

## InHand Device Manager Platform

Simple and Efficient Device Management Solution

Quick Guide Issue: V3.0 - 2023

> InHand Networks Global Leader in Industrial IoT www.inhandnetworks.com

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#### **1 About the Platform**

Device Manager ("DM") is an Internet of Things (IoT) device management cloud platform of the "new generation" independently developed and operated by InHand. With visual user interfaces (UIs) and easy-to-use processes, it allows you to conveniently manage and monitor hardware devices of InHand such as routers and gateways and quickly deploy and manage massive devices in one-click manner. You can just deploy your applications on the cloud without caring about maintenance, allowing you to focus on your core business and empower your enterprise.



Quick start with the platform:

Register an account -> Configure a router or gateway and connect it to the platform -> Enable management of the router or gateway device

## 2 Registration and Login

#### 1. Registration

On a browser, enter https://iot.inhandnetworks.com/ to visit the office website of Device Manager. Click Register Account, enter an email account and relevant information, and click **Submit**. The authenticity of your email account will be verified. Please activate the account as instructed.

#### 2. Login

After registration, log in to the platform with the email account and password you used for registration. After login, choose **Personal Center** >> **Settings**, modify the login password and bind a phone number. Then, use the phone number and the verification code or the phone number and password for login. You can also use the phone number for recovering your password.

Change password	Unbound		G Logout
Old Password :	Old Password	ø	
* New Password :	At least 6 passwords, case insensitive	ø	
Repeat Password :	Sure password	ø	
Save			

#### **3 Connect Gateway Devices to DM**

The following devices are supported to be managed on Device Manager platform: InRouter200, InRouter300, InRouter600, InRouter900, InGateway900, InGateway500, InVehicleG710, InVehicleG810. After connection configuration is made on the device, a new device data record is automatically added to DM. You do not need to manually record the device data on DM. The following describes the details.

Configure the router to connect it to DM. Before configuration, make sure that the router has been connected to the network. For more information about networking operation, see the appendix.

#### 3.1 Connect IR300/IR600 to DM

After connecting the router to a PC, visit 192.168.2.1 or 192.168.1.1 on a browser, enter the login account **adm** and password **123456** to log in to the device web page. On the web page, choose **Services** >> **Device Manager**, choose **Service Type** as **Device Manager** and **Server** as **iot.inhandnetworks.com** and enter the email account you used for registration with DM in **Registered Account**:

inhand InHan	d Netwo	orks					
System Network	Services Fire	ewall QoS	VPN	Tools	Application	Status	
	DHCP Service			Your pass	word have secu	urity risk, ple	ease click here to change!
	DNS Relay				De	vice Manage	r
Enable Service Type Server Secure Channel Registered Account Site Name LBS info Upload Interval Series Info Upload Interval Channel Keepalive	VRRP Device Manager SNMP SNMPTRAP DTU SMS Traffic Manager Alarm Manager	cn Hours Secon	_Sign up/Sign in ds				

inhand InHand Networks

System	Network	Services	Firewall	QoS	VPN	Tools	Application	Status
						Your pass	sword have secu	urity risk, pleas
							De	vice Manager
Enable								
Service Type	e	Device Ma	nager 🗸					
Server		iot.inhand	networks.com 🗸					
Secure Char	nnel							
Registered A	Account	xxx@inha	nd.com.cn		Sign up/Sign in			
Site Name								
LBS info Up	load Interval	1		Hours				
Series Info U	Jpload Interval	1		Hours				
Channel Kee	epalive	30		Secon	ds			
Apply	y Cancel							

## Caution

The page varies with the device firmware version. The actual page shall prevail.

After the router is configured, a gateway data record is automatically added to the **Gateways** page on DM. You do not need to manually record the data. When the router status is **Online**, the device has been connected to DM:

C Device Manager	Home Map Gateways Co	nfig Firmware Edge Co	mputing Administration				🙁 test-user
Gateways	Home / Gateways / Gateways						
🖂 Gateways	All 13 Online 2 Offline 11	Name V Search by gate	eway name		+ Create 🔯 Impo	rt 👼 Export	≅ Column Display
🥪 Groups	Gateway Name	Signal Strength 👙	Serial Number 👙	IMSI	Firmware Version 👙	Action	
🔄 Tasks	• RT6151931456078	all	RT6151931456078	]	2.3.0.r4870	_ ₽	
🐖 Statistics	• GT9022008001249	att	GT9022008001249	460110505291918	1.0.0.r11628	2 🖵	
	• 3		GF902222222224			2	

# 3.2 Connect IR900/VG710 to DM

After connecting the router to a PC, visit 192.168.2.1 or 192.168.1.1 on a browser, enter the login account **adm** and password **123456** to log in to the device web page. On the web page, choose **Administration** >> **Device Manager**, set **Service Type** to Device Manager, select **iot.inhandnetworks.com** from **Server Address**, and enter the email account you used for registration with DM in **Registered Account**:

inhand		Administration >> Device Mana	ger		
1		Status Device Manager Device M	Manager Legacy		
Administration	•			Your password	has securi
Network	+				
Services	•	Device Manager Enable			
Link Backup	•	Service Type	Device Manager 🖌		
Routing	•	Server Address	iot.inhandnetworks.com 🗸		
Firewall	•	Secure Channel	<ul> <li>✓</li> </ul>		
VPN	•	Registered Account	xxx@inhand.com.cn	Sign up/Sign in	
APP	•	Site Name		]	
Industrial	•	Asset Number			
Tools	•	Show Advanced Options			
Wizards	•	Apply & Save Cancel			

Click Apply & Save. If the status is Connected, the device has been connected to DM:

inband	Administration >> Device	Networks			English	中文 User	Username: adm Cogout Alarms: 0 (Summary 2 3 s * Stop
прили	Status Device Networks	Device Management Legacy				- Lo	ogout
Administration		Your password has security	risk, please click here to change! 💌				
Network *	Device Networks					Alarm	
Services	Device Networks						
Link Backup	Device Networks	Connected				Total Alarm	s: 0
Routing *	Description	Connection Accepted				Alarm Summ	ary
Firewall						12 20	
VPN *				Manual Refresh 🔻	Refresh	1 K 33	Stop
APP							
Industrial							
Tools *							
Wizards							
Save Configuration							
save computation							
Convright @2001-2010							
InHand Networks Co., Ltd.							
All rights reserved.							
•							

## Caution

The page varies with the device firmware version. The actual page shall prevail.

After the router is configured, a gateway data record is automatically added to the **Gateways** page on DM. You do not need to manually record the data. When the router status is **Online**, the device has been connected to DM:

C Device Manager	Home Map Gateways	Config Firmv	vare Edge Computing	Administration			8 test-user	۲
Gateways	Home / Gateways / Gateways							
🖂 Gateways	All 12 Online 1 Offlin	e 11 Name V	Search by gateway name	Q + Create	%∃ Import	Export	≔ Column Displa	v
🥪 Groups			,,		-			,
🔀 Tasks	Gateway Name	Signal Strength	Serial Number	IMSI	Firmware Version	Action		
G Statistics	GT9022008001249	atl	GT9022008001249	460031025281133	1.0.0.r11628	0	₽	
	• 3		GF902222222224			0		
	• 1		GF902222222223			2		

## 3.3 Connect IG500/IG900 to DM

After connecting the router to a PC, visit 192.168.1.1 on a browser, enter the login account **adm** and password **123456** to log in to the device web page. On the web page, choose **System >> InHand** Cloud, on the tab page of **InHand Device Manager**, set **Server Address** to **iot.inhandnetworks.com**, and enter the email account you used for registration with DM in **Registered Account**:

	inhand InGateway	🙆 Overview	日 日 Network	Edge Computing	绞 System
	System Time	Overview / System	/ InHand Cloud		
	Log	InHand Connec	t Service InH	and Device Manager	
	Configuration Management	Status: Conne	ected	nted	
	InHand Cloud	State Descripti		Xeo -	
	Firmware Upgrade	Enable: * Se	erver Address:	iot.inhandnetworks.co	m V Sign Up/Login
ŀ	Access Tools	* R6	egister Account :	xxx@inhand.com.cn	
1	User Management	Advanced Set	tings >		
	Reboot	Submit	Reset		

## 3.4 Add Gateway to DM

As mentioned above, after the router is configured, a gateway data record is automatically added to the **Gateways** page on DM. You can manually add the data before configuring the router. The status of the manually added gateway is **Offline**. After the gateway can be connected, its status changes to **Online**.

- ♦ Add a single gateway
  - Choose Gateways >> +. Enter a gateway name in Gateway Name, enter the serial number in Serial Number. To view the serial number, on the home page, choose Administration >> System >> Status or Gateway Nameplate S/N, and then click OK.

C Device Manager	Home Map	Gateways Config F	rmware Edge Computing	Administration		8 test-user
Gateways	Home / Gateways / G	ateways				
Gateways	All 12 Online 1	Create Cateway		~	Ma Import	t := Column Display
Groups		Create Gateway		~	E import Et expor	countrolopiuj
Tasks	Gateway Na	n * Gateway Name :	Sateway Name		Firmware Version $\Leftrightarrow$ Actio	n
3 Statistics	• GT90220	B			1.0.0.r11628 🖉	
	• 3	* Serial Number :	Serial Number		2	
	• 1	- Schartanberr			2	
	• testxy				2	
	<ul> <li>测试设</li> </ul>			Cancel OK	2	
	• IG900					
	Vincent		RF9028989898989		2	
	<ul> <li>测试设备</li> </ul>	1 ail	DT622222222222		2	
	• DTU300		DT3122222222222		2	
	● 很好实施		IR6157676799999		2	
					<	1 2 > 10 / page >

2. Return to the **Gateways** page. The device is added. If the dot before the gateway name turns green, the device is online and connected to DM and the network. If the dot is gray, the device is offline and disconnected from the network. DM cannot manage and monitor offline devices.

CCC Device Manager	Home Map Gate	ways Config	Firmware Edge Computing	Administration		৪ test-user 🌐
Gateways	Home / Gateways / Gatewa	ays				
🚍 Gateways	All 12 Online 1	Offline 11 Nan	ne ∨ Search by gateway name	Q + Create	1 Import 🐻 Export	≔ Column Display
🥪 Groups 📴 Tasks	Gateway Name	Signal Stree	ngth 💠 Serial Number ≑	IMSI	Firmware Version \$\overline\$ Action	
🐖 Statistics	GT902200800	1249 atl	GT9022008001249	460031025281133	1.0.0.r11628 🖉	<b>P</b>
	□ <b>3</b>		GF902222222224		2	
	• 1		GF902222222223		2	
	<ul> <li>testxy</li> </ul>		GF902222222222		2	
	<ul> <li>测试设</li> </ul>		GF9021212121222		2	
	• IG900		GF9021212121212		2	
	Vincent		RF9028989898989		2	
	<ul> <li>测试设备1</li> </ul>		DT622222222222		2	
	• DTU300		DT312222222222		2	
	• 很 好实施		IR6157676799999		2	
					< [	1 2 > 10/page ∨
Collapse sidebar						

- Add gateways in batches
  - Choose Gateways >> Import >> Download Template, enter the gateway information, and save the template. Click Select File, select the saved template, and click OK.

. Device Manager	Home / (	Bateways / Gat	ateways Coning Pil	inware Euge computing	Auministration		test-user
ateways		Jateways / Gat	eways				
Gateways	All 12	Online 1	Batch import gatewa	v devices	×	湖 Import 屬 Export	t 😑 Column Displa
Groups			buten import gutent	y devices	~		
Tasks		Gateway Nam	Import CNI Files	t Coloct o filo		Firmware Version Action	n
Statistics		• GT9022008	import siv nie:	T Select a file		1.0.0.r11628 🖉	
		• 3	Download template:	🗄 Download template		2	
		• 1				2	
		• testxy				2	
		• 测试设			Cancel OK	2	
		• IG900		019021212121212		2	
		<ul> <li>Vincent</li> </ul>		RF9028989898989		2	
		● 测试设备1		DT622222222222		2	
		<ul> <li>DTU300</li> </ul>		DT312222222222		2	
		<ul> <li>很好实施</li> </ul>		IR6157676799999		2	
						c	
						<	1 2 > 10/page

2. Return to the Gateways page to view the imported device.

#### **4 Gateway Management**

After a gateway is connected to DM, you can manage the device on DM, such as device asset management, configuration update, firmware upgrade, position tracking, running monitoring, and operation command monitoring.

## 4.1 Basic Management

#### 4.1.1 Information Management

In the **Details Information** section of the **Gateways** page, you can manage key information of the gateway, including basic information (such as the model, serial number, IP address, RSSI, and IMSI), running information (such as traffic statistics and online statistics), and control information (such as task list). Devices connected to DM regularly report their traffic, online status, and other running information to DM for real-time monitoring and analysis.



## 4.1.2 Remote Web Access

1. On the **Gateways** or **Device Details** page, click the  $\Box$  icon to go to the **Web Management** page of the gateway. On this page, you can directly modify the device configuration locally. This function is only applicable for online devices.

CCC Device Manager	Home	Map Gateways	Config Firmware	Edge Computing Adminis	tration		🙁 test-user
Gateways	Home / Ga	ateways / Gateways					
🔲 Gateways	All 12	Online 1 Offline	11 Name V s	Search by gateway name 🔍	+ a	reate 😼 Import 🖡 Export	≔ Column Display
🥪 Groups		Gateway Name	Signal Strength	Serial Number	IMSI	Firmware Version 🚊 Action	
Tasks		• GT9022008001249	all	GT9022008001249	460031025281133	1.0.0.r11628	<b>P</b>
🛱 Statistics		• 3		GF902222222224		2	
		• 1		GF90222222223		0	
		• testxy		GF902222222222		2	
		<ul> <li>测试设</li> </ul>		GF9021212121222		2	
		• IG900		GF9021212121212		2	
		Vincent		RF9028989898989		2	
		• 测试设备1		DT622222222222		2	
		<ul> <li>DTU300</li> </ul>		DT312222222222		2	
		<ul> <li>很好实施</li> </ul>		IR6157676799999		2	
						_	
						<	1 2 > 10 / page V
Collapse sidebar							

C Device Manager	Home Map Gateways Config	Firmware Edge Computing Administration	🙉 test-user 🌐
Gateways	← GT9022008001249 Online		🖵 Web management 🕸 Remote configuration 🛛 🖤 🖉 Edit
Gateways	Serial Number: GT9022008001249	Device Models: IG902	Firmware Version: 1.0.0.r11628 🗘
🥪 Groups	Created At: 2020-04-08 15:07:58	Updated At: 2020-04-10 21:09:38	Online Duration: 0 day 4 hours 18 minutes 52 seconds
🔄 Tasks			
🛱 Statistics	Basic Info Edge Computing		
	Detailed Information		
	IP: 110.184.227.74	Phone :	Address:
	RSSI: all 👼	Configuration State: SYNC succeeded	Login Protocol: mqtt
	IMSI: 460031025281133	IMEI: 0x8095B6FE	ICCID:
	Hardware Version :	Bootloader Version: 2017.01.r10517	Reconnect Reason:

2. Enter the username and password to go to the **Web Management** page of the gateway, and then remotely operate and control the device through commands.

inhand	Administration >> System	Englist	n 中文 Username: adm
Administration	Status Basic Setup	Your password has security risk, please click here to change! *	
Network			Alarm
Services •	System Status		
Link Backup	Name	EdgeGateway	Total Alarms: 0
Routing *	Model	IG902H	Alarm Summary
Firewall	Serial Number	GT9022008001249	
VPN *	MAC Address	0018.0511.a4b9	Stop
APP *	Firmware Version	1.0.0.r11628	
Industrial	Bootloader Version	2017.01.r10517	
Tools •			
Wizards •	Device Time	2020-04-10-21:11:07	
	PC Time	2020-04-10 21:11:08 Sync lime	
	Up time	0 day, 04:20:39	
	CPU Load (1 / 5 / 15 mins)	0.15 / 0.05 / 0.01	
Save Configuration	Total/Free	1,002.31MB / 814.65MB (81.28%)	
	Network Status		
Camulaha @2001.2010	Cellular 1 [Settings]		
InHand Networks Co., Ltd.	Status	Disconnected	
All rights reserved.	Signal Level	(14 asu -85 dBm)	*

#### 4.1.3 Update Configuration

You can only update the configuration of online devices.

On the gateway details page of an online device, click **Remote Configuration**. Edit and update the device configuration and then click **Deliver**. The device configuration is remotely updated, and a task record is generated in the task list on the details page. The task status is updated in real time to reflect the execution status in real time.

Home Map Gateways Config Firm	ware Edge Computing Administration	(8) test-u	ıser 🌐
← GT9022008001249 Online		🖵 Web management 🔹 Remote configuration	Edit
Serial Number: GT9022008001249	Device Models: IG902	Firmware Version: 1.0.0.r11628	
Created At: 2020-04-08 15:07:58	Updated At: 2020-04-10 21:09:38	Online Duration: 0 day 4 hours 20 minutes 3 seconds	
Basic Info Edge Computing			
Detailed Information			
IP: 110.184.227.74	Phone :	Address:	
RSSI: atl 🚳	Configuration State: SYNC succeeded	Login Protocol: mqtt	
IMSI: 460031025281133	IMEI: 0x8095B6FE	ICCID:	
Hardware Version :	Bootloader Version: 2017.01.r10517	Reconnect Reason:	
	Nome     Map     Gateways     Config     Firm <ul> <li>GT9022008001249</li> <li>Online</li> <li>Serial Number: GT9022008001249</li> <li>Created At: 2020-04-08 15:07:58</li> </ul> <ul> <li>Basic Info</li> <li>Edge Computing</li> </ul> <ul> <li>Detailed Information</li> <li>IP: 110.184.227.74</li> <li>RSSI: all ()</li> <li>IMSI: 460031025281133</li> <li>Hardware Version:</li> </ul> <ul> <li>Mage: All ()</li> <li>All ()</li> <li>All ()</li> <li>All ()</li> </ul> <ul> <li>Info: 40001025281133</li> <li>Hardware Version:</li> </ul> <ul> <li>Mage: All ()</li> <li>All ()</li> <li>All ()</li> </ul> <ul> <li>Mage: All ()</li> <li>Mage</li></ul>	Nome     Map     Gateways     Config     Firmware     Edge Computing     Administration <ul> <li>GT9022008001249</li> <li>Online</li> </ul> Serial Number: GT9022008001249     Device Models: IG902           Created At: 2020-04-08 15:07:58           Basic Info         Edge Computing           Detailed Information           IP: 110.184.227.74           Phone:           RSSI: all           Configuration State: SYNC succeeded           IMSI: 460031025281133         IMEI: 0x809586FE           Hardware Version:         Borloader Version: 2017.01.r10517	Nome       Map       Gateways       Config       Firmware       Edge Computing       Administration       Image: Configuration       Imade: Configuration       Imade: Con

C Device Manager	Home Map Gateways Config Firmware Edge Computing Administration	🙁 test-user 🌐
Gateways	Home / Gateways / GT9022008001249 / Remote configuration	
🚍 Gateways	Remote configuration	
<ul> <li>Groups</li> <li>Tasks</li> </ul>	• Upon successful configuration delivery, the gateway will be immediately updated and then rebooted to take effect.	×
🛱 Statistics	Configuration update time: 2020-04-10 14:06:39	Fetch config
	(The extension supports dat, txt, cfg, cnf)	
	I #system config Language Chinese hostname EdgeSateway/ ip domain-name edgegateway.com.cn clock timezon UTC-8 service password-encryption I #log config	Î
Collapse sidebar	I #user config username adm privilege 15 password \$1\$/MHLUB7\$6m0gqMVR9YvimU3AL4R1Z1 I nable password \$1\$QhM9A17j\$0MypVBpza.mlYkNPAJcjX/	

#### 4.1.4 Upgrade Firmware

On the device details page, click Firmware Version: 1.0.0.r11628 ① next to **Firmware Version**, and upload a file. After the file is uploaded, a task record is generated in the task list on the details page. The task status is updated in real time to reflect the execution status in real time.

Online devices execute the upgrade task immediately, while offline devices will execute the upgrade task after they are online again.

<b>C</b> Device Manager	Home Map Gateways Config Fin	nware Edge Computing Administration	🌏 test-user   ⊕
Gateways	← GT9022008001249 Online		🖵 Web management 🔞 Remote configuration 🛛 🗠 🛃 Edit
🖾 Gateways	Serial Number: GT9022008001249	Device Models: IG902	Firmware Version: 1.0.0.r11628 上
🥪 Groups	Created At: 2020-04-08 15:07:58	Updated At: 2020-04-10 21:11:37	Online Duration: 0 day 4 hours 20 minutes 24 seconds
🖾 Tasks			
G Statistics	Basic Info Edge Computing		
	Detailed Information		

#### 4.1.5 Forced Offline

When configuration delivery and firmware upgrade fail for multiple times, you can try to force a gateway offline, connect it to DM again, and then try to deliver the configuration and upgrade the firmware again.

Oevice Manager	Home Map Gateways Config	Firmware Edge Computing Administration	🌏 test-user 🌐
Gateways	← GT9022008001249 Online		🖵 Web management 🔞 Remote configuration 🛛 😷 🖉 Edit
Gateways	Serial Number: GT9022008001249	Device Models: IG902	Firmware Version: 1.0.0.r1162
Sroups	Created At: 2020-04-08 15:07:58	Updated At: 2020-04-10 21:11:42	Online Duration: 0 day 4 hours 20 minutes 44 seconds
Tasks			
Canal Statistics	Basic Info Edge Computing		

## 4.2 Alerts

The device Manager platform supports setting alerts to monitor some important events of the Devices. When an event occurs, it can push SMS or email messages to specified users. The support of each device is subject to the information displayed on the interface. IR600 for example, an offline alarm is used to perform operations.

 Configure alert rules: On the page of "Gateways -> Alerts -> Alert Rules", click " Add Rule ", select devices, alert rules and notification rules in the form as needed:

CCC Device Manager	Home Map	Gateways	Config	Firmware	Edge Computing	Administration	
Gateways	Back   Add Alert F	Rule					
Gateways	1 Related G	ateways					
🔟 Alert	* Type:			<ul> <li>All Gat</li> </ul>	eways 🔵 By Group	By Gateway	
🤪 Groups							
🖾 Tasks	2 Set Alert I	Rules					
🔯 Statistics	* Rule Nam	ie:					J
	* Alert Type			Interface	Up / Down	v	0
	Alert Time :			All Day	Set Time		
	3 Notificatio	on Method					
	Recipients:						
	Create	Cancel					

- 2. After the rule is added, click " save ", the rule takes effect immediately; As shown in the figure, an offline alarm rule is configured for a gateway: When the gateway is offline for 10 minutes, the user's email "demo@inhand.com.cn" will receive an alert email, and the alert messages will be also recorded on the page "Gateways->Alerts->Alert Logs".
- 3. For some specific alert types, you must enable alert reporting on the device before the alert takes effect. Take the IR600 for example: on the device WEB management page, visit the page "Services ->Alarm Manager", select alarm type, select "Device Manager" as the alarm output, then click "Apply".

System	Network	Services	Firewall	QoS	VPN	Tools	Application	Status	
						Your pass	sword have secu	urity risk, p	lease cli
							A	larm Mana	ger
Marm Input									
System Se	rvice Fault								
Memory L	ow								
WAN Link-	Up/Down	✓							
LAN Link-	Jp/Down	<ul><li>✓</li></ul>							
Dialup Up	/Down	<ul><li>✓</li></ul>							
Traffic Ala	m	<							
Traffic DIs	connect Alarm								
Active Link	c Switch	<ul><li>✓</li></ul>							
SIM/UIM (	Card Fault								
Signal Qua	ality Fault								
Alarm Outpo	ıt								
Console									
Device Ma	nager	<ul><li>✓</li></ul>							

4. After the application is successful, when the device has the above event, it will send an event message to the platform, and the user will receive an email or SMS alert message according to the settings. The following table lists the alert types of the platform and the device:

Device Manager	The WEB management page of device
	The clorm type is "Troffic Alorm" and the troffic clorm
Daily Traffic Alarm	threshold should be defined in the "Services -> I raffic
Monthly Traffic Alarm	Manager" section at the same time. After setting the
	required hourly, 24-hours (day) and monthly thresholds, the
	platform will send an alarm message when the specified
	plation will bolid an alarm moodage when the opeomod
	inband Networks
	System Network Services Firewall QoS VPN
	Start Dav 1 -
	Monthly Threshold 0 MB V
	When Over Monthly Threshold Block Except Management
	Alarm Threshold 0 MB/Month
	Last 24-Hours Threshold 0 KB  When Over 24-Hours
	Threshold Block Except Management
	Advanced Z Recent Hours Disabled Y
	Traffic Threshold KB 🗸
	Recent Hours Disabled V
	Recent Hours Disabled
	Traffic Threshold KB 🗸
	Recent Hours Disabled
	Apply Cancel
SIM Switch	Active Link Switch
Link Backup	Active Link Switch
Interface Up/Down	WAN Link-Up/Down, LAN Link-Up/Down, Dialup Up/Down

## 4.3 Device Group Management

When the system has a great number of devices, you can group devices for centralized management in the Groups table. For example, you can manage devices by industry, so that you can clearly know the scenarios of each device. You can also place abnormal groups in the same group for centralized management. When the device error is removed, move the device out of the group.

	Home / Gateways / Groups							
Gateways	Groups							
Groups								
Tasks	Use <sup>「</sup> Groups」 function to classify	/ devices, make you	ur device mar	nagement	more ce	ntralized ar	nd conveni	ent.
Statistics		Groups						Create Group
		* Energy	Al 10 Online 0 O	offline (10) Name		etropog name (Q,	Add Remove	E Column Display
	and the second	~ 0h CB	Gateway Name	Signal Strength	Serial Number	IMSI	Current Version	Action
		No.1 Official	- Name1		ABD1234567891	123123123123123123123	1.5.6_beta_V1.1	2 9 9
		Gas	🗌 🔸 Name2	and .	ABD1234567892	123123123123123123124	1.5.6_beta_V1.1	2 9 8
		Consumable fuels	Name3		ABD1234567893	123123123123123123125	1.5.6_beta_V1.1	2 9 8
		> Fiectricity	- Name4	attl	A801234567894	123123123123123123126	1.5.6_bsta_V1.1	203
		> Transportation	Name5	Itte	A801234567895	123123123123123123127	1.5.6_beta_V1.1	8 9 B
			Name5	all	ABD1234567896	123123123123123123128	1.5.6_beta_V1.1	8 9 B
			HameT	att	ADD1234567897	123123123123123123129	1.5.6_beta_V1.1	2 2 8
	1.		- Namell		A801234567898	123123123123123111	1.5.6_beta_V1.1	2 0 8
	You can use it like this:		Nome9		A801234567899	17312312312312312312	1.5.6_beta_V1.1	8 9 B
	1. Create your required group		+ Namel0	attl	A8C1234567891	123123123123123123113	1.5.6_beta_V1.1	8 9 S
	2. Add devices to your selected group							1 > 10/page V
	· · · · · · · · · · · · · · · · · · ·							

The following describes the details:

#### 1. Click **Create Group** and enter the group name and other information:

Gateways	Groups	Create Group							
Groups		create Gloup				^			
Tasks	Use <sup>F</sup> Groups」 fur	Parent Group : Parent	Sroup		~	ore ce	entralized ar	nd conven	ient.
Statistics									Create Group
		Group Name: Group	Name			Please enter g	ateway name Q	Add Remove	III Column Display
						Number	IMSI	Current Version	Action
						234567891		1.5.6_beta_V1.1	
						234567892		1.5.6_beta_V1.1	2 9 8
					Cancel O	K 234567893			208
				Nama5	all	4801234567895			208
		<u>`-'</u>	Transportation		ati	ADD1234567896			2 9 8
				× Name7	ati	ADD1234567897	123123123123123123129	1.5.6_beta_V1.1	
		L		Name8		ABD1234567898		1.5.6_beta_V1.1	2 9 8
	You can use it like this:			Name9		ABD1234567899		1.5.6_beta_V1.1	2 9 8
	1 Create your required group			Name10	att	ABC1234567891		1.5.6_beta_V1.1	2 9 8
	2 Add devices to your selected of								1 > 10 / page ~
	3 Manage devices according to	your arouns							

#### 2. After the group is created, you can add devices to the current group:

CCC Device Manager	Ноте	Мар	Gateways	Config	Firmware	Edge Computing	Administration			8 test-user	۲
Gateways	Home / Ga	ateways /	Groups								
Gateways	Groups					🕗 Added Su	ccessful!			Create Group	р
😂 Groups	test			All 1	Online 1	Offline 0	Name V Search by gateway	name Q	Add Remove	≔ Column Disp	olav
🖾 Tasks					Gatoway Namo	Signal	Strongth	IMS	Eirmware Version	Action	
G Statistics					<ul> <li>GT9022008001</li> </ul>	1249 atl	GT9022008001249	460031025281133	1.0.0.r11628		
											_
									<	1 > 10 / page	
Collapse sidebar											

3. If an added group has changed, select the group and then move it out of the current group.

Oevice Manager	Home Map Gatew	ays Config Firmware Edge Computing Administration	🙁 test-user 🌐
Gateways	Home / Gateways / Groups		
Gateways	Groups		Create Group
😂 Groups	test	Confirm the remove action?	ove 🗉 Column Display
🖾 Tasks		No Yes Number IMSI Firmware	/ersion Action
🛒 Statistics		GT9022008001249 III GT9022008001249 460031025281133 1.0.0/1162	8 2 🖵
// Collanza sidebar		1 item selected Clear	< 1 > 10 / page >

You can create groups of multiple levels based on service demands to manage devices by level.

## **4.4 Position Tracking**

The **Map** page displays the real-time position and online status of the gateway. After you click the device icon on the map, the device basic information is displayed. Then, you can click the gateway name to view the device details.



## 4.5 Gateway Running Monitoring

1. On the **Gateways->Statistics** page, you can view online duration statistics and traffic usage of a device and export the list of its online duration and traffic usage.

C Device Manager	Home Map Gatewa	avs Config	Firmware Edge (	Computing Administration					🔍 test-user
Gateways	Home / Gateways / Statistics								•
Gateways									
Groups	Connection Dat	a Usage							
Tasks	All Online Offline	2020-04-1	0 ~ 2020-04-16 🗄	Search by gateway nam	ne Q				₿ Export
🛱 Statistics	Gateway Name	Signal Quality	Time Last Online	Maximum Online Duration	Total Online Duration	Maximum Offline Duration	Total Offline Duration	Online Rate	Login Times
	RT6151931456078	-	2020-04-16 11:41:36	16 min12 s	16 min12 s	6d 11h 41min 36s	6d 11h 41min 36s	0.17%	1
	GT9022008001249	13	2020-04-16 11:27:39	3d 0h 9min 39s	3d 15h 8min 6s	2d 18h 26min 46s	2d 20h 49min 42s	55.87%	15
	3	-	-		-	6d 11h 57min 49s	6d 11h 57min 49s	0.00%	0
	1	-				6d 11h 57min 49s	6d 11h 57min 49s	0.00%	0

2. Click the device. The device status bar chart of the device is displayed. **Online**: The device is connected to DM.

Offline: The device is disconnected from DM.

**Abnormal**: When the statistical period is less than three days, if the status changes for more than three times in two hours, it is abnormal. When the statistical period is more than three days, if the status changes for more than three times in one day, it is abnormal.

C Device Manager	Home Map Gateways	Config Firmware	Edge Computing	Administration					test-user 🌐
Gateways	Home / Gateways / Statistics								
<ul> <li>Gateways</li> <li>Groups</li> </ul>	Connection Data Usa	Connection-GT902	2008001249	2020-04-15	~ 2020-04-16 🗎 X	1			
🖾 Tasks	All Online Offline	Abnormal							➡ Export
🛒 Statistics	Gateway Name Sig	Online			1.1	ion	Total Offline Duration	Online Rate	Login Times
	RT6151931456078 -	Offline			_		6d 11h 41min 36s	0.17%	1
	GT9022008001249 13	00:00	12:00	00:00	11:58		2d 20h 49min 42s	55.87%	15
	3 .	04-15	04-15	04-16	04-16		6d 11h 57min 49s	0.00%	0
	🗌 1	ŧ			E		6d 11h 57min 49s	0.00%	0
	testxy -	•	•	•	6d 11h 5/min 49s		6d 11h 57min 49s	0.00%	0

## 4.6 Operation Command Monitoring

On the page of **Gateways-> Tasks**, you can view the execution status of the tasks sent from DM to devices. In the **Action** column, you can click to re-execute a task or cancel an in-progress task.

C Device Manager	Home Map Gatew	ays Config Firmware	Edge Computing	Administration				test-	user 🌐
Gateways	Home / Gateways / Tasks								
Gateways									
🥪 Groups	All Executing 0	Pending 1	Failed C	Completed					0
🗄 Tasks	All types	✓ Search by gateway nar	ne Q						
🥶 Statistics	Gateway Name	Туре	State	Progress	Created By Created At	Started At	Updated At	Action	
	GT9022008001249	Remote web management	COMPLETED	0	xuyan@inhan 9 minutes ago	9 minutes ago	9 minutes ago	C	$\odot$
	GT9022008001249	Remote web management	FAILED		xuyan@inhan a day ago	a day ago	a day ago	C	$\otimes$
	GT9022008001249	Remote web management	FAILED		xuyan@inhan a day ago	a day ago	a day ago	C	$\otimes$
	GT9022008001249	Remote web management	FAILED	- •	xuyan@inhan a day ago	a day ago	a day ago	C	$\bigcirc$
	GT9022008001249	Remote web management	COMPLETED	<b></b> •	xuyan@inhan a day ago	a day ago	a day ago	C	$\odot$
	GT9022008001249	Remote web management	FAILED	- •	xuyan@inhan a day ago	a day ago	a day ago	C	$\bigcirc$
	GT9022008001249	Remote web management	FAILED	- •	xuyan@inhan a day ago	a day ago	a day ago	C	$\odot$
	GT9022008001249	Remote web management	COMPLETED	<b>~~~~</b> •	xuyan@inhan a day ago	a day ago	a day ago	C	$\odot$
	GT9022008001249	Remote web management	FAILED	•	xuyan@inhan a day ago	a day ago	a day ago	C	$\odot$
	GT9022008001249	Remote web management	COMPLETED	<b>~~~</b> •	xuyan@inhan a day ago	a day ago	a day ago	C	$\otimes$
Collapse sidebar						<	1 2 3 >	10 / p	age 🗸

## **5 Update Gateway Configurations in Batches**

When a large number of devices are connected to DM, it takes a great time to update the configuration device by device. You can update the configuration in batches on the **Config** page. The following describes the details:

 Choose Gateways >> Config >> + >> Select File. Select a configuration file (which can be exported from the Web Management page of the gateway, edited, and then applied), enter a name in Config Name, enter the model in the template in Device Models, and then click OK.

inhand	Administration >> Config Ma	anagement					English	中文	Username: adm
	Config Management	Value and back		and all als have the	-h - a - a - l - au				Logout
Administration		Your password has	security risk, piea	ase click here to	cnange! ×				_
Services	Configuration							Alarn	n 📼
Link Backup	No file selected.	Brow	/se Import	Backup running-	config Bac	kup startup-config		Total	Alarms: 0
Routing	•							Alarm	Summary
Firewall	Auto Save after modify th	e configuration							-
VPN	<ul> <li>Encrypt plain-text passwo</li> </ul>	rd	/					200	3 s v
APP	Backup running-config w	ith private key							
Industrial	Destars default seefaure	ti							
Tools	Restore default conligura								
Wizards	•							1	
Save Configuration Copyright ©2001-2019 InHand Networks Co., Lt All rights reserved.	a								
running-config (4	4).cnf ^								全部显示 ×
Device Manager	Home Man Gateways	Config Firmware F	dae Computina	Administration					est-user 🏔
Co Detree manager	nome map outenty	conny rinning c	age comparing		_		_		
Home / Config									
Configuration List					_				+
-		Create a config			×				
	Q All Models								
	Air Models	* Config Name :							
Config Name	Device	-				State	Action		
GT9022008001249	IG902	Device Models -	18600	V			Details   Batch	tonfig	0
GT9022008001249	IG902	benee modelst				no device added	Details   Batch	tonfig	Ð
GT9022008001249	IG902	Impart a Castin	t. Calanta f	31e		no device added	Details   Batch	config	0
GT9022008001249	IG902	import a comig.	E selecca i	lie		no device added	Details   Batch	config	0
GT9022008001249	IG902					no device added	Details   Batch	config	0
GT9022008001249	16902	* Config Content:				no device added	Details   Batch	config	0
(1)(1)(2)(2)(2)(1)(2)(2)(2)(2)(2)(2)(2)(2)(2)(2)(2)(2)(2)	10502						Details   Details	ioning terefin	-
初以反留!	IROUU				_		Details   Batch	iontig	0
test	IR900			li	_		Details   Batch	onfig	
IR915-startup=config	IR600						Details   Batch	onfig	
IR915-running config	IR600	Description :		1.		no device added	Details   Batch	onfig	0
							< 1	) > 1(	0 / page ∨
				Cancel	ОК				

2. Select the device to which you want to deliver the configuration and click OK.

ine / comg	Select Devices			~	
onfiguration List	• Gateway that has received the configuration	on file will be immediately updated and th	en rebooted to take effect.	×	•
	Q Name V Search by gateway name	Q. Search	Reset	_	
Config Name	Gateway Name	Serial Number	Firmware Version	A A	ction
GT9022008001249	GT9022008001249	GT9022008001249	1.0.0.r11628	<b>D</b>	etails   Batch config   🗊
GT9022008001249	• 3	GF90222222224		D	etails   Batch config   🖸
3T9022008001249	• 1	GF90222222223		D	etails   Batch config   🗊
GT9022008001249	<ul> <li>testxy</li> </ul>	GF902222222222		D	etails   Batch config   🗊
GT9022008001249	- 测试设	GF9021212121222		D	etails   Batch config   🗖
3T9022008001249	• IG900	GF9021212121212		D	etails   Batch config   🗊
则试设备1				<b>D</b>	etails   Batch config   🗖
est				<b>—</b> D	etails   Batch config   🖸
R915-startup=config				<b>D</b>	etails   Batch config   🗊
R915-running config				, D	etails   Batch config   🗍
	1 item selected Clear		< 1 > 10	/ page 🗸	< 1 > 10 / page >

3. Return to the configuration list, click View details to view details of the current configuration, such as its update progress and status:

C Device Manager	Home	Мар	Gateways	Config	Firmware	Edge Computing	Administration		🙁 test-use	r @
Home / Config / Details										
GT9022008001249										0
Model: IG902			V	ersion descri	ption:					
! #system config language Chinese hostname EdgeGateway ip domain-name edgegate clock timezone UTC-8 service password-encryptio ! #log config !	vay.com.cn n									•
1 Selected Devices			1 Pending		Exe	0 ecuting	0 Completed	0 Failed		
Selected Devices									Batch cor	nfig
Gateway Name			Serial Numbe	er			Firmware Version	State		
• 3			GF902222222	2224				Pending	×	

## **6 Upgrade Gateway Firmware in Batches**

When a large number of devices are connected to DM, it takes a great time to upgrade the firmware device by device. You can upgrade the firmware in batches through **Firmware**. The following describes the details:

1. Choose **Firmware** >> +. Select a gateway firmware and click OK.

mware List		Create Firmware			×		
earch by firmware name	All Models						
mware Name	Device Models	Select the firmware:	占 Select a file		Progress	Action	
9-V1.0.0.r9919.bin	IR900	Version description :				Details   Ba	tch upgrade 🛛 🗖
9-V1.0.0.r11700.bin	IR900			15		Details Ba	tch upgrade 🛛 🗖
							< 1 > 10 / page 🗸
				Cancel	ж		_
					-		

2. Select the device for which you want to upgrade the firmware and click OK.

Oevice Manager	Home	Map Gatewa	ays Config	Firmware Edge Computing	Administration		\land test-user
Home / Firmware		Select Devices				×	
Firmware List		Gateway that	at has received the	firmware program will be immediately upgrad	ed and then rebooted to take effect.	×	•
	Q	Name $\vee$	Search by gate	way name Q Sear	ch Reset		
Firmware Name		Gatew	vay Name	Serial Number	Firmware Version	Action	
IR9-V1.0.0.r9919.bin		• Vin	cent	RF9028989898989		Details	Batch upgrade 👘 🗍
IR9-V1.0.0.r11700.bin		<ul> <li>test</li> </ul>	txy55	RT915111111111		Details	Batch upgrade 🔰 🗖
		1 item selected	Clear		< 1 > [	10 / page 🗸	
					с	Cancel OK	

3. Return to the firmware list, click **Details** to view the details of the current firmware, such as its upgrade progress and status:

	e Map Gateways Config	g Firmware Edge Computir	ng Administration		😸 test-user
ne / Firmware / Details					
9-V1.0.0.r9919.bin		O The upgrade task was a second task was a se	as created successfully		
odel: IR900	Firmwa	are Version: V1.0.0.r9919	Version descr	ription :	
2 Selected Devices	2 Pending	0 Executing	0 Completed	0 Failed	
lected Devices					Batch up <u>c</u>
lected Devices ateway Name	Serial Number		Firmware Version	State	Batch up <u>o</u>
lected Devices ateway Name Vincent	Serial Number RF9028989898989		Firmware Version	State Pending	Batch upg
elected Devices ateway Name Vincent testxy55	Serial Number RF902898989899 RT915111111111		Firmware Version	State Pending Pending	Batch upg X X
ateway Name Vincent testxy55	Serial Number RF9028989898989 RT915111111111		Firmware Version	State Pending Pending	Batch up X X X X 10 / page
elected Devices ateway Name Vincent testxy55	Serial Number RF902898989899 RT915111111111		Firmware Version	State Pending Pending	Batch upg       X       X       X       < 1

## 7 Edge Computing

As one of the core features of the Edge Gateway, edge computing function of DM platform are mainly applied to gateway devices with edge computing features of IG500, IG900, and VG series.

## 7.1 Edge Agent

Edge engine is the operating environment for edge applications of the gateway device. It integrates the python, Azure IoT Edge and Docker programming development environment, and can strengthen the ability of edge applications to cooperate with the cloud. You can flexibly customize applications according to your business needs. You should install the edge engine before installing your edge applications.

1. On the page of "Edge Agent": click "Add Edge Agent ", select the edge SDK from InHand Networks.

C Device Manager	Home Map	Gateways	Config Firmwar	Edge Computing	Administration		8	2222 🛞	0
Edge Computing	Home / Edge Compu	iting / Edge Age	int						
🤣 Edge Agent	Edge Agent ③	1							
Edge Application	Edge engine is the op applications according	erating environme to your business	ent for edge applicatio needs. You should ins	ns of the gateway device. tall the edge engine befo	It integrates the python, Azure IoT Edge and Docker programming development environment, and can strengthen the ability of e re installing your edge applications.	edge applications to coope	rate with the cloud. You can fle	ibly customize	ł
	Search by SDK ven	iion C	2,				(	Ŧ	
	SDK Version	SDK Type	Device Model	Description	Cri	eated At	Updated At	Operation	
	pysdk-V1.3.2_Edge-	IG9 Python SDK	IG902		3 y	years ago	3 years ago	2 0	
							< 1 :	10 / page	

- 2. Then click "SDK Version" to view more information, click "Deploy", select Gateways to install this SDK.
- 3. On the installation page, there displays the detailed progress status of each installation task, including "Pending", "Installing", "Completed", "Failed". For the failed task, you can view the failure reason in the task list.

C Device Manager	Home Map Gateways Config Firmw	are Edge Computing Administration				<u>)</u> 2222 🕲 D
Edge Computing	<back pysdk-v1.3.2_edge-ig9<="" th=""><th></th><th></th><th></th><th></th><th>∠ Edit</th></back>					∠ Edit
🚷 Edge Agent	Filename: pysdk-V1.3.2_Edge-IG9.zip Download	SDK Type:	Python SDK	Device Model	: IG902	
Edge Application	Package Size: 15.8MB	Created At	: 2020-01-17 13:33:07	Updated At:	2020-01-17 13:33:07	
	Description: -					
	Total Devices	<ul> <li>Installing Devices</li> </ul>	Complet	ed Devices	<ul> <li>Failed Devices</li> </ul>	
	0	0	0		0	
	Devices					Deploy
	Pending Installing Completed	Failed				
	Device Name	Serial Number	Current Version	Status Status Updated At	Created At	
			No Data			

## 7.2 Edge Application

1. Click "Add Applications ", import the APP you want to install.

	🚫 Device Manager	Home Map	Gateways	Config	Firmware	Edge Computing	Administration	2222	• 0
	Edge Computing	Home / Edge Compu	ting / Edge A	pplication					
	🔗 Edge Agent	Edge Applicati	ion @						
	B Edge Application	Applications						- e	
-		Search by app nam	e	٩					
		Application Name	Description	on			Latest Version Created At Updated At	Ope	eration
		1112					2 months ago 2 months ago		0

2. Then click "Application Name" to view the details. If you have a version update, you can also upload a new version here.

3. Click "App Deploy", Select "Deploy", select the required device, the system will automatically send the APP to these devices to make upgradation. On the installation page, there displays the detailed progress status of each installation task, including "Pending", "Installing", "Completed", "Failed". For the failed task, you can view the failure reason in the task list.

C Device Manager	Home Map Gateways Config Firmwa	re Edge Computing Administration			2222 @ ⑦		
Edge Computing	<back inprofibus<="" td=""><td></td><td></td><td></td><td>🖉 Edit</td></back>				🖉 Edit		
😔 Edge Agent	Created At: 2022-11-09 18:22:40						
C Edge Application	App Version App Deploy App Config						
	Deployments Status						
	Total Devices	Installing Devices	Completed Devices	Failed Devices			
	0	0	0	0			
	Devices				Deploy		
	Pending Installing Completed	Failed					
	Device Name	Serial Number Pending Version	Current Version Status	Status Updated At Cre	ated At		

4. Click "App Config", maintain the app configuration or view the configuration details and the update records of the gateway configuration in detail.

C Device Manager	Home Map Gateways Config I	Firmware Edge Computing	Administration						2222 🕕 🕜
Edge Computing	<back inprofibus<="" th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>🖉 Edit</th></back>								🖉 Edit
😔 Edge Agent	Created At: 2022-11-09 18:22:40		Updated At: 2022	11-11 15:43:04					
Edge Application	App Version App Deploy App Con	fig							
	11 Latest Version								Versions
	Created At: 2022-11-11 15:43:04		Config Content: E	etails					
	Update List								Update
	All O Pending O Updating O Comp	pleted 0 Failed 0							
	Device Name	Serial Number	App Version	Config Updating	Current Config	Status	Status Updated At	Created At	

## 7.3 Gateway Details

- 1. In the details of a gateway with edge features, you can also view the current status of the device's SDK and APP installation history.
- 2. You can directly update the SDK and APP of a single gateway in the gateway details. The updated SDK and APP need to be added in the "Edge Agent" and "Edge Application" in advance.

central signal		· · · · · · · · · · · · · · · · · · ·						
Edge Agent								O O Upgrade
Python SDK Docker SDK A	Azure IoT Edge SDK							
Current Version: No data			Update Status: No data		1	Status Updated At:		
Pending Version: No Upgrade Task			Time Last Upgrade Started :		1	Time Last Upgrade Ended:		
Applications						O ► Start	🔘 Restart 📋 Uninstall	Install Application
Application Name	Version	Running Status	Started At	Finished At	Updated At	Config Version	Config Content	Operation
				No Data				

# 8 System Management

## 8.1 User

#### 8.1.1 Add a User

To manage devices through multiple users, you can add multiple accounts in the Users list, and grant different roles and permissions to different accounts for permission security control.

The system roles and their permissions are as follows:

Func	tion Page	Organization	Device	Device
		Manager	Manager	Monitor
ŀ	Home	✓		
	Мар	✓	✓	✓
	Gateways	✓	✓	✓
Catavia	Groups	✓	$\checkmark$	<ul> <li>✓</li> </ul>
Gateways	Tasks	✓	$\checkmark$	✓
	Ststistics	✓	$\checkmark$	~
(	Config	✓	$\checkmark$	
Firmware		✓	$\checkmark$	
Edge	Edge Agent	~		
Computing	Edge Application	✓		
Administration Users		$\checkmark$		

Access Control	$\checkmark$	
Company Info	$\checkmark$	
Operation Log	$\checkmark$	

The operation is described below:

Choose **Administration** >> **Users** >> **+**, and add a user. The system automatically sends the password to the email account of the new user. The new user can use the email account and the password in the email to log in to DM.

#### 8.1.2 Delete a User, Reset User Password, and Lock a User

Delete user: It is used to delete a user.

**Reset password:** It is used to reset the password for a user. The new password is sent to the login email account of the reset user through email.

C Device Manager	Home Map Gateways Config	Firmware Edge Comp	uting Administration		🙁 test-user 🌐
Administration	Home / Administration / Users				
🛞 Users	User List				•
Access Control	Urornamo	Empil	Ctato Polo	Crosted At Login Time	Action
🗈 Company Info	@qq.com Admin	com	lock Organization Manager	2020-02-05 17:11:43 0	
Operation Log	3		Logged out Device Manager	2020-01-02 14:53:55 0	
	iz.	16	Logged out Device Monitor	2020-01-02 14:53:34 0	
	lest-user Admin	id.com.cn	Logged in Organization Manager	2020-01-02 14:52:38 0	
Collapse sidebar					

#### 8.2 Access Control

When the system has multiple users and devices, for secure device management and control, you can grant the management permissions of gateway devices for each user in the **Access Control** list.

The **Access Control** module is used to divide the users' permission to view and manage gateway devices. It allows you to customize multiple permission group and the gateway devices in each permission group can only be viewed and managed by users in the current group.

Example:

The user A has 120 devices, 50 in Beijing and 50 in Chengdu. Two persons are required to manage these devices separately, wherein Zhang San just manages the 50 devices in Beijing, while Li Si just manages the 50 devices in Chengdu.

Procedure:

The user creates two permission groups on the **Access Control** page, places Zhang San and the 50 devices in Beijing in one permission group, and places Li Si and the 50 devices in Chengdu in the other permission group. And places the left 20 devices in another permission group.

Specific functions:

1. New non-admin users are grouped into "Unallocated" by default. And they can vie all ungrouped devices by default.

2. The newly added devices are grouped into "Unallocated" by default, and all users can view them.

3. Users in unallocated can view all unallocated devices.

4. Users in a self-built group can view the devices in the current group and the devices in the "unallocated" group.

5. The organization administrator (admin) does not participate in the permission grouping, and can view all device data.

6. A user can be divided into multiple groups.

7. A device can only be divided into one group.

Administration	Home / Administration / Access Mana	Home / Administration / Access Management								
😤 Users	Access Management			Add Access Group						
🛱 Statistics										
Operation Log	Unallocated	Unallocated								
- Task	123	Unallocated users can view all u	nallocated devices by default; Unallocated devices can be viewed by all users by defaul	t						
INDIA.		Users Unallocated Gate	vays Unallocated							
Access Management		Name V Please ente	r gateway name							
			r gavenay name							
		Gateway Name	Serial Number							
		Name1	RT9151837436093							
		InDTU312LQ20-DS-LP	DL3121912171355							
		2	GT9021934001112							

1. Create a permission group.

Step 1: Choose Access Control >> Add Access Group. Enter a name for the permission group and click OK.

Administration	Home / Administration / Acce	ss Management			
🙈 Users	Access Management	Add Access Group	×		Add Access Group
🐖 Statistics					
Operation Log	Unallocated	Group Name: name1	٥		
Task		Group Description			
Access Management		Group Description:		Add Users to Grou	p Remove Users form Group
				Role	Action
			Cancel OK	Device Manager	Remove
		wqeqeqeq	qweqweqeqewqe@inhand.com.cn	Device Manager	Remove

Step 2: Allocate users for the created permission group.

Choose User Included >> Add Users to Group, select users, and then click OK.

<u>م</u>	Administration	Home / Administration / Access Mana	igement			
8	Users	Access Management				Add Access Group
Ģ	Statistics					
	Operation Log	Unallocated	123 ③			
2	Task	name1	214 User Included Gateway Included			
()	Access Management	123		0		
			Pice inter username	ų	Add Users to	o Group Gemove Users form Group
			Username	Email	Role	Action

Please enter username		Q		
Username	Email		Role	
sdblqghx@bccto.me	sdł	@bccto.me	Device Manager	
	da:	@inhand.com.cn	Device Monitor	
	10.	72@qq.com	Device Manager	
	uxt	@bccto.me	Device Monitor	
	qw	eqewqe@inhand.com.cn	Device Manager	

Step 3: Allocate gateways to the created permission group.

Choose **Gateway Included** >> **Add Gateways to Group**, select gateways, and then click <u>OK</u>. Then, the permission is created. Devices in the permission group can only be viewed and managed by users in this permission group.

( 8	Administration	Home / Administration / Access Mana	gement	
8	Users	Access Management		Add Access Group
Ģ	Statistics			
	Operation Log	Unallocated	name1 💿	
	Task	namel	User Included Gateway Included	<b>~</b>
۲	Access Management	123	Name V Please enter gateway name Q	Add Gateways to Group Remove Gateways form Group
			Gateway Name Serial Number	Action

<ul> <li>Gateways added to the current group can not be ad</li> </ul>	dded to other access groups.
Name V Please enter gateway Q	
Gateway Name	Serial Number
2	GT! 112
InDTU324NQ96-LP	DL3 001
332LH09-V2	DL: 355
VF7101937000019	VF7 019
GT9021937000019	GT! 019
RP9151735030005	RP: 005
IG902	IG9 004
InDTU332WS25	DW 1116
InDTU332GS55-LP	DG )315
items selected Clear	< 1 2 3 > 10/page >

2. When you need to modify users and devices in a permission group after permissions have changed, select a permission group, remove one or multiple devices or users from the permission group and then add some devices or users to the permission group.

Administration	Home / Administration / Access Mana	gement		
🛞 Users				
Statistics	Access Management			Add Access Group
Operation Log	Unallocated	name1 ③		
Task	name1	User Included Gateway Included		
③ Access Management	123	Name V Please enter gateway na	me Q	Add Gateways to Group Remove Gateways form Group
		Gateway Name	Serial Number	Action
		2	GT9021934001112	Remove
		InDTU324NQ96-LP	DL3241949000001	Remove
				< 1 > 10/page >

# Caution

New gateway devices and users are in the state of **Unallocated** by default, that is, new gateways can be viewed by all users and new users can view all unallocated gateway devices by default. Therefore, after creating a user or gateway device, grant permissions for the user and gateway as soon as possible.

## 8.3 Switch Organization

When you need an company external user to join your organization to provide external support, if the external user has registered an email account in DM, you can invite him to join your current organization by adding it as a "external user".

C Device Manager	Home Map Gateways Con	fig Firmware	Edge Computing	Administration					DEMO	• ?
Administration	Home / Administration / Users									
R Users	User List	Greate Liser				×			+	
Access Control		Create User				^	D-I-	constant at	A stilling	
💼 Company Info	wangzr	• User Type :	🔵 Internal User	External User			t Device Monitor	2021-03-31 11:30:32		
Operation Log	DEMO Admin	×					Organization Manager	2020-01-02 14:52:38		
	4	* Email :	Email							•
		Role :	Device Monitor							
					Cancel	ОК				
					duiter					
« Collapse sidebar										

On the Administration->Users page, click add and select "User Type" as "External User", fill in the email address of the external user and submit your input. Then an invitation email will be sent to this email. External users can join your current organization after accepting the invitation. At the same time, they can switch between multiple organizations in



the personal center of their accounts:

Oevice Manager	Home	Мар	Gateways	Config	Firmware	Edge Computing	Administration					DEMO	
Administration	Home / Adi	ministratio	on / Users										
🛞 Users	User List		Switch Or	ganization					×	٦		e	
<ul><li>Access Control</li><li>Company Info</li></ul>	Username wangz	tr	Search by	, organization	name C	L.			Delete		Created At 2021-03-31 11:30:32	Action	
Operation Log	Co DEMC	Admir		Organization		User Type	Role	Action		jer	2020-01-02 14:52:38		
	4			organization		Internal User	Organization Manager	Switch					•
						External User	Device Manager	Switch					
« Collapse sidebar													

You can set user roles and add gateway permissions to this external user so that this external user can provide full technical support when accessing your organization without causing unnecessary data leakage.

## 8.4 Company Information

On the **Administration->Company Info** page, you can maintain the background information of the current account's owner.

## 8.5 System Logs

On the **Administration->Logs** page, you can view system records about user login, device operation, firmware upgrade, and other information of the platform.

#### 9 DashBoard

On the **Home** page of DM, recent running status of gateway devices and system device information are displayed by charts:

	0	Total Devices		Device Model	5	0
1		12		IG902		
				IR900		
				InDTU300		
nline Rate 8%		Devices added in th	ne last 30 days: 5			
Data Usage Cor	inection			This month	Last month 2020-04	Ë
GT9022008001249				Data Us	age Ranking	
1.1MiB	1.1MiB			1 6	T9022008001249	1.19MiB
976.6KiB						
781.3KiB						
585.9KiB						
390.6KiB	04-10					

## **10 Appendix How to Connect Device to Network**

Taking IR915 as an example, devices can be connected to the network in any of three ways: <u>Ethernet (wired)</u>, <u>SIM card, and Wi-Fi.</u>

For more information about other networking methods, see the hardware user manual or visit the official website of InHand:

https://www.inhandnetworks.com/

Disable the "cellular interface" when accessing the network without the SIM card; otherwise repeated dial-up is performed, interfering the network connection.

Status Cellular	
Enable	
Apply & Save	Cancel

# 10.1 Method 1: Access the network through dial-up or SIM cad

Step 1: Insert the SIM card to the slot 1 and tighten the 4G LTE antenna to the ANT terminal. Connect the network cable to a PC and connect to the power supply.





Note: When inserting or removing the SIM card, you must disconnect the device from the power supply to avoid data loss or damage to the device.

Step 2: Open the browser and log in to the web page of the device. (See <u>Method 2:</u> <u>Ethernet.</u>)

Step 3: Choose Network >> Cellular >> Enable, and then click Apply & Save.

inband	Network >> Cellular
прили	Status Cellular
Administration	Your password has security risk, please click here to change! ×
Network *	
Services •	Enable
Link Backup	SIM1 SIM2
Routing	Profile auto V auto V
Firewall	Koaming 🛛 🖉 🐨
VPN ·	
APP	Network type Auto •
Industrial	Static IP
Tools	Connection mode Parray Stime -
Wizards	ICMP Detertion Server
	ICMP Detection Interval 30 is
	ICMP Detection May Retries 5
	Show Advanced Options
	Profile
	Index Network APN Access Number Auth Username Password
	1 GSM 3gnet "99""1# Auto gprs """"
	GSM
Save Configuration	Add[1/10]
	Apply & Save Cancel

Step 4: Wait until the network connection status is **Connected** and an IP address is allocated. Then, the network is connected through the SIM card.

inhand	Network >> Cellular		
dministration	Status Cellular		Your password has security risk, please click here to change!
etwork			
rvices 🕨	Modem		
k Backup	Active SIM	SIM 1	
uting +	IMEI Code	0x8095B6FE	
awall >	IMSI Code	460031025281133	
ewan	ICCID Code	89861119040282613390	
	Signal Level		
PP '	Register Status	registered	
dustrial *	Operator	China Telecom	
ols *	Network Type	2G (CDMA)	
izards 🔸	LAC		
	Cell ID		
	Network		
	Status	Connected	
	IP Address	10.164.84.169	
	Netmask	255.255.255.255	
	Gateway	172.22.209.124	
	DNS	218.6.200.139 61.139.2.69	
	MTU	1500	
	Connection time	0 day, 00:01:51	
	Connect Disconnect		
Save Configuration			

Step 5: For devices that support the dual-card mode and the SIM card is inserted to the slot 2, select **Dual SIM Enable**.

inhand	Network >> Cellular	English   0	Ż	Username	adm
Administration	Canvar	Your password has security risk, please click here to change! •		and the second s	
Network *			1		-
Services *	Enable	*			
Link Backup		SIM1 SIM2	Total	Alarms: 0	
Reuting 1	Profile	avlo * avlo *	Alarm	Summary	
firmal .	Roaming	8 8			
1000	PIN Code		- 2	3 s	* Stop
	Network Type	Auto •			
APP	Static IP				
Industrial	Connection Mode	Always Online			
Tools	Redial Interval	10 s			
Waards *	ICMP Detection Server				
	ICMP Detection Interval	30 s			
	ICMP Detection Timeout	8			
	ICMP Detection Max Retries	5			
	ICMP Detection Strict				
	Show Advanced Options				
	Initial Commands				
	RSSI Poll Interval	120 s(): disable)			
	Dial Timeout	128 s			
	MTU	1500			
	MRU	1500			
	Use default asyncmap				
Save Configuration	Use Peer DNS	*			
	LCP Interval	55 s(2: disable)			
	LCP Max Retries	8			
	Infinitely Dial retry				
	Dual SIM Enable	x			
	Main SIM	5441 •			
	Max Number of Dial	5			
C	Min Connected Time	0 v(0: disable)			
IniHand Networks Co., Ltd.	CSQ Threshold	0 (0 (0 disable)			
All rights reserved.	CSQ Detect Interval	0 0 (0: disable)			

## 10.2 Method 2: Ethernet

Step 1: Connect the power supply and network cable to the device, and connect the LAN (FE 1/1 or FE1/2 or FE1/3 or FE1/4) port to a PC and the WAN(FE0/1) port to the Internet.



Step 2: Set the IP addresses of the PC and gateway to be in the same network segment. Method 1: Automatically get the IP address (recommended)

Method 2: Use a fixed IP address and set the PC and gateway to be in the same network segment. Set the initial IP address of the device to **192.168.2.1** and the subnet mask to **255.255.255.0**. Select **Use the following IP address**. Enter an IP address ranging from 192.168.2.2 to 192.168.2.254, a subnet mask 255.255.255.0, and the default gateway 192.168.2.1, and then click OK.

00					
~	btain an IP address a	utomatically			
Ous	e the following IP ad	dress:			20
IP ac	ddress:		54	9	
Sybr	net mask:		4		]
Defa	ult gateway:		- 54	14	 ]
-		a ba contra contra		1	
00	btain DNS server add	ress automatio	ally		
OUs	se the following DNS :	server address	es:		
	erred DNS server:			14	
Prefe					1
<u>P</u> refe <u>A</u> lter	nate DN5 server:				

Automatically get the IP address

the appropriate in seconds.						
O Obtain an IP address automatic	cally					
• Use the following IP address:						
IP address:	192		168	2	÷	10
Subnet mask:	255		255	255	•	0
Default gateway:	192		168	2	ĸ	1
Obtain DNS server address aut	tomatical	ly				
Use the following DNS server a	ddresse	s:				
Preferred DNS server:	8	•	8	8	•	8
Alternate DNS server:			0	3		

Use a fixed IP address

Step 3: In the address bar of the browser, enter the default device address **192.168.2.1** to enter the device web management page.

(If it prompts that the website is insecure, unfold the menu and click **Go Still**.) Step 4: Log in to the device.

http://192.1	68.2.1	
Your connec	ction to this site i	s not private
Username	adm	username : adm
Password		password : 123456

Step 5: Choose **Network** >> **New WAN**. Configure an IP address for the WAN port to connect the router to Internet.



Step 6: We recommend that you select **Dynamic Address (DHCP)**. If you select **Static IP Address**, manually configure the network parameters, and then click Apply & Save.

Without SS New WAN	New WAN	Your password has security ris
Afrante so Naw WAN		Your password has security re
/izards >> New WAN	815284	
	Interface	fastethernet 0/1 💌
	Туре	Static IP ·
Your passwort has security risk, please click here to change a	Primary IP	10.5.16.156
Tour password has security risk, prease circk here to changer *	Netmask	255 255 255 0
Interface fastathemat 0/1 T	Gateway	10.5.16.1
Type Dynamic Address (DHCP) V	Primary DNS	8.8.8.8
NAT	NAT	8

Dynamically allocate the IP address Configure parameters of the static IP address Step 7: Choose **Tools** >> **Ping**. In the **Host** field, enter a common Chinese website to test whether the device can connect to the Internet. If data transmission is displayed, the device can connect to the Internet.

inhand		Tools >> Ping English	中文 Userna	me: adm
uhiain		Ping	[international content of the second	out
Administration	,	Your password has security risk, please click here to changel ×		
Network	•		Alarm	-
Services	,	Not but but an	- Country	
Link Backup	•	Plost baldu.com Ping	Total Alarms: 0	)
Routing	•	Ping Count 4	Alarm Summary	1
Firewall	•	Packet Size 32 Bytes		
VPN	•	Expert Options	2 3 s	*
APP	•			Stop
Industrial	•	PING baidu.com (220.181.38.148): 32 data bytes		
Tools	•	40 bytes from 220.181.38.148: seq=0 ttl=53 time=40.986 ms 40 bytes from 220.181.38.148: seq=1 ttl=53 time=40.465 ms		
Wizards	•	40 bytes from 220.181.38.148; seq=2 ttl=53 time=39.263 ms		
		40 bytes from 220.101.30.140: Seq=5 tt1=35 time=40.912 ms		
		baidu.com ping statistics 4 packets transmitted, 4 packets received, 0% packet loss		
		round-trip min/avg/max = 39.263/40.406/40.986 ms		
Save Configuration	80			
Copyright @2001-20	19			
All rights reserved	LID.			

## 10.3 Method 3: Wi-Fi

Step 1: Connect the Wi-Fi antenna to the WLAN port and use a network cable to connect the PC and the power supply.



Step 2: Set the IP addresses of the PC and the gateway to be in the same network segment. On a browser, visit the web management page of the gateway. (See <u>Ethernet</u>).

Step 3: Choose **Network** >> **WLAN**, enable the WLAN port, and configure the parameters.

tration	F		Your password has security risk, please click here to change
	•		
	, Enable	2	
up	Station Role	Client •	
up	Default Route		
1	SSID	inhand1-5G	
1	•	Scan	
	•	Count	
	Auth Method	WPA2-PSK ¥	
	Encrypt Mode	AES •	
Idl	WPA/WPA2 PSK Key	•••••	
	* L		

Step 4: Click the **Status** tab. The network connection status is **Connected**.

1	Status Wi-Fi IP Setup	SSID Scan	
ministration	*		Your password has security risk, please click here to change!
work	•		
vices	WI-FI Status		
k Backup	Station Role	Client	
uting	<ul> <li>Status</li> </ul>	Connected	
ewall	, SSID	inhand1-5G	
N	, MAC Address	04:7f:0e:01:98:37	
	Auth Method	WPA2-PSK	
	Encrypt Mode	AES	
ustrial	IP Address	192.168.200.78	
ols	Netmask	255.255.255.0	
zards	Gateway	192.168.200.1	
	DNS	61.139.2.69 202.98.96.68	
	Connection time	0 day, 00:00:06	

Step 5: Choose **Wizards** >> **New WLAN**, and configure the parameters.

inhand	Wizards >> New WAN New WAN
Administration	Your pass
Network	·
Services	, Interface dot11radio 1
Link Backup	► Type Dynamic Address (DHCP) ▼
Routing	NAT 🔮
Firewall	Apply & Sava Cancel
VPN	Apply a Save Califer
APP	•
Industrial	•
Tools	<b>&gt;</b>
Wizards	•

Step 6: Choose **Firewall** >> **Network Address Translation (NAT)**. If a connection named dot11radio 1 is displayed, Wi-Fi is connected.

inhand		Firewall >> N/	AT					
Administration	,	NAT				Yo	ur passwor	d has security risk, please click here to change! ×
Network	,							,
Services	,	Network Add	dress Transla	tion(NAT) Rul	es			
Link Backup	•	Action	Source	Match	Translated	Descripti	on	
Routing	•	CNIAT	Network	Conditions	Address			
Firewall		SNAT	Inside	ACL:100	dot11radio 1	1		
VPN					Add	Modify	Delete	
								1
APP		Inside Netwo	ork Interfaces					
Industrial	,							
Tools	•		ID	-11	Interface			
Wizards		2		gigat	gigabitethemet 0/1			
		£			Add(1/100			
					Add(1/100)			
		Outside Netv	work Interfac	es				
			ID		Interface			
			1	d	ot11radio 1			
			2		cellular 1			
		3		gigabitethe	ernet 0/2	•		
					Add[2/100]			
		Apply &	Save Ca	incel				
Save Configurat	ion							