:00 03:15 03:30 03:	45 04:00 04:15 04:30	04:45 05:00 05:15 05:30	05:45 06:00 06:15 06:30 06	45 07:00 0	7:15 07:30 07:45 08:00 08	15 08:30 08:45 09	00 09:15
📋 Alarm Manage 👻	2022-08-08 09:25	00Experience Details (Click	the column	in the picture	above to display deta	ils of different time	periods)					IAC Q
🗄 Report 🗸 👻												
	STA MAC Address	AP	Radio ID	Band	Experience Level T	Associated SSID	Average Uplink Rate (Mbp	Average Downlink Rate (N	RSSI	Packet Loss Rate (%)	Latency (ms)	Downlink Traffic (
		9c2b.a6cb.d093	2	5G	Good experience	eduroam	399.14056	272.38077	25	0	0.20	3.588
		9c2b.a6cb.d093	1	2.4G	Inactive	eduroam	71.81081	54.010345	35	0	0.20	0.010
		9c2b.a6cb.d093	1	2.4G	Inactive	eduroam	0	0	32	0	0.20	0.000
		9c2b.a6cb.d093	2	5G	Good experience	eduroam	181.04211	151.72575	32	0	0.20	39.883

You can switch the tab page to view experience information of cloud APs and fit APs. The bar graph allows you to view the experience graph of all STAs, 2.4 GHz STAs, or 5 GHz STAs, as well as data of a specified date. The statistics interval is 5 minutes. You can hover the cursor over the graph to view the number of STAs at different experience levels at a specified time point.

TA Europionon (/	
TA Experience (- God	od experience 🛛 🗕 Fai	r — Inactive — Poor expe	rience				
1					1				1	1	
					2022-0	8-08 04:05 I experience: 1					ull.
					Fair:	- ive: 3					
					Poor	experience: -					
00:00 00:15 00:30	00:45 01:00 01:15 01:30	01:45 02:00 02:1	5 02:30 02:	45 03:00 03:15 03:30 03:	45 04:00 04:15 04:3	0 04:45 05:00 05:15 05:30	05:45 06:00 06:15 06:30 06	:45 07:00 1	07:15 07:30 07:45 08:00 08	8:15 08:30 08:45 0	9:00 09:15
00:00 00:15 00:30	00;45 01:00 01:15 01:30	01:45 02:00 02:1	5 02:30 02:	45 03:00 03:15 03:30 03:	45 04:00 04:15 04:3	0 04:45 05:00 05:15 05:30	05:45 06:00 06:15 06:30 06	:45 07:00 (07:15 07:30 07:45 08:00 04	8:15 08:30 08:45 0	19:00 09:15
00:00 00:15 00:30	00:45 01:00 01:15 01:30 00Experience Details (C	01:45 02:00 02:1: Click the column	5 02:30 02:	45 03:00 03:15 03:30 03: re above to display deta	45 04:00 04:15 04:3	0 04:45 05:00 05:15 05:30 periods)	05:45 06:00 06:15 06:30 06	:45 07:00 1	07:15 07:30 07:45 08:00 08	8:15 08:30 08:45 0 STA MAC/AP	9:00 09:15 MAC Q
0:00 00:15 00:30 22-08-08 09:25 A MAC Address	0045 01:00 01:15 01:30 00Experience Details (C	01:45 02:00 02:11 Click the column i Radio ID	5 02:30 02: in the pictu Band	45 03:00 03:15 03:30 03: re above to display deta Experience Level 17	45 04:00 04:15 04:3 ails of different time Associated SSID	0 0445 05:00 05:15 05:30 periods) Average Uplink Rate (Mbp	05:45 06:00 06:15 06:30 06 Average Downlink Rate (lv	45 07:00 1 RSSI	07:15 07:30 07:45 08:00 00 Packet Loss Rate (%)	B:15 08:30 08:45 0 STA MAC/AP Latency (ms)	NAC Q.
22-08-08 09:25 MAC Address	00-45 01:00 01:15 01:30 00Experience Details (C AP 9c2b a6cb d093	21:45 02:00 02:11 Click the column i Radio ID	s 02:30 02: in the pictu Band 5G	45 03:00 03:15 03:30 03: re above to display deta Experience Level # Good experience	45 04:00 04:15 04:3 ails of different time Associated SSID eduroam	0 0443 05:00 05:15 05:30 periods) Average Uplink Rate (Mbp 399 14056	05:45 06:00 06:15 06:30 06 Average Downlink Rate (V 272.38077	RSSI 25	07:15 07:30 07:45 08:00 00 Packet Loss Rate (%) 0	B:15 08:30 08:45 0 STA MAC/AP Latency (ms) 0.20	09:00 09:15 MAC Q. Downlink Tra 3.588
0.00 00:15 00:30 22-08-08 09:25 A MAC Address	0045 01:00 01:15 01:30 00Experience Details (C AP 9:2b a6cb d093 9:2b a6cb d093 9:2b	01:45 02:00 02:11 Click the column i Radio ID 2 1	5 02:30 02: in the pictu Band 5G 2:4G	45 03:00 03:15 03:30 03: re above to display data Experience Level ψ Good experience Inactive	45 04:00 04:15 04:3 alls of different time Associated SSID eduroam eduroam	0 0445 0500 0513 0530 periods) Average Uplink Rate (Mbp 390 14056 71.81081	0545 0600 0615 0630 06 Average Downlink Rate (V 272.38077 54.010345	RSSI 25 35	07.15 07.46 07.45 06:00 00 Packet Loss Rate (%) 0	Eris della d	MAC Q. Downlink Tra 3.588 0.010
0:00 00:15 00:30 22-08-08 09:25 A MAC Address	00-45 01-00 01-15 01-10 00Experience Details (C AP 02.2b 02.2b	Click the column i Radio ID 2 1	5 02:30 02: in the pictur Band 5G 2.4G 2.4G	s 0300 02:15 03:30 03: re above to display deta Experience Level $ au$ Good experience Inactive Inactive	45 04:00 04:15 04:3 ails of different time Associated SSID eduroam eduroam	0 0445 0500 0513 0530 periods) Average Uplink Rate (Mbp 39014056 71.81081 0	5x45 0600 0615 0610 0 Average Downlink Rate (k 272.38077 54.010345 0	RSSI 25 32	07:15 07:36 07:45 06:00 00 Packet Loss Rate (%) 0 0 0 0	L15 08:30 08:45 0 STA MAC/AP Latency (ms) 0.20 0.20 0.20	MAC Q. Downlink Tra 3.588 0.010 0.000
22-08-08 09:25 A MAC Address	00-45 01-00 01-15 01-10 00Experience Details (C AP 9c2b.a6cb.d093 9c2b.a6cb.d093 9c2b.a6cb.d093 9c2b.a6cb.d093 9c2b.a6cb.d093 9c2b.a6cb.d093 9c2b.a6cb.d093 9c2b.a6cb.d093	Click the column i Radio ID 2 1 2 2	5 02:30 02: in the pictu Band 5G 2.4G 2.4G 5G	45 0100 0215 0330 034 re above to display data Experience Level ¥ Good experience Inactive Good experience	45 04:00 04:15 04:3 alls of different time Associated SSID eduroam eduroam eduroam	0 0445 0500 0513 0530 periods) Average Uplink Rate (Mbp 390 14056 71.81081 0 181.04211	5x45 0600 0615 06:0 06 Average Downlink Rate (V 272:38077 54:010345 0 151:72575	RSSI 25 35 32	07:15 07:36 07:45 06:00 00 Packet Loss Rate (%) 0 0 0 0 0 0	Latency (ms) 0.20 0.20 0.20 0.20	MAC Q Downlink Trat 3.588 0.010 0.000 39.883
22-08-08 09:25	AP 00 9c2b a6cb d093 9	Click the column i Radio ID 2 1 1 2 2 2	5 02:30 02: in the pictur Band 5G 2.4G 5G 5G 5G	s 0100 0215 0320 02 re above to display deta Experience Level v Good experience Inactive Good experience Good experience	es 04.00 04.15 04.13 alls of different time eduroam eduroam eduroam eduroam eduroam	0 0445 0500 0513 0530 periods) Average Uplink Rate (Mbp 390-14056 71.81081 0 181.04211 197.82431	5x45 0600 0615 0610 0 Average Downlink Rate (V 272,38077 54,010345 0 151,72575 213,41074	RSSI 25 35 32 29	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ETS 08:30 08:45 0 STA MAC/AP Latency (ms) 0.20 0.20 0.20 0.20 0.20 0.20 0.20	900 9915 MAC Q Downlink Tra 3 588 0 010 39.883 78.437

Figure 6-111 STA Experience Bar Graph

There are four levels of STA experience: inactive, fair, poor experience, good experience, which are described as follows:

- Good experience: HD videos and games can be played smoothly.
- Fair: WeChat, Web pages, and VoIP can be used normally.
- **Poor experience**: The network disaster area provides poor Internet access experience.
- **Inactive**: The experience is evaluated based on the STA traffic and power saving status.

STAs support hiding/displaying data of a specified experience level. You can click the color icon of an experience level to control the display/hiding of data of a specified experience level. By default, data of all levels is displayed.

STA Experience (0						1				
				- Goo	od experience – Fa	ir – Inactive – Poor expe	rience				
10					2022.09	08 03-05			1.	an in	
5					Good Fair: 1	experience: 2				السالا	ull.
)					Inactiv	e:2					
Illestic		anti di Anti									
00.00 00.11 00.10											
0000 0015 0030	0 00:45 01:00 01:15 01:30	01:45 02:00 02:1	5 02:30 02:	45 03:00 03:15 03:30 03:	45 04:00 04:15 04:3	0 04:45 05:00 05:15 05:30	05:45 06:00 06:15 06:30 06	45 07:00 0	7:15 07:30 07:45 08:00 0	8:15 08:30 08:45 1	09:00 09:15
022-08-08 09:25	:00Experience Details (Click the column i	5 02:30 02: in the pictu	45 03:00 03:15 03:30 03: re above to display deta	45 04:00 04:15 04:3	0 04:45 05:00 05:15 05:30	05:45 06:00 06:15 06:30 06	45 07:00 0	7:15 07:30 07:45 08:00 0	8:15 08:30 08:45 1	09:00 09:15 P MAC Q
022-08-08 09:25	0045 0130 0115 0130	Click the column i Radio ID	5 02:30 02: in the pictu Band	45 03:00 03:15 03:30 03: re above to display deta Experience Level 10	45 04:00 04:15 04:3 ails of different time Associated SSID	o 04:45 05:00 05:15 05:30 periods) Average Uplink Rate (Mbp	05:45 06:00 06:15 06:30 06 Average Downlink Rate (lv	45 07:00 0	7:15 07:30 07:45 08:00 0 Packet Loss Rate (%)	STA MACIAF	P MAC Q Downlink Tra
0000 0013 0030 022-08-08 09:25	0 00-45 01:00 01:15 01:30 00Experience Details (AP 9c2b a6cb d093	Click the column i Radio ID	5 02:30 02: in the pictu Band 5G	45 03:00 03:15 03:30 03: re above to display deta Experience Level # Good experience	45 04:00 04:15 04:3 alls of different time Associated SSID eduroam	0 0445 0500 0515 0530 periods) Average Uplink Rate (Mbp 399 14056	05:45 06:00 06:15 06:30 06 Average Downlink Rate (N 272.38077	45 07:00 0 RSSI 25	7:15 07:30 07:45 08:00 0 Packet Loss Rate (%)	STA MAC/AF Latency (ms) 0.20	09:00 09:15 P MAC Q Downlink Tra 3.588
0000 0013 0034	0045 0140 0145 0140 00Experience Details (r AP 9c2b 46b 4093 9c2b a6cb 4093 9c2b 46cb 4093	Click the column i Radio ID 2	5 02:30 02: In the pictu Band 5G 2.4G	45 03:00 03:15 03:30 03: re above to display deta Experience Level T Good experience Inactive	45 04:00 04:15 04:3 ails of different time Associated SSID eduroam eduroam	0 0445 0500 0515 0530 periods) Average Uplink Rate (Mbp 399 14056 71.81081	Average Downlink Rate (v 272.38077 54.010345	RSSI 25 35	7:15 07:30 07:45 08:00 0 Packet Loss Rate (%) 0	B:15 08:30 08:45 1 STA MAC/AF Latency (ms) 0.20 0.20	0900 09:15 MAC Q Downlink Tra 3.588 0.010
122-08-08 09:25	0043 01.00 01.15 01.30 00Experience Details (r AP 9 9 9 9 9 9 9 9 9 9 9 20 86 4093 9 9 22 86 4093 9 22 86 4093 9 22 86 4093 9 22 86 4093 9 22 86 4093 9 22 86 4093 9 22 86 4093 9 2 86 4093 9 2 86 4093 9 2 86 4093 9 1	Click the column i Radio ID 2 1	5 02:30 02: in the pictu Band 5G 2.4G 2.4G	45 03:00 03:15 03:30 03: e above to display deta Experience Level ψ Good experience inactive inactive	45 04:00 04:15 04:3 ails of different time Associated SSID eduroam eduroam	e 0445 0500 0515 0530 periods) Average Uplink Rate (Mbp 399 14056 71.81081 0	Average Downlink Rate (v 272.38077 54.010345	RSSI 25 32	Packet Loss Rate (%) 0 0 0 0 0	B15 08:30 08:45 0 STA MAC/AF Latency (ms) 0.20 0.20 0.20	09900 09:15 PIMAC Q Downlink Tra 3.588 0.010 0.000
0000 0013 0034	0043 0140 0145 0140 00Experience Details (f AP 9c2b 9c2b <td>Click the column i Radio ID 2 1 1 2</td> <td>5 02:30 02: in the pictur 5G 2.4G 5G 5G</td> <td>45 03:00 03:15 03:30 03: re above to display defa Experience Level τ Good experience Inactive Good experience</td> <td>45 04:00 04:15 04:2 alls of different time Associated SSID eduroam eduroam eduroam</td> <td>periods) Average Uplink Rate (Mbp 399 14056 71 81081 0 181 04211</td> <td>Average Downlink Rate (V 272238077 54.010345 0 151.72575</td> <td>RSSI 25 35 32 32</td> <td>Packet Loss Rate (%) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td> <td>Bits 08:30 08:45 0 STA MAC/AF Image: Comparison of the state of the state</td> <td>0900 0915 MAC Q Downlink Tra 3.588 0.010 0.000 39.883</td>	Click the column i Radio ID 2 1 1 2	5 02:30 02: in the pictur 5G 2.4G 5G 5G	45 03:00 03:15 03:30 03: re above to display defa Experience Level τ Good experience Inactive Good experience	45 04:00 04:15 04:2 alls of different time Associated SSID eduroam eduroam eduroam	periods) Average Uplink Rate (Mbp 399 14056 71 81081 0 181 04211	Average Downlink Rate (V 272238077 54.010345 0 151.72575	RSSI 25 35 32 32	Packet Loss Rate (%) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Bits 08:30 08:45 0 STA MAC/AF Image: Comparison of the state	0900 0915 MAC Q Downlink Tra 3.588 0.010 0.000 39.883
222-08-08 09:25	0043 0140 0145 0140 00Experience Details (f AP 9c2b.a6cb.d093 9c2b.a6cb.d093 9c2b.a6cb.d093 9c2b.a6cb.d093 9c2b.a6cb.d093 9c2b.a6cb.d093 9c2b.a6cb.d093 9c2b.a6cb.d093 9c2b.a6cb.d093 9c2b.a6cb.d093 9c2b.a6cb.d093	Click the column i Radio ID 2 1 1 2 2 2	s 02:30 02: in the pictu Band 5G 2.4G 5G 5G	45 03:00 03:15 03:30 03 re above to display deta Experience Level ¥ Good experience Inactive Good experience Good experience	45 04:00 04:15 04:2 alls of different time Associated SSID eduroam eduroam eduroam eduroam	Periods) 390 14055 71.81081 0 181.04211 197.82431	Average Downlink Rate (k 272.38077 54.010345 0 151.72575 213.41074	RSSI 25 35 32 29	Packet Loss Rate (%) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Ball 08:30 08:45 0 STA MAC/AF STA MAC/AF 0 0 0.20 0 0 0 0.20 0 0 0 0.20 0 0 0 0.20 0 0 0 0.20 0 0 0 0.20 0 0 0 0.20 0 0 0	0900 0915 MAC Q Downlink Tra 3.588 0.010 0.000 39.883 78.437

Figure 6-112 Hiding Data of the Poor Experience Level

The list in the lower part provides experience details. You can click any time point in the bar graph to view experience details at the specified time point. The experience details list displays the STA MAC address, AP, band, uplink and downlink rates, RSSI, packet loss rate, and channel utilization. You can move the horizontal scroll bar to view the details.

	Figure 6-113	Experience	Details	List
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My Network / STA Insight / STA Experience / STA Experience Info											
Cloud AP Fit AF								A	2.4G	5G 2022-	08-08
STA Experience (D				a a constantina da la						
40				- Goo	od experience – Fai	r — Inactive — Poor exper	rience				
30										2022-08-08 08:05 Good experience	re: 3
10										Fair: 4 Inactive: 29	
		and a second								Poor experience	
, Illanti a											
0.00:00 00:15 00:30	00:45 01:00 01:15 01:30 01	:45 02:00 02:1	5 02:30 02:4	5 03:00 03:15 03:30 03:	:45 04:00 04:15 04:3	0 04:45 05:00 05:15 05:30	05:45 06:00 06:15 06:30 06	:45 07:00 0	7:15 07:30 07:45 08:00 08	8:15 08:30 08:45 0	9:00 09:15
0 00:00 00:15 00:30 2022-08-08 08:05	00:45 01:00 01:15 01:30 01	x45 02:00 02:1	5 02:30 02:4 in the picture	5 03:00 03:15 03:30 03: e above to display deta	ails of different time	0 0445 05:00 05:15 05:30 periods)	05:45 06:00 06:15 06:30 06	:45 07:00 0	7:15 07:30 07:45 08:00 08	8:15 08:30 08:45 0 STA MAC/AP	9:00 09:15 MAC Q
2022-08-08 08:05 STA MAC Address	00.45 01.00 01.15 01.30 01 00Experience Details (Click	k the column Radio ID	5 02:30 02:4 in the picture Band	e above to display deta	ails of different time Associated SSID	o 0445 05:00 05:15 05:30 periods) Average Uplink Rate (Mbp	05:45 06:00 06:15 06:30 06 Average Downlink Rate (lv	45 07:00 0	7:15 07:30 07:45 08:00 08 Packet Loss Rate (%)	8:15 08:30 08:45 0 STA MAC/AP Latency (ms)	NAC Q Downlink Traffic (
00000 00.15 00.30 2022-08-08 08:05 STA MAC Address	0045 01:00 01:15 01:30 01 00Experience Details (Click AP 9c2b a6cb d093	k the column Radio ID	5 02:30 02:4 in the picture Band 2.4G	s 03:00 03:15 03:30 03: e above to display deta Experience Level 1/1 Inactive	als of different time Associated SSID eduroam	0 0445 05:00 05:15 05:30 periods) Average Uplink Rate (Mbp 55:22222	05:45 06:00 06:15 06:30 06 Average Downlink Rate (lv 58:111687	45 07:00 0 RSSI 37	7:15 07:30 07:45 08:00 0 Packet Loss Rate (%)	8:15 08:30 08:45 0 STA MAC/AP Latency (ms) 0.20	0.000 09:15
000.00 00.15 00.30 2022-08-08 08:05 STA MAC Address	0045 01:00 01:15 01:00 01 00Experience Details (Click AP 9:22b a6cb d093 5416 512 dd5a	k the column i Radio ID	Band 2.4G	s oboo obits obio obi e above to display deta Experience Level 17 Inactive Good experience	eduroam	0 0445 0500 0515 0530 periods) Average Uplink Rate (Mop 65 22222 72 14560	0545 0600 0615 0630 00 Average Downlink Rate (V 58.111687 33.85027	 45 07:00 0 RSSI 37 19 	7:15 07:30 07:45 08:00 00 Packet Loss Rate (%) 0 0.2	Ents 08:30 08:45 0 STA MAC(AP) Latency (ms) 0.20 0.20	ed0 09:15 MAC Q Downlink Traffic (0.000 77.002
2022-08-08 08:05 STA MAC Address	0045 0100 0115 0100 01 00Experience Details (Click AP 9c2b a6cb d093 6416 012 dd5a 9c2b a6cb d093	45 02:00 02:1: k the column i Radio ID 1 1 1	5 02:30 02:4 in the picture Band 2:4G 2:4G 2:4G	s 03:00 03:15 03:30 03: e above to display deta Experience Level T Inactive Good experience Inactive	45 04:00 04:15 04:3 alls of different time Associated SSID eduroam eduroam	0 0445 0500 0515 0530 periods) Average Uplink Rate (Mbp 65 22222 72.14569 11.861658	5545 0600 0615 0630 06 Average Downlink Rate (k) 58.111687 58.35027 33.85027 35.96319	RSSI 37 19 36	7/15 07:30 07:45 08:00 00 Packet Loss Rate (%) 0 0.2 0.2	ETS 08:30 08:45 0 STA MAC/AP Latency (ms) 0.20 0.20 0.80	200 09:15 MAC Q Downlink Traffic (0.000 77.002 0.000
2022-08-08 08:05 STA MAC Address	AP Click 922b a6cb d093 6 5416 5122 dd5a 6 9c2b a6cb d093 6 9c2b a6cb d093 6	k the column i Radio ID 1 1 1	5 02:30 02:4 in the picture 2:4G 2:4G 2:4G 2:4G	s obco obts objo obj e above to display deta Experience Level ¥ Inactive Good experience Inactive Inactive	45 04:00 04:15 04:3 alls of different time Associated SSID eduroam eduroam eduroam	0 0445 0500 0515 0530 portiods) Average Uplink Rate (Mop 65 22222 72.14569 11.861658 65	545 0600 0615 0630 06 Average Downlink Rate (V 58 111687 33 85027 35 96319 1	RSSI 07:00 0 RSSI 07:00 0 37 38 32	Packet Loss Rate (%) 0 0.2 0	Bits 08:40 08:45 0 STA MACAP Latency (ms) 0 20 0.20 0.80 0 20 0.20 0.80 0 20	000 09:15 MAC Q Downlink Trattic (0.000 77.002 0.000 0.000
2022-08-08 08:05 STA MAC Address	Point Click 00Experience Details Click AP 9c2b a6ch d093 6416 6122 d548 9c2b a6ch d093 9c2b a6ch d093 9c2b a6ch d093 6416 6122 d548	45 02:00 02:11 k the column i Radio ID 1 1 1 1 1 1	s 02:30 02:4 in the picture 2:4G 2:4G 2:4G 2:4G 2:4G	S 0.400 0.415 0.400 0.445 eabove to display deta Experence Level ¥ Inactive Good experence Inactive Inactive Inactive	d3 04:00 04:15 043 alls of different time eduroam eduroam eduroam eduroam eduroam	0 0445 0500 0513 0530 0 portiods) Average Uplink Rate (Mop 65 22222 72 14560 11 861658 65 67 48095	545 0600 0615 0630 06 Average Downlink Rate (V 58 111687 33 85027 35 96319 1 47 16892	RSSI 37 39 36 32 7	Packet Loss Rate (%) 0 0.2 0.2 0.2 0.2 0.2 0.2 0.3	Bits 08:30 08:45 0 STA MACAP 0 0 0 0.20 0 0 0 0.80 0 0 0 0.20 0 0 0 0.20 0 0 0 0.20 0 0 0 0.20 0 0 0	ADO 09:15 AMAC Q. Downlink Traffic (0.000 77.002 0.000 0.000 0.000

In the experience details list, you can search for STAs by STA MAC address, AP MAC address, and experience level, and define the number of STA items to be displayed on each page.

										9:00 09:15	
2022-08-08 08:05:	00Experience Details (Click	the column	n the picture	e above to display deta	ails of different time	periods)				STA MAC/AP	MAC Q
STA MAC Address	AP	Radio ID	Band	Experience Level 🔻	Associated SSID	Average Uplink Rate (Mbp	Average Downlink Rate (N	RSSI	Packet Loss Rate (%)	Latency (ms)	Downlink Traffic
	9c2b.a6cb.d093	1	2.4G	Inactive	eduroam	55.22222	58.111687	37	0	0.20	0.000
	5416.51f2.dd5a	1	2.4G	Good experience	eduroam	72.14569	33.85027	19	0.2	0.20	77.002
	9c2b.a6cb.d093	1	2.4G	Inactive	eduroam	11.861658	35.96319	36	0.2	0.80	0.000
	9c2b.a6cb.d093	1	2.4G	Inactive	eduroam	65	1	32	0	0.20	0.000
	5416.51f2.dd5a	1	2.4G	Inactive	eduroam	67.48095	47.16892	7	10.6	0.30	0.048
	5416.51ec.7ea8	1	2.4G	Inactive	eduroam	41.859375	1.5416667	24	0	2.70	0.016
	5416.51ec.7ea8	1	2.4G	Inactive	eduroam	36.869232	13.636363	22	0	0.20	0.000
	5416.51ec.7ea8	3	5G	Inactive	eduroam	393.2074	333.3871	48	0	15.20	0.004
	5416.51ec.7ea8	1	2.4G	Inactive	eduroam	47.98909	36.0375	31	0	0.30	10 / page
	5416.51ec.7ea8	1	2.4G	Inactive	Hotspot ITB	51.090614	49.224724	20	13.6	2.30	20 / page 40 / page
								1-10 of 3	6 items < 1 2	3 4 >	80 / page 10 / page ^

Figure 6-114 STA Search and Display

6.7 Access Security

6.7.1 Authentication Configuration

1. One-Click Login

Scenario

One-click login is a simple access authentication mode. After a user connects to a WLAN, the user can click **Authenticate** on the authentication page to access the network. This authentication mode applies to public places with low security requirements.

Procedure

(1) Add an SSID.

Choose My Network > My Site > Network Configuration.

by Ruijie	Home My Net	work Manage	ment & Maintenance	Intelligent Analysis	System Management	+ Add Site		۲
	My Network / My	y Site / Network C	onfiguration / Network	Configuration Info				
	Network Config	g Common Sce	narios V					
🖀 My Site 🖍	If you want to If there is a co	apply a changed te inflict between a co	mplate to a device alrea nfiguration template and	dy in the network, please a custom template, the c	deliver the configuration afte ustom template overrides the	r changing the templ configuration templa	ate. ate.	
Site Overview	Current Template	e 🗋 Bind Template						
Network Configu	WLAN Confi	iguration CLI	List				+ Add SSID	Deliver Config
 Device Manage… Network Topology 	WLAN ID	SSID	Encryption Mode	T SSID Hidin	g Forwarding Mo	de 👻	Associate Radio	Operation
Network Optim •								
WLAN Optimizati					No Data			
Roaming Optimiz								

Click Add SSID.

Add SSID	Х
* SSID ()	
wireless-staff	UTF-8 V
* Encryption Mode ⑦	
WPA-PSK/WPA2-PSK	V
	Ø
Forwarding Mode 🕐	
bridge 🗸	Same VLAN with AP
* Radio ⑦ ✔ radio1 ✔ radio2	
Single-User Rate Limit	
Uplink: KB/s	Downlink: KB/s
All-User Rate Limit	
Uplink: KB/s	Downlink: KB/s
Advanced Config	
5G-preferred Enable SSID Hidin	g 🔵
Auth Config	
Enable Auth Config]>>
	Cancel

The SSID is added.

My Network / My S	Site / Network Configura	ation / Network Configuration Info	2						
Network Config	Network Config Common Scenarios								
If you want to ap If there is a conf	oply a changed template t flict between a configurati	to a device already in the network ion template and a custom templa	, please ite, the	e deliver the configura custom template over	tion after changing the templ rides the configuration templ	ate. ate.			
Current Template [Bind Template								
WLAN Config	uration CLI List							+ Add SSID Deliver Config	
WLAN ID	SSID	Encryption Mode	Ψ	SSID Hiding	Forwarding Mode	Ψ	Associate Radio	Operation	
1	wireless-staff	WPA-PSK/WPA2-PSK		No	bridge		1,2	Edit Delete Deliver Config	
								1-1 of 1 items < 1 > 10 / page ∨	

Click Deliver Config to deliver the configuration to the devices connected to the WIS Cloud Network.

My Network / My Site / Network Configuration / 1	Network Configuration Info			
Network Config Common Scenarios	Deliver Config	×		
If you want to apply a changed template to a de If there is a conflict between a configuration tem	When a template is applied, devices connected to the site automatically obtain the configuration in the template.			
Current Template 🗋 Bind Template	Select the configuration delivery time.			
WLAN Configuration CLI List	Select date			+ Add SSID Deliver Config
WLAN ID SSID E	The current configuration is backed up when the template is applied. (G Configuration > Configuration Backup to view or restore backup records.)	to T	Associate Radio	Operation
1 wireless-staff	Cancel Deliver C	ifig	1,2	Edit Delete Deliver Config
				1-1 of 1 items < 1 > 10 / page <

A pop-up window is displayed, indicating that the delivery takes 1–3 minutes.

Tip

The system will immediately and apply the site is user-defined.template (it should take about 1–3 minutes). Network fluctuation or temporary network disconnection may occur at these sites. Please confirm that you are aware of it and click OK for the configuration to take effect.

Cancel	C
--------	---

Click OK.

(2) Add a network.

Choose My Network > Access Security > Auth Config.



Click New Auth and add a network whose Mode Type is AP.

My Network / Access Security / Auth Con	fig / Auth Co	nfig Info	-
Auth Config		New Auth	Х
		* Network Name	
	Welcom	wireless	
	New /	Mode Type(In this mode, a device is automatically added to the authenticated device list after going online.) AP AC+Fit Ap EG+Fit Ap * Effective Range of Auth Config Global Auth Image Based on SSID Image wireless-staff × Cancel New Automatically added to the authenticated device list after going online.)	th

You can also add a network whose Mode Type is EG+Fit Ap.

New Auth	Х
* Network Name	
Please enter Network Name	
Mode Type(In this mode, a device is automatically added to the authenticated device list after going online.)	
AP AC+Fit Ap EG+Fit Ap	
* Effective Range of Auth Config	
◯ Global Auth ◯ Based on SSID ⑦ () based on IP range	
Please enter start IP - Please enter end IP	
Cancel New Au	th

Table 6-1 Fields on the New Auth page

Field	Description					
Network Name	Indicates the network name, which can be customized as required. This field is mandatory.					
Mode Type	Indicates the authentication mode used to authenticate new devices. This field is optional.					
Effective Range of Auth Config	 Indicates the authentication range. This field is optional. Global Auth: Authentication applies to all users connecting to the network. Based on SSID: Authentication applies to specific SSIDs. If you select this option, enter the SSID names. based on IP range: Authentication applies to specific IP segments. If 					
	• based on IP range : Authentication applies to specific IP segments. If you select this option, enter the start and end IP addresses.					

Click New Auth.

(3) Enable one-click login.

On Auth Config, click the newly created network wireless and turn on One-click Internet Access.



Global wireless	5				+ New Auth Auther	ticated Device(3)	Disable All Auth
wireless Edit					⊘ Auth config FAQs	Apply to Other Site	Delete Auth
€		<u>R=</u>	<u>8-</u>	<u>R=</u>	<u>8-</u>		
One-click Internet Access	SMS	Fixed Account	Voucher	Facebook	Instagram		
One-click Internet access can	be enabled separately	Ask the user for mo	bile phone number (the auth	nenticity of the mobile phone	e number is not checked)		

You can turn on **Ask the user for phone number (the authenticity of the mobile phone number is not checked)** as required. This toggle collects users' phone numbers but does not verify their authenticity. If this toggle is turned on, a user needs to enter the phone number when accessing the network. If this toggle is turned off, the user can click **Authenticate** to access the network.

Global wireless					+ New Auth Auther	nticated Device(3)	Disable All Auth
wireless Edit					⊘ Auth config FAQs	Apply to Other Site	Delete Auth
@		<u><u></u><u></u></u>	<u> </u>	<u>۶</u> =	<u> </u>		
One-click Internet Access	SMS	Fixed Account	Voucher	Instagram			
One-click Internet access	One-click Internet access can be enabled separately Ask the user for mobile phone number (the authenticity of the mobile phone number is not checked)						

(4) Configure the authentication pages.

One-click Internet Access		Fixed Account	R Voucher	Facebook	Instagram			
One-click Internet access can be enabled separately Ask the user for mobile phone number (the authenticity of the mobile phone number is not checked)								
Auth Page Configu	ration(After editing and saving	he authentication page, click Save b	elow to make the configuration	on take effect.)				
Mobile Phone	Default Auth Page 🛛 🗸	Preview						
Tablet and PC Default Auth Page V Preview								
Auth Success Page	e Config 🔵							
 Display Page 		O Redirect to External Link						
Mobile Phone:	Default Success Page 🛛 🗸	Please enter						
Tablet and PC:	Default Success Page 🛛 🗸							

• Auth Page Configuration: Indicates the portal page during authentication, including the login page, advertisements, and notifications. You can select the portal page of the system or a custom portal page based on actual requirements. If you need to use a custom portal page, click Edit Auth Page. Then, you can customize the authentication page as required.



• Auth Success Page Config: Indicates the portal page after authentication is successful. Two options are available: 1. After authentication is successful, the authentication success page is displayed. 2. After authentication is successful, the page is redirected to an external link.

(5) Configure an authentication policy.

You can select either of the following policies based on the network deployment requirements: **MAB Auth**, **Auth** needed *n* days after successful Auth, and Auth needed at each connection.

Re-Auth Configuration (How is a user authenticated after the user logs out and then connects to the network again)

- MAB Auth
- Auth needed Please enter Time days after successful Auth
- Auth needed at each connection
- (6) Configure the time limit.

You can force a user to go offline once the time limit is reached.

Duration Limit		
Auto Logout After Continuous Internet Access for	24	Hours (users can still connect to the network for Internet access again)

Click **Save** to complete the authentication configuration.

(7) Add authenticated devices.

Select Authenticated Device. On Authenticated Device Management, select a device and click Add. Alternatively, select multiple devices and click Batch Add to add the devices to Authenticated Device.

My Network / Access Ser	curity / Auth (Config / Auth Config I	Info							
EG wireless	Authenticat	ted Device Manage	ment					×	Authen	ticated Device(0)
wireless Edit	To-Be-Au	thenticated Device	Authenticated Device					Batch Add	onfig FAQs	Apply to Other Site
æ		SN	Device Name	Device Type	Device Model	IP	MAC	Operation		
One-click Internet Act				AP				Add		
				AP				Add		
One-click Internet :				AP				Add		
Auth Page Configurat				AP	-			Add		
Tablet and PC Cus						1-4 of 4 item	ns < 1 >	5 / page \vee		
Auth Success Page C										
Display Page Mobile Phone : Def										
Tablet and PC: Det										

If **Delivery status** of a device is **Successful**, the device authentication configuration is successfully delivered.

Α	Authenticated Device Management X							
	To-Be-Auth	nenticated Device	Authenticated Device	_				Batch Delete
		SN	Device Name	Device Type	Device Model	IP	MAC	Delivery statu
				AP				Successful
				AP				Successful
				AP				 Successful
						1-3 of 3 i	tems < 1 >	5/pagev

After you click **Add** or **Batch Add**, the system delivers the authentication commands to the devices, including the authentication template, imperceptible authentication, and authentication enabling commands.

• Authentication template command

```
web-auth template wifidog_1 wifidog
ip 54.255.12.17
nas-ip 1.2.3.4
url https://auth-wiscloud.ruijienetworks.com/auth/wifidogAuth
redirect js
```

• Imperceptible authentication command

ip dhcp snooping
web-auth sta-perception enable

• Authentication enabling command

```
wlansec 1
web-auth portal wifidog_1
webauth
```

Note

- It takes about 1–3 minutes for the authentication configuration to take effect for added devices.
- A maximum of 100 devices can be added to Authenticated Device in a single batch.
- The commands vary depending on the authentication mode. The commands described in this section apply to one-click login.

Click \times to return to the authentication configuration page.

(8) (Optional) Apply the authentication policy to other sites.

If you need to apply the authentication policy of the current site to another site, click **Apply to Other Site** and select a site.



Click **OK** to apply the authentication policy.

Verifying the Configurations

After a user connects to the WLAN, the authentication page is automatically displayed. Due to differences in terminals, the authentication page may not be automatically displayed on some terminals. Users can open a browser and visit an external website to redirect to the authentication page.

One-Click Login	
Please enter your tel.	
Admenticate	

Figure 6-116 Authentication Page When Phone Number Is Required

Figure 6-117 Authentication Page When Phone Number Is Not Required



Click Authenticate to connect to the network.


After successful authentication, you can find the user among the online users in the system.

My Network	/ Access Se	curity / Auth Logs / A	uth Log Info							
Authentic	ated User	Internet Access Histor	y Record Auth Failure	Record				Clear Aut	Authenticated Ac	count/IP Q
	Status 👻	Related STA count	Authenticate Account	IP Address	MAC Address	Auth Mode	Ŧ	Cumulative Online Count	Online Time	Total Online Dura
	Online	1	32:2B:17:	192.168.1.8	32:2B:17	One-click Internet Acce	ISS	15	2022-12-27 17:09:20	

If the user's phone number is required, the username is the phone number of the user.

My Network	Access Se	curity / Auth Logs / A	uth Log Info							
Authenti	cated User	Internet Access Histor	y Record Auth Failure	Record				Clear Aut	th Info Authenticated A	ccount/IP Q
	Status 👻	Related STA count	Authenticate Account	IP Address	MAC Address	Auth Mode	Cumulative On	line Count	Online Time	Total Online Durat
	Online	1	136	192.168	32:2B:17	One-click Internet Access	16		2022-12-27 17:11:47	-
								1-1 of 1	items < 1 >	10 / page 🗸

2. SMS Authentication

Scenario

SMS authentication is a value-added, convenient, and quick authentication mode. After a smart terminal accesses a WLAN with SMS authentication enabled, the user only needs to enter the phone number and verification code returned by the SMS operator to complete identity verification and access network resources. This ensures WLAN access security.

Procedure

- (1) Add an SSID.
- (2) Add a network.
- (3) Enable SMS authentication.

On Auth Config, click the newly created network wireless and turn on SMS.

Figure 6-118 Enabling SMS Authentication

My Network / Access Security /	Auth Config / Auth Con	nfig Info					
wireless					+ New Auth Auther	ticated Device(3) Disable All A	۹uth
wireless Edit					⊘ Auth config FAQs	Apply to Other Site Delete A	Auth
æ		R =	<u> </u>	R =	<u><u></u></u> <u></u>		
One-click Internet Access	SMS	Fixed Account	Voucher	Facebook	Instagram		
No SMS gateway is set. Se	et SMS Gateway						

Click Set SMS Gateway > Add SMS Gateway to configure an SMS gateway.

Global wireless	Set SMS Gateway				\times
wireless Edit			+ Add SMS Gateway	Please enter SMS Service Q	
€	SMS Gateway Name	Country/Region	SMS Service Provider	Operation	
One-click Internet Access SMS					
No SMS gateway is set. Set SMS Gateway			No Data		

On the SMS gateway configuration page, enter the SMS gateway information.

Perform the following steps to complete settings: If no desired SMS service provider is available of problem in use, click the robot icon and choose P Feedback the lower right corner and leave a mes 4006-208-818 (pre-sale) or 4008-111-000 (after-s consultation.	r you have any Problems & ssage or call sale) for
* SMS Gateway Name	
* Country/Region	
X	~
* SMS Service Provider	
(HTTP)	\sim
* Connect URL	
http://www	
Password	
	ø
Region	
Region	
Userid	
Userid	
SMS Verification Code Content	
Content	
	Cancel OK

A Caution

The WIS Cloud Network supports GUODULINK's Hong Kong, Macao and Taiwan SMS platform and Alibaba Cloud's international SMS platform.

Click **OK** to complete the SMS gateway configuration.

Set SMS Gateway			×
		+ Add SMS Gateway	Please enter SMS Service Q
SMS Gateway Name	Country/Region	SMS Service Provider	Operation
	China	Beijing Guodu Internet(HTTP)	Edit Send a test messag
1	China	Beijing Guodu Internet(HTTP)	Edit Send a test messag
		1-2 of 2 items	< 1 > 5 / page >

- (4) Configure the authentication pages.
- (5) Configure an authentication policy.
- (6) Configure the time limit.
- (7) Add authenticated devices.
- (8) (Optional) Apply the authentication policy to other sites.

Verifying the Configurations

After a user connects to the WLAN, the authentication page is automatically displayed.



Please enter the verification code.

If you do not receive a verification code, please check whether the SMS message is intercepted by the firewall.



Successful certification

The user can enter the phone number and verification code for Internet access authentication.

After successful authentication, you can find the user among the online users in the system.

My Network	/ Access Sec	curity / Auth Logs / Au	th Log Info							
Authentic	ated User	Internet Access History	Record Auth Failure R	Record				Clear Auth Info	Authenticated Account/IP	٩
	Status 👻	Related STA count	Authenticate Account	IP Address	MAC Address	Auth Mode 🖉	Cumulative Online Count	Online Time	Total Online E	Ouration
	Online	1	2471:	192.168	32:2B:17:25	SMS	14	2022-12-27 17:0)2:44 -	
								1-1 of 1 items	1 > 10 / pa	age∨

3. Fixed Account Authentication

Scenario

Users can use fixed accounts added through system identity sources or third-party identity sources (such as LDAP) and passwords for Internet access authentication.

Procedure

- (1) Add an SSID.
- (2) Add a network.
- (3) Enable fixed account authentication.

On Auth Config, click the newly created network wireless and turn on Fixed Account.

wireless Edit					
Cne-click Internet Access	SMS	Fixed Account	Voucher	Facebook	Instagram
Fixed Account Manageme	ent >				
Enable LDAP					
MAC address binding	After enabling, the	e system can be upgraded se	curely. Then, the specified nu	umber of terminals used by a u	iser can access the Internet
You need to change the password when you go online for the first time					
Guest QR Code Authentication	A guest can acces	as the Internet only after the v	isited employee scans the Q	R code for authorization	

Figure 6-119 Enabling Fixed Account Authentication

(4) Configure the identity source used for fixed account authentication.

The identity source can be an account created on the WIS Cloud Network server or from a third-party account management server, such as LDAP. Users can use proper accounts as identity sources based on the live network deployment requirements.

a Create an account on the WIS Cloud Network server.

Click Fixed Account Management.

My Network / Access S	ecurity / User Management / User Management Inform	ation			
Fixed Account Manag	gement Voucher User Group		I	+ Add Account Import Account	Name/Account/Remarks Q
Username	Fixed Account for Internet Access	Number of bound MACS	Remarks	Account Expiration Time	Operation
		No Data			

Click Add Account and fill in account information.

Add Fixe	d Account	×			
* Usernan	ne				
guest					
* Fixed Ac	count for Internet Access				
guest					
* Passwor	rd				
•••••		Ø			
* Type of / Perma Auto S	Account Validity Period mently Valid Suspension upon Expiration				
Bound MA	C address				
abcd.12 multiple	34.cdef or abicd:12:34:cd:ef, spaces are separated by ","	. 4			
Remarks					
Please e	enter Remarks	le le			
	Cancel	DK			
Click OK .	Variation - University				
Fixed Account M	anagement voucher Usef Group			+ Add Account Import Account	Name/Account/Remarks Q
Username	Fixed Account for Internet Access	Number of bound MACS	Remarks	Account Expiration Time	Operation
guest	guest	-		Permanently Valid	Edit Delete

b Configure an account from the remote LDAP server.

Click Enable LDAP > Set to enter the LDAP Domain Configuration page.

ixed Account Manageme	nt>	
Enable LDAP		
	LDAP Domain Configuration ③ Not configured Set >	
NAC address binding You need to change the	After enabling, the system can be upgraded securel	r. Then, the specified number of terminals used by a user can access the Int
assword when you go nline for the first time		
uthentication	A guest can access the Internet only after the visited	employee scans the QR code for authorization

Fill in LDAP server information.

		~
* LDAP server IP		
* Server port	111	
* Directory tree root nod	DN= ,CN=	
Admin account		
* Account		
∗ Password ⊘		Ø
* LDAP auth Identity	/erification When LDAP User Information Is Que /erification When a User Logs in to the LDAP Se	ried erver
The system queries user in and attribute name of userr	ormation based on two attributes: user objectCla ame	155
 User objectClass 	00	
 Attribute Name of User 	un	
Attribute Name of User	cn	
* Attribute Name of Llear	cn	
- Famous Hame of 0361		
Click Save.	Cancel	Save
Che-click Internet Access	Cancel Cancel SMS Fixed Account	Save E Facebook Save

- (5) Configure the authentication pages.
- (6) Configure an authentication policy.
- (7) Configure the time limit.
- (8) Add authenticated devices.

(9) (Optional) Apply the authentication policy to other sites.

Verifying the Configurations

After a user connects to the WLAN, the authentication page is automatically displayed. Due to differences in terminals, the authentication page may not be automatically displayed on some terminals. Users can open a browser and visit an external website to redirect to the authentication page.



The user can enter the account and password for Internet access authentication.



After successful authentication, you can find the user among the online users in the system.

My Network / Access Security / Auth Logs / Auth Log Info										
Authenti	cated User	Internet Access History Record	Auth Failure Record					Clear Auth Info		
	Status	Telated STA count	Authenticate Account	IP Address	MAC Address	Auth Mode 🛛 🐨	Cumulative Online Count	Online Time		
	Online	1		192.168		Fixed Account	12	2022-12-27 16:49:13		

4. QR Code Authentication for Visitors

Scenario

When a user connects to the WLAN where QR code authentication is enabled for visitors and accesses an external IP address, the user is redirected to the QR code page returned by the server. The user can use an authenticated client app to scan the QR code to access network resources. Generally, this function applies to enterprise network management. For example, employees of the enterprise use fixed account authentication. When external visitors enter the enterprise and need to access the network, employees of the enterprise can scan the QR code for visitors to authorize the visitors to access the network.

Procedure

- (1) Add an SSID.
- (2) Add a network.
- (3) Enable fixed account authentication and QR code authentication for visitors.

On Auth Config, click the newly created network wireless.

Turn on Fixed Account and Guest QR Code Authentication and set Associated SSID to guest-wifi.

Figure 6-120 Enabling Fixed Account Authentication and QR Code Authentication for Visitors

One-click Internet Access	SMS	Fixed Account	Voucher	Facebook	R: Instagram
Fixed Account Manageme Enable LDAP MAC address binding You need to change the password when you go online for the first time	After enabling, the	e system can be upgraded se	curely. Then, the specified no	umber of terminals used by a t	user can access the Internet
Guest QR Code Authentication	A guest can acces	est-wifi	isited employee scans the Q	R code for authorization	

(4) Configure the identity source used for fixed account authentication.

The identity source can be an account created on the WIS Cloud Network server or from a third-party account management server, such as LDAP. Users can use proper accounts as identity sources based on the live network deployment requirements.

- a Create an account on the WIS Cloud Network server.
- b Configure an account from the remote LDAP server.
- (5) Configure the authentication pages.

The authentication pages for QR code authentication include the employee authentication page, visitor authentication page, and authentication success page.

• Employee Authentication Page: Indicates the employee authentication page.

- Guest Authentication Page: Indicates the visitor authentication page.
- Auth Success Page Config: Indicates the page after successful authentication.

Auth Page Configuration (After editing and saving the authentication page, click Save below to make the configuration take effect.)

Employee Authentication Page Guest Auth			entication Page
Mobile Phone	Default Auth Page	V	Preview
Tablet and PC	Default Auth Page	V	Preview
Auth Success P	age Config 🔵		
 Display Pag 	e		
Mobile Phone:	Custom Auth Succ	ess Page∨	Edit Auth Page
Tablet and PC:	Custom Auth Suce	cess Page ∨	Edit Auth Page

You can customize the employee authentication and authentication success pages as required. Customization of the visitor authentication page is not allowed.

Auth Page Configuration(After editing and saving the authentication page, click Save below to make the configuration take effect.)

Employee Aut	Guest Authe	entication Page	е		
Mobile Phone	Custom Auth Page	e v	Preview E	Edit A	Auth Page
Tablet and PC	Custom Auth Page	e v	Preview E	Edit A	Auth Page
Auth Success Pa	age Config 🔵				
 Display Page 	e				 Redirect to External Link
Mobile Phone:	Custom Auth Suco	cess Page∨	Edit Auth Pa	age	Please enter
Tablet and PC :	Custom Auth Suc	cess Page∨	Edit Auth Pa	age	

- (6) Configure an authentication policy.
- (7) Configure the time limit.
- (8) Add authenticated devices.
- (9) (Optional) Apply the authentication policy to other sites.

Verifying the Configurations

After an employee connects to the WLAN, the authentication page is automatically displayed. Due to differences in terminals, the authentication page may not be automatically displayed on some terminals. Users can open a browser and visit an external website to redirect to the authentication page.

• https://auth-wiscloud.ruijien	7
Fixed Account	
	TON TO A SPACE
Authenticate	
Change Password	

Visitors can scan the QR code to connect to the SSID.



After successful authentication, you can find the visitor among the online users in the system.

My Network	My Network / Access Security / Auth Logs / Auth Log Info									
Authenticated User Internet Access History Record Auth Failure Record Clear Auth Info Authenticated Account							cated Account/IP Q			
	Status 👻	Related STA count	Authenticate Account	IP Address	MAC Address	Auth Mode 🖷	Cumulative Online Count	Online Time	Total Online Duration	
	Online	1		192.168.1	32:2B:17:	Guest	21	2022-12-27 18:24:30	-	
	Online	1		192.168.1.	8E:D4:73	Fixed Account	6	2022-12-27 18:21:40	-	
								1-2 of 2 items < 1	> 10 / page <>	

5. Voucher Authentication

Scenario

Voucher accounts are dynamically generated using the system identity sources, and users can use specific vouchers for Internet access authentication.

Limitation

Voucher authentication cannot be enabled together with Facebook authentication and Instagram authentication.

Procedure

- (1) Add an SSID.
- (2) Add a network.
- (3) Enable voucher authentication.

On Auth Config, click the newly created network wireless and turn on Voucher.

Figure 6-121 Enabling Voucher Authentication

wireless Edit										
₽		R=	<u>R=</u>	R=	R =					
One-click Internet Access	SMS	Fixed Account	Voucher	Facebook	Instagram					
Voucher authentication cannot be enabled together with Facebook authentication and Instagram authentication										
Voucher Management >										

(4) Configure voucher accounts.

Click Voucher Management.

My Network / Access Security / User Management Information	
Fixed Account Management Voucher User Group	
+ Add Voucher Start date - End date 🗇 Voucherstein C	ber Group 🔍
Voucher User Group Status T Price Validity Period Last Name Alias Creation Time Activation Time Expiration Time Device Quantity Enable MAC Address Binding Data Use Upload/Download Speed Limit	Operation

Click the User Group tab and click Add User Group.

My Network / Access Security / User Manag	Add User Group	
Fixed Account Management Voucher	Vuser Group Name guest Uses Croup Patient	Add User Group User Group Name
User Group Name Max Upload Rate	* User default number of terminals that can be bound	Enable MAC Address Binding Update Time Operation
VIP 1Kbps	3 V	Yes 2022-12-27 16:52:24 Edit Delete
	Price Please enter Price Validity Period	1.1 of 1 items < 1 > 10 / page ∨

Click OK.

Fixed Account Mana	gement Voucher	User Group				+ Add User	Group User Group Name	e Q
User Group Name	Max Upload Rate	Max Download Rate	Price	Validity Period	Data Quota	Enable MAC Address Binding	Update Time	Operation
guest	10Mbps	256Kbps	0	1 days	2GB	No	2022-12-28 12:20:05	Edit Delete
VIP	1Kbps	1Kbps	0	30 minutes	1MB	Yes	2022-12-27 16:52:24	Edit Delete

Click Add Voucher and add five voucher accounts.

Add Voucher		×
* Quantity		
5		
* User Group		
guest		\sim
User Info Config		\checkmark
Last Name	First Name	
Please enter Last Name	Please enter First Name	
Email		
Please enter Email		
Mobile Phone Number		
Please enter Mobile Phone N	lumber	
Alias		
Please enter Alias		
Advanced Settings		>
	Cancel	OK

Click OK.

Fixed Acc	Fixed Account Management Voucher User Group									
						+ Add Voucher		Start date ∼ Er	nd date 🟥 Vou	cher/MAC/User Group Q
	Voucher	User Group	Status 👻	Price	Validity Period	Last Name	Alias	Creation Time	Activation Time	Operation
	fiukw6	guest	• Unused	-	1 days	-	-	2022-12-28 12:21:59	-	Edit Reset Delete
	u8l5bb	guest	• Unused	-	1 days	-	-	2022-12-28 12:21:59	-	Edit Reset Delete
	auhjob	guest	• Unused	-	1 days	-	-	2022-12-28 12:21:59	-	Edit Reset Delete
	x4s3xg	guest	• Unused	-	1 days	-	-	2022-12-28 12:21:59	-	Edit Reset Delete
	8fivq8	guest	• Unused	-	1 days	-	-	2022-12-28 12:21:59	-	Edit Reset Delete

- (5) Configure the authentication pages.
- (6) Configure an authentication policy.
- (7) Configure the time limit.
- (8) Add authenticated devices.
- (9) (Optional) Apply the authentication policy to other sites.

Verifying the Configurations

After a user connects to the WLAN, the authentication page is automatically displayed. Due to differences in terminals, the authentication page may not be automatically displayed on some terminals. Users can open a browser and visit an external website to redirect to the authentication page.



The user can enter the voucher account for Internet access authentication.



After successful authentication, you can find the user among the online users in the system.

My Network	My Network / Access Security / Auth Logs / Auth Log Info								
Authenti	cated User	Internet Access History Record	Auth Failure Record					Clear Auth Info	
	Status	Telated STA count	Authenticate Account	IP Address	MAC Address	Auth Mode 🛛 👻	Cumulative Online Count	Online Time	
	Online	1	233234	192.	32:2B:1	Voucher	13	2022-12-27 16:52:56	

6. Facebook Authentication

Scenario

Facebook authentication is dedicated for users who have registered with Facebook. Users can use their Facebook accounts to connect to the network.

Limitation

Facebook authentication cannot be enabled together with voucher authentication.

Procedure

- (1) Add an SSID.
- (2) Add a network.
- (3) Enable Facebook authentication.

On Auth Config, click the newly created network wireless and turn on Facebook.

Figure 6-122 Enabling Facebook Authentication

wireless					
wireless Edit					
One-click Internet Access	SMS	Fixed Account	Voucher	Facebook	Instagram
Facebook authentication can Facebook Info ① Not config	not be enabled togethe jured Set >	r with Voucher authentication			

(4) Configure an authentication account.

Click Set to enter the Facebook Settings page and set Client ID and Client Secret.

* Client ID(Open ID)		
* Client Secret		1
	Quesel	⁽²⁾

Click Save to complete the authentication account configuration.

wireless Edit			⊘ Auth config FAQs Apply to Other Site Delete Auth			
One-click Internet Access	SMS	Fixed Account	R = Voucher	Facebook	Instagram	
Facebook authentication Facebook Info ⊘ Config	cannot be enabled together gured Set >	with Voucher authentication				

- (5) Configure the authentication pages.
- (6) Configure an authentication policy.

- (7) Configure the time limit.
- (8) Add authenticated devices.
- (9) (Optional) Apply the authentication policy to other sites.

Verifying the Configurations

After a user connects to the WLAN, the authentication page is automatically displayed. Due to differences in terminals, the authentication page may not be automatically displayed on some terminals. Users can open a browser and visit an external website to redirect to the authentication page.



Click **Click here to login on Facebook** to enter the Facebook login page.

facebook
Log into your Facebook account to connect to
Mobile number or email
Facebook Password
Log in
Forgot password?
Create Account
Not now
Help Center

The user can enter the Facebook account and password for Internet access authentication.



After successful authentication, you can find the user among the online users in the system.

My Networ	ly Network / Access Security / Auth Logs / Auth Log Info										
Authenti	cated User	Internet Access History	Record Auth Failure Record					Clear Auth Info	Authenticated Account/IP Q		
	Status		ant Authenticate Account	IP Address	MAC Address	Auth Mode	Turnulative Online Cou	int Online Time	Total Online Duration		
	Online	1				Facebook	8	2022-12-27 16:09:00			
								1-1 of 1 items	< 1 > 10 / page >		

7. Instagram Authentication

Scenario

Instagram authentication is dedicated for users who have registered with Instagram. Users can use their Instagram accounts to connect to the network.

Limitation

Instagram authentication cannot be enabled together with voucher authentication.

Procedure

- (1) Add an SSID.
- (2) Add a network.
- (3) Enable Instagram authentication.

On Auth Config, click the newly created network wireless and turn on Instagram.

Figure 6-123 Enabling Instagram Authentication

(4) Configure an authentication account.

Click Set to enter the Instagram Settings page and set Client ID and Client Secret.

Instagram Settings	×
* Client ID(Open ID)	
Please enter Client ID (Open ID)	
* Client Secret	
Please enter Client Secret	Ø
How Can I Get Instagram Information?	Cancel Save

Click **Save** to complete the authentication account configuration.

Global wireless								
wireless Edit								
Cone-click Internet Access	SMS	Fixed Account	Voucher	Facebook	Instagram			
Instagram authentication cannot be enabled together with Voucher authentication Instagram Info O Configured Set >								

- (5) Configure the authentication pages.
- (6) Configure an authentication policy.
- (7) Configure the time limit.
- (8) Add authenticated devices.
- (9) (Optional) Apply the authentication policy to other sites.

Verifying the Configurations

After a user connects to the WLAN, the authentication page is automatically displayed. Due to differences in terminals, the authentication page may not be automatically displayed on some terminals. Users can open a browser and visit an external website to redirect to the authentication page.



Click **Click here to login on Instagram** to enter the Instagram login page.

	Instagram	
	200 ⁵ 200 ⁵	
	Phone number, username, or email	
and a M	Password	e
	Forgot passwor	d?
-	Log in	
	·范秋章· ^{和Jan}	拉取着 "
	Don't have an account? Sign up	

The user can enter the Instagram account and password for Internet access authentication.



After successful authentication, you can find the user among the online users in the system.

My Network	dy Network / Access Security / Auth Logs / Auth Log Info										
Authenticated User Internet Access History Record Auth Failure Record											
	Status	T Related STA count	Authenticate Account	IP Address	MAC Address	Auth Mode	T Cumulative Online Count	Online Time			
	Online	1				Instagram	9	2022-12-27 16:18:41			

8. Hybrid Authentication

Scenario

Authentication modes include fixed account authentication, one-click login, SMS authentication, and voucher authentication. You can select two or more authentication methods based on actual network scenarios. When one of the authentications is successful, you can access network resources.

Limitation

- Voucher authentication cannot be enabled together with Facebook authentication and Instagram authentication.
- One-click login cannot be enabled with any other authentication method.

Procedure

- (1) Add an SSID.
- (2) Add a network.
- (3) Configure a hybrid authentication consisting of SMS, fixed account, Facebook, and Instagram authentication.

On Auth Config, click the newly created network wireless and turn on SMS, Fixed Account, Facebook, and Instagram.

Global wireless					+ New Auth Auther	nticated Device(1)	Disable All Auth
wireless Edit					⊘ Auth config FAQs	Apply to Other Site	Delete Auth
Cne-click Internet Access	SMS	Fixed Account	Voucher	Facebook	R= Instagram		
Facebook authentication can Facebook Info ⊘ Configure	not be enabled together d Set >	with Voucher authentication					

1 Note

For details about how to configure each authentication method, see the previous sections.

- (4) Configure the authentication pages.
- (5) Configure an authentication policy.
- (6) Configure the time limit.
- (7) Add authenticated devices.
- (8) (Optional) Apply the authentication policy to other sites.

Verifying the Configurations

After a user connects to the WLAN, the authentication page is automatically displayed. Due to differences in terminals, the authentication page may not be automatically displayed on some terminals. Users can open a browser and visit an external website to redirect to the authentication page.

>	登录	完成
		2
Auth Fixed	Account Faceboo	ok Auth Inst
Auth Fixed	Account Faceboo	ok Auth Inst
Auth Fixed	Account Faceboo	ok Auth Inst

Figure 6-124 Hybrid Authentication Page

Figure 6-125 Hybrid Authentication Page

auth	i-wiscioud.ruijierietworks.c	
$\langle \rangle$	登录	完成
	and the second	
a		17
SMS Auth	Fixed Account Vo	ucher Auth
SMS Auth	Fixed Account Vo	ucher Auth
SMS Auth Please enter	Fixed Account Vo	ucher Auth

After connecting to a WLAN, select an authentication mode and enter the authentication information for Internet access authentication.



After successful authentication, you can find the user among the online users in the system.

My Network	My Network / Access Security / Auth Logs / Auth Log Info								
Authenticated User Internet Access History Record Auth Failure Record						Clear Auth Info			
	Status	Trelated STA count	Authenticate Account	IP Address	MAC Address	Auth Mode	T Cumulative Online Count	Online Time	
	Online	1				Instagram	9	2022-12-27 16:18:41	

6.7.2 Authentication Logs

Choose My Network > Access Security > Auth Logs and view authentication logs on the Authenticated Users, Internet Access History Record, and Auth Failure Record tabs.

1. Authenticated User

My Networ	k / Access Se	curity / Auth Logs / Auth Log Info	>						
Authent	cated User	Internet Access History Record	Auth Failure Record					Clear Auth Info	Authenticated Account/IP Q
	Status	T Related STA count	Authenticate Account	IP Address	MAC Address	Auth Mode	T Cumulative Online Count	Online Time	Total Online Duration
	Online	1				Facebook	8	2022-12-27 16:09:00	-
								1-1 of 1 items	< 1 > 10 / page >

My Network / Access S	My Network / Access Security / Auth Logs / Auth Log Info							
Authenticated User	Internet Access History Rec	ord Auth Failure Record		Export Record Start dat	e ~ End date	Authenticated Account/IP Q		
Authenticate Account	IP Address	MAC Address	Auth Mode	Online Time	Offline Time	Go-offline Cause		
	192.168.	32:2B:17:25	Voucher	2022-12-27 16:52:56	2022-12-27 16:55:38	Device notification offline		
	192.168.	32:2B:17:28	Fixed Account	2022-12-27 16:49:13	2022-12-27 16:51:43	Device notification offline		
	192.168.	32:2B:17:25:	Facebook	2022-12-27 16:32:27	2022-12-27 16:39:37	Device notification offline		
	192.168.1	32:2B:17:28	Instagram	2022-12-27 16:26:27	2022-12-27 16:27:46	Device notification offline		
	192.168	32:2B:17:25	Instagram	2022-12-27 16:18:41	2022-12-27 16:21:52	Device notification offline		
	192.168.	32:2B:17:25	Facebook	2022-12-27 16:09:00	2022-12-27 16:10:44	Device notification offline		
	192.168.	32:2B:17:25	Facebook	2022-12-27 15:06:01	2022-12-27 15:15:05	Device notification offline		
	192.168.	32:2B:17:25:	Instagram	2022-12-27 14:58:24	2022-12-27 15:04:34	Device notification offline		
	192.168.	32:2B:17:25	Facebook	2022-12-27 14:32:08	2022-12-27 14:42:03	Device notification offline		
					1-9 of 9 iter	ms < 1 > 10 / page >		

2. Internet Access History Record

3. Auth Failure Record

My Network / Access Security / Auth Logs / Auth Log Info						
Authenticated User Internet Access History Record Auth Failure Record					Authenticated Account Q	
Authenticate Account	count IP Address MAC Address		Auth Mode	Online Time	Failure Cause	

6.7.3 Blacklist/Whitelist

Choose **My Network** > **Access Security** > **Blacklist/Whitelist** to go to the wireless STA blacklist/whitelist configuration page and manage the access of STAs at a site based on the blacklist/whitelist.

Figure 6-126 Blacklist/Whitelist

My Network / Access Security / Blacklist	t/Whitelist / Blacklist/Whitelist Info		
Based on SSID © "Hotspot © "Freehotspot © eduroam Global © Global Setup	Blacklist Whitelst 1. After a blacklist is configured, STAs that match condition 2. Different types of blacklists and whitelists are complex: 3. The MAC whitelist and blacklist of the same type are m 4. The blacklist has a higher priority than the whitelist. For types.	AddMAC Address Deliver Config Synchronize AC Config ons are not allowed to access the network. In priority You are advised to select a single type as required. Instually exclusive. For example, a MAC address added to the whitelist of all APs cannot be added to the blacklist of all APs. or example, an STA added to any type of blacklist (all-APIAP/AP group/SSID MAC/OUI blacklist) cannot go online even if it is add	SearchMAC Address Q
	MAC Address	Description	Operation
		No Data	

Click **Based on SSID** or **Global** in the left pane to determine whether to configure a blacklist/whitelist globally or based on a specified SSID.

- **Global**: The configuration is based on an entire device. The device allows or denies STAs according to the blacklist/whitelist for all its SSIDs.
- **Based on SSID**: The device manages the access of STAs according to the configured blacklist/whitelist only for a specific SSID.

Figure 6-127 Blacklist/Whitelist Setting Dimensions

eased on SSID	Blacklist	+ AddMAC Address Deliver Config Synchronize AC Con	fig SearchMAC Address Q			
 ♥ "Freehotspot ♥ eduroam Global ♥ Global Setup	 After a blackist is configured, STAs that match conditions are not allowed to access the network. Different types of blackists and whitelists are complex in priority. You are advised to select a single type as required. The MAC whitelist and blackist of the same type are mutually exclusive. For example, a MAC address added to the whitelist of all APs cannot be added to the blackist of all APs. The blackist has a higher priority than the whitelist. For example, an STA added to any type of blackist (all-APIAPIAP group/SSID MAC/OUI blackist) cannot go online even if it is added to whitelists of other types. 					
😤 Global Setup	types.					
🗢 Global Setup	types. MAC Address	Description	Operati			

1. Blacklist

Click Add MAC Address to add a wireless device blacklist.

A Caution

(1) After a blacklist is configured, STAs that match conditions are not allowed to access the network.

- (5) Different types of blacklists and whitelists are complex in priority. You are advised to select a single type as required.
- (6) The MAC whitelist and blacklist of the same type are mutually exclusive. For example, a MAC address added to the whitelist of a device cannot be added to the blacklist of the device.
- (7) The blacklist has a higher priority than the whitelist. For example, an STA added to any type of blacklist (system/AP/AP group/SSID MAC/OUI blacklist) cannot go online even if it is added to whitelists of other types.
- (8) If the blacklist is enabled, an online STA that matches the blacklist will be kicked offline immediately.

Figure 6-128 Creating a Blacklist

Search Q Bla	ckiist/Whitelist / Blackiist/Whitelist Info	~	
	Blacklist Whitelist 1. After a blacklist is configured. STAs that match cond 2. Different types of blacklists and whitelists are compe 3. The MAC whitelist and blacklist of the same type are 4. The blacklist has a higher priority than the whitelist. If types.	SearchMAC Address Q	
	MAC Address	Description	Operation
		No Oata	

MAC addresses can be blacklisted based on OUIs or complete MAC addresses.

Based on OUI

Only the first six characters of a MAC address need to be entered. The configuration takes effect on all MAC addresses matching the first six characters of the MAC address (applicable to the case in which the first six characters of devices' MAC addresses are the same). Multiple MAC addresses can be added at the same time, with one MAC address record in one row. MAC address remarks can be added. The remarks must be in the same line as MAC addresses and are separated from MAC addresses by commas.

🛕 Caution

Only software version RGOS11.9(6)B1 and later versions support the based on OUI mode.

Figure 6-129 Adding MAC Addresses Based on OUIs

My Network / Access Security / Blacklist/	Whitelist / Blacklist/White	list Info					
Based on SSID	Blacklist Whit	AddMAC Address	×	ss	Deliver Config	Synchronize AC Config	SearchMAC Address
♥ "Hotspot ♥ "Freehotspot	1. After a blackli	Based on OUI Based on Complete MAC Address					
Image: eduroam 2. Different 3. The MA 3. The MA Global 4. The bla Image: Global Setup types	2. Different type 3. The MAC whit 4. The blacklist I types.	In Note: Based on OUI: Only the first six characters of an MAC address need to be end to be e		vhitelist of all APs ca P group/SSID MAC/C		s cannot be added to the blacklist of all APs. ACIOU blacklist) cannot go online even if it is added to whitelists of othe	
	MAC Addre	this option.		escrij	ption		Operation
	Sieg string English 000	Separate the first six characters (uppercase tidens) of an MAC address and the remains string of up to 16 characters containing (Thires characters. Explisit heters, dights, underscores (_), hyphene (-), # or (@), one Chinese character is equivalent to Three Englisin characters in length) with comman (.). Put one record in one line. Example: 0000.00, Upang's mobile phone number 0000.10, LIPs mobile phone number 0000.00, Upang's mobile phone number 0000.10, LIPs mobile phone number	ik (а	escription			

Filling requirements:

- **MAC**: (Required) The letters need to be capitalized.
- o Remark: (Required) The value is a string of up to 16 characters containing Chinese characters, English

letters, digits, underscores (_), hyphens (-), #, or @. One Chinese character is equal to three English characters.

Based on Complete MAC Address

A complete MAC address must be entered. The configuration takes effect on a MAC address that completely matches this MAC address (applicable to the case in which the first six characters of devices' MAC addresses are different). Multiple MAC addresses can be added at the same time, with one MAC address record in one row. MAC address remarks can be added. The remarks must be in the same line as MAC addresses and are separated from MAC addresses by commas.

Figure 6-130 Creating a Blacklist Based on Complete MAC Addresses

My Network / Access Security / Blacklist/	Whitelist / Blacklist/Whitel	Linfo AddMAC Address X st Deliver Config Synchronize AC Config SearchMAC Address -	
Thotspot Treehotspot Global Global Setup	1. After a blackle 2. Different type 3. The MAC whit 4. The blacklist I types.	Based on OUI Based on Complete MAC Address Note: Based on Complete MAC address must be entered. The configuration takes effect on an MAC address that completely matches this MAC address (applicable to the case in which the first six characters of devices' MAC address are different).	
	MAC Addr	Separate an MAC address and the remark (a string of 16 characters containing Chinese characters, English letters, digits, underscores (.), hyphens (.), e. or @), one Chinese character is equivalent to three English characters in length) with commas (.). Put one record in one line: Lamight: 0000 0000 0000, Liji's mobile phone number 0000-1002.0008, Liji's mobile phone number Put one number	ition
		elect from Online User Cancel CX	

Filling requirements:

- **MAC**: (Required) The letters need to be capitalized.
- **Remark**: (Required) The value is a string of up to 16 characters containing Chinese characters, English letters, digits, underscores (_), hyphens (-), #, or @. One Chinese character is equal to three English characters.

To blacklist an online user, click Select from Online User in the lower left corner to add it to a blacklist rapidly.

Users in a blacklist can be deleted separately or in batches.

My Network / Access Security / Blacki	st/Whitelist / Blacklist/Whitelist Info		
Based on SSID © "Hotspot © "Freehotspot © eduroam Global © Global Setup	Blacklist Whiteist After a blacklist is configured, STAs that match o Different types of blacklists and whitelists are co The MAC whitelist and blacklist of the same type The blacklist has a higher priority than the white types.	Ps fit is added to whitelists of other	
	MAC Address	Description	Operation
		No Data	

After a blacklist is configured, click **Deliver Config** to apply the blacklist to a site.

Figure 6-132	Delivering a Blacklist
	Bonroring a Blaohnor

ome	My Network									H	Add Site			
My Ne Bas	work / Access Sec	urity / Biacklist/V	Vhitelist / Blacki	ist/Whitelist info	0	Deliver Config				1	0.0000000000000000000000000000000000000			
Giol	"Hotspot "Freehotspot eduroam al Global Setup	1. After a blackiss 2. Different types 3. The MAC white 4. The blackiss h types.		Whitenst blacklist is configured, I types of blacklists an C whitelist and blacklis cklist has a higher pric	Are you sure you want to apply the blackistwhitelist to the site? Kists and Cancel OK Dackist her priority than the whitelist. For example, an STA added to any type of b				type as required. ess added to the whitelist o	klist of all AF	PS	ther		
		MAC Address	Description								Operation			

Click **Synchronize AC Config** to synchronize configurations related to blacklist/whitelist (such as WLANs and SSIDs) on cloud APs or ACs to the WIS.

Figure 6-133 Synchronizing Device Configuration

Based on SSID ⊕ "Hotspot	Blacklist Whitelist	+ AddIMAC Address Deliver Config Synchronize AC Config	SearchMAC Address Q						
♥ 'Freeholspot ♥ eduroam Global ♥ Global Setup	After a blacklist is configured. STAs that match conditions are not allowed to access the network. Different types of blacklists and whitelists are complex in priority. You are advised to select a single type as required. The MAC whitelist and blacklist of the same type are mutually exclusive. For example, a MAC address added to the whitelist of all APs cannot be added to the blacklist of all APs. The MAC whitelist and blacklist of the same type are mutually exclusive. For example, a MAC address added to the whitelist of all APs cannot be added to the blacklist of all APs. The MAC whitelist has a higher priority than the whitelist. For example, an STA added to any type of blacklist (all-AP/AP/AP group/SSID MAC/OUL blacklist) cannot go online even if it is added to whitelists of other types.								
	MAC Address	Description	Operatio						
		No Data							

2. Whitelist

Click the **Whitelist** tab page to switch to the whitelist configuration page. On this page, functions of adding MAC addresses, delivering configurations, synchronizing AC configurations, and deleting entries from the whitelist are the same as those on the **Blacklist** tab page. Pay attention to the following points when configuring a whitelist.

🛕 Caution

- (1) After a whitelist is configured, only STAs that match conditions are allowed to access the network.
- (2) If there is no data in the whitelist, all STAs are allowed to access the network. If there is data in the whitelist, STAs not listed in the whitelist are immediately banned from accessing the network.
- (3) Different types of blacklists and whitelists are complex in priority. You are advised to select a single type as required.
- (4) The MAC whitelist and blacklist of the same type are mutually exclusive. For example, a MAC address added to the whitelist of a device cannot be added to the blacklist of the device.
- (5) The blacklist has a higher priority than the whitelist. For example, an STA added to any type of blacklist (system/AP/AP group/SSID MAC/OUI blacklist) cannot go online even if it is added to whitelists of other types.
- (6) When an entry is added to the whitelist, other STAs will not be kicked offline.

6.8 Alarm Management

6.8.1 Active Alarm

Choose My Network > Alarm Management > Active Alarm to go to the active alarm management page.

1. Alarm List

The active alarm list provides information about uncleared alarms, including the alarm severity, alarm name, alarm type, alarm source, acknowledgment status, clearing status, repetition times, occurrence time, update time, and remarks.

In the list, you can search for alarm records by alarm time range, alarm source, alarm severity, alarm type, acknowledgment status, and clearing status.

Figure 6-134	Alarm List
--------------	------------

My Networ	k / Alarm Manag	ement / Active Alarm / Active Alarm Info	0									
Active A	larm							Ack Cancel Ack	Clear Export	Start date ~	End date 📋	Search Alarm Source Q
	Severity	T Name	Туре	T Source	Ack Status	T Clearance Status	Ψ	Repetition Times	Occurrence Time	Update Time	Remark	Operation
	Major	Device Interface Down	Device Alarm	[52910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-06 02:04:38		Gi0/39 Down	More 🗠
	Major	Device Interface Down	Device Alarm	[52910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-05 20:35:43		Gi0/14 Down	More 🗸
	Major	Device Interface Down	Device Alarm	[52910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-05 15:57:44		Gi0/14 Down	More Y
	Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-05 10:05:12		Gi0/41 Down	More Y
	Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-05 10:04:36		Gi0/41 Down	More Y
	Major	Device Interface Down	Device Alarm	[W\$6512]-[G1ML70M000	Unacked	Uncleared		0	2022-08-04 20:04:17		Vi1 Down	More Y
	Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-04 19:20:57		Gi0/41 Down	More Y
	Major	Device Interface Down	Device Alarm	[52910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-04 19:20:23		Gi0/41 Down	More Y
	Major	Device Interface Down	Device Alarm	[52910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-04 19:19:32		Gi0/41 Down	More Y
	Major	Device Interface Down	Device Alarm	[52910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-04 19:13:47		Gi0/41 Down	More Y

1-10 of 43 items < 1 2 3 4 5 > 10 / page >

Some fields in the list are described as follows:

- Severity: The alarm severity is critical, major, minor, and warning in descending order.
- **Type**: Alarms include communication alarms, environment alarms, QoS alarms, device alarms, processing error alarms, and OMC alarms.
- **Repetition Times**: It indicates the number of occurrence times of an alarm since the first occurrence of the alarm. After the alarm is cleared, the count will be reset.

2. Alarm Details

Click More and select Details in the Operation column of the list to view details about an alarm.

My Network	/ Alarm Manageme	nt / Active Alarm / Active Alarm Info										
Active Ala	rm							Ack Cancel Ack	Clear Export	Start date ~ En	d date 🛗 🛛 Search A	larm Source Q
	Severity T	Name	Туре	T Source	Ack Status	T Clearance Status	Ψ	Repetition Times	Occurrence Time	Update Time	Remark	Operation
	Major	Device Interface Down	Device Alarm	[52910C-48GT2X5-HP-E]	Unacked	Uncleared		0	2022-08-06 02:04:38		Gi0/39 Down	More V
	Major	Device Interface Down	Device Alarm	[52910C-48GT2X5-HP-E]	Unacked	Uncleared		0	2022-08-05 20:35:43		GI0/14 Down	Details Ack
	Major	Device Interface Down	Device Alarm	[52910C-48GT2X5-HP-E]	Unacked	Uncleared		0	2022-08-05 15:57:44		Gi0/14 Down	Clear
	Major	Device Interface Down	Device Alarm	[52910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-05 10:05:12		Gi0/41 Down	More Y
	Major	Device Interface Down	Device Alarm	[52910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-05 10:04:36		Gi0/41 Down	More V
	Major	Device Interface Down	Device Alarm	[W56512]-[G1ML70M000	Unacked	Uncleared		0	2022-08-04 20:04:17		VI1 Down	More V
	Major	Device Interface Down	Device Alarm	[52910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-04 19:20:57		GI0/41 Down	More Y
	Major	Device Interface Down	Device Alarm	[52910C-48GT2X5-HP-E]	Unacked	Uncleared		0	2022-08-04 19:20:23		Gi0/41 Down	More V
	Major	Device Interface Down	Device Alarm	[52910C-48GT2X5-HP-E]	Unacked	Uncleared		0	2022-08-04 19:19:32		GI0/41 Down	More Y
	Major	Device Interface Down	Device Alarm	[52910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-04 19:13:47		Gi0/41 Down	More V
										1-10 of 43 items	1 2 3 4 5 :	> 10/page∨

Figure 6-136 Alarm Details (02)

My Network / Alarm M	fy Network / Alarm Management / Active Alarm / Active Alarm Info / Alarm Details										
Alarm Details											
Number Name Type Source Repetition Times Cause Symptom Remark	123494257041ALARM_TP_DEVICE_INTERFACE_DOWN1659722678 Device Interface Down Mager Device Alarm [S2910C-48GT2KS-HP-E]-[1234942570041]-[SWITCH] 0 This alarm is generated when the device interface changes from up to down. Gl0/39 Down	Suggested Action	Status Unacked Undeared Ack Clear								

3. Alarm Acknowledgment

Click **More** and select **Ack** in the **Operation** column of the list to acknowledge an alarm, indicating that the alarm is identified. You can select multiple alarms and click **Ack** to bulk acknowledge the alarms. You can click **Ack** on the **Alarm Details** page to acknowledge an alarm.

Figure 6-137	Alarm Acknowledgment
--------------	----------------------

My Netwo	rk / Alarm Managem	ent / Active Alarm / Active Alarm Info					-					
Active	larm							Ack Cancel Ack	Clear Export	Start date ~ Er	nd date 🗂 Search	h Alarm Source Q
	Severity T	Name	Туре	T Source	Ack Status	T Clearance Status	Ψ	Repetition Times	Occurrence Time	Update Time	Remark	Operation
	Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-06 02:04:38		Gi0/39 Down	More Y
	Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-05 20:35:43		Gi0/14 Down	More Y
	Major	Device Interface Down	Device Alarm	[52910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-05 15:57:44		Gi0/14 Down	More Y
	Major	Device Interface Down	Device Alarm	[52910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-05 10:05:12		Gi0/41 Down	More 🗸
	Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-05 10:04:36		Gi0/41 Down	More V
	Major	Device Interface Down	Device Alarm	[WS6512]-[G1ML70M000	Unacked	Uncleared		0	2022-08-04 20:04:17		VI1 Down	More V
	Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-04 19:20:57		Gi0/41 Down	More V
	Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-04 19:20:23		Gi0/41 Down	More Y
	Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-04 19:19:32		Gi0/41 Down	More Y
	Major	Device Interface Down	Device Alarm	[52910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-04 19:13:47		Gi0/41 Down	More 🗸
										1-10 of 43 items <	12345	> 10/page~

4. Canceling Acknowledgment

The acknowledgment of alarms can be bulk cleared to set the alarms to the unacknowledged state.

My Netwo	rk / Alarm Manage	ment / Active Alarm / Active Alarm Info										
Active /	Jarm							Ack Cancel Ack	Clear Export	Start date ~ E	nd date 🖽 🗄	iearch Alarm Source Q
	Severity	T Name	Туре	T Source	Ack Status	T Clearance Status	τF	Repetition Times	Occurrence Time	Update Time	Remark	Operation
	Major	Device Interface Down	Device Alarm	[S2910C-48GT2XS-HP-E]+err	Unacked	Uncleared	c	0	2022-08-06 02:04:38		Gi0/39 Down	More 🗸
	Major	Device Interface Down	Device Alarm	[S2910C-48GT2XS-HP-E]	Unacked	Uncleared	(0	2022-08-05 20:35:43		Gi0/14 Down	More 🛩
	Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared	C	0	2022-08-05 15:57:44		Gi0/14 Down	More 🗸
	Major	Device Interface Down	Device Alarm	[S2910C-48GT2XS-HP-E]	Unacked	Uncleared	C	0	2022-08-05 10:05:12		Gi0/41 Down	More 🗸
	Major	Device Interface Down	Device Alarm	[S2910C-48GT2XS-HP-E]	Unacked	Uncleared	c	0	2022-08-05 10:04:36		Gi0/41 Down	More 🛩
	Major	Device Interface Down	Device Alarm	[W56512]-[G1ML70M000	Unacked	Uncleared	C	0	2022-08-04 20:04:17	÷	VI1 Down	More 🗸
	Major	Device Interface Down	Device Alarm	[S2910C-48GT2XS-HP-E]	Unacked	Uncleared	C	0	2022-08-04 19:20:57		Gi0/41 Down	More 🗸
	Major	Device Interface Down	Device Alarm	[S2910C-48GT2XS-HP-E]	Unacked	Uncleared	(0	2022-08-04 19:20:23		Gi0/41 Down	More M
	Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared	(0	2022-08-04 19:19:32		Gi0/41 Down	More 🗸
	Major	Device Interface Down	Device Alarm	[S2910C-48GT2XS-HP-E]	Unacked	Uncleared	C	0	2022-08-04 19:13:47		Gi0/41 Down	More Y

Figure 6-138 Canceling Acknowledgment

1-10 of 43 items < 1 2 3 4 5 > 10 / page >

5. Clearing an Alarm

Click **More** and select **Clear** in the **Operation** column of the list to clear an alarm. Cleared alarms will be added to the history alarm list. You can bulk clear alarms. You can click **Clear** on the **Alarm Details** page to clear an alarm.



My Netwo	rk / Alarm Manaş	gement / Active Alarm / Active Alarm In	fo								
Active A	larm						Ack Cancel A	Ack Clear Export	Start date ~	End date 🛗 Sear	ch Alarm Source Q
	Severity	T Name	Туре	T Source	Ack Status	T Clearance Statu	s T Repetition Times	Occurrence Time	Update Time	Remark	Operation
	Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared	0	2022-08-06 02:04:38		Gi0/39 Down	More V
	Major	Device Interface Down	Device Alarm	[52910C-48GT2XS-HP-E]	Unacked	Uncleared	0	2022-08-05 20:35:43		Gi0/14 Down	Ack
	Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared	0	2022-08-05 15:57:44		Gi0/14 Down	Clear
	Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared	٥	2022-08-05 10:05:12		Gi0/41 Down	More 🗸
	Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared	0	2022-08-05 10:04:36		Gi0/41 Down	More V
	Major	Device Interface Down	Device Alarm	[WS6512]-[G1ML70M000	Unacked	Uncleared	0	2022-08-04 20:04:17		VI1 Down	More V
	Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared	0	2022-08-04 19:20:57		Gi0/41 Down	More Y
	Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared	0	2022-08-04 19:20:23		Gi0/41 Down	More V
	Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared	0	2022-08-04 19:19:32		Gi0/41 Down	More V
	Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared	0	2022-08-04 19:13:47		Gi0/41 Down	More V

1-10 of 43 items < 1 2 3 4 5 > 10 / page∨

6. Exporting Alarms

Click **Export** to export the alarm list to the local device.

Figure 6-140	Exporting Alarms
--------------	------------------

ork / Alarm Manag	ement / Active Alarm / Active Alarm Inf	0									
Alarm							Ack Cancel Ack	Clear Export	Start date ~ Er	id date 📋 Search	h Alarm Source Q
Severity	T Name	Type	T Source	Ack Status	T Clearance Status	Ψ	Repetition Times	Occurrence Time	Update Time	Remark	Operation
Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-06 02:04:38		Gi0/39 Down	More 🗸
Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-05 20:35:43		Gi0/14 Down	More V
Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-05 15:57:44		Gi0/14 Down	More V
Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-05 10:05:12		Gi0/41 Down	More Y
Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-05 10:04:36		Gi0/41 Down	More V
Major	Device Interface Down	Device Alarm	[WS6512]-[G1ML70M000	Unacked	Uncleared		0	2022-08-04 20:04:17		Vi1 Down	More V
Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-04 19:20:57		Gi0/41 Down	More Y
Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-04 19:20:23		Gi0/41 Down	More Y
Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-04 19:19:32		Gi0/41 Down	More Y
Major	Device Interface Down	Device Alarm	[\$2910C-48GT2XS-HP-E]	Unacked	Uncleared		0	2022-08-04 19:13:47		Gi0/41 Down	More Y
	ek / Alam Manag Alam Sevethy (Case Case Case Case Case Case Case Case	ek i Alam Nanogeneri i Adue Alam i Adue Alam id Alam I I I I I I I I I I I I I I I I I I I	ek i Alam Nangeneri / Athin Alam / Athin Alam Hole Alam San Alam San Alam	ek / Atam Nanagueert / Attire Alam / Attire Alam Ide Alam Alam V Nané V V V V V V V V V V V V V V V V V V V	viam Nacourse V Athen Alam / Athen Alam Market Jame Jame	vi klams J Atter Alter J Atter Alter Markel Jams vi klams J Atter Alter Alter Alter Markel Jams vi klams J Atter Alter Alter Alter Alter Markel Jams vi klams J Atter Alter Alte	viam Nature Vature Alam / Attite Alam Note Viam Nature Vature Alam / Attite Alam Note Viam Nature Vature Alam / Attite Alam Note Viam Nature Vature Vature Alam Note Viam Nature Vature Vature Alam Note Viam Nature Vature Vatur	Atter	Adam Water / Adam /	Advantage Advantage State State	A decidence d

1-10 of 43 items < 1 2 3 4 5 > 10 / page ~

6.8.2 Alarm Setup

The alarm setup function allows you to configure the alarm content, thresholds, detection switch, and push switch. Alarm information can be pushed by email, WeCom, and DingTalk.

1. Alarm Content

On the **Content** tab page, you can define alarm thresholds, alarm switch, and push switch for different categories of alarms. If the value of an alarm category exceeds the current threshold and the alarm function is enabled, the system generates an alarm record.

Figure 6-141 Setting Alarm Content

My Network / Alarm Management / Alarm Setup / Alarm Setup Info								
Content Email Notification								
Category	Alarm Threshold	Enable	Push Notification					
Device Offline		Enable	Disable					
All Devices Offline		Enable	Disable					
Frequent Restart	Consecutive PL times		Disable					
High CPU Utilization	Over 90 %	Disable	Disable					
High Memory Utilization	Over 90 %	Dicable	Disable					
High Packet Drop Rate	Over 3 %	Disable	Disable					
High Uplink and Downlink Breakout Traffic	Over 100 GB	Ditable	Disable					
Interface Down		Enable	Disable					
High Channel Utilization	Over 70 %	Ditable	Dicable					

2. Email Notification

Email notification includes two configuration items: **Server Configuration** and **Add Contact**. The two configuration items are described as follows:

Figure 6-142 Email Notification

My Network / Alarm Management / Alarm	n Setup / Alarm Setup Info						
Content Email Notification						Server Configuration	+ Add Contact
Name	Mobile	Email	Remarks		Push Notification	Operation	
				No Data			

(1) Server Configuration

Click **Server Configuration** to configure the server of the email box that pushes alarms. There are two types of email servers: WIS email server and custom email server. The WIS email server does not need to be configured. The default email server of the WIS is used.

Figure 6-143 Server Configuration

My Network / Alarm Management / Alarm	n Setup / Alarm Setup Info						
Content Email Notification			Server Configuration	×		Server Configuration	+ Add Contact
Name	Mobile	Email	Server Type WIS Mail Server Custom Mail Server		ush Notification	Operation	
			SMP Enail Server Address Proce refers SMP Enail Server Address Stan Enail Server Address Smare refers Enail Server Port 25 SMP Enail Server Port 25 SMP Enail Server ruse: the SSI protocol. Tenail: Deciman Rease refers Enail Usersmare Proce refers Enail Usersmare Cancel	ø			

The custom server configuration is described as follows:

- **SMTP Email Server Address**: (Required) Indicates the server address of an email box that pushes alarms. Enter the actual server address.
- o Email Password: (Required) Indicates the email password for pushing alarms.
- SMTP Email Server Port: (Required) Indicates the server port that sends emails. Enter the actual port ID.
- SMTP Email server uses the SSL protocol: (Required) Indicates whether the SMTP service uses the SSL protocol for encryption.
- **Email Username**: Indicates the email username for pushing alarms.

Note

The Simple Mail Transfer Protocol (SMTP) server address is a set of specifications used to transmit mails from the source address to the destination address. It controls the transfer mode of mails. The SMTP
protocol belongs to the TCP/IP protocol suite and helps each PC find the next destination when sending or forwarding mails. The SMTP server is a mail transfer server that complies with the SMTP protocol. Different mail providers use different SMTP server addresses.

(2) Contact Configuration

Click Add Contact to add an object, to which alarm emails are to be pushed.

Figure 6-144	Adding a Contact
--------------	------------------

RuijieProject	My N	etwork / Alarm Management / Alarm S	etup / Alarm Setup Info				
AC-Group	> 1 Cor	tent Email Notification	3	Add Contact	×		Server Configuration + Add Contact
🛱 My Site				* Name			
	Na	ne	Email	Please enter Name		Push Notification	Operation
e Network Optim	×		and the second se	* Email			Edit Delete
STA Insight			_	Please enter Email			
O Access Security				Remarks		Enable	
Alarm Manage				Please enter Remarks		Enable	Edit Delete
Active Alarm						Disable	Edit Delete
Alarm Setup			-		Jancel	Disable	Edit Delete
 History Alarm 						Enable	Edit Delete
Report							1-6 of 6 items < 1 > 10 / page <

The contact configuration is described as follows:

- **Name**: (Required) Enter the name of a contact. It is a string of up to 50 characters containing only Chinese characters, letters, digits, underscores (_), hyphens (-), @, and &.
- **Email**: (Required) Enter the contact's email address for receiving pushed alarms.
- **Remarks**: (Optional) Enter the remarks of the contact. The value is a string of no more than 200 characters.

In the contact list, you can configure the push switch, edit contacts, and delete contacts.

Figure 6-145 Contact List

My Network / Alarm Management / Alarm Setu	ip / Alarm Setup Info						
Content Email Notification						Server Configuration	+ Add Contact
Name	Mobile	Email	Remarks		Push Notification	Operation	
				No Data			

6.8.3 History Alarm

On the Historical Alarm page, you can view cleared alarms and acknowledged history alarms.

1. Alarm List

In the history alarm list, you can filter alarm records by alarm time range, alarm severity, alarm type, acknowledgment status, and clearing status, and search for alarms by alarm source.

Figure 6-146 History Alarm List

⊚ Institut_Tekn >	My Network / Ala	irm Management / H	listory Alarm / Histor	y Alarm Info							
TTB_Jatinangor	Historical Alar	m						Export Start date	~ End da	te 🗎 Search Alarm S	ource Q
🗃 My Site 🗸 🗸	Severity T	Name	Туре т	Source	Ack Status	Clearance Status	Repetition Times	Occurrence Time	Update Time	Remark	Operation
e Network Optim ×	Major	Device Offline	Device Alarm	[RJ_WS6008_ITB_Jatin	Unacked	2022-08-06 18:25:51 Clear	0	2022-08-06 17:38:16			Details
C Access Security	Major	Device Offline	Device Alarm	[RJ_WS6008_ITB_Jatin	Unacked	2022-08-06 06:33:10 Clear	0	2022-08-06 06:26:26	-		Details
Alarm Manage	Major	Device Offline	Device Alarm	[RJ_WS6008_ITB_Jatin	Unacked	2022-08-06 05:36:42 Clear	0	2022-08-06 04:56:32	-		Details
- Active Alarm	Major	Device Offline	Device Alarm	[RJ_WS6008_ITB_Jatin	Unacked	2022-08-06 04:40:22 Clear	0	2022-08-06 04:11:12			Details
 Alarm Setup 	Major	Device Offline	Device Alarm	[RJ_WS6008_ITB_Jatin	Unacked	2022-08-05 03:23:27 Clear	0	2022-08-04 22:37:12			Details
History Alarm									14	5 of 5 items < 1 >	10 / page v
☐ Report ~											

2. Alarm Details

Click **Details** in the **Operation** column of the list to view details about an alarm.

Figure 6-147 Alarm Details (1)

My Network / A	larm Management / I	History Alarm / Histor	ry Alarm Info							
Historical Ala	arm					E	Export Start date	~ End date	Ë	Search Alarm Source Q
Severity T	Name	Туре 👻	Source	Ack Status	Clearance Status	Repetition Times	Occurrence Time	Update Time	Remark	Operation
Major	Device Offline	Device Alarm	[RJ_WS6008_ITB_Jatin	Unacked	2022-08-06 18:25:51 Clear	0	2022-08-06 17:38:16	-	-	Details
Major	Device Offline	Device Alarm	[RJ_WS6008_ITB_Jatin	Unacked	2022-08-06 06:33:10 Clear	0	2022-08-06 06:26:26	-	-	Details
Major	Device Offline	Device Alarm	[RJ_WS6008_ITB_Jatin	Unacked	2022-08-06 05:36:42 Clear	0	2022-08-06 04:56:32	-	-	Details
Major	Device Offline	Device Alarm	[RJ_WS6008_ITB_Jatin	Unacked	2022-08-06 04:40:22 Clear	0	2022-08-06 04:11:12	-	-	Details
Major	Device Offline	Device Alarm	[RJ_WS6008_ITB_Jatin	Unacked	2022-08-05 03:23:27 Clear	0	2022-08-04 22:37:12	-	-	Details
								1-5 c	if 5 items <	1 > 10 / page <

Figure 6-148 Alarm Details (2)

My Network / Alarm Management / History Alarm / History Alarm Info / Alarm Details			
Alarm Details			Back
Number Name Type Source Repetition Times Cause Symptom Remark	Suggested Action	Status Unacked Uncleared	

3. Exporting Alarms

Click **Export** to export the alarm list to the local device.

Figure	6-149	Exporting Alarms
inguic	0 140	Exporting Alarma

My Network / A	Jarm Management / F	History Alarm / Histor	y Alarm Info			-				
Historical Ala	arm					Exp	Start date	~ End date	ti S	earch Alarm Source Q
Severity 👻	Name	Туре 👻	Source	Ack Status	Clearance Status	Repetition Times	Occurrence Time	Update Time	Remark	Operation
Major	Device Offline	Device Alarm	[RJ_WS6008_ITB_Jatin	Unacked	2022-08-06 18:25:51 Clear	0	2022-08-06 17:38:16	-	-	Details
Major	Device Offline	Device Alarm	[RJ_WS6008_ITB_Jatin	Unacked	2022-08-06 06:33:10 Clear	0	2022-08-06 06:26:26	-	-	Details
Major	Device Offline	Device Alarm	[RJ_WS6008_ITB_Jatin	Unacked	2022-08-06 05:36:42 Clear	0	2022-08-06 04:56:32	-	-	Details
Major	Device Offline	Device Alarm	[RJ_WS6008_ITB_Jatin	Unacked	2022-08-06 04:40:22 Clear	0	2022-08-06 04:11:12	-	-	Details
Major	Device Offline	Device Alarm	[RJ_WS6008_ITB_Jatin	Unacked	2022-08-05 03:23:27 Clear	0	2022-08-04 22:37:12	-	-	Details
								1-5 0	f 5 items <	1 > 10 / page ~

6.9 Report

Choose **My Network** > **Report** to go to the report management page. On the **Export BSSID** page, click **Export** in the upper right corner of the page to export all BSSID information to the local device.

|--|

◎ WIS云网演示	My Network / Report / Export BSSID					
双子星	Export BSSID					Export
🗄 My Site 🗸 🗸	SN	AP MAC	AP Egress Address	Radio ID	SSID	85SID
€ Network Opti V		0067.3534.5439		1		1267.3534.5430
C STA Insight Y		0067.3534.5439		2		0267.3534.5441
Access Security		0067.3534.5439		1		1267.3534.5431
Report		0067.3534.5439		2		0267.3534.5442
Export BSSID		0067.3534.5439		1		1267.3534.5430
		0067.3534.5439		2		0267.3534.5441
		0067.3534.5439		1		1267.3534.5431
		0067.3534.5439		2		0267.3534.5442
						1-8 of 8 items < 1 > 10 / page ∨

7 Management and Maintenance

7.1 Organizational Planning

WIS Cloud Management supports the unified management of multiple branches and personalized organizational planning.

Choose **Management & Maintenance** > **Organizational Planning**. In the organization tree, you can add branches at up to 11 levels. You can also edit and delete branches.

A Caution

If a branch has a sub-branch or site, it cannot be deleted. To delete it, you need to delete the sub-branch and site first.

Figure 7-1 Organization Tree

Management & Maintenance / Organizationa	al Planning					
Search Q	Site List				+ Add	Site Move Site Batch Import
Institut_Teknologi_Bandung ITB Jatinangor	Network Name	Network Type	T Location	Group	Administrator Role	Operation
			No Data	1		

7.1.1 Adding a Site

Site is the smallest unit of network management. A branch can be added with multiple sites. Click Add Site, enter the following information, and click OK.

- Site Name: (Required) The value can contain no more than 20 characters of letters, digits, underscore (_), hyphen (-), at sign (@), and ampersand (&).
- Time Zone: (Required) The default time zone of a site is (GMT+8:00)China.
- Location: (Optional) You can enter a location or select one from the drop-down list box.
- Network Type: (Required) The default option is Common. Other available options include Small Network and Large Network.
- Industry: (Optional) You can select an industry from the drop-down list box.

You can add sites in batches or move sites to another branch.



Add Site	×
After creation, you can add administrators and configuration templates on the site homepage.	
Network Type Common Small Network	د د
* Site Name Please enter Site Name	
Cancel	ок

7.1.2 Editing a Site

You can click **Edit** in the **Operation** column to edit an existing site.

Edit Site			×
Network Type	Small Network	Large Network	
* Site Name AC-Group			
		Cancel	¢

7.1.3 Deleting a Site

To delete a site, click **Delete** in the **Operation** column. In the displayed confirmation box, click **OK**.

🛕 Caution

When a device exists under a site, the site cannot be directly deleted. You need to delete the device before deleting the site.

Figure 7-4 Deleting a Site

Management & Maintenance / Organization	nal Planning Site List		Are you sure you want to delete the site?			+ Add Site	+ Add Site Move Site Batch Import	
Institut_Teknologi_Bandung ITB_latinangor		Network Name		Cancel OK	Group	Administrator Role	Operation	
test1		ITB_Jatinangor	Large Network		Institut_Teknologi_Bandung		Edit Delete	
						1-1 of 1 item	is < 1 > 10 / page <	

Figure 7-5 Site Deleted

Management & M	aintenance	Intelligent Analysis	The site is deleted	eted.		🕂 Add Site
e / Organization	al Planning					
Q,	Site List					+ /
andung :		Network Name	Network Type	T Location	Group	Administrator Role
η						

7.2 Configuration Management

On WIS Cloud Management, you can manage device configuration, mainly including deployment configuration, network optimization configuration, common configuration tasks, application configuration tasks, configuration backup, blacklist and whitelist.

7.2.1 Configuration Template

A configuration template contains preset configurations delivered to devices based on the site, that is, configurations sent to a device when the device goes online. After a configuration template is bound with a site, when a device goes online for the first time at the site, the device will automatically obtain the configuration preset in the template, and complete initial configuration.

1. Template List

Choose Management & Maintenance > Configuration > Template. A template list displays Template Name, Template Description, Application Site, Creation Time, and Update Time. You can customize the number of templates displayed on each page of the list, and sort the templates by Creation Time or Update Time.

Figure 7-6 Configuration Template List

Management & Maintenance	/ Configuration / Template				
Configuration Template List					
Template Name	Template Description	Application Site	Creation Time ÷	Update Time 👙	Operation
	-	0	2022-07-15 16:10:16	2022-07-15 08:10:16	Edit View Result Bind Site …
					1-1 of 1 items < 1 > 10 / page >

You can click a number in the **Application Site** column to display information about the application sites where the template is applied.

Figure 7-7 Application Site

Configuration Template List				
Template Name	Template Description	Application Site	Creation Time 👙	Update Time 🍦
	-	0	2022-07-15 16:10:16	2022-07-15 08:10:16

Figure 7-8 Displaying Site List of a Template

Management & Maintenance	/ Configuration / Templa	ate					
Configuration Template	List	Site List			X		+ cr
Template Name	Template Des	Group	Name	Site Type	Ŧ	me ¢	Operation
-			No Di	ata	Cancel OK	15 08:10:16	Edit View Result Bind St 1-1 of 1 items < 1 >

2. Creating a Template

Click **Create Template** to enter the new template configuration page.

Figure 7-9 Creating a Template

ľ	Create Template X	Т		+ Create Template
Appli	Template Name Please enter Template Name		Update Time 👙	Operation
0	Template Description	16	2022-07-15 08:10:16	Edit View Result Bind Site ···
	Please enter Template Description			1-1 of 1 items < 1 > 10 / page ∨

Configuration description:

- **Template Name**: (Optional) The value can contain no more than 50 characters of letters, digits, underscore (_), hyphen (-), at sign (@), and ampersand (&).
- **Template Description**: (Optional) The value can contain no more than 400 characters.

Click Save & Edit to edit the detailed information of the template.

3. Editing a Template

You can click Edit in the Operation column of the template list to edit the configuration of the specified template.

Figure 7-10 Editing a Template 1



Figure 7-11 Editing a Template 2

Management & Maintenance /	Configuration /	Template / Edit Template				
Edit Template						+ Save
Template Name:						
Template Description :						
Please enter Template Des	scription					
WLAN Configuration	CLI List	D				+ Add SSID Deliver Config
WLAN ID	SSID	Encryption Mode	T SSID Hiding	Forwarding Mode	T AssociateRadio	Operation

Configuration description:

- **Template Name**: (Optional) The value can contain no more than 50 characters of letters, digits, underscore (_), hyphen (-), at sign (@), and ampersand (&).
- Template Description: (Optional) The value can contain no more than 400 characters.

After the editing, click **Save** in the upper right corner to save the modification.

The configuration in a template includes WLAN Configuration (SSID) and CLI List:

- (1) WLAN Configuration
- WLAN List

A WLAN list displays **WLAN ID**, **SSID**, **Encryption Mode**, **SSID Hiding**, **Forwarding Mode**, and **AssociateRadio**. You can filter data in the list by **Encryption Mode** and **Forwarding Mode**.

A Caution

WLAN configuration is effective only on cloud APs, and the priority is lower than that of CLI configuration.

Management & Maintenan	ce / Configuration /	Template / Edit Template				
Edit Template						+ Save
Template Name :						
Template Description:						
Please enter Template	Description					
						đi.
WLAN Configuratio	on ③ CLI List (0				+ Add SSID Deliver Config
WLAN ID	SSID	Encryption Mode	T SSID Hiding	Forwarding Mode	T AssociateRadio	Operation
				Data		

Figure 7-12 WLAN Configuration List

• Adding an SSID

Click Add SSID to add a new WLAN configuration in the template.

Figure	7-13	Adding	an	SSID
--------	------	--------	----	------

Edit Templat	e					
	AddSSID		Х			
	* SSID ⑦					
	Please enter SSID UTF-8		\sim			
	* Encryption Mode					
	OPEN		\sim			
	Forwarding Mode ②				×	
	bridge V Same VL	AN with AP	\sim			
	* Radio 🕐				+ Add SS	ID
	🗸 radio1 🔽 radio2 🗌 radio3					
yption Mo	Single-User Rate Limit			T Associa	ateRadio Op	erati
	Uplink: KB/s Downlink:		KB/s			
	All-User Rate Limit					
	Uplink: KB/s Downlink:		KB/s			
	Advanced Config					
	5G-preferred Enable SSID Hiding					
	Auth Config					
	Enable Auth Config >>					
		Cancel	ОК			

SSID configuration description:

- SSID: (Required) You also need to select the encoding format, which is UTF-8 by default and can be changed to GBK. If an SSID contains Chinese characters, garbled characters are displayed when an STA does not support UTF-8 encoding format.
- Encryption Mode: (Required) Select a value from the drop-down list. The options include OPEN, WPA-PSK, WPA2-PSK, and WPA-PSK/WPA2-PSK. When an encryption mode other than OPEN is selected, you need to enter the password.

i Note

OPEN: Indicates the open non-encryption authentication mode.

WPA-PSK: Indicates the authentication mode using wired equivalent privacy (WEP) pre-shared keys. It adopts the TKIP encryption mode and users are authenticated when they use correct pre-shared keys. **WPA2-PSK**: Indicates a new encryption authentication mode based on WPA-PSK. It adopts the CCMP encryption mode and is compatible with the TKIP encryption mode.

Forwarding Mode: The bridge mode is supported by default. To switch to the NAT mode, run CLI commands. You can set VlanType to Same VLAN with AP or use other VLANs. If you select other VLANs, enter the VLAN ID. The VLAN ID range is from 2 to 232 and from 234 to 4094.

Radio: (Required) You can select one or more radios from radio1 to radio3. You can select Single-User
 Rate Limit and All-User Rate Limit and set uplink and downlink rate limits for them separately.

A Caution

If **radio3** is selected, the SSID of radio3 is effective only when radio3 is in access mode and not effective when radio3 is in scan mode.

Advanced Config: (Optional) Advanced configuration includes 5G-preferred and SSID Hiding. 5G-preferred indicates that, when a radio provides both 2.4 GHz and 5 GHz bands and an STA supports both 2.4 GHz access and 5 GHz access, the STA connects to the 5 GHz band preferentially. SSID Hiding indicates that wireless networks are hidden and network signals cannot be searched out by STAs.

• Editing an SSID

To change the configuration of an added SSID, click **Edit** in the **Operation** column of the WLAN list. The process of editing an SSID is similar to that of adding an SSID, and is omitted here.

• Deleting an SSID

To delete an SSID, click Delete in the Operation column of the WLAN list.

Figure 7-14 Deleting an SSID

It cannot be restored after deletion. Are you sure you want to click OK to continue?
Sure you want to click OK to continue?
Cancel

• Delivering the Configuration

A new configuration takes effect only on STAs that go online after the configuration is added. To make the configuration effective on existing STAs, click **Deliver Config** to deliver the configuration to devices at the current site.

Deliver Config	×
· · · · · · · · · · · · · · · · · · ·	
when a template is applied, devices connected to the site automatically obtain the configuration in the template.	
Search for site Q	
Institut_Teknologi_Bandung	
ITB_Jatinangor	
test1	
Select the configuration delivery time.	
Select date	***
The current configuration is backed up when the template is applied. (C to Configuration > Configuration Backup to view or restore backup records.)	io
Cancel Deliver Con	fig

Figure 7-15 Delivering the Configuration

Parameters for configuration delivery are described as follows:

- Site: (Required) Select one or more sites in the site tree to apply the template.
- **Configuration delivery time**: (Optional) You can set the time to deliver the template configuration to devices. If no time is set, the configuration is delivered immediately.
- **Backup**: (Optional) You can select whether to back up the current configuration of the site when the configuration template is applied to the site. If you select the check box, you can view or restore backup records in **Configuration Backup**.

(2) CLI configuration

Click **CLI List** to switch to CLI configuration.

CLI list

A CLI list displays Device Type, Device Model, SN, Delivery Mode, and Description.

Figure 7-16 CLI List

Management & Maintenance / Config	guration / Template / Edit Template				
Edit Template					+ Save
Template Name :					
Template Description:					
Please enter Template Description					
					li.
WLAN Configuration ③	Li List 💿				+ Add CLI Set Deliver Config
Device Type	Device Model	SN	Delivery Mode	Description	Operation
			No Data		

• Adding a CLI Set

Click Add CLI Set to add a customized CLI set to the configuration template.

A Caution

- A device model that already has CLI configuration cannot be selected repeatedly.
- If the configuration for all devices and the configuration for a single device model are present simultaneously, only the configuration for a single device model is delivered to this model.

Figure 7-17 Adding a CLI Set

Edit Template				
AddCLI Command Set			×	+ Save
* Device Type	* CLI Command Set	Configure Variable (2)		
AC AP Switch Gateway	Please enter CLI Command Set			
Router				
* Device Model				
Please selectDevice Model				×
SN				
Please selectSN				+ Add CLI Set Deliver Config
* Delivery Mode			rintion	Operation
Deliver Increment via CLI Replace All Config via config.text			nption	Operation
Description				
Please enter Description				
		Create Variable		
		Cancel	OK	
		Calcer		

Configuration description:

- **Device Type**: (Required) Select the type of devices, to which the CLI command set is to be delivered. The options include AC, AP, Switch, Gateway, and Router. You can select only one of them.
- o Device Model: (Required) Select the model of the devices, to which the CLI command set is to be

delivered. Select a device model from the drop-down list. Multiple models can be selected.

- SN: (Optional) Select an existing SN from the drop-down list. If an SN is selected, the command set will be delivered only to the device matching the SN. If no SN is selected, the command set will be delivered based on the selected device model.
- Delivery Mode: (Required) APs do not support the delivery mode of Replace All Config via config.txt. In Deliver Increment via CLI mode, the device incrementally executes the customized CLI command set based on the existing configuration. This mode is applicable to scenarios requiring certain incremental configuration. In Replace All Config via config.txt mode, the device configuration file config.txt is directly replaced. Then, the device automatically restarts to make the configuration effective. This mode is applicable to the following scenarios:

Scenarios where the entire device configuration needs to be replaced

Scenarios where incremental configuration cannot meet the requirements, for example, incremental configuration will cause network path change (device disconnection)

Scenarios where various interactions and command conversions are involved (causing interaction and command identification timeout)

- o CLI Command Set: (Required) Enter the CLI command set customized for the device.
- o Description: (Optional) Enter a description of the command set. It can be used as a remark.
- Editing a CLI Set

To change the configuration of an added CLI set, click **Edit** in the **Operation** column of the CLI list. On the **Edit CLI Command Set** page, you can edit only **CLI Command Set** and **Description**. To change **Device Type** and **Device Model**, add a new CLI command set.

Figuro	7-19	Editing	2		Sat
rigure	1-10	Eanna	a	СLI	Sei

EditCLI Command Set		×	×	
Device Type AC AP Switch Gateway Router Povice Model	CLI Command Set test	Configure Variable 💿		
Delivery Mode Deliver Increment via CLI Replace All Config via config.text Description			Description O	peration
Please enter Description			1-1 с	lit Delete
		Create Variable Cancel OK	3	

• Deleting a CLI Set

To delete a CLI set, click **Delete** in the **Operation** column of the CLI list.

Figure 7-19 Deleting a CLI Set



• Delivering the Configuration

A new configuration takes effect only on STAs that go online after the configuration is added. To make the configuration effective on existing STAs, click **Deliver Config** to deliver the configuration to devices at the current site.

Figure 7-20 Delivering CLI Set Configuration

Deliver Config	×		+ Save
When a template is applied, devices connected to the site automatically obtain the configuration in the template.			
Search for site Q			
•new			
			+ Add CLi Set Deliver Config
		Description	Operation
			Edit Delete
			1.1 of 1 items < 1 > 10/page⊻
Select the configuration delivery time			
Select date	#		
The current configuration is backed up when the template is applied. (Go to Configuration > Configuration Backup to view or restore backup records.)			
Cancel Deliver Con	fig		

Parameters for configuration delivery are described as follows:

- Site: (Required) Select one or more sites in the site tree to apply the template.
- **Configuration delivery time**: (Optional) You can set the time to deliver the template configuration to devices. If no time is set, the configuration is delivered immediately.
- Backup: You can select whether to back up the current configuration of the site when the configuration template is applied to the site. If you select the check box, you can view or restore backup records in Configuration Backup.

4. Viewing Results

You can click **View Result** in the **Operation** column of the template list to jump to the configuration task list, which displays the detailed information and execution results of configuration delivery tasks.

Figure 7-21 Viewing Results

Management & Maintenance /	Configuration / Template				
Configuration Template Li	st				+ Create Template
Template Name	Template Description	Application Site	Creation Time 👙	Update Time 👙	Operation
H.	-	0	2022-07-21 05:06:48	2022-07-20 21:06:48	Edit View Result Bind Site …
	-	0	2022-08-31 05:02:56	2022-08-31 05:02:56	Edit View Result Bind Site …
	-	0	2022-09-01 01:00:27	2022-09-01 01:00:27	Edit View Result Bind Site …
1		0	2022-09-08 04:35:34	2022-09-08 04:35:36	Edit View Result Bind Site …

5. Binding a Site

Click **Bind Site** in the **Operation** column of the template list to bind the configuration template to specific sites. Then, when devices go online and access the sites for the first time, they will automatically obtain the configuration in the template. For existing devices, you need to manually deliver the configuration.

Figure 7-22 Binding a Site

Management & Maintenance / 0	Configuration / Template				
Configuration Template Lis		Bind Site	X		+ Create Template
Template Name	Template Description	After a template is bound, a new device connected to the site autom obtains the configuration in the template when it goes online for the	atically	Update Time 👙	Operation
hostname		time.		2022-07-20 21:06:48	Edit View Result Bind Site
111		Search for site RuijieProject	Q	2022-08-31 05:02:56	Edit View Result Bind Site …
test				2022-09-01 01:00:27	Edit View Result Bind Site …
123				2022-09-08 04:35:36	Edit View Result Bind Site …
					1-4 of 4 items < 1 > 10 / page >

6. Delivering the Configuration

Click ... > **Deliver Config** in the **Operation** column of the template list to deliver the configuration to all devices of the site. If you perform this operation after you edit a template or bind a template to sites, the configuration in the template will be delivered to existing devices of the sites.

Figure 7-23 Delivering the Configuration (01)

+ 0	Create Template
Operation	,
Edit View Result Bind Site	
1-1 of 1 items < 1 >	Delete



Jenver Comig	
When a template is applied, devices connected to the site automatical obtain the configuration in the template.	у
Search for site Q	
 Institut_Teknologi_Bandung 	
ITB_Jatinangor	
test1	
Select the configuration delivery time.	
Select date	Ë
The current configuration is backed up when the template is applied. (o Configuration > Configuration Backup to view or restore backup records	Go .)

Parameters for configuration delivery are described as follows:

- Site: (Required) Select one or more sites in the site tree to apply the template.
- **Configuration delivery time**: (Optional) You can set the time to deliver the template configuration to devices. If no time is set, the configuration is delivered immediately.
- **Backup**: You can select whether to back up the current configuration of the site when the configuration template is applied to the site. If you select the check box, you can view or restore backup records in **Configuration Backup**.

7. Deleting a Template

Click ... > **Delete** in the **Operation** column of the template list to delete the configuration template.

Figure 7-25 Deleting a Template



7.2.2 Configuration Task

Choose **Management & Maintenance** > **Configuration** > **Task** to enter the configuration task management page where you can monitor and manage the tasks delivered by the template configuration to devices. Using configuration tasks, you can deliver configuration to devices in batches and on time from the cloud.

1. Task List

A configuration task list displays Last Delivery Time, Task Type, Total Delivery Count, Success Count, Failure Count, and Source. You can sort the tasks by Last Delivery Time and Total Delivery Count, and filter the tasks by Task Type.

Figure 7-26 Task List

Id Organizational Plan	Management & Maintenance / Configuratio	in / Task						
Configuration	Configuration Task List						+	New Configuration Task
- Template	Last Delivery Time o	Task Type	Total Delivery Count o	Success Count	Failure Count	Configuration Command	Source	Operation
• Task								
- Backup								
E Device Upgrade v				No Data				
2 Tunnel Management								
STA Management								

2. Task Type

(1) Common task

A common task is triggered by delivered configuration in device management. To operate a common task, choose **My Network** > **My Site** > **Device Management** and click the corresponding button in the **Operation** column of the device list. A common task facilitates the personalized configuration of devices of the same type.

Figure 7-27 Generating a Common Task

My N	My Network / My Ste / Device Management												
АР	1/2	Fit AP (11/1574)	AC 1/3	Switch 1/1 Gateway 1/1	Router 0/0 IoT Devi	ce 0/0 Firewall 0/1	0			+ Add Device	Import Export	Enter an SN or name	for query Q C 🖨
	SI	tatus 🗸	Device Name	SN	MAC Address	Device Model	Site	Management IP	Egress Address	Number of Online Users	Last Offline Time	Remarks	Operation
	•	Online								0	2022-08-01 11:21:20		Details
	•	Offline								0	2022-07-31 17:17:34	. N	Delete Deliver Config
													Upgrade
											1-2 of	1 / 1 / 1	Move
													Restart
													Backup Restoration
													Access eWeb
													Access Teinet

(2) Deployment task

After creating a configuration template, you can bind the template to sites. Then, when devices go online for the first time at these sites, the devices are automatically matched according to the match method in the template. The configuration will be delivered to the matched devices according to the delivery method in the template. In this way, the deployment configuration of devices is implemented, and this process is a deployment task.

Figure 7-28 Generating a Deployment Task

Bind Site	×		
After a template is bound, a new device connected to the site automatically obtains the configuration in the template when it goes online for the first time.		Update Time 💠	Operation Edit View Result Bind S
Search for site Q. Institut_Teknologi_Bandung ITB_Jatinangor test1 			1-1 of 1 items < 1

(3) Template task

You can manually click the **Deliver Config** button in the configuration template list or in a template to deliver the configuration in the template to devices at the selected sites and synchronize the configuration on existing devices of the sites.

Figure 7-29 Generating a Template Task

Management & Maintenance / 0	Configuration / Template				
Configuration Template List					+ Create Template
Template Name	Template Description	Application Site	Creation Time φ	Update Time o	Operation
		0	2022-07-15 16:10:16	2022-07-15 08:10:16	Edit View Result Bind Site Deliver Config
					1-1 of 1 items < 1 > Delete

(4) Backup restoration task

When you click **Backup Restoration** in the device list of **My Network > My Site > Device Management** or **Device Details > O&M Tool**, the configuration task list will generate a backup restoration task and display the task execution status.

e 0/0 Firewall 0	/0			+ Add Device	Import Export …	Enter an SN or name	for query Q C 🕸
Device Model	Site	Management IP	Egress Address	Number of Online Users	Last Offline Time	Remarks	Operation
				0	2022-08-01 11:21:20	-	Details
				0	2022-07-31 17:17:34		Delete Deliver Config
					1-2	of 2 items < 1	Upgrade Move Restart Backup
							Backup Restoration Access eWeb Access Telnet

Figure 7-30 Generating a Backup Restoration Task

(5) Radio optimization task

After intelligent network optimization analysis is implemented in the network optimization module, network optimization configuration will be delivered by the configuration management module. (For the detailed network optimization process, see the "Network Optimization" section.) The configuration task list will list the radio optimization task and display the delivery status.

Figure 7-31 Radio Optimization Task

Management & Maintenance / Configuratio	n / Task						
Configuration Task List						I	+ New Configuration Task
Last Delivery Time 0	Task Type	π — Total Delivery Count $~\oplus~$	Success Count	Failure Count	Configuration Command	Source	Operation
2022-08-05 16:40:27	Radio Optimization	1	1	0	View Command		View Result
2022-07-31 11:39:33	Common Task	1	1	0	View Command		View Result
						1-2 of 2 items	1 > 10/page~

(6) Blacklist/Whitelist task

After a blacklist/whitelist is read and set in the blacklist/whitelist module, the blacklist/whitelist configuration will be delivered by the configuration management module. (For the detailed blacklist/whitelist operation process, see the Blacklist/Whitelist.) The configuration task list will list the blacklist/whitelist task and display the delivery status.

Figure 7-32 Blacklist/Whitelist Task

Management & Maintenance / Configuration	angement & Maintenance / Configuration / Task										
Configuration Task List							+ New Configuration Task				
Last Delivery Time 👙	Task Type	Total Delivery Count	Success Count	Failure Count	Configuration Command	Source	Operation				
2022-08-08 11:18:31	Blacklist Whitelist	1	0	1	View Command		View Result Stop				
2022-08-06 11:18:31	Blacklist Whitelist	1	1	0	View Command		View Result				
2022-08-08 11:18:31	Blacklist Whitelist	1	0	1	View Command		View Result Stop				
2022-08-08 11:18:31	Blacklist Whitelist	1	0	1	View Command		View Result Stop				
2022-08-08 11:18:31	Blacklist Whitelist	1	0	0	View Command		View Result Stop				
2022-08-05 16:40:27	Radio Optimization	1	1	0	View Command		View Result				
2022-07-31 11:39:33	Common Task	1	1	0	View Command		View Result				
						1-7 of 7 i	tems < 1 > 10/page >				

3. New Configuration Task

Click New Configuration Task to create a new configuration delivery task.

Figure 7-33 New Configuration Task 1

New Configuration Task	×			+ New Configuration Task
Organization Structure Please selectOrganization Structure		Configuration Command	Source	Operation
Device Type AC AP Switch Gateway Router				
Online Status				
No Data				
ito bata				
Ne	ext			

Description:

- Organization Structure: (Required) Select one or more target branches or sites for the task from the organization tree.
- Device Type: (Required) Select a device type from AC, AP, switch, gateway, and router.
- Device list: After you select a device type, all available devices will be listed below.

Select devices to deliver the task and click **Next** to configure the delivery time and CLI command set.

Figure 7-34 New Configuration Task 2

* Last Delivery Time	
Please selectLast Delivery Time	Ë
* CLI Command Set	
Please enter CLI Command Set	

Description:

- Last Delivery Time: (Required) Set the execution time of the configuration delivery task. The time cannot be earlier than the current time and can be precise to second.
- CLI Command Set: (Required) Configure the CLI command set to be delivered.

After the configuration, click Create Task to complete the task creation.

4. View Command

In the configuration task list, you can click **View Command** in the **Configuration Command** column to display the command set of the specified task.

Figure 7-35 View Command

Management & Maintenance / Configuration	Management & Maintenance / Configuration / Task										
Configuration Task List							+ New Configuration Task				
Last Delivery Time 😄	Task Type	Total Delivery Count 👙	Success Count	Failure Count	Configuration Command	Source	Operation				
2022-08-08 11:18:31	Blacklist Whitelist	1	0	1	View Command		View Result Stop				
2022-08-08 11:18:31	Blacklist Whitelist	1	1	0	View Command		View Result				
2022-08-08 11:18:31	Blacklist Whitelist	1	0	1	View Command		View Result Stop				
2022-08-08 11:18:31	Blacklist Whitelist	1	0	1	View Command		View Result Stop				
2022-08-08 11:18:31	Blacklist Whitelist	1	0	0	View Command		View Result Stop				
2022-08-05 16:40:27	Radio Optimization	1	1	0	View Command		View Result				
2022-07-31 11:39:33	Common Task	1	1	0	View Command		View Result				
						174	7 ilana (2 1 1 1 (10 (10 (10 (10 (10 (10 (10 (10 (10 (10				

5. View Result

In the configuration task list, you can click **View Result** in the **Operation** column to display the execution result of the specified task. The execution result list displays **Execution Status**, **Failure Cause** (if any), **Device Name**, **SN**, **Device Model**, **Site Name**, and **Last Delivery Time**.

Figure 7-36 View Result

Execution Status Failure Cause Device Name SN Device Model Site Name Last Delivery • Execution Succeeded - - - - 2022-07-31 11							
Execution Succeeded - 2022-07-31 11	Execution Status	Failure Cause	Device Name	SN	Device Model	Site Name	Last Delivery Ti
	Execution Succeeded	-					2022-07-31 11:

7.2.3 Configuration Backup

Choose **Management & Maintenance > Configuration > Backup**. On the configuration backup management page, you can view, manage, and download the backups of device configurations.

1. Backup List

The list of device configuration backups displays **Device Type**, **Device Name**, **SN**, **Backup Type**, **Backup Time**, and **Current Status**. You can filter data by specifying a time range or a backup type (auto, manual, or timed), and search for backup by device name, remarks or SN.

Figure 7-37 Backup List

2 Organizational Plan	Management & Mai	intenance / Configuration / B	ackup					
Configuration	Backup					Download Delete	Start date ~ End d	ate 😁 Device Name/Remark Q
- Template	Devic	e Type Device	Name SN	Backup Type	⊤ Remarks	Backup Time	Current Status	Operation
• Task	Swit	СН		Auto		2022-07-31 12:42:30	Backup failed.	View Download
Backup	SWIT	СН		Auto		2022-07-31 10:33:30	Backup failed.	View Download
Device Upgrade V Turnel Management	SWIT	СН		Auto		2022-07-31 09:23:40	Backup failed.	View Download
C STA Management	SWIT	СН		Auto		2022-07-31 00:04:20	Backup failed.	View Download
	SWIT	сн		Auto		2022-07-19 18:06:00	Backed up.	View Download
	SWIT	сн		Auto		2022-07-15 22:42:50	Backed up.	View Download
							1	6 of 6 items < 1 > 10 / page >

2. Viewing Backup

Click **View** to display the detailed configuration information of the specified backup.

Figure 7-38 Viewing Backup

	G1R30VQ001190_2022-07-15-22-42-34.txt	×	Download Delete		date 📋 Device Name/Remark 🤉
	version S5300E_RGOS 12.5(4)B0701P1 hostname ITB_Jatinangor		Backup Time	Current Status	Operation
30VQ001 [,]	errdisable recovery interval 300 spanning-tree		2022-07-31 12:42:30	Backup failed.	
30VQ001 [.]	rldp enable !		2022-07-31 10:33:30	Backup failed.	
30VQ001 [,]	ip dhop snooping sntp interval 7200 entre server rotate derkorb net		2022-07-31 09:23:40	Backup failed.	
30VQ001 [.]	sntp server roate.darkob.net sntp enable		2022-07-31 00:04:20	Backup failed.	
30VQ001 [,]	cwmp acs url https://18.138.122.172/acs cpe.inform.interval.60		2022-07-19 18:06:00	Backed up.	View Download ····
30VQ001 [.]	timer cpe-timeout 70		2022-07-15 22:42:50	Backed up.	View Download ···
	install 0 \$5300-24GT4XS-P-E ! sysmac 28d0.f56a.3f99 ip name-server 88.8.8 ip name-server oob 8.8.8.8 ! enable service web-server http enable service web-server https web-server http redirect-to-https webmaster level 0 username admin password 7 \$10\$02a\$wAjkYug1csJaeOPcKHpX\$!	ĺħ.			1-6 of 6 items < 1 > 10 / page ∨

3. Editing Backup

Click ... > Edit in the Operation column of the backup list to edit the remarks of the backup. To save edited remarks, click **Save**. To exit editing, click **Cancel**.

Figure 7-39 Editing Backup

SWITCH		Auto	2022-07-31 00:04:20	Backup failed.	View Download ····
SWITCH		Auto	2022-07-19 18:06:00	Backed up.	Save Cancel
SWITCH		Auto	2022-07-15 22:42:50	Backed up.	View Download …

4. Downloading Backup

You can click **Download** to download specified backup data in batches to a local path.

Figure 7-40 Downloading Backup

Manageme	Management & Maintenance / Configuration / Backup									
Backup						Download Delete	Start date ~ End date	凹 Device Name/Remark Q		
	Device Type	Device Name	SN	Backup Type		Backup Time	Current Status	Operation		
	SWITCH			Auto		2022-07-31 12:42:30	Backup failed.	View Download		
	SWITCH			Auto		2022-07-31 10:33:30	Backup failed.	View Download		
	SWITCH			Auto	-	2022-07-31 09:23:40	Backup failed.	View Download		
	SWITCH			Auto		2022-07-31 00:04:20	Backup failed.	View Download		
	SWITCH			Auto		2022-07-19 18:06:00	Backed up.	View Download		
	SWITCH			Auto		2022-07-15 22:42:50	Backed up.	View Download		
							1-6 o	6 items < 1 > 10 / page >		

5. Deleting Backup

You can click ... > **Delete** in the **Operation** column of the backup list to delete the specified backup, or select backups and click **Delete** in the upper part to delete backups in batches.

Figure 7-41 Deleting Backup

Managem	Management & Maintenance / Configuration / Backup									
Backup						Download Delete	Start date ~ End d	late 😁 Device Name/Remark 9,		
	Device Type	Device Name	SN	Backup Type	T Remarks	Backup Time	Current Status	Operation		
	SWITCH			Auto	-	2022-07-31 12:42:30	Backup failed.	View Download		
	SWITCH			Auto		2022-07-31 10:33:30	Backup failed.	View Download		
	SWITCH			Auto		2022-07-31 09:23:40	Backup failed.	View Download		
	SWITCH			Auto		2022-07-31 00:04:20	Backup failed.	View Download		
	SWITCH			Auto		2022-07-19 18:06:00	Backed up.	View Download		
	SWITCH			Auto		2022-07-15 22:42:50	Backed up.	View Download		
							1	-6 of 6 items ()		

7.3 Tunnel Management

Tunnel Management records the creation of device tunnels. You can re-initiate the creation of an overdue or failed tunnel, create a new tunnel, and query a specified device by the device SN in the list.

Figure	7-42	Tunnel	List
--------	------	--------	------

№ Organizational Plan	Management & Mair	Manaparent & Mantesarce / Tunnet Manaparent										
Configuration ~	Tunnel List							+ C	sN Search	۹. C		
E Device Upgrade v	Status	Device Name	Tunnel Type 🛛 🔻	SN	IP	Port ID	Execution Info	Creation Time 🖕	Expiration Time \Rightarrow	Operation		
Tunnel Management	Disable		EWEB			50603	Cannot access the service of de	2022-08-05 18:41:07	2022-08-05 21:41:07	Re-create		
🖓 STA Management	Disable		EWEB			60603	Cannot access the service of de	2022-08-05 15:50:22	2022-08-05 18:50:22	Re-create		
	Disable		EWEB			50603	Cannot access the service of de	2022-08-05 10:02:15	2022-08-05 13:02:15	Re-create		
	Disable		EWEB			50600	Cannot access the service of de	2022-08-02 15:51:09	2022-08-02 18:51:09	Re-create		
	Disable		EWEB			50602	Cannot access the service of de	2022-07-31 12:44:57	2022-07-31 15:44:57	Re-create		
	Disable		EWEB			50600	Cannot access the service of de	2022-07-31 12:43:44	2022-07-31 15:43:44	Re-create		
	Disable		EWEB			50600	Cannot access the service of de	2022-07-31 09:20:35	2022-07-31 12:20:35	Re-create		
	Disable		EWEB			50600	Cannot access the service of de	2022-07-31 00:03:19	2022-07-31 03:03:19	Re-create		
									1-8 of 8 items 2 1	10 / name v		

Click **Re-create** to create an overdue or creation-failed tunnel again.

Figure 7-43 Re-creating a Tunnel

ľ	 Creating a tunnel Wait 1–3 minu prompt disappears, you can check result in Management & Mainteance > 	tes. After the the creation	+ Create Tunnel SN Search Q						
J	Management.	Tunner	Execution Info	Creation Time 🖕	Expiration Time 💠	Operation			
		Got it.	-	2022-08-08 13:56:39	2022-08-08 16:56:39	-			
		50603	Cannot access the service of d	2022-08-05 18:41:07	2022-08-05 21:41:07	Re-create			
		50603	Cannot access the service of d	2022-08-05 15:50:22	2022-08-05 18:50:22	Re-create			
		50603	Cannot access the service of d	2022-08-05 10:02:15	2022-08-05 13:02:15	Re-create			
		50600	Cannot access the service of d	2022-08-02 15:51:09	2022-08-02 18:51:09	Re-create			
		50602	Cannot access the service of d	2022-07-31 12:44:57	2022-07-31 15:44:57	Re-create			

If a tunnel is connected, you can manage the tunnel by clicking **Go** or **Disable Tunnel** in the **Operation** column of the list.

Figure 7-44 Tunnel Management

+ Create Tunnel	SN Search Q C
Expiration Time 👙	Operation
2022-08-08 16:58:31	Go Disable Tunnel
2022-08-08 16:58:10	Go Disable Tunnel
2022-08-08 13:55:38	Re-create

Click **Create Tunnel** to create a new tunnel. Two tunnel types are available: eWeb and TELNET. On certain devices (such as APs and switches), tunnels cannot be directly created, and need to be exchanged by gateways.

Figure 7-45 Creating a Tunnel

Create Tunnel	×	*	+ Create Tunnel SN S
Select Tunnel Type EWEB TELNET SSH	nfo	Creation Time 🍦	Expiration Time 🛊
elect Device Type	ess the service of de	2022-08-08 13:56:39	2022-08-08 16:56:
AP AC Gateway Switch Router Firewall	ess the service of de	2022-08-05 18:41:07	2022-08-05 21:41:
Institut_Teknologi_Bandung	ess the service of de	2022-08-05 15:50:22	2022-08-05 18:50:
☐ ITB_Jatinangor test1	ess the service of de	2022-08-05 10:02:15	2022-08-05 13:02:
	ess the service of de	2022-08-02 15:51:09	2022-08-02 18:51:
	ess the service of de	2022-07-31 12:44:57	2022-07-31 15:44:
Online Device	ess the service of de	2022-07-31 12:43:44	2022-07-31 15:43:
Cancel Create Tunn	ess the service of de	2022-07-31 09:20:35	2022-07-31 12:20
1 6 41 418 417 50600 Carcel	not access the service of de	2022-07-31 00-03-19	2022-07-31 03:03

Configuration description:

- Tunnel Type: (Required) EWEB and TELNET types can be selected, and the default value is EWEB.
- Device Type: (Required) You can create a tunnel on APs, ACs, gateways, switches, and router devices. AP is selected by default.
- Site. (Required) You need to select the site where the device to be created with a tunnel locates. A level-1 site is selected by default.
- Online Device: (Required) Select the device to be created with a tunnel. The device must be online.
- Transfer Device: Optional, but required when Device Type is AP or Switch.

7.4 STA Management

This function enables you to manage different operating systems (OSs) and STA types, and customize STA statistics.

7.4.1 OS

An OS list displays customized **Operating System Name**, **MAC Address**, and **Creation Time**. You can customize the number on each page of the list.

Figure 7-46 OS List

🖄 Organizational Plan	Management & Maintenance / STA Management			
P Configuration ~	OS STA Type			
E Device Upgrade V	Operating System Name	MAC Address	Creation Time	Operation
😂 Tunnel Management				
STA Management				
		No	Data	

You can click Add Custom to add a customized OS type.

Figure 7-47 Adding a Customized OS

Add CustomOS	×	Add Custo
Note: Based on OUI: Only the first six characters of an MAC address need to be entered. The configuration takes effect on all MAC addresses matching the first six characters of the MAC address (applicable to the case in which the first six characters of devices' MAC addresses are the same). Only software version 11.9(6)B1 and later versions support this option.		Operation
Separate the first six characters (uppercase letters) of an MAC address and the remark (a string of up to 16 characters containing Chinese characters. English letters, digits, underscores (), hyphens (), #, or @, one Chinese character is equivalent to three English characters in length) with commas (). Put one record in one line. Example: 0000.00, Liyang's mobile phone number 0000.10, Lifs mobile phone number		
Cancel	<i>ii</i> iii	-

Based on the organizationally unique identification (OUI), you need to enter only the first six characters of a MAC address. Then, the configuration is effective on all devices whose MAC addresses have the same first six characters.

You can add OSs in batches by placing a record in a line, and separating the first six characters (in upper case) of a MAC address and a remark with a comma (,). A remark corresponds to an OS name in the list, and can contain up to 16 characters including English letters, digits, underscore (_), hyphen (-), number sign (#), or at sign (@).

To delete an OS, click Delete in the Operation column of the OS list.

Figure 7-48 Deleting an OS

Management & Maintenance / STA Management OS STA Type	Are you sure you v restored after delet	want to delete it? It cannot be tion.	Add Custom
Operating System Name		Cancel OK I Time	Operation
ine and the second s	0001.00	2022-08-11 20:40:14	Delete
			1-1 of 1 items < 1 > 10 / page >

7.4.2 STA Type

On the STA Type tab, a list of customized STA types displays **Operating System Name**, **MAC Address**, **Creation Time**.

Figure 7-49 STA Type List

Management & Maintenance / STA Management					
OS STA Type					Add Custom
Operating System Name	MAC Address		Creation Time	Operation	
		No Data			

You can click Add Custom to add a customized STA type.

Figure 7-50 Adding a Customized STA Type

Add	I CustomSTA Type	×
N or cl	lote: Based on OUI: Only the first six characters of an MAC address need to be entered. The configuration takes effect n all MAC addresses matching the first six characters of the MAC address (applicable to the case in which the first six haracters of devices' MAC addresses are the same). Only software version 11.9(6)B1 and later versions support this ption.	
Se co eq m	eparate the first six characters (uppercase letters) of an MAC address and the remark (a string of up to 16 characters entaining Chinese characters, English letters, digits, underscores (), hyphens (-), #, or @, one Chinese character is guivalent to three English characters in length) with commas (). Put one record in one line. Example. 0000.00, Liyang's oblie phone number 0000.10, Lil's mobile phone number	llı.
	Cancel	ĸ

Based on the OUI, you need to enter only the first six characters of a MAC address. Then, the configuration is effective on all devices whose MAC addresses have the same first six characters.

You can add STA types in batches by placing a record in a line, and separating the first six characters (in upper case) of a MAC address and a remark with a comma (,). A remark corresponds to an STA type name in the list, and can contain up to 16 characters including English letters, digits, underscore (_), hyphen (-), number sign (#), or at sign (@).

To delete an STA type, click **Delete** in the **Operation** column of the STA type list.

Figure 7-51 Deleting an STA Type

Management & Maintenance / STA Management	_		
OS STA Type	Are you sure you want to restored after deletion.	delete it? It cannot be	Add Custom
Operating System Name		Cancel OK Time	Operation
.80	0022.20	2022-08-11 20:41:19	Delete
			1-1 of 1 items < 1 > 10 / page <

8 Intelligent Analysis

The intelligent analysis module provides wireless experience analysis, diagnosis, and network optimization functions.

8.1 Area

On the **Intelligent Analysis** page, click the project name and switch the area to rapidly display the data analysis result of different areas.





8.2 Monitoring

8.2.1 Overview

Choose **Intelligent Analysis > Monitoring > Overview** to check the overall situation of the entire network. Using the date selector in the upper right corner, you can display data on different dates.



Figure 8-2 Overview

The **Overview** page displays the following information:

- Basic network status: equipment stability, STA access stability, signal coverage, etc.
- Client use status: client activation (network dependency), user online experience and analysis
- Network saturation: network capacity utilization and channel usage

The three parts are described as follows:

Basic network status

Helps you learn about the equipment stability and STA access stability, so as to determine the stability of wired and wireless lines and whether there are poor coverage areas with high network requirements, thereby providing an effective basis for device supplement.

Client use status

Helps you assess client dependency on the WLAN by time and traffic. It displays values of the WLAN construction in an intuitive way. User online experience is graded into Good, Average, Fair, Hard to go online, and Inactive Clients based on the packet loss rate, delay, and traffic data. You can assess the user experience of the entire network according to portions of the five user experience levels and locate causes for poor experience.

Network saturation

Helps you learn about client distribution in different areas clearly via the network capacity utilization, and rapidly identify busy areas at each time point and channel usage of each area, providing data support for network deployment and optimization.

🛕 Caution

The update frequency of each type of data varies with requirements. For example, the online client quantity is updated every five minutes. **Accumulated Clients**, **Peak**, **Tx. Traffic**, and **Rx.Traffic** are statistics of the current day. Experience data is updated every five minutes. Client activation data is updated every hour.

1. Client Activation

The **Client Activation** pane displays the proportions of online users on different wireless networks (2.4G/5G), **Peak**, **Accumulated Clients**, **Tx. Traffic**, and **Rx.Traffic**. You can click >> in the upper right corner to jump to the client activation analysis page.





Description:

- **Peak**: The data is sampled every five minutes, and the maximum value of the day is displayed.
- Accumulated Clients: The data is sampled every five minutes, and the number of accumulative access clients on the current day is collected, deduplicated, and displayed.
- Tx. Traffic and Rx. Traffic: accumulative uplink and downlink traffic on the current day

2. Equipment stability

This pane displays the quantities of ACs and APs, and the out-of-service rate of APs. You can click >> in the upper right corner to jump to the device overview page.



Figure 8-4 Equipment stability

Description:

- ACs: number of ACs connected to the WIS Cloud Network
- online APs: number of online APs. An i-Share mini AP is counted as one.
- Offline APs: number of offline APs, excluding offline i-Share mini APs and APs whose MAC addresses are not sent to ACs
- **AP Offline Times**: Every time an AP goes offline is counted as one, and if an AP goes online multiple times, the actual number of times is counted.
- AP Out-of-Service Rate: Number of sampled offline APs (every time an AP is sampled as offline is counted as one)/Total number of sampled APs

3. Network Saturation

This pane displays the network status of different AP groups in every time range, and indicates the channel usage with different colors. You can place the cursor in an area to display the detailed network information and click the time axis to switch the time range. Click the play icon in front of the time axis to enable loop play, and click >> in the upper right corner to jump to the cause analysis page.



Figure 8-5 Network Saturation

Description:

- **Channel usage**: busyness of the current air interface. A channel is busy because the load in the current frequency band is large, and the load source can be an interference of the local or any other wireless device. Channel usage needs to be lower than 60%. When it is greater than 80%, wireless signal receiving failure, network stalling, and STA disconnection may occur.
- **Status**: The status of an AP radio channel can be graded into congested, busy, and idle by channel usage. The color is determined based on the portions of AP radios in the three statuses.

4. Online Experience

The **User Experience** pane displays three network indicators: **Poor Service Rate**, **Delay**, and **Pkt Loss Rate**. Based on intelligent analysis of the network, this pane lists the top 5 causes of poor experience and top 5 poorexperience areas. Then, the system uses machine learning algorithms to comprehensively evaluate the delay, packet loss, signal strength, and other parameters of STAs, calculate the experience score, and present the result in charts.


Figure 8-6 Online Experience

Description of online experience levels:

- **Good**: STAs can play high definition (HD) videos and games.
- Average: STAs can use WeChat, browse web pages, and enjoy VoIP.
- Fair: In a poor-experience area, even the minimum-resource text applications cannot be smoothly guaranteed.
- Hard to go online: STAs frequently fail to go online and often go offline.
- Inactive Clients: These clients are assessed based on the traffic usage and power saving of STAs.

5. Alerts

This pane displays alarms of all types on the current day.

Overview							×	S	2022-08-08	
lient Activation 🐵		33	Equipmer	nt stability 😡			33	Alerts		- 2
34 Online	48 Peak 23GB To Traffic	195 Accursulated Clents 4GB Re Traffic	1 ACA	7 online APs	0 Offine APs	0 AP Office Times	11.8% AP Dut-of-Service Rate			
■2.4G ■5G	ر سر			Client Activation	Equipment	tability STA Access 5	Stability	,	lo new alerí	
twork Saturation	0845 0805 092	5 10M5 12/10 12:30			Goo			STA Access Stability 💿		
Gd.Rektorat		Labrek_1A		Network Saturation		Signal cover	age	100% STA Access Success fa	94.0% STA Normal Off Line Rate	
		default			User Expe	ience		Signal coverage	0	
	-O-O-O-O-O-O-O 0 6:00:00 9:00:00			The report of	of yesterday, Found	potential problem(s) in to	»»	The affected users	0	
ter Experience Time:2022	08-08 13:55:00									
nr Service Rate 0.00%			Top 5 Causes	Top 5 Poor-Experience Area	3	-O- Experience Sc	core 📰 Inschive Clients 💼 G	iood 🛑 Average 🧰 Fair 🛑 F	lard to go online	
ley(ms) 9.17ms		Low RSSI High Channel Usage High Noise Floor		0.00% 0.00% 0.00%	m		······	al index life		
Loss Rate(%) 1.56%		 Low Average Tx Rate High Retransmission R 	ate	0.00%	00:00 014	0 02:00 03:00 04:00	0 05:00 06:00 07:00	08-00 09-00 10-00 11-0	30 12:00 13:00	

Figure 8-7 Alerts

6. STA Access Stability

This pane displays STA Access Success Rate and STA Normal Off Line Rate.

III Overview									2022-08-08	
Client Activation		20	Equipmen	t stability 💿			20	Alerts		30
(34 Online	48 Peak 23GB Tx Treffic	195 Accompleted Clients 4GB Ro Traffic	1 .454	7 united APs	0 Office APs	O AP Office Texas	11.8% AP Out of Service Rate			
■2.4G ■5G		h allha a			Equipment	stability		-		
0000 0125 0245 0405 0125	0645 0805 0923	5 10.45 12.10 13:30		Clerit Activatio	•	STA Access	Stability	Ne	. new allert	
Network Saturation		20						STA Access Stability 💿		30
Gd.Rektorat	KOCATurnel	Labook_TA		Network Saturatio		Signal cove	rađe	100% STA Access Success rate	94.0% STA Normal Off Little Rate	
					User Espe	vience		Signal coverage		30
	-000000- 0 6:00:00 9:00:00	default ••••••••••••••••••••••••••••••••••••		The report	of yesterday, Found	0 potential problem(s) in t	otal »	Partial-Coverage APs The attected users	0 0	
User Experience Time:2022-	08-08 13:55:00									39
Poor Service Rate 0.00%			Top 5 Causes	Top S Poor-Experience Are	15	-O- Experience S	icore 📰 Inactive Clients 💼 G	iood 📰 Average 🚃 Fair 🛑 Ha	rd to go online	
Delay(ma) 9.17ms Pti Loss Rate(%) 1.56%		Low RSSI High Channel Usage High Noise Floor Low Average Tx Rate High Retransmission Ra	ste	0.00% 0.00% 0.00% 0.00%	Hanta II 00:00 01	00 02:00 03:00 04:		08.00 09:00 16:00 11:00	s 12.00 13.00	

Figure 8-8 STA Access Stability

Description:

• STA Access Success Rate: Times of STA going-online successes/Total times of STA going-online on the current day

• STA Normal Off Line Rate: Times of STA going-offline successes/Total times of STA going-offline on the day

7. Signal Coverage

This pane displays the number of APs with partial coverage and the number of affected users.



Figure 8-9 Signal Coverage

Description:

- Partial-Coverage APs: number of APs with coverage problems
- The affected users: number of users affected by coverage problems

8. Six-Dimensional Network Condition Diagram

This diagram intuitively displays the current network conditions from the dimensions of **Client Activation**, **Equipment stability**, **STA Access Stability**, **Signal coverage**, **User Experience**, and **Network Saturation**. You can place the cursor on a dimension to display the score of each indicator.

Below the six-dimensional diagram, the system indicates the information diagnosis result on the previous day and the number of potential problems. You can click >> in the upper right corner to jump to the **One Key Diagnosis** page to check detailed diagnosis information.





8.2.2 Experience

WIS Cloud Network employs machine learning algorithms to assess intuitive user experience based on various types of indicators and parameters involved in the communication process of each STA that accesses the wireless network. The parameters include signal strength, delay, packet loss, traffic, channel quality, and access process. The user experience is graded into Good, Average, Fair, Hard to go online, and Inactive Clients. For descriptions of the experience levels, see the "Overview" section.

Choose Intelligent Analysis > Monitoring > Experience. The network experience analysis page summarizes multi-dimensional network condition indexes at different times, and analyzes the causes. By switching the date and wireless network type, you can display the corresponding experience analysis result.





1. Overview

The **Overview** page displays the user experience assessment and user experience distribution in different time ranges (with a granularity of one hour) on the specified date. The three areas on the **Overview** page are described as follows:

(1) Experience Levels in Different Time Ranges

This area displays the network experience in different time ranges of the current day in a ring. Green indicates good experience, blue indicates average experience, and orange indicates poor experience.

Figure 8-12 Experience Levels in Different Time Ranges

Bits Experience Overview Causes Expert Analysis								
Experience Today= Good	ST	Experience ©	-O- Experience Scor	Ge	ood 🔜 Average 🔛 Fair 💼 Hard to	All 2.4G 5G	2022-08-08	
15 June 16 Jun	Good Arenge Foor	20	иілинийнынанинан - 08-08 022000 2022-0	mfinantialitida a n. 1 8-08 044020 2022-08-0	2022-08-08 09-20-00	2022-08-08 11.40.00 2	60 60 - 40 - 20 2022-08-08 14:00	2.00
Peor Experience Client List (Click STA Experience to view deta 3% MAC Time Usersame Eduportis B	illa) and Tuffc/MB) Delay(mc)	Pict Locs Rate/Tel	RSS Radio Users	Nola Floor Chanvel	Uzage Experience Type	Experience Score	10	Causes

Below the ring, network indexes of **Delay**, **Pkt Loss Rate**, **Rx Rate**, and **Tx Rate** are indicated. You can click > to display the line graphs of the indexes on the day.

Figure 8-13 Index Line Graphs on the Day



(2) STA Experience Distribution

This area combines a bar graph and a line graph to display the distribution of the numbers of STAs with different experience levels in different time ranges. When you click any time position in the graph, the **Poor-Experience Client List** area will display detailed information about the network with poor user experience in the time range. The time granularity of the graph is five minutes, that is, the time interval of the horizontal axis is five minutes. The bars of different colors in the graph represent different experience levels.



Overview Causes Expert Analysis	
Evandane Tedau- Read	A8 2.46 56 2022.06-08
Experience roday= dobd	-O- Experience Score 📖 Inactive Clients 🛑 Good 🧰 Average 🥌 Fair 🛑 Hard to go online
15 9 0 Good 17 12 0 Poer Average index	Cover Some
6.61 1.71 78.82 62.33	0 2022-08-08 00.00.00 2022-08-08 02.20.00 2022-08-08 04-40.60 2022-08-08 07.00.00 2022-08-08 09.20.00 2022-08-08 11.40.00 2022-08-08 14.00.00
Poor-Experience Client List(Click STA Experience to view details) STA MAC Time Usernere stuggerdG Band Tarfich@ Day,md	RicLas Raello KD Rata Laas Nota Roor Chemel Laga Egeniena Tga Egeniena Sona A Guas

(3) **Poor-Experience Client List**

This list displays only clients with poor experience at the specified time point. When the experience level is Good or Average, the user experience is good. When the experience level is Fair or Hard to go online, the user experience is poor. The list indicates network indexes of an STA at the specified time point, including **Traffic**, **Delay**, **Pkt Loss Rate**, **RSSI**, **Radio Users**, **Noise Floor**, and **Channel Usage**, and analyzes the main causes of the poor experience according to the indexes.





You can click a MAC address in the **STA MAC** column of the list to jump to client details, or click a MAC address in the **AP** column of the list to jump to device details.

Figure 8-16 Client Details

Ŭ								
Client Info		Connection Info	currently online and is connect	ed 2014inute				
	10 20 224 155	The current e	experience is not be	ad.				
MAC Vendor	74f2.fafc.bea7 Xiaomi	8.5 Tx Rate(Mbps)	6.8 Rx Rate(Mbps)	10 Avg Signal Strength(dB)				
Client Type OS Capacibility		748; 10.2	Client 2.1afc.bea7 20.224.155	W/Fi TelkomUniversity (30)	AP AP-LT-6-7 10.244.225.17	AC (1) WLC-RUJUE-Tekom_U WS0816		
Connection Record 2022-06-29 Expert Mode Connection Record 2022-06-29 Expert Mode								

Figure 8-17 Device Details

₩	AP Details >		
AP Details	Codess	Overload (2022-08-29)	Client Traffic Summary 0 (15:15)
Name MAC IP Address Model Firmware Version	AP_RG05 115(4)(V181, Release(09180101)	1 08 04 04 02	1 0.6 Total 0.4 0.00M 0.2
Uptime	4d18b2min45s Conline_Office 0 Times (Last 7 Days)	2012-08-28 00:00 2012-08-28 03:00 2012-08-29 06:00 2012-08-29 06:00 2012-08-29 12:00 2	722-08-29 15:00
Device Analysis	2022-08-29 AP Hotory Radio Details	3012-66-29	
	No error or change is found. Until15:15. APUptime15h15min, Cumulative Clients 0 Cumulative TicTatfic0.00(M8), Cumulative RicTatfic0.0	20MB	

2. Causes

This page provides detailed analysis on the five aspects that affect user experience of the wireless network, including **Area Analysis**, **Interference**, **Coverage**, **Access**, and **Authentication**.

Group Analysis	Compares network indexes of the same AP group at different times.
Interference	Shows the signal interference of the local network and other networks and the impact with reference to the channel usage and current client traffic, so as to find out busy channels. In the channel usage diagram, the y-axis indicates channel and the x-axis indicates time, to display the hourly channel status. The network saturation diagram displays the percentages of private signals of the local network and other networks. The interference diagram displays the interference caused by private Wi-Fi signals to the network. The density of private Wi-Fi signals indicates the interference severity. The statistics of private Wi-Fi signals can be obtained only after the corresponding function is enabled on the Environment page.
Coverage	Displays signal coverage of each area. The coverage status is graded into Good, Average, and Fair. You can select an area with a coverage problem to display the coverage status of the whole day and details about the AP that generates the coverage problem at a certain moment. In this way, you can find out the areas with poor coverage and the number of affected clients.
Access	Provides access experience assessment based multiple dimensions such as the access failure percentage, abnormal network dropout percentage, access time consumption, and access stability. You can find out the improvement points of network access experience by analyzing the causes (such as client limitation, RSSI, remote association, and equipment instability) for access failure and abnormal network dropout.

Five Aspects Affecting User Experience

Authentication	Provides analysis and comparison of the success rates and efficiency of different
	authentication manners, so as to recommend the most stable authentication manner to
	users. You can also track the authentication data of a single STA, to rapidly work out the
	authentication improvement method.

(1) Area Analysis

This tab can simultaneously display the network saturation and network indexes of two dates. You can select to display the statistics based on hour or day, sort area sizes by the number of radios or clients, and set metric to channel usage, load, or poor experience.





When you click a network saturation area, the Heat Map Details of the area will be displayed.

Figure 8-19 Heat Map Details



To display the descriptions of indicators in Network Saturation and Heat Map Details graphs, move the cursor

to mext to the graph name. Click any block in the Heat Map Details graph to display device details.

AP Details		Overload (2022-09-27)	
Status Cnine Name MAC IP Address Model Firmware AP,8GOS 11.9(6)V Version Uptime d0h50min235 ntime/Offline 1 Times (Last 7 Days)	V151, Release(09180101) Log	24G Clients SG Clients -O- Traffic(MB)	Client Traffic Summary
Device Analysis 2022-09-27	AP History Radio Details No error or change is found Until515, APUptime20min, Cumulativ Cumulative To Traffic000(MB, Cumulativ	2022-09-27 Clients 0 F.K. Taffic0.00(M8)	

Figure 8-20 Device Details

(2) Interference

The **Channel Usage Analysis** graph represents a channel with interference in red, and displays the usage of different channels. Click the usage of different channels at different time points to display STA details in the right

list. Click a client MAC address to display device details. To display the descriptions of indicators, move the

cursor to next to the graph name.

Figure 8-21 Interference

III Experience						
Overview Causes Expert Analysis						
Area Analysis Interference Coverage Access Authentication						
Channel Usage Analysis 🛞					2.4G 5G	2022-09-26
Channel Usage Level 0	Channel Usage Leve	el				
	10 🗸 Re	sults Per Page			:	Search:
	ApMac	ApName	Radio	Channel	ChlUsing	^{↓†} Status
				No Data Available		
	Results 0 to 0 ent	ries, Total Results 0			F	First Previous Next Last
1Channel						
1Channel						
1Channel						
1Channel						

(3) Coverage

This tab shows AP status trends in the previous two days. You can select a date to display the signal coverage in different areas on the specified day. The AP list displays **AP Name**, **AP MAC**, **Status**, **Cumulative Clients**, **Poor Coverage Clients**, and **Poor Coverage Rate**. You can click a MAC address of an AP to display device

details. To display the descriptions of indicators, move the cursor to

next to the graph name.



Figure 8-22 Coverage

(4) Access

This tab displays Over All Evaluation, Area Access Situation, Access Fail, and Exception Offline. To display

the descriptions of indicators, move the cursor to

next to the graph name.

III Experience		-	
Overview Causes Expert Analysis			
Area Analysis Interference Coverage Access	Authentication		
Access analysis 🐵		1	2022-08-08
Over All Evaluation		Area Access Situation	
	13:00-14:00 Evaluate Evaluate Good STA access ownrieve: count 228 Success Rate 100.00% Offline Fail Count 0 Offline Fail Rate 0.00%	() (0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0	
Dimensional Analysis			
Access Fail Exception Offline			
Access Fail Info		Area Distribute	
102.1 x authentication failed. The client was not an 102.1 x Client. 102.1 x authentication failed the Adverse rejected the authentication failed due to request timesed. 103 10	iceion 2021 h earthentication failed due to 10 request timeout.	(0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 -	

Figure 8-23 Access Analysis

Click the bar graph on the Access Fail or Exception Offline tab to display STA details.

Dimensional Analy	ysis				
Access Fail	Exception Offline				
Access Fail Info			Area Distribu	ute	
802.1x a	uthentication failed. The client was not a	an 802.1x client.			
802.1x = 100 - 80 - 40 - 0 -	on automatication failed due to request time	aut athins		• <	
			Hide details 🔺		
Access Fail Detai	il Info (Click The Bar Graph Upsic	ie:)			
STA MAC	Abromal Num	Atto AB Name	AP MAC	Abnormal Num	AD Name

Figure 8-24 Access Fail

(5) Authentication

This tab presents Auth Success Rate, Offline Rate Caused by Auth Failure, Auth Time distribution, and Average Auth Time in charts. You can select to display the analysis by day, week, or month.



Figure 8-25 Authentication Views

3. Expert Analysis

On this page, you can specify an area, a date, and the value ranges of indicators to filter data meeting the conditions. The queried result shows **STA Experience**, **AP Experience**, and **Key Metrics**, indicating the user experience at a time.

Figure 8-26 Expert Analysis

[III] Experience																					
Overview Causes	Expert Analy	sis																			
"Show Name:	w				*Date:	2022-08	-02				s	elect an area:									
Experience Type:	Fair		٣	rac	dio Type:	No Limi	it		٠	н	de More O	ptions									
Rx Rate:							Tx Rate:							Tx F	letransmissio	n Rate:					
Pkt Loss Rate:							Delay:								Tx	Traffic:					
RSSI:						ħ	loise Floor:								Channel	Usage:					
									Filter	Reset											
STAExperience APEx	perience Key	Metrics																			
																				@ 88	1 B C ±
Cou	unt																				
00	5:00 01:10	02:20 03:30	04:40	05:50	07:00	08:10	09:20	10:30	11:40	12:50	14:00	15:10	16:20	17:30	18:40	19:50	21:00	22:10	23:20		
TA MAG Time		is Connect C	Read	Testia	Delay	Dist Loss Rat		PCC1	Padia Usarr		Naisa Elas				Emailant			E-mail and			Cause

8.2.3 Clients

1. Overview

This tab displays the online client quantity of the entire network (including 2.4G/5G clients), Rx/Tx traffic trend, accumulated Rx/Tx traffic, as well as client and traffic distribution of each area, which enables you to learn about

the peak hours and dense areas. To display the descriptions of indicators, move the cursor to rext to the graph name.



Figure 8-27 Overview

2. Activation

This tab analyzes clients' activation from the dimensions of client stability, retention rate, comprehensive activation, time-based activation, traffic-based activation, and flow statistics, intuitively presenting the client group change and the dependency on the network. To display the descriptions of indicators, move the cursor to

next to the graph name.

Figure 8-28 Activation Analysis



3. Monitor

This tab displays details about all online clients by default. The details are updated once every five minutes. You can specify the MAC address, time (for displaying the history), and network parameters for filtering.

E Clients														
Overview	Activation	Monitor	VIP STA Exc	ception Statistics										
Monitor														
	Keyword:				Time: 202	2-08-08 14:23:55	(Time Sp	an 2022-08-08 13:53:5	5 - 2022-08-08 1	4:23:55)			RSSI<:	
	Tx Rate<:				Rx Rate<:			Pkt Loss Rate	R			C	elay>:	
	SSID:													
							Par Danat							
							NO TO							
Client MAC	AP Name	RSSI	Tx Rate(Mbps)	Rx Rate(Mbps)	Delay(ms)	Pkt Loss Rate(%)	Traffic(MB)	Radio(GHz)	SSID IP	Username	Client Type	Vendor Association mo	de Authentication mod	e Time
		26	71.3	32.5	0.1	0.0	0.3	2G						2022-08-08 14:20:00
		31	72.0	69.9	7.7	0.0	26.3	20				Vivo		2022-08-08 14:20:00
		30	86.6	86.7	0.1	0.0	0.2	5G				-		2022-08-08 14:20:00
		20	1.0	1.0	0.0	0.0	0.0	20						2022-08-08 14:20:00
		31	314.3	144.1	\$9.0	0.0	0.6	50						2022-08-08 14:20:00
		41	86.7	25.1	0.1	63.6	0.0	20				Infinix mobility limited		2022-08-08 14:20:00
		32	78.0	80.1	0.2	0.0	0.0	5G				Intel		2022-08-08 14:20:00
		36	71.9	72.2	0.1	0.0	3.3	26				Hon Hai		2022-08-08 14:20:00
		43	70.8	65.0	0.2	0.0	0.0	2G				Liteon		2022-08-08
		46	68.8	65.0	28.0	2.0	10.6	26				Орро		2022-08-08
第1至10	项结果,共 51 项	每页 10	▼ 项结果									首页上页	1 2 3 4 5	6 下页 未页

Figure 8-29 Client Details

Click a client MAC address to display client details. You can track client traces, including the comprehensive experience scores, historical score trend, online/offline history, roaming trace, and so on.

Figure 8-30 Client Details

€ With the second s		
Image: Status: Online 1.45 00 Device: MAC Address/MAC PPP Address: STA Type: -↓-	The past one hour(13:20-14:20)STA Experience © Average fistin 2.8 ms 4verage fistin Liste fistin Liste fistin	ny
	0.9% 1.7% -88.4dBr	· · · · · · · · ·
2022-08-08 Error in STA Going Online/Offline(0)	Oilf you cannot locate the fault, click to open the expert page.	
	No error found	

Click an AP name in the client list to display device details, including basic information of the device, device load, client traffic proportions, and device analysis records.

Figure 8-31 Device Details

AP Details :	JTN.Rektorat.Server					
AP Details Status Bases Madess Freuwerversion Uptere Egg Cenercofficer 4 Til	13, Refease(99130522) er (Lad 7 Days)	Overload (2022-08-08)	24G 2022-06-08 0440	Clients 50 Clients (-) Traffic(MB)	90 229 200 50 50 50 50 50 50 50 50 50 50 50 50 5	Client Traffic Summary () (1420) Total 15.32M
Device Analysis 2022-06-08 are	Radio Details Experience Problem 11138 Radio 1, Climit J., Channel Unage2N, Noise Re-	H-81, Plan Egymenna Clants 1 ; Details	2022-06-08 11:15 09:50 0 00 00	uperience Problem 308 Ratis 1, Cleanst Usage76, Nase Pase-d	6. Peer Dynameter Climits 1 : Details	

4. VIP STA

You can manually set key clients to be monitored as VIP clients. The **VIP Client List** displays the details about all VIP clients.

Figure 8-32 VIP Client List

had any											
III Clients											
Overview Act	ctivation	Monitor VIP STA	Exception Statistics								
Tin	ime : 2	022-08-08 14:25:50	(Time Span:2022	.08-08 13:55:50 - 2022-08-08 14:25:50)							
VIP Client List											Add
每页 10 🗸	项结果									检索	
Clent MAC		Remark	AP Name	Radio(GHz)	SSID	Username	Client Type	Vendor	Time	Operation	
				2.4G	edurcam				2022-08-08 14:20:	10 Edit Delete	rte
				2.4G	eduroam			D-link	2022-08-08 14:201	10 Edit Delete	rte
								Apple	-	Edit Delet	rte
				-				Xiaomi	-	Edit Delete	rte
第1至4项结果,非	共4 項									目页 上页 1 下页	末页

Click Add to manually add a VIP client.

Figure 8-33 Adding a VIP Client

ii Clients								
Overview Activation	Monitor VIP STA	Exception Statistics	Add Client					
Time :	2022-08-08 14:25:50	(Time Span:202	op to ov vir clients can b	е ачиеч кл а рюјест.				N
VIP Client List			MAC Address					Add
每页 10 🗸 项结果			Remark				控责	
Client MAC	Remark	AP Name	Submit		Client Type	Vendor	Time	Operation
	lpank		Submit				2022-08-08 14:20:00	Edit Delete
			2.40	eduroam		D-link	2022-06-08 14:20:00	Edit Delete
	Imam_Ruijie					Apple		Edit Delete
						Xiaomi		Edit Delete
第1至4项结果,共4项							首页	上页 1 下页 未页

You can also edit and delete VIP clients.

Figure 8-34 Editing or Deleting a VIP Client

[iii] Clients										
Overview	Activation	Monitor VIP STA	Exception Statistics							
	Time :	2022-08-08 14:25:50	(Time Span:2)	022-08-08 13:55:50 • 2022-08-08 14:25:5	0)					
VIP Client	List									Add
每页 10	▼ 项结果								投票	
Client MAC		Remark	AP Name	Radio(GHz)	SSD	Usemame	Client Type	Vendor	Time	Operation
				2.4G	eduroam				2022-08-08 14:20:00	Edit Delete
				2.4G	eduroam			D-link	2022-08-08 14:20:00	Edit Delete
					-	-		Apple	-	Edit Delete
				**				Xiaomi		Edit Delete
第1至4项相	5里, 共4 项								首页	上页 1 下页 末页

5. Exception Statistics

This tab displays Access Exception, Disconnection Exception, Packet Loss Exception, Latency Exception, Back-and-Forth Roaming Exception, and Repeated Association Exception. The client exception list displays detailed information.

Figure 8-35 Exception Statistics

Ellents								
Overview Activatio	n Monitor VIP STA	Exception Statistics						
Access Exception	Disconnection Exception	Packet Loss Exception	Latency Exception	Back-and-Forth Roaming Exception	Repeated Association Exception			2022-08-08
Display Only VIP Users								
STA MAC	Exception Period		Total Sampling Period		Exception Rate	Usemame	Update Time	
第0至0项结果,共0项	句页 10 - > 功裕県						間页	五百 百万 東京

8.2.4 Devices

1. Overview

This tab displays basic information about ACs and APs, including online/offline statuses, device models, firmware versions, and hardware versions.

Figure 8-36 AC Overview

MEAACAPISTABIlischi	III Devices					
Institut_Teknolo	Overview Overall Monitor Real-Time Monitor AP Analysis	AP Group Analysis				
Institut_reknoio	AC Updated or:2022-08-08 14:32:02					
Monitoring	Name MAC Online AP	Rimware Version	Hardware Version	Model	Role Updated on	Action
Overview	7	AC_8005 11.9(2)82915. Release(09172019)	1.03		2022-06-08 14:32:02	Details
Experience	第1至1回8年,年1日 有效 10 ~ 四回年					R# R7 1 R4 #R
Clients	AD/7) 0					
Devices	A10 -			0074.9cl	Bf.d969 RJ_WS6000_ITB_Jabinangor	
Environment		AP820(AR)	4(57.1%)		~	
Optimization	11.000WTE2	AP680-A	2(28.6%)	Labtek,1A	1	eturcam
(Jal) Big Data		AF640-1	1(14.2%)	FOIC 12-mod		Hotspot ITB
Panel	- 11.9(6)81P10			No. A lot of the	*	Hotspot ITB Freehotspot ITB
	11.Mole1			Gd Rektoret	1	eduroam Hotspot ITB
				Gilikoica	1	eduroem
	AP Details					
	Advanced Search					
	AC .	AP Group	Firmware Version		* AP Model	•
	SetaNumber:	AP MAC	AP Name:			
	Filter Reset					
	Status II AP Name II AP MAG	Serial Number	11 Rimware Version	<i>K</i> 4	49 Group A9 Model	Rado
	Creine			L	abtek,1A	Details
	Online			0	3d,Rektoret	Details
	Cnline			- 0	ld Rektorat	Details

An AC list displays **Name**, **MAC**, **Online AP**, **Firmware Version**, **Hardware Version**, **Model**, and **Role** of ACs. You can click **Details** to display device details, which shows the basic information, load, and performance of the AC.

Figure 8-37 AC Details

AC Details > RJ_WS6008_ITB_Jatinangor	
AC Details	Overload (2022-08-08)
Satus Contine	2.4G Clients - 5G Clients Traffic(Mbps)
Name	⁵⁰
MAC	
Model Firmware Version AC RGOS 11.9(3)82P15. Release(09172019)	
Uptime 8d03h02min37s	
APs Online 7, Offline 0. Details	0 CHARLEAN THIM AND
AC Performance 2022-06-08 CRU Menory	
	-()- cpu
100% 80% 60% 20% 20% 2022 de-07 2022 de-08 01/20 2022 de-07 2022 de-08 01/20 2022 de-07 2022 de-08 01/20 2022 de-08 01/20	222-de de 6461 2022-de de 10-22 2022-de de 66641 2022-de de 6803 2022-de de 6934 2022-de de 10-45 2022-de de 12:05 2022-de de 10:26

The AP overview page displays the version distribution, model distribution, and details of APs.

AP(7) 0 0074.9c AP880-A Labtek_1A eduroam Hotspot ITB eduroam Hotspot ITB Gd.R eduroam Hotspot ITE AP Details 🔿 Ad Filter Reset Status Online Online Online Online Online Online AP Name AP MAG IT Fin AP Grou AP Mod AP_RGOS 11.9(6)W1B2, Release(09162015 Labtek_1A AP_RGOS 11.9(6)W1B2, Release(09162015 Gd.Rektorat Gd.Rektorat AP_RGOS 11.9(6)81P10, Release(09130522 AP_RGOS 11.9(6)81. Rele Gd.Rektora 7201411) AP_RGOS 11.9(6)81P10, Rele Gd.KOICA AP RGOS 11.9(6)81P10 第1至7項結果,共7項 每页 10 🗸 項結果 首页 1 下页 末页

Figure 8-38 AP Overview

Click the MAC address of an AP to display the AP details, including basic information of the device, load, client traffic proportions, and device analysis records.

Figure 8-39 AP Details

	AP Details > JTN.Labtek.1A		
AP Details Status Name MAC	-	Overload (2022-08-08) 2.46 Glents 56 Glents 12	Client Traffic Summary © (1430)
IP Address Model Firmware Version Uptime Log	AP,RICS 11.58(W1E), Referen@162019 BattboAnnidse OntineCiffine 0Times (Last 7 Days)	2022 de de conce 2022 de de sous 2022 de de seus 2022 de de seus 2022 de de sous 2022 de de 11.40	Total 100 100 2002-06 of Malo
Device Analysis 2	noz dő dő APHubay Radio Detarts	822 Vil 49	
	Experience Problem 1265 Radio 1, Clietti 3, Channet Ukapi 23%, Note Rec	150 Experience Problem 1150 Experience Problem 1150 Bade 3, Clents 4, Channel Usagethis, Noise Riss-101, Part Exp	seriesce Clerite 2 : Details
	Air Quality Problem 1150 Radio 1, Channelly, Channel Unagedith, Noise Pilo	Al3. Clevels 4, Traffic for 5-min0.42348 On 35 Air Quality Problem On 35 Air Quality Problem On 35 Air Quality Problem On 35	0. Traffic for 5-mind 204/8

Click **Details** to display radio details.

Figure 8-40 Radio Details

第1至1项结果,共1	项 每页	0 v 18位用								首页 上页 1 下页 末页
								×		
AP(7) ©		RADIO		Channel		Power				
		1		6		100			Jatinangor	
		2		149		80				
	11.9(6)W18	3		36		100			APs S	
		第1至3项结果,并3项	何可 10 v 10 円 第				গত ৮০	1 50 ±0	1	Iduroam Hotspot ITB
							BX IX	152 752	2	iduroam
	11.9(6)81 -									reehotspot ITB
							Gd.Re	ktorat	3	eduroam Hotspot ITB
							Gd.KC	IICA		sduroam
10.0.1.1										
AP Details										
Advanced Search										
			* AP Gro		×			•		
						AP Name:				
Filter		Reset								
Status	IT AP N	lame	IT AP MAC	Serial Number	IT Firmware W	ersion	×	AP Group	AP Model	Radio
Online				G1RP4NG000204	AP_RGOS :	11.9(6)W182, Release(09162015)		Labtek_1A		Details
Online				G1RP4NG000478	AP_RGOS 1	11.9(6)W182, Release(09162015)		Gd Rektorat		Details
Online				G1RP5K2011766	AP_RGOS 1	11.9(6)81P10, Release(09130522)		Gd.Rektorat		Details
Online				G1NT8R7006010	AP_RGOS 1	11.9(6)81, Release(07201411)		Gd.Rektorat		Details
Online				G1RP2K200024A	AP_RGOS 1	11.9(6)81P10, Release(09130522)		Gd.KOICA		Details
Online				G1RP2K2000444	AP_RGOS 1	11.9(6)@1P10, Release(09130522)		KOICATunnel		Details
Online				G1RP2K2000676	AP_RGOS 1	11.9(6)81P10, Release(09130522)		KOICATunnel		Details
第1至7项结果,共7	項 每页 1	0 🗸 项结果								首页 上页 1 下页 木页

2. Overall Monitor

On this page, you can monitor and manage devices, and check offline APs, recovered APs after going offline, new APs, AP going-online/offline alarms, and other detailed information. You can click a MAC address of an AP to display AP details.

Figure 8-41 Overall Monitor

E Devices								
Querdew Que	rall Monitor Real-Time Monitor	AP Analysis	AP Group Analysis					
Overview One	Near-Time Monitor	Par Panaryara	Ar Group Analysis					
Offline AP								
40 Name		IT ARMAC	AC MAC	48 6 7 7 1		42 Mondal	Pown on	Dourrime
			Proj. (1999)	表中的 第中的	调力空			and a second
第0至0项结果,共0	0项 每页 10 - 项结果							首页上页 下页 未页
Recovered AP								
AP Name	II AP MAC	AC MAC	AP Group	AP Model	Downtime	II Down on	IT Up on	II Offine Times II
			KDICATunnel		90h 25m 20s	2022-08-04 17:11:35	2022-08-08 11:36:55	2
			Gd.Rektorat		38m 52s	2022-08-05 11:42:18	2022-08-05 12:21:10	4
			Gd.XDICA		16h 54m 24s	2022-08-04 18:38:26	2022-08-05 11:32:50	10
			KOICATunnel		18h 7m 14s	2022-08-04 17:15:54	2022-08-05 11:23:08	2
			Gd.Rektorat		20h 53m 50s	2022-07-31 01:10:53	2022-07-31 22:04:43	2
			Labtek_1A		20h 53m 25s	2022-07-31 01:10:53	2022-07-31 22:04:18	3
			Gd.Rektorat		20h 52m 1s	2022-07+31 01:10:53	2022-07-31 22:02:54	2
第1至7项结果,共7	7 項 每页 10 🗸 項結果							英本 页 1 页 未页
New AP Record								
AP Name		AP MAC		AC MAC		Time	Event Type	
						2022-07-29 22:08:44	New Device	
						2022-07-16 02:10:59	New Device	
						2022-07-16 02:10:59	New Device	
						2022-07-16 02:10:59	New Device	
						2022-07-16 02:10:59	New Device	
						2022-07-16 02:10:59	New Device	
						2022-07-16 02:10:59	New Device	
All a 77 y stream and y	The second second second second							

3. Real-Time Monitor

This tab displays the running statuses of all online devices by default. The statuses are updated once every five minutes. This tab page shows the number of the clients that access the AP, the 2.4G/5G client distribution, the Rx/Tx traffic, and the channel usage. You can filter data by the AP MAC address, AP name, and time. Click a MAC address of an AP in the list to display device details.

Figure 8-42 Real-Time Monitor

11	Devices			-	-											
0	verview	Overall Monitor	Real-Time	Monitor	AP Analysis	AP Group Ana	ilysis									
F	Real-Time	Monitor														
H	Key Nords:						Time:	2022-08-08 14:32	09							
AP	MAC	AP Name	AC MAC	Total Clients	II 2.4G Clients	11 SG Clients	11 Low RSSI(2.4G)	11 Low RSS(SG)	11 Low RSSI ratio	Low Rx Rate(2.4G)	Low Rx Rate(SG)	II Rx Traffic(2.4G)	II Rx Traffic(SG)	11 Channel Usage(2.4G)	11 Channel Usage(5G)	II Time
				0	٥	٥	٥	٥	٥	0	0	0.00KB	0.00KB	12	5	2022-08-08 14:30:00
				8	7	1	0	0	0	0	0	13.30MB	6.98KB	8	1	2022-08-08 14:30:00
				11	3	8	0	4	36.36	1	4	914.60KB	5.67MB	26	6	2022-08-08 14:30:00
				6	6	0	0	0	0	0	0	91.69KB	0.00KB	3	3	2022-08-08 14:30:00
				5	3	2	1	1	40	1	0	8.37MB	1.50M8	14	2	2022-08-08 14:30:00
				4	3	1	0	0	0	0	0	1.66MB	0.56KB	1	1	2022-08-08 14:30:00
				7	5	2	0	0	0	0	0	165.84KB	159.21M8	12	3	2022-08-08 14:30:00
	第1至7项	店里, 共7 项 每页	10 🗸 10倍	课											首页 上页 1	下页 末页

4. AP Analysis

This tab displays the load, peak clients distribution, experience, and air interface of each AP. To display the

descriptions of indicators, move the cursor to next to the graph name.

Figure 8-43 AP Analysis

view O	verall Monitor	Real-Time Monitor AP Analys	is AP Group Analysis								
Analysis (2	2022-08-08 00:00~	~2022-08-08 14:00)							AP Load	AP Experience	Air Qual
A				Time: 2022-08-08							
Load 🛛											
	AP Name	Cumulative Clients	11 Cumulative Traffic(MB)	11 Avg Uptimetmini	41 Avg Baffic(MB)	If Aug Online Clients in Busy Hours	LT Client Peak	IT Peak Time	Client Limi	score	
		93	6129.52	50.05	65.91	9	18	08:05		73.5	
		24	13815.25	145.63	575.64	6	9	08:30	64	62.5	
		33	8402.45	57.58	254.62	3	8	08.05		43.9	
		16	430.29	137.50	26.89	5	9	10:40	64	36.3	
		17	2347.85	91.76	138.11	4	9	12:40		35.9	
		53	192.57	20.75	3.63	4	10	11:45		32.9	
		10	177.40	43.50	17.74	1	8	11.55	64	17.4	
nt Peak Bu	ubble Chart ()										
nt Peak Bu	AC: 0	0074.9c8f.d989 RJ_WS6008_JTE_Jat	inangor	✓ Client Peak: 1–16 ● Client Peak:	ak: 16~32 😑 Client Peak: >32						
nt Peak Bu	AC: 0	1074 9x8ft d989 RJ_WS6008_ITB_Jat	inangor	Client Peak: 1–16 🔵 Client Pe	akı 16–32 🕚 Client Peak: >32						
nt Peak Bu	AC:	0074.9-d8t.d969 RJ_WSCOO8_ITB_lat	nangor	v ● Client Peak: 1–16 ● Client Pe	ak: 16–32 🍈 Client Peak: >32						
nt Peak Bu	AC: 0	074 9x8frd989 RJ_WIS6008_ITB_las	inangor	v € Client Peak: 1–16 ● Client Pe	alcı 16–32 🌒 Client Pealcı > 32						
nt Peak Bu	AC: 0	0749alt4989 RJ_WS6006_ITE_lat	nangor	v Gliert Peak: 1–16 🌒 Cliert Pe	ak: 16–32 🌘 Client Peak: >32						
nt Peak Bu	AC: 0 AC: 0 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	0074 Soff #989 RJ_VISE006_TTE_last	nangor	Uiert Peak 1–16 Cliert Pe	akı 16–32 🔴 Client Peak: >32						
nt Peak Bu	AC: 0	0074 9dH dBB9 RL_VY80000_TTB_lat	nangor	Client Reak: 1–16 Client Pe	als 16–12 🜒 Client Peak: >32						
nt Peak Bu	AC: 0	074 Subt cBBS RJ_vYSCODE_TTB_let	nangor	U Client Peoks 1-16 O Client Pe	ak: 16–32 🔴 Client Pedi: >32						
ent Peak Bu	AC: 0	074 Balt dBB RVSGODE_TB_let	nangu	Client Peok: 1-16 Client Peok	ak: 18–32 • Cleref Peak: ×32	•					

5. AP Group Analysis

This tab performs statistical analysis of AP information based on AP groups.

[III] Devices											
Overview	Overall Mo	nitor	Real-Time Monit	or AP An	alysis AP	Group Analy	sis				
Please select ar group.:	NAP Vian	Group-Test		¥	Tim	2022-	08-12 11:01:40	Search			
Overview											
	Н	sti-Chanr	0.0% nel-Usage Radio	intio			0.0% Anth-Noise-Floor Radio R)		0.09	Vo Client Radi
Radio Deta	ails										
毎页 10	▼ 项结果										提案:
AP MAC	AP Name		Radio ID	AC MAC	Channel	Clients	IT Poor-Experience Client Count	It _{Char}	nnel Usage	It Noise Floor	T Date
			1		6	1	0	75		-96	2022-08-12 10:55:00
			2		44	1	0	3		-108	2022-08-12 10:55:00
			1		11	0	0	15		-103	2022-08-12 11:00:00

Figure 8-44 AP Group Analysis

8.2.5 Environment

This function is used to check external interference (private Wi-Fi signals). You need to enable it manually. After it is enabled, the environment information will be collected immediately and at 3:00 every early morning.

Figure 8-45 Environmental Perception

[III] Environment	
	Interference Detection
	Detect and analyze surrounding interference. Data collection begins once this function is enabled, taking about half an hour. After this function is enabled, data collection will be performed every night automatically. This function will not affect user experience. Collect surrounding WiFI signals automatically as scheduled.
	Enable Interference Detection Sync Group

2. Group Analysis

You can collect interference based on each AP group, and present the statistics by RSSI and the number of interferences.



Figure 8-46 Group Analysis

3. Interference Details

The list displays all scanned interfering signals and the number of radios being affected in the local network. You can click a number to display details of the affected radios.

Figure 8-47 Interference Details

III Environment				
Group Analysis Interference Details AP Details				2022-08-08
每页 10 🗸 洞动果				投资
Manufacturer	550	8510	First Seen on	Influenced APs
Rudius	eduroam	dcae.eb85.b6bc	2022-07-18 16:06:20	2
Rudius	Hotspot ITB	dcae.eb45.b6bc	2022-07-18 16:06:20	2
Ruckus	eduroam	38#3642.2fc8	2022-08-06 03:10:00	1
Rudkus	Hotspot ITB	38#13602.2b4c	2022-08-01 03:10:00	1
Ruckus	Hotspot ITB	dcae.eb45.e9e8	2022-08-01 03:10:00	1
Ruckus	Hotspot ITB	dcae.eb46.6af8	2022-07-17 20:16:46	1
Ruckus	eduroam	dcae.eb86.6e3c	2022-08-06 03:10:00	1
Ruckus	Hotspot ITB	38H3602.2#48	2022-08-01 03:10:00	1
Ruckus	Hotspot ITB	38#3602.2698	2022-08-02 03:10:00	1
Ruckus	Hotspot ITB	dcae.eb45.e91c	2022-08-06 03:10:00	1
第1至10项编集, 共26项				当页 上页 1 2 3 下页 末页

Figure 8-48 Details of Affected Radios

Environment						
Group Analysis Interferen	APs Influenced by eduroam(dcae.eb85.b6bc)				×	2022-08-08
個页 10 → 原結果	AP Name	AD Mac	Radio ID	Channel	RSS	22
			3	0	5	Influenced Alls
	第1至2项结果,其2项 和页 10 ♥ 和四部			■页 上!	页 1 下页 末页 0	2
					0 0	
	Ruckus	Hotspot ITB		dcae.eb45.e9e8	2022-08-01 03:10:00	
	Ruckus	Hotspot ITB		dcae.eb46.6af8	2022-07-17 20.16.46	
	Ruckus	eduroam		dcae.eb06.6e3c	2022-06-06 03:10:00	
	Ruckus	Hotspot ITB		38ff3602.2a48	2022-08-01 03:10:00	
	Ruckus	Hotspot ITB		38#3602.2598	2022-08-02 03:10:00	
	Rucius	Hotspot ITB		dcae.eb45.e91c	2022-06-06 03:10:00	
第1至10项陆潮,共26项						· 直页 上页 1 2 3 下页 末页

4. AP Details

This tab displays the details of APs suffering from external interference.

Figure 8-49 AP Interference List

调输入AC/AP/STA的MacNe	III Environment									
Institut_Teknolo '	Group Analysis Interference Details AP Details			2022-08-08						
Monitoring	第2 10 → 第2条件									
Overview	AD Name	AB MAC	Radio ID	Interferences						
Experience			2							
Clients			1	1						
Devices			1	2						
Enimonat			3	2						
Environment			2	2						
(§) Optimization ,			2	2						
(all Big Data)			1	1						
Panel	第1至978晚晚, 共976			首页 上页 1 下页 木页						

Click a number of interfaces to display details of the external interferences.

Figure 8-50 Interference Details

谢信入AC/ARISTA的MacNit	H Environment					
Institut_Teknolo Institut_Teknolo	Group Analysis Interferenc	Interference Details 有效 现在用			× 2次	2922-08-08
Monitoring *		Manufacturer	8550	550	R50 -	
Overview		Rudus	38#(3642.2d3c	eduroam	18	interferences
Experience		Rudus	30#3682.2637		18	
Classes		Ruchus	b479.class.9cac	eduroam	12	
Citerits		Rudius	b479.cBie.9cac	Hotspot IT8	12	
Devices		Rudus	54ec.2f12.b53c	Hotspot IT8	12	2
Environment		Rudus	54ec.2552.b53c	eduroam	11	1
(A) Ontimization		Rudua	36#3642.2b4c	eduroam		2
() optimization ,		Rudus	18973602.2b4c	Hotspot ITB		1
(III) Big Data ,		篇 1 至 8 功昭樂, 共 8 功			上页 1 下页	
Panel	第1至9708年、共97日					ER 27 1 73 85

8.3 Optimization

8.3.1 One Key Diagnosis

Choose Intelligent Analysis > Optimization > One Key Diagnosis. The network diagnosis module is fixed to check the running status of the entire network on the previous day every night, and provide a network health index according to the results of the test items. You can quickly understand the health status of the current network from the network health index, and click **Get Real-Time Result** to obtain the current diagnosis result.

concertain 200.0000000000000000000000000000000000			
Event Constraint Constraint <t< td=""><td>One Key Diagnosis</td><th></th><td>2022-08-07</td></t<>	One Key Diagnosis		2022-08-07
Device desk: • AC Performance Analysis The CPU usage and memory usage of the AC are sampled on a day. If the CPU usage and memory usage are found to be higher than the threshold for three times, the AC is a risk. The CPU usage threshold is 80% and the memory usage threshold is 80%. Suggestion • AP Offine Check • gage AP Oses of the: 0 Check AP offine status. If an AP is found to go offline for eight times a day, a risk occurs. Suggestion • Suggestion • AP Offine Aback • Game AC • Suggestion • AP offine thats. If an AP is found to go offline for eight times a day, a risk occurs. Suggestion • Suggestion • Office AP. Office thats. If an AP goes offline more than twice in average in an hour, or more than 80% APs go offline, or over five APs go offline, a risk occurs. Suggestion • Suggestion • Office AP. Its Suggestion • Suggestion • Office AP. Its Suggestion • Suggestion • Configuration Check (Deduct points) Nat/sci(h) Nat/sci(h) • Rate//sci(h) Nat/sci(h) Nat/sci(h) • Rate//sci(h) Nat/sci(h)	COO Found	22-08-07,Network Health Index100.0 Initiates problems: 0 Problem(s) If 1 of The Official	
 AC Performance Analysis The CPU usage and memory usage of the AC are sampled on a day. If the CPU usage and memory usage are found to be higher than the threshold for three times, the AC is a risk. The CPU usage threshold is 80% and the memory usage threshold is 80%. Suggestion Chains AC a AP Office Check Signa AD Gene Office: Check AP office tatus. If an AP is found to go offline for sight times a day, a risk occurs. Suggestion Office AP office tatus. If an AP goes offline more than hour, or more than 80% APs go offline, or over five APs go offline, a risk occurs. Suggestion Office AP Lift: Suggestion Office AP Lift: Suggestion Office AP Lift: Suggestion Configuration Check (Deduct point) Ray Ac(i): Ray Ac(i): Area Oheck: > New Oheck : >	Device check		
The CPU usage and memory usage of the AC are sampled on a day, if the CPU usage and memory usage are found to be higher than the threshold for three times, the AC is a risk. The CPU usage threshold is 80% and the memory usage threshold is 85%. Suggestion A POlline Check APO offine thats. If an AP is found to go offine for eight times a day, a risk occurs. Suggestion Apo offine, a risk occurs. Suggestion Apo offine the AP offine table. If an AP goes offine more than twice in average in an hour, or more than 80% APs go offline, or over five APs go offline, a risk occurs. Suggestion Apo of the AP office table. If an AP goes offline more than twice in average in an hour, or more than 80% APs go offline, or over five APs go offline, a risk occurs. Suggestion Apo of the AP list: Suggestion Apo of the AP list: Suggestion App of the AP list: Suggest	AC Performance Analysis		
	The CPU usage and memory usage of the AC are sampled on a day.	If the CPU usage and memory usage are found to be higher than the threshold for three times, the AC is a risk. The CPU usage threshold is 80% and the memory usage threshold is	85%. Suggestion
AP Offline Check is giss AP Oses Office: 0 Check AP Offline tatus. If an AP is found to go offline for eight times a day, a risk occurs. Suggestion that appendix aPs Os Office: 10 Bits Check AP Offline tatus. If an AP goes offline more than twice in average in an hour, or more than 80% APs go offline, or over five APs go offline, a risk occurs. Suggestion Check AP Offline tatus. If an AP goes offline more than twice in average in an hour, or more than 80% APs go offline, or over five APs go offline, a risk occurs. Suggestion Check Offline AP Bits Suggestion Configuration Check (Deduct points) Buty Acro Xeta Check	URisky ACs		
Configuration check ● Configuration Check (Deduct points) PUIV ACU REALINGTON CHECK (Deduct points) RATES Check ✓	Suge AP Gees Office: 0 Check AP offline status. If an AP is found to go offline for eight Mateix AR Go Office Ito Bit Check AP offline status. If an AP goes offline more than twice if Office AP. 0 Check offline AP Ist Suggestion	t times a day, a risk occurs. Suggestion In average in an hour, or more than 80% APs go offline, or over five APs go offline, a risk occurs. Suggestion	
Configuration Check (Deduct points) Read x(z)) Area Oneck ≥	Configuration check 💿		
Area Check 关	● Configuration Check (Deduct points) Risky AC(s) 天記回社会的课。		
	Area Check 💝		

Figure 8-51 One Key Diagnosis

(1) Device Check

This function checks for exceptions and risks on ACs and APs, which are the most basic components of the wireless network. The check items include AC performance analysis and AP offline check. After the check, you can click **Suggestion** to obtain optimization suggestions provided by the system.

Figure 8-52 Device Check

彩 One Key Diagnosis	2022-08-07
2022-08-07, Network Health Index100.0 Front Notes proleme: 0 Proteiners: Cler front Time (front) Device check	
AC Performance Analysis	
The CPU usage and memory usage of the AC are sampled on a day. If the CPU usage and memory usage are found to be higher than the threshold for three times, the AC is a risk. The CPU usage threshold is 80% and the memory usage threshold	is 85%. Suggestion
(Resty ACs	
AP Offline Check Sngle AP Ones Offline 0	
Check AP offline status. If an AP is found to go offline for eight times a day, a risk occurs. Suggestion	
Itality is APs Go Office to Reak Check AP offline status. If an AP goes offline more than twice in average in an hour, or more than 80% APs go offline, or over five APs go offline, a risk occurs. Suggestion	
Onlike AP: 0 Check offline AP list Suggestion	
Configuration check	
Configuration Check (Deduct points)	
Rash A.Cis) 汽型器位型物画	
Area Check 💝	

(2) Configuration Check

This function collects device configurations and checks for configuration risks based on the WISPI rule library on cloud.

A Caution

This function requires that the server can access wispi.ruijie.com.cn.

Figure 8-53 Configuration Check

wf-3						71:16:35:41			
wf-3						71:16:35:41			
wf-3						71:16:35:41			
第1至10项结果,	共 295 项 每页 10 • 项结果						首页 上页 1 2	3 4 5 30	下页末页
Configuration check @	-								
Configuration Chec	k (Deduct points)								
Risky AC(s)									
Area Check 🏠									
Check Coverage									
Based on the RSSI of	of an STA, identify whether the asso	ociated AP has any coverage pro	blem. Then check for the	e coverage area. Su	ggestion				
AC Name	AP Nar	ne	AP Mac		Radio	Proble	m Type		
Channel Usage Che	ck								
Check the average	channel usage of each radio for ev	ery hour. If the average channel	usage exceeds 80%, a ris	k occurs. If the propo	rtion of radio with hig	h channel usage e	xceeds 10%, a risk occur	s. Suggestion	
AC Name	Group Name Numbe	r of Radios with High Channel Utilizati	on		p	roportion of Offline AP	s in Group		Time
Notes Describerto									
Check the poice flo	or of each radio the whole day. If t	he noise floor exceeds the three	hold a risk occurs if the	proportion of bigh n	also floor exceeds 100	in a day a rick acc	Suggestion		
Check the hoise no	or or each radio the whole day. If the	ne noise noor exceeds the thres	noru, a risk occurs. If the	proportion of high h	Dise noor exceeds 10%	i ni a uay, a risk occ	urs. suggestion		
AC Name	AP MAC	AP Name	Radiold	Proportion of APS with	High Noise Floor				

(3) Area Check

This function performs the following checks on air interfaces in the network for common risks:

o Check Coverage: Check whether a coverage problem occurs on an AP based on the RSSI of STAs

associated with the AP, and figure out whether the coverage is too large or insufficient based on Coverage.

- o Channel Usage Check: Check the average channel usage of an AP radio in an hour. If the usage exceeds 80%, the AP radio is considered to be at risk in channel usage. If the proportion of radios with high channel usage in a group exceeds 10%, the group may have risks. In this case, it is necessary to determine whether channels in the area are too congested (due to too much co-channel interference or over-high load), and whether more devices are required for coverage.
- Noise Floor Check: Test the noise floor of each AP radio all day long. If the noise floor of an AP radio exceeds the threshold, the AP radio is considered to have the risk of high noise floor. If the proportion of an AP radio's tests with high noise floor to the total test count exceeds 10%, the AP radio is considered to be at risk.

Figure 8-54 Area Check

Area Check 🔿						
Check Coveraç	ge					
Based on the F	RSSI of an STA, identify whether the ass	ociated AP has any coverage proble	m. Then check for the coverage area. Sugge	stion		
AC Name		AP Name	AP Mac	Radio	Problem Type	
Channel Usage	e Check					
Check the aver	rage channel usage of each radio for ev	ery hour. If the average channel usa	ge exceeds 80%, a risk occurs. If the proportio	n of radio with high channel usage exce	eds 10%, a risk occurs. Suggestion	
AC Name	Group Name	Number of Radios with High Channel Ublization		Prop	ortion of Offline APs in Group	Tme
Noise Floor Ch	heck					
Check the nois	se floor of each radio the whole day. If t	he noise floor exceeds the threshold	d, a risk occurs. If the proportion of high noise	floor exceeds 10% in a day, a risk occurs	s. Suggestion	
AC Name	AP MAC	AP Name	Radiold Proportion of	f APS with High Noise Floor		

8.3.2 One-Click Network Optimization

This function is used for automatic planning of AP channels and power in the wireless network environment to improve user experience in the WLAN. After the function is triggered, the server collects information about AP radios, calculates and allocates channel resources in a unified manner, and delivers the optimized configuration to devices.

🛕 Caution

- Use this function after all APs in the area to be optimized go online. After the optimization starts, do not turn on or off APs or radios.
- During the optimization, the channels of devices will switch, causing clients go offline and affecting the experience. Therefore, please properly arrange the network optimization time period.
- You can set the time of scheduled optimization in network optimization configuration, and the background will automatically perform the optimization at the time.
- The process will take about 15–30 minutes (depending on the device scale). After it is completed, network optimization details will be displayed, showing the channel and power configuration changes of APs.
- The planning result of network optimization will be delivered as a configuration task. This process may take some time if there are many devices. (You can filter out "radio optimization" in the configuration task list.)

Figure 8-55 One-Click Network Optimization

III One-Click Network Optimizations					
One-Click Network Optimizations Optimization Record					
0	0	0		0	0
	Colorado -	Charle		Dut Count	Electric Contraction of the Cont
Start	Select Scenario	Check		Push Commands	Finish
	Opti	mization			
	This funct the target	on allows you to optimize channel ar area go online.	nd power and solve issues caused by roa	ming stickiness and remote association.	Please start optimization after all APs in
	Steps:				
	* Select	he AP group and the scenario.			
	* Perfor	n optimization.			
	Check	antimization result			
	Check	optimization result.			
	🔽 it take	s about 10 minutes to scan and abou	it 40 minutes to optimize the network. It	is recommended to avoid peak period.	
Manual Optimization			Scheduled Optimization		
Manual optimization: You can click Start to start optimization	n right now and check optimization reco	d for result.	Scheduled optimization: You can se	chedule a time to execute optimization.	
Optimize Sync Group			Scheduled Optimization		
Last Optimized on:2022-07-17 20:16:46					
L					

Two optimization methods are available:

- Manual Optimization: Optimization is performed at once.
- Scheduled Optimization: You can specify the optimization time, and the system will automatically perform the optimization at the specified time.

Based on the collected scan data, WIS Cloud Network calculates channel optimization solutions that are applicable to various scenarios in the background. To ensure the accuracy of the channel optimization solution, you need to manually select the scenario of each group.

After the scan is completed, check data integrity. For groups with a data loss rate exceeding 10%, you are advised to scan the data again. If the data loss rate is less than 10%, proceed to the next step.

Procedure for one-click optimization:

(2) Start

Click **Start**. Then, the system automatically detects the statuses of ACs. If an AC does not report AP group information, the AC cannot be optimized.

Figure 8-56 Optimization Detection

E One-Click Network Optimizations							
One-Click Network Optimizations Optim	nization Record						
0							
Start	Select Scenario		Check		Push Co	ommands	Finish
i de la companya de la	AC does not upload AP group information.	AC MAC	Info No AC group is available. No AC group is available.	Cause Link between AC and WIS is down. Link between AC and WIS is down.	Solution Check the link between AC and WIS. Check the link between AC and WIS.	3 stickiness and remote association. PI	ease start
	 If the AC is the active AC, please follow the troubleshooting instruction. If the issue pensists, please contact Ruijle technical support. 					commended to avoid peak period.	
Manual Optimization		Cancel	Ignore				
Manual optimization: You can click Star	· · · · · · · · · · · · · · · · · · ·			Scheduled O	ptimization	time to execute optimization.	
Last Optimized on 2022-07-29 17:58:21							

To ensure that the current group data is the latest, you can update the group data before optimization. Update will take five minutes.

Figure 8-57 Updating Group Data

[!!!] One-Click Network Optimizations				
One-Click Network Optimizations Optim	Ization Record			
0	©	0	0	0
Start	Select Scenario	Check	Push Commands	Finish
	Coptin This function optimization Steps: • Select th • Perform • Check op	nization a allows you to optimize channel and power and after all APs in the target area go online. AP group and the scenario. uptimization. timization result. about 10 minutes to scan and about 40 minutes	solve issues caused by roaming stickiness and remote a to optimize the network. It is recommended to avoid pe	ssociation. Please start
Manual Optimization		Scheduled Optin	mization	
Manual optimization: You can click Start : Optimize Sync Group Last Optimized on 2022-07-29 17:58-21	to start optimization right now and check optimize	tion record for result. Scheduled op	timization: You can schedule a time to execute optimization	ation.

(2) Select Scenario

Drag groups to corresponding scenarios based on the actual situation.

Figure 8-58 Select Scenario

Please drag the group to the corresponding scenario.							
RU_VVS6006_(TB_Latenangor Gd.KOCA KOCATunnel Lattel_1A							
General	© Settings	Hotel & Dormitory	© Settings	Corridor	O Settings	Office	© Settings
APs are installed in a general scenario.		APs are installed inside the room, such as dormitory or hotel room.		APs are installed on the corridor.		APs are installed inside the office with little obstruction.	
Outdoor	© Settings	Many Interferences	© Settings	Conference Hall	© Settings	Custom	© Settings
APs are installed on the utility pole or the roottop.		APs are installed in a scenario with many interferences.		APs are installed in a conference hall.		Gd Resturat	

During wireless signal scanning, the channels of APs will switch, and the network will be disconnected for about 10 minutes. Avoid peak business hours.

Figure 8-59 Scan Prompt

uring scan, channels will be changed, affecting user experience for about 10 minutes. Are you sure you want to start scan?Once you click OK, rollback is not allowedYou can't go back		8
	uring scan, channels will be changed, affecting user experience for about 1 minutes. Are you sure you want to start scan?Once you click OK, rollback is not allowedYou can't go back	

(3) Check

Figure 8-60 Check

One-Click Network Optimizations	Optimization Record				
		0		0	0
Start	Select Scenario	Check	P	Push Commands	Finish
	%	Checking Please do not close the page Status AC Wairing Wairing			

Figure 8-61 Scanning



If the system fails in automatically delivering the command, manually copy the command to the AC and run it.

(4) Push Commands

After the scan, the system will display the check result, and schedule to automatically deliver the optimized configuration.

Figure 8-62 Push Commands

[III] One-Click Network Optimizations						
One-Click Network Optimizations Optin	imization Record					
			0	0		
Start	Select Scenario	Check	Push Commands	Finish		
	\frown	Complete				
		Complete				
	••	Scan operation ends at2022-09-21 15:39:3	4andlasts for 28minute(s).			
		tota: 1 Ar group(s). Strong intenerence our group(s). Scan Data Missing our group(s). Scan Result				
	\smile /					
		AC AP Group	Loss Rate APs Interference	Private WiFi Result		
		default	0% 1 Good	Bad No need to Optimize		
		making for auto openication				

(5) Finish

Wait for the optimization completion and check the result on the page.

Figure 8-63 Finish

III One-Click Network Optimizations				
One-Click Network Optimizations Optimization Record				
		⊘		
Start	Select Scenario	Check	Push Commands	Finish
		Initiated AP Group(s) 1. Time Used 0 min thisteress Roomanard(s) Push failure: Roomand(s). stellization succeeded tes X Usedaty Details Bick	Af Sme Gibblewe	Ma Connects 28

The system records all network optimizations, and you can restore the configuration before the optimization when necessary.

Figure 8-64 Optimization Record

I	III One-Click Network Optimizations						
	One-Click Network Optimizations Optimization Record						
	Result			Update	Group M	odify Time & Update	Group
	AC Nac AC Name Started on	IT Ended on	IT Reput Error Me	eccage	Suggestion		
	第0至0项结果。共0项 每页 10 V 项结果					首页 上页 下页	末页
	0074.9c8f.d989	2.4G 5G				View Co	onfig
	2022-07-17 20:16:46(Menual Optimization) AP Group Gal Reiscovet	Expected Result Interference Scan Data	Missing				
	2022-07-17 02:44:51(Manual Optimization)	Expected Result					
		Co-Channel Interferences AP Name AP Mac Radio Optimization	lefore Co-Channel Interferences After Reduced Co-Channel Optimization Interferences	Channel Before Channel After Optimization Optimization	Power Before Optimization(%)	Power After Optimization(%)	Product ID
		1 0	0 0	1 6	14	10	AP820(AR)
		1 0	0 0	5 1	14	10	AP820(AR)

8.3.3 Access Optimization

WIS Cloud Network provides intelligent access for roaming stickiness and remote association. You can monitor and observe the data for a period of time, and consider whether to enable optimization.

Figure 8-65 Access Optimization

[III] Access Optimization	
Roaming Stickiness Remote Association	2022-08-12
MT Marring Calif	Problem When an STA crosses the coverage area, it does not roam into the new coverage area. Instead, it stays associated with the AP in the old coverage area. Solution 1.Determine the coverage area properly 2.Optimize STAs

Figure 8-66 Roaming Stickiness

Access Optimization					
Roaming Stickiness Remot	te Association				2022-08-08
Stickiness Times 3 Optimized status Ext Montor		Group-Based Stickiness Summary	∎Lov ∎ledun Brigh	Average Value ferore Optimization Afr Loss Rater(%) R Rater RS Rater 10 10 10 10 10 10 10 10 10 10	er Captinization 155
Sticky STA List					
STA MAC	11 Username	Optimization Times	IT Last Stuck on	11 Last Stuck to	View Details
		1	2022-08-08 11:51:46	JTN.Koridor.Humas	Details
		1	2022-08-08 11:51:46 2022-08-08 13:49:24	JTN.KoridocHumas JTN.Rektorat.Lobby	Details Details
		1 1 1	2022-08-08 11-51-86 2022-08-08 13-92-24 2022-08-08 08:09-35	JTN:KoridoxHumas JTN:Reitorat_Lobby JTN:KoridoxHumas	Details Details Details
第1至3项结果。共3项 每	● 10 → 306年	1	2022-06-08 1151.46 2022-06-08 11582-28 2022-08-08 08:09:35	JTN:KoridooHumas JTN:Reksoat.Lobby JTN:KoridooHumas	dead dead Dead Dead East Rat Rat

This page displays roaming stickiness times, distribution, average values of network indicators, and sticky STAs.

Access Optimization					
Roaming Stickiness Remote Association				2022-09-27	
Association Times O	Group-Based Remote Association Summary Low Medium	Average Val	lue Remote Association Association		
0 Remote AssociationTimes		Loss Rate(%) Delay Tx Rate	0 0 0 0 0		
status Remote Association distribution monitor		Rx Rate RSSI	0 0 0		
Remote Association STA List					
STA MAC	Remote Association Times	Last Associated on	STA Type Manufacturer	OS	
No Data Available					
Results 0 to 0 entries, Total Results 0 10 🗸 Results	Per Page		First	Previous Next Last	

Figure 8-67 Remote Association

Remote association indicates that when an AP can connect to a better AC, it still connects to the previously connected AC, affecting the network experience. Click **Detect** to detect remote association of APs in the current network. You can adjust the power of AP management packets, or the access range, to ensure that only one AP provides strong signals within the coverage, and therefore solve the problem of AP remote association.

Figure 8-68 Remote Association Detection Result

III Access Optimization					
Roaming Stickiness Remote Association				2022-09-27	
Association Times 0 0 0 0 0 0 0 0 0 0 0 0 0		∎High	Average Value Remote Association Association Loss Rate(%) Delay Tx Rate Rx Rate Rx Rate RX Rate		
Exit Monitor Optimize					
Remote Association STA List					
STA MAC	Remote Association Times	1 Last Associated on	IT STA Type Manufacturer	os	
	No D	ata Available			
Results 0 to 0 entries, Total Results 0 10 🗸 Results	s Per Page		First Previo	us Next Last	

8.3.4 Config Planning

On this page, you can visually configure common radio parameters, and then select to generate configuration, manually copy the configuration to the AC, and execute it, or automatically deliver the configuration.

Figure 8-69 Config Planning

Config Planning					
Power Plan					
Group					AC MAC 0074.9c8f.d989 V
AC Mac	AB Group	Unconfigured Power Rase	Unconfigured 2.4G Power Rate	Unconfigured SG Power Rate	
	Gd.KOICA	0%	33.33%	66.67%	Change All Powers V
	KOICATunnel	0%	16.67%	33.33%	Change All Powers V
	Labtek_1A	0%	33.33%	66.67%	Change All Powers v
0	Gd.Rektorat	0%	25%	37.5%	Change All Powers v
第1至4项结果, 共4项 每页 v 月	19点果				前天 上页 1 下页 未页
Configuration Item					
Power dbm	Beacon	ResponseRssi	Mcell	StaLimit	Disable Low Rate
2.4GPow 17 dbm	2.4G 100 ms	2.46 20 dbm	Disable 2.4G v	□ 2.4G 32	Disable Low Rate Set
5GPow 25 dbm	□ 5G 100 ms	□ 5G 20 dbm	Disable 5G V	□ 5G 64	
2.4GCov 12 dbm					
SGCov 19 dbm					
		Build Coofie Push Coofie			
		Band-comig Pasi Comig			

8.4 Big Data

8.4.1 Regional Analysis

This page displays the following information:

- Network quality, AP online rate, STA access quantity, and STA traffic of the project and all subareas (divided by AP group)
- Monthly indicators of subareas
- Daily trends of indicators

Figure 8-70 Regional Analysis



8.4.2 Scheduled Change

This page displays all configuration change and network optimization records. Click a point to display the change details.

Figure 8-71 Scheduled Change



74.9	2022-08-08 Details			×	
1	48 Peak Clients on the Day	41 Peak Traffic (Mbps)			
	AC(0074.9c8f.d989)Configuration Change(1items)			~	
2022-0 745 Peak Pint Infa I Imm Infa I Imm Infa I Infa I Imm Infa I Imm Infa I Imm Infa I Imm Infa I Imm Infa I Imm Infa Imm Inf	Initial Configuration I rrm 5g mode enable rrm 2.4g mode enable service sequence-numbers logging juserinfo command-log logging furfered 4000 logging	9	Target Configuration I rm Sg mode enable rm 2.4g mode enable service sequence-numbers logging userinto command-log logging buffred 64000 logging fle flash:syslog debugging clock timezone CST +8 0	v	

8.4.3 Client Capacity

This page displays the capability analysis of STAs on the entire network from the following dimensions: Associated Clients, Associated Guide, STA Type Summary, Manufacturer Summary, STA OS Type Summary, STA Capacity, and Client Max Capacity. To display the descriptions of indicators, move the cursor

to next to the graph name.



Figure 8-72 Client Capacity

8.4.4 Manufacturer Analysis

This function compares and analyzes the STAs of different manufacturers, including Speed Analysis and RSSI

Analysis. To display the descriptions of indicators, move the cursor to

next to the graph name.

0
Figure 8-73 Speed Analysis



8.4.5 Baseline

This function analyzes network KPIs based on baselines to detect exceptions. Network KPIs include: **STA Traffic**, **Association Failures**, **Avg Packet Loss Rate (2.4G)**, **Avg Delay (2.4G)**, **Avg Packet Loss Rate (5G)**, and

Avg Delay (5G). To display the descriptions of indicators, move the cursor to mext to the graph name.



Figure 8-74 Baseline

8.5 Panel

The system provides the panel function with two preset templates.

Figure 8-75 General Panel



Figure 8-76 Preset Panel 1



Figure 8-77 Preset Panel 2



9 System Management

9.1 User Management

Choose System Management > User Management.

Figure 9-	1 User	Management
-----------	--------	------------

€UUE state	Home My Network Management & Maintenance Intellige	nt Analysia System Management			+ Add Sile Rictest V
R. User Management	System Management / User Management				
27 Role Management	User List				+ Add Subaccount Username/Account Q
O Authorization	Username/Account	Name	Mobile Phone Number	Email	Operation
			No Data		

Click Add Subaccount to add a new system subaccount.

Figure 9-2 Add Subaccount



The following configurations are required:

- Username/Account: (Required) The username of a new subaccount can contain letters, digits, underscore

 (_), hyphen (-), and at sign (@).
- Manage Permissions: Two options are available: Admin and Common User. An admin account has configuration-related function permissions, and a common user has only viewing-related function

permissions.

- **Function Permissions**: These permissions, or menu permissions, are assigned by function. Functions without assigned permissions will be unavailable.
- **Organization Permissions**: (Required) These permissions are assigned by organization and area. Organizations and areas without assigned permissions will be unavailable.
- Assign Permission by Role: Assign a role for the new account, and the account accesses the system with permissions assigned to the role.

You can click **Assign Permission** or **Remove** in the **Operation** column to re-assign permissions to an existing account or delete the account.

Figure 9-3 Assign Permission and Remove

System Management / User Manage	ment			
User List				+ Add Subaccount Username/Account Q
Username/Account	Name	Mobile Phone Number	Email	Operation
	-			Assign Permission Remove
	-	-		Assign Permission Remove

9.2 Role Management

On this page, you can create a new role, assign menu and data permissions to roles, and manage existing roles, such as modifying them, deleting them, or assigning permissions to them.

Figure 9-4 Role Management

R. User Management	System Management / Role Management			
El Role Management	Role Management			4 Add Role Search Q,
	Name	Role Type	Remarks	Operation
		Common User		Copy Assign Permission Edit Delete
				1-1 of 1 items <

Click **Add Role** to add a role.

Figure 9-5 Adding a Role

Add Role	Х	+ Add Role Search Q
Role Name:		Operation
Please enter Role Name Role Type:		Copy Assign Permission Edit Delete
Please selectRole Type		1-1 of 1 items 1 1 10 / name
Remarks: Cancel	<i>III</i>	

Configuration description:

- **Role Name**: (Required) The value can contain no more than 50 characters of letters, digits, underscore (_), hyphen (-), at sign (@), and ampersand (&).
- **Role Type**: (Required) The value can be **Admin** or **Common User**. An admin has management permissions, while a common user has only viewing permissions.
- Remarks: (Optional) The role remarks can contain no more than 400 characters.

You can click **Copy** to add a role quickly, and the permissions of the new role are the same as those of the original role.



Copy Role	X + Add Role Search Q
* New Role Name : Please enter New Role Name	Operation
Cancel	Copy Assign Permission Edit Delete
	1-1 of 1 items < 1 > 10 / page <

You can assign, modify, or delete the permissions of existing roles, and delete roles. If a role is bound to a user, you need to delete or unbind the user before you can delete the role. That is, a role that is bound to a user cannot be directly deleted.

Figure 9-7 Assign Permission and Remove

System Management / Role Management			
Role Management			+ Add Role Search Q
Name	Role Type	Remarks	Operation
	Common User		Copy Assign Permission Edit Delete
			1-1 of 1 items < 1 > 10 / page ∨

10 Appendix

10.1 Configuring a Facebook App

This section explains how to register as a Facebook developer and gain access to the App development tools.

10.1.1 Registering as a Facebook Developer

1. Create a Facebook Account

Enter <u>www.facebook.com</u> in the address bar of a browser. Click **Create new account** to create a Facebook account.

← → C ☆ 🔒 facebook.com		☆ ⊖ :
	Sign Up It's quick and easy.	×
facebook	tir	
Connect with friends an		Log In
nona aroana joa on re	Birthday @	Forgot password?
	Jan v 8 v 1	♥ ate new account
	Female Male Custom	
	People who use our service may have uploaded your contact information to Facebook. Learn more.	for a celebrity, brand or business.

By clicking Sign Up, you agree to our Terms, Privacy Policy and Cookies Policy. You may receive SMS Notifications from us and can opt out any time.

Sign Up

If you already have a Facebook account, enter your username and password.



Click Log In to enter Facebook.

Ģ	٩	A	60		Ξ	+ • •
	Welcome to Face	book,				
	Upload a Profile Add a photo so frien you. Add Picture	Picture ds can easily identify				
	Find People You Search by name or lo Q Search by name	Know Jok for classmates ar	nd coworker	'S.		
	Get to know you You control how you Facebook. Take a privacy t	r privacy setting share your stuff with our	s ר people an	d apps on		E

2. Agree to the Meta's Platform Terms and Developer Policies

After successful login, go to<u>https://developers.facebook.com/async/registration</u>. Click **Continue** on the **Meta for Developer** page.

eate a Meta for Develop	ers account
Register	Welcome to Meta for Developers
O Contact info	
	Create a Meta for Developers account to build and manage apps that access the Graph API, contribute to apps that others own, and participate in Meta's developer community.
	By proceeding, you agree to the Meta's Platform Terms and Developer Policies
	Cancel

3. Verify Your Account

Enter your email address for account verification.

X Meta for Developers					
Create a Meta for	Developers account				
Register Contact info About you	Enter Your Preferred Contact Email This email will be added to your Facebook account. We use email addresses to send notifications, help you log in and personalize experiences, like connecting people and improving ads for everyone on our products. Only you will see your email on your profile. Learn More Primary email				
	I agree to receive marketing-related electronic communications from Facebook, including developer news, updates and promotional emails. (You may unsubscribe from these emails at any time by clicking unsubscribe at the bottom of the email. You can also update your email preferences in Developer Settings.) Send Verification Email				

Enter the confirmation code in the email and click **Continue**.

🕫 Meta for Develop	X Meta for Developers					
Create a Meta for D	Developers account					
Register	Enter the Code from Your Email Let us know this email belongs to you. Enter the code in the email sent to					
Contact info						
🔿 About you	Send Email Again					
	Update Email Continue					

4. Select Your Occupation

ate a Meta for D	vevelopers a	account the following best desc	ribes you?		
Contact info	Help us imp	prove your experience by te	Iling us which of the fo	allowing rol	les best describe you. Marketer
	.000	Analyst	0	Ē	Product manager
		Student		ሔ	Owner/founder
	O	Other			

Select an occupation and click **Complete Registration**.

10.1.2 Applying for a Facebook Login App

(1) Enter https://developers.facebook.com/ in the address bar of a browser. Log in to the Facebook developer center.

🔿 Meta	Developer Products	Developer Programs	Docs	More	My Apps Q	
Meta Roun	Connect 2 dup	022				
See all the new highlights. Ə Learn Mo	est development announcemen pre	ts and event				

(2) Choose My Apps, and click Create App to create an App.



(3) Select **Consumer** on the pop-up page. Click **Next**.

	Select an app type
O Details	The app type can't be changed after your app is created. Learn more Business Create or manage business assets like Pages. Events, Groups, Ads, Messenger, WhatsApp, and Instagram
	Consumer Consumer
	Connect consumer products and permissions, like Facebook Login and Instagram Basic Display to your app.
	Create an HTML5 game hosted on Facebook.
	Gaming Connect an off-platform game to Facebook Login.
	Workplace Create enterprise tools for Workplace from Meta.
	Academic research Connect to Facebook data and tooling to perform research on Facebook.
	None Create an app with combinations of consumer and business permissions and products.
	Next

(4) Enter an App name and email address. Click $\ensuremath{\textbf{Create app}}$

ate an App	× Ca
🕗 Туре	Add an app name This is the app name that will show on your My Apps page and associated with your app ID. You can change the name later in Settings.
Details	auth-app 8/3
	App contact email This is the email address we'll use to contact you about your app. Make sure it is an address you check regularly. We may contact you about your app is deleted or compromisedcom.cn Business Account • Optional Connecting a Business Account to your app is only required for certain products and permissions. You'll be asked to connect a Business Account when you request access to those products and permissions.
	No Business Manager account selected

For account security, enter your password again.

Create an App	× Cancel
🕑 Туре	Add an app name This is the app name that will show on your My Apps page and associated with your app ID. You can change the name later in Settings.
Oetails	auth-app 8/30
	App cont This is the policies, ap ketingb Business Connectin Account w No Bus
	By procee Previous Previous

(5) Select Facebook Login on the App Dashboard. Click Set up.

auth-app	← App ID: 8	78327710025466 Арр М	lode: Development	Live App type	: Consumer		(?) H
🗇 Dashboard							
Settings	~	Add products to We've streamlined the app creati	your app	ing the products and permission:	s needed to build the ap	p type you selected.	
App Roles	~						
🗘 Alerts	~			F			
📀 App Review	~	App Event	s	Audience Ne	etwork	Facebook	Login
Products	Add Product	Understand how people er business across apps, device websites.	ngage with your es, platforms and	Monetize your app and grow r Meta advertis	evenue with ads from sers.	The world's number one	social login product.
Activity log		Read Docs	Set up	Read Docs	Set up	Read Docs	Set up
- Activity log						· · · · · · · · · · · · · · · · · · ·	
		Ø		C			
		Instagram Basic	Display	Webhoo	ks	Fundrai	sers
		The Instagram Basic Display A your app to get basic profile in and videos in their Instagr	API allows users of formation, photos, ram accounts.	Subscribe to changes and re time without callin	ceive updates in real ng the API.	Create and manage fund	Iraisers for charities.
		Read Docs	Set up	Read Docs	Set up	Read Docs	Set up

(6) You are redirected to the Facebook login page. Click Set up under Facebook login on the left.

• Application Number: Application mode: Under development • Online Application type: Consumer anel • • tity • •	r Develoj	oers			docume	ntation tool	In the tank My A	pps Q Search for developer document.	ation
I panel v entity v il v iditing v Add spredet gin art drig ic recording	th	 Applie 	cation Number:	Application mode: Under development	Online	Application typ	e: Consumer		
trd panel Use the Quick Start to add Facebook sign-in to your app. Select the platform for your app to get started. Use the Quick Start to add Facebook sign-in to your app. Select the platform for your app to get started. Use the Quick Start to add Facebook sign-in to your app. Select the platform for your app to get started. Selection Use the Quick Start to add Facebook sign-in to your app. Select the platform for your app to get started. Selection Use the Quick Start to add Facebook sign-in to your app. Select the platform for your app to get started. Selection Use the Quick Start to add Facebook sign-in to your app. Select the platform for your app to get started. Selection Selection									
et up p identity p identity p identity p auditing Atd a protect s Atd a protect romanic recording romanic recording	ontrol panel			Use the Quick Sta	art to add Face	book sign-in to yo	ur app. Select the pl	atform for your app to get started.	
pp identity	et up	~							
remind App auditing Add a product tast Add a prod	App identity	~			4				
App auditing Add a product ebook login Setup Quick start amic recording	remind	~				U	~~~~~		
App auduing Add a product Add a product Add a product Add a product Cudck start Dynamic recording Dynamic recording	App auditing				iOS	Android	Internet	other	
Add a product ebook login Set up Quick start amic recording Dynamic recording	App additing	Ť							
ebook login A Set up Quick start mic recording Dynamic recording	ucts	Add a product							
Set up Quick start amic recording Dynamic recording	ebook login	^							
Quick start mic recording Dynamic recording	Set up								
mic recording Dynamic recording	Quick start								
Dynamic recording	amic recording								
	Dynamic recording								

(7) Enable **The OAuth embedded browser authorizes sign-in**. Configure the callback address of **Facebook** Login.

		Easily add Facebook sign-in to your app with our Quick Start feature	
ሰ control panel		OAuth client authorization settings	
{ှိ} Set up	~	be The OAuth client authorizes sign-in	
App identity	~	Enable the standard OAuth customer port order thow. Use the following options to specify allowed password jump URIs to secure your application and prevent violations. If not needed, it can be completely disabled. [?]	
🗘 remind	~	DAuth web page authorization sign-in Enable web-based OAuth client sign-in. HTPS for time URBs and avascing to the URB and avascing the URB and av	
App auditing	~	SDKs. (7)	
products	Add a product	not De The OAuth embedded browser auth OAuth web page authorization forces reauthentication Ump URL 17 Enable OAuth Cart Sign for web view	orizes sign.
Facebook login	^	Once opened, users must enter their Facebook password to log in to the site.	
Set up		[2]	
Quick start		Use strict mode for jump URIs Only redirects that exactly match valid OAuth jump URIs are allowed. Highly recommended. [?]	
Dynamic recording		A valid OAuth jump URI	
= Dynamic recording		Manually specified redirect_uri used in conjunction with the web login feature must exactly match any of the LIBIc listed here. The JavaScript SDK also used this list to block non-up in any browsers. 12	
_ ,		https://www.lishaofengruijie.com/api/auth/oauth/callback/facebook ×	
		Copy to clipboard	
		Inst Sign in from your device Inst Sign in using the JavaScript SDK Enable the OAuth client signin flow for devices such as smart YM (7) Inst is smart YM (7) Enable sign-in and post-login functionality through the JavaScript SDK	

A Caution

In the **A valid OAuth jump URI** item, enter a real domain name <u>https://www.xxx.com</u>. The remaining part "/api/auth/callback/facebook" keeps unchanged.

The domain name of WIS public cloud is https://auth-wiscloud.ruijienetworks.com.

(8) Obtain an App ID and set App Secret.

Choose Settings > Basic. You can view the App ID and App secret.

1 Note

WIS field description: The field **Client ID** on the WIS Cloud Network maps to **App ID**, and **Client Secret** maps to **App secret**.

X) Meta for Deve	lopers Docs	Tools Support My Search developer docu	mentation 🔹 💿 KE Tingt
🚳 auth-app	➡ App ID: 8	78327710025466 App Mode: Development	Live App type: Consumer 📀
Dashboard		Αρρ ID	App secret
Settings	^	8783277100	60b85c9456b5 Reset
Basic		Display name	Namespace
Advanced		auth-app	
App Roles	~	App domains	Contact email
ු Alerts	~		.com.ch
Ann Review	~	Privacy Policy URL	Terms of Service URL
J		Privacy policy for Login dialog and app details	Terms of Service for Login dialog and App Det
roducts	Add Product	User data deletion 🚯	App icon (1024 x 1024)
acebook Login	~	Data deletion instructions URL 🔹	
Activity log		You can also provide a link	
\equiv Activity log			1024×1024
		Category	
		Choose a category -	
			Discard Save changes

Click **Save changes** to save the configuration.

(9)	Add	а	test	account	for	verification	test.
-----	-----	---	------	---------	-----	--------------	-------

(i) Note

Before the App is released, you need to add a test account for verification test. Other accounts except the test account cannot be used for login.

🕫 Meta for Develoj	oers		documentation 1	tool In the tank	My Apps Q Search for develop	er documentation
🔯 ruijie-auth	 Applic 	eation Number:	Application mode: Under developme	ent Online	Application type: Consumer	
🔂 control panel			administrator [?]			Add an administrator
{ဂ္ဂ်} Set up	~					
App identity	^]				
User identity						
Test the user			Developers [?]			Add a developer
🗘 remind	~					
App auditing	~			The app h	as no developer.	
products	Add a product		Tester [?]			0/50 tester Add testers
Facebook login	~					
Dynamic recording				The app	has no testers.	
Dynamic recording						
			Analytics users [?]			Add Analytics users

Choose App identity > User identity. Click Add testers.

Enter the person's name, Facebook ID or username. Click **submit**.

			· · · · · · · · · · · · · · · · · · ·		
🔓 control panel		administrate	pr [?]		
{တ္ခ်ိ Set up	~		Add testers	0/50 tester 🗙	
App identity	^		To add someone you are their fbid or username.	en't friends with on Facebook, enter	
User identity			Enter the person's name, F	Facebook ID or username	
Test the user		Developers	[7]		
🔔 remind	~			Cancel	
App auditing	~			The app has no develop	er.
products	Add a product	Tester [2]			
Facebook login	~				
Dynamic recording				The app has no testers	
:= Dynamic recording	1				

10.1.3 Applying for an Instagram App

- 1. Create an App
- (1) Enter <u>https://developers.facebook.com/</u> in the address bar of a browser. Log in to the Facebook developer center.

Meta	Developer Products	Docs	Blogs	Developer Programs	More	Log In
Experience endless creativity in the metaverse Intoday's livestream, we'll explore how many users are building the performance and the composition is here to						
building it. After the live steam ends, you can watch the developer and creator sessions on-demand. → Watch now						

(2) Choose **My Apps**, and click **Create App** to create an App.

እ Meta for Developers Docs	Tools Support My Anns	Search developer documentation Q	A ()
Apps		Q Search by App Name or App ID	Create App
Filter by			Recently Used 💌
All Apps (1)			
Archived	Apr ID: 87892771 Mode: In developm Type: consumer	0025466 nent	
	(*) Administrator	\$ ···	

(3) Select **consumer** in the pop-up window, and click **Go on**.

Create an app	× Cancel
type detail	Select the app type After you create an app, you can't change the app type. Learn more Business Create or manage business assets such as Pages, events, groups, ads, Messenger, WhatsApp and Instagram graph APIs with available business permissions, features, and products.
	Consumer Consumer products and permissions like Facebook login and Instagram Basic Display to your app.
	Create HTML5 games hosted on Facebook.
	Game Link off-platform games to Facebook logins.
	Create enterprise tools for Workplace from Meta.
	Academic research Connect to Facebook data and tooling to perform research on Facebook.
	not Create apps that combine consumer and commerce permissions and products.
	Goom

(4) Enter an App name and email address according to the instructions. Click Create app.

🕑 Туре	Add an app name This is the app name that will show on your My Apps page and associated with your app ID. You can change the name later in Settings.
Details	Ins-Auth 8/30
	This is the email address we'll use to contact you about your app. Make sure it is an address you check regularly. We may contact you about policies, app restrictions or recovery if your app is deleted or compromised.
	This is the email address well use to contact you about your app. Make sure it is an address you check regularly. We may contact you about policies, app restrictions or recovery if your app is deleted or compromised.
	I his is the email address well use to contact you about your app. Make sure it is an address you check regularly. We may contact you about policies, app restrictions or recovery if your app is deleted or compromised.
	Inis is the email address well use to contact you about your app. Make sure it is an address you check regularly. We may contact you about policies, app restrictions or recovery if your app is deleted or compromised.
	This is the email address well use to contact you about your app. Make sure it is an address you check regularly. We may contact you about policies, app restrictions or recovery if your app is deleted or compromised. Business Account • Optional Connecting a Business Account to your app is only required for certain products and permissions. You'll be asked to connect a Business Account when you request access to those products and permissions. No Business Manager account selected

(5) After creating an App on the **App Dashboard**, choose **Settings** > **Basic**. Move down to the bottom of the page, and click **Add platform**.

∞ Meta for Devel	opers Docs	Tools Support	My Search developer docum	nentation		_
🔯 Ins-Auth	 App ID: 1 	020306965612819	App Mode: Development	Live	App type: Consumer	(?) Hel
Dashboard		Union to designate a being processed. This contact informa or website. Learn Mc	Data Protection Officer who peop tion will be available to people on ore.	ole can contac Facebook alo	t for information about how the	neir data is ut your app
🔅 Settings	^	Name · Optional		Email		
Basic						
Advanced		Address				
App Roles	~	Street Address				
🛆 Alerts	~	Apt/Suite/Other · O	otional			
App Review	~					
Products	Add Product	City/District				
Activity log					0	
\equiv Activity log		State/Province/Reg	Ion ZIP/Postal Code		United States	-
			+ Add	platform		
					Discard	ave chang <u>es</u>

(6) Select Website, and click Next.

Select Platform	×
Website	Xbox
ios	PlayStation
Android 12 app stores available	Windows App
Page Tab	
	Cancel Next

(7) Enter the site URL of WIS public cloud: <u>https://auth-wiscloud.ruijienetworks.com</u>. Click **Save Changes**.

FACEBOOK fo	or Dev	elopers		Docs	Tools	Support	My Apps	Q Search developer doc	umentation	
VideoSizzle	•	App ID:	In development						✓ View Analytics	0
Dashboard Dashboard Settings Basic Advanced	÷		Address Street Address							
Roles Alerts App Review	Þ		Apt/Suite/Other (Optional)							
PRODUCTS 🔶	ay ⊧		State/Province/Region			ZIP/Postal (Code			
¦≘ Activity Log		/	Cm							
		Sit	e URL ttps://www.videosiz						Quick Start ×	
					+ Add	i Platform				
								Dis	scard Save Changes	

2. Set the Instagram Basic Display

Choose **Dashboard > Instagram Basic Display**. Click **Set up** to add it to your App.

∞ Meta for Developers		Docs To	ols Support	My Apps) Search developer docu	mentation		💿 Fan Qiuxiang
🕸 MS 🔻	App ID: 14839	999822090725	opp Mode: Developme	nt 🌒 Live	App type: Consu	unher		(?) H
Dashboard Settings	v	Add products Weve streamlined the app	to your app) facing the product	s and permissions neede	d to build the app	o type you selected.	
App Roles	~							
🖒 Alerts	~		1		F3			0
App Review	~	App E Understand how peo	vents ple engage with your	Monetize v	Audience Network	with ads from	Instagram	Basic Display Display API allows users of
Products Add	Product	business across apps, webs	devices, platforms and ites.		Meta advertisers.		your app to get basic and videos in the	profile information, photos, ir Instagram accounts.
Facebook Login	~	Read Docs	Set up	Read Docs		Set up	Read Docs	Set up
Activity log								
\equiv Activity log		Ğ	2					
		Webh	ooks		Fundraisers			
		Subscribe to changes an time without c	d receive updates in real alling the API.	Create	and manage fundraisers fo	r charities.		
		Read Docs	Set up	Read Docs		Set up		

Move down to the bottom of the page. Click Create New App.

ACEBOOK IO	Deve	elopers		Docs	TOOIS	Support	My Apps	C Search developer do	cumentation	-
VideoSizzle	•	App ID:	In development						✓ View Analytics	(?) Hel
🛱 Dashboard			Paris Dieplay							
🗱 Settings	2		busic bispiny							
Roles			Instagram Basic Display allows apps to a	access the Ir	nstagram B	sic Display	API, which pr	rovides read-only acces	s to basic data in	
🌲 Alerts			app users' Instagram accounts.		9		1			
App Review	*		Use this tab to configure the API's author Review when you are ready to switch it t	orization win	dow so you	can get per	missions fror	m users, and to submit y	our app for App	
PRODUCTS (+)			Note that Basic Display is not an auther	tication too	I. Data retu	rned by the	API cannot b	e used to authenticate	your app users or	
🕗 Instagram Basic Display			log them into your app. If your app uses	API data to	authenticat	e users, it wi	ill be rejected	d during App Review. If y	you need an	
Basic Display			addientication solution, use racebook b	ogini instead						
Basic Display Rate Limiti	ng									
			Permissions and Use Cases							
			To help individuals share their own cor This permission is meant for apps that a example, an app that retrieves a person instagram_graph_user_profile permission To help individuals share their own cor This permission is meant for apps that a app that allows people to print their own instagram_graph_user_media permission To learn more about Instagram Basic	Ilow the gen s Instagram n. Intent with Ilow	rd party ap eral public username	ps: Profile P to log in with and account	ermission Instagram to type. Apps t ermission eagram to that	o get their basic profile hat fall into this use cas o get their own content; fall into this use case m y Permissions documen	information; for e must use the ; for example, an ust use the tation.	
			va 19	Cre stagr	ate N am aj	ew Ap	op use Ir	Display.		

Enter the name of the created Facebook App in the **Display name** item.

Create a New Instagram App ID

You must create a new Instagram Basic Display specific app. When naming your app, please avoid Instagram branding violations. Learn more.

Display name		

By proceeding, you agree to the Instagram Platform Policies

Cancel Create app

Click **Create app**. Enter the parameters on the pop-up settings page.

∞ Meta for Developers	\$	Docs Tools Support My Apps Q. Search developer documentation	🛕 🕛 Fan Qiuxiang 👻
	App ID: 1	483999822090725 App Mode: Development Dive App type: Consumer	() Help
		/20111032201000 *******	SHUW
Dashboard			
{j} Settings	~	Instagram Display Name WIS	
App Roles	~		
🖒 Alerts	~	Client OAuth Settings	
App Review	~	Valid OAuth Redirect URIs https://auth-wiscloud-ruijienetworks.com/api/auth/cauth/caliback/instagram >	
Products Ac	id Product		
Facebook Login	~	Deauthorize	
Instagram Basic Display	^	Deauthorize callback URL	
Basic Display		https://auth-wiscloud.ruijienetworks.com/	
Basic display rate limiting			
Activity log		Data Deletion Requests	
⊟ Activity log			
		Data Deletion Request URL	
		https://auth-wiscloud.ruljienetworks.com/	
		User Token Generator	
			Discard Save changes

 Table 10-1
 Parameter Description

Parameter	Description
Valid OAuth Redirect URIs	Indicates a unique URI used to obtain redirection query strings.
Deauthorize callback URL	Indicates a URL used to handle de-authorization notifications.
Data Deletion Request URL	Indicates a URL used to handle data deletion requests.

A Caution

In the **A valid OAuth jump URI** item, enter a real domain name <u>https://www.xxx.com</u>. The remaining part "/api/auth/callback/instagram" keeps unchanged.

The domain name of WIS public cloud is https://auth-wiscloud.ruijienetworks.com.

In WIS public cloud environment, enter <u>https://auth-wiscloud.ruijienetworks.com</u> for **Deauthorize callback URL** and **Data Deletion Request URL**.

Click Save changes to complete the configuration.

3. Add a test account for verification test

Note

Before the App is released, you need to add a test account for verification test. Other accounts except the test account cannot be used for login.

Choose Instagram Basic Display > Basic Display. Click Add or Remove Instagram Testers on the right.

C Dachboard	User Token Generator		
ي که	Generate long-lived access tokens for Instagram Testers of this app. Tokens can only be generated for public Instagram accounts. Refer to our developer documentation for more information.		
آي App Roles ۲			
🛆 Alerts 🗸 🗸	No Instagram Testers Added You must add an Instagram Tester to your app for access tokens to be generated.		
App Review	Add or Remove Instagram Testers		
Products Add Product			
Facebook Login 🛛 🗸 🗸			
Instagram Basic Display App Review for Instagram Basic Display			
Basic Display To use Instagram platform, your app needs to be approved for instagram_graph_user_profile and instagram_graph_user_media permission.			
Activity log	instagram_graph_user_profile Add to submission Grants the ability to read an Instagram user's profile info. Add to submission		
	instagram_graph_user_media Add to submission Grants the ability to read an Instagram user's media.		

Click Add Instagram Testers. Enter the username of the Instagram account to be added.

🕜 Dashboard			
₹Ô} Settings	~		
App Roles	~	Developers (?) Add Instagram Testers X	Add Developers
Roles		To add instagram tester, enter their username	
Test Users		Enter the username of the instagram account you want to add	
🛆 Alerts	~	Testers (?) Cancel Submit	0/50 Testers Add Testers
App Review	~	There are no testers for this app.	
Products	Add Product		
Facebook Login	~	Analytics Users (?)	Add Analytics Users
Instagram Basic Display	~		
Activity log		There are no Analytics users for this app.	
i≘ Activity log		Instagram Testers (?)	(1) Add Instagram Testers
		There are no Instagram testers for this app.	

Click **Submit** to complete the configuration.

10.1.4 Releasing an App

Once you have completed App development and testing, you can release your App, making your App available to users who do not have a role on the App itself. For the instructions on how to release an App successfully, access https://developers.facebook.com/docs/development/release to obtain the official document.