

# SHUNCOM RULR IOT PLATFORM

## USER MANUAL

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## Disclaimer

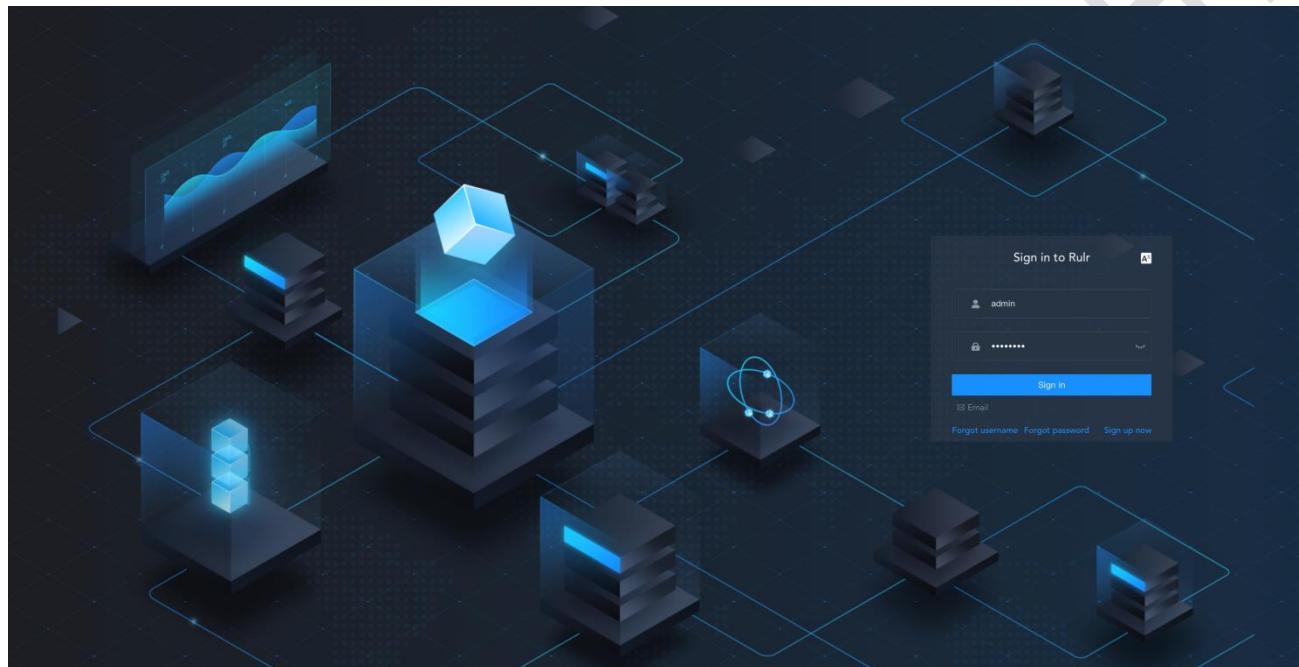
Shuncom shall take no responsibility for device malfunction due to improper platform operations or any violation of this manual.

# Part I Platform Basic Introduction

## 1.1 Login

It is recommended to use **Google Chrome** for operating Shuncom RULR platform.

Enter the URL: <https://rulr-aiot.com> in the browser address bar to access the login page.



Account Login Page

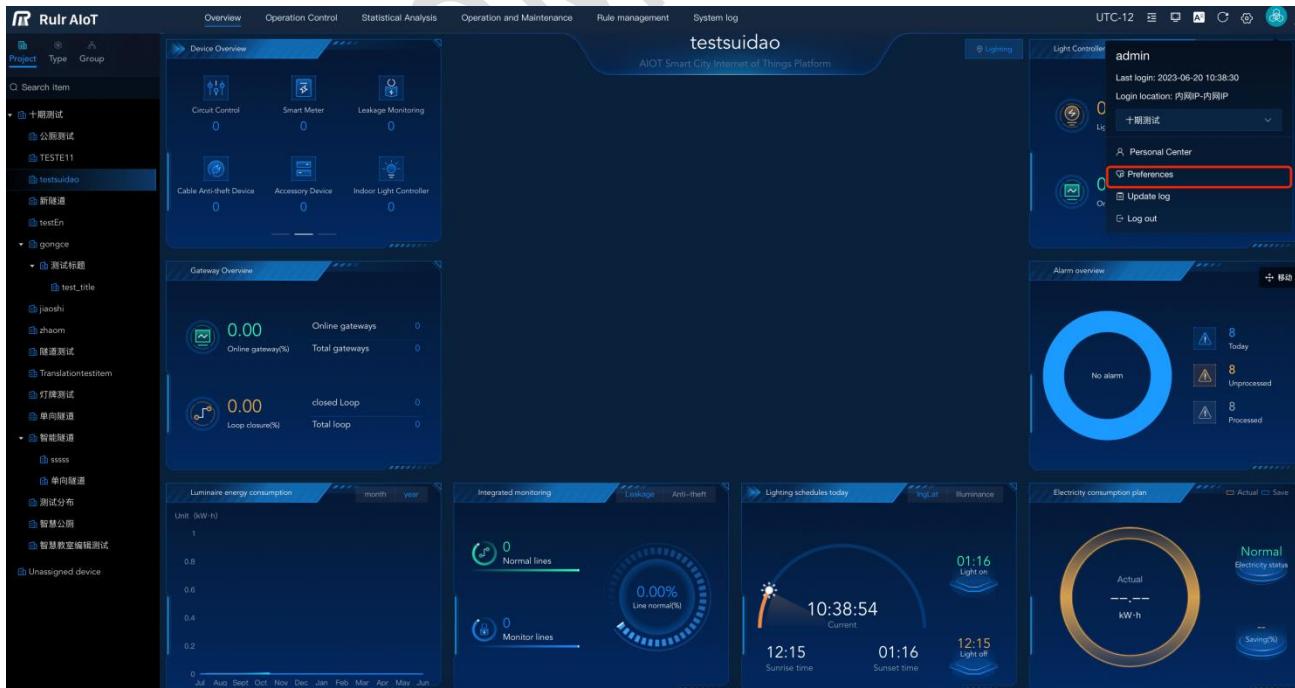
## 1.2 Home Page

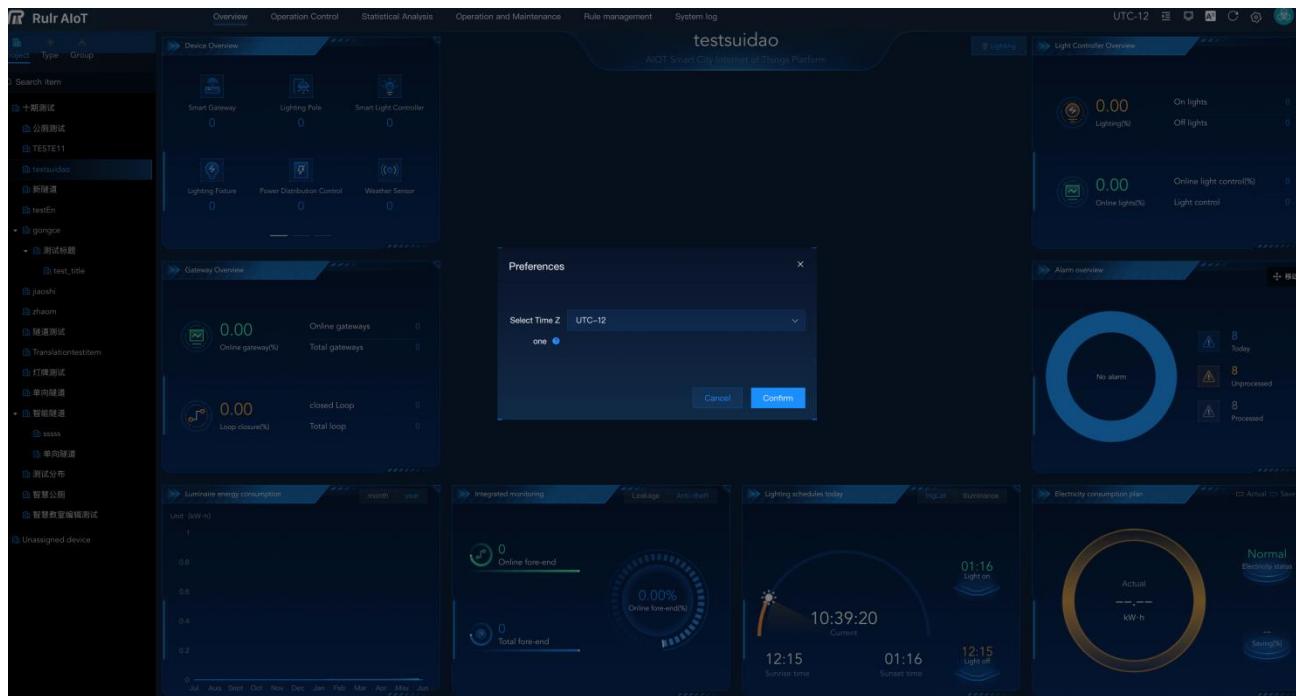
After Login to the home page, the user can view Dashboard, Alarm, Rule Management, Statistical Analysis, System Log, view and control devices. Check more details in section [2.5 Home Page](#).


**Home Page**

## 1.3 Preferences

Click ‘Preferences’ in My Account (top-right icon) to select the Time Zone where the project is located. Time Zone affects local time of devices, executions of Platform Rules, Local Rules and Alarm Rules.


**Preferences Setting**



Select Time Zone

## 1.3 Back-end System

Click the Settings icon to enter the back-end system for configurations. Check more details in [Part II Back-end System.](#)



Settings

# Part II Back-end System

## 2.1 Basic Configuration

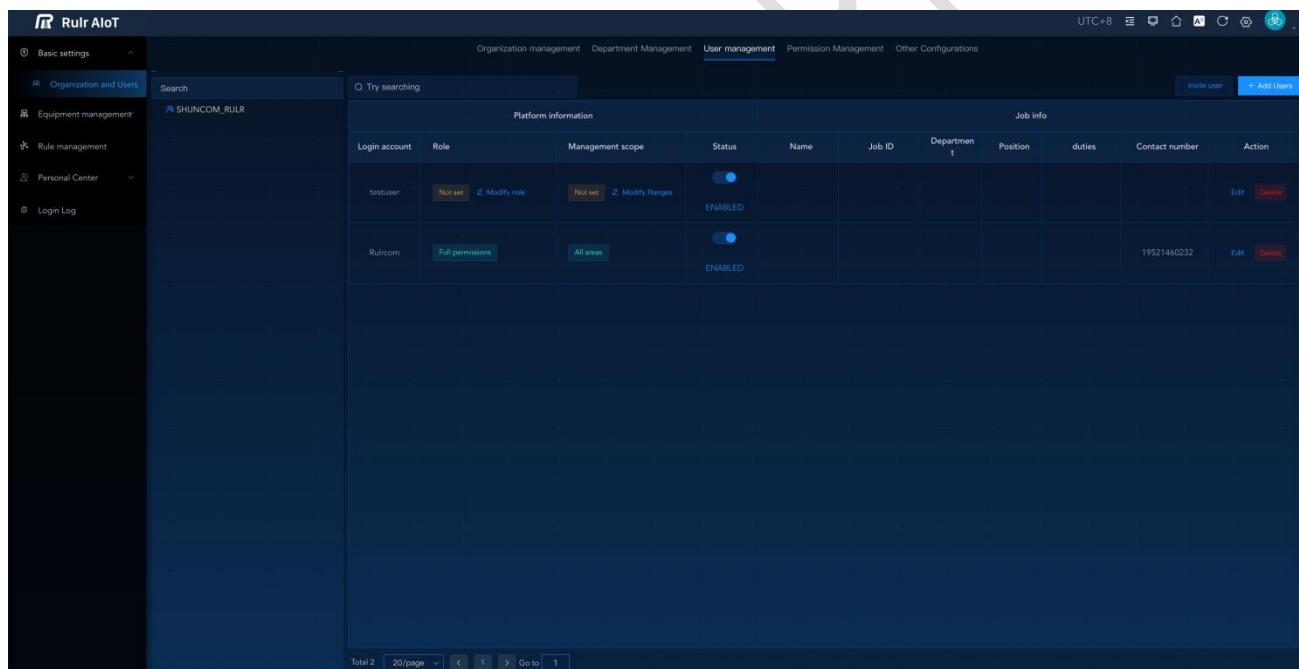
### 2.1.1 Organization and User

#### 2.1.1.1 User Management

##### 2.1.1.1.1 User List

**Access Path:** Settings > Basic Configuration > Organization and Users > User Management

By default, the user would be navigated to ‘User Management’ page, which shows full User List under this account. The user account can be enabled, disabled, edit and delete. The user cannot login the system once its account is disabled by administrator.



The screenshot shows the 'User management' tab selected in the top navigation bar. The main area displays a table titled 'User List' with two rows of data. The columns include 'Login account', 'Role', 'Management scope', 'Status', 'Name', 'Job ID', 'Department', 'Position', 'duties', 'Contact number', and 'Action'. The first row has a 'testuser' account with 'Not set' role and scope, and an 'ENABLED' status. The second row has a 'Rulrcom' account with 'Full permissions' role and 'All areas' scope, also with an 'ENABLED' status. There are 'Edit' and 'Delete' buttons for each row. A search bar at the top right contains 'SHUNCOM\_RULR'. The left sidebar shows 'Organization and Users' selected, along with other options like 'Equipment management', 'Rule management', and 'Personal Center'.

User List

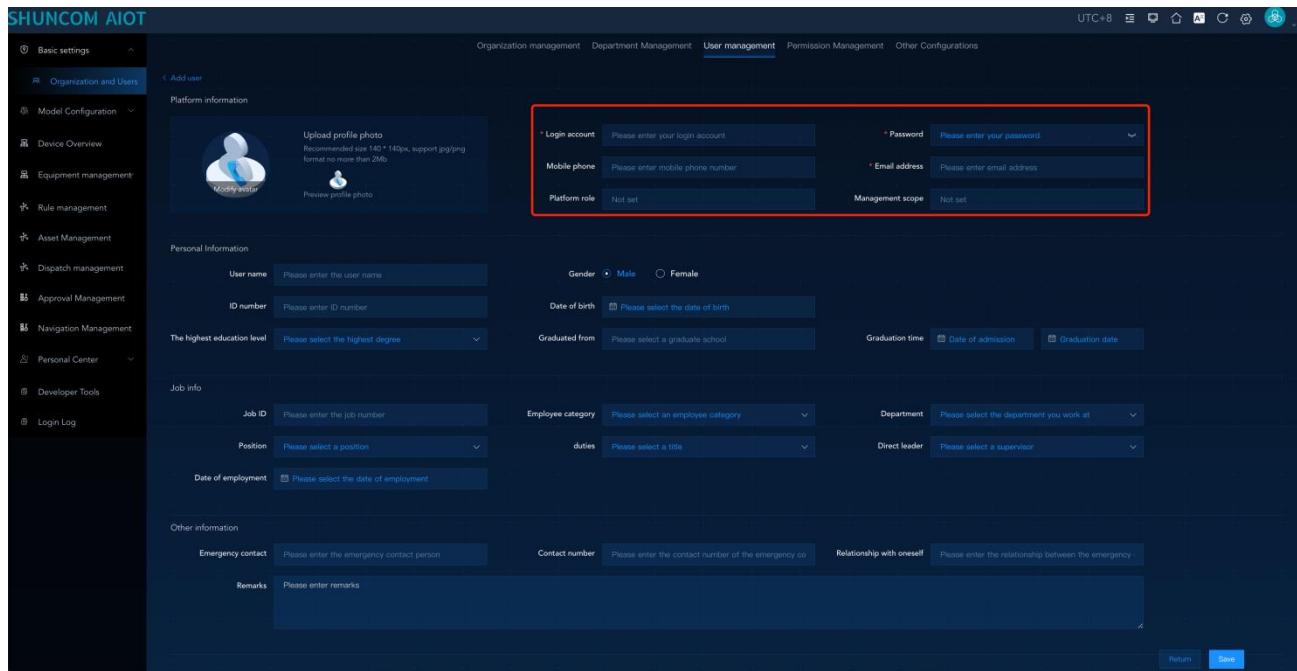
#### 2.1.1.1.2 Add and Edit User

**Administrator is able to create account for new user.**

**Access Path:** Organization and Users > User Management > +Add Users

Enter the required account information, Platform Role and Management Scope (**Check section**

**2.1.1.3 Permission Management** if there is no Platform Role and Management Scope), the account would be created once the filled information is successfully verified.



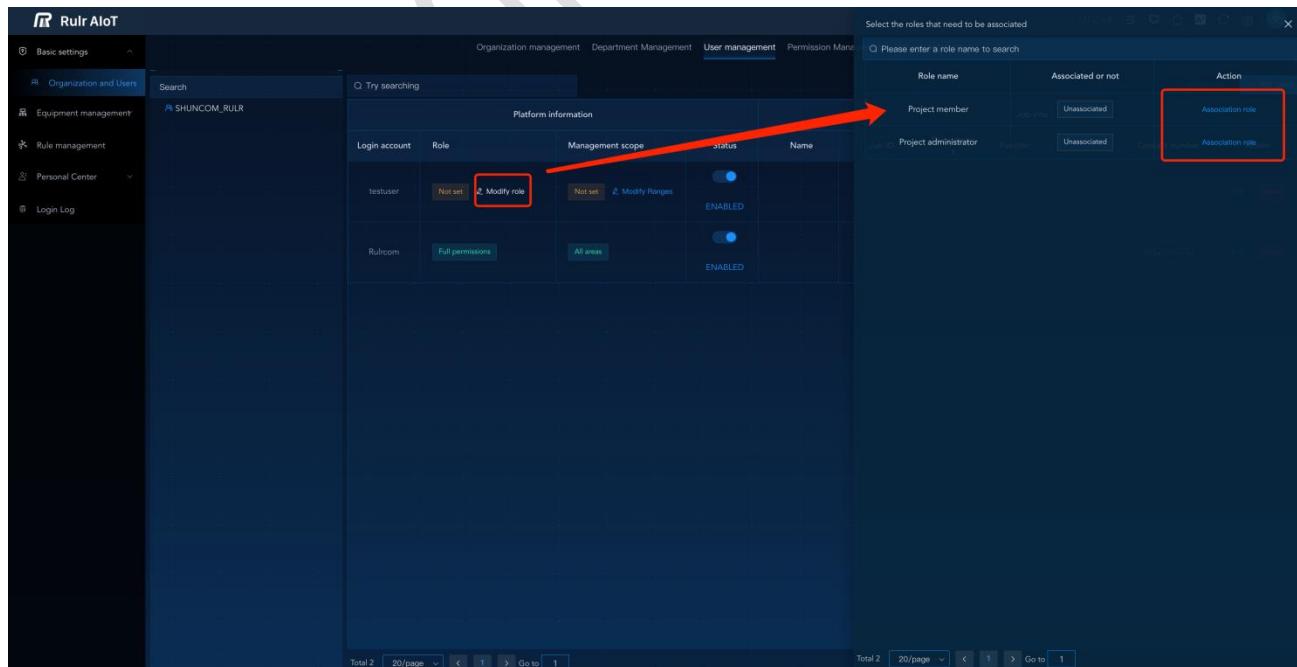
The screenshot shows the 'User management' section of the SHUNCOM AIOT platform. The 'Add user' form is displayed. Key fields include:

- Platform role:** Not set (highlighted)
- Management scope:** Not set (highlighted)
- Login account:** Please enter your login account
- Password:** Please enter your password
- Mobile phone:** Please enter mobile phone number
- Email address:** Please enter email address
- Personal Information:** User name, ID number, highest education level, gender (Male selected), date of birth, graduated from, graduation time, job info (Job ID, position, employee category, duties, department, direct leader), other information (Emergency contact, contact number, relationship with oneself), and remarks.

### Add user

#### 2.1.1.3 Role Association

**Roles are function rights management of the platform.** Users can create and associate user roles based on actual management requirements. The associated roles list is created in [2.1.1.3.1 User Roles](#). A user can be associated with multiple roles, as shown in the figure below.



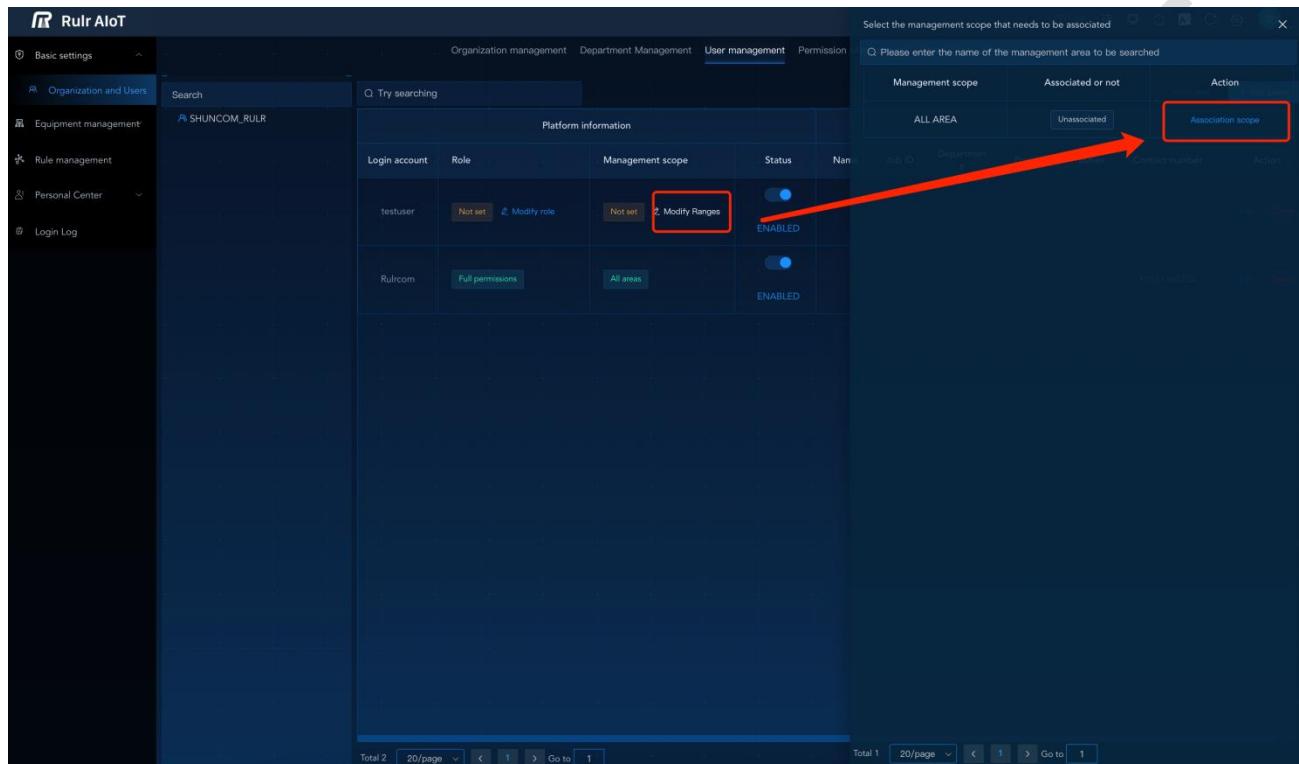
The screenshot shows the 'User management' section of the RULR IoT Platform. The 'User associate with Role' screen is displayed. Key features include:

- User List:** Shows users like 'testuser' and 'Rulrcom'. For 'testuser', the 'Role' field has a 'Modify role' button (highlighted).
- Role Selection Modal:** A modal dialog titled 'Select the roles that need to be associated' lists roles such as 'Project member' and 'Project administrator'. The 'Action' column contains a 'Association role' button (highlighted).
- Search Bar:** A search bar at the top right allows users to search for roles.
- Table Headers:** The table includes columns for 'Role name', 'Associated or not', and 'Action'.

### User associate with Role

#### 2.1.1.1.4 Associate Management Scope

**Management Scope includes management rights of Project, Group and Product Category.** The list of associated management scopes is created in [2.1.1.3.3 Management Scope](#). A user can be associated with multiple management scopes.



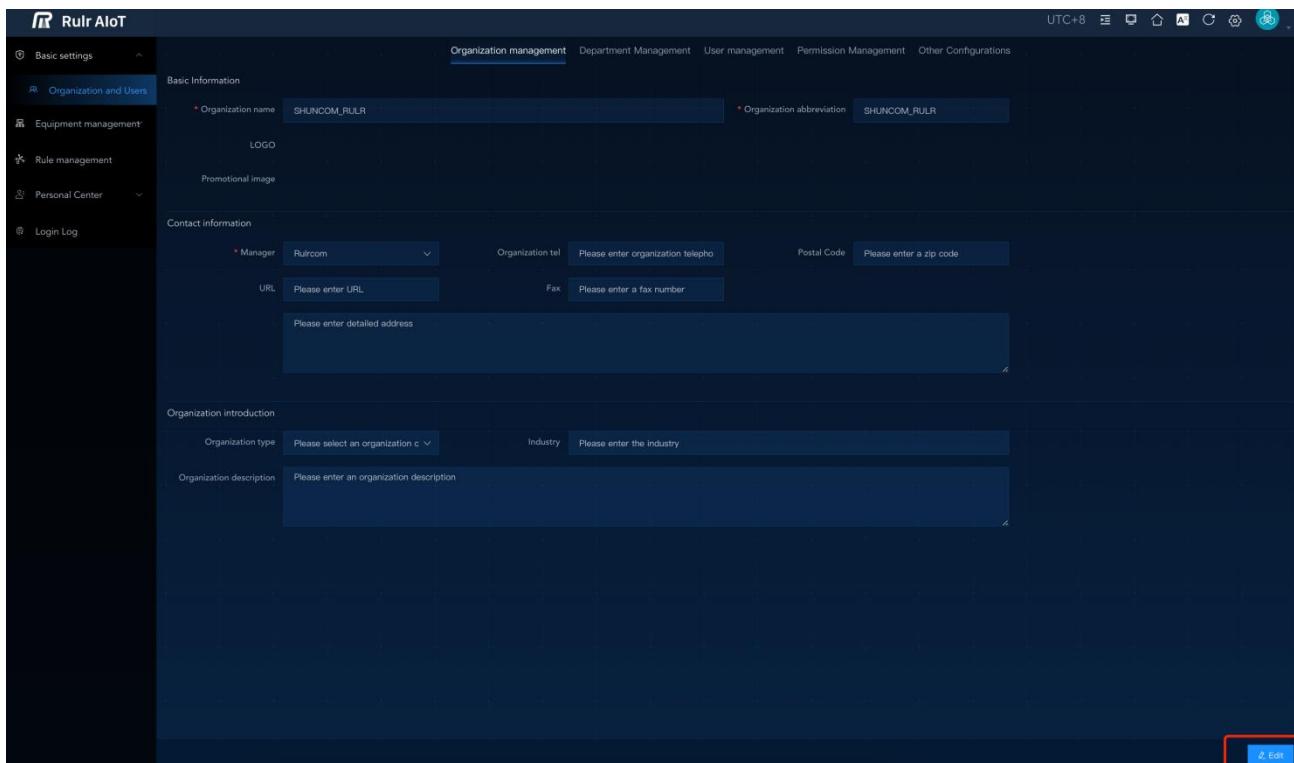
The screenshot shows the 'User management' tab selected in the top navigation bar. On the left, there's a sidebar with 'Basic settings' and 'Organization and Users' selected. The main area displays a table of users with columns: Login account, Role, Management scope, Status, and Nan. A search bar at the top right allows entering the name of the management area to be searched. A modal window titled 'Associate Management Scope' is open, prompting the user to 'Select the management scope that needs to be associated'. It contains a table with columns: Management scope, Associated or not, and Action. A red arrow points from the 'Action' column towards the 'Association scope' button. The 'Associated' checkbox is checked. The table also lists 'ALL AREA' and 'Unassociated'.

**Associate Management Scope**

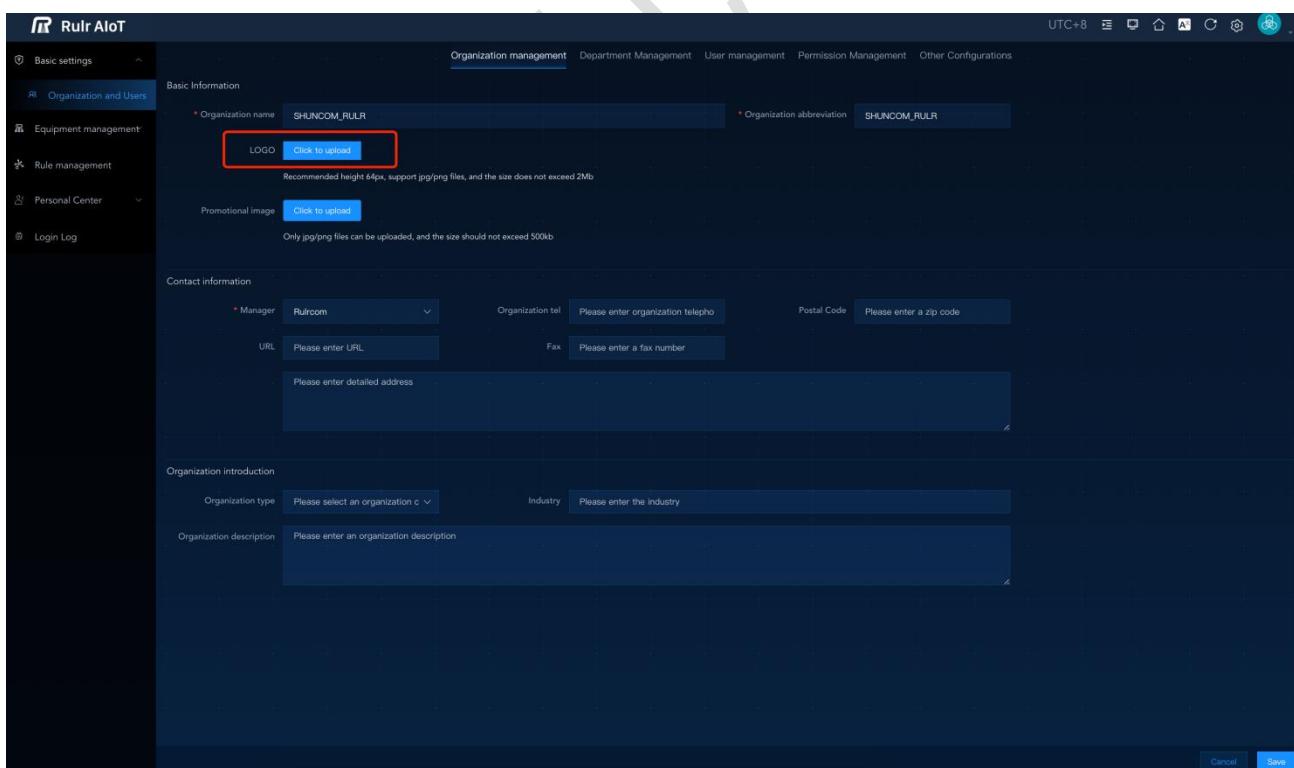
#### 2.1.1.2 Organization Management

**Access Path:** Settings > Basic Configuration > Organization and Users > Organization Management.

Organization management is the description of the overall information of the tenant organization. Click 'Edit', users can upload a logo, and the uploaded logo will be displayed in the upper left corner. The detailed information is shown in the figure below.



## Organization Management



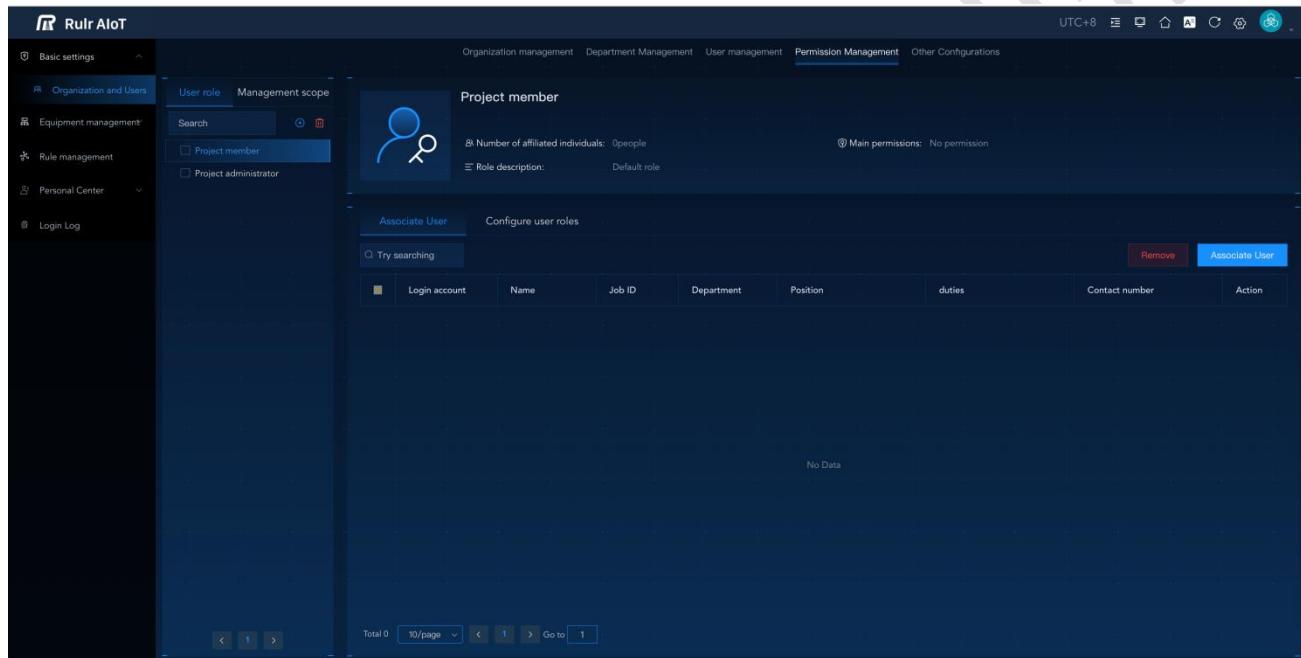
## Upload LOGO

### 2.1.1.3 Permission Management

#### 2.1.1.3.1 User Role

**Access Path:** Settings > Basic Configuration > Organization and Users > Permission Management > User Role.

All roles are displayed in the User Role list. **User roles are mainly related to operation permissions, which determine which pages the user can view and which functions of the page can be operated,** as shown below.

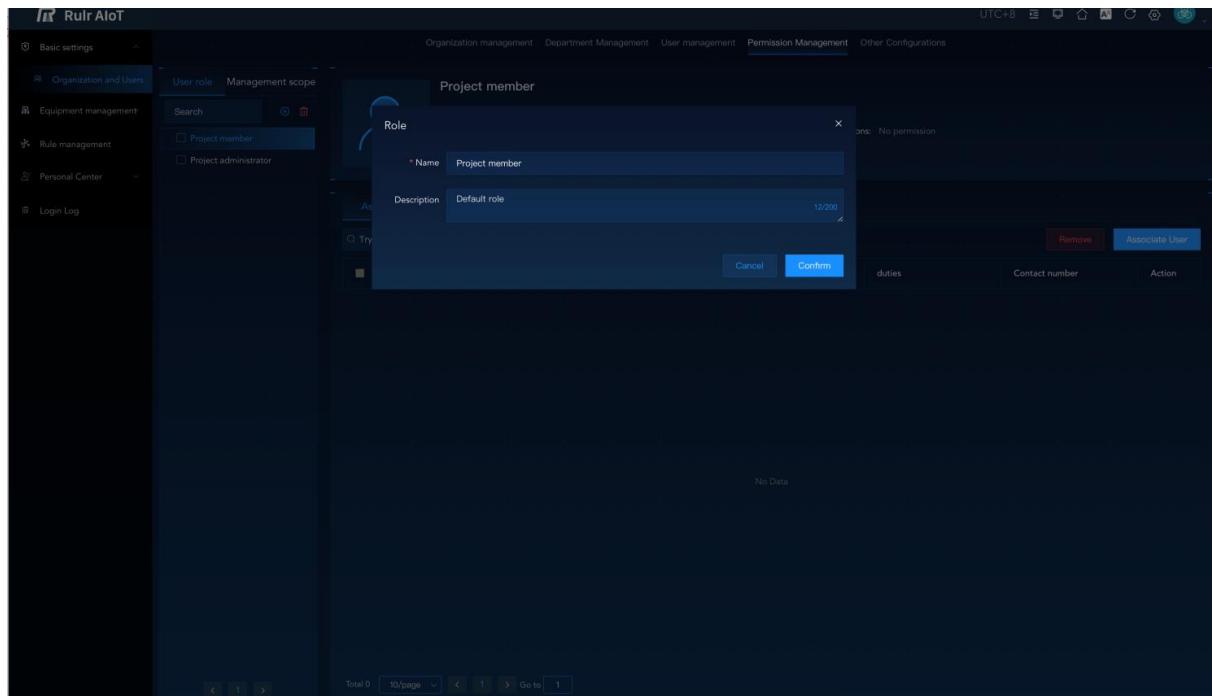


#### Role Management

#### 2.1.1.3.2 Add User Role

**Access Path:** Settings > Basic Configuration > Organization and Users > Permission Management > Add role.

Enter the role name and role description, then configure the role's permissions, and finally assign the role to the user. **One role can be associated with multiple users, and one user can also be associated with multiple roles.** The figure below shows where to add new role.



### Create a New Role and Description

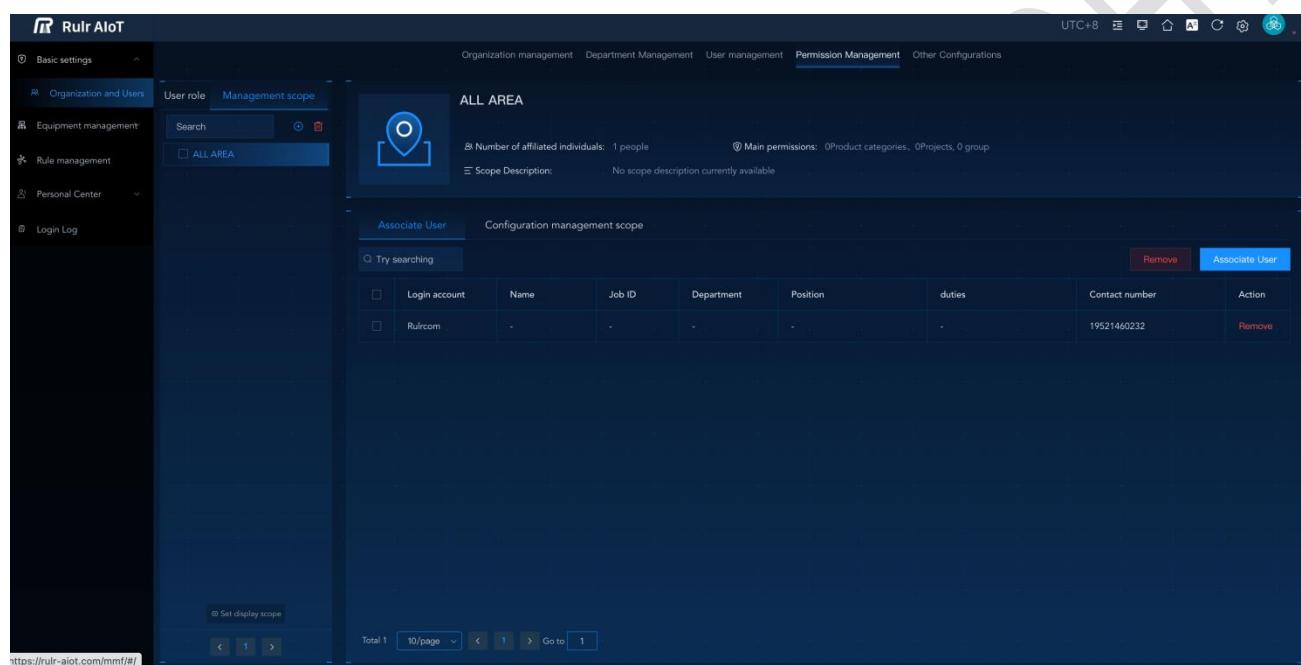
**Access Path:** Settings > Basic Settings > Organization and Users > User Roles > Configure User Roles, and tick the boxes to manage each role.

### Associated User Permissions

### 2.1.1.3.3 Management Scope

**Access Path:** Settings > Basic Configuration > Organization and Users > Permission Management > Management Scope.

On the left side, a list of management scopes is displayed, which determines what projects, product categories, and groups a user can view. Tenant administrators have all management scopes by default, while ordinary users have limited management scopes that configured by administrator. The list of roles is shown in the figure below.



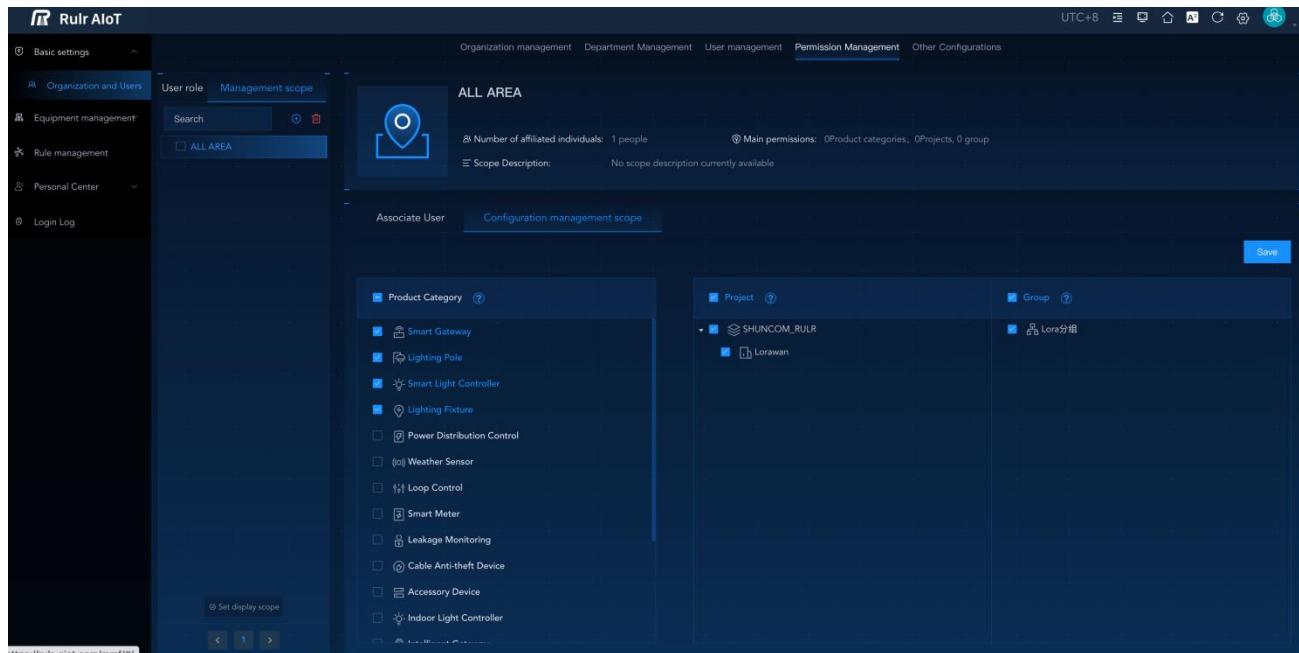
The screenshot shows the 'Management scope' section of the RULR IoT Platform. On the left sidebar, under 'Organization and Users', 'Management scope' is selected. The main area displays the 'ALL AREA' scope configuration. It shows 1 affiliated individual and no scope description. A table lists one user associated with this scope: Rulrcom, with contact number 19521460232. There are 'Remove' and 'Associate User' buttons for this entry.

**List of Management Scope**

### 2.1.1.4.4 New Management Scope

**Access Path:** Settings > Basic Configuration > Organization and Users > Permission Management > Configure Management Scope.

Users need to select the Product Categories, Projects, and Groups they wish to display to other users. By default, each user will have one default group for unassigned projects and another default group for 'Ungrouped'.



**Configuration Management Scope**

## 2.2 Device Management

### 2.2.1 Device Configuration

#### 2.2.1.1 Product Category

**Access Path:** Settings > Equipment Management > Device Configuration > Type.

It displays a list of devices categorized by product types. Currently, the supported product categories for display include: Smart Gateway, Smart Light Controller, Lighting Fixture, Lighting Pole, Power Distribution Ccontrol, and Loop Control.

#### Common Features of the List of Devices:

1. Supports column settings, displaying all the fields in the list. Once set, these settings will remain effective for the account permanently.
2. The device list supports fuzzy search by device name and device address.
3. The device list supports sorting by device name and device number.
4. Each device listing allows for double-clicking to enter the view and edit page.
5. If a device has unaddressed alarms, an exclamation mark "!" will appear at the top of the device listing.

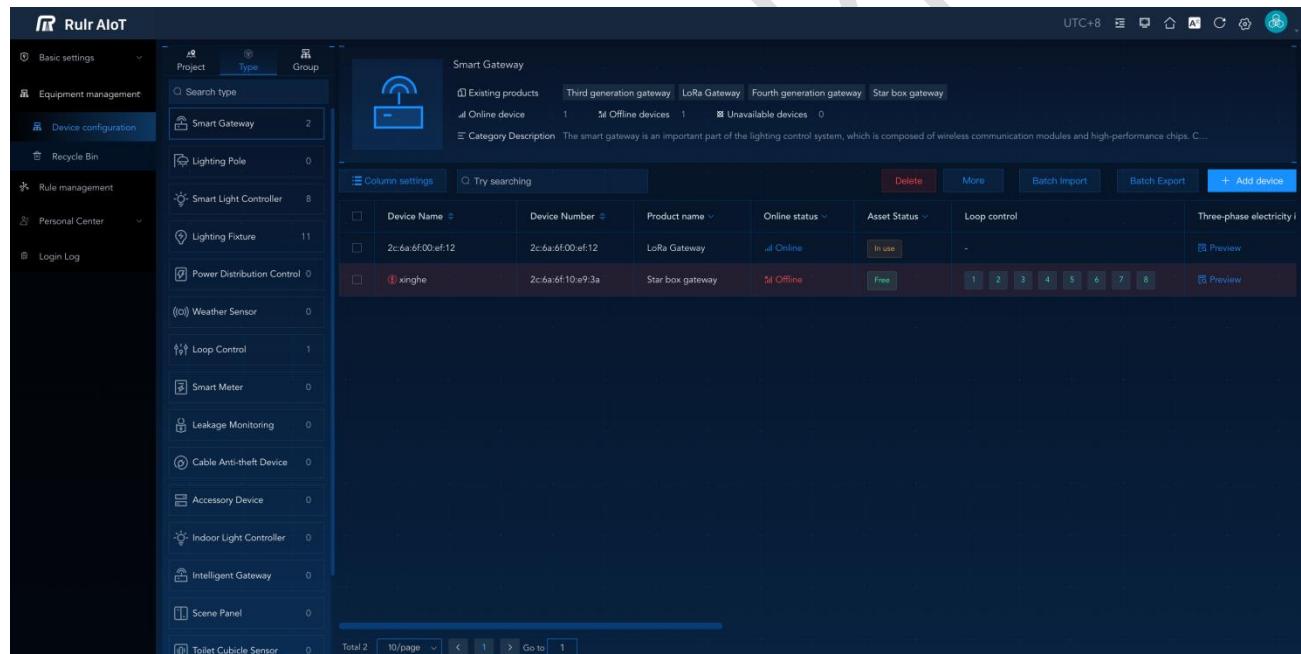
6. If a device is unavailable or has not been added to inventory, it will be marked with a symbol (☒).

The list of devices varies in content depending on the different product categories, as detailed below.

### 2.2.1.1.1 Smart Gateway

#### ➤ List of Devices

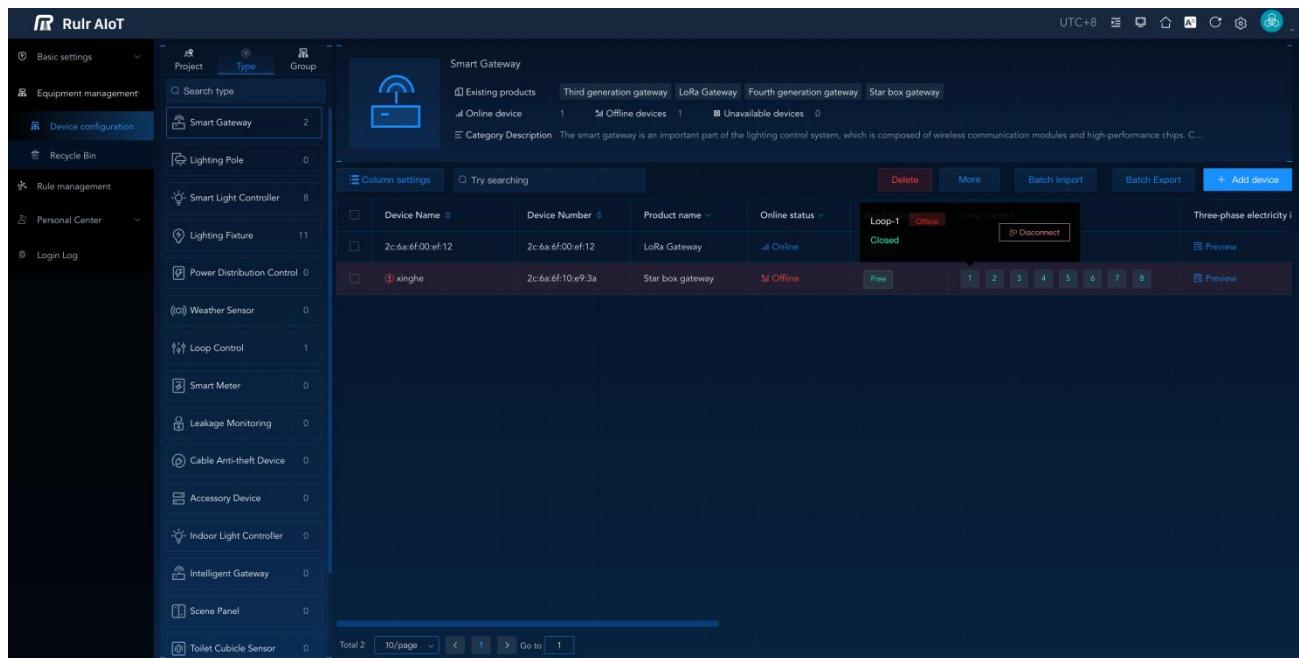
The Smart Gateway list supports the display of the followings: Device Name, Device Number, Associated Product, Online Status, Three-Phase Electricity Information, Loop Collection, Local Time, Screen Password, and Update Time. Currently, these are the most comprehensive fields available. Depending on the specific model and functionalities of the product, important information is selected for display. Fields without data will be represented by a dash ('-'), as shown in the figure below.



Device Name	Device Number	Product name	Online status	Asset Status	Loop control	Three-phase electricity
2c:6a:6f:00:ef:12	2c:6a:6f:00:ef:12	LoRa Gateway	All Online	In use	-	[Preview]
xinghe	2c:6a:6f:10:e9:3a	Star box gateway	All Offline	Free	1 2 3 4 5 6 7 8	[Preview]

#### List of Devices - Smart Gateway

If the type of the gateway is loop control concentrator (Star box gateway), then the device possesses loop functionality. If a loop controller has been configured, the list will display the loops under the device, allowing loops to be able to disconnect or close individually.



Device Name	Device Number	Product name	Online status	Loop Control
2c:6a:6f:00:ef:12	2c:6a:6f:00:ef:12	LoRa Gateway	al Online	Loop-1 Closed <input type="button" value="Disconnect"/>
xinghe	2c:6a:6f:10:e9:3a	Star box gateway	al Offline	<input type="button" value="Free"/>

## Loop Control of (Star box) Gateway

### ➤ Add Device (Star box Gateway)

**Access Path:** Settings > Equipment Management > Device Configuration > Type > Smart Gateway > + Add Device.

For adding a new gateway type product, one needs to input: **Device Name, Product Name (Star box Gateway), Device Number (MAC address)**, Associated distribution box, Associated circuit control, Lat & Long (either manually input or automatically obtained, synchronized with the distribution on the project map), Altitude, Parent Project (selected from [2.3 Project Management](#)), and Belonging Group (selected from the device list groups). Among these, Device Name, Product Name, and Device Number are mandatory fields, as illustrated in the figure below.

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### Device information

Device Name	Up to 50 characters long, default to device number	Product name	Star box gateway	Device Number	Please enter the device number
Associated distribution box	Please select a device	Associated circuit control	Associated circuit control	Select electricity meter	Select electricity meter
Associated leakage monitor	Associated leakage monitor	Lat & Long	0 0	Locate in map	Altitude
Project	Please select the project it belongs to	Belonging group	Please select the group it belongs to		

### Product Information

Device manufacturer	Shanghai Shuncom AIOT Co., Ltd	Product model	SZ10-GW-4	Supply voltage	AC180~420V/50Hz
Overall power consumption	<2 W	Product appearance		Loop	Standard 4-8 way/SA
Product Introduction	SZ10-GW series gateway is a crucial part of the Smart Lighting Control System which Shuncom develop with great effort. Its core is composed of Shuncom self-developed Zigbee wireless communication module, 4Q communication module, and high-performance ARM chip. Together with professional hardware and software design, SZ10-GW gateway has advantages of powerful functions, simple installation, reliable operation and easy maintenance. It is a high-performance street lamp automation product specially developed for intelligent street lighting. SZ10-GW gateway is compliant with Zigbee communication standard IEEE802.15.4 protocol and TCP/IP protocol. It supports 485 serial port, Ethernet port, reserved switch output and other interfaces. Main functions of the gateway are timing control, latitude and longitude control, loop remote control, power collection, anti-theft alarm, and integration of third-party sensors. The gateway contains a three-phase current and electric energy metering loop, which can collect the load work and power consumption of the loop in real time, greatly reduce the work pressure of the street lamp management department, significantly improve both work efficiency and social energy-saving benefits.				

### Asset Info

Manufacturer		price	0 yuan	Purchase date
Installation date		Expiration date		Expiration of tariff
Service life	0	Type		

[Cancel](#) [Save](#)

## Add New Smart Gateway

Product introduction supports text, images, links, and attachments (including Office files). It can be edited based on the actual details of the product. After editing, the information can be applied in batch to other devices of the same product, reducing repetitive editing operations. The product introduction editing process is illustrated in the figure below.

< Back

### Device information

Device Name	Up to 50 characters long, default to device number	Product name	Star box gateway	Device Number	Please enter the device number
Associated distribution box	Please select a device	<a href="#">Batch Delete</a> <a href="#">+ Add Fields</a>			
Associated leakage monitor	Associated leakage monitor	Serial Number	Product attributes	Type	Content
Project	Please select the project I	1	Device manufacturer	Text	Shanghai Shuncom AIOT Co., Ltd
Product Information		2	Product model	Text	SZ10-GW-4
Device manufacturer	Shanghai Shuncom AIOT Co.	3	Supply voltage	Text	AC180~420V/50Hz
Overall power consumption	<2 W	4	Overall power consumption	Text	<2 W
Product Introduction	SZ10-GW series gateway is a crucial part of the Smart Lighting Control System which Shuncom develop with great effort. Its core is composed of Shuncom self-developed Zigbee wireless communication module, 4Q communication module, and high-performance ARM chip. Together with professional hardware and software design, SZ10-GW gateway has advantages of powerful functions, simple installation, reliable operation and easy maintenance. It is a high-performance street lamp automation product specially developed for intelligent street lighting. SZ10-GW gateway is compliant with Zigbee communication standard IEEE802.15.4 protocol and TCP/IP protocol. It supports 485 serial port, Ethernet port, reserved switch output and other interfaces. Main functions of the gateway are timing control, latitude and longitude control, loop remote control, power collection, anti-theft alarm, and integration of third-party sensors. The gateway contains a three-phase current and electric energy metering loop, which can collect the load work and power consumption of the loop in real time, greatly reduce the work pressure of the street lamp management department, significantly improve both work efficiency and social energy-saving benefits.	5	Product appearance	Image	
		6	Loop	Text	Standard 4-8 way/SA
		7	Product Introduction	Text	SZ10-GW series gateway is a crucial part of the Smart Lighting Control System which Shuncom develop with great effort. Its core is composed of Shuncom self-developed Zigbee wireless communication module, 4Q communication module, and high-performance ARM chip. Together with professional hardware and software design, SZ10-GW gateway has advantages of powerful functions, simple installation, reliable operation and easy maintenance. It is a high-performance street lamp automation product specially developed for intelligent street lighting. SZ10-GW gateway is compliant with Zigbee communication standard IEEE802.15.4 protocol and TCP/IP protocol. It supports 485 serial port, Ethernet port, reserved switch output and other interfaces. Main functions of the gateway are timing control, latitude and longitude control, loop remote control, power collection, anti-theft alarm, and integration of third-party sensors. The gateway contains a three-phase current and electric energy metering loop, which can collect the load work and power consumption of the loop in real time, greatly reduce the work pressure of the street lamp management department, significantly improve both work efficiency and social energy-saving benefits.

### Asset Info

Manufacturer		Purchase date
Installation date		Expiration of tariff
Service life	0	Type

[Cancel](#) [Batch Apply](#) [Confirm](#)

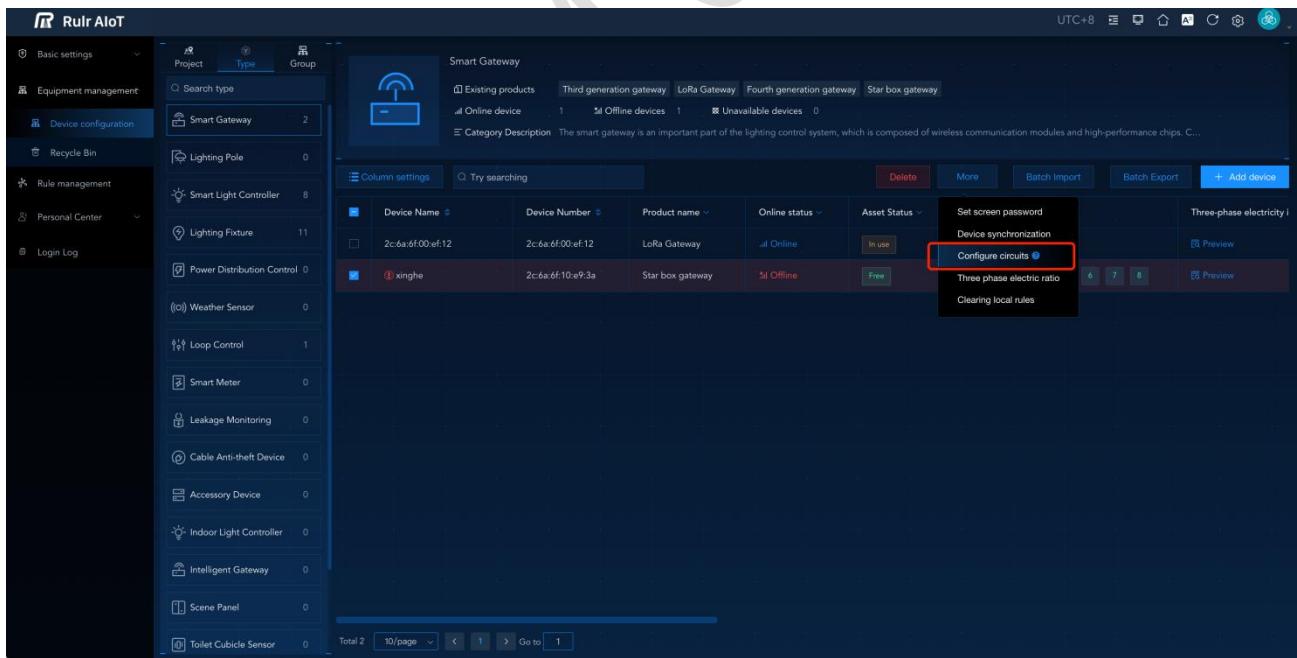
[Cancel](#) [Save](#)

## Editing Page of Smart Gateway Information

➤ **How to configure Gateway Circuit:**

1. First, add the gateway. Navigate to Settings > Equipment Management > Device Configuration > Type > Smart Gateway > + Add Device. Enter the device name, product name, and device number. Click the save button. Alternatively, you can import in batch via Excel.
2. Next, either import circuits in batch or add individual circuit controller devices (refer to [2.2.1.1.7 Loop Control](#)).
3. Tick the gateway, then click on 'Configure Circuits'. The selected gateway will then generate the corresponding circuits in batch.
4. This step is for individually generating or editing circuits. If step 3 is already completed, this step can be skipped: Navigate to Settings > Device Management > Device Configuration > Type > Smart Gateway > Edit Device. Click on the 'Circuit Configuration' button. The circuit sequence number will be generated automatically. Users can configure the Circuit sequence number (mandatory and unique), Control remark name (mandatory), Circuit collection, Collection attributes, Phase, collection remark name, and current ratio (default is 1). If user does not want to display a particular circuit, click on 'Hide' in the actions.

Note: Make sure to click 'Configure Circuits' or 'Save' on the 'Configure Now' page, then the list will display the circuits. Configure the circuits according to the actual situation, as shown in the figure below.



The screenshot shows the RULR IoT Platform interface for managing smart gateways. On the left, there's a sidebar with navigation links like 'Basic settings', 'Equipment management' (which is currently selected), 'Device configuration', 'Rule management', 'Personal Center', and 'Login Log'. The main area is titled 'Smart Gateway' and shows a table of devices. One row for a 'LoRa Gateway' named 'xinghe' is selected. A context menu is open over this row, with the 'Configure circuits' option highlighted by a red box. Other options in the menu include 'Set screen password', 'Device synchronization', 'Three phase electric ratio', and 'Clearing local rules'. At the bottom of the table, there are buttons for 'Delete', 'More', 'Batch Import', 'Batch Export', and '+ Add device'. The top right of the interface shows standard browser controls and a timestamp 'UTC+8'.

**Configuration Circuits in batch**

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### Device information

Device Name	xinghe	Product name	Star box gateway
Associated distribution box	Please select a device	Associated circuit control	xinghe3a
Select electricity meter	Select electricity meter	Associated leakage monitor	Associated leakage monitor
Altitude	0 m	Project	Unassigned device
		Lat & Long	0 0
		Belonging group	Ungrouped devices

**Loop configuration** Configure Now

**Product Information**

Device manufacturer	Shanghai Shuncom AIOT Co., Ltd	Product model	SZ10-GW-4	Supply voltage	AC180~420V/50Hz
Overall power consumption	≤2 W	Product appearance		Loop	Standard 4-8 way/SA
Product introduction	SZ10-GW series gateway is a crucial part of the Smart Lighting Control System which Shuncom develop with great effort. Its core is composed of Shuncom self-developed Zigbee wireless communication module, 4G communication module, and high-performance ARM chip. Together with professional hardware and software design, SZ10-GW gateway has advantages of powerful functions, simple installation, reliable operation and easy maintenance. It is a high-performance street lamp automation product specially developed for intelligent street lighting. SZ10-GW gateway is compliant with Zigbee communication standard IEEE802.15.4 protocol and TCP/IP protocol. It supports 485 serial port, Ethernet port, reserved switch output and other interfaces. Main functions of the gateway are timing control, latitude and longitude control, loop remote control, power collection, anti-theft alarm, and integration of third-party sensors. The gateway contains a three-phase current and electric energy metering loop, which can collect the load work and power consumption of the loop in real time, greatly reduce the work pressure of the street lamp management department, significantly improve both work efficiency and social energy-saving benefits.				

**Asset Info**

Manufacturer		price	0 yuan	Purchase date
Installation date		Expiration date		Expiration of tariff
Service life	0	Type		

Edit Cancel Save

## Configure loops for Individual Gateway

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### Configure loops for Individual Gateway

Dt	Loop control	Control Attributes	Loop serial number	Control remark name	Associated devices	Loop collection	Collection Attributes	Phase	Collection remark name	Action
As:  xinghe3a	Built-in loop switch 1	-   1   +	Loop-1	Associat	xinghe3i	Built-in loop	Unkn	Collect-1	+ Add	<span style="color: red;">X</span> Delete <span style="color: blue;">Display</span>
	Built-in loop switch 2	-   2   +	Loop-2	Associat	xinghe3i	Built-in loop	Unkn	Collect-2	+ Add	<span style="color: red;">X</span> Delete <span style="color: blue;">Display</span>
	Built-in loop switch 3	-   3   +	Loop-3	Associat	xinghe3i	Built-in loop	Unkn	Collect-3	+ Add	<span style="color: red;">X</span> Delete <span style="color: blue;">Display</span>
	Built-in loop switch 4	-   4   +	Loop-4	Associat	xinghe3i	Built-in loop	Unkn	Collect-4	+ Add	<span style="color: red;">X</span> Delete <span style="color: blue;">Display</span>
	Built-in loop switch 5	-   5   +	Loop-5	Associat	xinghe3i	Built-in loop	Unkn	Collect-5	+ Add	<span style="color: red;">X</span> Delete <span style="color: blue;">Display</span>
	Built-in loop switch 6	-   6   +	Loop-6	Associat	xinghe3i	Built-in loop	Unkn	Collect-6	+ Add	<span style="color: red;">X</span> Delete <span style="color: blue;">Display</span>
	Built-in loop switch 7	-   7   +	Loop-7	Associat	xinghe3i	Built in loop	Unkn	Collect-7	+ Add	<span style="color: red;">X</span> Delete <span style="color: blue;">Display</span>
	Built-in loop switch 8	-   8   +	Loop-8	Associat	xinghe3i	Built-in loop	Unkn	Collect-8	+ Add	<span style="color: red;">X</span> Delete <span style="color: blue;">Display</span>
Pr:										<span style="color: blue;">Edit</span>
Dev:										<span style="color: blue;">Edit</span>
Ove:										<span style="color: blue;">Edit</span>
Pro:										<span style="color: blue;">Edit</span>
As:										<span style="color: blue;">Edit</span>
Man:										<span style="color: blue;">Edit</span>
Insti:										<span style="color: blue;">Edit</span>
Serv:										<span style="color: blue;">Edit</span>

Cancel Save

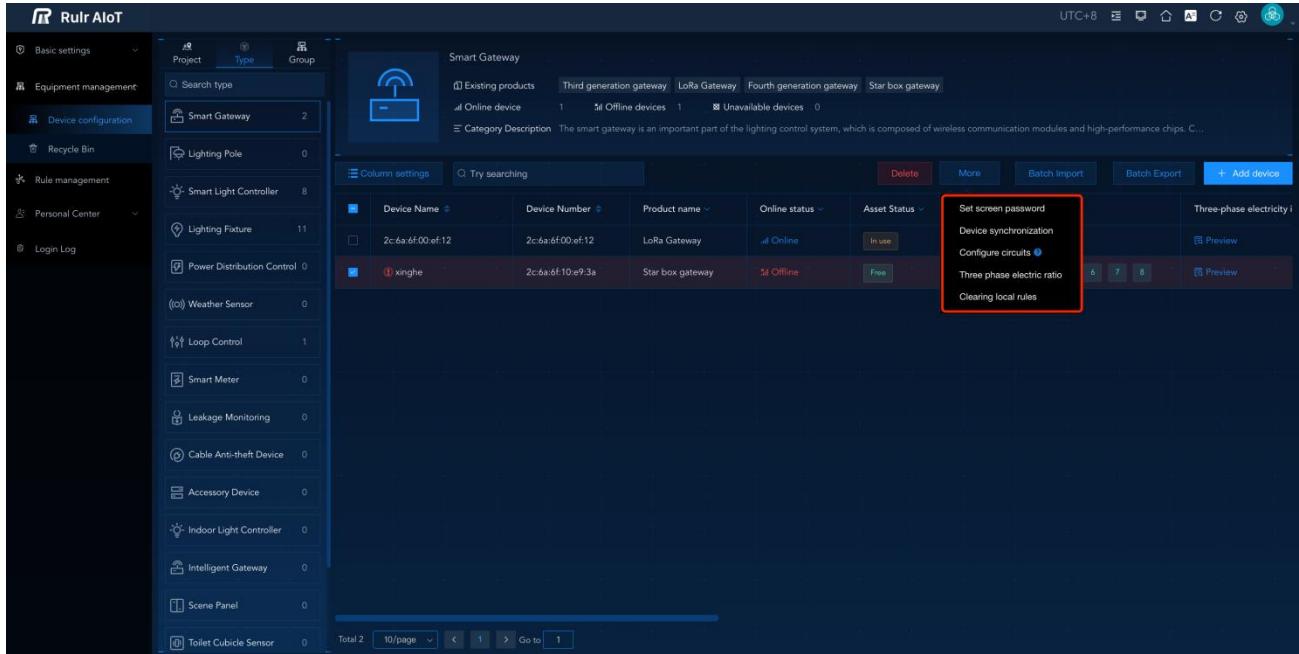
## Configure loops for Individual Gateway

### Other Operations

- Set password for screen: You can set a 6-digit numeric screen password for the gateway.
- Synchronize devices: Synchronize the sub-device information of the gateway from the platform to the device's local end.
- Configure circuits: Configure the gateway's circuits by bulks, targeting only those circuits that

haven't been configured yet.

4. Clear local rules: Erase all local rules.
5. Three-phase electric ratio: Set the ratio.



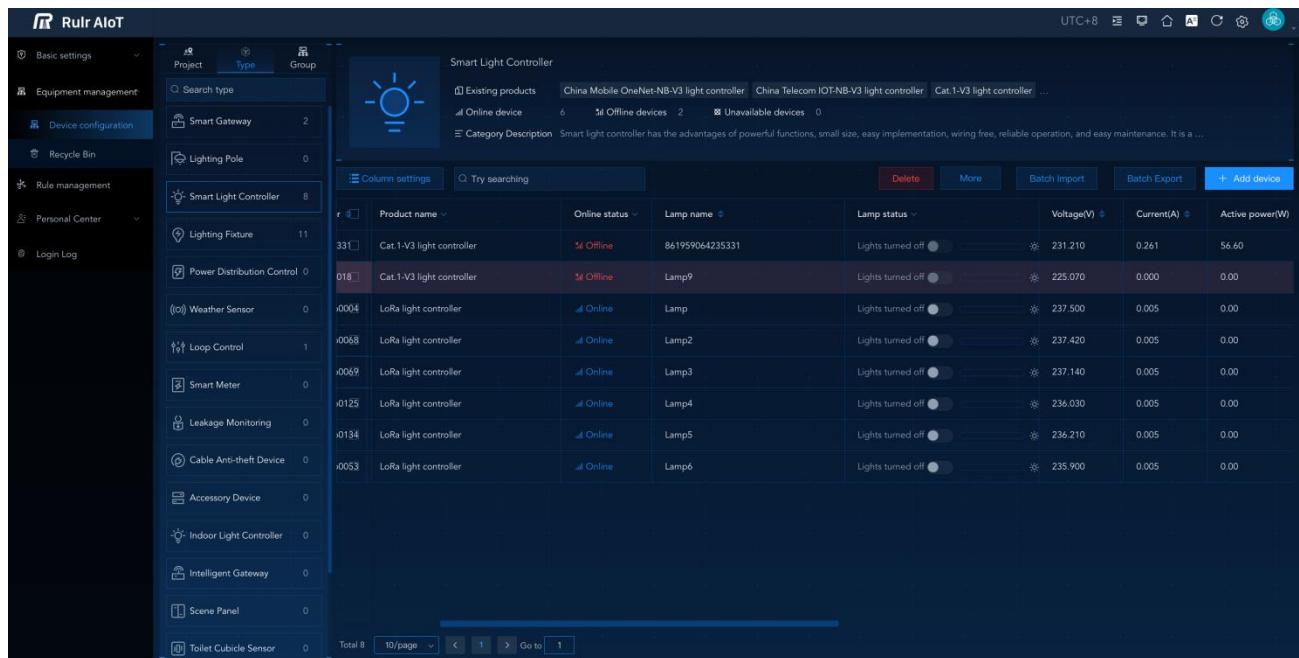
Device Name	Device Number	Product name	Online status	Asset Status
2c:6a:6f:00:ef:12	2c:6a:6f:00:ef:12	LoRa Gateway	Online	In use
xinghe	2c:6a:6f:10:e9:3a	Star box gateway	Offline	Free

### More Operations

#### 2.2.1.1.2 Smart Light Controller

##### ➤ List of Devices

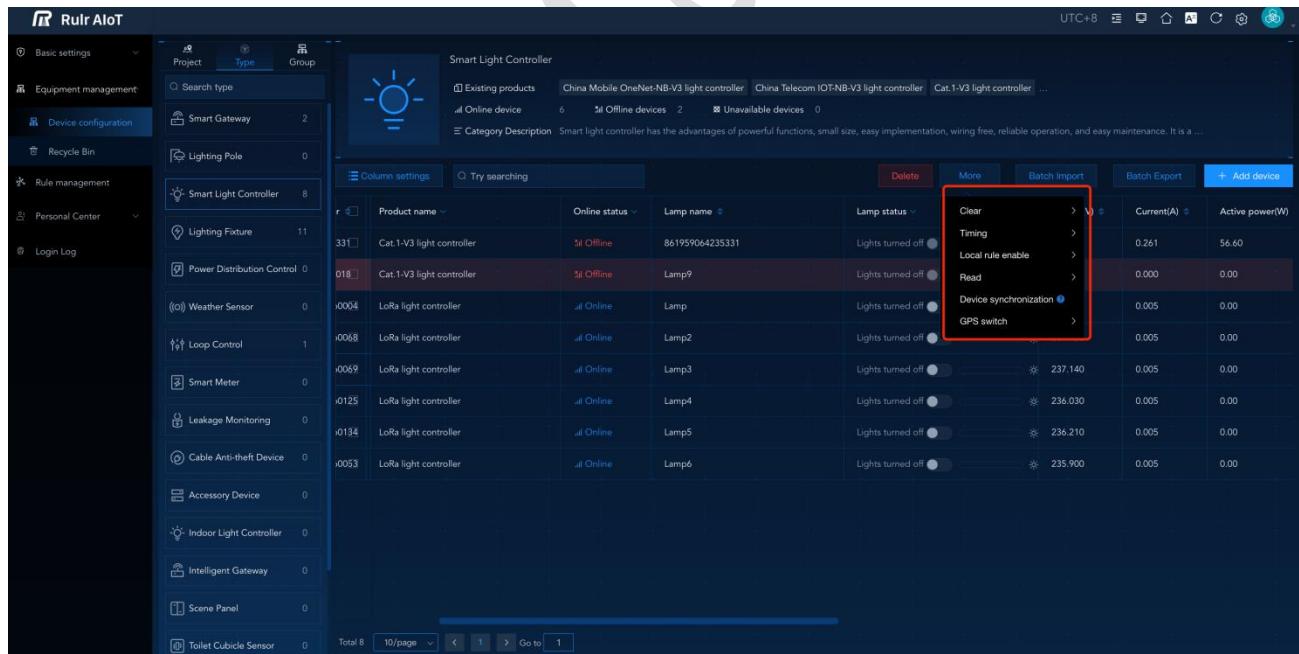
The list of items displayable by Smart Light Controller are: Device Name, Device Number, Product Name, Online Status, **Lamp Status (will only be displayed after associating with a lamp)**, Voltage, Current, Active Power, Power Factor, Active Energy, Run Time, Local Time, Frequency, Color Temperature, Illuminance, Signal Strength, IMSI, Version, Connected Base Station, and Update Time. Depending on the actual model and functions of the product, important information is selected for display. If there's no data available for a particular field, it will be represented by a "-" as shown in the figure below.



Product name	Online status	Lamp name	Lamp status	Voltage(V)	Current(A)	Active power(W)
331 Cat.1-V3 light controller	Offline	861959064235331	Lights turned off	231.210	0.261	56.60
018 Cat.1-V3 light controller	Offline	Lamp9	Lights turned off	225.070	0.000	0.00
i004 LoRa light controller	Online	Lamp	Lights turned off	237.500	0.005	0.00
i0068 LoRa light controller	Online	Lamp2	Lights turned off	237.420	0.005	0.00
i0069 LoRa light controller	Online	Lamp3	Lights turned off	237.140	0.005	0.00
i0125 LoRa light controller	Online	Lamp4	Lights turned off	236.030	0.005	0.00
i0134 LoRa light controller	Online	Lamp5	Lights turned off	236.210	0.005	0.00
i0053 LoRa light controller	Online	Lamp6	Lights turned off	235.900	0.005	0.00

## List of Devices - Smart Light Controller

Light Controller supports configuration commands such as clear, timing calibration, enabling local rules, reading, device synchronization, and GPS switch.



Clear  
 Timing  
 Local rule enable  
 Read  
 Device synchronization  
**GPS switch**

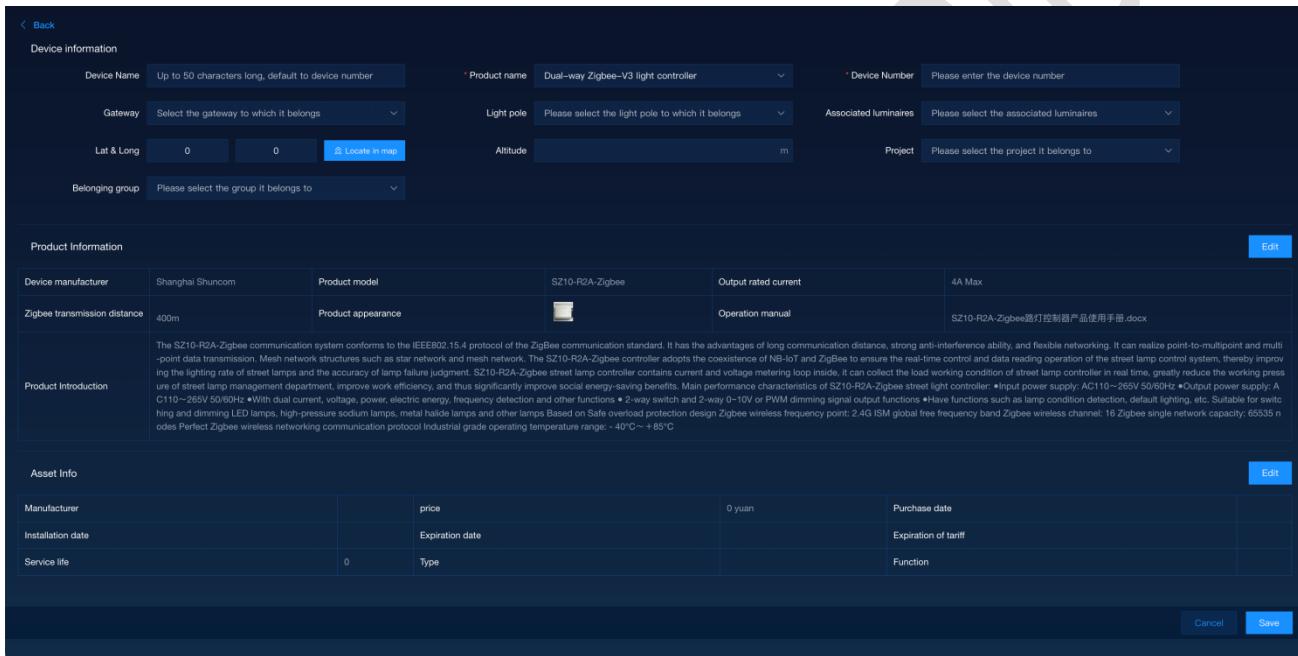
## Configuration of the Light Controller

## ➤ Add Device

### 1. Pass-through Devices (Zigbee\_V3 light controller, Dual-way Zigbee\_V3 light controller)

**Access Path:** Settings > Equipment Management > Device Configuration > Type > Smart Light Controller > + Add Device.

When adding a new gateway-type product, the necessary fields to input include Device Name, Product Name (Zigbee\_V3 light controller, Dual-way Zigbee\_V3 light controller), Device Number (Device Address), Gateway, Light Pole, Associated luminaires (it is essential to associate a lamp; check [2.2.1.4 Lighting Fixture](#) to add the lamp first), Lat & Long (either manually input or auto-obtained, synchronized with the coordinates displayed on the project map), Altitude, Project (selected from [2.3 Project Management](#)), and Belonging Group (selected from the device list group). As shown in the figure below.



**Device information**

Device Name	Up to 50 characters long, default to device number	Product name	Dual-way Zigbee-V3 light controller	Device Number	Please enter the device number
Gateway	Select the gateway to which it belongs	Light pole	Please select the light pole to which it belongs	Associated luminaires	Please select the associated luminaires
Lat & Long	0	Latitude	0	Altitude	m
Belonging group	Please select the group it belongs to	Project			

**Product Information**

Device manufacturer	Shanghai Shuncom	Product model	SZ10-R2A-Zigbee	Output rated current	4A Max
Zigbee transmission distance	400m	Product appearance		Operation manual	SZ10-R2A-Zigbee路灯控制器产品使用手册.docx
The SZ10-R2A-Zigbee communication system conforms to the IEEE802.15.4 protocol of the ZigBee communication standard. It has the advantages of long communication distance, strong anti-interference ability, and flexible networking. It can realize point-to-multipoint and multi-point data transmission. Mesh network structures such as star network and mesh network. The SZ10-R2A-Zigbee controller adopts the coexistence of NB-IoT and ZigBee to ensure the real-time control and data reading operation of the street lamp control system, thereby improving the lighting rate of street lamps and the accuracy of lamp failure judgment. SZ10-R2A-Zigbee street lamp controller contains current and voltage metering loop inside, it can collect the load working condition of street lamp controller in real time, greatly reduce the working pressure of street lamp management department, improve work efficiency, and thus significantly improve social energy-saving benefits. Main performance characteristics of SZ10-R2A-Zigbee street light controller: •Input power supply: AC110~265V 50/60Hz •Output power supply: A C110~265V 50/60Hz •With dual current, voltage, power, electric energy, frequency detection and other functions •2-way switch and 2-way 0~10V or PWM dimming signal output functions •Have functions such as lamp condition detection, default lighting, etc. Suitable for switching and dimming LED lamps, high-pressure sodium lamps, metal halide lamps and other lamps Based on Safe overload protection design Zigbee wireless frequency point: 2.4G ISM global free frequency band Zigbee wireless channel: 16 Zigbee single network capacity: 65535 nodes Perfect Zigbee wireless networking communication protocol Industrial grade operating temperature range: -40°C~ +85°C					

**Asset Info**

Manufacturer	Shanghai Shuncom	price	0 yuan	Purchase date
Installation date		Expiration date		Expiration of tariff
Service life	0	Type		Function

### Add New Smart Light Controller - Sub-device of Gateway

### 2. Directly-communicated Devices (NB-IoT, CAT.1 light controller)

**Access Path:** Settings > Equipment Management > Device Configuration > Type > Smart Light Controller > + Add Device. When adding a new gateway type product, user need to input the Device Name, Product Name (e.g. Cat.1-V3 light controller, check product type with supplier), Device Number (Device Address), Light Pole, and Associated Luminaires (it's essential to associate a luminaire; refer to [2.2.1.4 Lighting Fixture](#) to add the luminaire, otherwise, the lamp cannot be controlled in the list), Lat & Long (manually input, locate in map or automatically acquired), Altitude, Project (select in [2.3 Project Management](#)), Belonging Group (select in Device List Group), as shown in the figure below.

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### Device information

Device Name	Up to 50 characters long, default to device number	Product name	Cat.1-V3 light controller	Device Number	Please enter the device number
Light pole	Please select the light pole to which it belongs	Associated luminaires	Please select the associated luminaires	Lat & Long	0 0 Locate in map
Altitude	m	Project	Please select the project it belongs to	Belonging group	

### Product Information

Device manufacturer	Shanghai Shuncom	Product model	SZ10-R1A-Cat.1-M	Supply voltage	AC110-277V
Dimming type	0-10V/PWM	Product peripherals		Operation manual	SZ10-R2A-Cat.1 路灯控制器产品手册 - 简易.docx

**Product Introduction**

The SZ10-R1A-Cat.1-M controller conforms to the LTE standard, and can be seamlessly connected to the existing LTE network without upgrading the software and hardware of the base station, and the network coverage cost is low. Cat.1 is a category of 4G LTE network, which can be called a 'low configuration' 4G terminal, with an uplink peak rate of 5Mbps and a downlink peak rate of 10Mbps, belonging to the cellular Internet of Things. The SZ10-R1A-Cat.1-M street light controller contains current and voltage metering loops, which can collect the load working conditions of the street light controller in real time, greatly reduce the work pressure of the street light management department, improve work efficiency, and thus significantly improve social energy saving benefit. Main features of SZ10-R1A-Cat.1-M street light controller: • With current, voltage, power, electric energy, frequency, running time detection and other functions; • 1-way switch and 0-10V/PWM dimming signal output Functions; • Has functions such as overcurrent protection, lamp condition detection, and default lighting; • Has a local clock, which can automatically adjust the time through the base station; • Supports local timing strategies, longitude and latitude strategies, and light sensing strategies (optional); • Applicable It is used for switch and dimming of LED lamps, high pressure sodium lamps, etc.; • Safety-based overload protection design; • F frequency band: LTE B1/B3/B5/B8; • Supports fixed IP and dynamic domain name resolution to connect to the data center • Real-time Online, supports LTE, GSM three-mode communication, supports China Mobile, China Unicom, and China Telecom; • Industrial-grade operating temperature: -40°C~+85°C; • Easy to install, and can respond to the center within seconds instruction. • Support OTA remote firmware upgrade

### Asset Info

Manufacturer	Shanghai Shuncom	price	0 yuan	Purchase date	
Installation date		Expiration date		Expiration of tariff	
Service life	0	Type		Function	

**Add** **Cancel** **Save**

## Add new Smart Light Controller - Directly-communicated Devices

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### Device information

Device Name	Up to 50 characters long, default to device number	Product name	Cat.1-V3 light controller	Device Number	Please enter the device number
Light pole	Please select the light pole to which it belongs	Associated luminaires	Please select the associated luminaires	Belonging group	No Data
Altitude	m	Project	Please select the project it belongs to	Associated luminaires	

**Product Information**

Device manufacturer	Shanghai Shuncom	Product model	SZ10-R1A-Cat.1-M	Supply voltage	AC110-277V
Dimming type	0-10V/PWM	Product peripherals		Operation manual	SZ10-R2A-Cat.1 路灯控制器产品手册 - 简易.docx

**Product Introduction**

The SZ10-R1A-Cat.1-M controller conforms to the LTE standard, and can be seamlessly connected to the existing LTE network without upgrading the software and hardware of the base station, and the network coverage cost is low. Cat.1 is a category of 4G LTE network, which can be called a 'low configuration' 4G terminal, with an uplink peak rate of 5Mbps and a downlink peak rate of 10Mbps, belonging to the cellular Internet of Things. The SZ10-R1A-Cat.1-M street light controller contains current and voltage metering loops, which can collect the load working conditions of the street light controller in real time, greatly reduce the work pressure of the street light management department, improve work efficiency, and thus significantly improve social energy saving benefit. Main features of SZ10-R1A-Cat.1-M street light controller: • With current, voltage, power, electric energy, frequency, running time detection and other functions; • 1-way switch and 0-10V/PWM dimming signal output Functions; • Has functions such as overcurrent protection, lamp condition detection, and default lighting; • Has a local clock, which can automatically adjust the time through the base station; • Supports local timing strategies, longitude and latitude strategies, and light sensing strategies (optional); • Applicable It is used for switch and dimming of LED lamps, high pressure sodium lamps, etc.; • Safety-based overload protection design; • F frequency band: LTE B1/B3/B5/B8; • Supports fixed IP and dynamic domain name resolution to connect to the data center • Real-time Online, supports LTE, GSM three-mode communication, supports China Mobile, China Unicom, and China Telecom; • Industrial-grade operating temperature: -40°C~+85°C; • Easy to install, and can respond to the center within seconds instruction. • Support OTA remote firmware upgrade

### Asset Info

Manufacturer	Shanghai Shuncom	price	0 yuan
Installation date		Expiration date	
Service life	0	Type	

Please search Associated luminaire

Device Number	Device Name	Product name	Action
Lamp2	Lamp2	Lamp	<b>Select</b>
Lamp3	Lamp3	Lamp	<b>Select</b>
Lamp4	Lamp4	Lamp	<b>Select</b>
Lamp5	Lamp5	Lamp	<b>Select</b>
Lamp6	Lamp6	Lamp	<b>Select</b>
Lamp7	Lamp7	Lamp	<b>Select</b>
Lamp8	Lamp8	Lamp	<b>Select</b>
Lamp9	Lamp9	Lamp	<b>Select</b>
Lamp10	Lamp10	Lamp	<b>Select</b>
Lamp	Lamp	Lamp	<b>Select</b>

Total 11 10/page < 1 2 >

## Add new Smart Light Controller - Dual-way Light Controller Device.

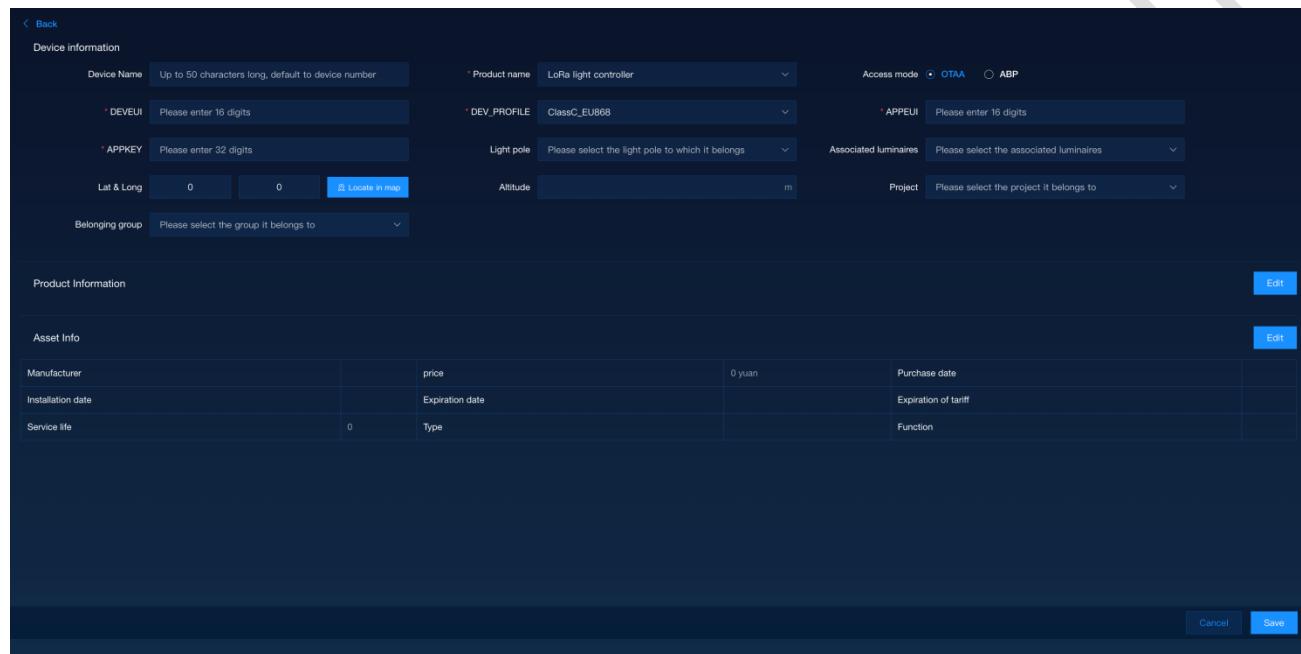
### 3. Add LoRa Light Controller

**Access Path:** Settings > Equipment Management > Device Configuration > Type > Smart Light Controller > + Add Device.

When adding a new gateway type product, user need to input the Device Name and select the Product Name (LoRa Light Controller). Upon selecting the LoRa Light Controller, two network access

modes, OTAA and ABP are supported.

- When the network activation mode of device is OTAA, the parameters which need to fill up are DEVEUI, DEV\_PROFILE (Channel Plans), APPEUI (which can be duplicated), APPKEY, Light Pole, Associated Luminaire (it's crucial to associate to a luminaire; firstly, go to [2.2.1.1.4 Lighting Fixture](#) to add the luminaire, otherwise the luminaire status in the list will be blank, rendering the luminaire uncontrollable), Lat & Long (either input manually or auto-obtained, synchronized with the Lat & Long displayed on the project map), Altitude, Project (selected from [2.3 Project Management](#)), and Group (chosen from the device list groups). As shown in the figure below.



### Add new Smart Light Controller - LoRa Light Controller OTAA Mode

- When the network activation mode of device is ABP, the parameters which need to fill up are DEVEUI, DEV\_PROFILE, DEVADDR, APPSKEY, NWKSKEY, Light Pole, Associated Luminaires (it's crucial to link to a luminaire; firstly, go to [2.2.1.1.4 Lighting Fixture](#) to add the luminaire, otherwise the luminaire status in the list will be blank, rendering the luminaire uncontrollable), Lat & Long (either input manually or auto-obtained, synchronized with the Lat & Long displayed on the project map), Altitude, Project (selected from [2.3 Project Management](#)), and Group (chosen from the device list groups). As shown in the figure below.

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#### Device information

Device Name	Up to 50 characters long, default to device number	Product name	LoRa light controller	Access mode	<input type="radio"/> OTAA <input checked="" type="radio"/> ABP
*DEVEUI	Please enter 16 digits	*DEV_PROFILE	ClassC_EU868	*DEVADDR	Please enter 8 digits
*APPSKEY	Please enter 32 digits	NWKSKEY	Please enter 32 digits	Light pole	Please select the light pole to which it belongs
Associated luminaires	Please select the associated luminaires	Lat & Long	0 0	Altitude	m
Project	Please select the project it belongs to	Belonging group	Please select the group it belongs to		

Product Information

#### Asset Info

Manufacturer	price	0 yuan	Purchase date
Installation date	Expiration date		Expiration of tariff
Service life	0	Type	Function

Edit

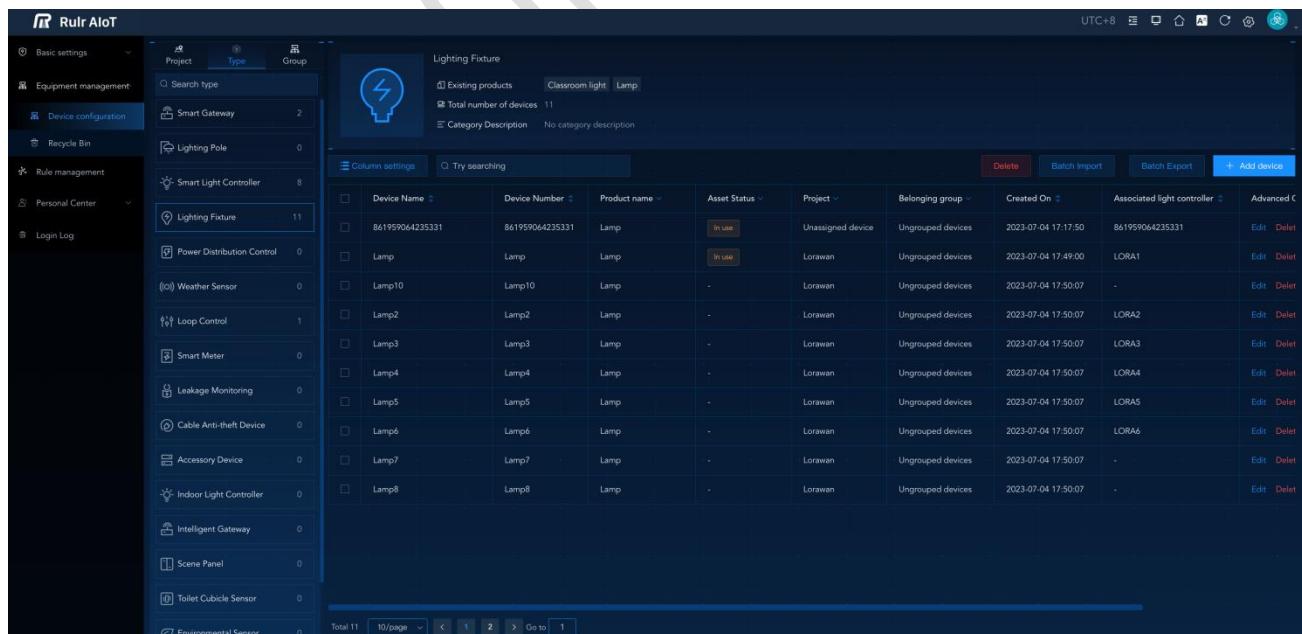
Cancel Save

### Add new Smart Light Controller - LoRa Light Controller ABP Mode

#### 2.2.1.1.4 Lighting Fixture

##### ➤ Device List

The following fields can be displayed in the Device List of Lighting Fixture: Device Name, Device Number, Product Name, Project, Belonging Group, Associated Light Controller. As shown in the figure below.



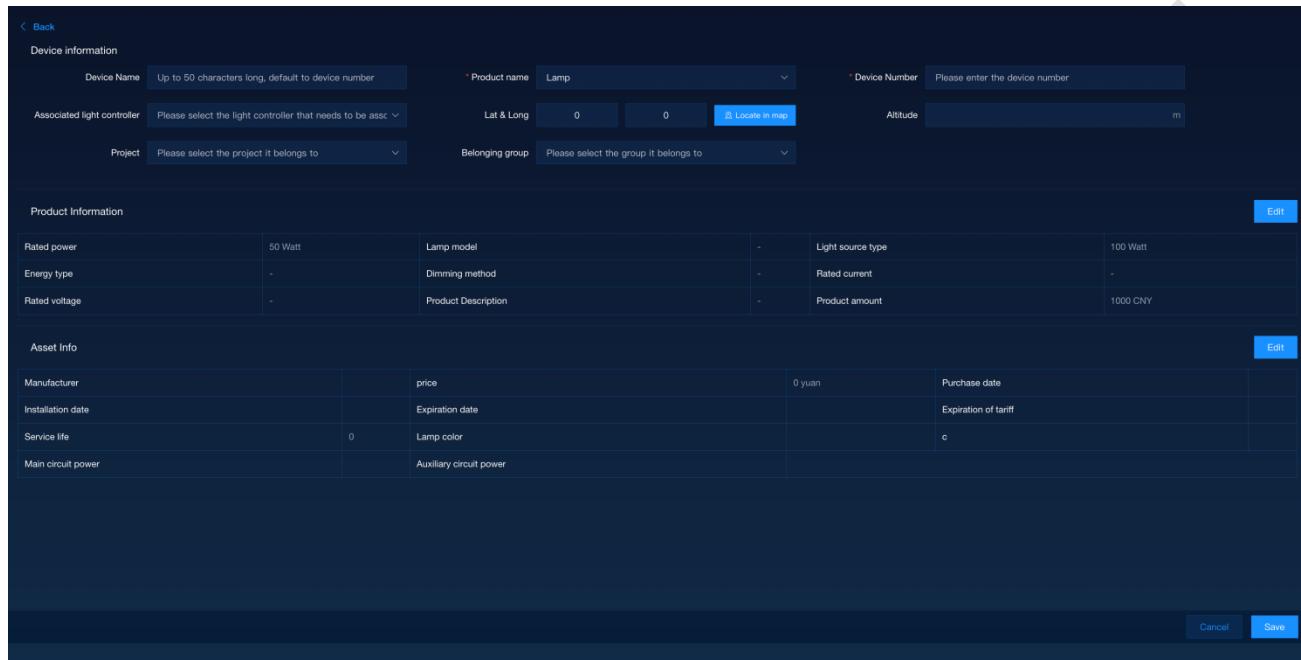
Device Name	Device Number	Product name	Asset Status	Project	Belonging group	Created On	Associated light controller	Advanced C
861959064235331	861959064235331	Lamp	In use	Unassigned device	Ungrouped devices	2023-07-04 17:17:50	861959064235331	<span>Edit</span> <span>Delete</span>
Lamp	Lamp	Lamp	In use	Lorawan	Ungrouped devices	2023-07-04 17:49:00	LORA1	<span>Edit</span> <span>Delete</span>
Lamp10	Lamp10	Lamp	-	Lorawan	Ungrouped devices	2023-07-04 17:50:07	-	<span>Edit</span> <span>Delete</span>
Lamp2	Lamp2	Lamp	-	Lorawan	Ungrouped devices	2023-07-04 17:50:07	LORA2	<span>Edit</span> <span>Delete</span>
Lamp3	Lamp3	Lamp	-	Lorawan	Ungrouped devices	2023-07-04 17:50:07	LORA3	<span>Edit</span> <span>Delete</span>
Lamp4	Lamp4	Lamp	-	Lorawan	Ungrouped devices	2023-07-04 17:50:07	LORA4	<span>Edit</span> <span>Delete</span>
Lamp5	Lamp5	Lamp	-	Lorawan	Ungrouped devices	2023-07-04 17:50:07	LORA5	<span>Edit</span> <span>Delete</span>
Lamp6	Lamp6	Lamp	-	Lorawan	Ungrouped devices	2023-07-04 17:50:07	LORA6	<span>Edit</span> <span>Delete</span>
Lamp7	Lamp7	Lamp	-	Lorawan	Ungrouped devices	2023-07-04 17:50:07	-	<span>Edit</span> <span>Delete</span>
Lamp8	Lamp8	Lamp	-	Lorawan	Ungrouped devices	2023-07-04 17:50:07	-	<span>Edit</span> <span>Delete</span>

### Device List - Lighting Fixture

➤ **Add new device (Lighting Fixture)**

**Access Path:** Settings > Equipment Management > Device Configuration > Type > Lighting Fixture > + Add Device.

User can add luminaire first, and then add light controller (associate the light controller with the lighting fixture), or vice versa. As shown in the figure below.

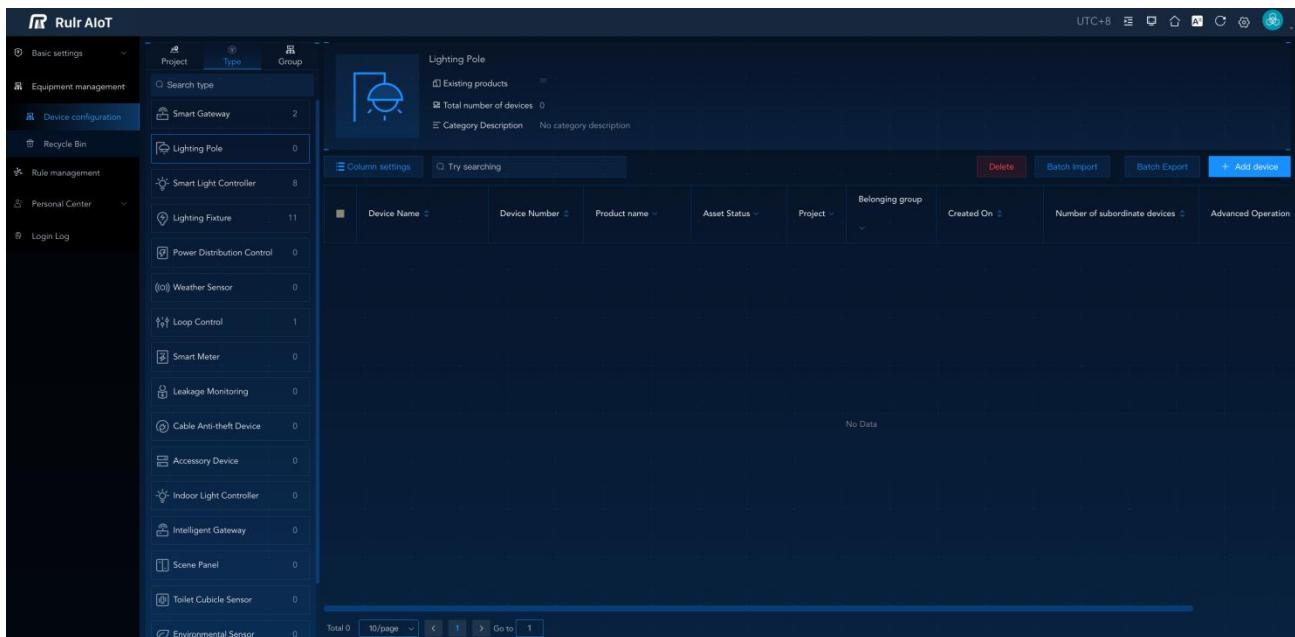


### Add new Lighting Fixture

#### 2.2.1.1.5 Lighting Pole

➤ **Device List**

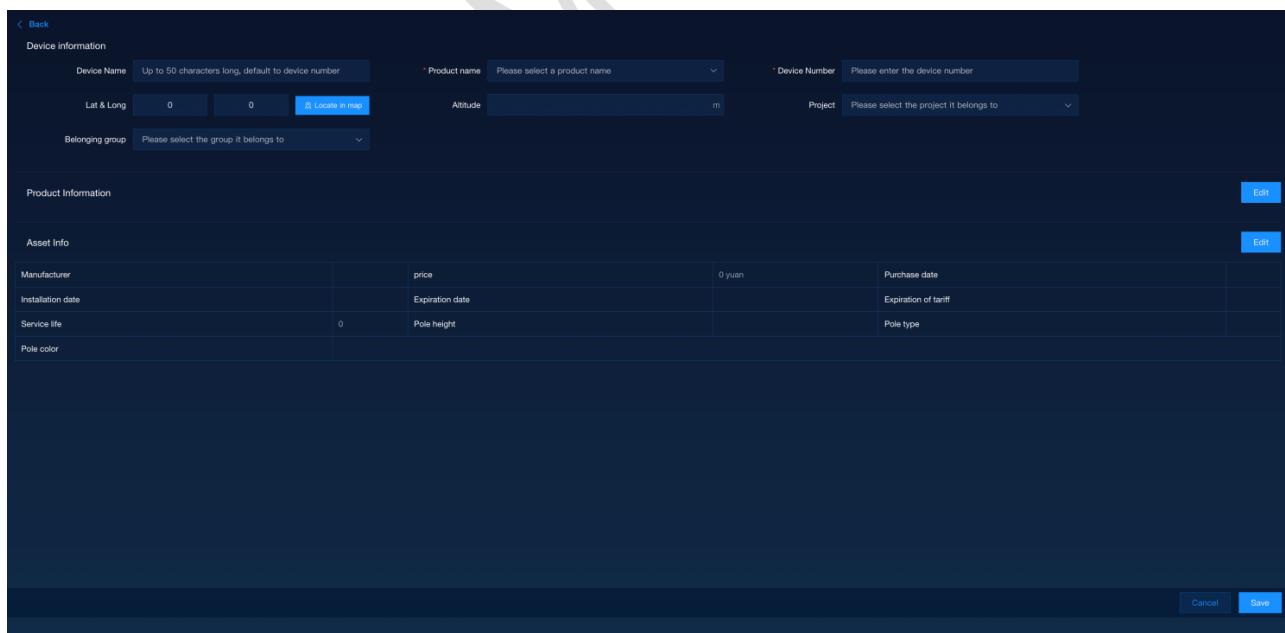
The following fields can be displayed in the Device List of Lighting Fixture: Device Name, Device Number, Product Name, Project, Belonging Group, Number of subordinate devices. As shown in the figure below.



## Device List - Lighting Pole

### ➤ Add device (Lighting Pole)

Navigate to Configuration > Equipment Management > Device Configuration > Type > Lighting Pole > Add Device page to add a new lighting pole product type (ordinary light pole), as shown in the figure below.

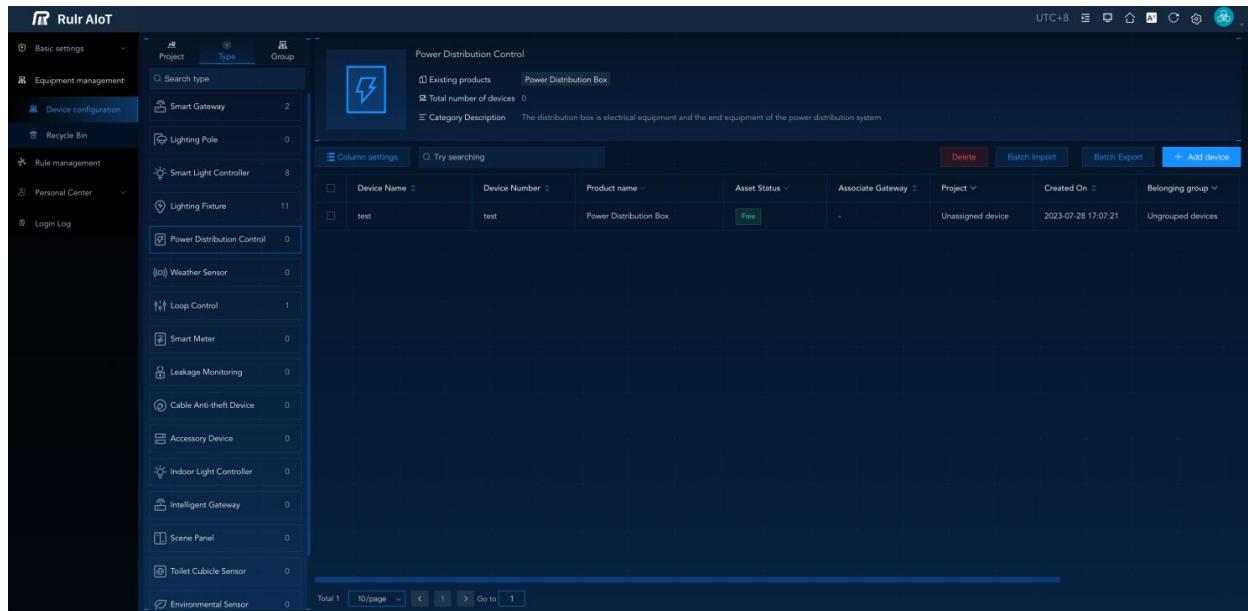


### Add new Lighting Pole

## 2.2.1.1.6 Power Distribution Control

### ➤ Device List

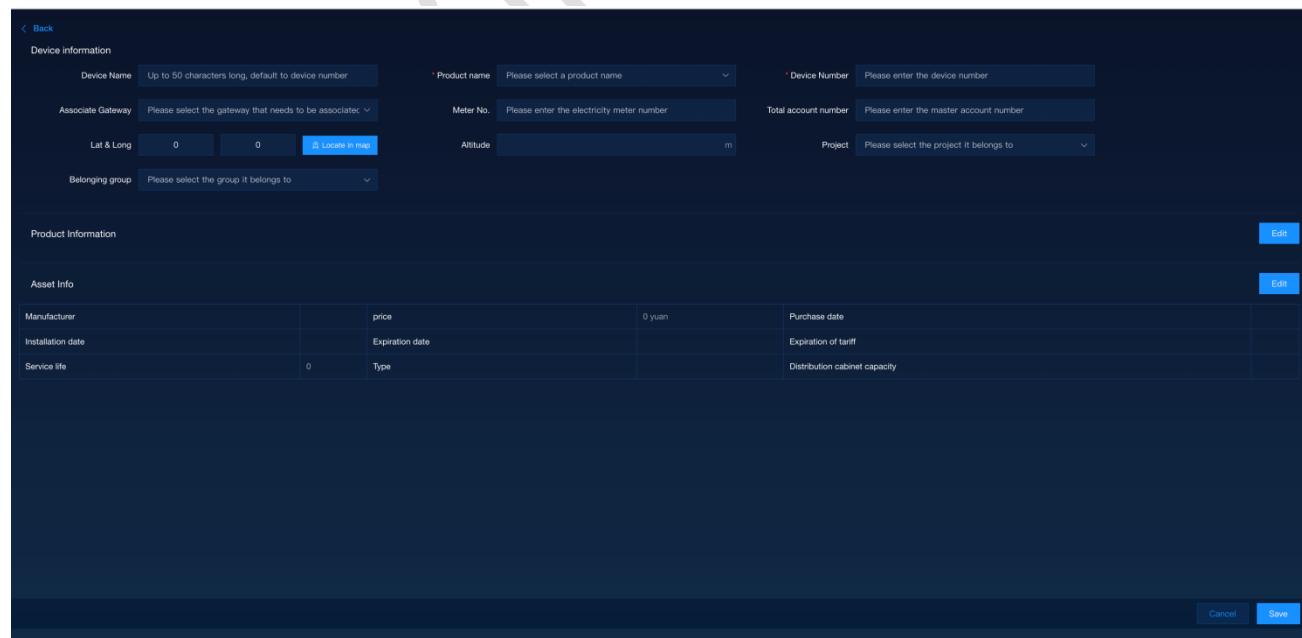
The fields supported by the power distribution cabinet list include: Device Name, Device Number, Product Name, Project, and Belonging Group. As shown in the figure below.



**Device List - Power Distribution Control**

### ➤ Add device (Power Distribution Box)

Navigate to Settings > Equipment Management > Device Configuration > Type > Power Distribution Control > + Add Device page to add a power distribution cabinet product type, as shown in the figure.

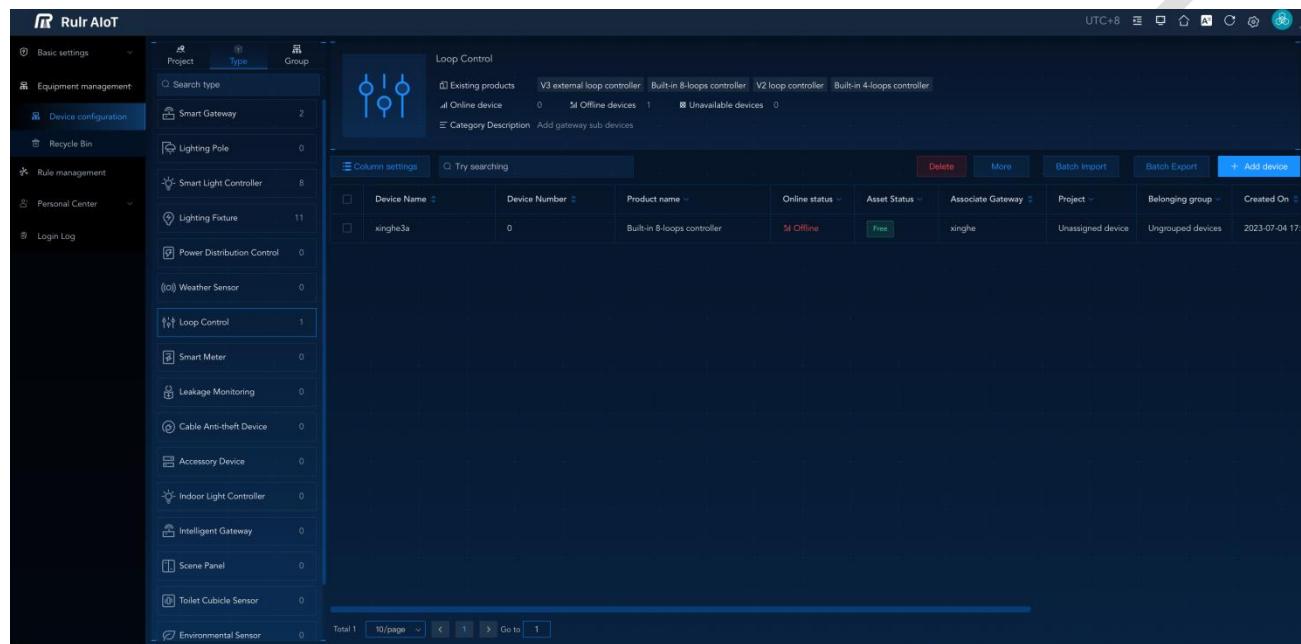


**Add new Power Distribution Control (Box)**

## 2.2.1.1.7 Loop control

### ➤ Device list

The fields supported by the loop control list are: Device Name, Device Number, Product, Online Status, Associated Gateway, Project, Belonging Group, and Update Time. As shown in the figure below.



**Loop Controller List**

### ➤ Add devices (built-in loop controller, extended loop controller)

Navigate to Setting > Equipment Management > Device Configuration > Type > Loop Control > + Add Device page to add a new device type product. Enter the device name, the product it belongs to (built-in loop controller, extended loop controller), the device number (device number of built-in loop controller is fixed at 0, and the device number range of the extended loop controller is 4-255), the associated gateway (select the corresponding gateway), the downlink channel (the built-in loop controller is fixed at 11, the extended loop controller is fixed at 1 or 2. Check the connected port number), sub-device protocol (the built-in loop controller is fixed to GWLOOP, and the external loop controller is fixed to Modbus), latitude and longitude (input or automatically obtained, synchronized with the latitude and longitude distributed on the project map), altitude , belonging project (selected in [2.3 project management](#)), belonging group (selected in the equipment list group). as shown in the figure below.

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Device information

Device Name	xinghe3a	Product name	Built-in 8-loops controller	Device Number	0
Gateway	xinghe	Downlink channel	11	Sub device protocol	gwloop
Lat & Long	0	Altitude	0 m	Project	Unassigned device
Belonging group	Ungrouped devices				

Product Information

Device manufacturer	Shanghai Shuncom	Loop	Standard 8-way/SA	Product Introduction	The gateway comes with 8 built-in loops
---------------------	------------------	------	-------------------	----------------------	---

Asset Info

Manufacturer	price	0 yuan	Purchase date	
Installation date	Expiration date		Expiration of tariff	
Service life	0			

Cancel Save

### Add Loop Control

#### 2.2.1.1.8 Smart Meter

##### ➤ Device list

The fields supported by the smart meter list include: Device Name, Device Number, Product, Online Status, Data Preview, Transformation Ratio, Gateway, Associated Control Box, Project, Belonging Group, and Update Time. Fields to display can be selected according to column settings, as shown in the figure below.

Rulr AIoT

Basic settings    Project    Type    Group

Equipment management

Device configuration

Recycle Bin

Rule management

Personal Center

Login Log

Smart Meter

Existing products: 485 three-phase electricity meter

Online device: 0   Offline devices: 0   Unavailable devices: 0

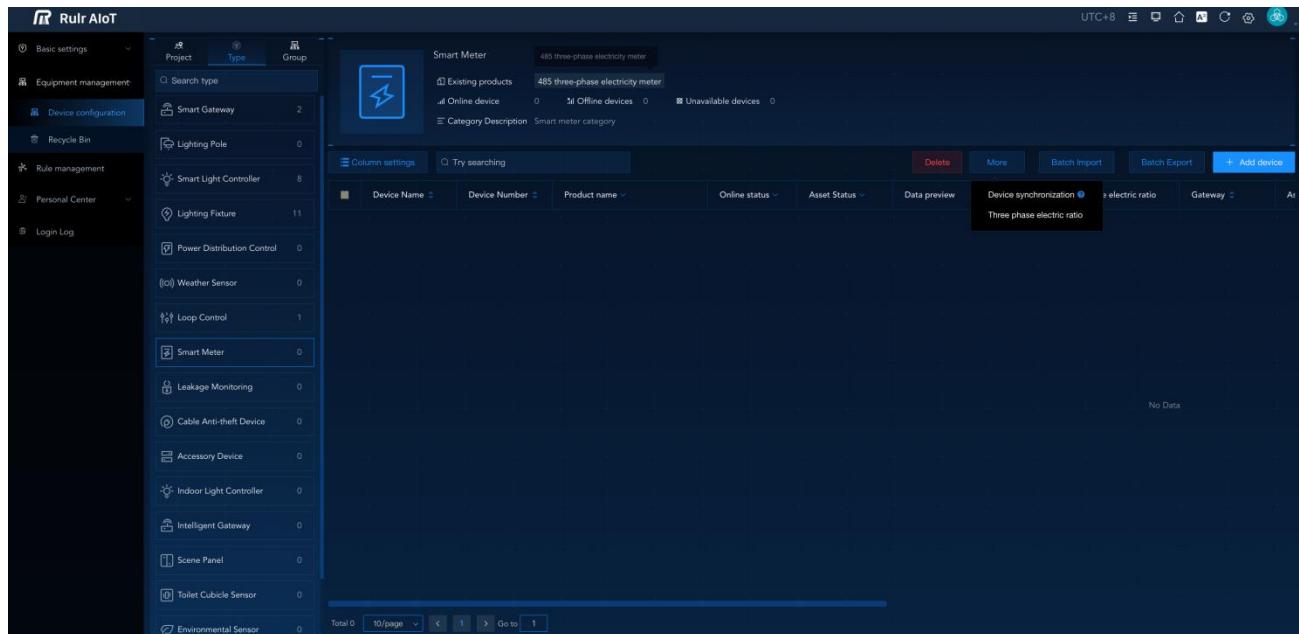
Category Description: Smart meter category

No Data

Total 0 / 10/page < 1 > Go to 1

### List of Smart Meter Devices

The smart meter supports more configurations: device synchronization, which synchronizes sub-device information to the gateway; three-phase transformer ratio, supports setting the current transformer ratio, and displays the data in multiples.



### Smart Meter - Device Synchronization and Three-phase Transformation Ratio

#### ➤ Add device (485 three-phase electricity meter)

Navigate to Settings > Equipment Management > Device Configuration > Type > Smart Meter > + Add Device page to add a new device type product. You need to enter the device name, product (485 three-phase meter), device number (12-digit address of the meter), and association. Gateway (select the corresponding gateway), downlink channel (the default downlink channel of the electric meter is 2), sub-device protocol (the protocol of the electric meter is dlt645\_07), longitude and latitude (input or automatically obtained, synchronized with the longitude and latitude distributed on the project map), Altitude, project (selected in [2.3 Project Management](#)), group (selected in the equipment list group), as shown in the figure below.

SHUNCOM AIOT

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### Device information

Device Name	Up to 50 characters long, default to device number	Product name	485 three-phase electricity meter	Device Number	Please enter the device number
Gateway	Select the gateway to which it belongs	Downlink channel	Please enter the channel number	Sub device protocol	dh645_07
Associated distribution box	Please select a device	Lat & Long	0 0	Locate in map	Altitude
Project	Please select the project it belongs to	Belonging group	Please select the group it belongs to		

### Product Information

Asset Info		Edit	
Manufacturer	price	0 yuan	Purchase date
Installation date	Expiration date	Expiration of tariff	
Service life	0		

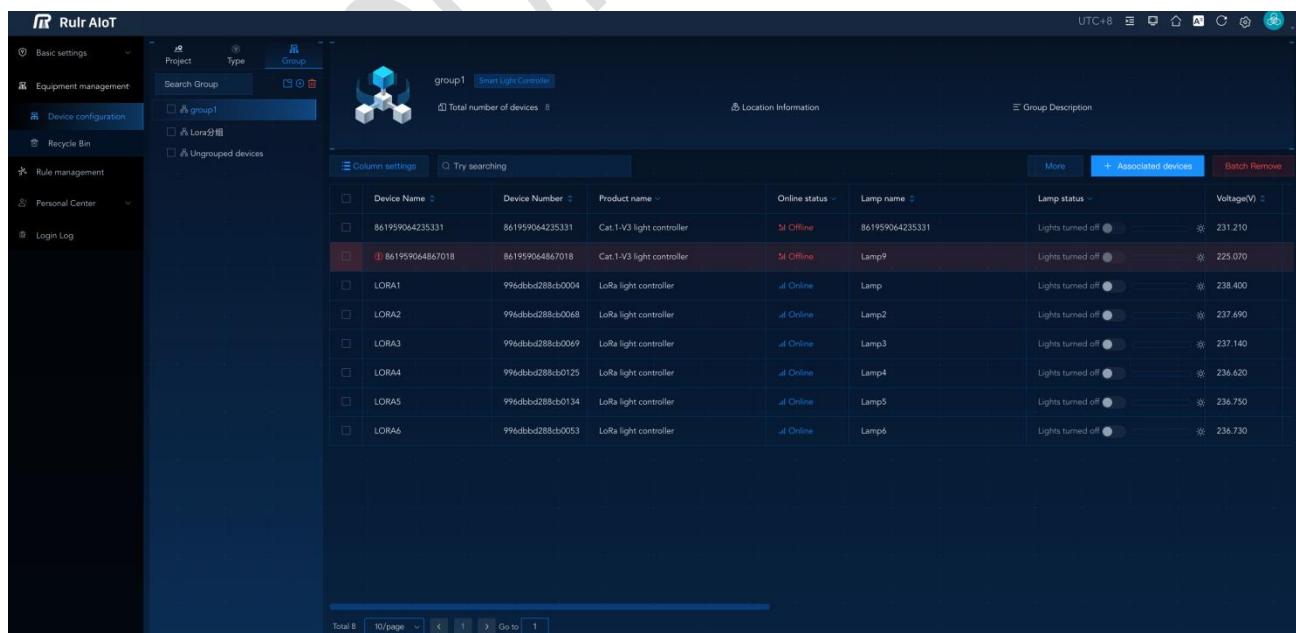
Cancel Save

## Add new Smart Meter

### 2.2.2 Device group

#### 2.2.2.1 Group List

Navigate to Setting > Equipment management > Device Configuration > Group page, which shows the group association of the device. The list is displayed according to product type, and each device list is displayed according to [2.2.1.1 Product Category](#), as shown in the figure below.



The screenshot shows the Rulr AIoT platform's Group List page. The left sidebar includes sections for Basic settings, Equipment management (with Device configuration selected), Rule management, Personal Center, and Login Log. The main area has tabs for Project, Type, and Group, with Group selected. A sidebar under Group shows 'group1' and 'Smart Light Controller'. The main content area displays a table of devices:

Device Name	Device Number	Product name	Online status	Lamp name	Lamp status	Voltage(V)
861959064235331	861959064235331	Cat. I-V3 light controller	Offline	861959064235331	Lights turned off	231.210
861959064867018	861959064867018	Cat. I-V3 light controller	Offline	Lamp9	Lights turned off	225.070
LORA1	996dbbd288cb0004	LoRa light controller	Online	Lamp	Lights turned off	238.400
LORA2	996dbbd288cb0068	LoRa light controller	Online	Lamp2	Lights turned off	237.690
LORA3	996dbbd288cb0069	LoRa light controller	Online	Lamp3	Lights turned off	237.140
LORA4	996dbbd288cb0125	LoRa light controller	Online	Lamp4	Lights turned off	236.620
LORA5	996dbbd288cb0134	LoRa light controller	Online	Lamp5	Lights turned off	236.750
LORA6	996dbbd288cb0053	LoRa light controller	Online	Lamp6	Lights turned off	236.730

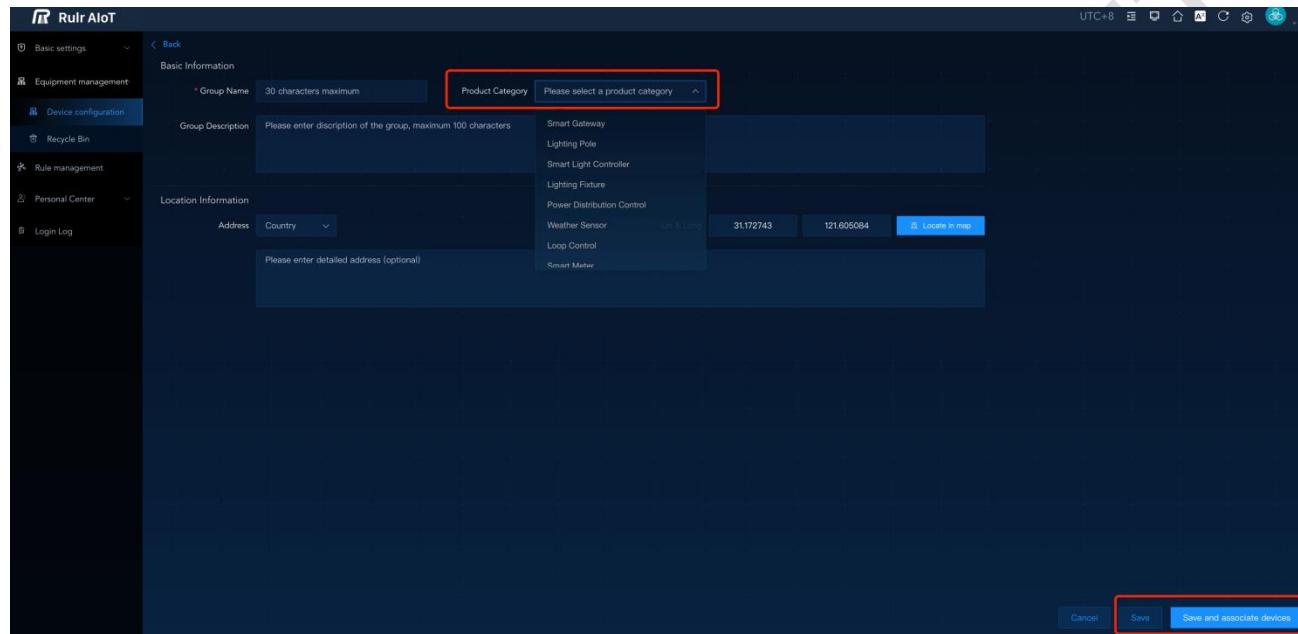
Total 8 10/page < 1 > Go to 1

#### Subgroup - Light Controller Grouping

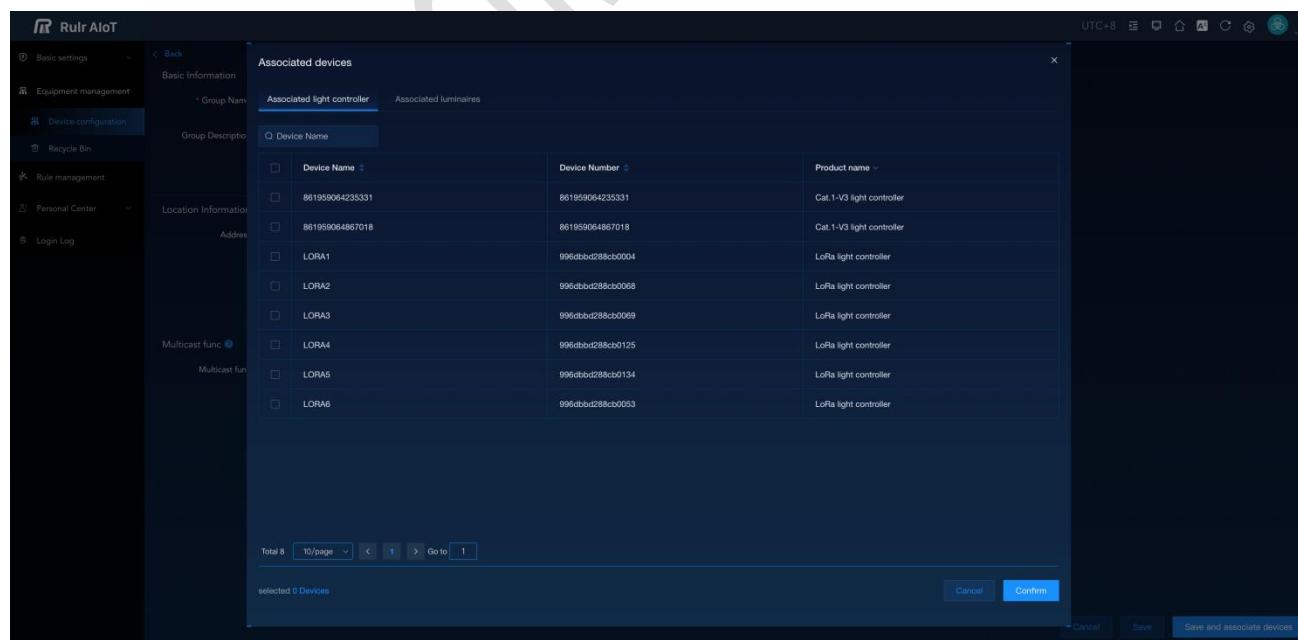
## 2.2.2.2 Add new device group

**Access Path:** Configuration > Equipment Management > Device Configuration > Grouping Page > Add a new subgroup.

Enter the group name, select product category, enter the frequency ID, group description, and select the location information, longitude and latitude, and specific address. User can save directly or associate devices to this group and then save together.



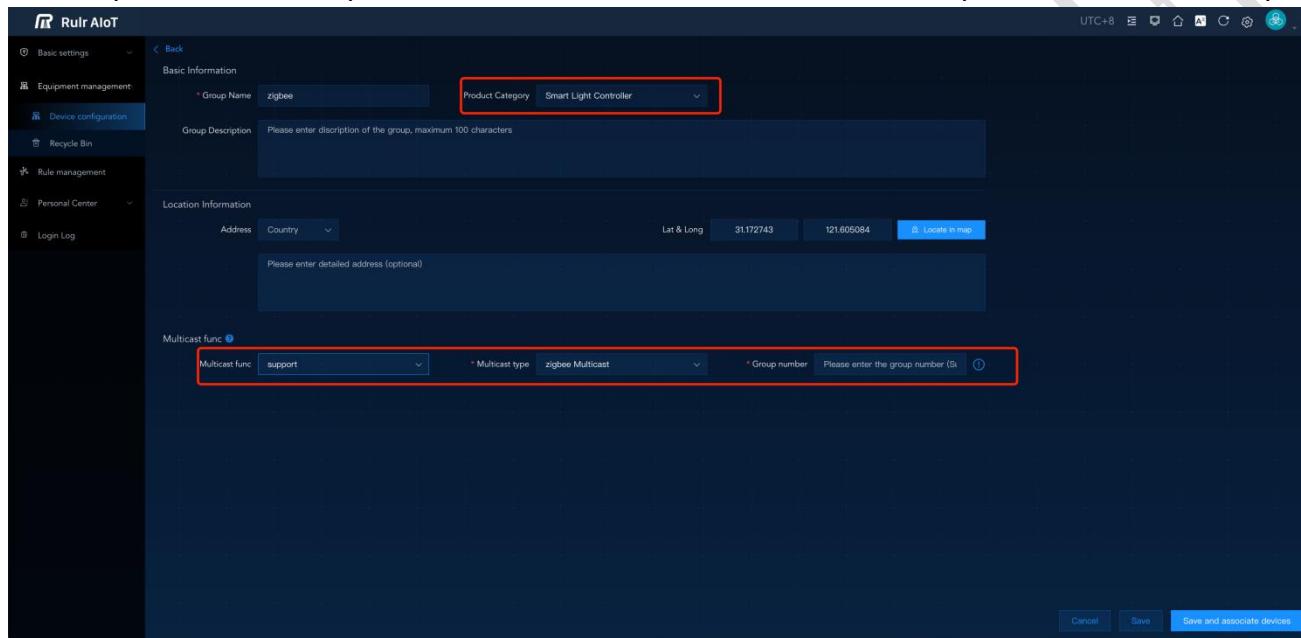
Add a Group



Associated Devices

### 2.2.2.3 Create Hardware Grouping

- If the devices are Zigbee light controller or LoRa light controller, user can use multicast function.
- **Zigbee multicast:** users need to manually enter the group number, associate the lamps, and then set the group number for each lamp. The group number range of smart light control can be filled in 1-255.
- **LoRa multicast:** users need to manually enter the group number (1, 2, 3) and frequency band. The platform can create multiple groups, each of which can be controlled independently.
- After the device is associated, the synchronization result will appear. If there is a device that fails to synchronize, click Sync and send to ensure that all devices can be synchronized successfully.



**Add Zigbee Multicast Group**

**Basic Information**

- Group Name: zigbee
- Product Category: Smart Light Controller
- Group Description: Please enter description of the group, maximum 100 characters

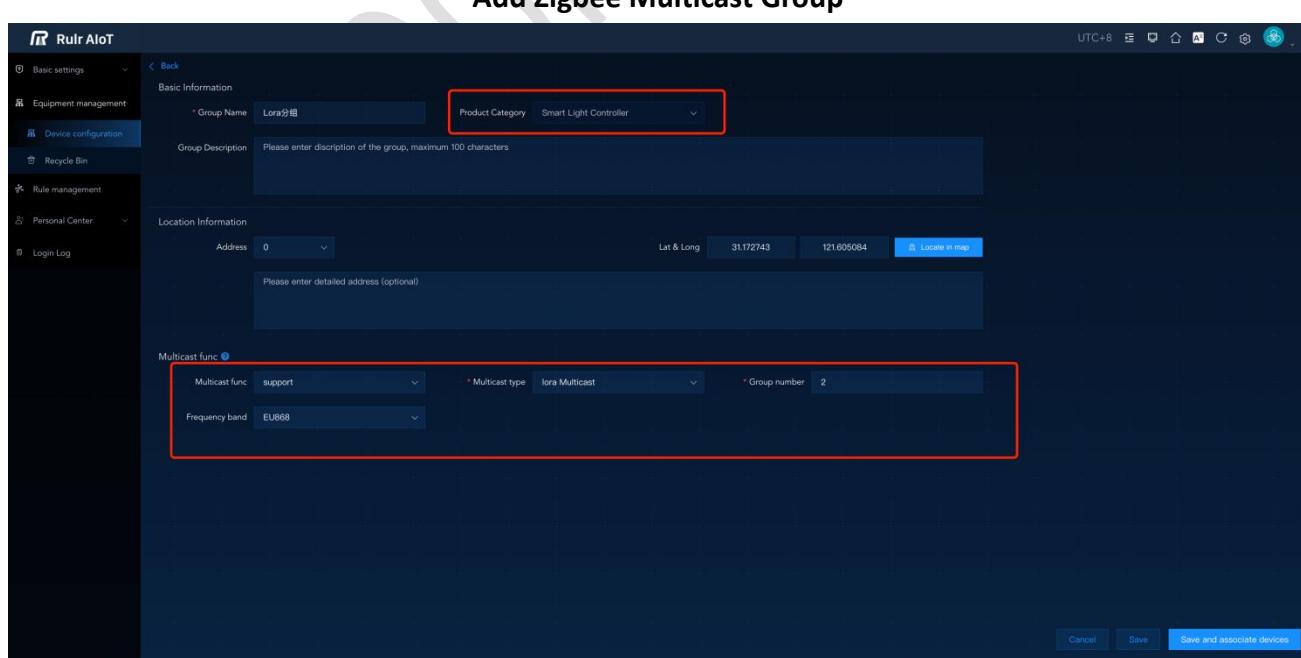
**Location Information**

- Address: Country
- Lat & Long: 31.172743, 121.605084
- Locate in map

**Multicast func**

- Multicast func: support
- Multicast type: zigbee Multicast
- Group number: 1

**Buttons:** Cancel, Save, Save and associate devices



**Add LoRa Multicast Group**

**Basic Information**

- Group Name: Lora分组
- Product Category: Smart Light Controller
- Group Description: Please enter description of the group, maximum 100 characters

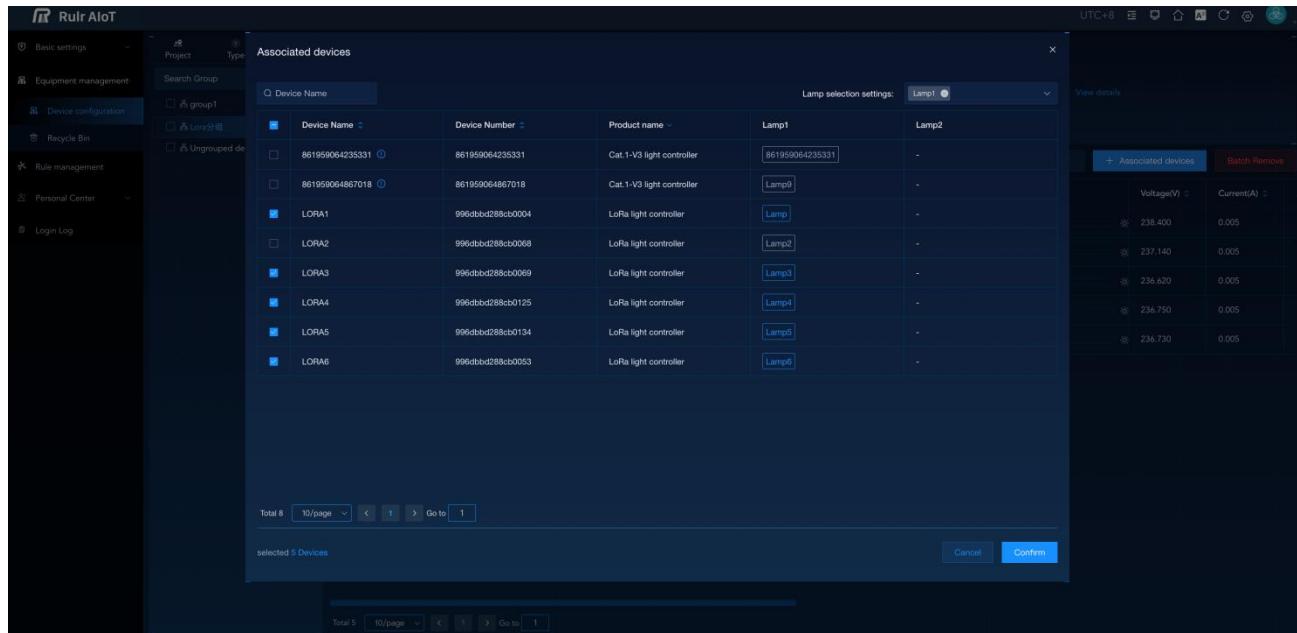
**Location Information**

- Address: 0
- Lat & Long: 31.172743, 121.605084
- Locate in map

**Multicast func**

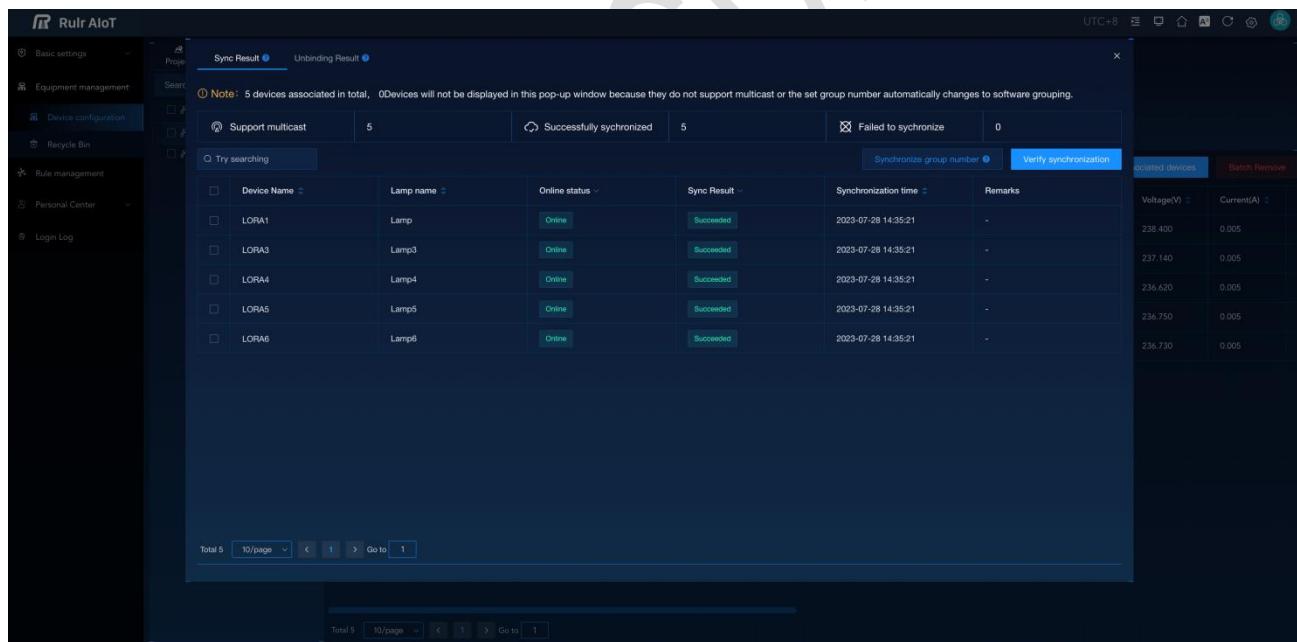
- Multicast func: support
- Multicast type: lora Multicast
- Group number: 2
- Frequency band: EU868

**Buttons:** Cancel, Save, Save and associate devices



Device Name	Device Number	Product name	Lamp1	Lamp2
861959064235331	861959064235331	Cat.1-V3 light controller	861959064235331	-
861959064867018	861959064867018	Cat.1-V3 light controller	Lamp9	-
LORA1	996dbbd288cb0004	LoRa light controller	Lamp	-
LORA2	996dbbd288cb0068	LoRa light controller	Lamp2	-
LORA3	996dbbd288cb0069	LoRa light controller	Lamp3	-
LORA4	996dbbd288cb0125	LoRa light controller	Lamp4	-
LORA5	996dbbd288cb0134	LoRa light controller	Lamp5	-
LORA6	996dbbd288cb0053	LoRa light controller	Lamp6	-

### Grouping that support multicast - Associated Devices



Sync Result	Unbinding Result
Support multicast	5
Successfully synchronized	5
Failed to synchronize	0

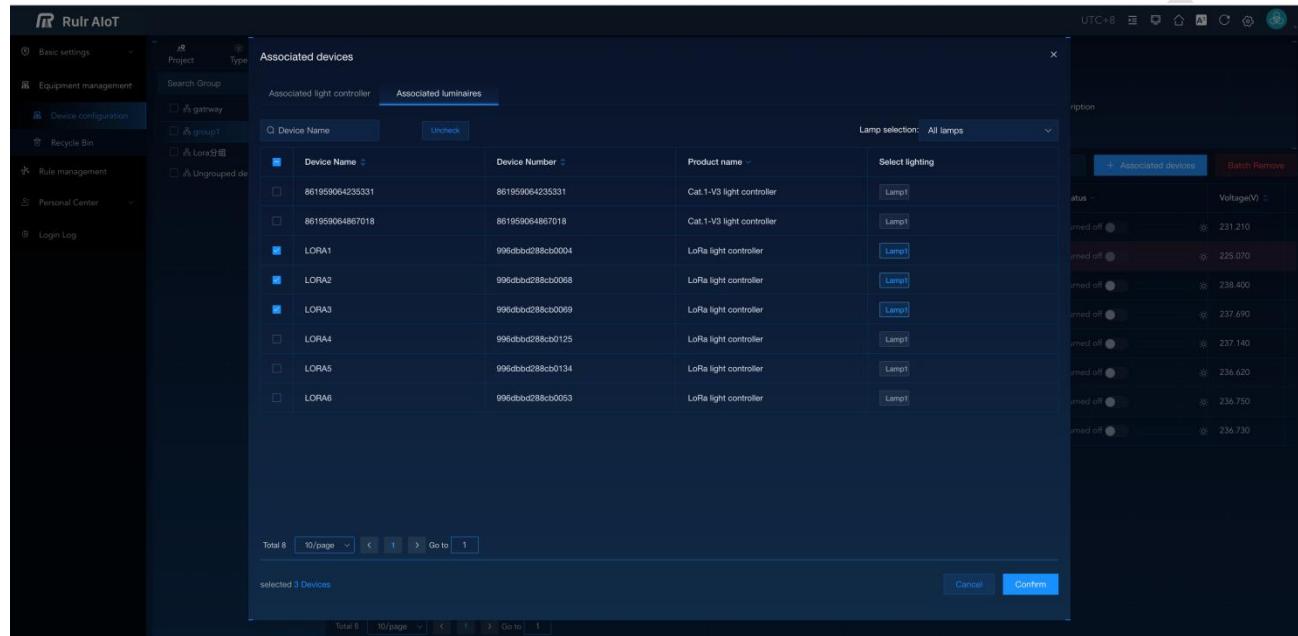
Device Name	Lamp name	Online status	Sync Result	Synchronization time	Remarks
LORA1	Lamp	Online	Succeeded	2023-07-28 14:35:21	-
LORA3	Lamp3	Online	Succeeded	2023-07-28 14:35:21	-
LORA4	Lamp4	Online	Succeeded	2023-07-28 14:35:21	-
LORA5	Lamp5	Online	Succeeded	2023-07-28 14:35:21	-
LORA6	Lamp6	Online	Succeeded	2023-07-28 14:35:21	-

### Grouping that support multicast - Synchronization Result

### 2.2.2.3 Added lamp grouping and loop group

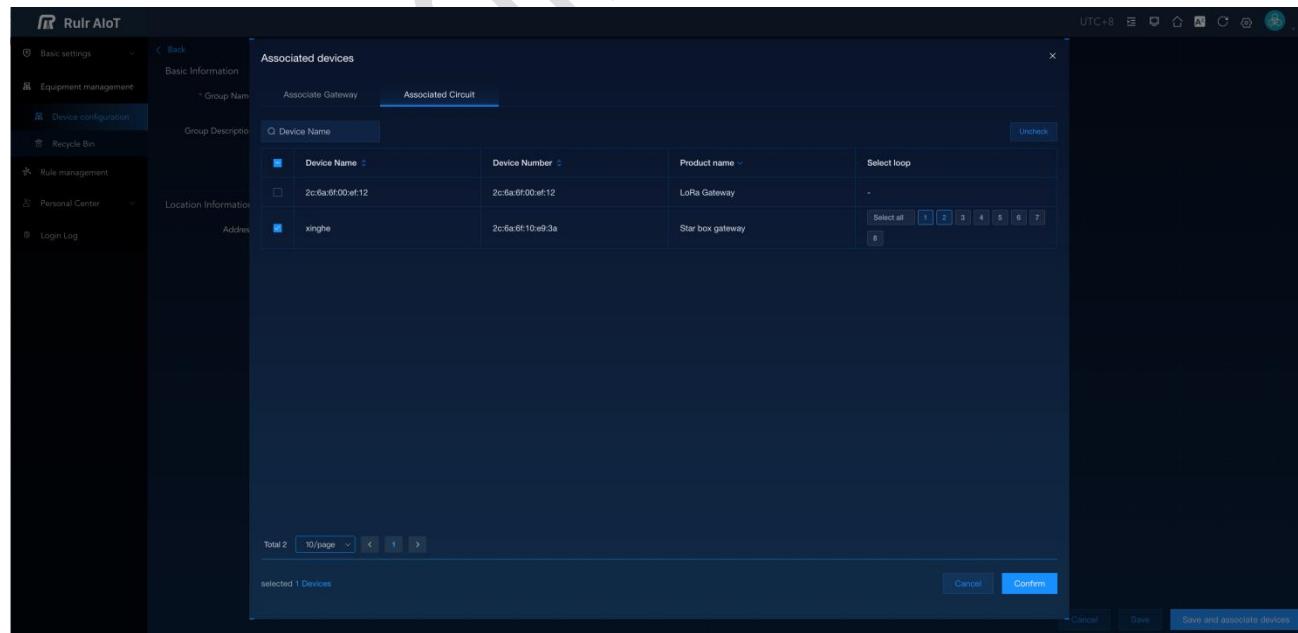
Support grouping of luminaires: user can set two lamps that controlled by a dual-way light controller into a group.

Support grouping of loops: user can set several loops of the gateway into the same group.



Device Name	Device Number	Product name	Select lighting
861959064235331	861959064235331	Cat.1-V3 light controller	Lamp1
861959064867018	861959064867018	Cat.1-V3 light controller	Lamp1
LORA1	996dbbd288cb0004	LoRa light controller	Lamp1
LORA2	996dbbd288cb0008	LoRa light controller	Lamp1
LORA3	996dbbd288cb0069	LoRa light controller	Lamp1
LORA4	996dbbd288cb0125	LoRa light controller	Lamp1
LORA5	996dbbd288cb0134	LoRa light controller	Lamp1
LORA6	996dbbd288cb0053	LoRa light controller	Lamp1

**Luminaire Grouping**



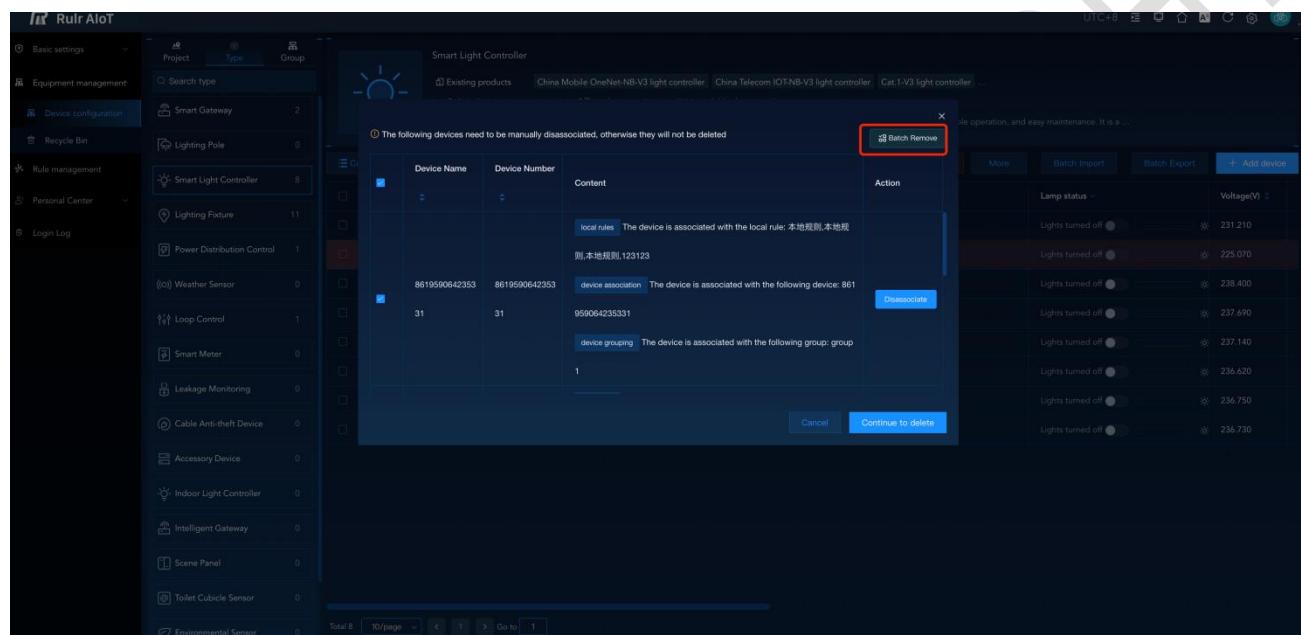
Device Name	Device Number	Product name	Select loop
2c:6a:6t:00:ef:12	2c:6a:6t:00:ef:12	LoRa Gateway	-
xinghe	2c:6a:6t:10:e9:3a	Star box gateway	Select all 1 2 3 4 5 6 7 8

**Loop Grouping**

## 2.2.3 Remove device

Regarding deleting a device, if the checked device has a binding relationship, such as rule association, group association, item association, gateway sub-device, etc., a pop-up window will appear on the platform, prompting that the device can only be deleted after the binding relationship is removed.

**If a gateway is deleted, the sub-devices of the gateway will not be deleted. After deletion, they can be restored in the Recycle Bin.**



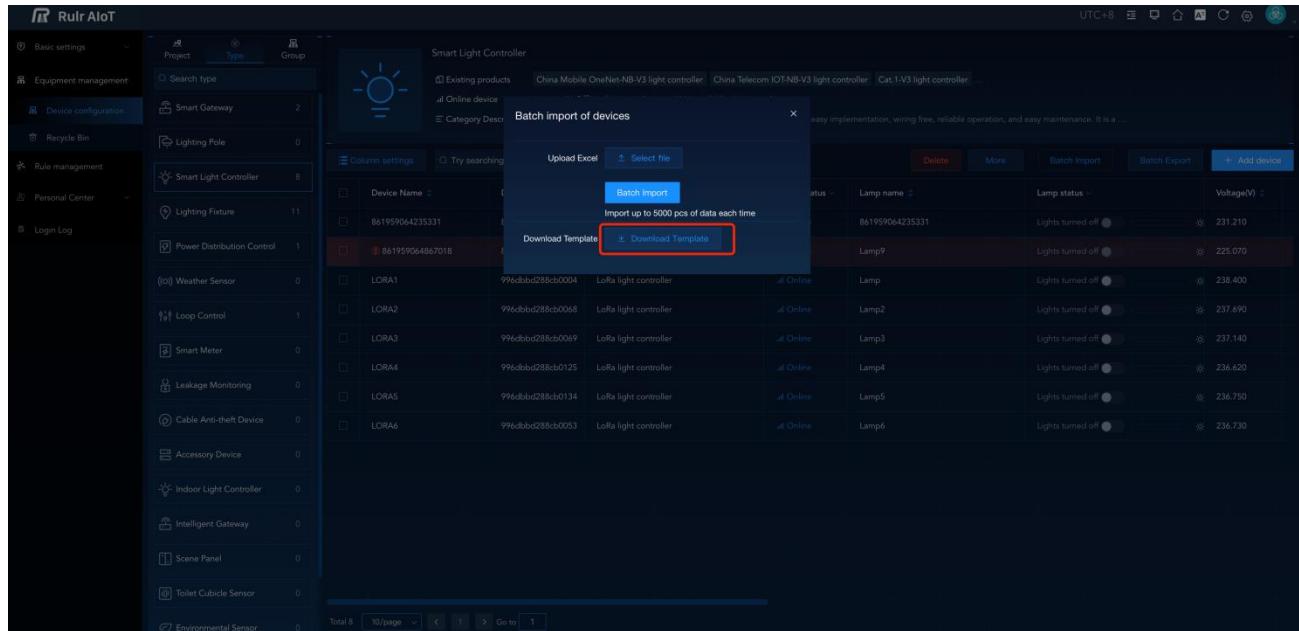
Delete Device - Unbind

## 2.2.4 Devices Import and Export

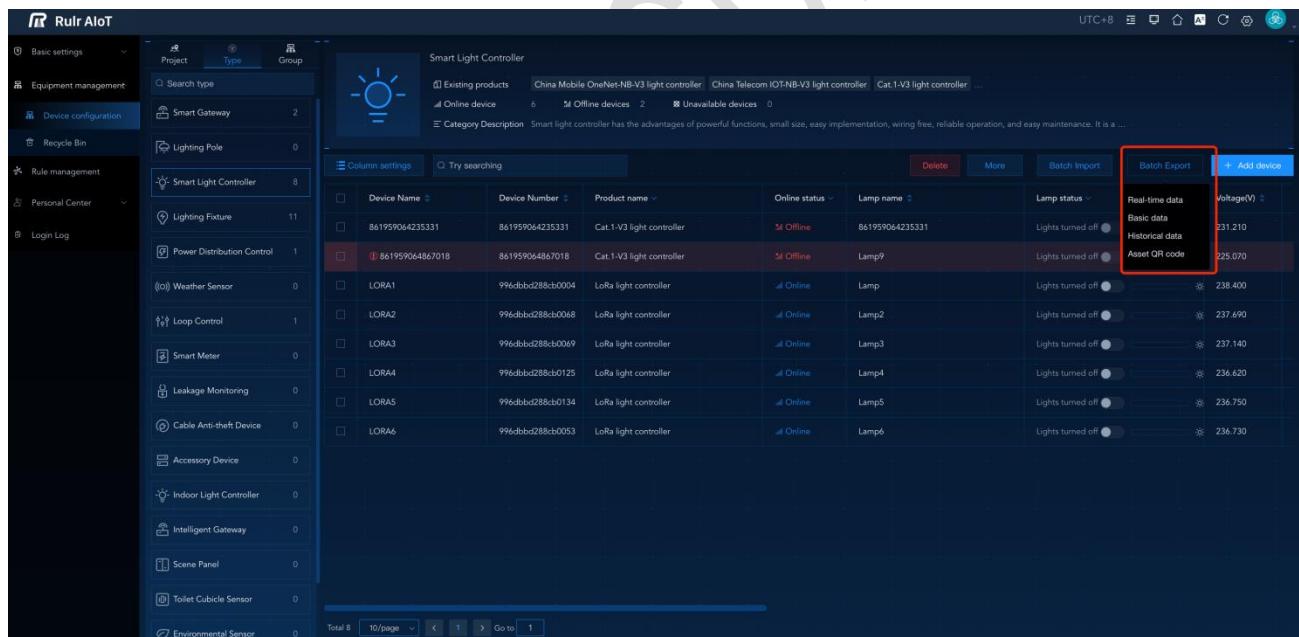
**Access Path:** Settings > Equipment Management > Device Configuration > Type.

Click the "Batch Import" button, the download template and file upload buttons will pop up, first download the template, fill in the data in the sheet, and then upload the selected file. The templates for different device types are different, choose the correct template. Currently, the system supports importing 5,000 pieces of data at a time. As shown in the figure below.

Click 'Basic Data' from 'Batch Export' dropdown menu to export data of all devices in the device list. Data of filtered devices can be exported as well. It supports exporting 5,000 devices at a time.



**Batch Import of Devices**



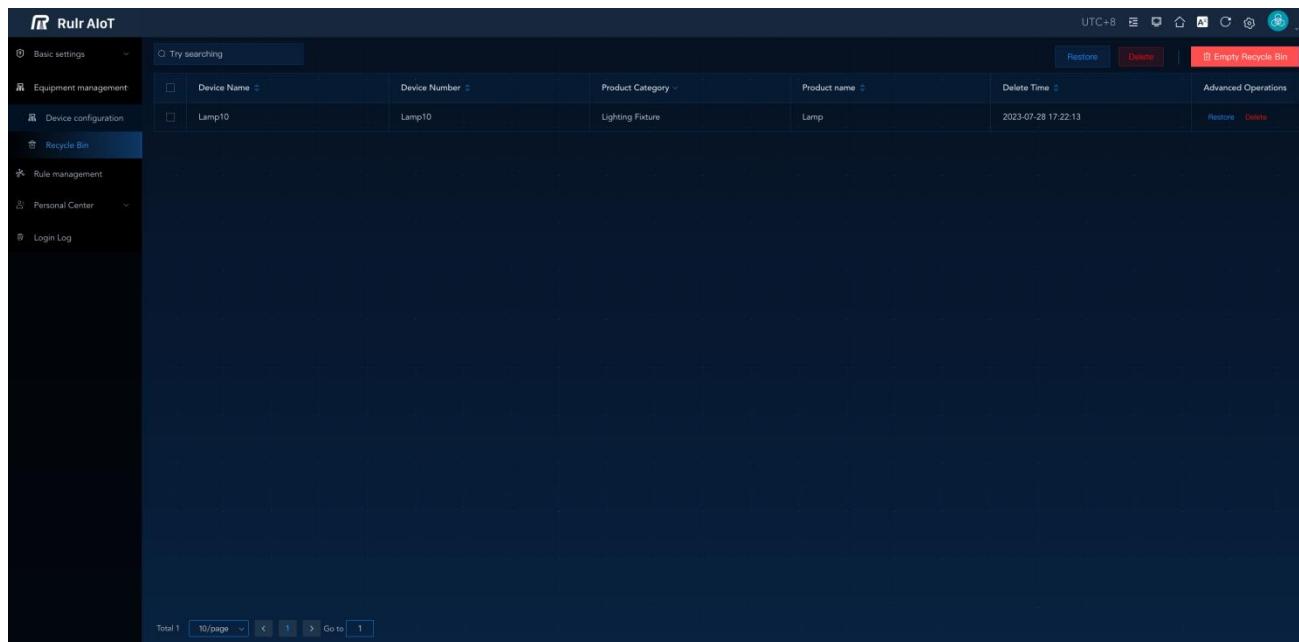
**Batch Export Data**

## 2.2.5 Recycle Bin

**Access Path:** Settings > Equipment Management > Recycle Bin page.

The deleted devices will retain the original basic information (product category, product, device code,

channel information), but the historical data of the device will not be saved. The system supports restoring devices and emptying the recycle bin. Restore will return to the original deleted location. Once the recycle bin is cleared, deleted devices cannot be restored and needs to be added again, as shown in the figure below.



Device Name	Device Number	Product Category	Product name	Delete Time	Advanced Operations
Lamp10	Lamp10	Lighting Fixture	Lamp	2023-07-28 17:22:13	<a href="#">Restore</a> <a href="#">Delete</a>

Recycle Bin

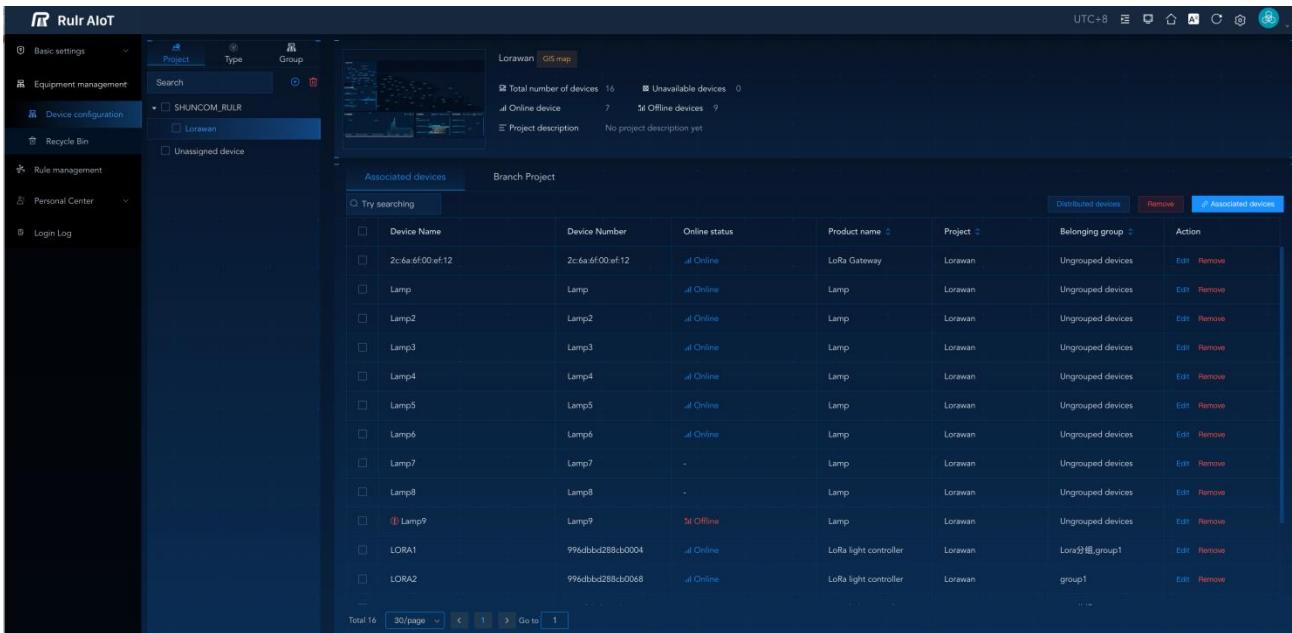
## 2.3 Project Management

### 2.3.1 Project List Management

#### 2.3.1.1 Basic Information

**Access Path:** Settings > Equipment Management > Device Configuration > Project.

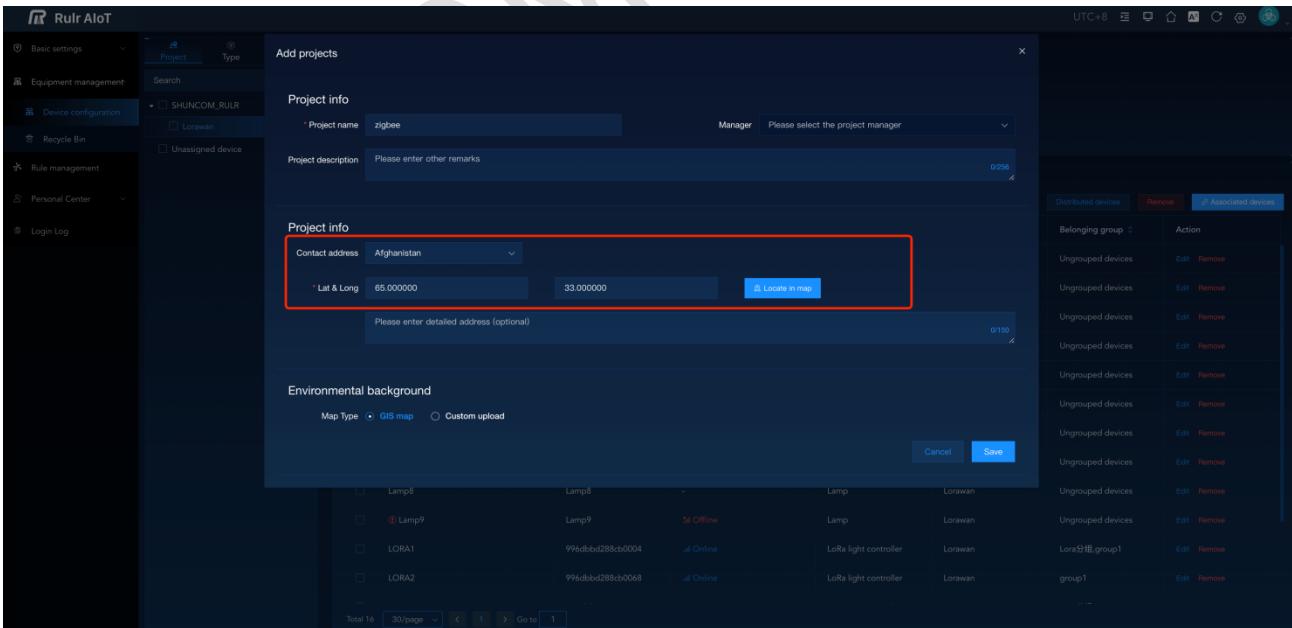
This page shows the basic information of project management, including the information of the project tree. In details it shows information of the associated equipment and the information of the sub-projects under the project. As shown in the figure below.



Device Name	Device Number	Online status	Product name	Project	Belonging group	Action
2c:6a:6f:00:ef:12	2c:6a:6f:00:ef:12	al Online	LoRa Gateway	Lorawan	Ungrouped devices	Edit Remove
Lamp	Lamp	al Online	Lamp	Lorawan	Ungrouped devices	Edit Remove
Lamp2	Lamp2	al Online	Lamp	Lorawan	Ungrouped devices	Edit Remove
Lamp3	Lamp3	al Online	Lamp	Lorawan	Ungrouped devices	Edit Remove
Lamp4	Lamp4	al Online	Lamp	Lorawan	Ungrouped devices	Edit Remove
Lamp5	Lamp5	al Online	Lamp	Lorawan	Ungrouped devices	Edit Remove
Lamp6	Lamp6	al Online	Lamp	Lorawan	Ungrouped devices	Edit Remove
Lamp7	Lamp7	-	Lamp	Lorawan	Ungrouped devices	Edit Remove
Lamp8	Lamp8	-	Lamp	Lorawan	Ungrouped devices	Edit Remove
Lamp9	Lamp9	sl Offline	Lamp	Lorawan	Ungrouped devices	Edit Remove
LORA1	996dbbd288cb0004	al Online	LoRa light controller	Lorawan	Lora分组,group1	Edit Remove
LORA2	996dbbd288cb0068	al Online	LoRa light controller	Lorawan	group1	Edit Remove

## Project information

Projects support adding, deleting, modifying and checking, and support management division according to project level. Top-level projects and unassigned projects are generated by default and cannot be deleted. If the device is not assigned, it will automatically be assigned to the unassigned project, which can be seen by all users, so it is recommended that users associate all devices with specific projects. As shown in the figure below.



Device Name	Device Number	Online status	Product name	Project	Belonging group	Action
Lamp8	Lamp8	-	Lamp	Lorawan	Ungrouped devices	Edit Remove
Lamp9	Lamp9	sl Offline	Lamp	Lorawan	Ungrouped devices	Edit Remove
LORA1	996dbbd288cb0004	al Online	LoRa light controller	Lorawan	Lora分组,group1	Edit Remove
LORA2	996dbbd288cb0068	al Online	LoRa light controller	Lorawan	group1	Edit Remove

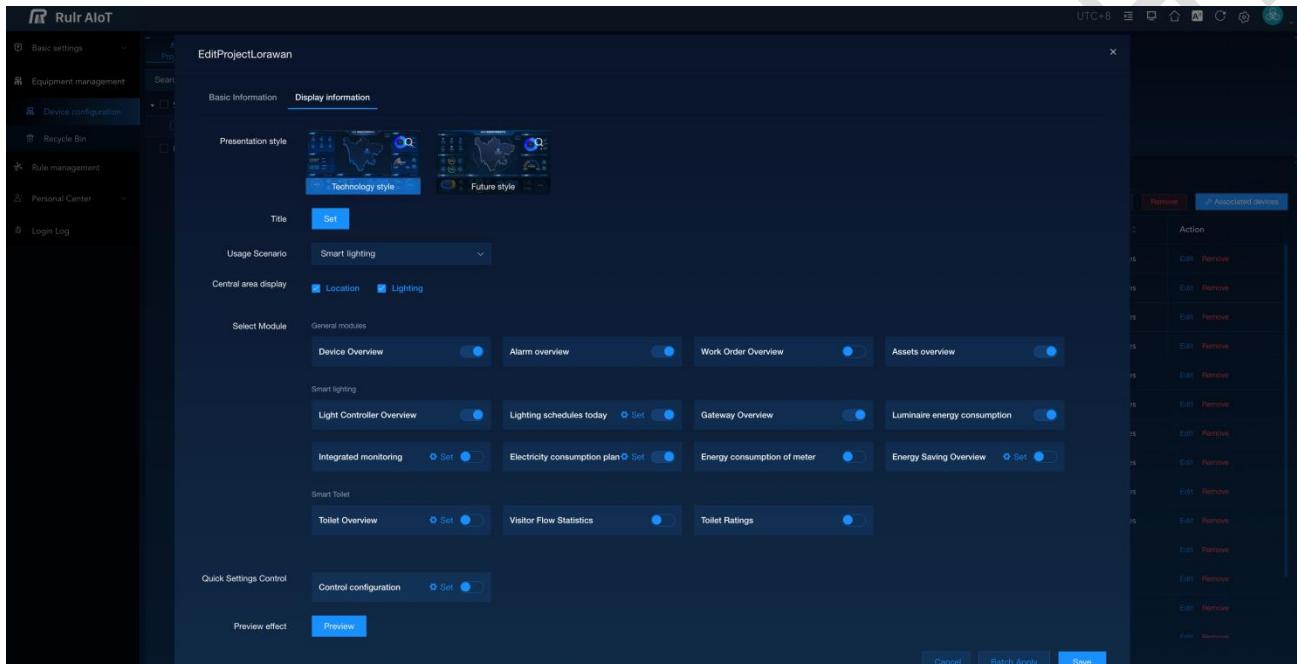
## Added Basic Project Information (GIS Map)

## 2.3.1.2 Display Information

### 2.3.1.2.1 Basic Setting for Display Information

**Access Path:** Settings > Equipment Management > Device Configuration > Edit Project > Display information

In this page, user can configure the 8 modules to be displayed in the Overview mainpage.



#### Configure Homepage of Display Information

- Project support display styles selection including technology style and future style;
- Project support title settings including name, font, color, etc.;
- Lighting distribution to show the light controllers on the GIS map;
- Some of the modules would only be displayed in the Homepage when their switch is turned on, and some of the modules require user to set contents so as to be displayed.

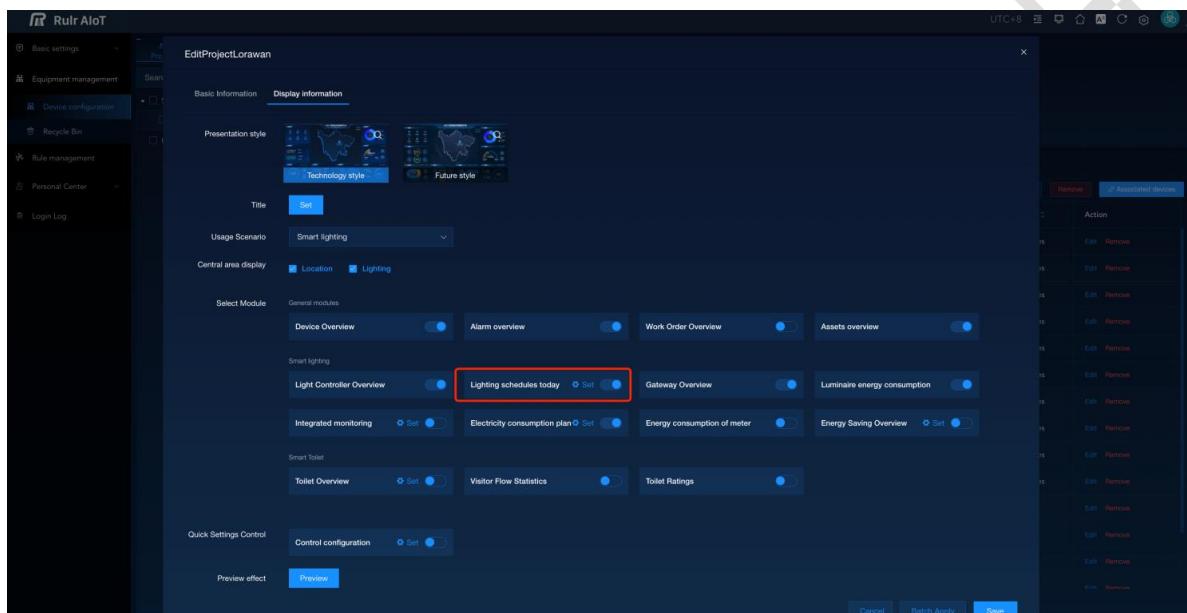
### 2.3.1.2.2 Lighting Schedules Setting

**Access Path:** Display information > Usage scenario > smart lighting > lighting schedules today.

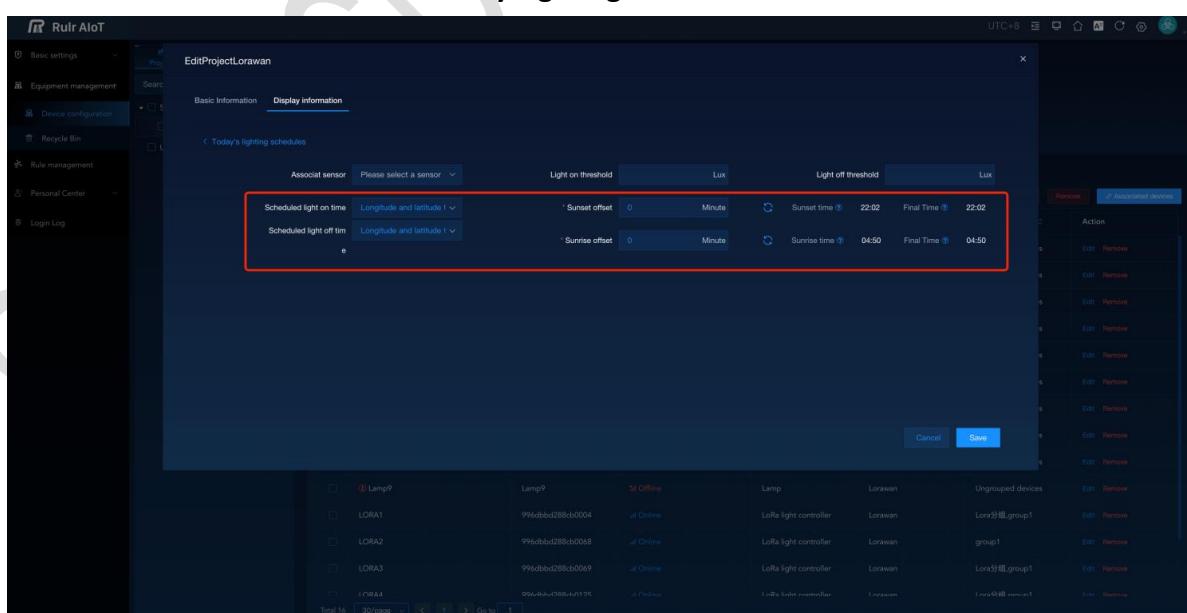
Lighting schedules can be associated with the illuminance sensor, input the light on/off threshold to trigger.

The light on and light off time can either be preset fixed time, or sunrise and sunset time (generated from longitude and latitude of devices).

The configured lighting schedules would be displayed in the homepage.



Daily Lighting Schedules



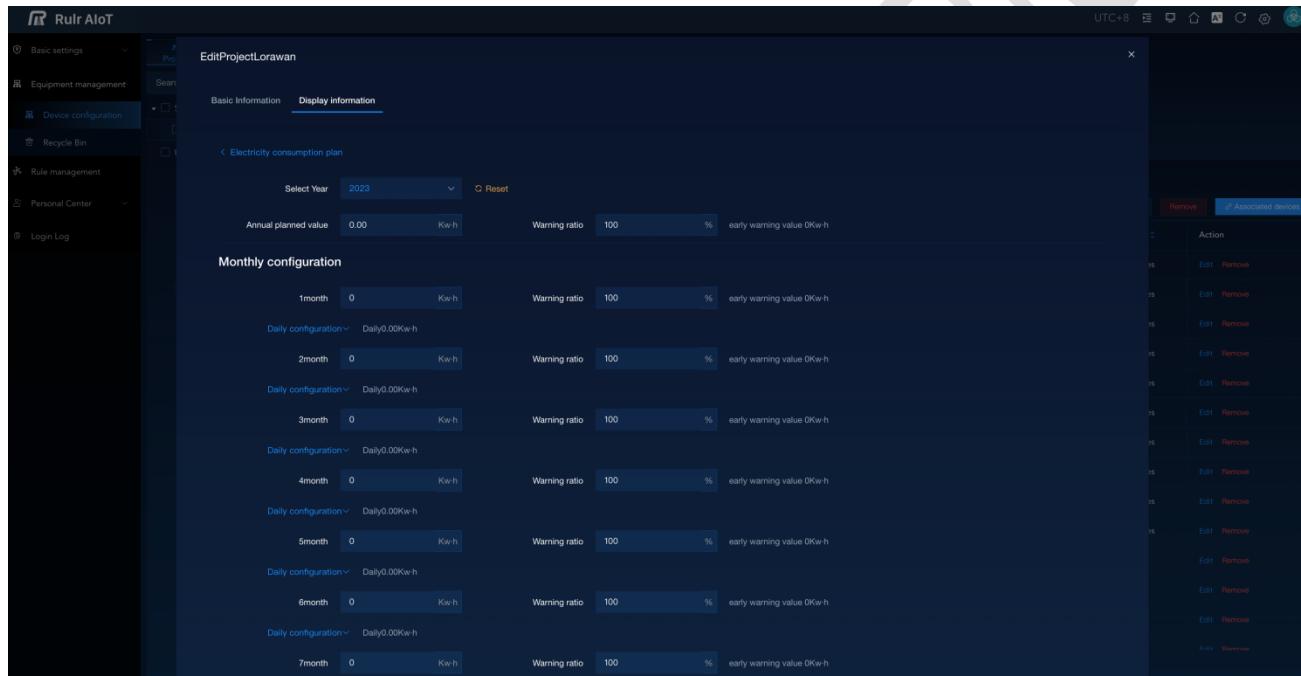
Lighting On / Off time

### 2.3.1.2.3 Electricity Consumption Plan (ECP)

**Access Path:** Display Information > ECP > Setting.

User can configure the energy consumption plan for future years. Select the year and enter the annual plan value, then the annual plan value will be divided evenly into each month and day. At the same time, user can adjust the plan for each month and each day. When the warning percentage is exceeded, the power consumption plan in the data overview displays red, and within the normal range, it displays green.

Energy Saving Rate = [(Planned energy consumption accumulated to yesterday - Actual energy consumption accumulated to yesterday) / Planned energy consumption accumulated to yesterday]\*100%

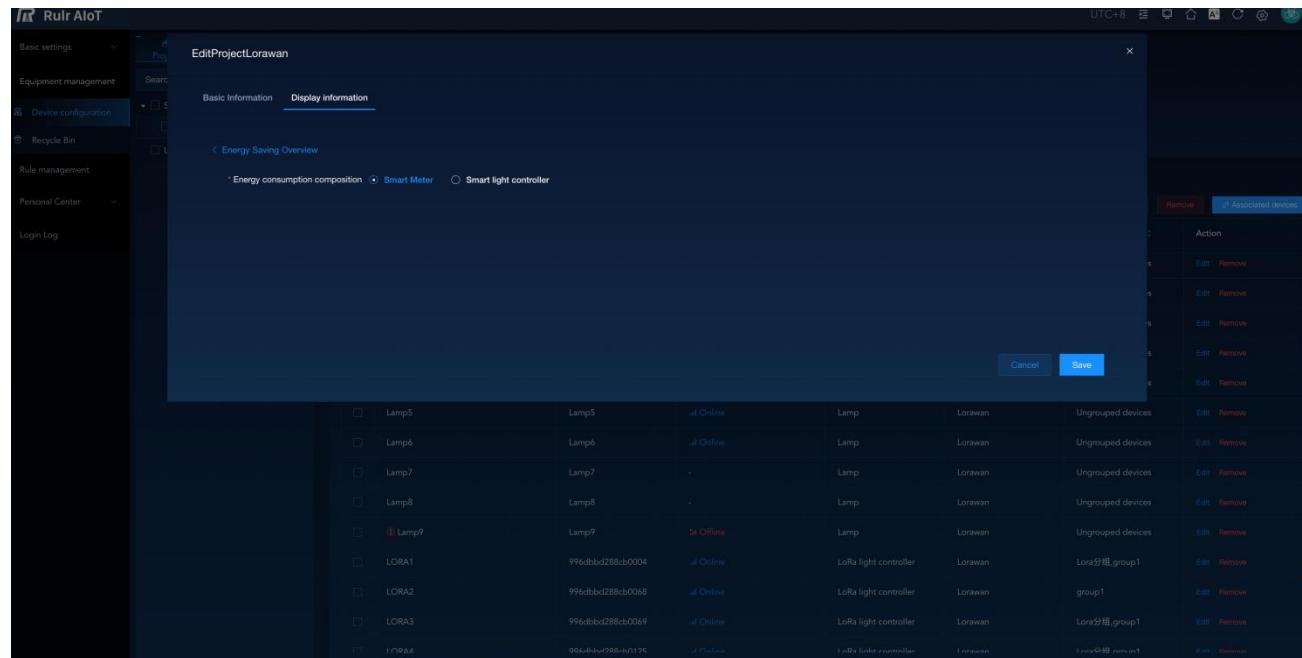


Month	Annual planned value (Kw·h)	Warning ratio (%)	Early warning value (Kw·h)
1month	0.00	100	0
2month	0.00	100	0
3month	0.00	100	0
4month	0.00	100	0
5month	0.00	100	0
6month	0.00	100	0
7month	0.00	100	0

**Electricity Consumption Plan Configuration**

### 2.3.1.2.4 Energy Saving Overview Setting

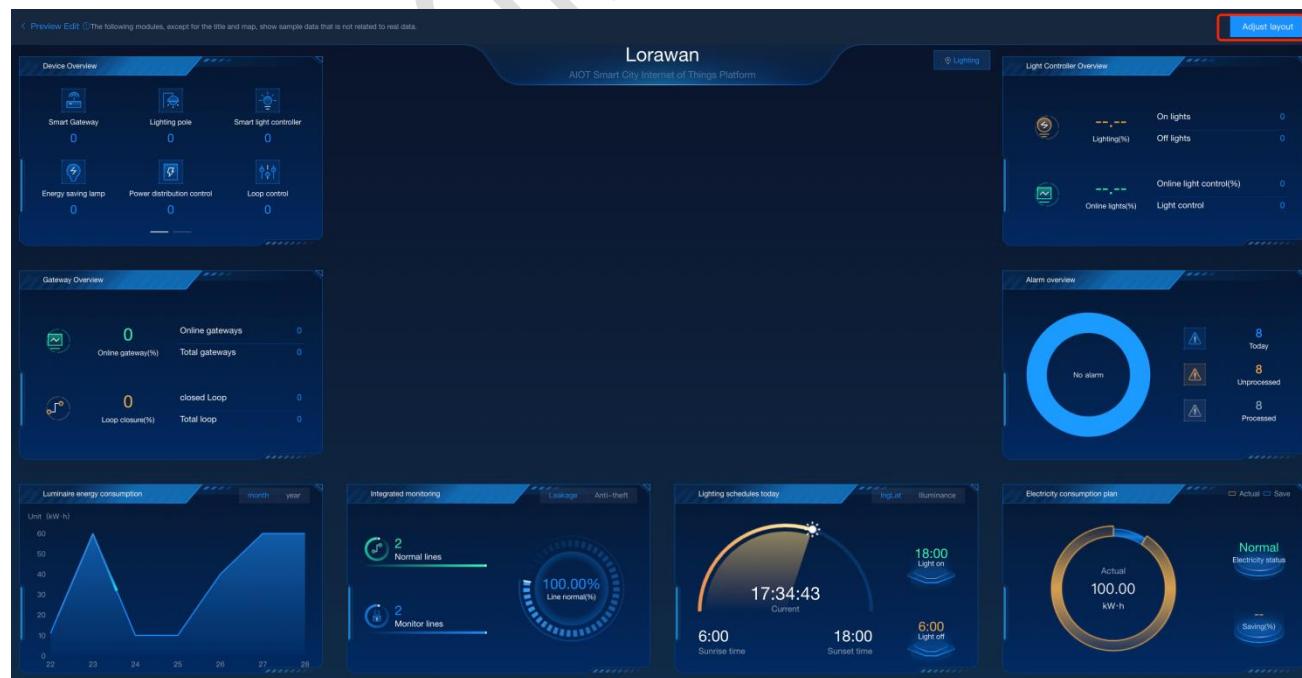
Display Information > Energy Saving Overview, to set where the energy consumption come from.



**Energy Saving Overview Setting**

### 2.3.1.2.5 Preview

Display information > Preview. By dragging the modules to customize dashboard.

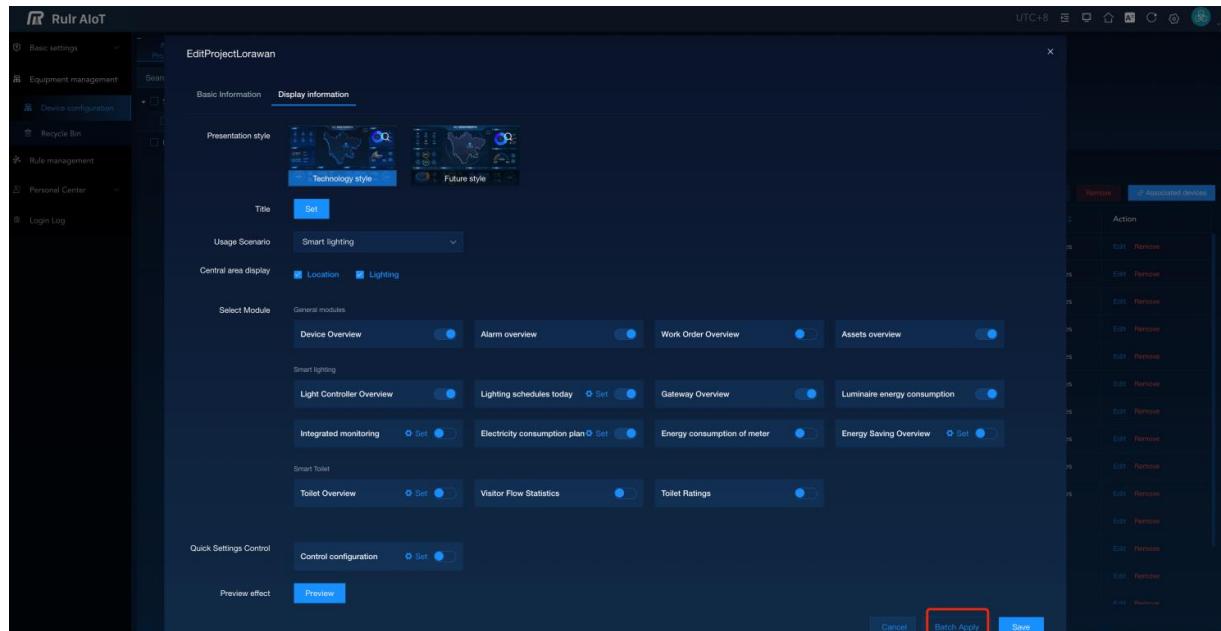


**Preview Page**

### 2.3.1.2.6 Batch Apply

**Access Path:** Display Information > Batch Apply.

The present configurations can be copied into other projects.

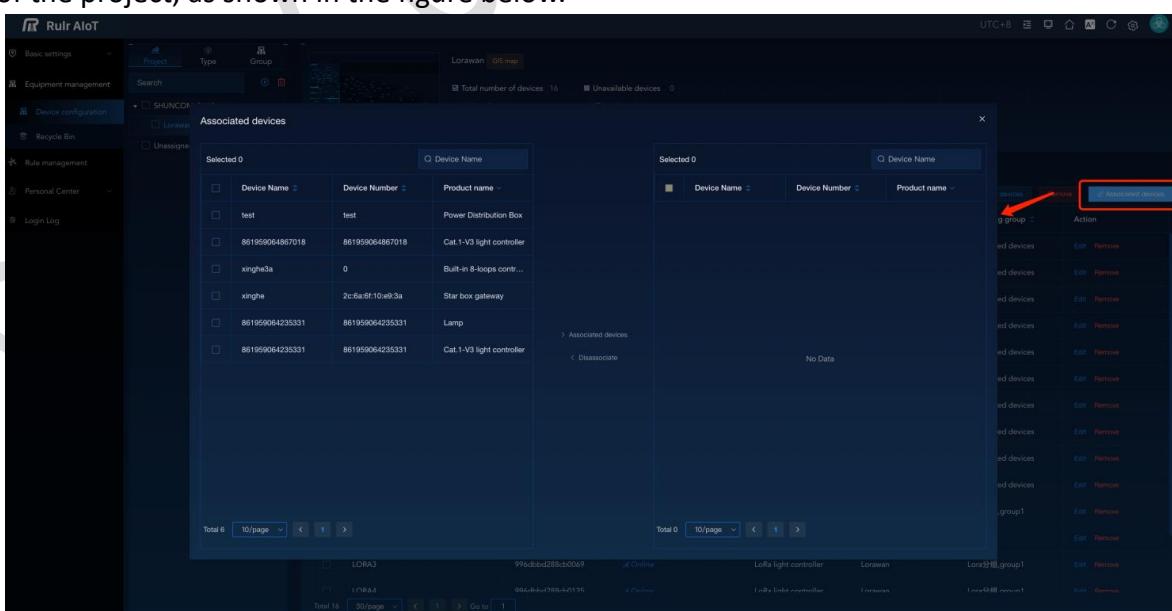


**Batch Apply**

### 2.3.2 Associated Devices

**Access Path:** Settings > Equipment Management > Project > Associated Devices.

Select the devices that needs to be associated with the project (or directly associate the corresponding project when importing devices). User can also disassociate the devices and move it out of the project, as shown in the figure below.



**Associated Devices**

## 2.3.3 Device Distribution

### 2.3.3.1 GIS Map Distribution

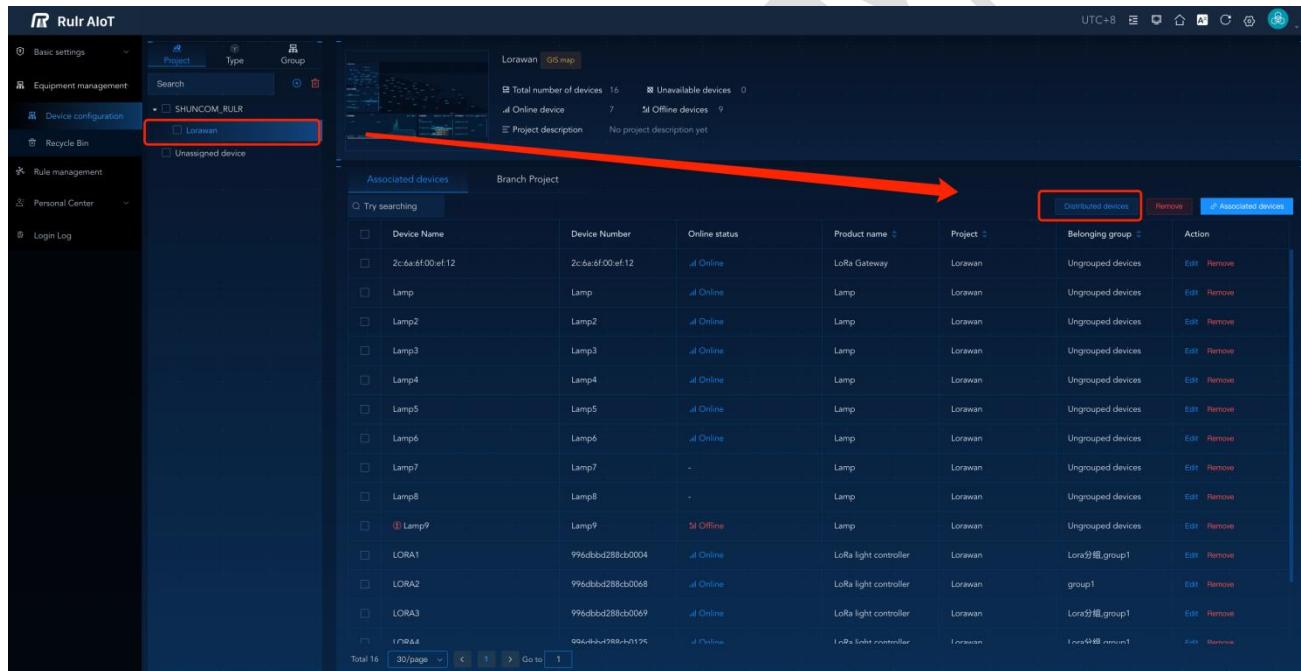
When creating project, GIS map is selected as the environment background by default.

**Access Path:** Settings > Equipment Management > Project > Distributed Devices

The list of associated devices under the project and the icon position of the associated devices on the map are displayed. The device supports single distribution and batch selection of batch distribution, and adjust slightly to individual device coordinates after distribution is possible.

The search box supports device name, device number, and supports filtering of different products.

**Note: Device distribution is only available in second-level projects.**



Device Name	Device Number	Online status	Product name	Project	Belonging group	Action
2c:6a:6f:00:ef:12	2c:6a:6f:00:ef:12	al Online	LoRa Gateway	Lorawan	Ungrouped devices	Edit Remove
Lamp	Lamp	al Online	Lamp	Lorawan	Ungrouped devices	Edit Remove
Lamp2	Lamp2	al Online	Lamp	Lorawan	Ungrouped devices	Edit Remove
Lamp3	Lamp3	al Online	Lamp	Lorawan	Ungrouped devices	Edit Remove
Lamp4	Lamp4	al Online	Lamp	Lorawan	Ungrouped devices	Edit Remove
Lamp5	Lamp5	al Online	Lamp	Lorawan	Ungrouped devices	Edit Remove
Lamp6	Lamp6	al Online	Lamp	Lorawan	Ungrouped devices	Edit Remove
Lamp7	Lamp7	-	Lamp	Lorawan	Ungrouped devices	Edit Remove
Lamp8	Lamp8	-	Lamp	Lorawan	Ungrouped devices	Edit Remove
Lamp9	Lamp9	al Offline	Lamp	Lorawan	Ungrouped devices	Edit Remove
LORA1	996dbbd288cb0004	al Online	LoRa light controller	Lorawan	LoRa组,group1	Edit Remove
LORA2	996dbbd288cb0068	al Online	LoRa light controller	Lorawan	group1	Edit Remove
LORA3	996dbbd288cb0069	al Online	LoRa light controller	Lorawan	LoRa组,group1	Edit Remove
LORA4	0944bb41788f42175	al Online	LoRa light controller	Lorawan	LoRa组,group1	Edit Remove

### Access to Device Distribution

- Single device distribution

Search and locate the approximate location on the map—Select 1 device—Batch distribution—Find the location, double-click to refresh the location of a single device

- Batch devices distribution

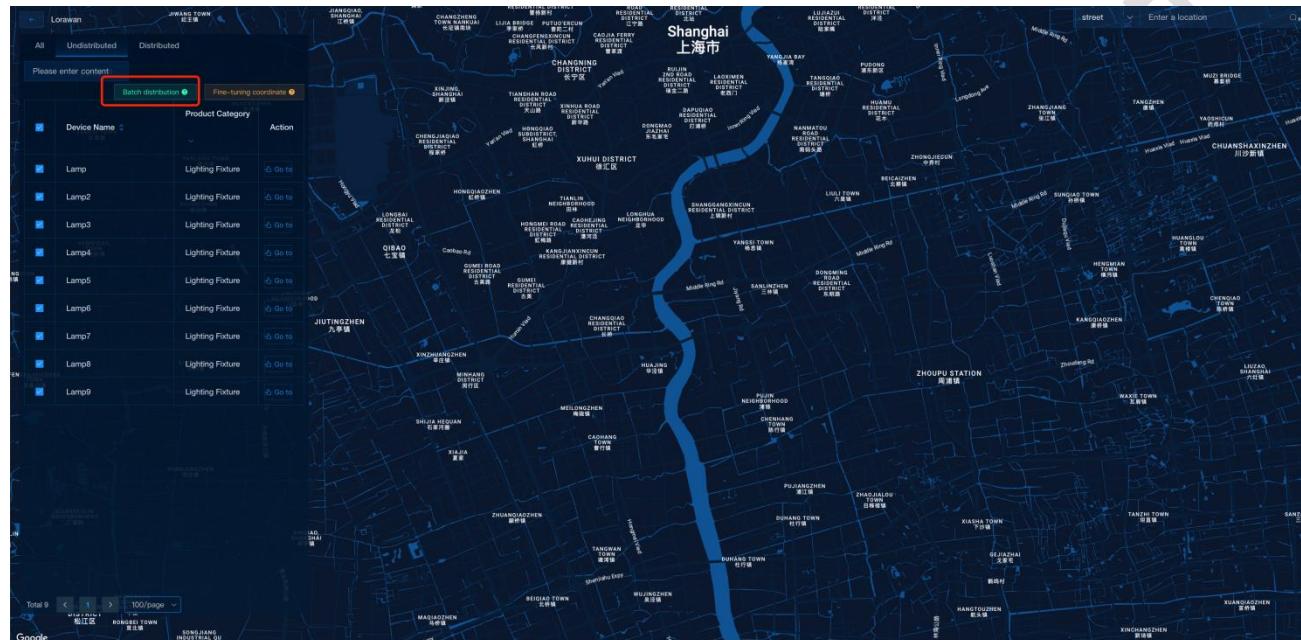
Search and locate the approximate location on the map—Select >2 devices—Batch distribution—Find the position and click the mouse once to draw the path—Double-click the mouse to

terminate the line drawing, and the devices are evenly distributed on the line to refresh the status

➤ Fine-tuning coordinate

The premise is that the equipment has been distributed on the map.

Fine-tuning coordinate—After the mouse clicks on the device, drag the mobile fine-tuning on the map—Save—Refresh location.



**Batch distribution**

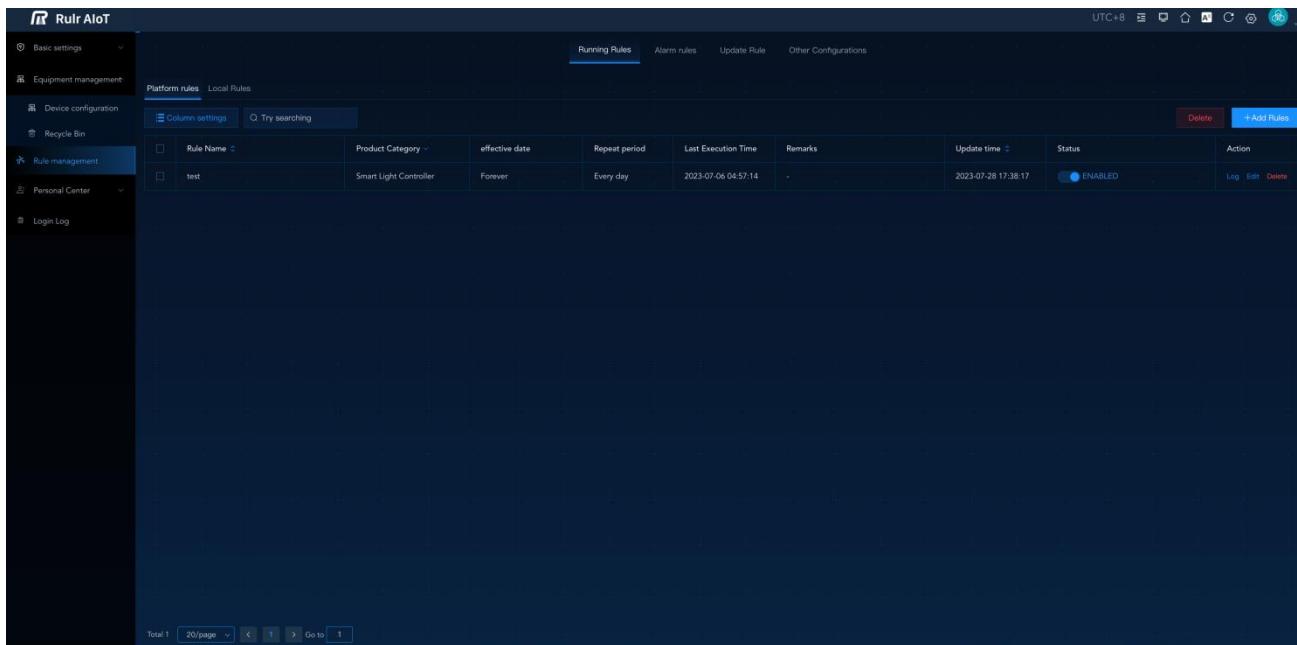
## 2.4 Rule Management

### 2.4.1 Running Rules

#### 2.4.1.1 Platform Rules

**Access Path:** Rule Management > Running Rules > Platform Rules, all rules listed there.

One platform rule supports the setting of multiple sub-rules, each sub-rule is executed independently, and each sub-rule can combine multiple trigger conditions (supports the selection of triggering when any condition is met or triggering when the conditions are met at the same time) and multiple execution actions.

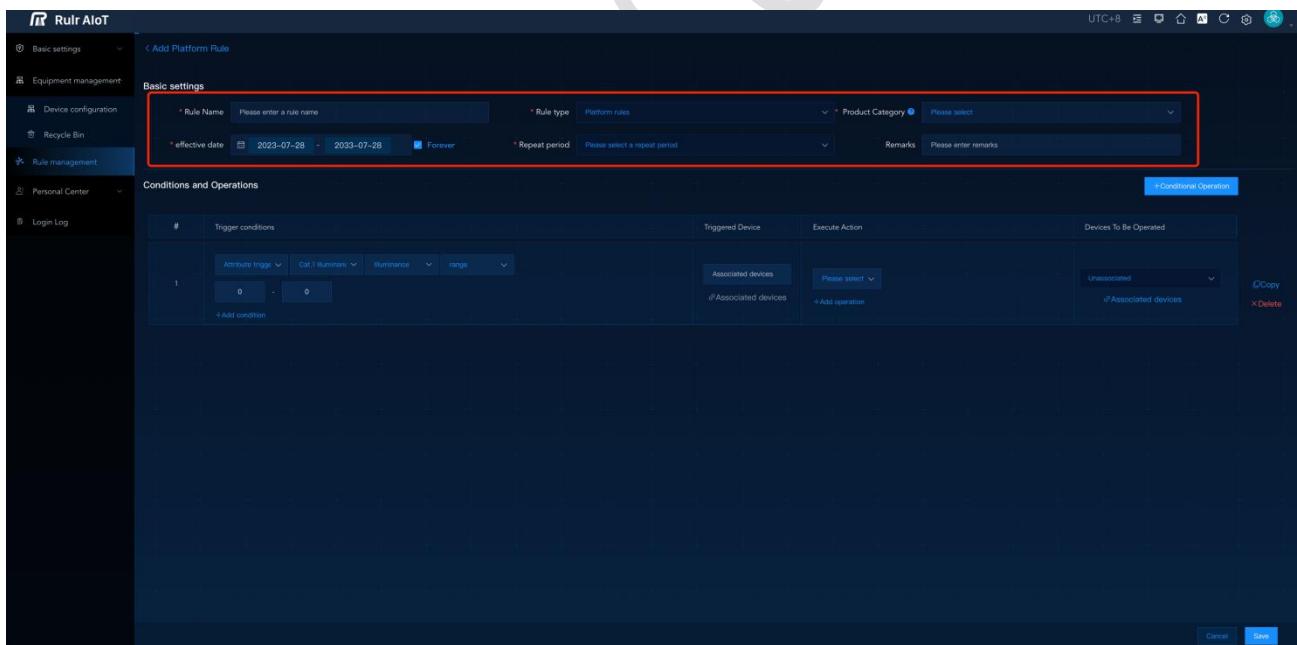


Total 1 20/page < 1 > Go to 1

## List of Platform Rules

Click 'Add Platform Rule', to enter the Rule setting page.

Input Rule Name, Rule Type, Effective date, Repeat period (daily/weekly/monthly), and remarks (not mandatory).



#	Trigger conditions	Associated devices	Execute Action	Devices To Be Operated
1	Attribute trigger: Cat.1 Illuminance, Luminescence, range, 0 - 0	Please select	+ Add operation	Unassociated devices

## Add Platform Rules

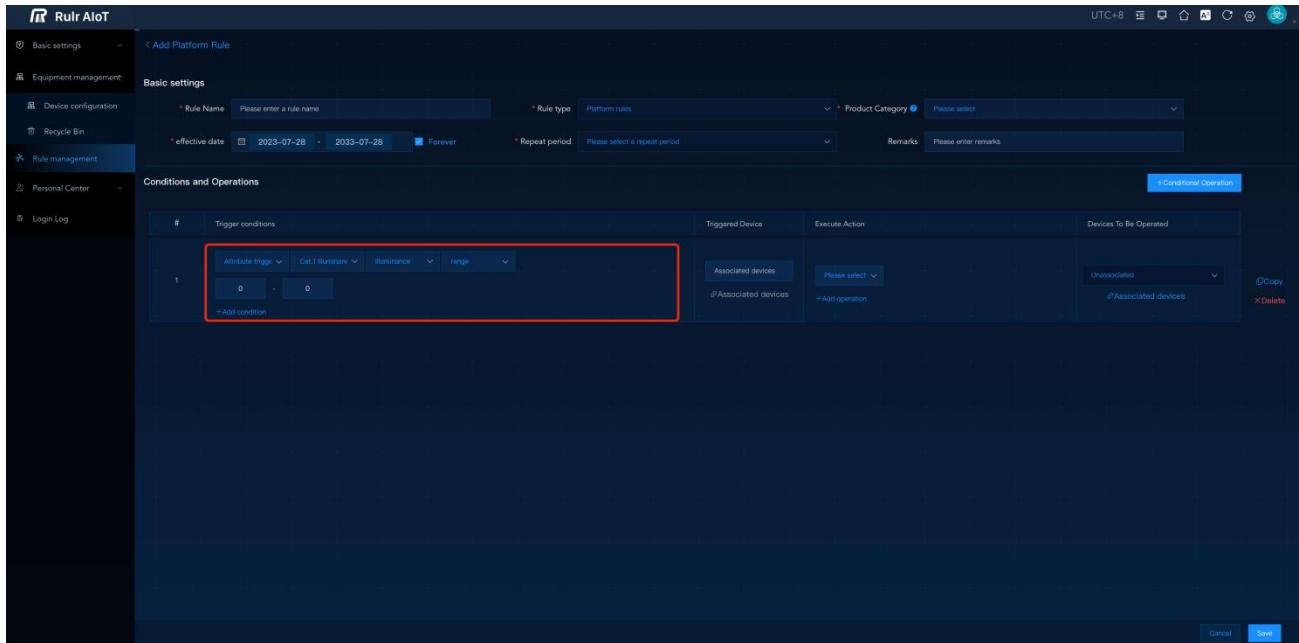
### ➤ Trigger condition

Conditional triggers include attribute triggers, time triggers, time ranges, and other triggers. Combinations between conditions and conditions are possible. When the trigger condition is met,

the corresponding action will be executed.

## 1. Attribute trigger

- ✓ Attribute triggering is to use the attribute data reported by the device to trigger the action.

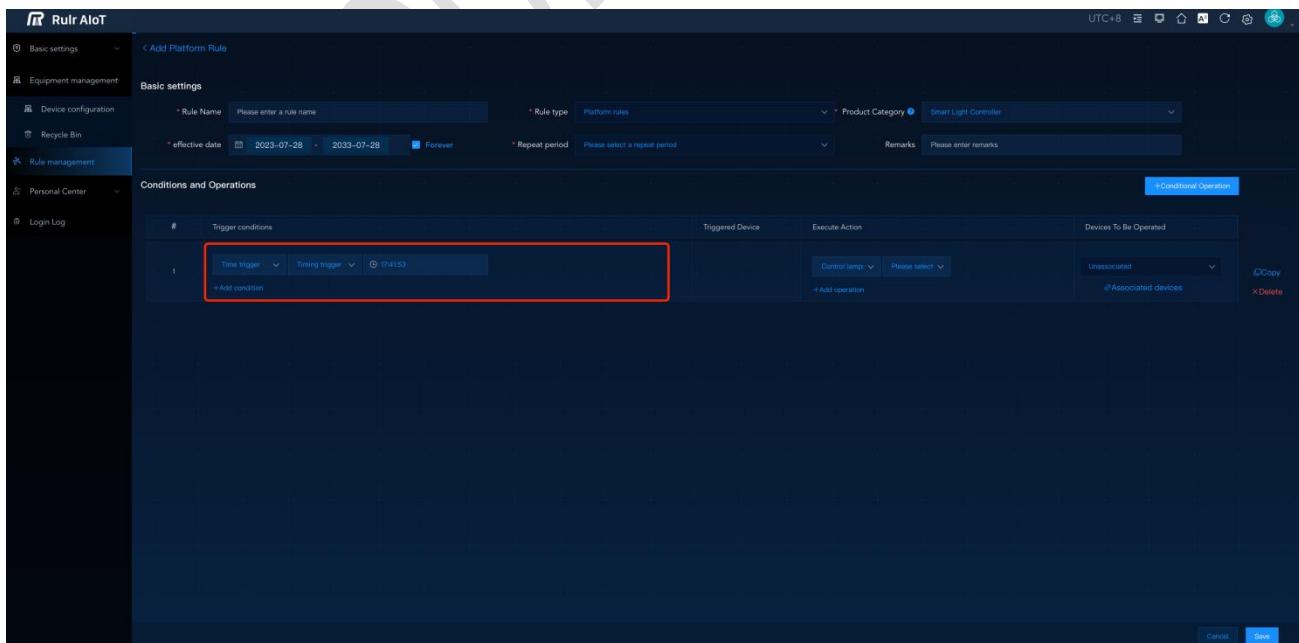


The screenshot shows the 'Add Platform Rule' page in the RULR IoT Platform. In the 'Basic settings' section, the 'Rule type' is set to 'Platform rules'. In the 'Conditions and Operations' section, under 'Trigger conditions', there is a row with a red border containing 'Attribute trigger' and '0 - 0'. To the right of this row are sections for 'Associated devices' (with a dropdown menu), 'Execute Action' (with a dropdown menu), and 'Devices To Be Operated' (with a dropdown menu). At the bottom right of the page are 'Cancel' and 'Save' buttons.

### Attribute Trigger

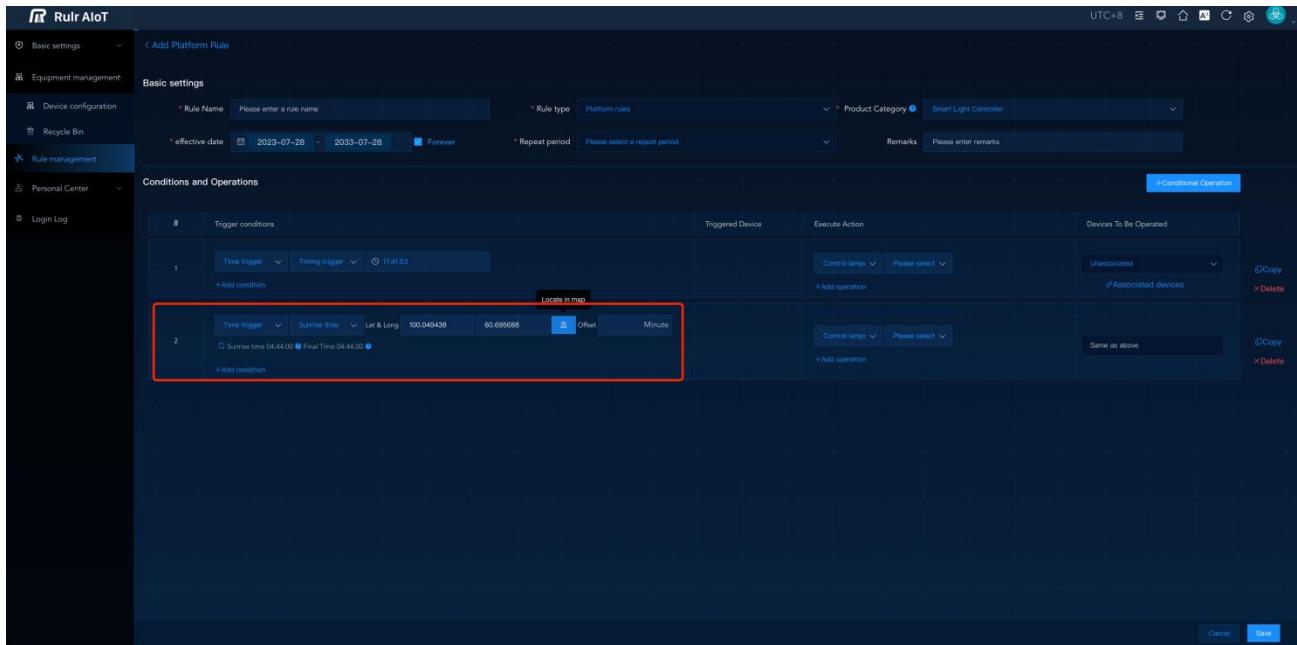
## 2. Time trigger

- ✓ Support timing trigger, sunrise time/sunset time (need to select latitude and longitude), interval time.



The screenshot shows the 'Add Platform Rule' page in the RULR IoT Platform. In the 'Basic settings' section, the 'Rule type' is set to 'Platform rules'. In the 'Conditions and Operations' section, under 'Trigger conditions', there is a row with a red border containing 'Time trigger' and 'Timing trigger' followed by a time value '17:41:53'. To the right of this row are sections for 'Control lamp' (with a dropdown menu), 'Execute Action' (with a dropdown menu), and 'Devices To Be Operated' (with a dropdown menu). At the bottom right of the page are 'Cancel' and 'Save' buttons.

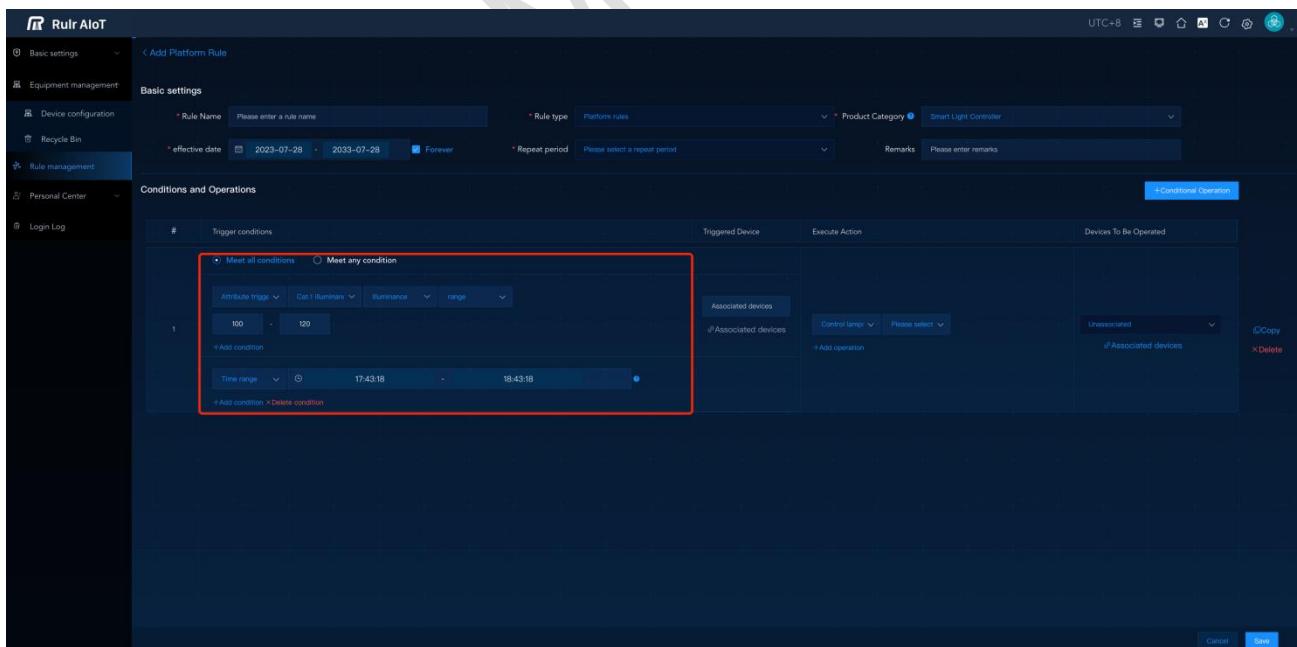
### Timing Trigger



### Sunrise Time Setting

### 3. Time range

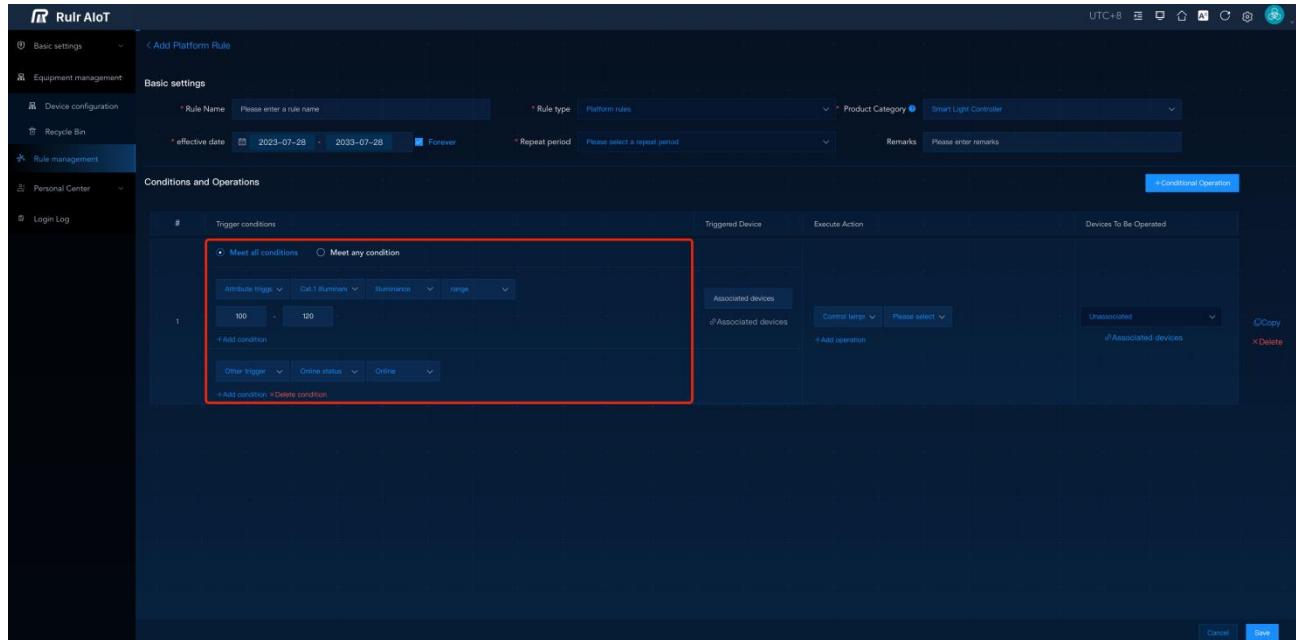
- ✓ Select time range, show select box for valid time period.
- ✓ This condition cannot exist alone, and is usually combined with attribute triggers.



### Time Range

#### 4. Other trigger

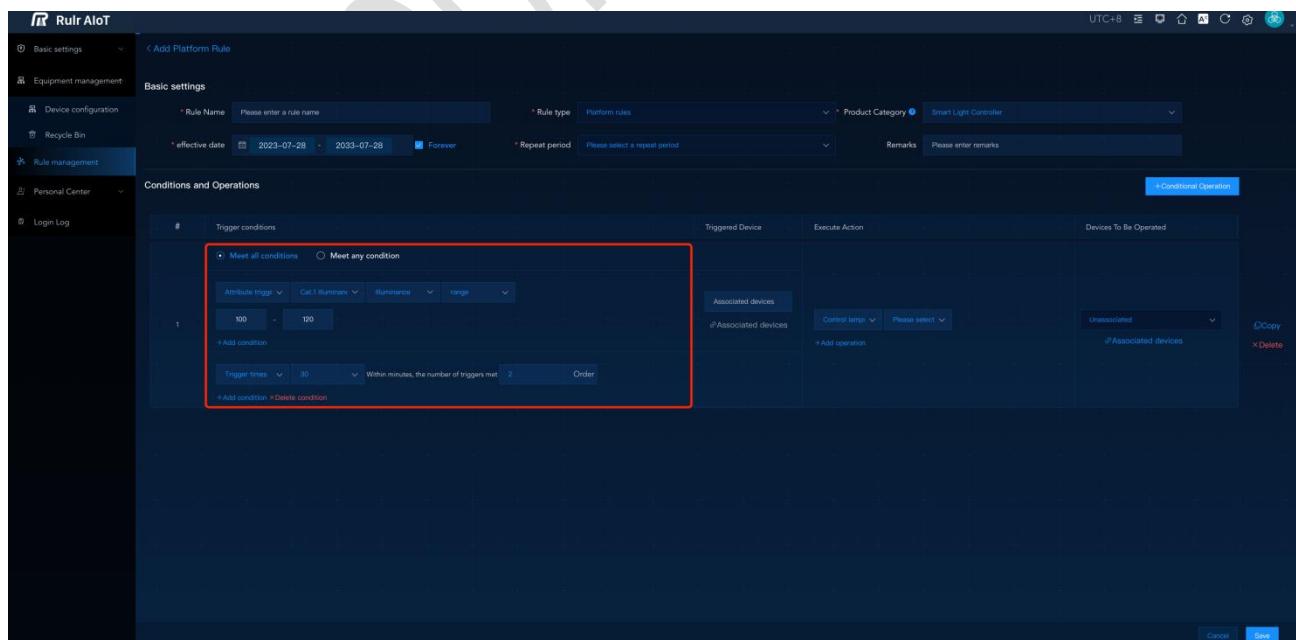
- ✓ The online status of the device, supporting online status or offline status.
- ✓ This condition cannot exist alone, and is usually combined with attribute triggers.



Online Status

#### 5. Trigger times

- ✓ In the last xx minutes, if the trigger condition meets the number of triggers within the specified time, the action will be executed.
- ✓ This condition cannot exist alone, and is usually combined with attribute triggers.



Trigger Times

## 6. Meet any conditions notes

- ✓ After adding 2 conditions, select "Meet both conditions" and "Meet any condition".
- ✓ Some conditions cannot be combined, such as time trigger and time trigger cannot be combined, online status and time range cannot be used alone as a trigger condition, and need to be triggered with other conditions.
- ✓ There can be only one time range in a subrule.

### ➤ Trigger condition device

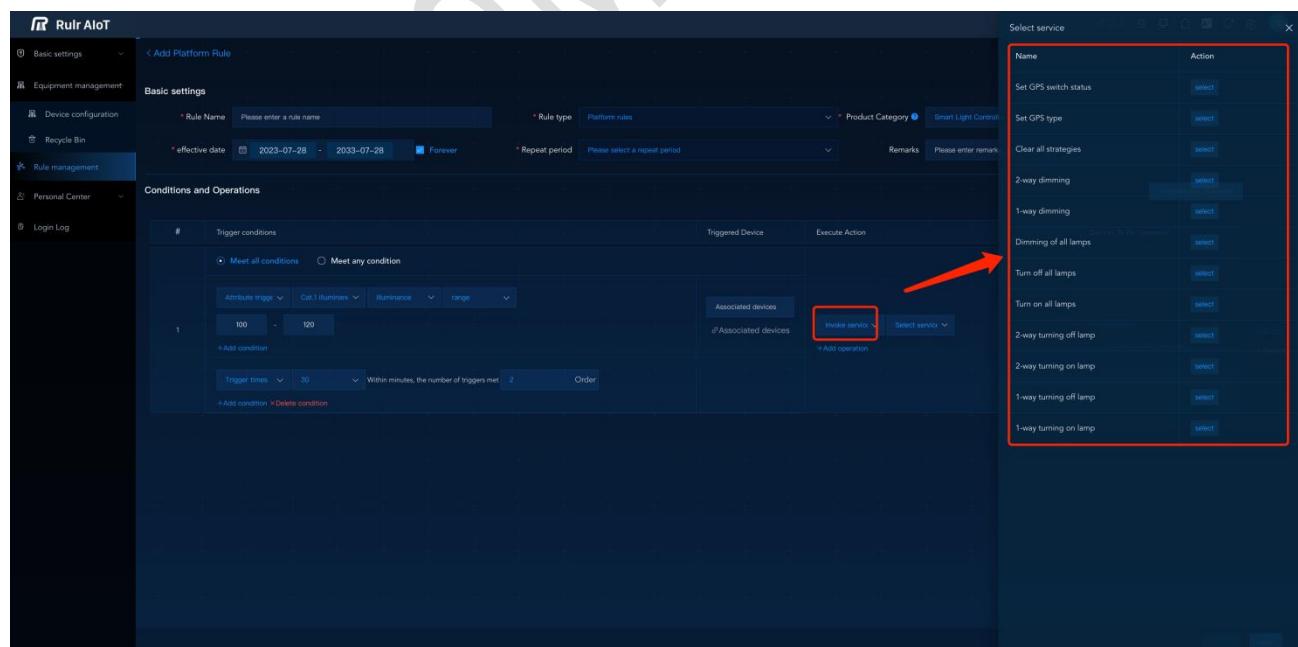
- ✓ 1 attribute trigger device can be only associated with 1 device.

### ➤ Execute Action

- ✓ Choose product category and select the execute action.

## 1. Invoke service

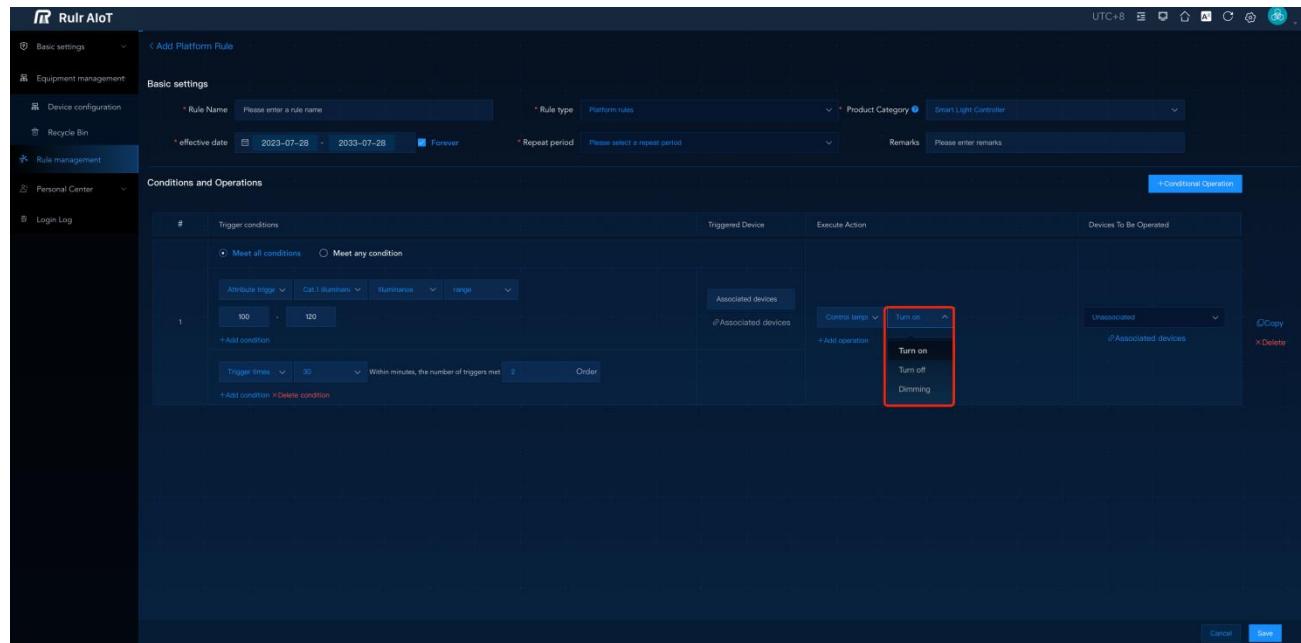
- ✓ Different product categories to different services. E.g. smart gateway selected, the services of related gateway will appear. Smart light selected, the services of related smart lighting will appear.



Lamp Controller Service

## 2. Control lamp

- ✓ Turn on/off/Dimming to lamp controllers.

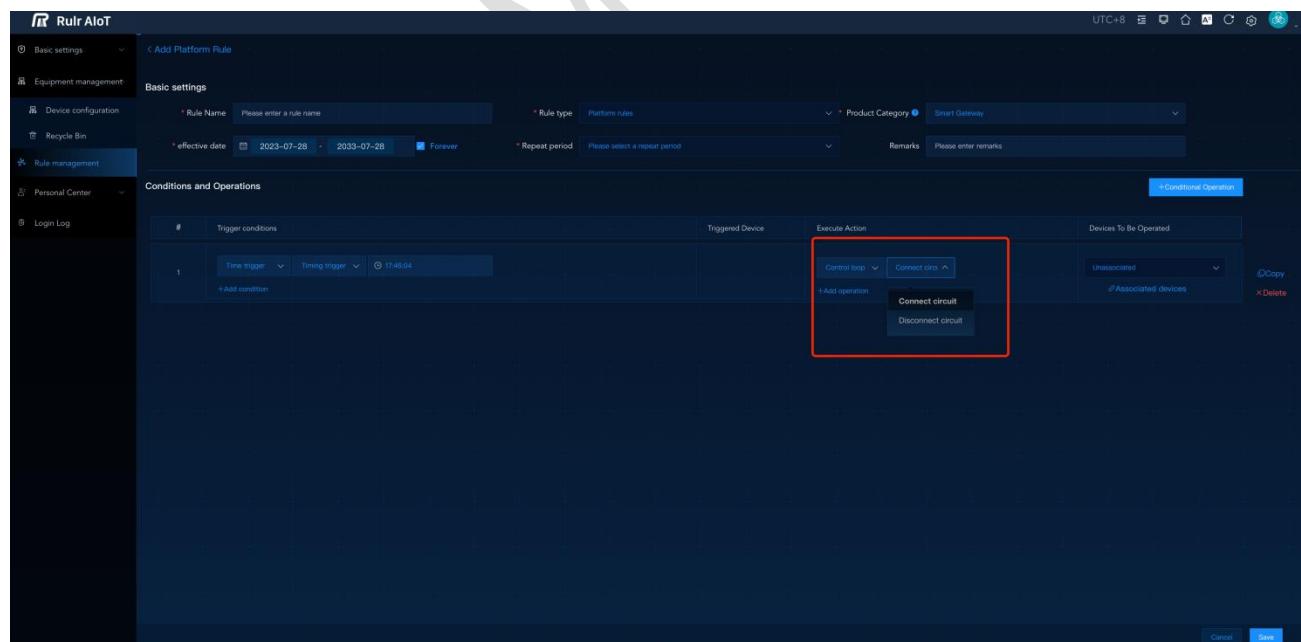


The screenshot shows the 'Add Platform Rule' configuration page. In the 'Basic settings' section, the rule name is left blank, the effective date is set from 2023-07-28 to 2033-07-28 with 'Forever' selected, and the repeat period is not specified. The product category is set to 'Smart Light Controller'. The 'Conditions and Operations' section contains one trigger condition: 'Attribute trigger' for 'Cat1/Brightness' with a range of 100 to 120. The execute action is set to 'Control lamp' with operations: 'Turn on', 'Turn off', and 'Dimming'. The devices to be operated are listed as 'Associated devices'.

**Control Lamp in Platform Rule**

## 3. Control loop

- ✓ Connect circuit and disconnect circuit to gateway.

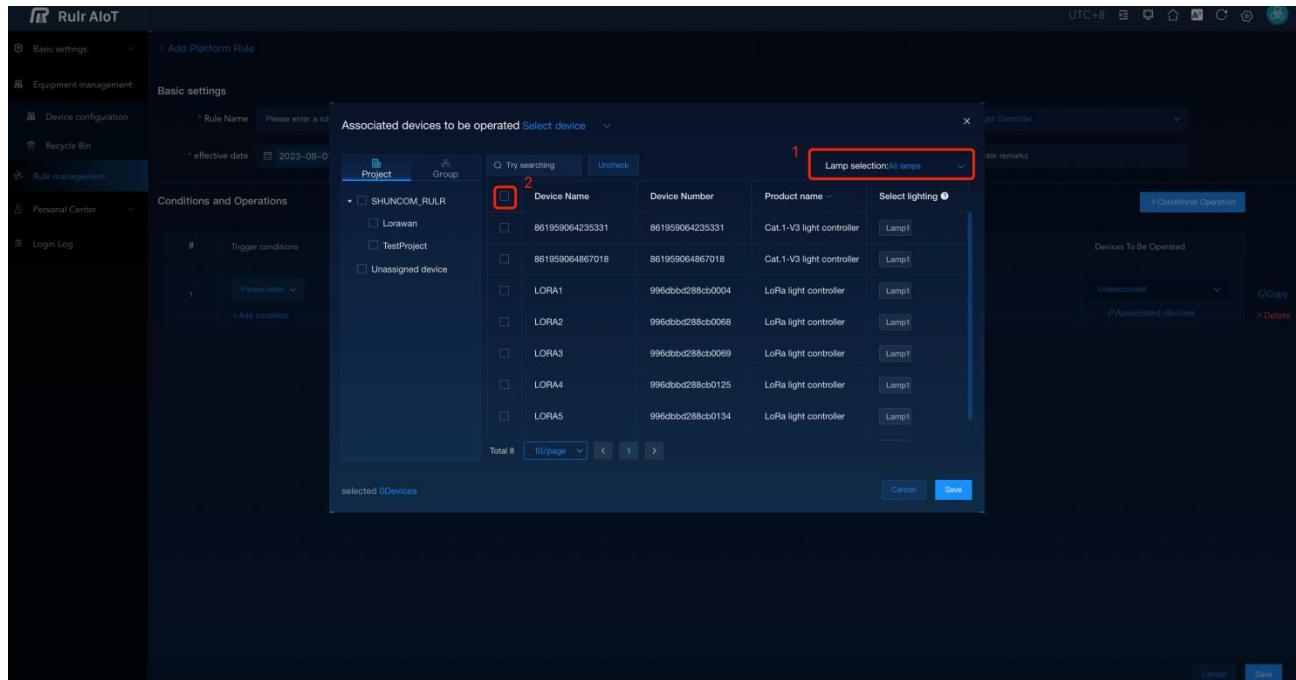


The screenshot shows the 'Add Platform Rule' configuration page. In the 'Basic settings' section, the rule name is left blank, the effective date is set from 2023-07-28 to 2033-07-28 with 'Forever' selected, and the repeat period is not specified. The product category is set to 'Smart Gateway'. The 'Conditions and Operations' section contains one trigger condition: 'Time trigger' at 17:45:04. The execute action is set to 'Control loop' with operations: 'Connect circ', 'Disconnect circ', and 'Unassociated'. The devices to be operated are listed as 'Unassociated'.

**Control Loop in Platform Rule**

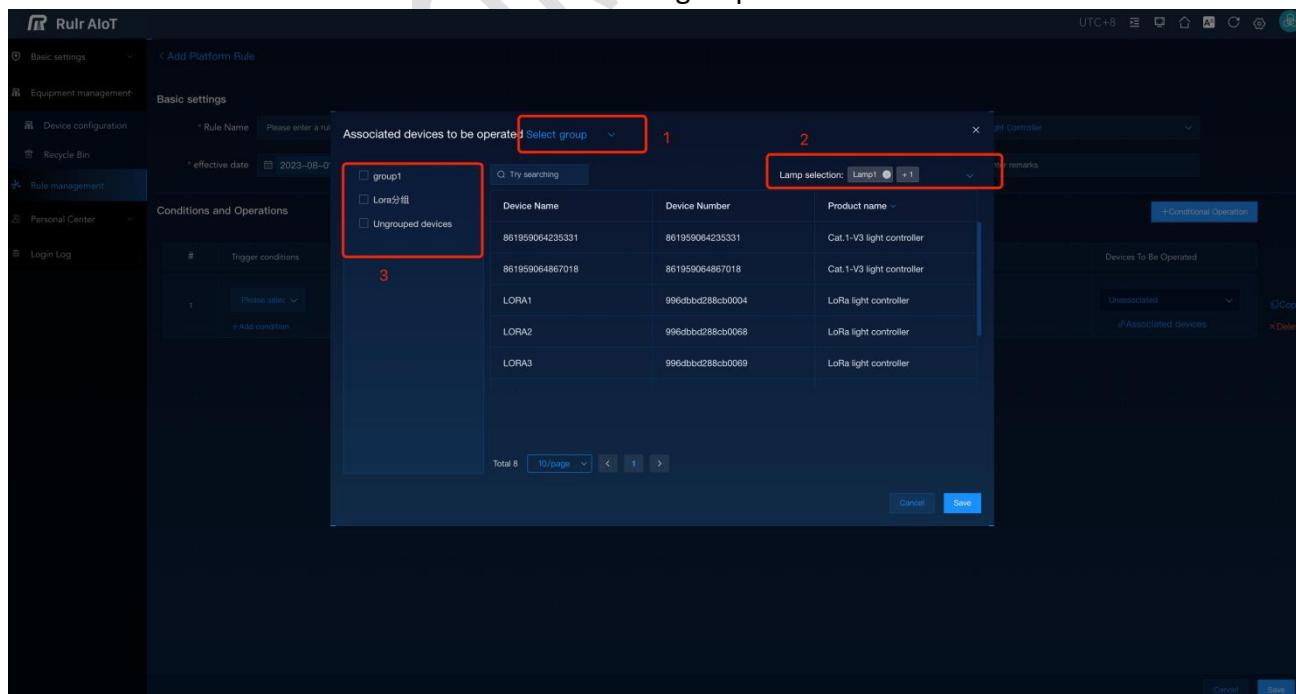
## ➤ Execute action device

- ✓ Execute action to every sub-rule can only choose the same batch device.
- ✓ Select device: associated devices to be operated → lamp selection → select device.



### Control Lamps - Select Devices

- ✓ Select Group: By default, all devices under this group are selected.
- ✓ If the light controller and gateway require selecting specific fixtures and circuits, such as selecting the Light Control Group and choosing Fixture 1, Fixture 2 in the top right corner, it means that Fixture 1 and Fixture 2 of all devices under this group will execute the action.

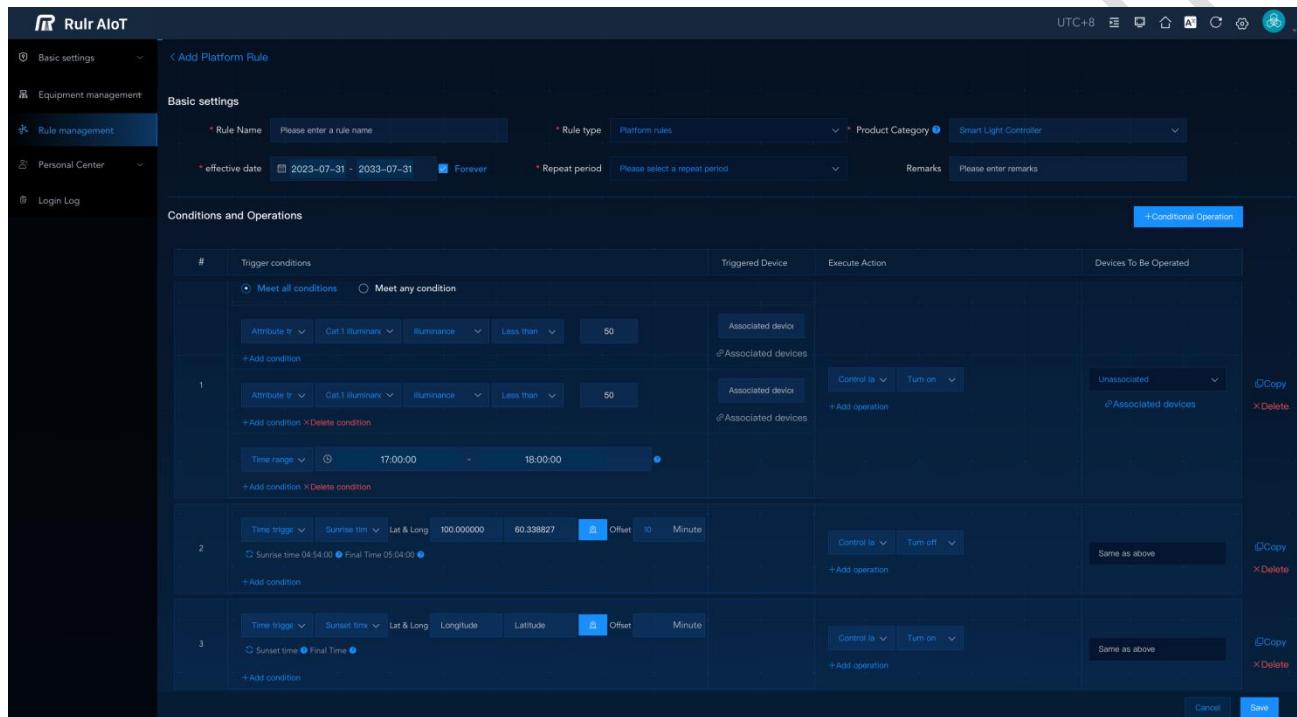


### Control Lamps - Select Group

## 2.4.1.2 Examples of Platform Rules Settings

### ➤ Configure On/Off Rules for Light Controller

1. Within the time range of 17:00-18:00, if the light intensity from both light sensors is greater than 50, turn on the lights.
2. Turn on the lights at sunset and turn them off at sunrise.



The screenshot shows the 'Add Platform Rule' configuration page in the Rulr AIoT platform. The 'Basic settings' section includes fields for Rule Name (Please enter a rule name), Rule type (Platform rules), effective date (2023-07-31 to 2033-07-31, Forever), Repeat period (Please select a repeat period), and Remarks (Please enter remarks). The 'Conditions and Operations' section contains three rows of rules:

#	Trigger conditions	Triggered Device	Execute Action	Devices To Be Operated
1	<input checked="" type="radio"/> Meet all conditions Attribute Ir Cat.1 Illumines Illuminance Less than 50 +Add condition Attribute Ir Cat.1 Illumines Illuminance Less than 50 +Add condition X Delete condition Time range 17:00:00 - 18:00:00	Associated device Associated devices	Control Is Turn on	Unassociated Associated devices
2	Time trigger Sunrise time Lat & Long 100.000000 60.338827 Offset 10 Minute Sunrise time 04:54:00 Final Time 05:04:00		Control Is Turn off	Same as above
3	Time trigger Sunset time Lat & Long Longitude Latitude Offset Minute Sunset time Final Time		Control Is Turn on	Same as above

Buttons at the bottom right include 'Cancel' and 'Save'.

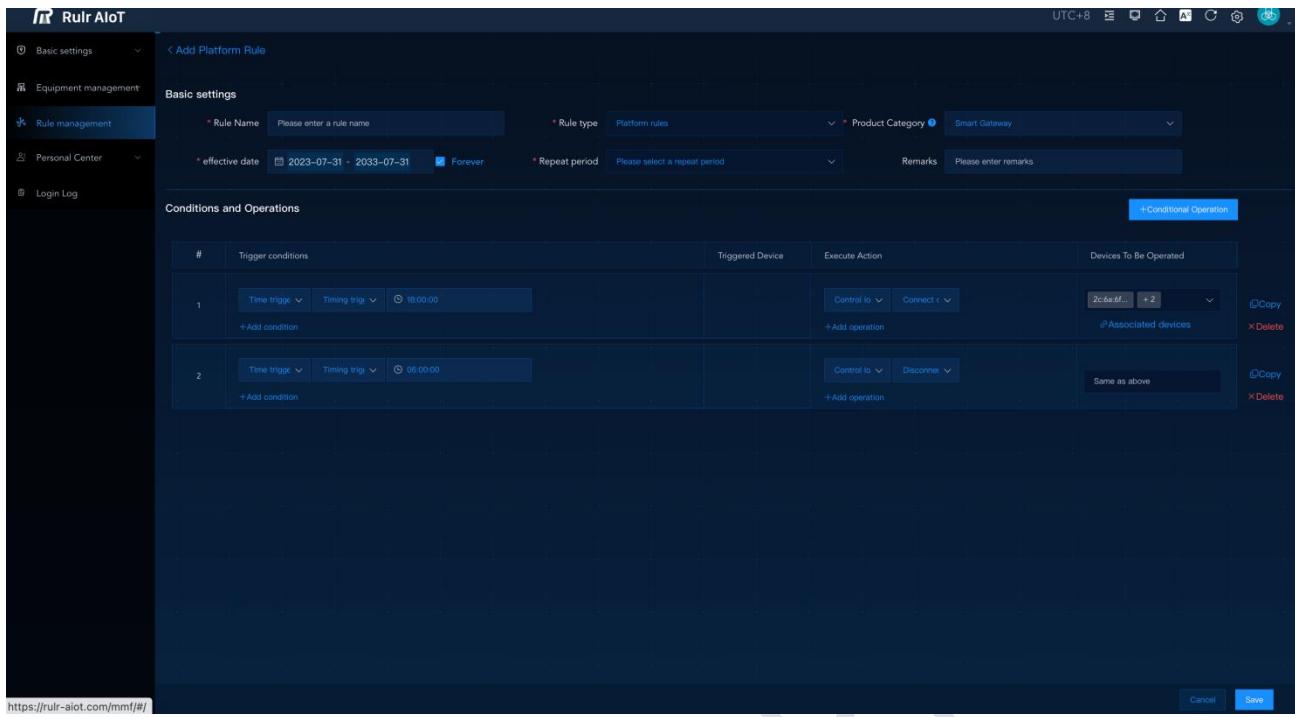
**Light Controller Platform Rules**

### ➤ Configure Open-Close Circuit Rules for the Gateway

1. Close the circuit at 18:00 and open it at 06:00.

(figure in next page)

SHUNCOM



The screenshot shows the 'Add Platform Rule' page. In the 'Basic settings' section, the 'Rule Name' is set to 'Please enter a rule name', 'Rule type' is 'Platform rules', and 'Product Category' is 'Smart Gateway'. The 'effective date' is set from '2023-07-31' to '2033-07-31' with the 'Forever' option selected. The 'Repeat period' is set to 'Please select a repeat period'. A 'Remarks' field is also present. The 'Conditions and Operations' section contains two sub-rules:

#	Trigger conditions	Triggered Device	Execute Action	Devices To Be Operated
1	Time trigger: Timing trigger, 18:00:00		Control Io: Connect	2c6a8f... + 2 Associated devices
2	Time trigger: Timing trigger, 06:00:00		Control Io: Disconnect	Same as above

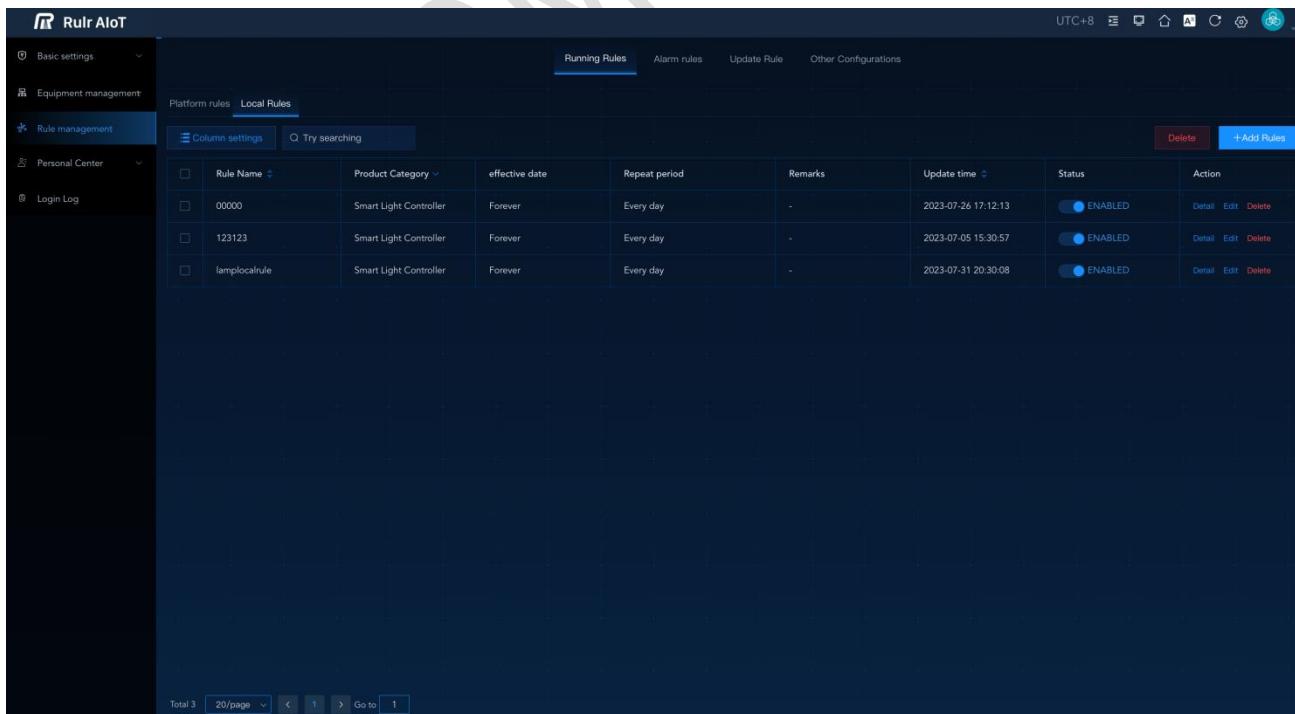
Each row has a 'Copy' and 'Delete' button. At the bottom right are 'Cancel' and 'Save' buttons.

### Gateway Platform Rules

#### 2.4.1.3 Local Rules

Open Rule Management > Run Rules > Local Rules to display the list of all local rules.

Each local rule can contain multiple sub-rules, with each sub-rule executed independently. Within each sub-rule, user can select only one condition and one action.

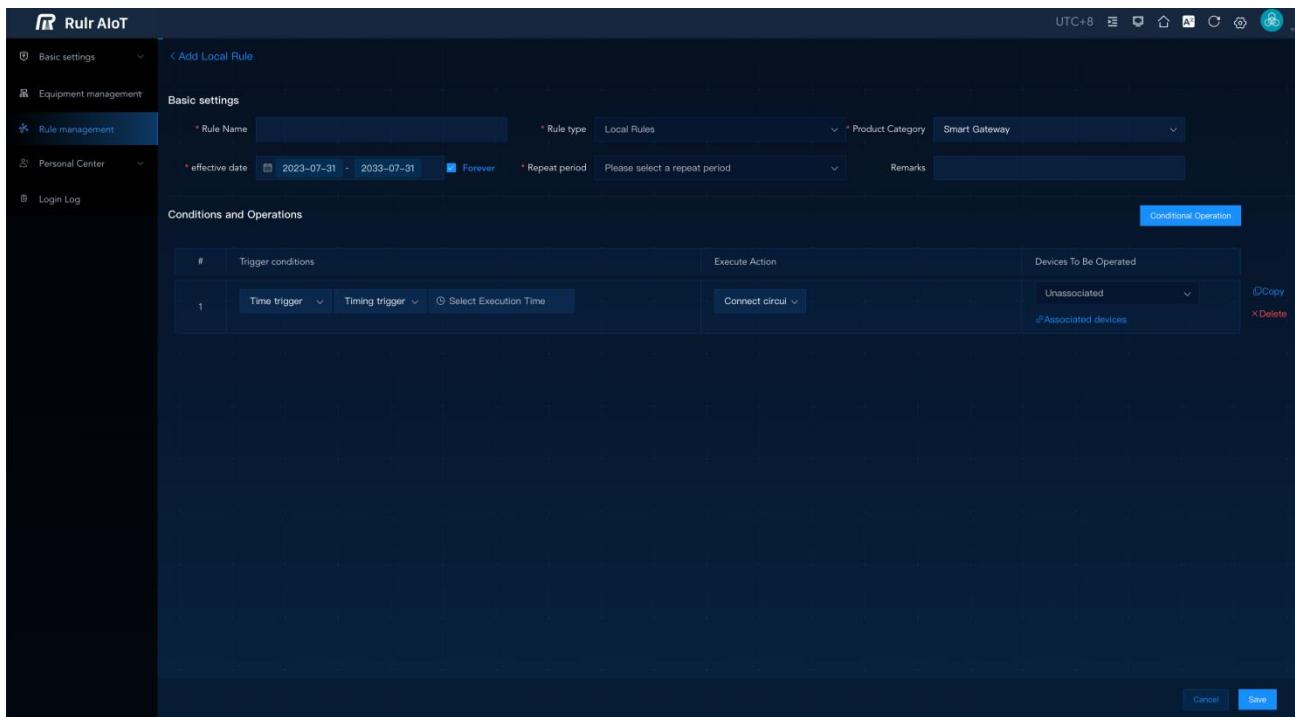


The screenshot shows the 'Local Rules' tab of the rule management interface. The table lists three local rules:

Rule Name	Product Category	effective date	Repeat period	Remarks	Update time	Status	Action
00000	Smart Light Controller	Forever	Every day	-	2023-07-26 17:12:13	ENABLED	<a href="#">Detail</a> <a href="#">Edit</a> <a href="#">Delete</a>
123123	Smart Light Controller	Forever	Every day	-	2023-07-05 15:30:57	ENABLED	<a href="#">Detail</a> <a href="#">Edit</a> <a href="#">Delete</a>
lamplocalrule	Smart Light Controller	Forever	Every day	-	2023-07-31 20:30:08	ENABLED	<a href="#">Detail</a> <a href="#">Edit</a> <a href="#">Delete</a>

At the bottom left, there are pagination controls: 'Total 3' and '20/page'. At the bottom right, there are 'Delete' and '+Add Rules' buttons.

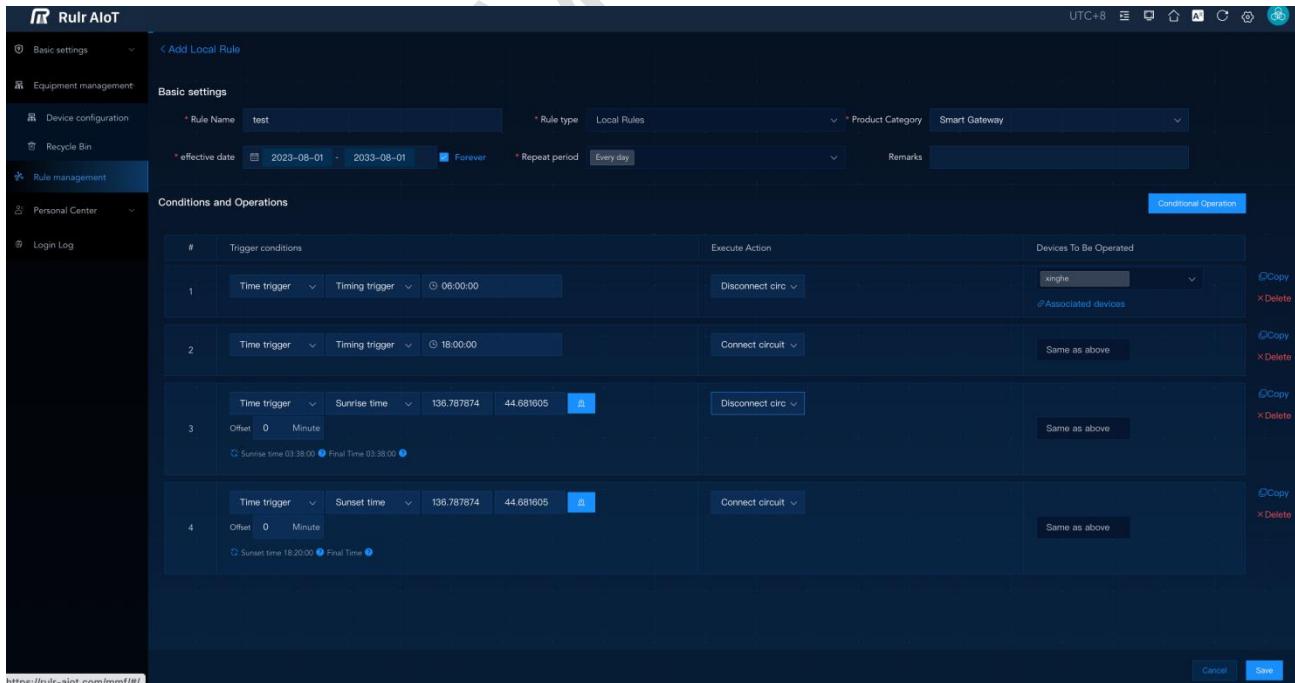
### Local Rules List



## Add Local Rule

### ➤ Smart Gateway

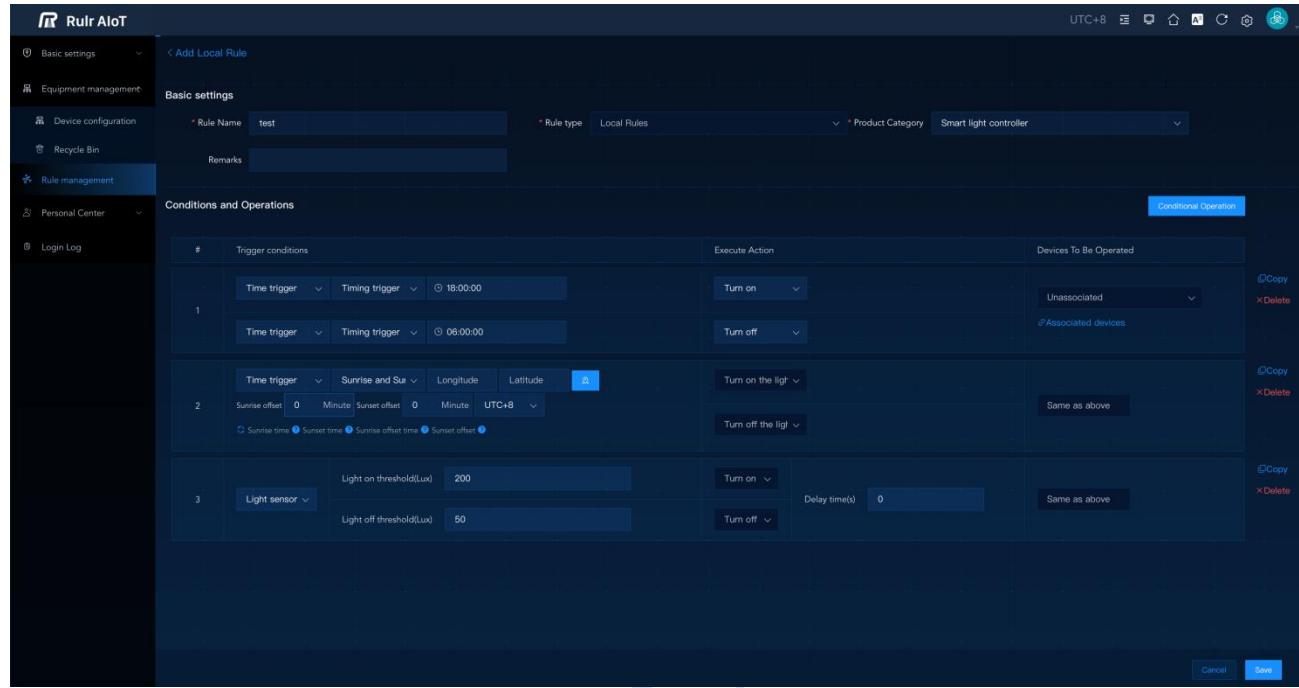
Local rules support four trigger conditions: scheduled trigger, sunrise time, sunset time, and interval trigger; and two actions: open circuit and close circuit.



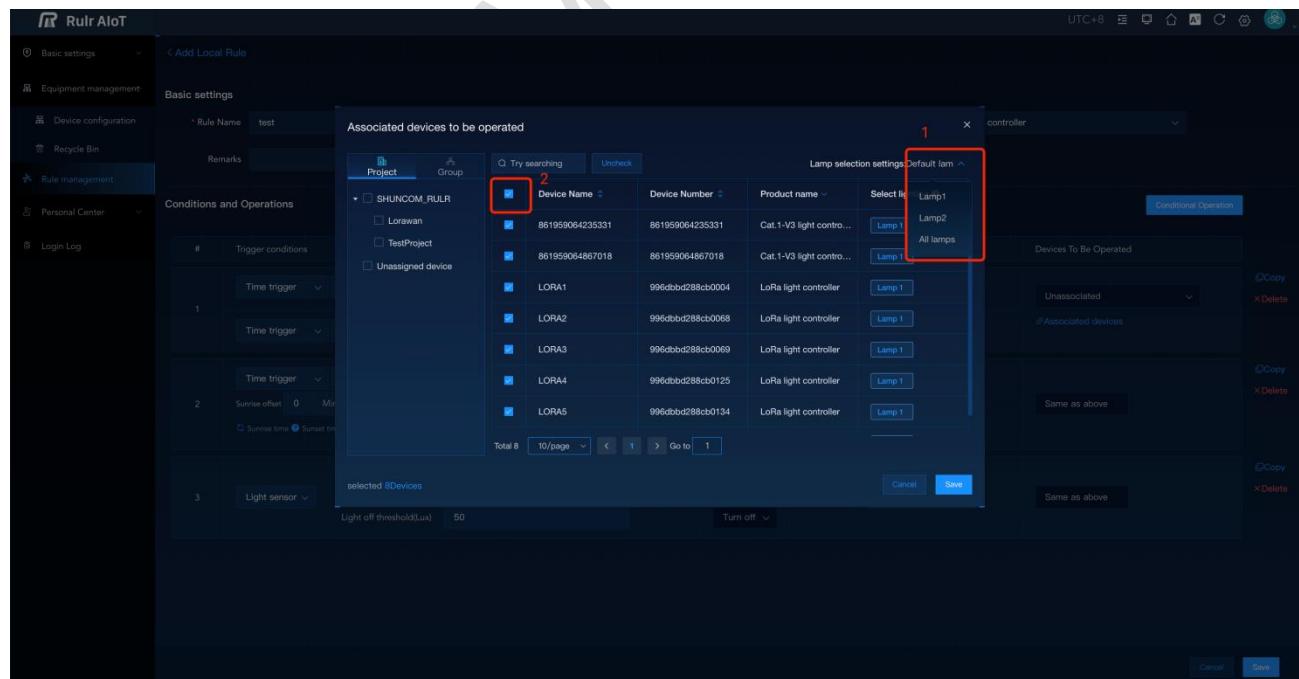
## Add Local Rules for the Gateway

## ➤ Smart Lighting Control

- ✓ Light Controller's local rules support three trigger conditions: scheduled trigger, latitude and longitude trigger, and light sensitivity trigger; and three actions: turn on lights, turn off lights, and dim lights.

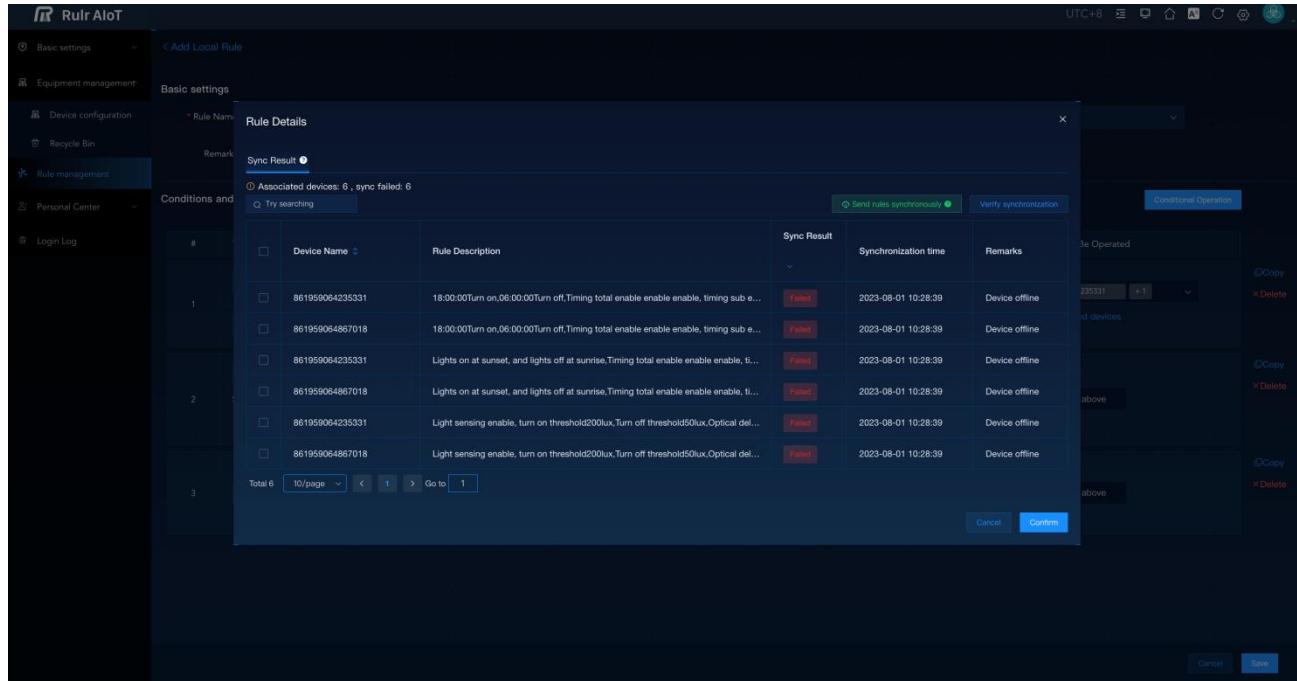


Add Local Rules for the Light Controller



Add Local Rules for Light Controller - Select Devices

- ✓ After clicking 'Save', a popup window will appear displaying the synchronization results for all devices associated with that local rule. Users can use the synchronization results for devices to determine whether the local rule was successfully sent to the device end. If synchronization fails, the user needs to click 'Send rules synchronously' to resend the rules to all devices that failed to synchronize, as shown in the figure below.



The screenshot shows the Rulr IoT Platform interface. In the center, a modal dialog titled "Local Rule Details - Synchronization Results" is displayed. The dialog header includes "Sync Result" and a note that 6 devices failed to sync. Below this, there is a search bar labeled "Try searching". A table lists the synchronization results for 6 devices, each with a "Sync Result" status of "Failed". The table columns are "Device Name", "Rule Description", "Sync Result", "Synchronization time", and "Remarks". At the bottom of the table, there are buttons for "Send rules synchronously" and "Verify synchronization". The background of the main interface shows a sidebar with "Basic settings", "Equipment management", "Device configuration", "Recycle Bin", "Rule management", and "Personal Center". The main content area shows a list of rules with columns for "Rule Name", "Remark", "Conditions and Actions", and "Operated".

**Local Rule Details - Synchronization Results**

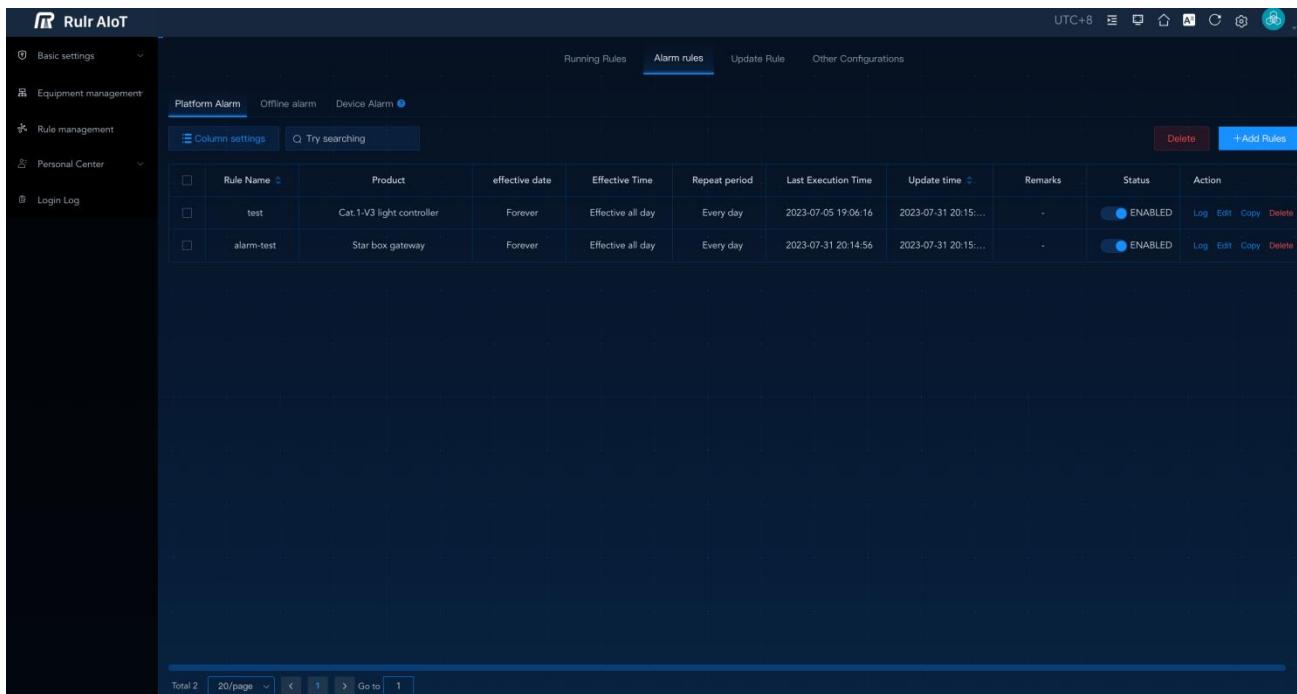
## 2.4.2 Alarm Rules

### 2.4.2.1 Platform Alarms

**Access Path:** Rule Management > Alarm Rules > Platform Alarms.

Each platform alarm rule can contain multiple sub-rules, and within each sub-rule, user can combine multiple trigger conditions (supporting either triggering when any condition is met or triggering when all conditions are met), with only one execution action.

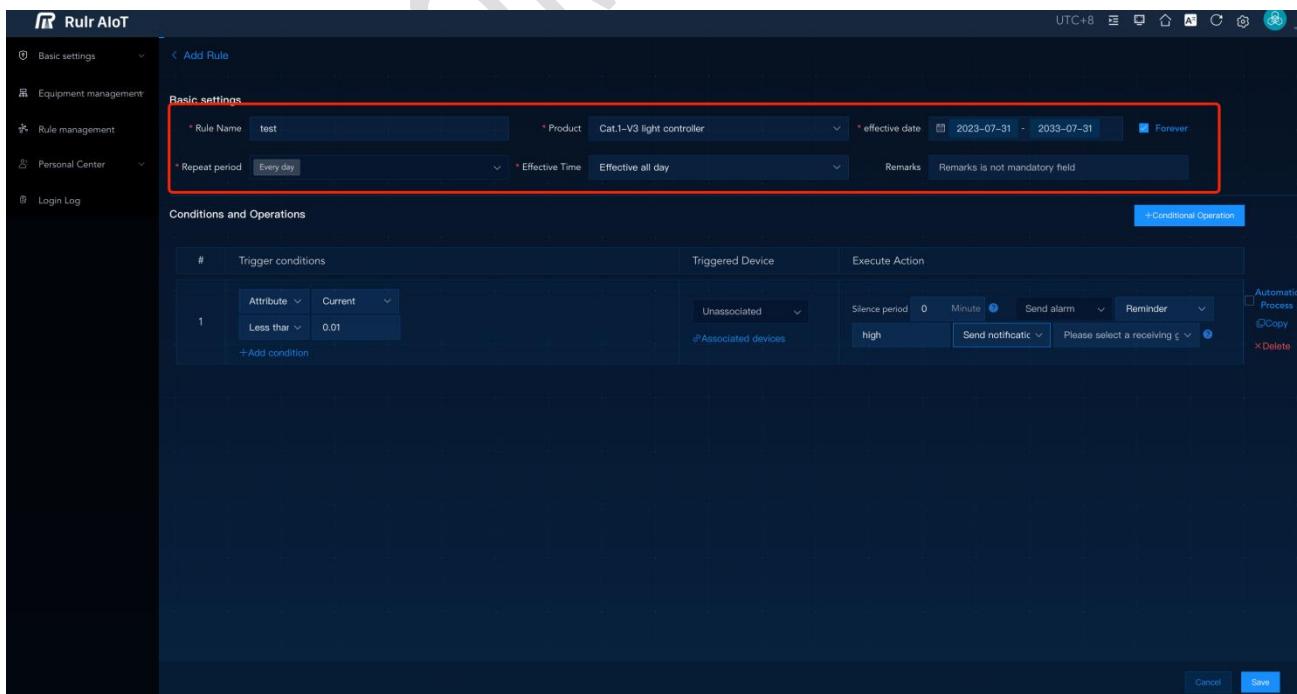
Please note that the devices triggering the conditions in a single platform alarm rule should be from the same batch of devices.



### List of Platform Alarm Rules

Click on "Add Platform Alarm Rule" to enter the page for adding a new platform alarm rule.

Enter the rule name, select the product name (for the devices triggering the conditions), choose the effective date (the date range when the rule is active), repeat cycle (supporting daily/weekly/monthly), effective time (the time range during which alarms will be generated, used for alarm filtering, supporting all day, latitude and longitude time range, latitude and longitude time range), and add any optional remarks.



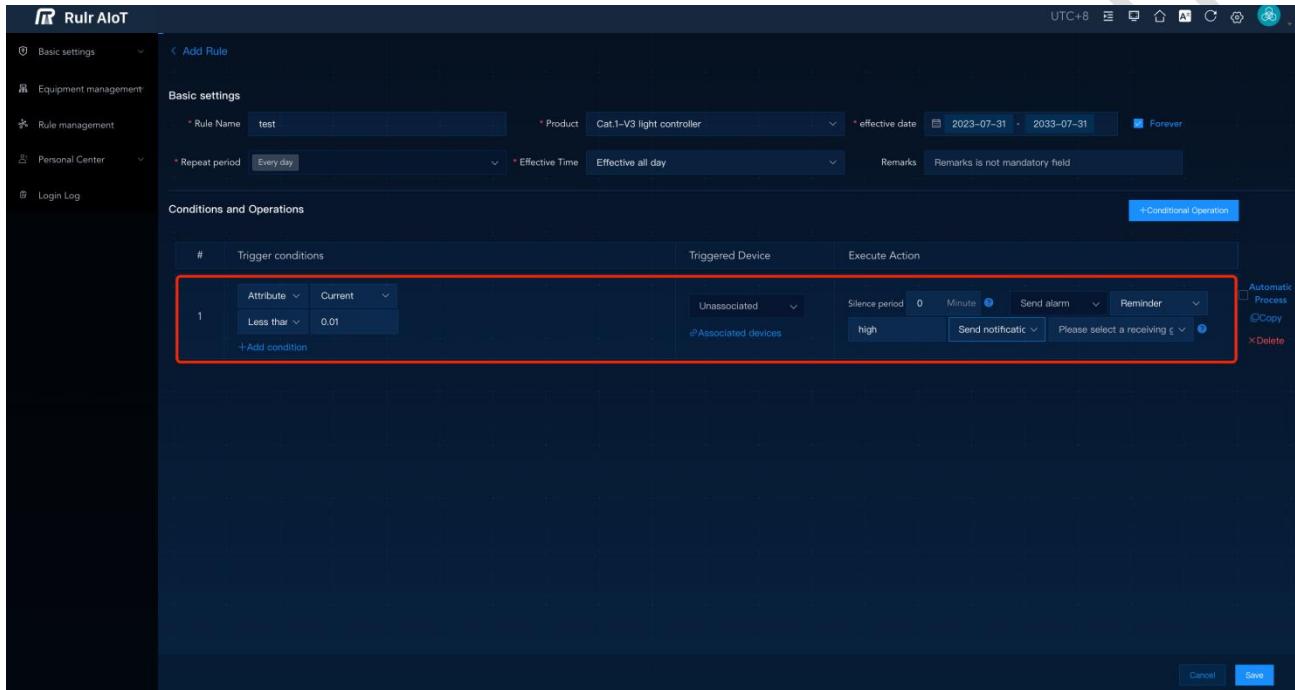
### Add Platform Alarm Rule

## ➤ Trigger Conditions

Trigger conditions include attribute triggers, time triggers, time ranges, and online status triggers. These conditions can be combined, and actions are executed only when the trigger conditions are met.

### 1. Attribute Trigger

- ✓ Attribute triggering uses property data reported by devices to trigger actions.



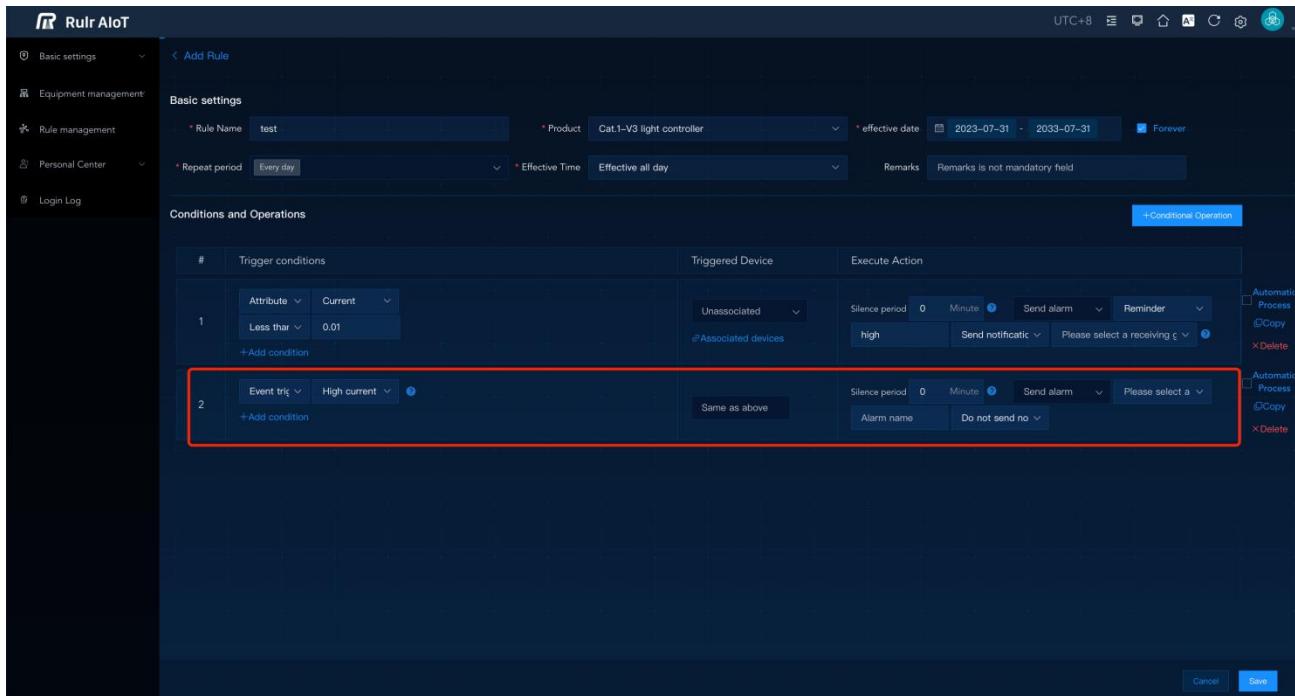
The screenshot shows the 'Add Rule' page in the Rulr IoT Platform. In the 'Basic settings' section, the rule name is 'test', the product is 'Cat.1-V3 light controller', and the effective date is set from 2023-07-31 to 2033-07-31 with the 'Forever' option selected. The 'Repeat period' is set to 'Every day' and 'Effective Time' is 'Effective all day'. The 'Remarks' field contains the note 'Remarks is not mandatory field'.

In the 'Conditions and Operations' section, there is a table with three columns: '#', 'Trigger conditions', and 'Triggered Device / Execute Action'. A single condition is listed under '#': '1'. The 'Trigger conditions' row for this entry shows 'Attribute' selected, 'Current' dropdown, 'Less than' dropdown, and the value '0.01'. The 'Triggered Device' column shows 'Unassociated' and 'Associated devices' dropdowns. The 'Execute Action' column includes 'Silence period' (set to 0 minutes), 'Send alarm' (selected), 'Reminder' dropdown (set to 'high'), 'Send notification' dropdown (set to 'Send notificati...'), and a note 'Please select a receiving c...'. There are also 'Automatic Process' checkboxes for 'Process', 'Copy', and 'Delete'.

### Device Attribute Trigger

### 2. Event Trigger

- ✓ Device events include offline alarm events and device alarm events (the content of device alarm events is consistent with the events described in Section [2.4.2.4 Device Alarms](#)).



The screenshot shows the 'Add Rule' interface in the RULR IoT Platform. In the 'Basic settings' section, the rule name is 'test', the product is 'Cat.1-V3 light controller', and the effective date is set to 'Forever'. The 'Repeat period' is 'Every day' and the 'Effective Time' is 'Effective all day'. The 'Conditions and Operations' section contains two trigger conditions:

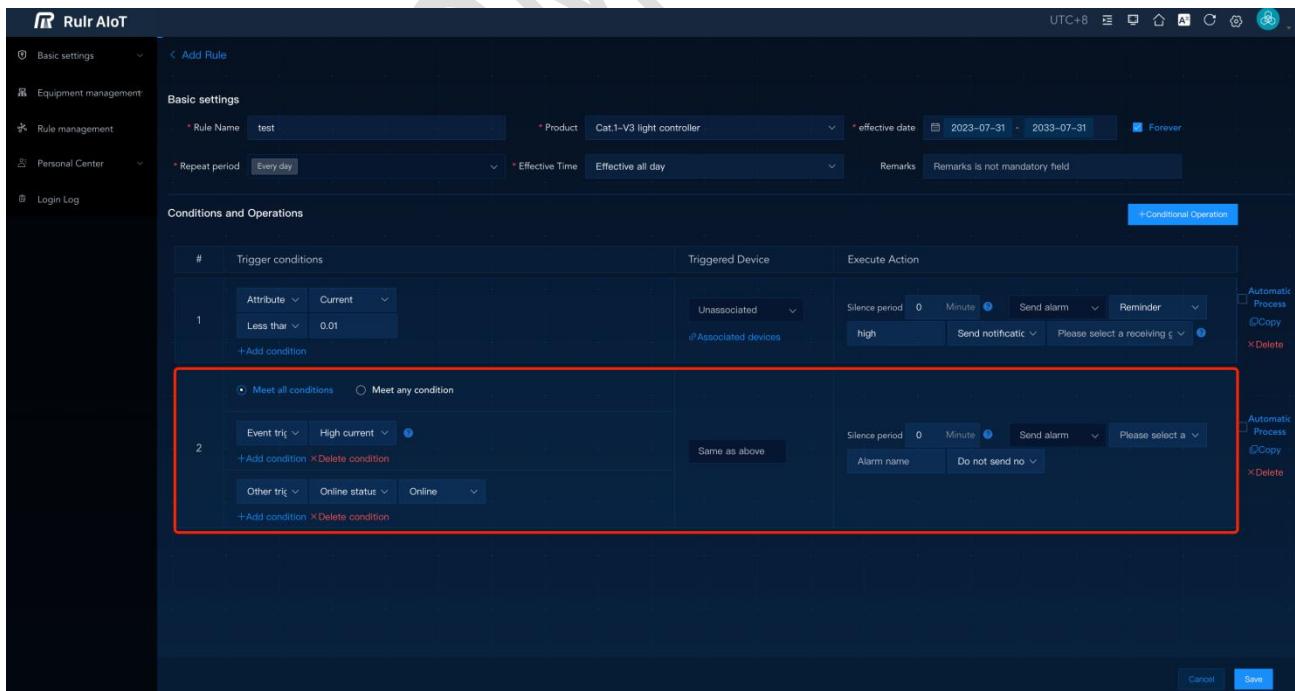
- Condition 1: Triggered by 'Attribute Current' (Less than 0.01), resulting in an 'Unassociated' device state. The execute action is to send an alarm (Silence period 0 minutes) and a reminder.
- Condition 2: Triggered by 'Event trig High current' (High current). The triggered device state is 'Same as above'. The execute action is to send a notification (Silence period 0 minutes) and select an alarm name.

On the right side of the interface, there are buttons for 'Automatic Process', 'Copy', and 'Delete' for each condition.

## Event Trigger

### 3. Other Triggers

- ✓ The online status of devices can also be used as a trigger condition, supporting both online and offline states.
- ✓ This condition cannot exist on its own and is typically combined with attribute triggers.



The screenshot shows the 'Add Rule' interface in the RULR IoT Platform. The basic settings are identical to the previous screenshot. In the 'Conditions and Operations' section, the second trigger condition is modified:

- Condition 2: Triggered by 'Event trig High current' (High current). The triggered device state is 'Same as above'. The execute action is to send a notification (Silence period 0 minutes) and select an alarm name.

A red box highlights the 'Other trig' section, which includes options for 'Meet all conditions' and 'Meet any condition'. Below this, there are additional trigger condition options: 'Online status Online' and 'Other trig'. The right side of the interface shows standard operation buttons for 'Automatic Process', 'Copy', and 'Delete'.

## Other Triggers

## ➤ Triggering Devices

Multiple devices can be selected for trigger conditions, but they must all belong to the same product.

## ➤ Execution Actions

Execution actions require a default silent period (which is effective when automatic alarm handling is configured). You can choose one alarm level (please refer to Section [2.4.3.2 Alarm Level](#)), input a customized alarm name, select whether to send notifications or not, and choose multiple recipient groups (please refer to Section [2.4.3.1 Receiving Group Configurations](#)).

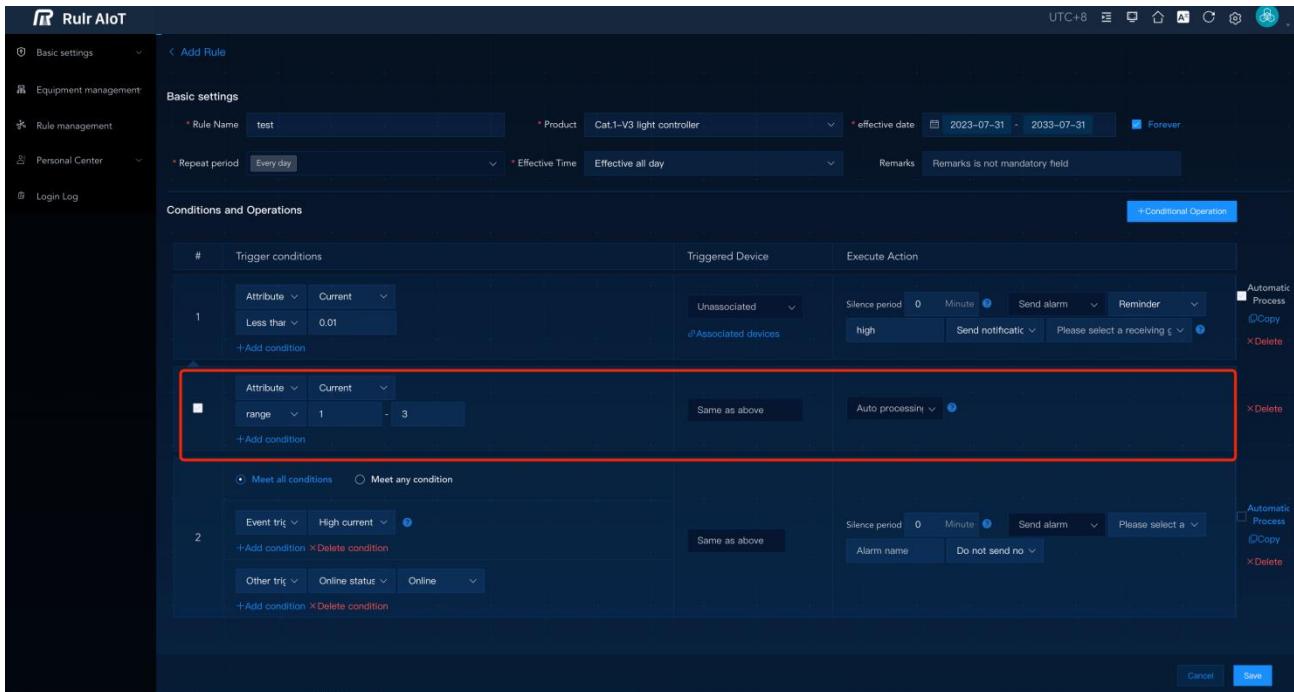
The screenshot shows the 'Add Rule' page in the Rulr IoT Platform. In the 'Basic settings' section, the rule name is 'test', the product is 'Cat.1-V3 light controller', and the effective date is set from 2023-07-31 to 2023-07-31. The 'Conditions and Operations' section contains two trigger conditions. Condition 1 has an attribute 'Less than' set to 0.01. Condition 2 has a range from 1 to 3. Both conditions point to the same triggered device and execute action. The execute action for condition 1 is highlighted with a red box, showing a silence period of 0 minutes, an alarm level of 'high', and a reminder to 'Send notification'. The reminder dropdown also includes 'Please select a receiving group'.

## Execution Actions

### ➤ Automatic Alarm Handling

Clicking on "Automatic Alarm Handling" will default to displaying one automatic alarm handling action after this condition action. When the next set of property values meets the conditions for automatic alarm handling, that alarm will be automatically processed without requiring manual intervention.

If a silent period is configured (typically set to 30 minutes for lighting control), then during this silent period, if the data meets the conditions for automatic alarm handling, no alarm will be generated. If the data does not meet the conditions, the alarm will only be generated after the silent period has elapsed.



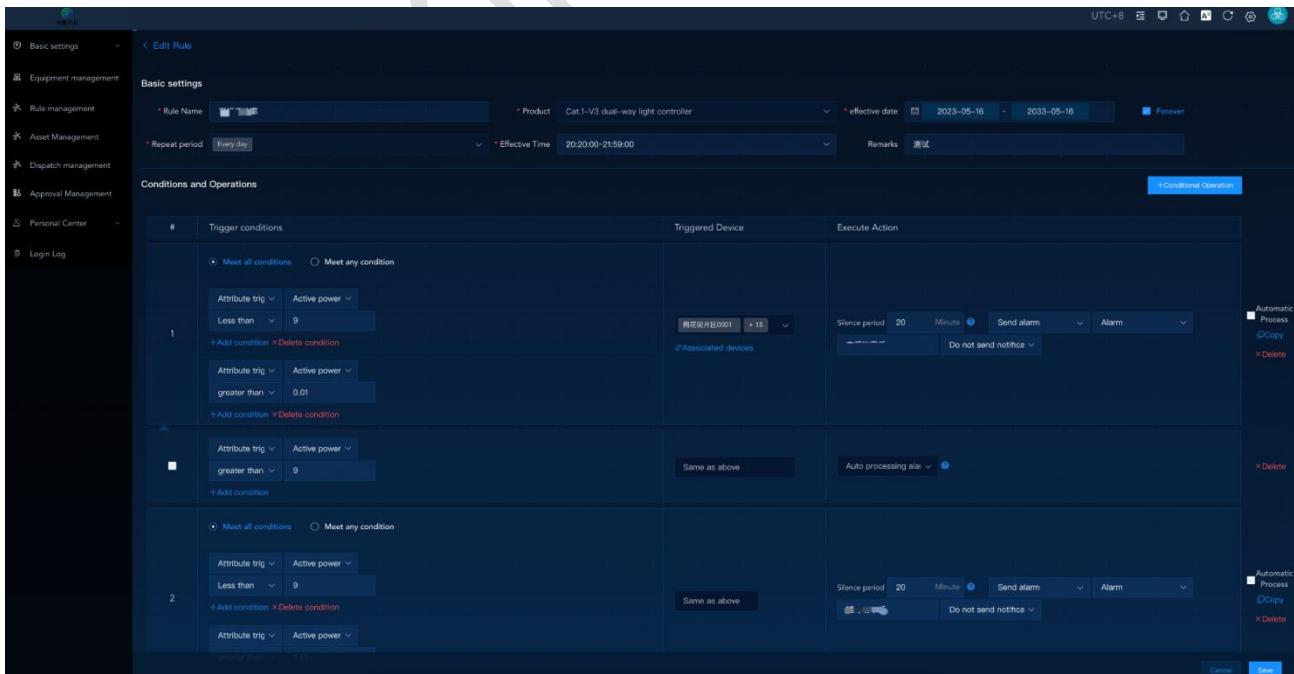
The screenshot shows the 'Add Rule' interface in the RULR IoT Platform. The 'Basic settings' section includes fields for Rule Name (test), Product (Cat.1-V3 light controller), effective date (2023-07-31 to 2033-07-31), and Repeat period (Every day). The 'Conditions and Operations' section contains two trigger conditions. Condition 1 uses 'Attribute Current' with 'Less than' 0.01 and 'range' 1 - 3. Condition 2 uses 'Event trig' with 'High current'. Both conditions point to 'Unassociated' devices and trigger 'Auto processing'. Execute actions include 'Send alarm' and 'Reminder'.

### Automatic Alarm Handling

#### 2.4.2.2 Example of Platform Alarm Configuration

The dual-way light controller will generate alarms only between 18:20 and 21:59 in the evening.

If the active power of Fixture 1 is less than 9 but greater than 0.01, it will trigger a main light power low alarm. If the active power returns to above 9 within 20 minutes, no alarm will be generated. If the active power returns to above 9, it will automatically handle any previously generated alarms.



The screenshot shows the 'Edit Rule' interface for a 'Cat.1-V3 dual-way light controller'. The 'Basic settings' section includes fields for Rule Name (灯带), Product (Cat.1-V3 dual-way light controller), effective date (2023-05-16 to 2033-05-16), and Repeat period (Every day). The 'Conditions and Operations' section contains two trigger conditions. Condition 1 uses 'Attribute trig' with 'Active power' and 'Less than' 9. Condition 2 uses 'Attribute trig' with 'Active power' and 'greater than' 0.01. Both conditions point to '灯带' devices and trigger 'Auto processing'. Execute actions include 'Send alarm' and 'Alarm'.

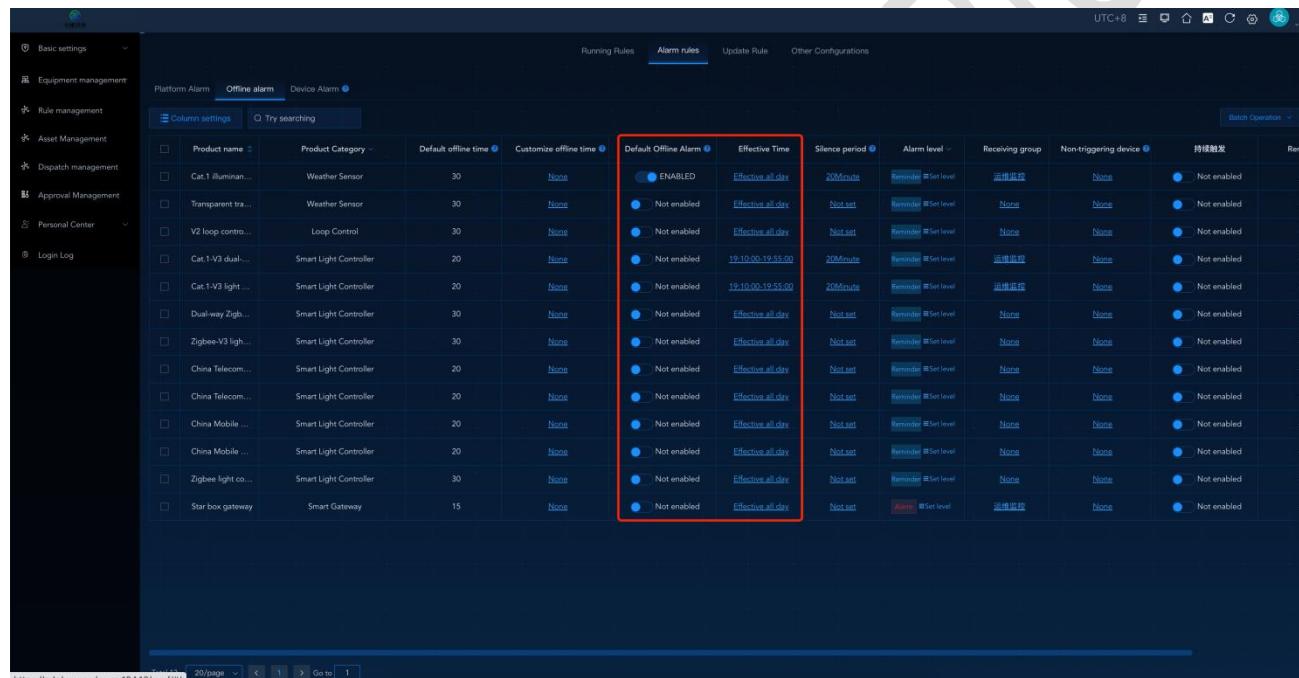
### Example of Platform Alaram Configuration

### 2.4.2.3 Offline Alarm

**Access Path:** Rule Management > Alarm Rules > Offline Alarms, to display the offline alarm lists for all products.

Offline alarms refer to alarms generated when a device goes offline. Users can customize the device's offline time (e.g., set it to 30 minutes, indicating that if no data is received from the device within 30 minutes, the device's status will be marked as offline). User can choose to enable or disable offline alarms, set an effective time (used for alarm filtering), specify a silent period, define an alarm level, select recipient groups, and specify devices that should not trigger this alarm.

**Note: Customizing the offline time should not be set too short, as it may result in a large number of offline alarms.**



Product name	Product Category	Default offline time	Customize offline time	Default Offline Alarm	Effective Time	Silence period	Alarm level	Receiving group	Non-triggering device	持续触发	Rem
Cat.1 illuminan...	Weather Sensor	30	None	ENABLED	Effective all day	20Minute	Reminder Set level	运维组	None	Not enabled	-
Transparent tra...	Weather Sensor	30	None	Not enabled	Effective all day	Not set	Reminder Set level	None	None	Not enabled	-
V2 loop contro...	Loop Control	30	None	Not enabled	Effective all day	Not set	Reminder Set level	None	None	Not enabled	-
Cat.1-V3 dual...	Smart Light Controller	20	None	Not enabled	19:10:00-19:55:00	20Minute	Reminder Set level	运维组	None	Not enabled	-
Cat.1-V3 light ...	Smart Light Controller	20	None	Not enabled	19:10:00-19:55:00	20Minute	Reminder Set level	运维组	None	Not enabled	-
Dual-way Zigb...	Smart Light Controller	30	None	Not enabled	Effective all day	Not set	Reminder Set level	None	None	Not enabled	-
Zigbee-V3 ligh...	Smart Light Controller	30	None	Not enabled	Effective all day	Not set	Reminder Set level	None	None	Not enabled	-
China Telecom...	Smart Light Controller	20	None	Not enabled	Effective all day	Not set	Reminder Set level	None	None	Not enabled	-
China Telecom...	Smart Light Controller	20	None	Not enabled	Effective all day	Not set	Reminder Set level	None	None	Not enabled	-
China Mobile ...	Smart Light Controller	20	None	Not enabled	Effective all day	Not set	Reminder Set level	None	None	Not enabled	-
China Mobile ...	Smart Light Controller	20	None	Not enabled	Effective all day	Not set	Reminder Set level	None	None	Not enabled	-
Zigbee light co...	Smart Light Controller	30	None	Not enabled	Effective all day	Not set	Reminder Set level	None	None	Not enabled	-
Star box gateway	Smart Gateway	15	None	Not enabled	Effective all day	Not set	Reminder Set level	运维组	None	Not enabled	-

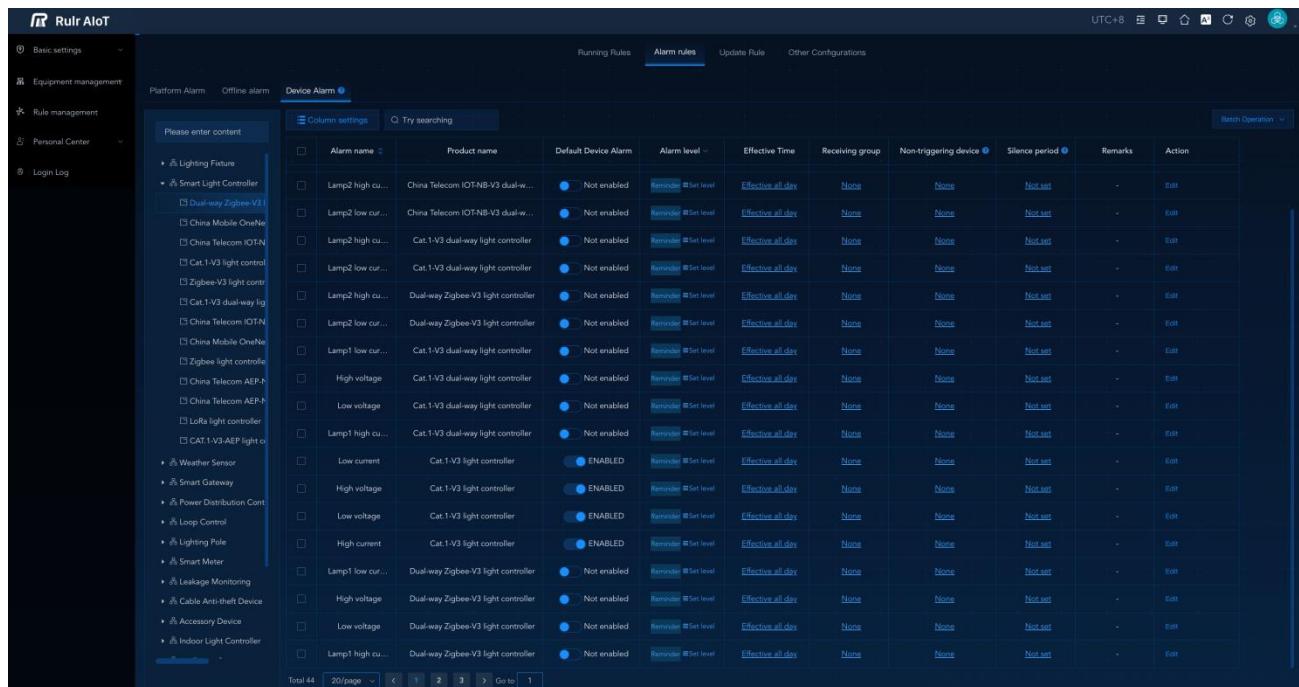
### Offline Alarm

### 2.4.2.4 Device Alarms

**Access Path:** Rule Management > Alarm Rules > Device Alarms, to display the device alarm lists for all products.

Device alarms are alarm events reported by the devices themselves. Users can choose to enable or disable device alarms, set an effective time (used for alarm filtering), specify a silent period, define an alarm level, select recipient groups, and specify devices that should not trigger this alarm.

Setting alarm thresholds are supported, including all single-way and dual-way light controllers.



The screenshot shows the 'Device Alarm' configuration page. The table lists 44 entries of device alarms. Key columns include:

Alarm name	Product name	Default Device Alarm	Alarm level	Effective Time	Receiving group	Non-triggering device	Silence period	Remarks	Action
Lamp2 high cu...	China Telecom IoT-NB-V3 dual-w...	Not enabled	Reminder	Effective all day	None	None	Not set	-	Edit
Lamp2 low cur...	China Telecom IoT-NB-V3 dual-w...	Not enabled	Reminder	Effective all day	None	None	Not set	-	Edit
Lamp2 high cu...	Cat.1-V3 dual-way light controller	Not enabled	Reminder	Effective all day	None	None	Not set	-	Edit
Lamp2 low cur...	Cat.1-V3 dual-way light controller	Not enabled	Reminder	Effective all day	None	None	Not set	-	Edit
Lamp2 high cu...	Dual-way Zigbee-V3 light controller	Not enabled	Reminder	Effective all day	None	None	Not set	-	Edit
Lamp2 low cur...	Dual-way Zigbee-V3 light controller	Not enabled	Reminder	Effective all day	None	None	Not set	-	Edit
Lamp1 low cur...	Cat.1-V3 dual-way light controller	Not enabled	Reminder	Effective all day	None	None	Not set	-	Edit
High voltage	Cat.1-V3 dual-way light controller	Not enabled	Reminder	Effective all day	None	None	Not set	-	Edit
Low voltage	Cat.1-V3 dual-way light controller	Not enabled	Reminder	Effective all day	None	None	Not set	-	Edit
Lamp1 high cu...	Cat.1-V3 dual-way light controller	Not enabled	Reminder	Effective all day	None	None	Not set	-	Edit
Low current	Cat.1-V3 light controller	ENABLED	Reminder	Effective all day	None	None	Not set	-	Edit
High voltage	Cat.1-V3 light controller	ENABLED	Reminder	Effective all day	None	None	Not set	-	Edit
Low voltage	Cat.1-V3 light controller	ENABLED	Reminder	Effective all day	None	None	Not set	-	Edit
High current	Cat.1-V3 light controller	ENABLED	Reminder	Effective all day	None	None	Not set	-	Edit
Lamp1 low cur...	Dual-way Zigbee-V3 light controller	Not enabled	Reminder	Effective all day	None	None	Not set	-	Edit
High voltage	Dual-way Zigbee-V3 light controller	Not enabled	Reminder	Effective all day	None	None	Not set	-	Edit
Low voltage	Dual-way Zigbee-V3 light controller	Not enabled	Reminder	Effective all day	None	None	Not set	-	Edit
Lamp1 high cu...	Dual-way Zigbee-V3 light controller	Not enabled	Reminder	Effective all day	None	None	Not set	-	Edit

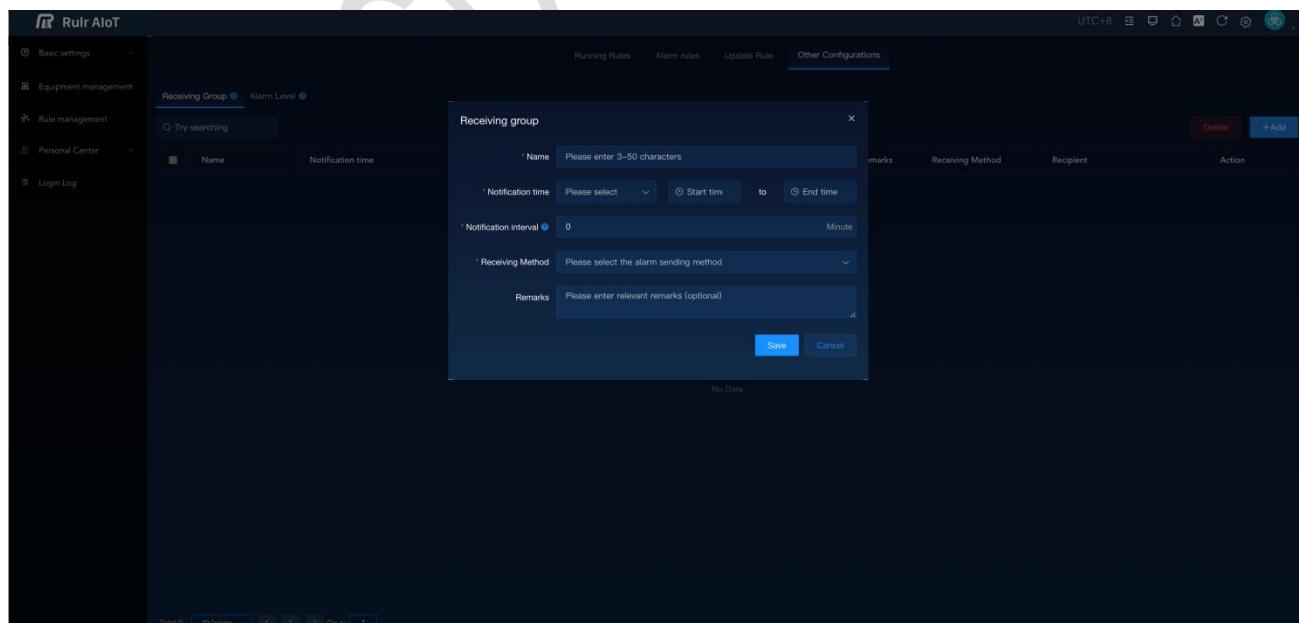
## Device Alarms

### 2.4.3 Other Configurations

The content within 'Other Configurations', is to configure the contents which would be used in running rules and alarm rules.

#### 2.4.3.1 Receiving Group Configurations

**Access Path:** Rule Management > Other Configurations > Receiving Group Configuration, it displays the alarm receiving group, supporting the setting of notification channels, notification intervals, and notification times.



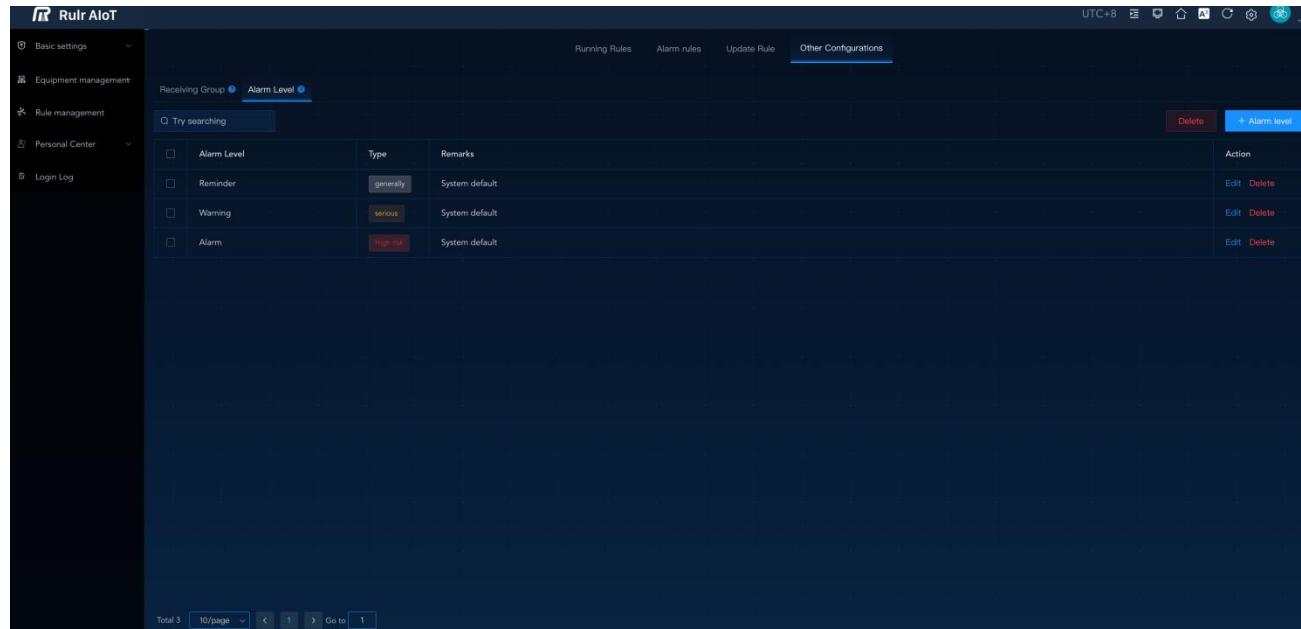
The screenshot shows the 'Receiving Group' configuration page. The form fields are:

- Name: Please enter 3-50 characters
- Notification time: Please select, Start time, End time
- Notification interval: 0 Minute
- Receiving Method: Please select the alarm sending method
- Remarks: Please enter relevant remarks (optional)

#### Add Receiving Group

### 2.4.3.2 Alarm Level

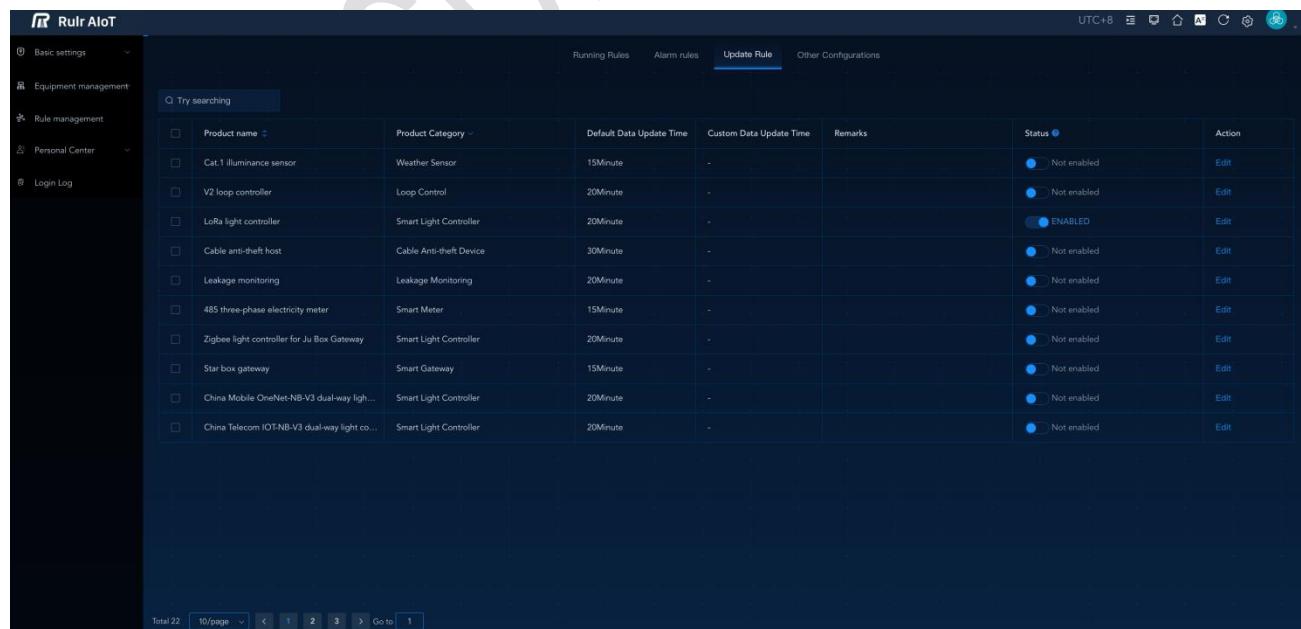
**Access Path:** Rule Management > Other Configurations > Alarm Level.  
 It displays the alarm levels and supports customizing the alarm names.



**List of Alarm Levels**

### 2.4.4 Update Rules

**Access Path:** Rule Management > Update Rules, where user can configure the data update intervals for different products. If this rule is activated, the platform will send read commands at intervals to retrieve the latest data from the device.



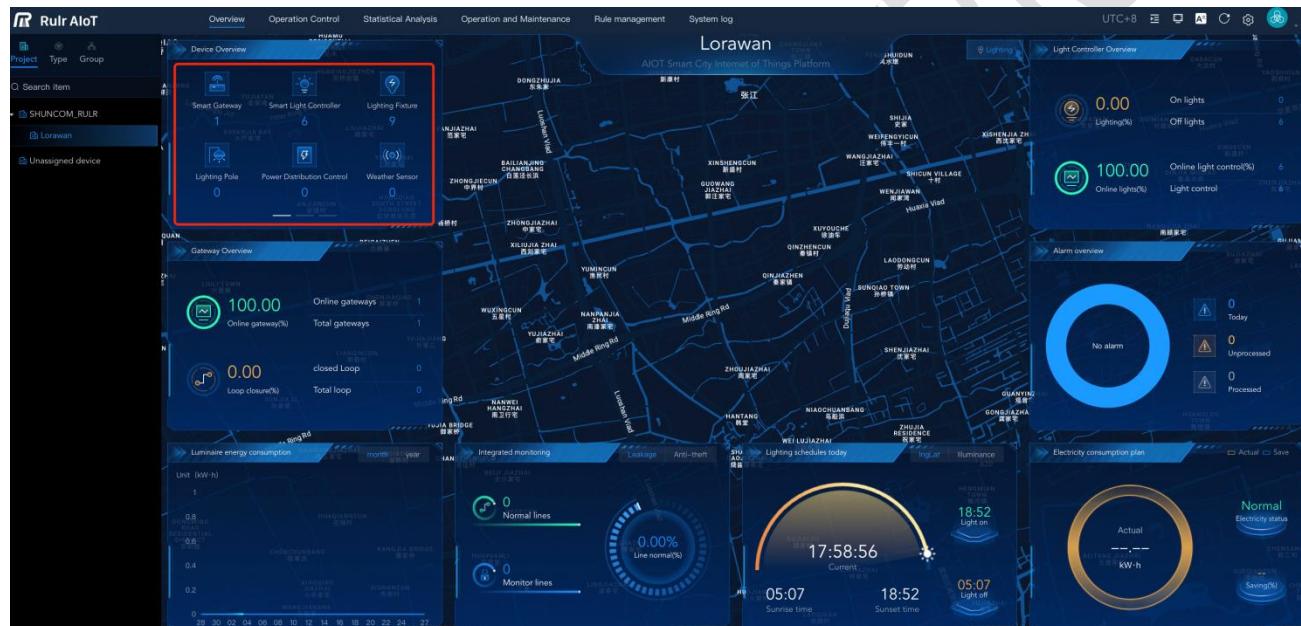
**Update Rule**

## 2.5 Homepage

### 2.5.1 Statistical Data Overview

Open the homepage to display the statistical data for all devices under the selected project. The data on this page needs to be configured in [2.3.1.2 Display Information](#). Different projects can choose different numbers of statistical modules based on requirements, with a maximum of eight modules displayed at the same time.

By clicking on the product category in the device overview page, it will be directed to the corresponding category's operation and control page, as shown in the figure below.

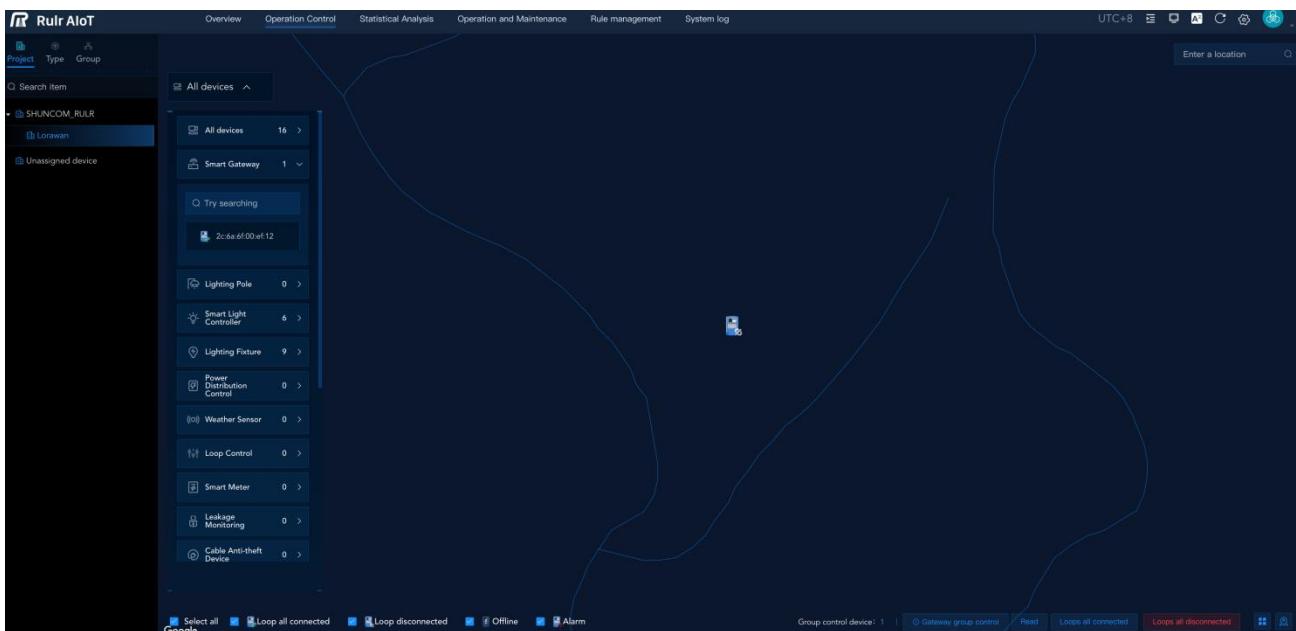


Device Overview

### 2.5.2 Operation Control

#### 2.5.2.1 GIS Map

**Access Path:** Homepage > Operation Control > GIS Map, which displays the distribution of devices in the project, type, and group on the GIS map (if the environment background chosen when the project is created is GIS map). Only devices added to this project/type/group and have latitude and longitude will be displayed on the GIS map. Different categories of devices are represented with different icons. As shown in the figure below.

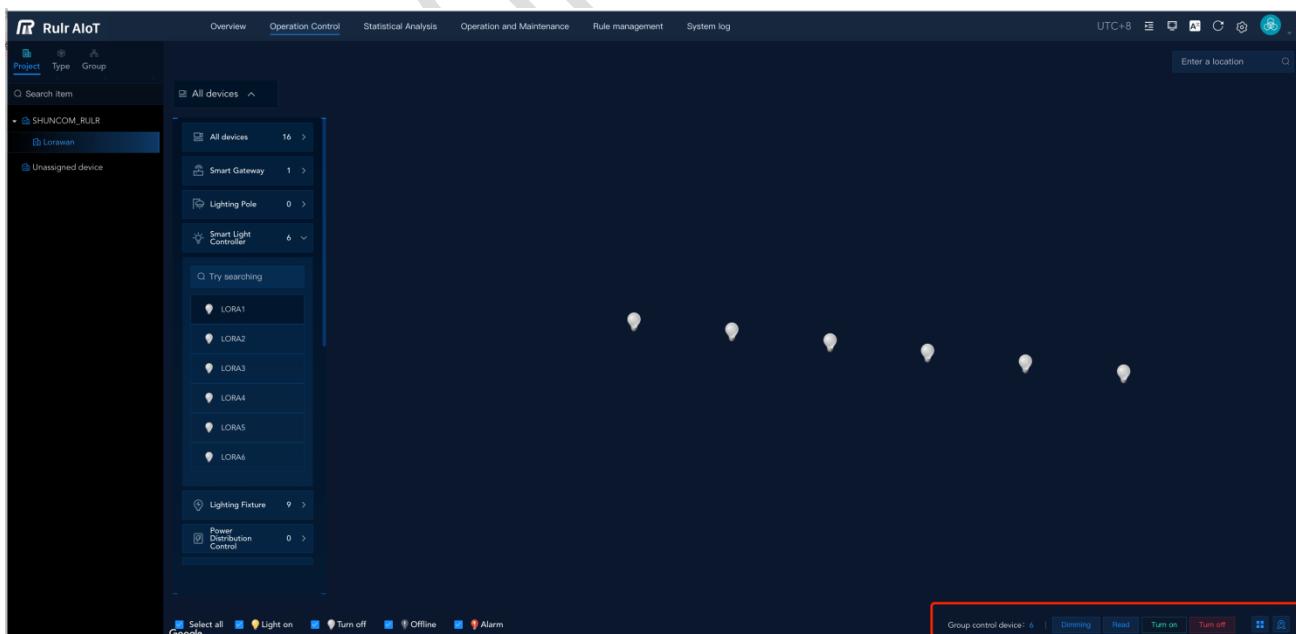


### Project - GIS Operation Control-Smart Gateway

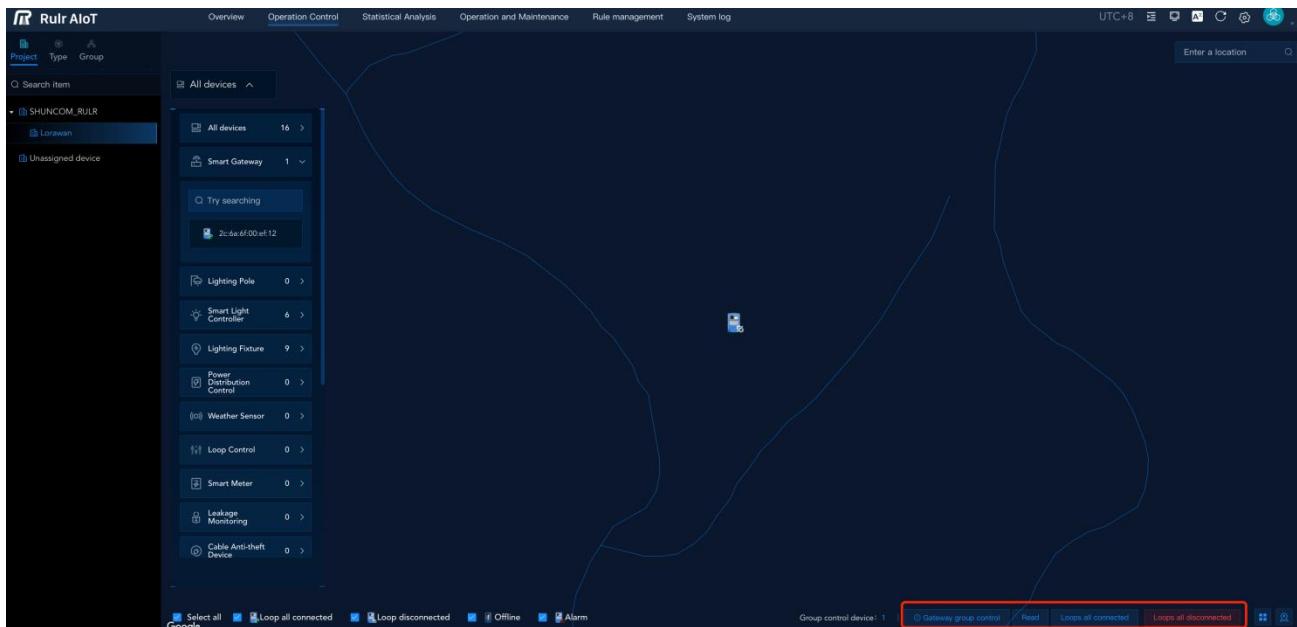
GIS map supports group control for light controllers and gateways.

- Smart Light Controller supports: Turn on, Turn off, Dimming, Read light data, Read version number, Read local time.
- Gateway supports: Full circuit disconnect, Full circuit connect, Read local time, Read latitude and longitude, Group control of the gateway (controls all light controllers under this gateway), Read three-phase electricity and Read circuit status (Features of the third-generation gateway).

As shown in the figure below.



### Group Control Features for the Smart Light Controller

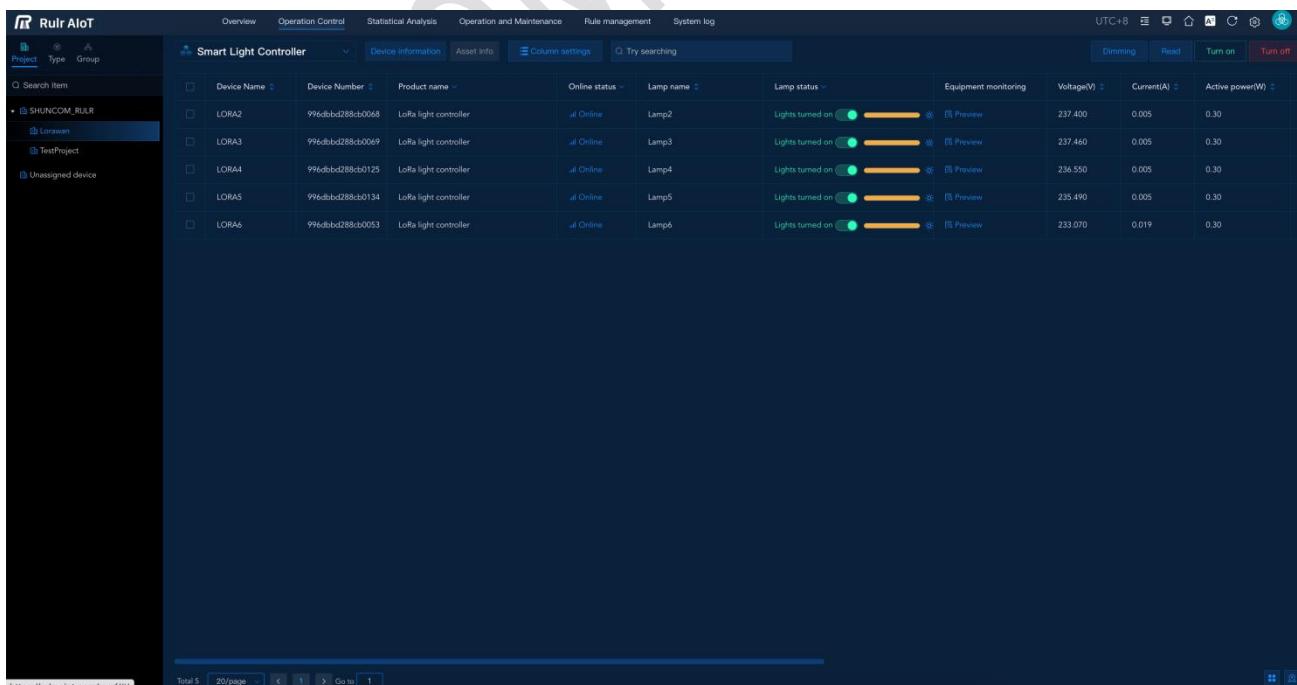


## Gateway Group Control Features

### 2.5.2.2 List of Devices

#### 2.5.2.2.1 Device List

**Access Path:** Homepage > Operation Control > Device List page. It displays the complete device list of the project. You can view all devices or individual product types. Click on Operation > View or double-click on the device list to enter the device details page. As shown in the figure below.



Device Name	Device Number	Product name	Online status	Lamp name	Lamp status	Equipment monitoring	Voltage(V)	Current(A)	Active power(W)
LORA2	99edbd288cb0068	LoRa light controller	Online	Lamp2	Lights turned on	Preview	237.400	0.005	0.30
LORA3	99edbd288cb0069	LoRa light controller	Online	Lamp3	Lights turned on	Preview	237.460	0.005	0.30
LORA4	99edbd288cb0125	LoRa light controller	Online	Lamp4	Lights turned on	Preview	236.550	0.005	0.30
LORA5	99edbd288cb0134	LoRa light controller	Online	Lamp5	Lights turned on	Preview	235.490	0.005	0.30
LORA6	99edbd288cb0053	LoRa light controller	Online	Lamp6	Lights turned on	Preview	233.070	0.019	0.30

## Project - Operation – Control - Device List

### 2.5.2.2.2 List of the Details of Devices

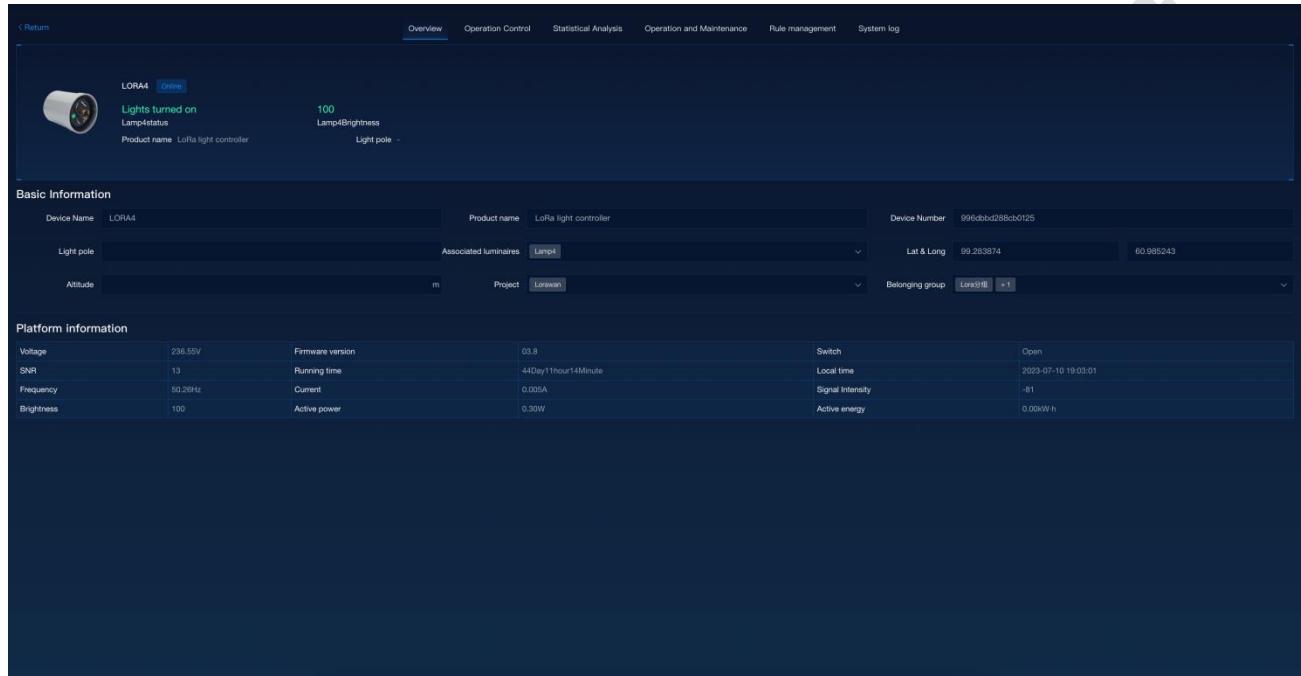
**Access Path:** Homepage > Operation Control > Device List > Device Details.

It displays the device details page, comprising 6 major sections:

Device's historical data: Supports viewing and exporting.

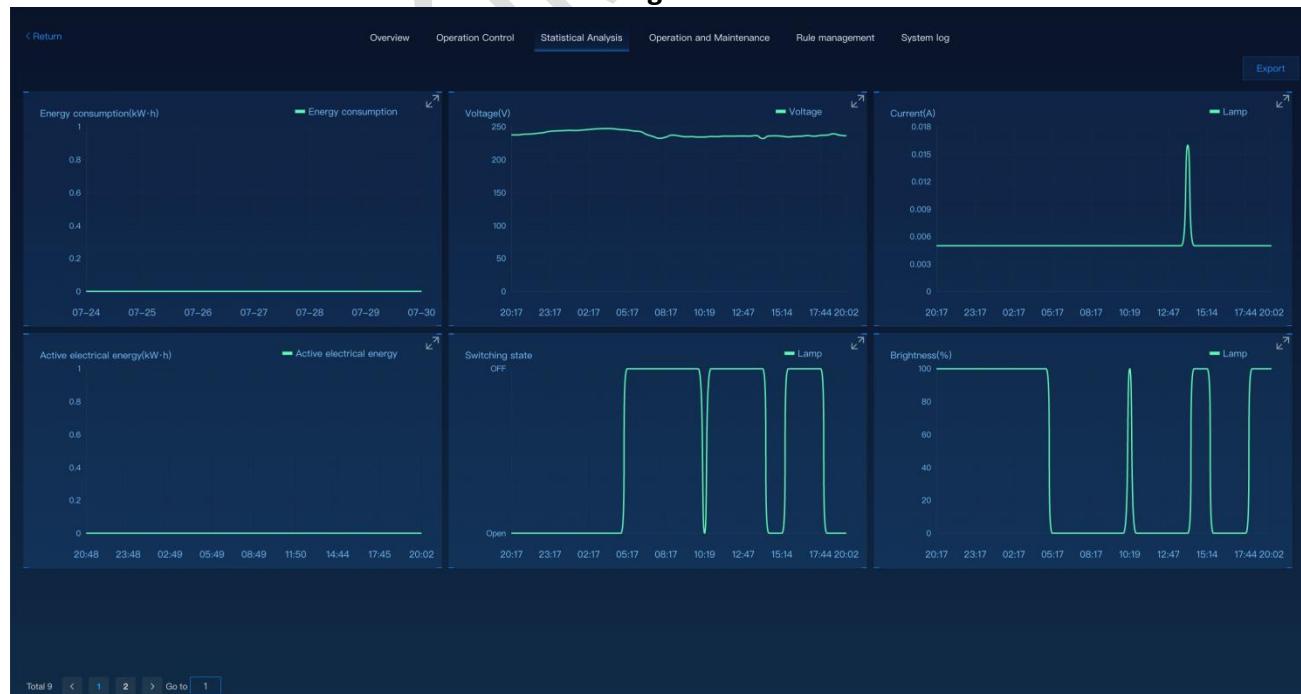
**All rules: Includes platform rules and local rules. It supports reading local rules of individual devices, clearing local rules, and synchronizing local rules.**

All alarm information, all operation records, etc. As shown in the figure below.



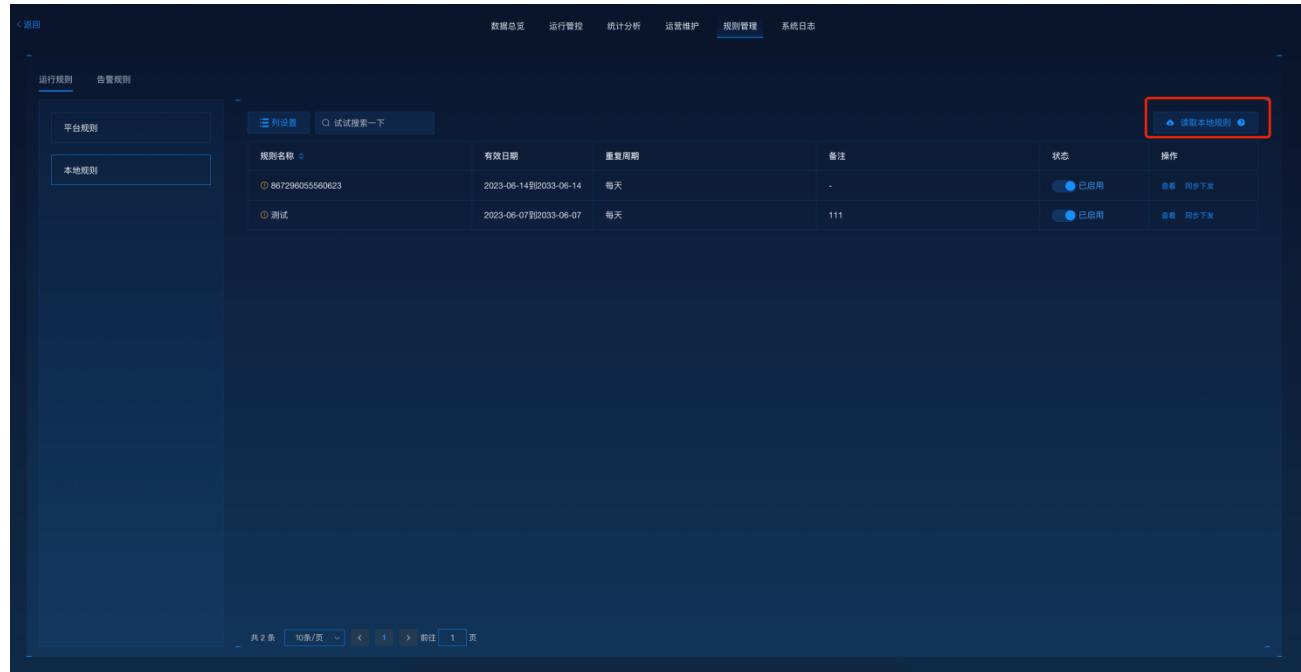
The screenshot shows the 'Basic Information' section with details for a device named 'LORA4'. It includes fields for Product name (LoRa light controller), Device Number (996cbbd288cb0125), Light pole (Lamp4), Lat & Long (Lat: 09.283874, Long: 60.985243), and Belonging group (Lora4# +1). Below this is the 'Platform information' section with various sensor readings like Voltage, SNR, Frequency, and Brightness, along with their corresponding values and units.

Device Details Page - Data Overview



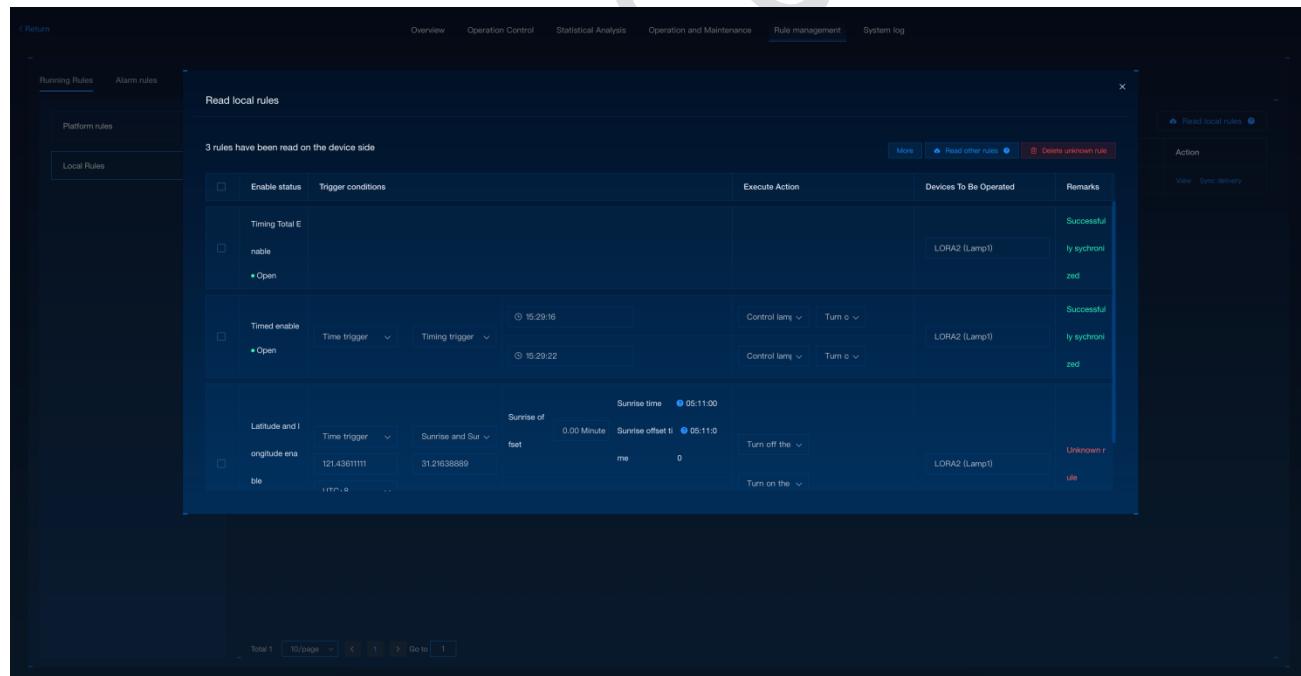
Device Details Page - Statistical Analysis

Supports reading the local rule of a single device, local rules could be cleared if there were unknown rules appeared.



The screenshot shows the 'Local Rules' management interface. At the top, there are tabs for 'Running rules' and 'Warning rules'. Below is a search bar and a table with two rows of data. The first row has a 'Rule name' of '867296055560623', an 'Effective date' of '2023-06-14' to '2023-06-14', a 'Repetition period' of 'Every day', a note of '-', and a status of 'Enabled' with an 'Edit' and 'Sync' button. The second row has a 'Rule name' of 'Test', an 'Effective date' of '2023-06-07' to '2023-06-07', a 'Repetition period' of 'Every day', a note of '111', and a status of 'Enabled' with an 'Edit' and 'Sync' button. At the bottom, there is a pagination bar showing '2 pages' and a 'Go to page' input field.

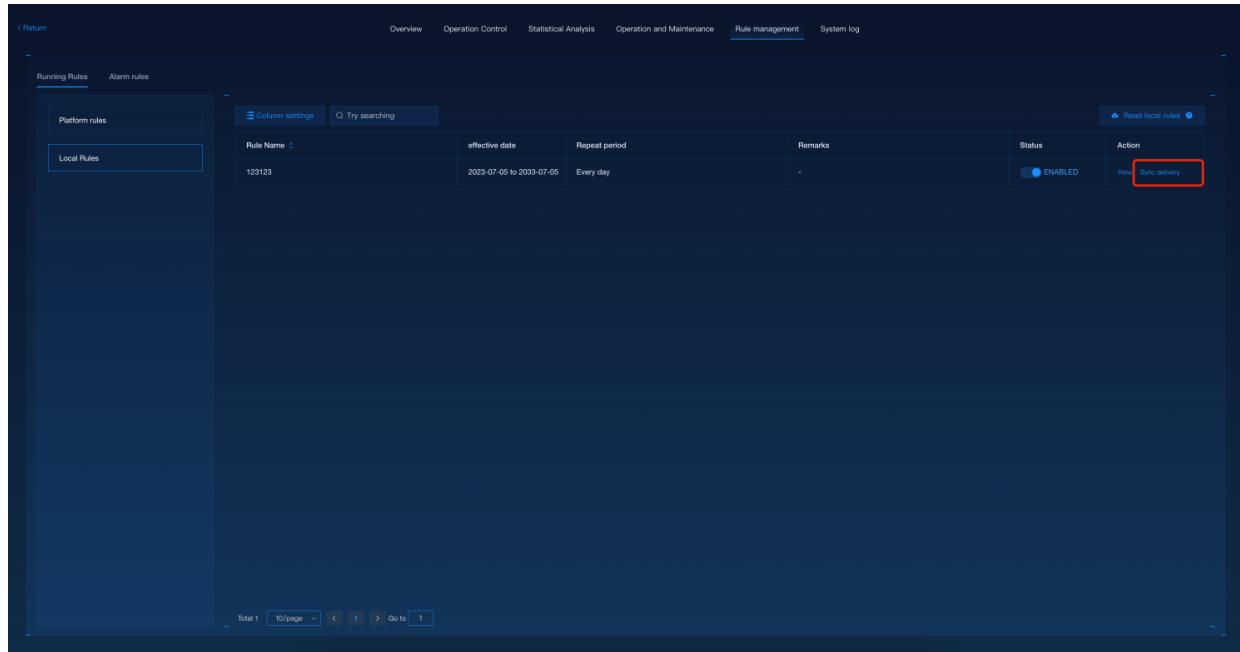
**Device Details Page - Local Rules-Accessing Local Rules**



The screenshot shows the 'Local Rules' details page. At the top, there are tabs for 'Overview', 'Operation Control', 'Statistical Analysis', 'Operation and Maintenance', 'Rule management' (which is active), and 'System log'. On the left, there are navigation links for 'Running Rules', 'Alarm rules', 'Platform rules', and 'Local Rules'. The main area is titled 'Read local rules' and displays a table with three rows of local rules. The first row has a 'Trigger condition' of 'Timing Total E' and an 'Action' of 'Turn on'. The second row has a 'Trigger condition' of 'Timed enable' and an 'Action' of 'Turn off'. The third row has a 'Trigger condition' of 'Latitude and longitude enable' and an 'Action' of 'Turn on'. Each row includes a 'Devices To Be Operated' column (LORA2 (Lamp01) or LORA2 (Lamp02)), a 'Remarks' column (Successful synchronization), and a 'Sync delivery' button. At the bottom, there is a pagination bar showing 'Total 1 / 10 pages' and a 'Go to page' input field.

**Device Details Page - Local Rules-List of Local Rules**

Supports redownloading local rules to the device end.

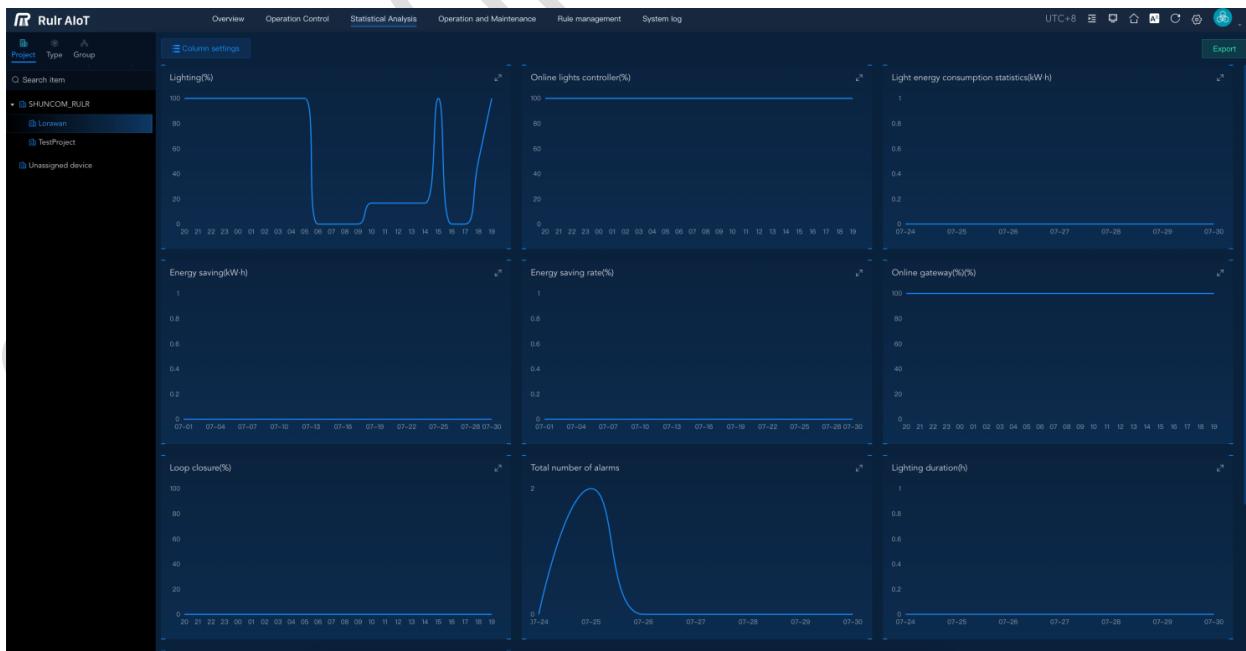


Device Details Page - Local Rules-Sync Delivery

### 2.5.3 Statistical Analysis

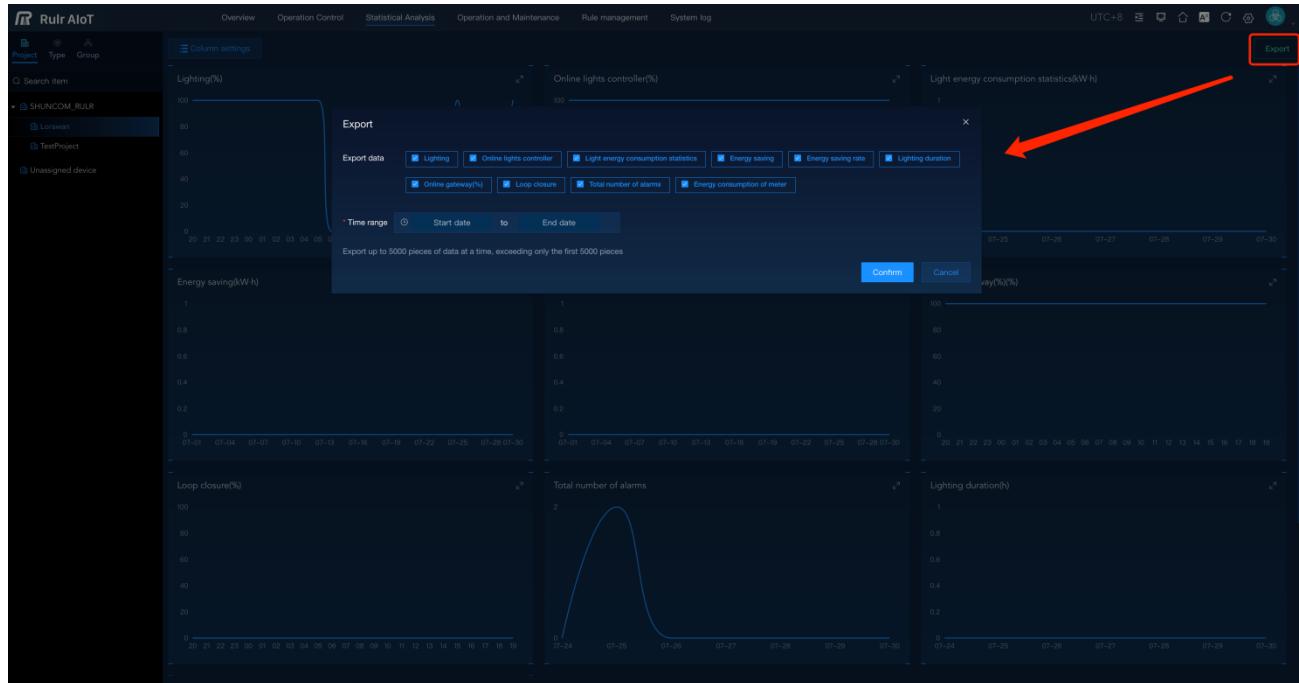
**Access Path:** Homepage > Statistical Analysis. Select the project. The analysis is only for devices under the selected project. It supports column settings for the modules and allows for show/hide operations.

See samples below.



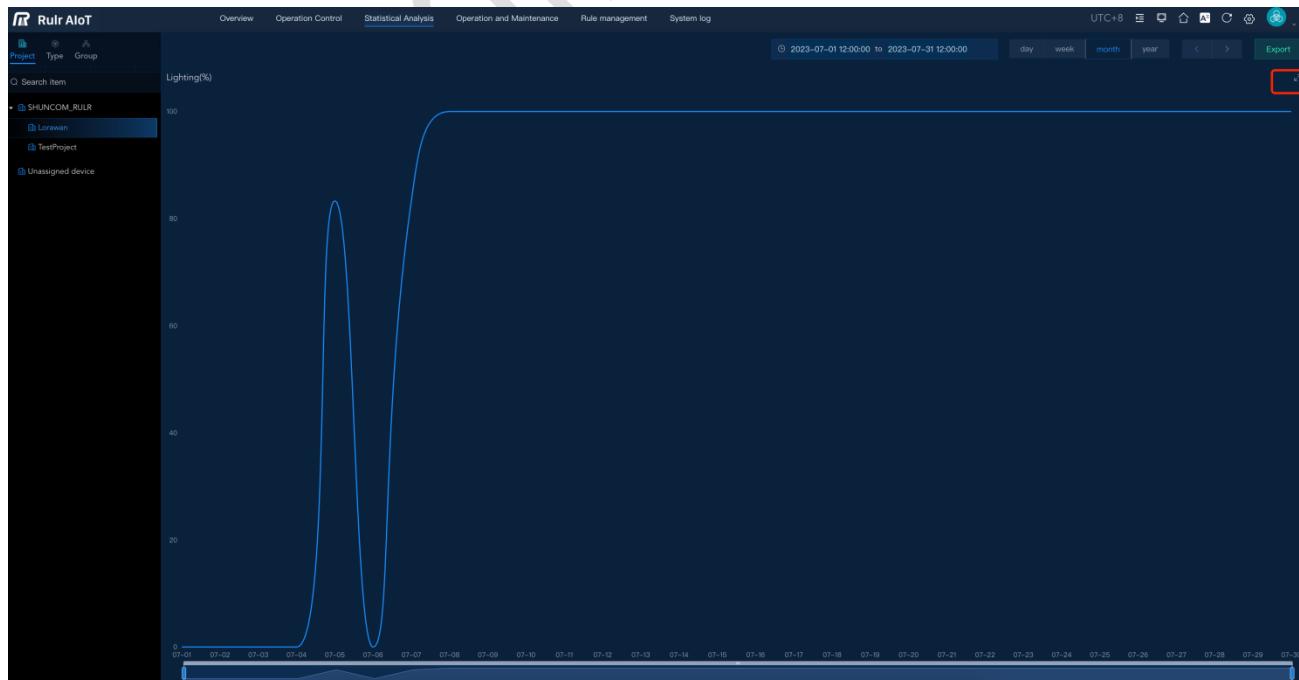
Statistical Analysis of Projects

Supports quick report data export. Click on "Export", select the data items you want to export, and both single and multiple selections are supported. Then choose the export time range and proceed with the export. As shown in the figure below.



## Exporting Reports

Each statistical item can be clicked on to enlarge and view individually. User can quickly view the stats by day, week, month, or year. The option to select a time range for report export is available, and the export logic remains consistent. As shown in the figure below.

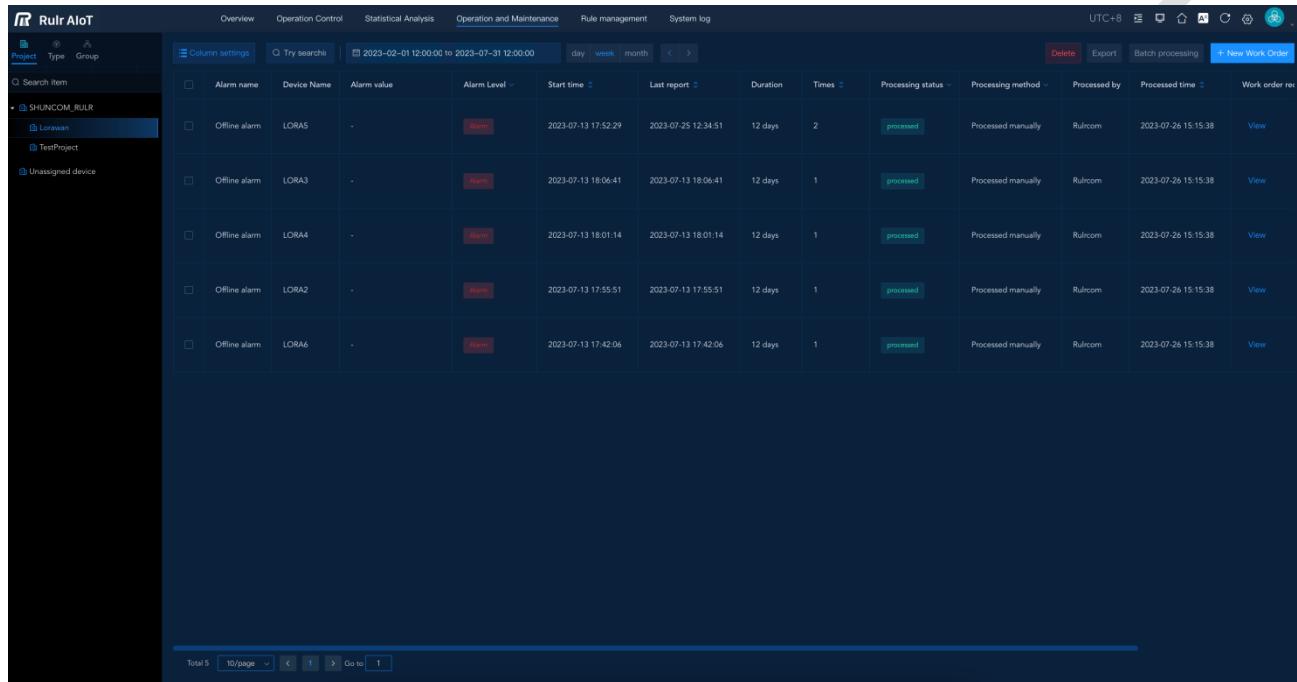


## Statistical Analysis - Overview of a single Statistical Analysis

## 2.5.4 Opcion and maintenance

**Access Path:** Home > Opcion and Maintenance.

In this page, user can manage the projects/type/groups. It displays the statistics of platform alarm information in three dimensions and displays the alarm history, as shown in the figure below.



Alarm name	Device Name	Alarm value	Alarm Level	Start time	Last report	Duration	Times	Processing status	Processing method	Processed by	Processed time	Work order no.
Offline alarm	LORAS	-	Alarm	2023-07-13 17:52:29	2023-07-25 12:34:51	12 days	2	processed	Processed manually	Rulrcom	2023-07-26 15:15:38	<a href="#">View</a>
Offline alarm	LORA3	-	Alarm	2023-07-13 18:06:41	2023-07-13 18:06:41	12 days	1	processed	Processed manually	Rulrcom	2023-07-26 15:15:38	<a href="#">View</a>
Offline alarm	LORA4	-	Alarm	2023-07-13 18:01:14	2023-07-13 18:01:14	12 days	1	processed	Processed manually	Rulrcom	2023-07-26 15:15:38	<a href="#">View</a>
Offline alarm	LORA2	-	Alarm	2023-07-13 17:55:51	2023-07-13 17:55:51	12 days	1	processed	Processed manually	Rulrcom	2023-07-26 15:15:38	<a href="#">View</a>
Offline alarm	LORA6	-	Alarm	2023-07-13 17:42:06	2023-07-13 17:42:06	12 days	1	processed	Processed manually	Rulrcom	2023-07-26 15:15:38	<a href="#">View</a>

### Project - Operation and Maintenance-Alarm list

Each alarm can be processed individually. Click the ‘process’, chose one of the status ‘Mark as processing’ or ‘Mark as done’.

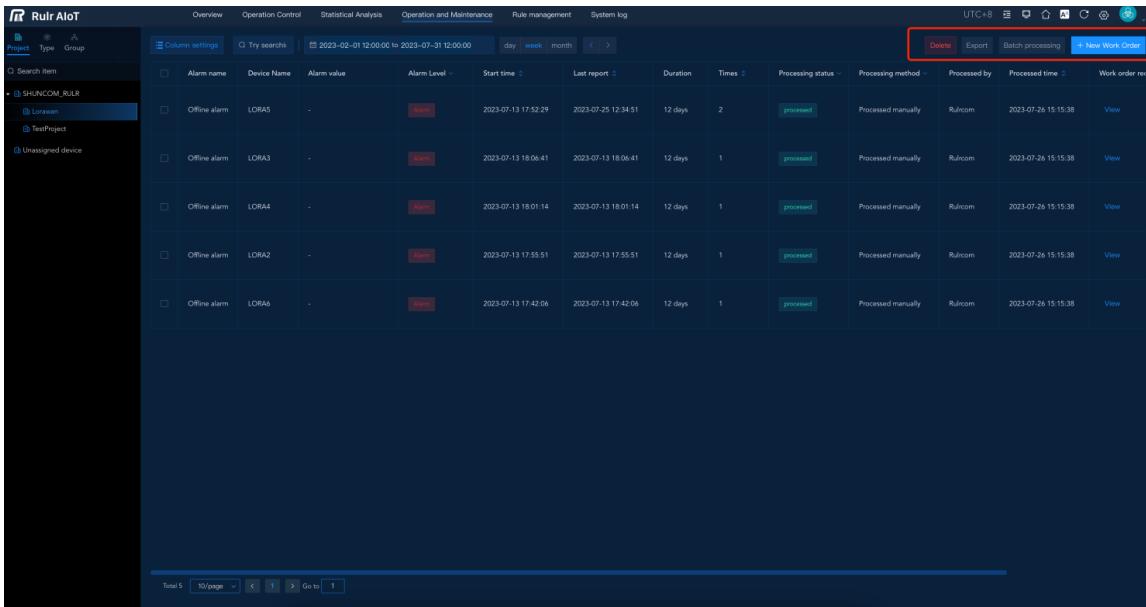
Support Batch Processing.;

Supports filtering of alarm levels, alarm types, and alarm processing status;

Select the alarm time period and export the required alarm records to an excel table;

Support batch dispatch of work orders.

As shown in the figure below.



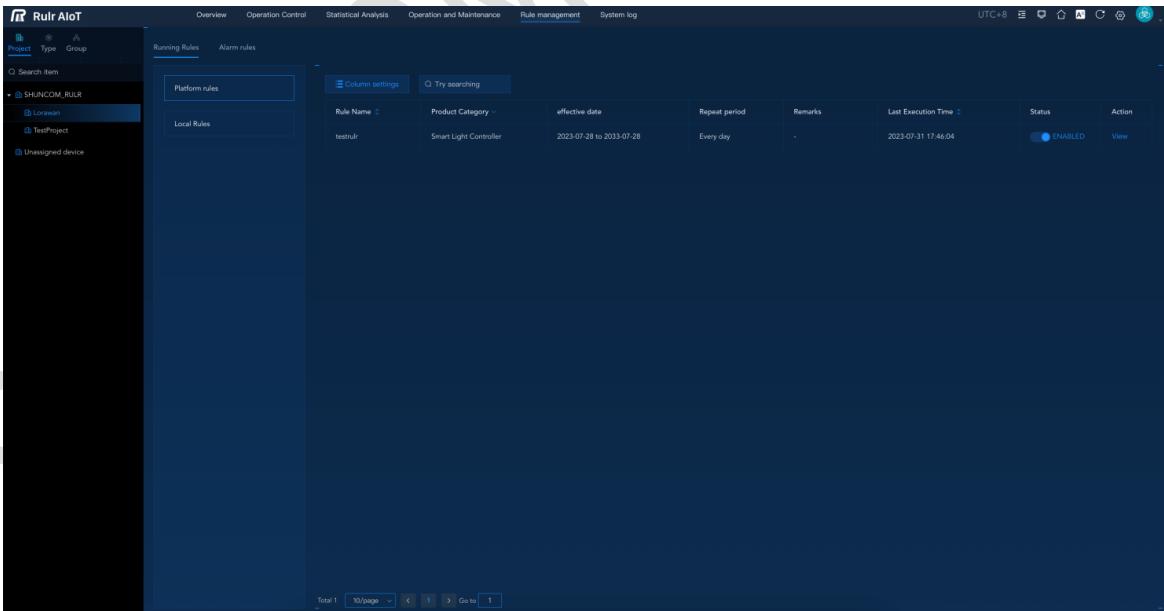
Alarm name	Device Name	Alarm value	Alarm Level	Start time	Last report	Duration	Times	Processing status	Processing method	Processed by	Processed time	Work order rec
Offline alarm	LORA5	-	Alert	2023-07-13 17:52:29	2023-07-25 12:34:51	12 days	2	processed	Processed manually	Rulcom	2023-07-26 15:15:38	<a href="#">View</a>
Offline alarm	LORA3	-	Alert	2023-07-13 18:06:41	2023-07-13 18:06:41	12 days	1	processed	Processed manually	Rulcom	2023-07-26 15:15:38	<a href="#">View</a>
Offline alarm	LORA4	-	Alert	2023-07-13 18:01:14	2023-07-13 18:01:14	12 days	1	processed	Processed manually	Rulcom	2023-07-26 15:15:38	<a href="#">View</a>
Offline alarm	LORA2	-	Alert	2023-07-13 17:55:51	2023-07-13 17:55:51	12 days	1	processed	Processed manually	Rulcom	2023-07-26 15:15:38	<a href="#">View</a>
Offline alarm	LORA6	-	Alert	2023-07-13 17:42:06	2023-07-13 17:42:06	12 days	1	processed	Processed manually	Rulcom	2023-07-26 15:15:38	<a href="#">View</a>

### Processing Alarms

## 2.5.5 Rule management

**Access Path:** Home page > Rule management.

View the running status and alarms of each device, and manage devices from three aspects, Project, Type, and Group. The displayed list is consistent with 2.4 rule management content. Users can only view content and change status, but cannot edit content. As shown in the figure below.



Rule Name	Product Category	effective date	Repeat period	Remarks	Last Execution Time	Status	Action
testrule	Smart Light Controller	2023-07-28 to 2033-07-28	Every day	-	2023-07-31 17:46:04	<span>ENABLED</span>	<a href="#">View</a>

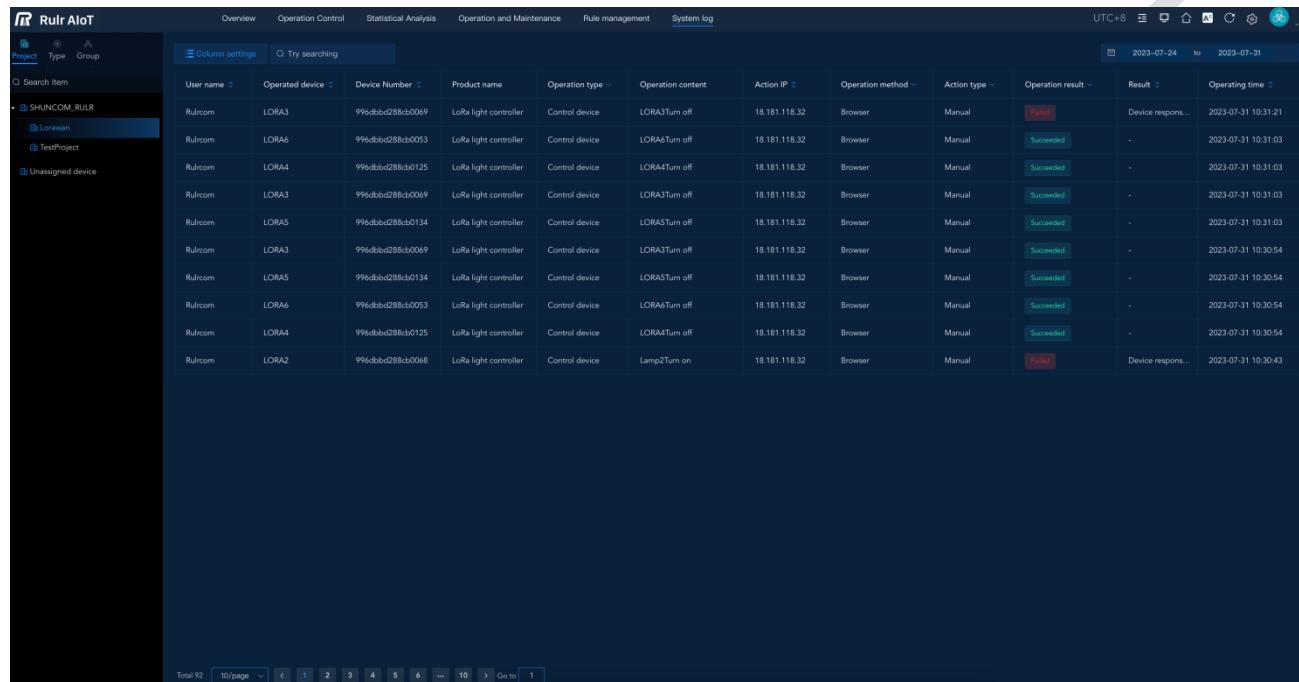
### Running Rules - Platform Rules

## 2.5.6 System Log

**Access Path:** Home page > System Log.

It is a system log for devices by project/type/group. User can view the operation records.

As shown in the figure below.



User name	Operated device	Device Number	Product name	Operation type	Operation content	Action IP	Operation method	Action type	Operation result	Result	Operating time
Rulrcom	LORA3	99edbdb0288cb0069	LoRa light controller	Control device	LORA3Turn off	18.181.118.32	Browser	Manual	Failed	Device respons...	2023-07-31 10:31:21
Rulrcom	LORA6	99edbdb0288cb0053	LoRa light controller	Control device	LORA6Turn off	18.181.118.32	Browser	Manual	Succeeded	-	2023-07-31 10:31:03
Rulrcom	LORA4	99edbdb0288cb0125	LoRa light controller	Control device	LORA4Turn off	18.181.118.32	Browser	Manual	Succeeded	-	2023-07-31 10:31:03
Rulrcom	LORA3	99edbdb0288cb0069	LoRa light controller	Control device	LORA3Turn off	18.181.118.32	Browser	Manual	Succeeded	-	2023-07-31 10:31:03
Rulrcom	LORA5	99edbdb0288cb0134	LoRa light controller	Control device	LORA5Turn off	18.181.118.32	Browser	Manual	Succeeded	-	2023-07-31 10:31:03
Rulrcom	LORA3	99edbdb0288cb0069	LoRa light controller	Control device	LORA3Turn off	18.181.118.32	Browser	Manual	Succeeded	-	2023-07-31 10:30:54
Rulrcom	LORA5	99edbdb0288cb0134	LoRa light controller	Control device	LORA5Turn off	18.181.118.32	Browser	Manual	Succeeded	-	2023-07-31 10:30:54
Rulrcom	LORA6	99edbdb0288cb0053	LoRa light controller	Control device	LORA6Turn off	18.181.118.32	Browser	Manual	Succeeded	-	2023-07-31 10:30:54
Rulrcom	LORA4	99edbdb0288cb0125	LoRa light controller	Control device	LORA4Turn off	18.181.118.32	Browser	Manual	Succeeded	-	2023-07-31 10:30:54
Rulrcom	LORA2	99edbdb0288cb0068	LoRa light controller	Control device	Lamp2Turn on	18.181.118.32	Browser	Manual	Failed	Device respons...	2023-07-31 10:30:43

System Log