InHand Networks InConnect Service

“One-stop” Convenient Networking Service

User Manual

Issue: V2.2-2020.03

www.inhand.com.cn

InHand Networks

Declaration

Thank you for choosing our product. Before using the product, read this manual carefully.

Due to the continuous updating of products, information in this document cannot be completely consistent with actual products. The actual system functions shall prevail. InHand will update this document with the update of system functions. Please find the latest information in the official of InHand or the InConnect platform.

Conventions

Symbol	Indication
>>	Content in it indicates a button name. For example, the OK button.
""	Content in "" indicates a window name or menu name. For example, the pop-up window "New User".
>>	A multi-level menu is separated by the double brackets ">>". For example, the multi-level menu File >> New >> Folder indicates the menu item [Folder] under the sub-menu [New], which is under the menu [File].
Caution	It means reader be careful. Improper action may result in data loss or damage to device.
Note	Notes contain detailed descriptions and helpful suggestions.

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Contents

1. About the Platform....1

2. Registration and Login....2

3. Connect a Router to InConnect....3

3.1. Add a Router to InConnect....3

3.2. Configure Router Connection....4

3.2.1. IR600-series Routers....4

3.2.2. IR900/IG900/VG710 Series....5

4. Install the Client....6

4.1. Install and Use OpenVPN in Windows....6

4.2. Install and Use OpenVPN in Android Systems....9

5. Remotely Access the Router's Downstream Devices(like PLCs, HMIs, etc.)....11

6. Management Function....13

6.1. User Management....13

6.2. Router Management....14

6.2.1. Router Details....14

6.2.2. Remote Web Management....14

6.2.3. Manually Deliver Configuration....15

6.2.4. Update the Router Configurations in Batches....16

6.2.5. Upgrade Router Firmware in Batches....18

6.3. System Management....20

6.3.1. Task....20

6.3.2. Usage....20

6.3.3. Settlement/Billing....21

6.3.4. Company Information....22

6.3.5. Log....22

7. FAQ....22

8. Appendix Router Networking....23

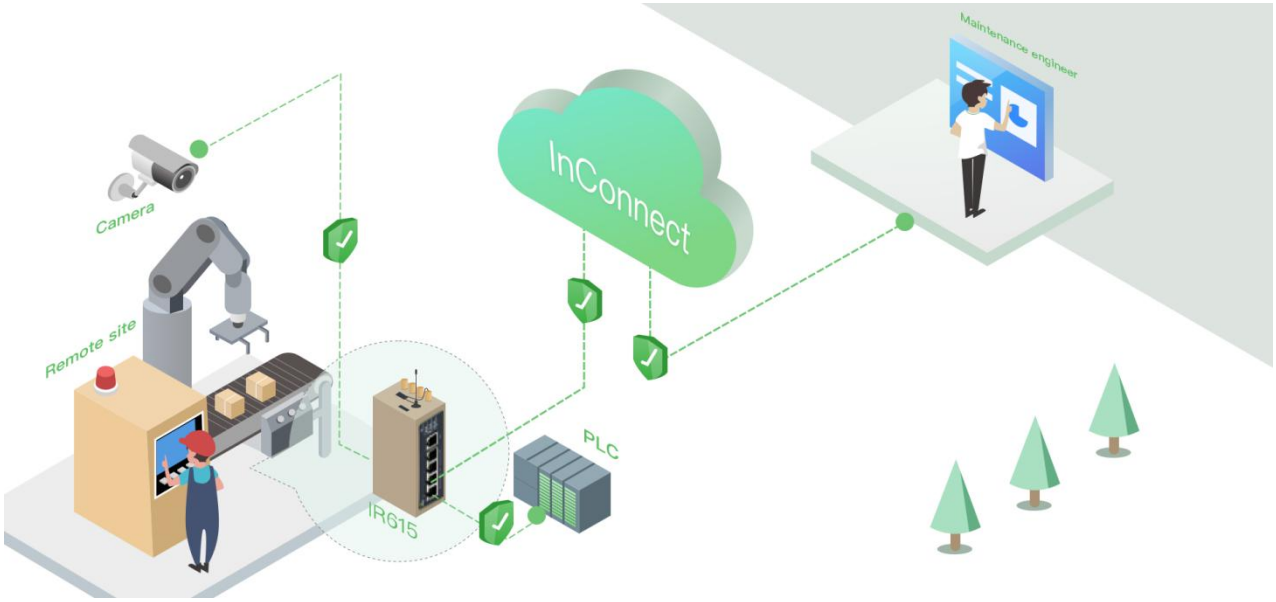
8.1. Method 1: Access the network through dial-up or SIM card....23

8.2. Method 2: Ethernet....25

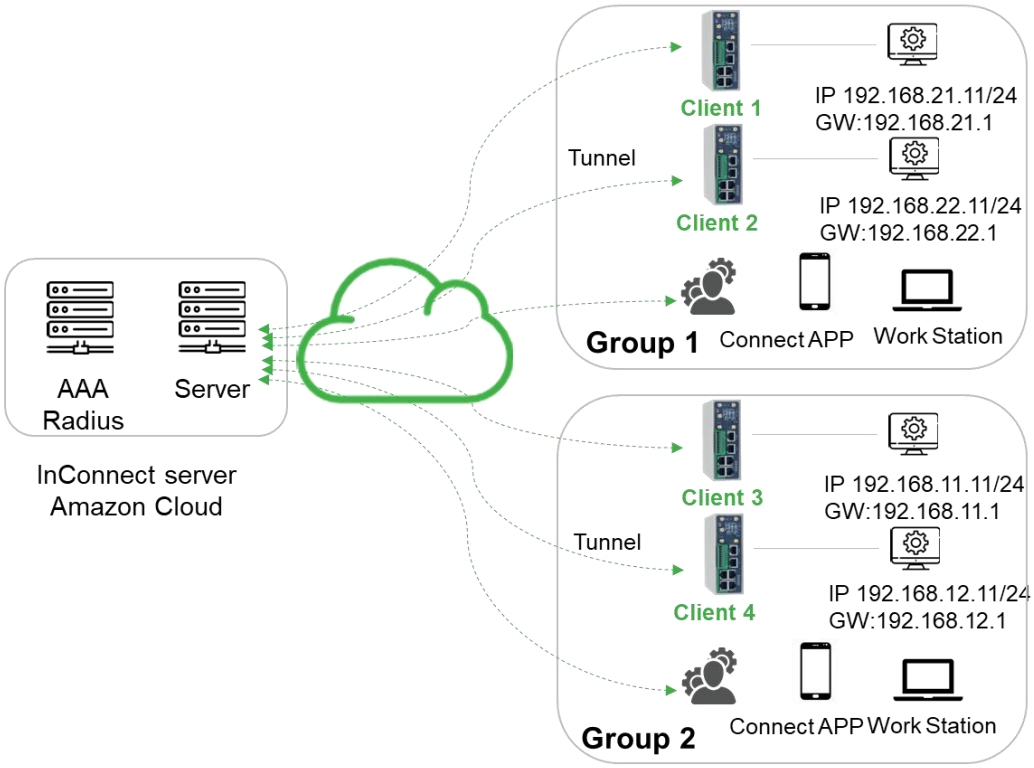
8.3. Method 3: Wi-Fi....28

1. About the Platform

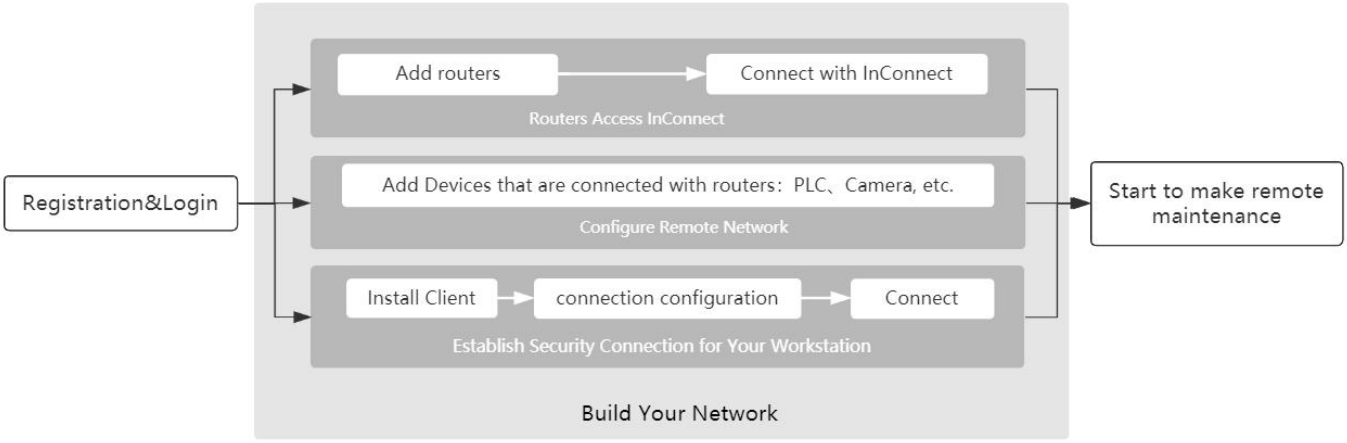
The InHand Connect Service cloud platform (InConnect) is a “one-stop” networking service for enterprise customers. With user-friendly interfaces, InConnect is easy to use and compatible with networking devices of InHand highly recognized by customers around the world. It helps you to quickly connect with global business outlets, break regional restrictions, realize safe and stable interconnection of device and information in different regions, and facilitate enterprise information construction and digital transformation.



How InConnect works:



Quick Start with InConnect:



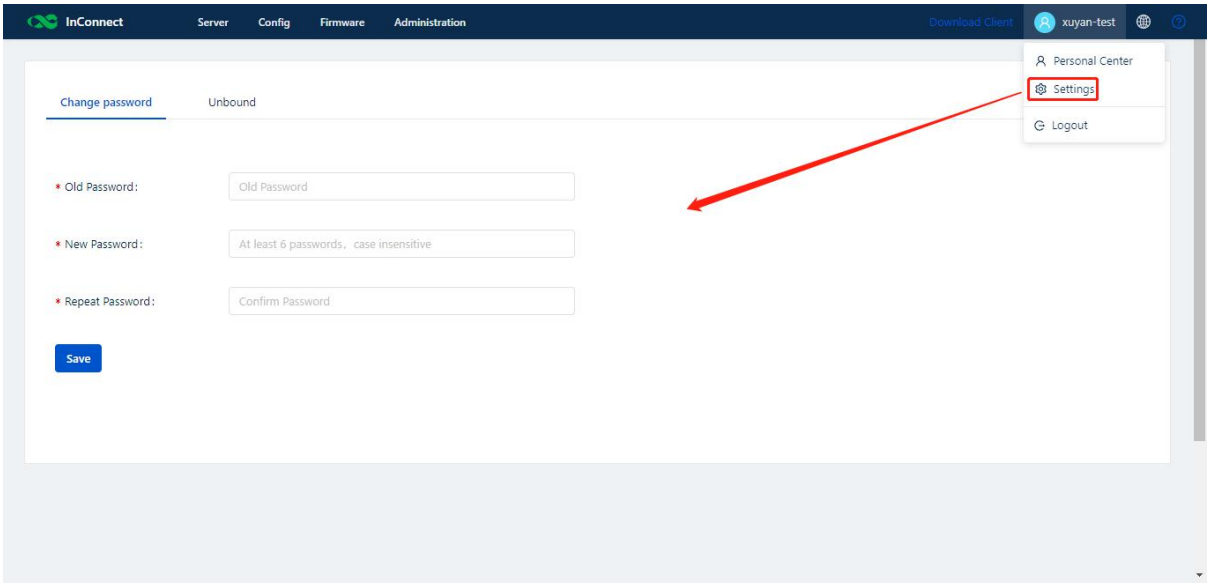
2. Registration and Login

1. Registration

On a browser, enter https://ics.inhandnetworks.com to access the registration page of InConnect. Google Chrome is recommended.

2. Login

After registration, enter the email account for registration and password to log in to InConnect. After login, on the Settings page, **modify the password** and **bind a mobile phone number.** You can use the bound mobile phone number for login next time.



3. Connect a Router to InConnect

After a router is added, InConnect automatically delivers the running configuration to create secure network connection.

You can add a router as follows:

1. In the Router List of InConnect, add a router.

2. On the web page of the router, connect the router to InConnect.

The details are described below.

3.1. Add a Router to InConnect

1. Choose **Server** >> **Routers** >> **Create Router**. On the page displayed, **enter a name and serial number for the router**, select **the router model** and then click Save. You can view the serial number on the router **nameplate** or on the **Web Management** page. You must select the correct model; otherwise, connection to the router may fail.

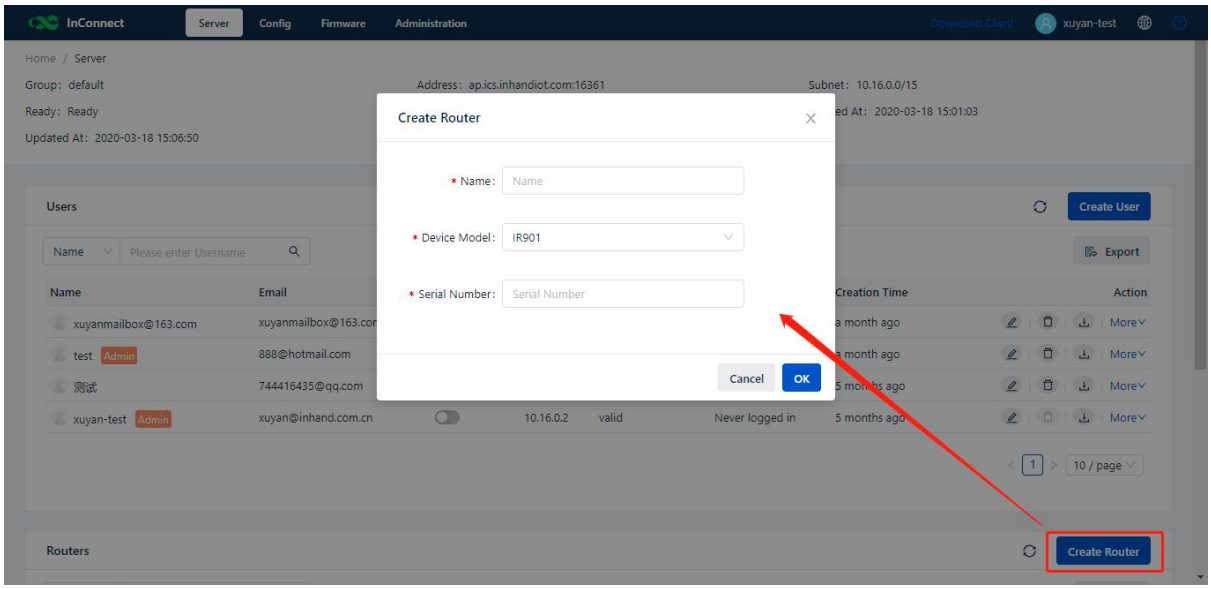
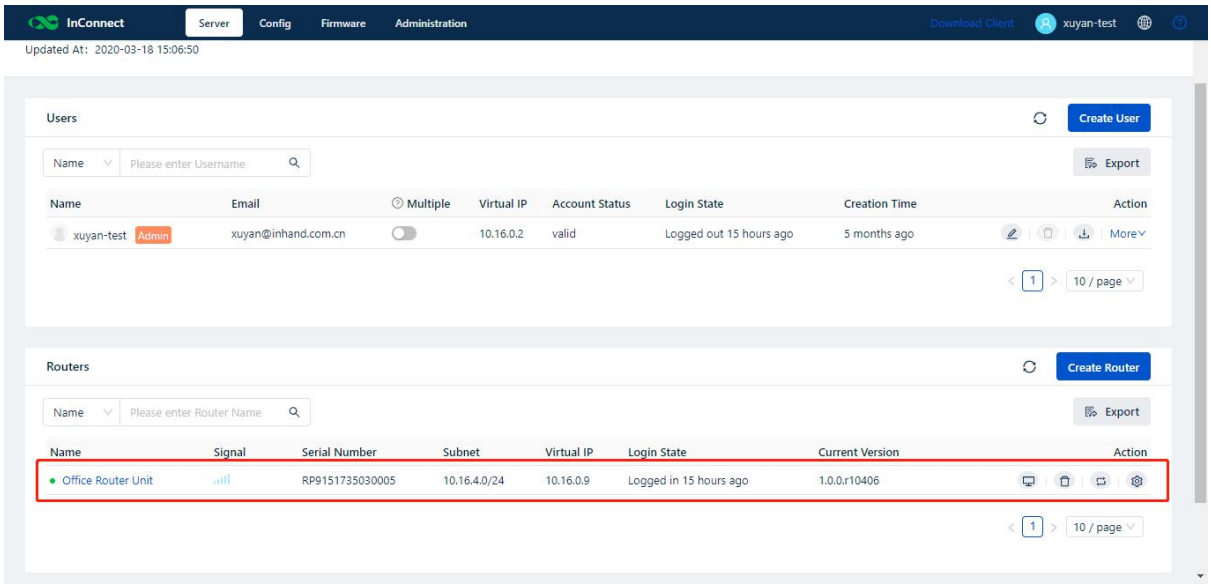


Figure Add a router to InConnect

Figure Router web page

2. If the router is displayed in the Router List, the router is added. InConnect allocates a virtual IP address for the added router. After the InConnect client is installed and configured, you can use this virtual IP address to remotely access the router. For more details, see 4. Install the Client.

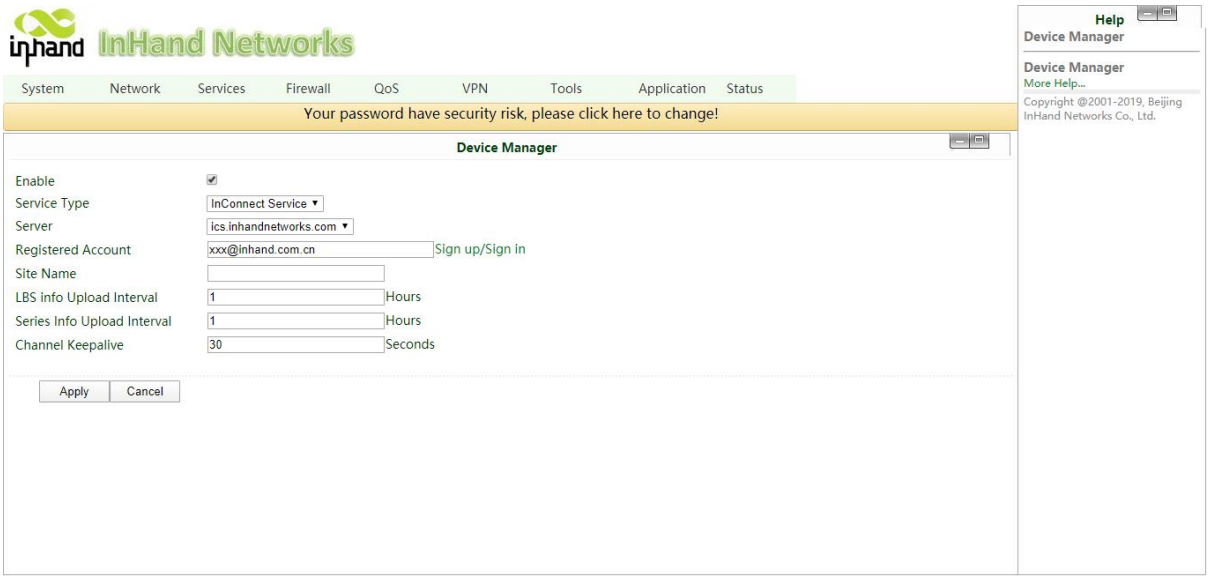


3.2. Configure Router Connection

After adding a router to InConnect, you need to configure the connection from the router to InConnect on the router web page. Before configuration, make sure that the router is connected to the network. For details about connecting devices to the network, see the appendix.

3.2.1. IR600-series Routers

After connecting a router to a PC, enter **192.168.2.1 or 192.168.1.1** on the browser, and then enter the login account **adm** and the password **123456** respectively to log in to the device web page. On the web page, choose **Services** >> **Device Networks**, enter **ics.inhandnetworks.com** in the **Server** field, and enter the email account you used to register the InConnect account in the **Registered Account** field.

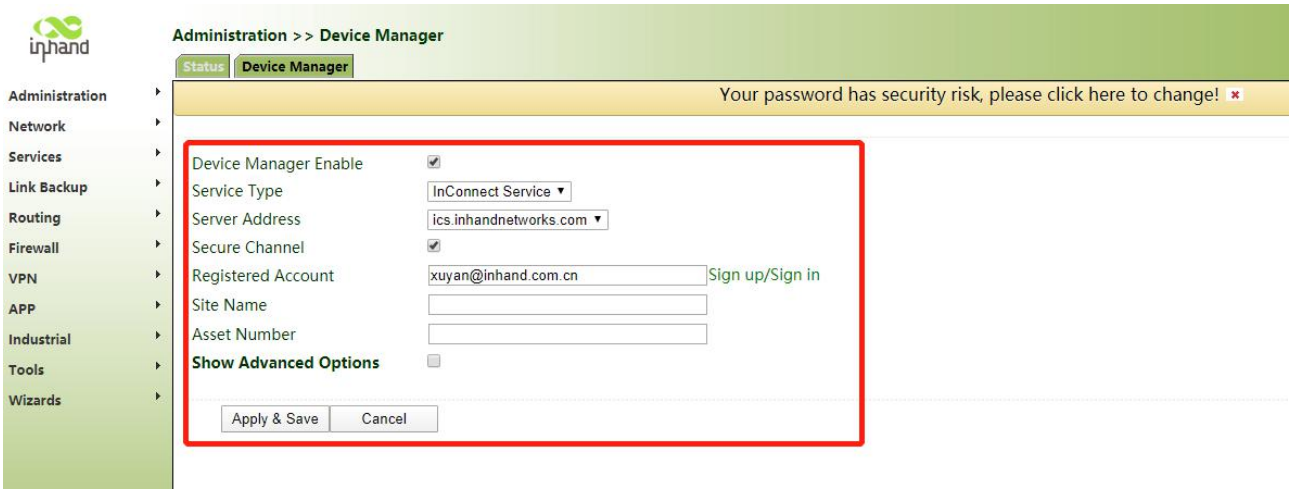


Note

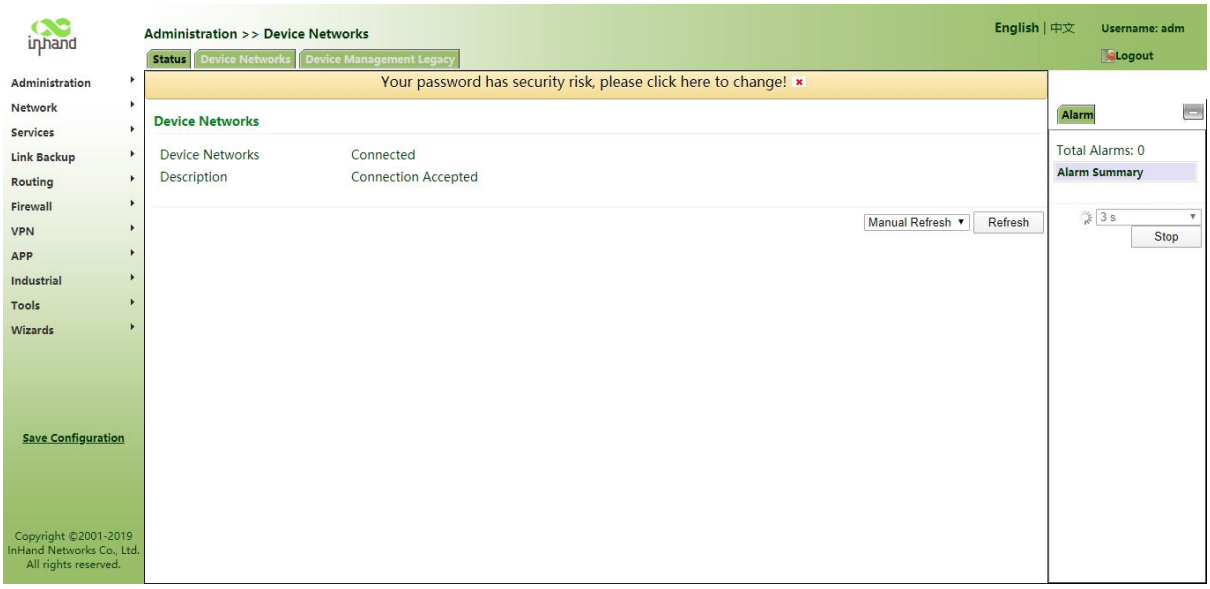
The page varies with the device firmware version. The actual page shall prevail.

3.2.2. IR900/IG900/VG710 Series

After connecting a router to a PC, enter **192.168.2.1** or **192.168.1.1** on the browser, and then enter the login account **adm** and the password **123456** respectively to log in to the device web page. On the web page, choose **Administration** >> **Device Networks** or **Device Manager**, select **InConnect Service** from **Service Type**, choose **ics.inhandnetworks.com** in the **Server Address** field, and enter the email account you used to register the InConnect account in the **Registered Account** field.



Click **Apply & Save**. If the status is **Connected**, the device is connected to InConnect:



Note

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

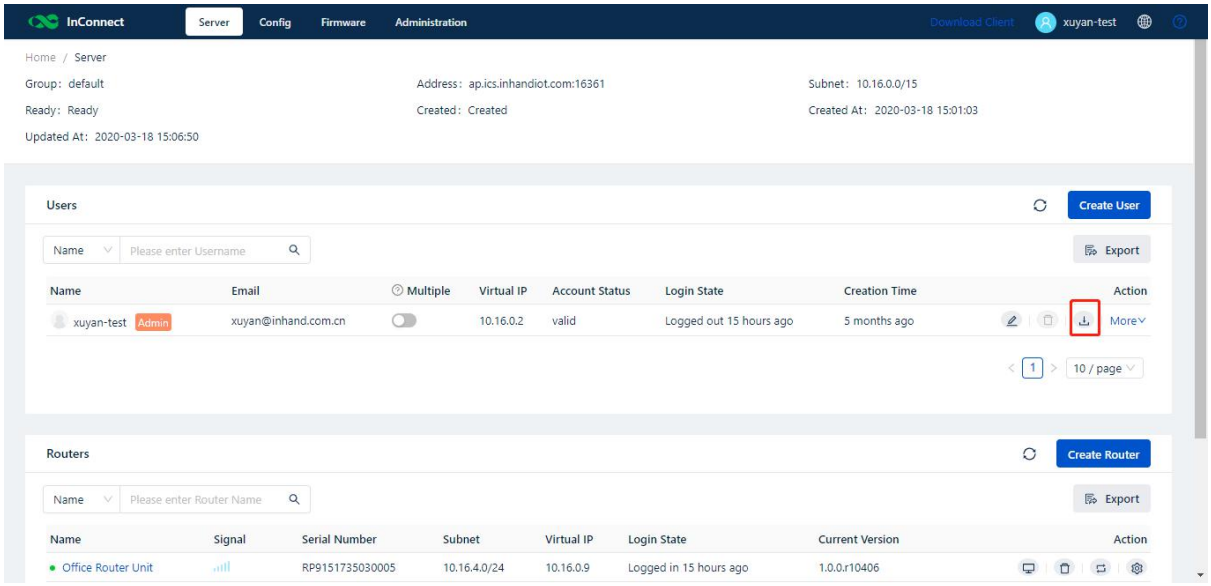
4. Install the Client

InConnect automatically creates a secure connection channel for the accessed router. You can install and configure the client on a local PC or a mobile phone to access the secure connection channel to access and control the remote onsite devices.

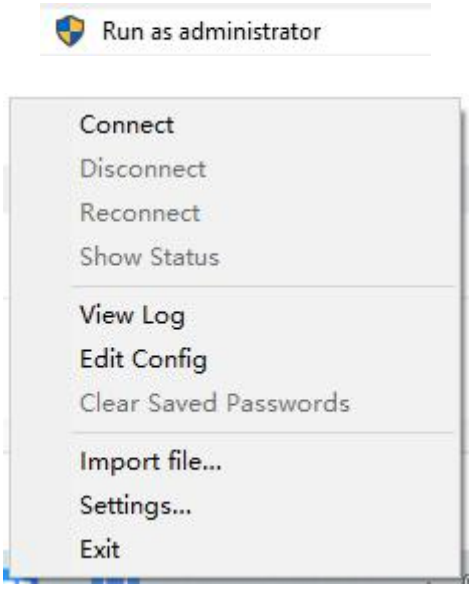
4.1. Install and Use OpenVPN in Windows

1. Download the OpenVPN client to InConnect and install the client.

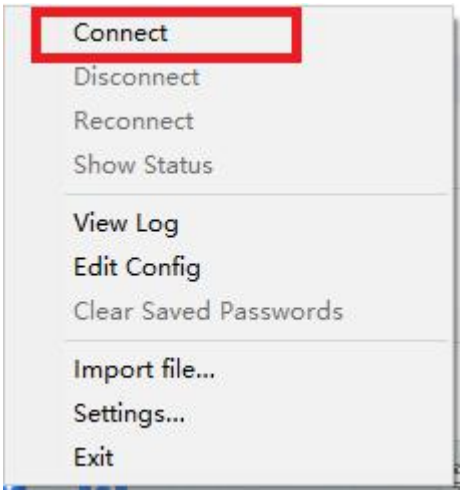
2. In the **Users** list of InConnect, download the configuration file.



3. On the OpenVPN GUI shortcut, click Run as administrator. Click the icon  in the lower-right corner, and then click **Import file** to import the configuration file to the OpenVPN client.

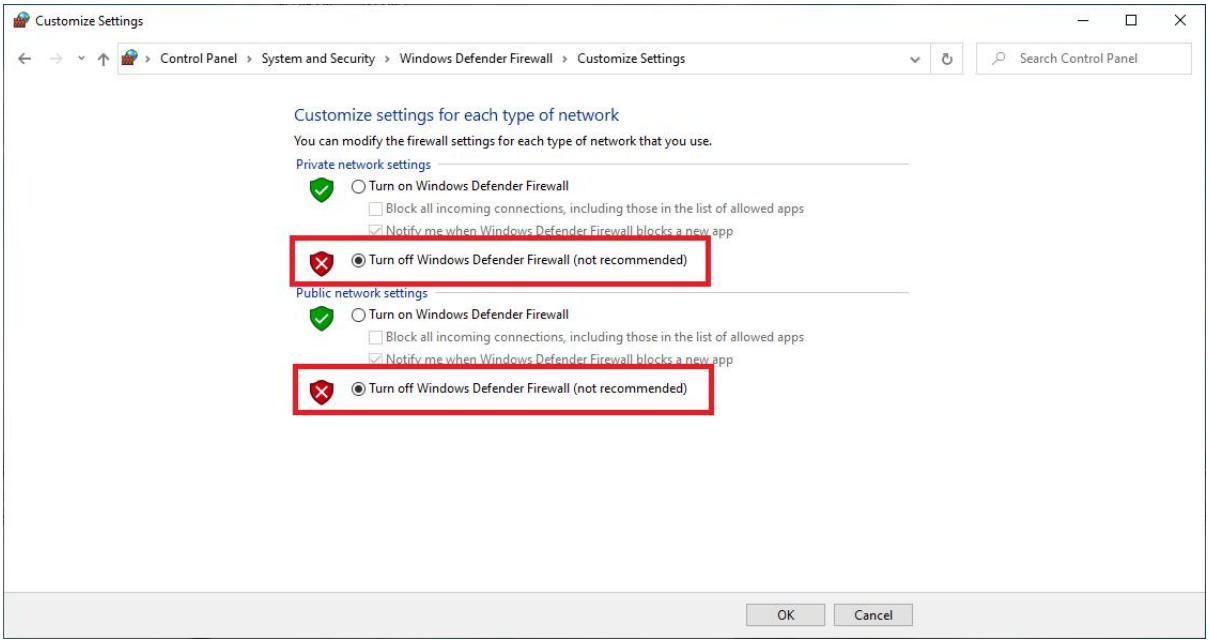


4. Click **Connect**. When the icon turns green, the current user is connected to the secure connection channel.

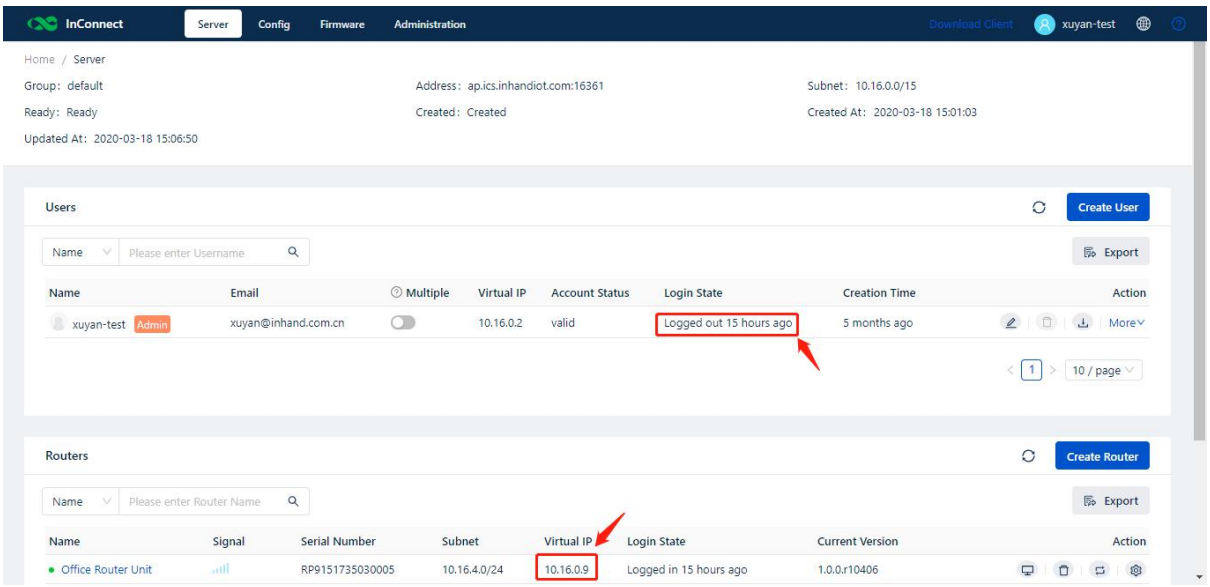


5. Test whether the virtual IP address of the router can be accessed.

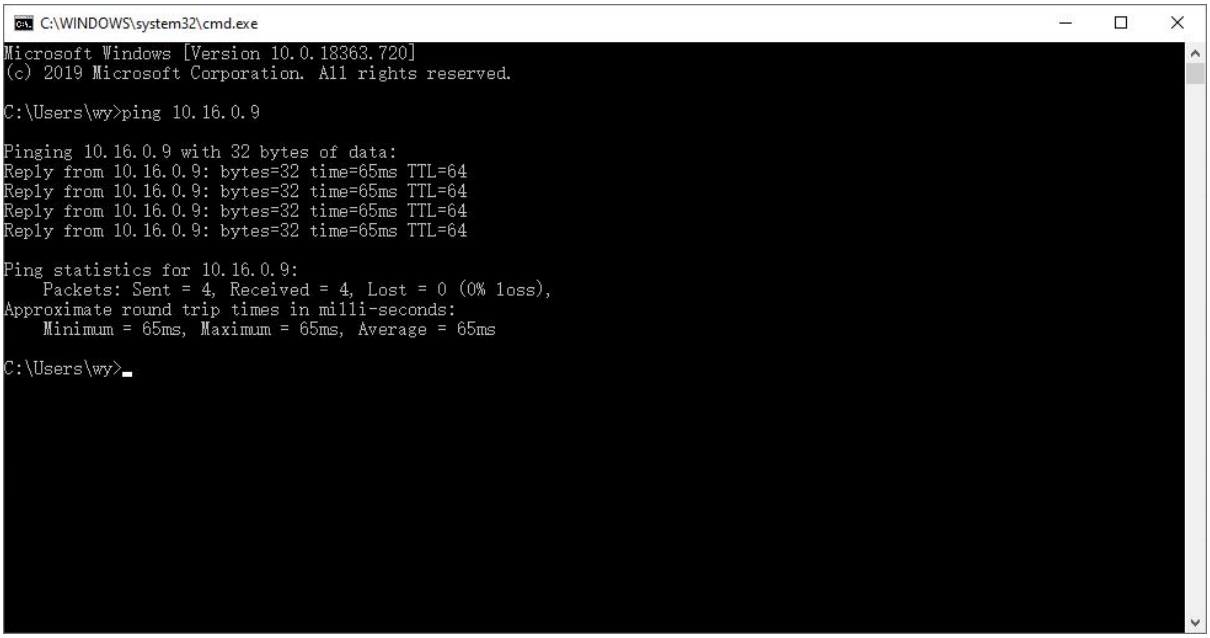
The address cannot be pinged when Windows Defender Firewall is enabled. We recommend that you disable the firewall or enable ICMP first.



Open **Command Prompt** of Windows and ping the router's virtual IP address 10.16.0.9:



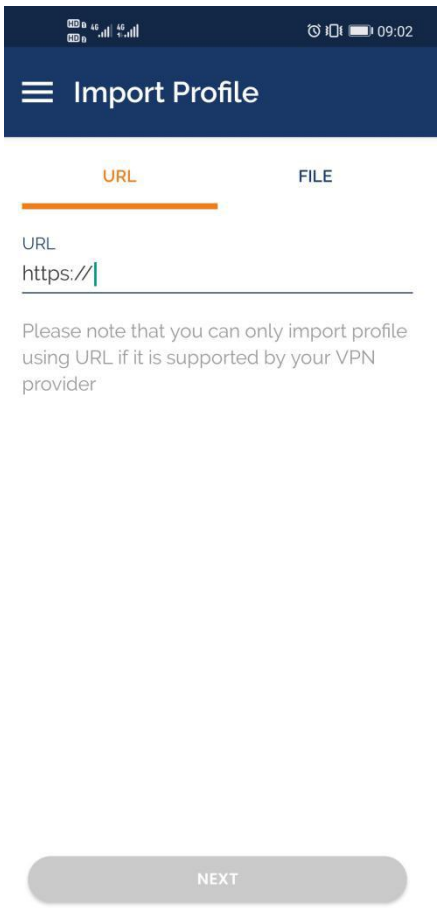
If the address can be pinged, the current user is interconnected to the remote router, as shown in the following figure:



4.2. Install and Use OpenVPN in Android Systems

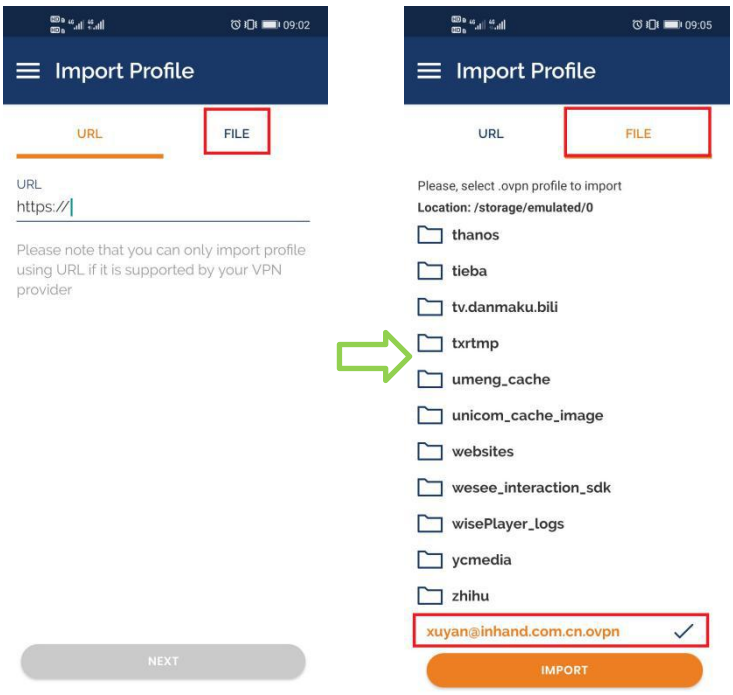
1. Scan the QR code in InConnect to download the OpenVPN client of the Android edition:

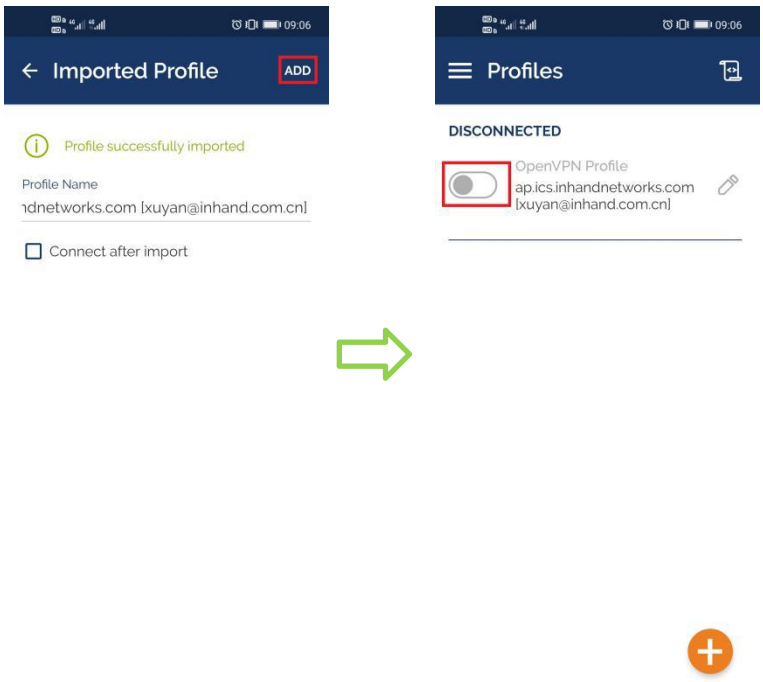
2. Install the client. The running page is as follows:



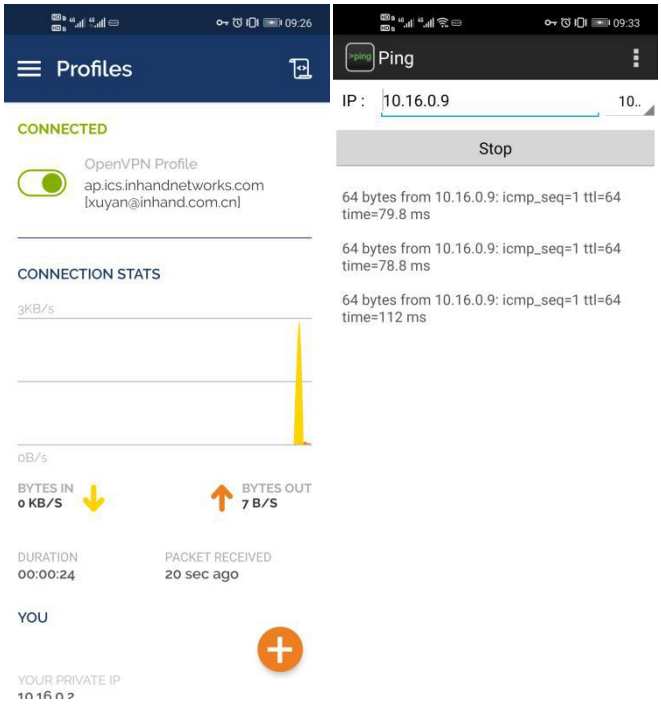
3. Download the OpenVPN configuration file from InConnect and send the file to your mobile phone.

4. Click FILE, select a configuration file, and then choose IMPORT >> ADD.





5. After OpenVPN is connected, use the ping tool of the mobile phone, enter the router's virtual IP address, and test whether the address can be pinged. If the address can be pinged, the current user is interconnected to the remote router.



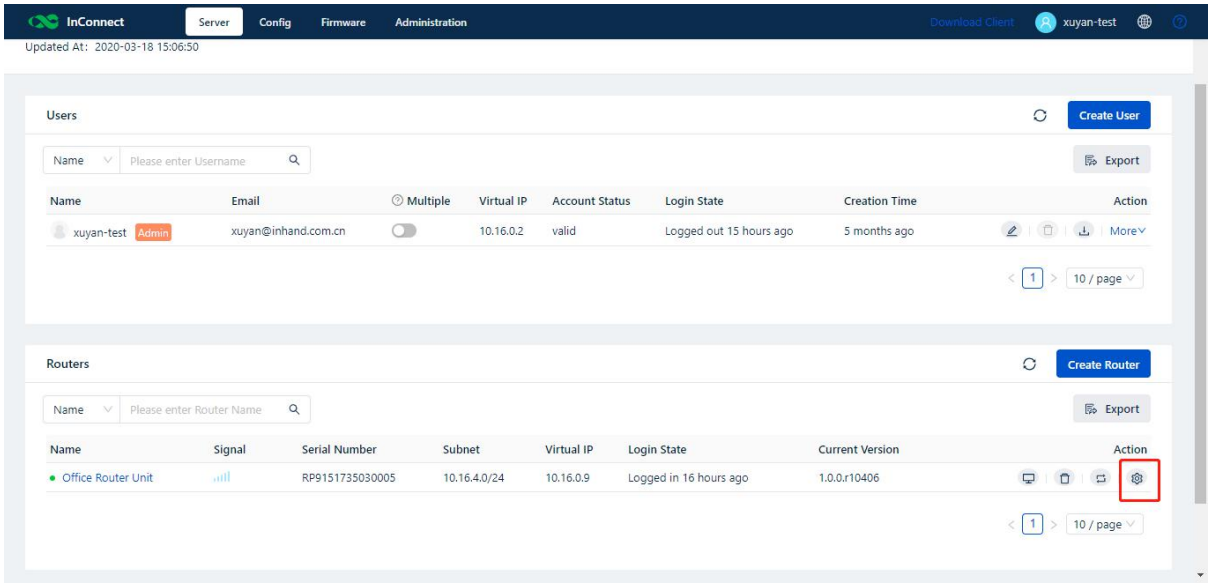
5. Remotely Access the Router's Downstream Devices(like PLCs, HMIs, etc.)

Add downstream devices(like your PLCs, HMIs, Camera, and so on.) of a router to InConnect so that the user can access and control them from workstation.

When a downstream device is added, InConnect automatically delivers the running configuration to create a secure network connection.

The procedure is described below:

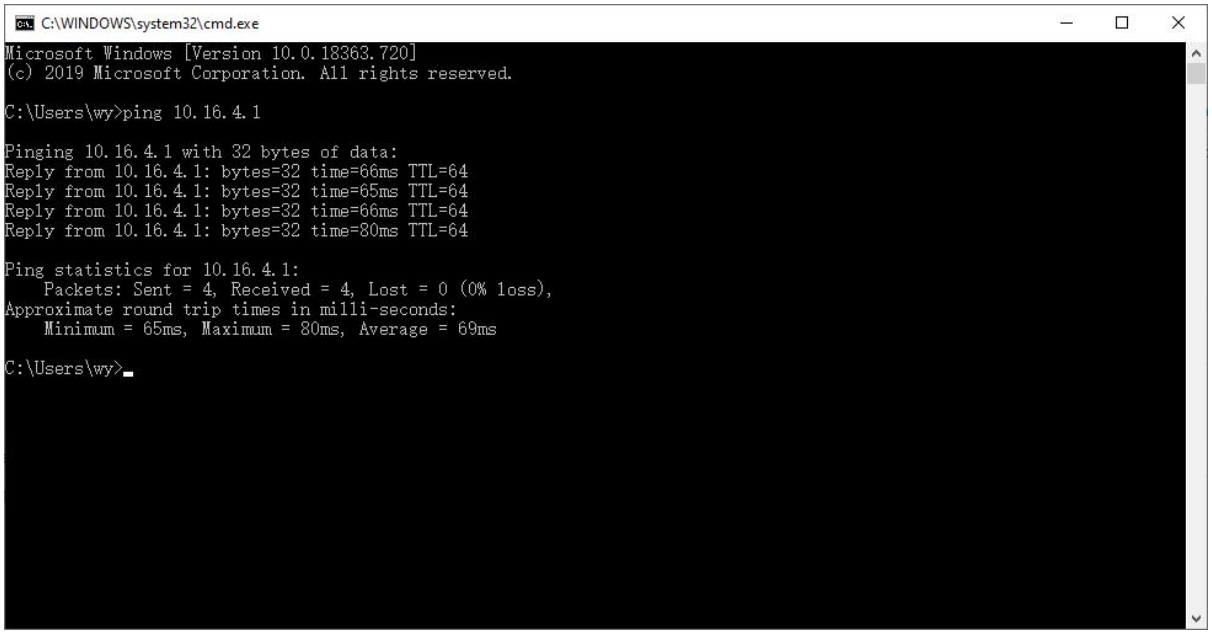
1. On the Services page, click Device Management.



2. Enter the IP address of the downstream device. InConnect automatically maps a virtual IP address for the downstream device. You can add a maximum of 254 downstream devices for each router.

As shown in the following figure, the real IP address of the downstream device is 192.168.2.1, and the mapped virtual IP address is 10.16.4.1.

3. Ping the virtual IP address of the downstream device and check whether the device can be accessed remotely.

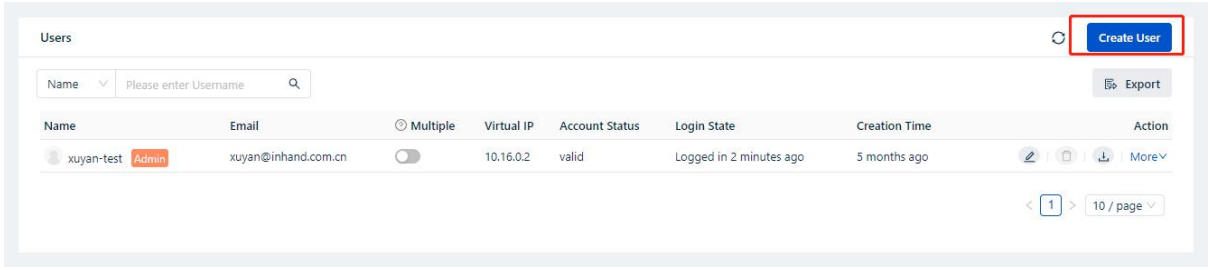


6. Management Function

6.1. User Management

1. Add a User

On the home page, click **Create User** to create an account for another system user.



2. Role Description

InConnect supports two user roles and each role has different permissions on system functions:

Organization administrator: has all permissions.

Device administrator: only has permissions of basic operations on the devices.

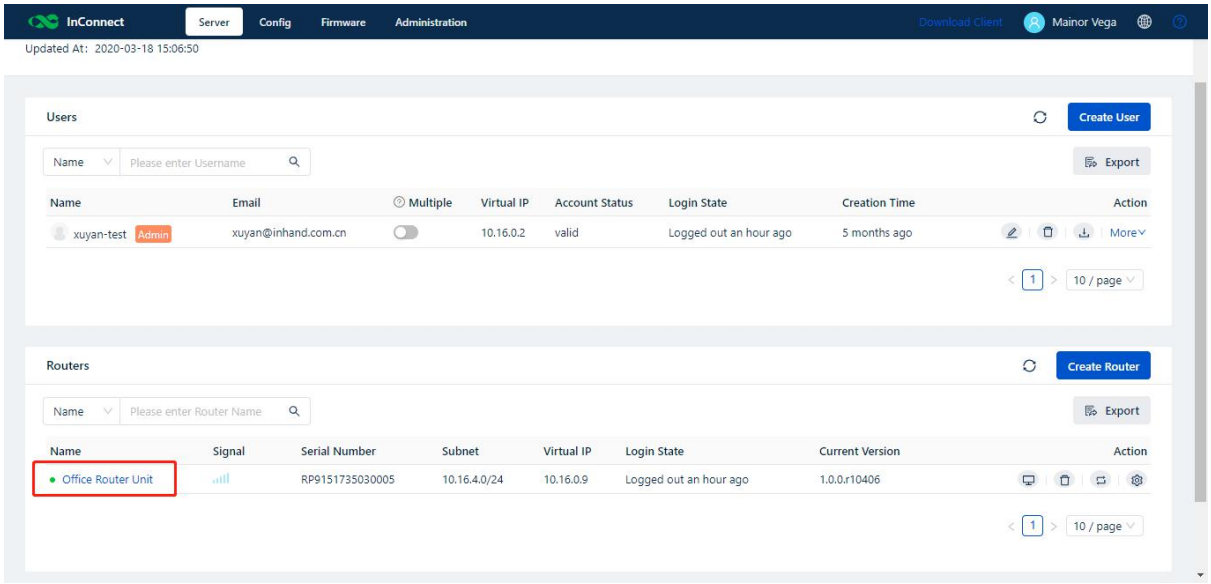
3. Multi-terminal Description

If **Multiple** is enabled for a user, the user can access remote devices on multiple terminals in a secure manner.

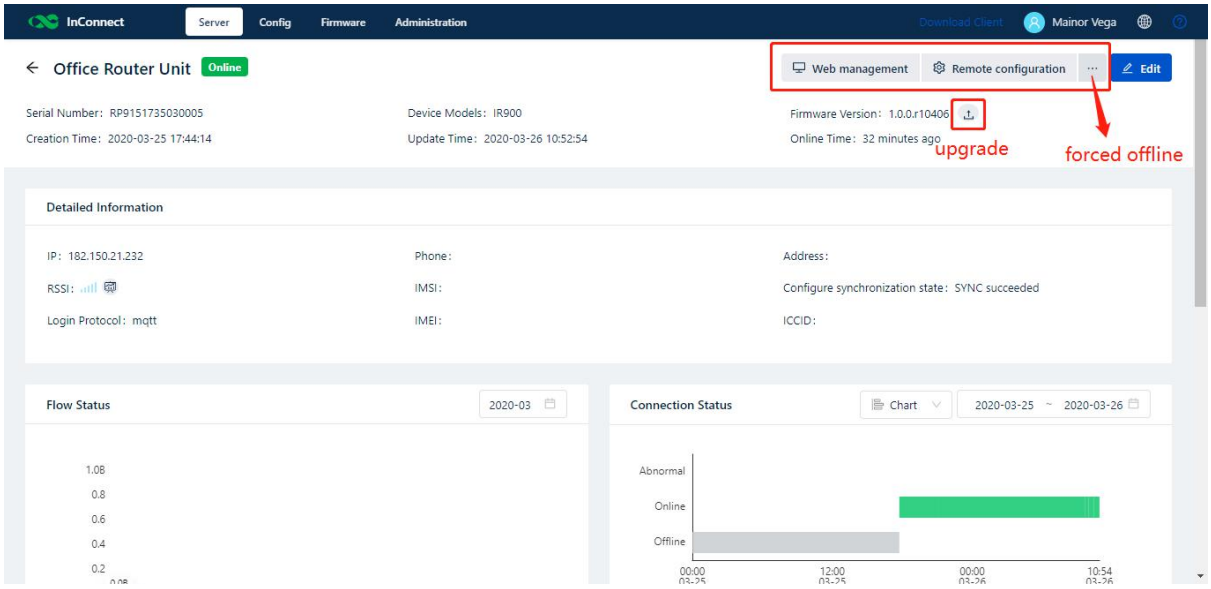
6.2. Router Management

6.2.1. Router Details

Choose **Service** >> **Routers** >> **Name** and check the router details.



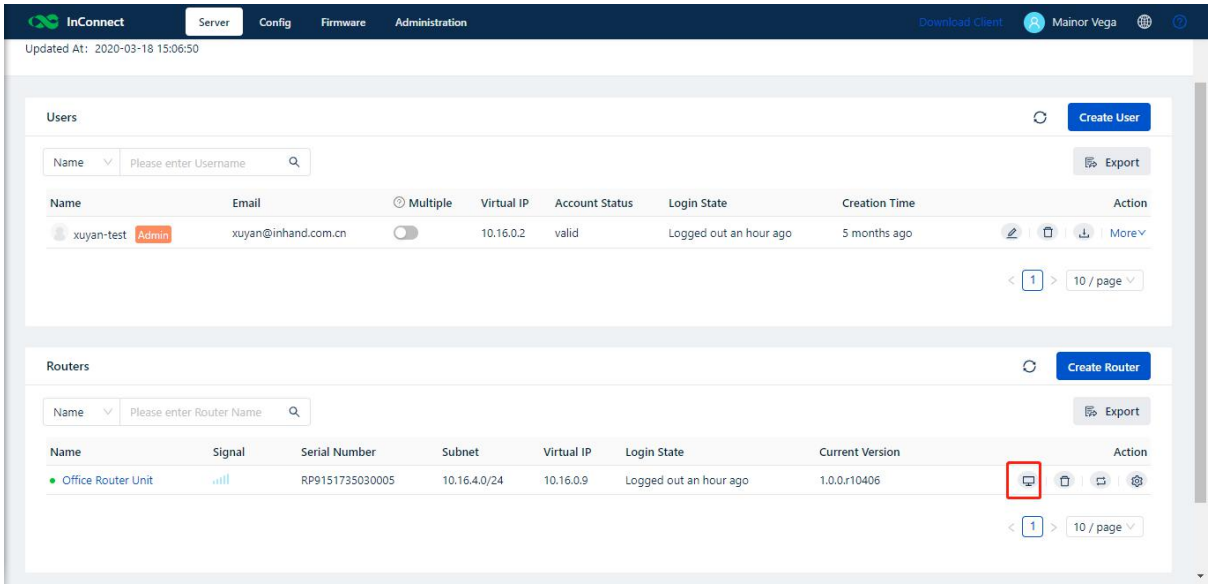
You can perform operations on online routers, such as remote web management, remote configuration, forced offline, and firmware upgrade.

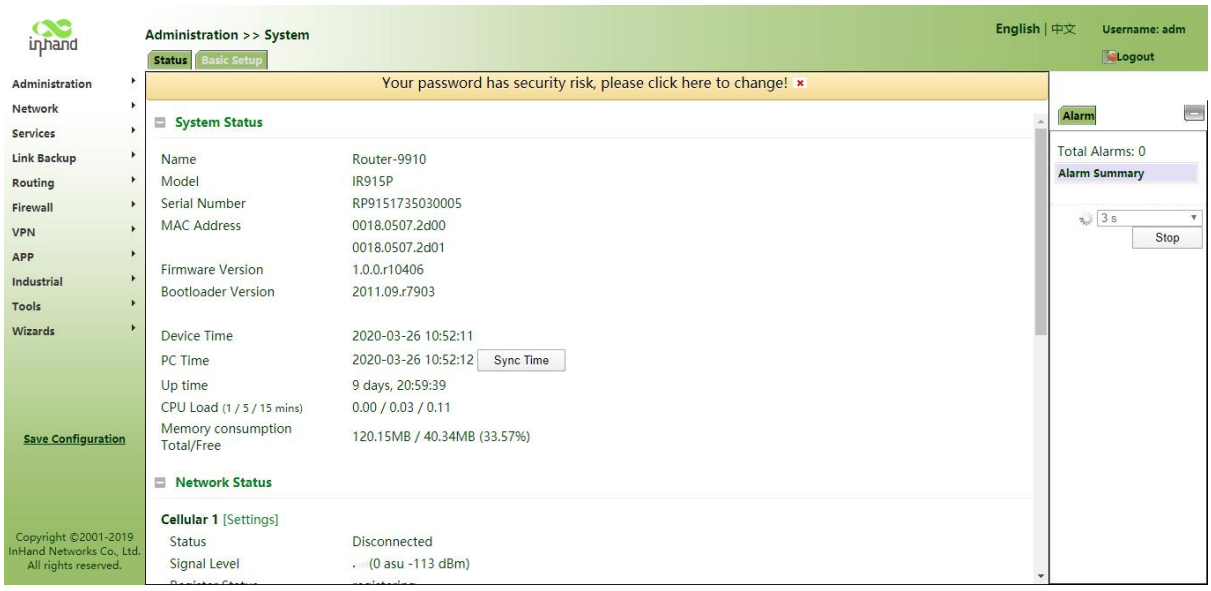


6.2.2. Remote Web Management

You can access the router's web management page remotely through InConnect.

Click  . The router's web management page is displayed, on which you can remotely manage the router.

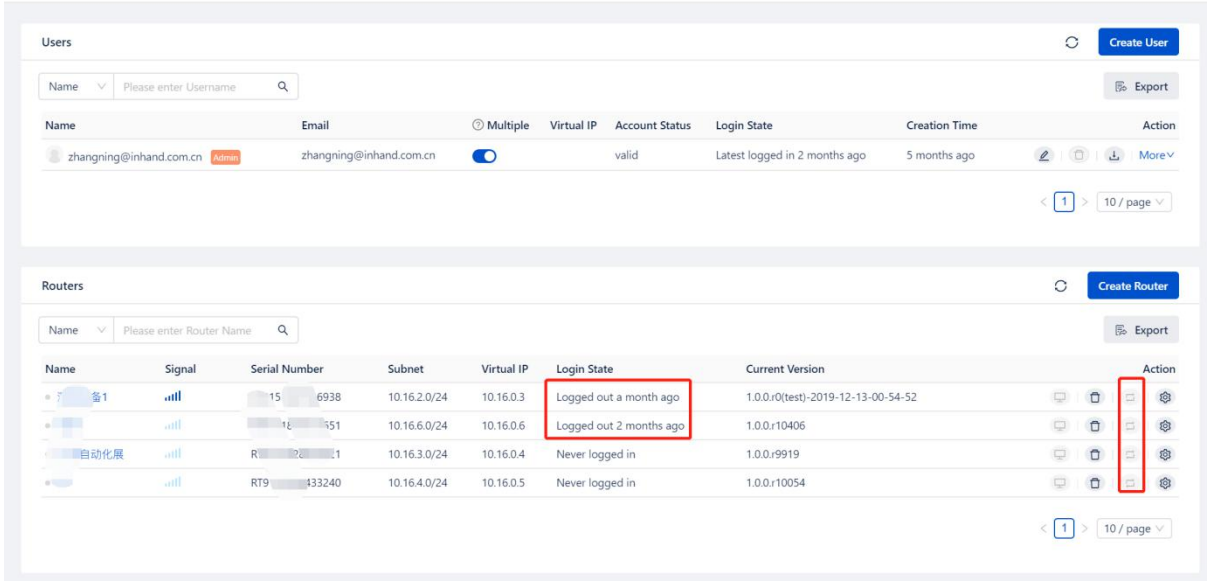




6.2.3. Manually Deliver Configuration

After a router or a downstream device is added, InConnect automatically delivers the running configuration to create a secure network connection.

When a router is online but is in logout state, you can click the running configuration delivery button to create a connection again.

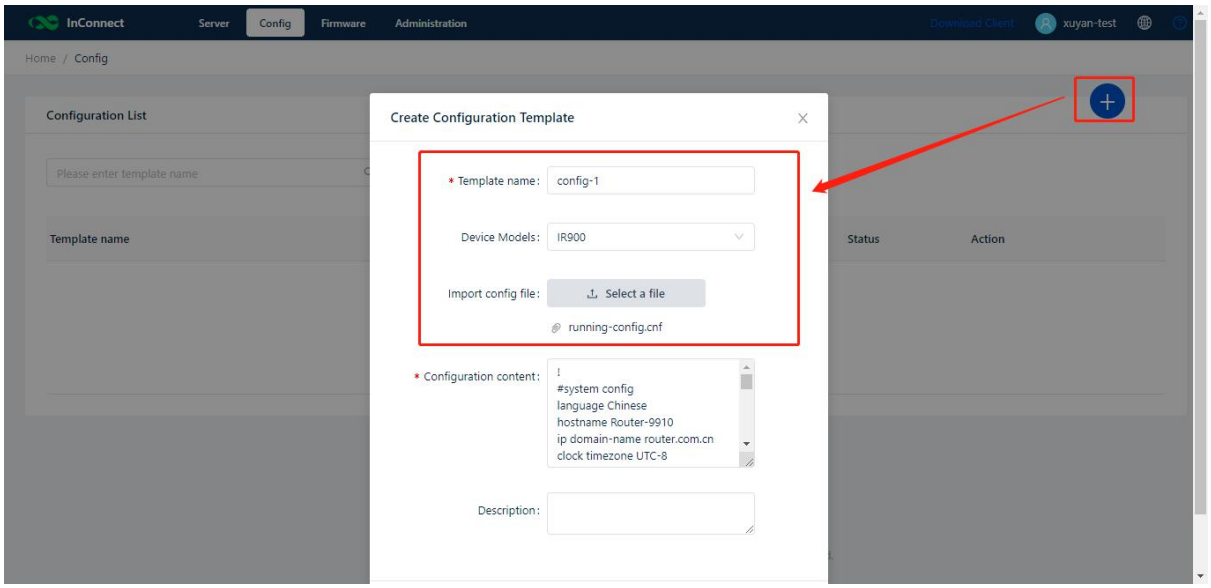


6.2.4. Update the Router Configurations in Batches

You can use this function to update the configurations of routers connected to InConnect in batches.

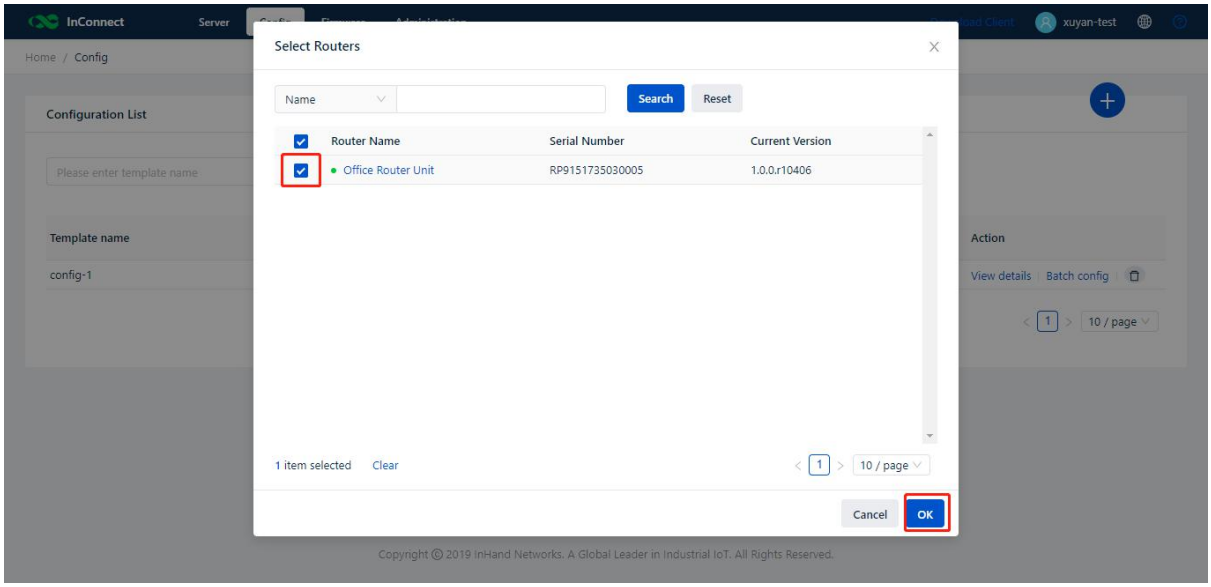
1. Add a Configuration Template

On page **Config**, and then click **+**. Select a configuration file or enter the configuration. On the local management page of the router, you can download the original configuration file, modify the configuration file, and then upload the modified configuration file to InConnect to update the router configurations in batches.

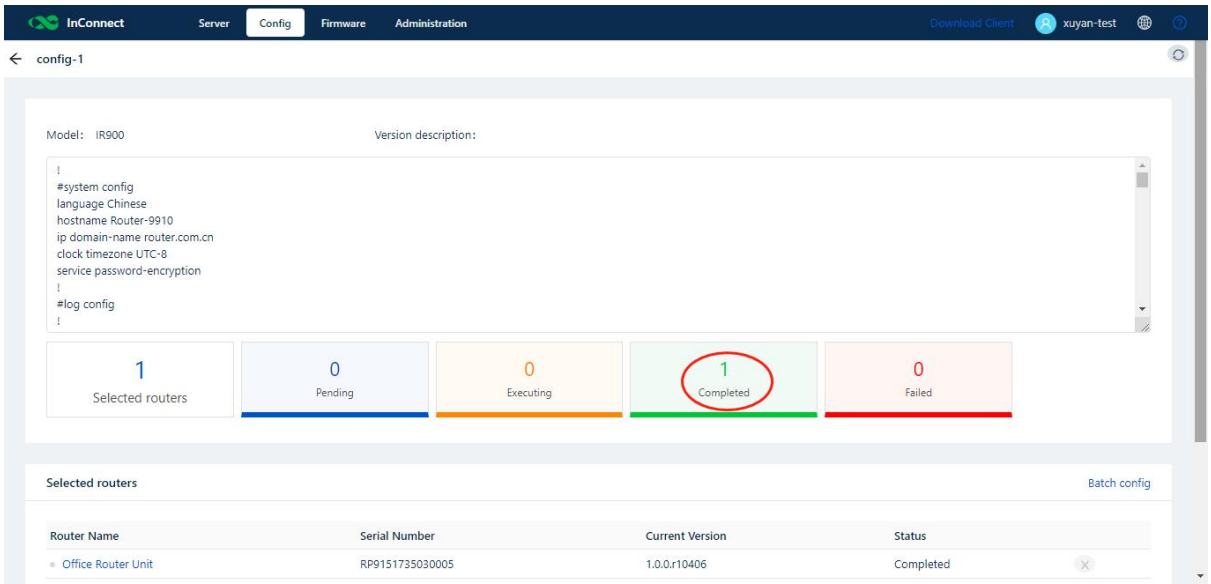


2. Click **Batch Config** and select the routers to which you want to deliver the configuration. Then, the configurations can be updated in batches.

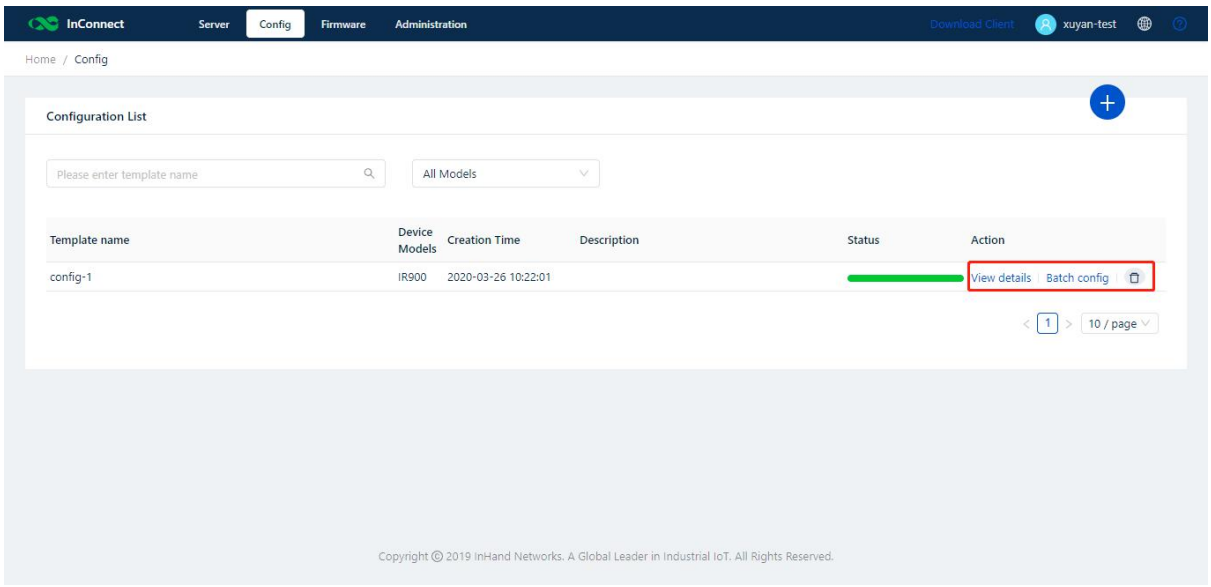
After receiving the configuration command, online devices update their configurations immediately, while offline devices will update their configurations after they are online again.



3. On the **Config** page, you can view the update progress and status of all the routers to which this configuration is applied.



4. In the **Configuration List** section, you can view or delete a configuration or update configurations in batches.

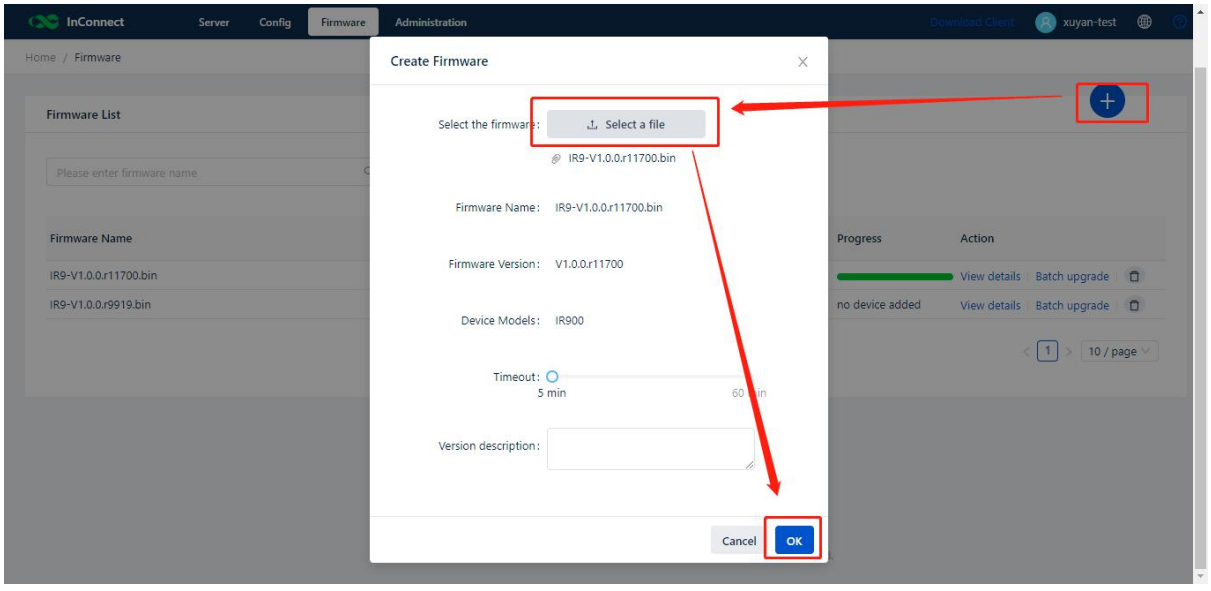


6.2.5. Upgrade Router Firmware in Batches

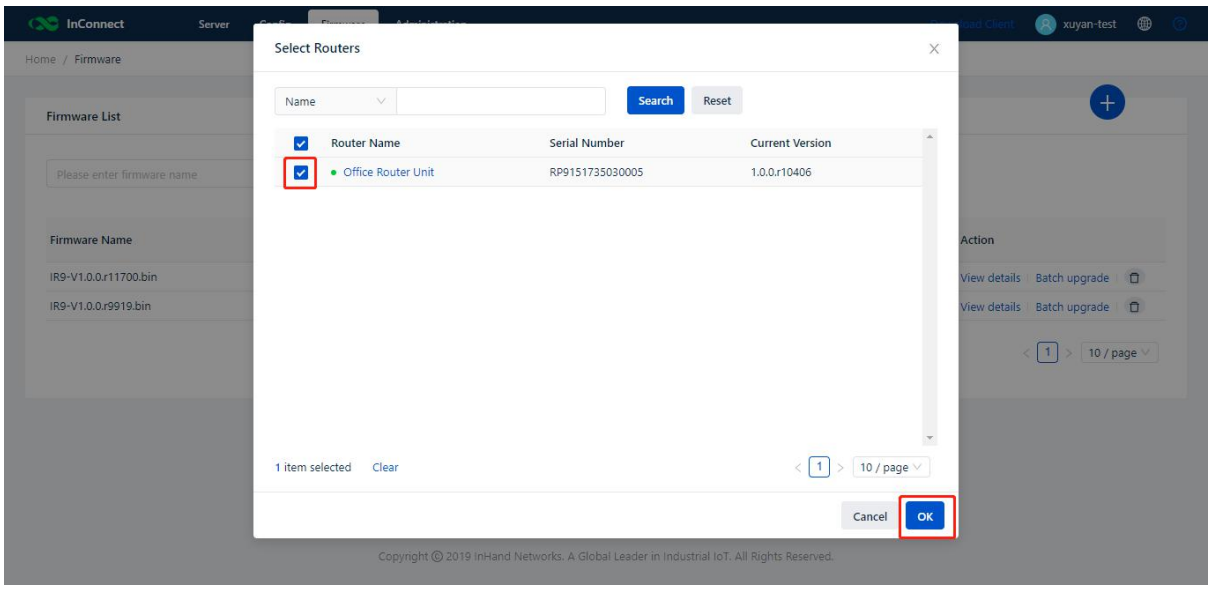
You can use this function to upgrade the firmware for routers connected to InConnect in batches.

1. Add Firmware

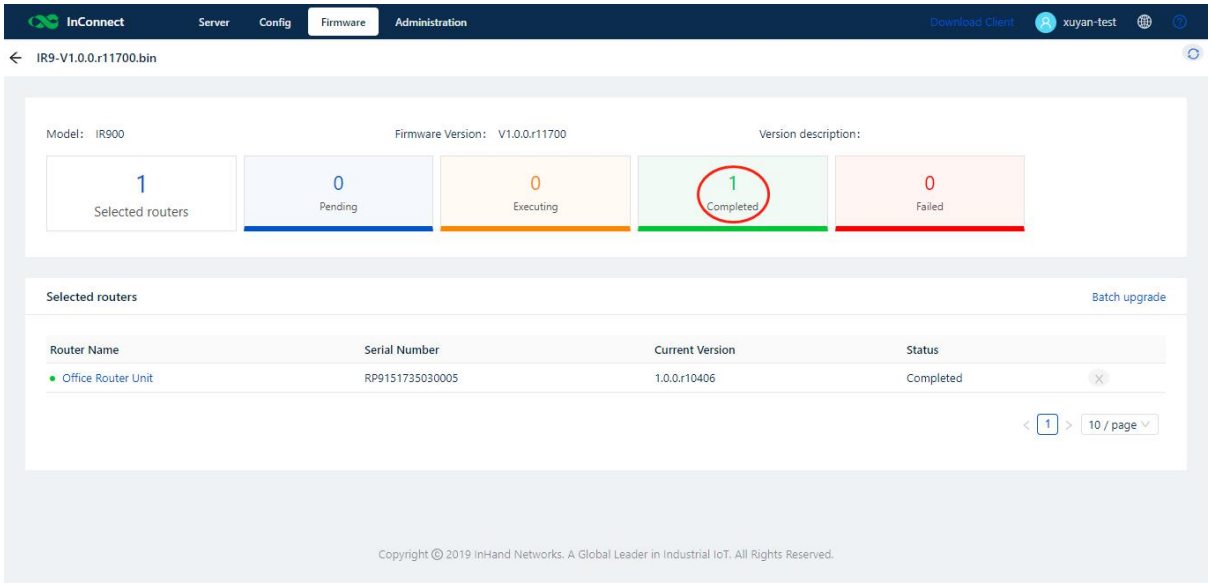
On page **Firmware** and then click **+**. Select the firmware you want to upgrade and then click **OK**. The firmware is uploaded to InConnect.



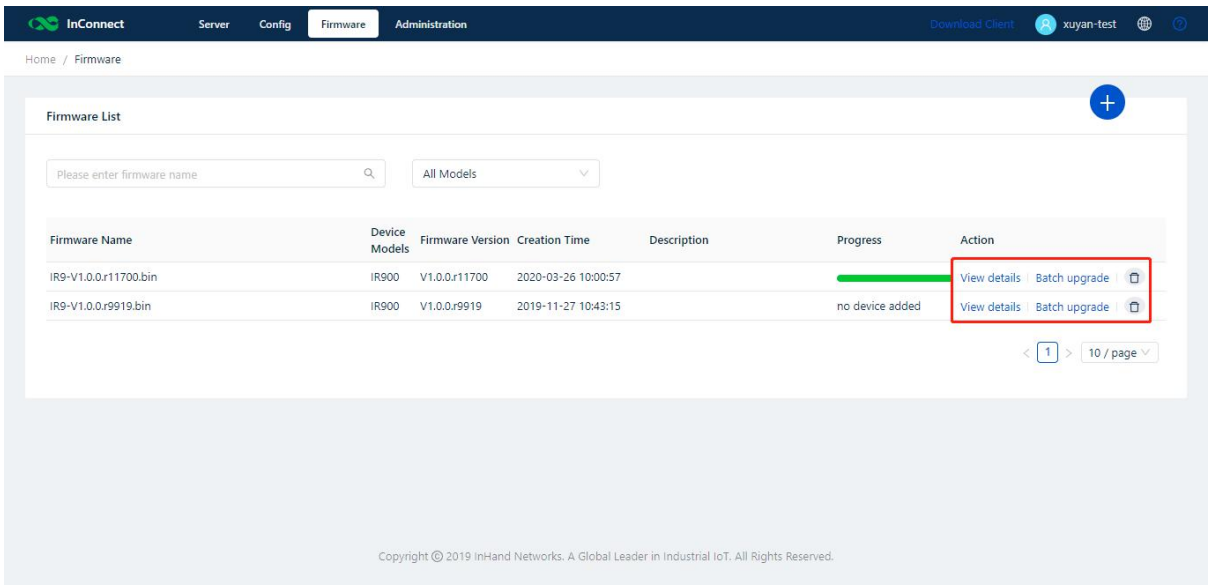
2. In the **Firmware List** section, click **Batch Upgrade**, and then select routers of which you want to upgrade the firmware. Then, the firmware is upgraded in batches. After receiving the upgrade command, online devices execute the upgrade task immediately, while offline devices will execute the upgrade task after they are online again.



3. On the **Firmware** page, you can view the upgrade progress and status of routers to which the firmware is applied.



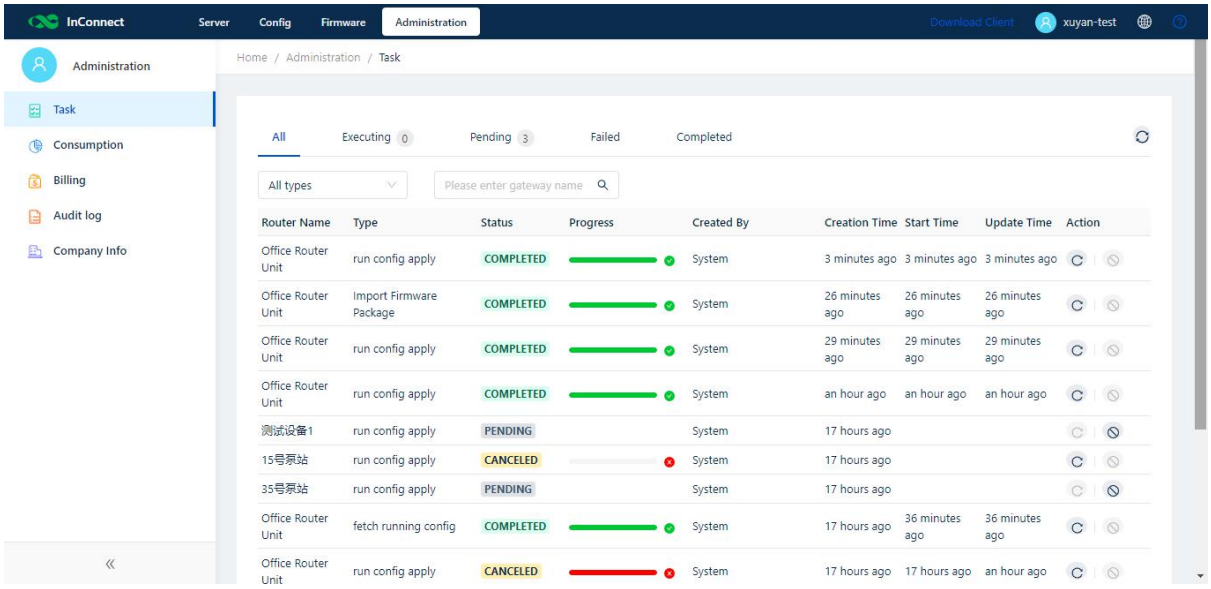
4. In the **Firmware List** section, you can view or delete a firmware or upgrade the firmware in batches.



6.3. System Management

6.3.1. Task

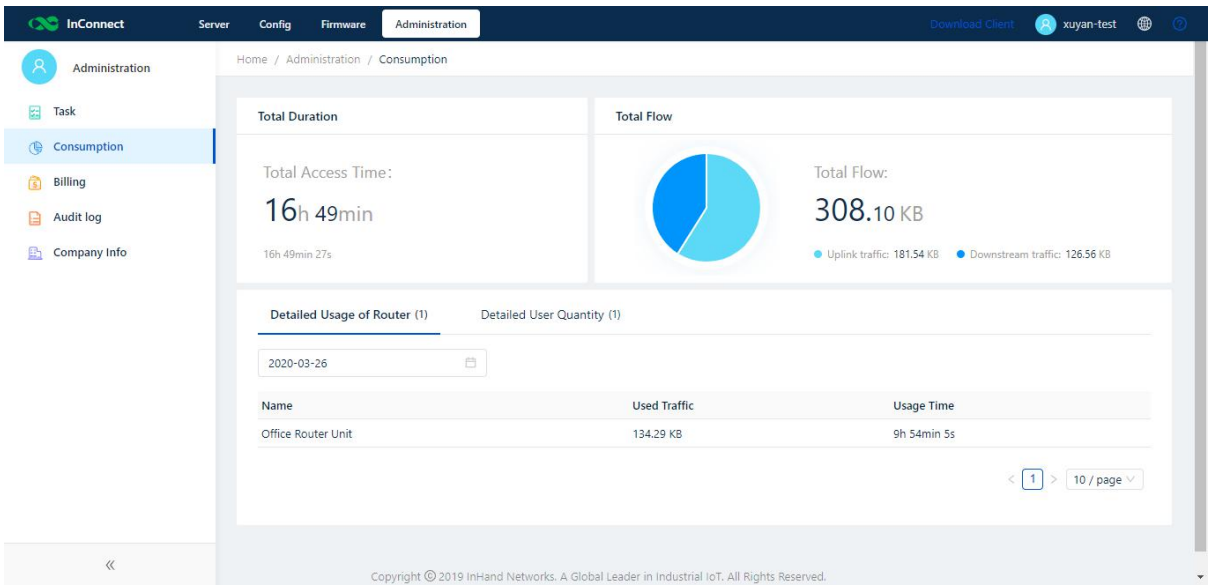
When viewing the tasks delivered by InConnect to routers, you can redeliver or cancel these tasks:



6.3.2. Usage

You can use this function to record the traffic used for the router or the user to create the secure connections.

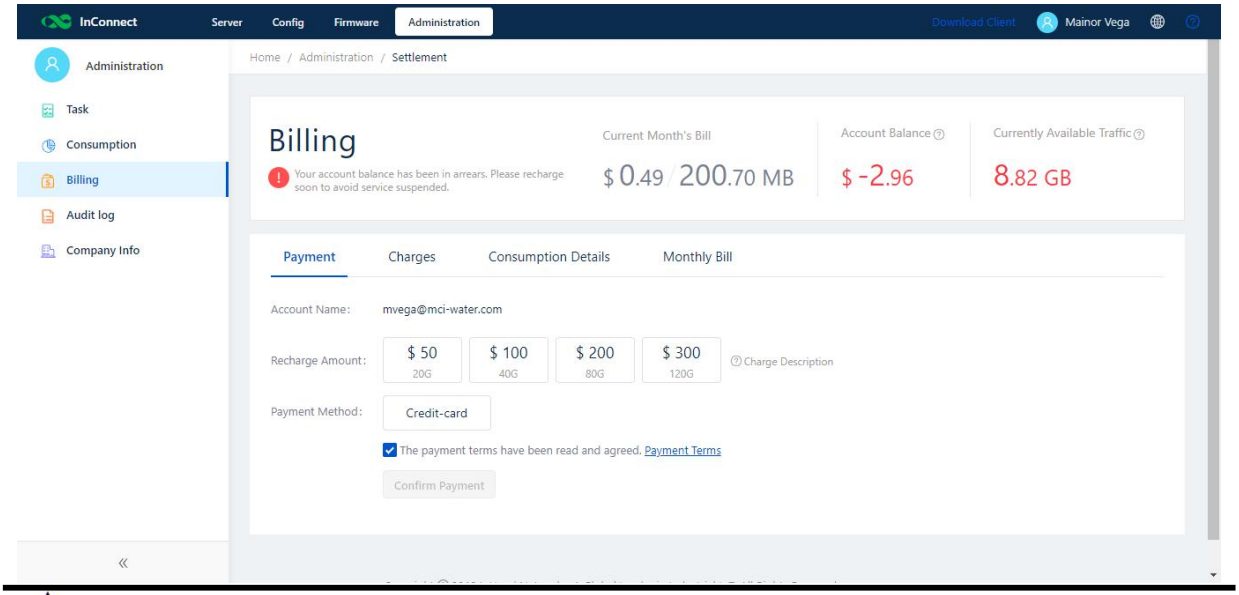
The total connection duration and total traffic are updated once every hour, and the detailed usage of routers and users is updated once every minute:



6.3.3. Settlement/Billing

InConnect is billed based on the traffic that is used to create the secure connections between all clients and users.

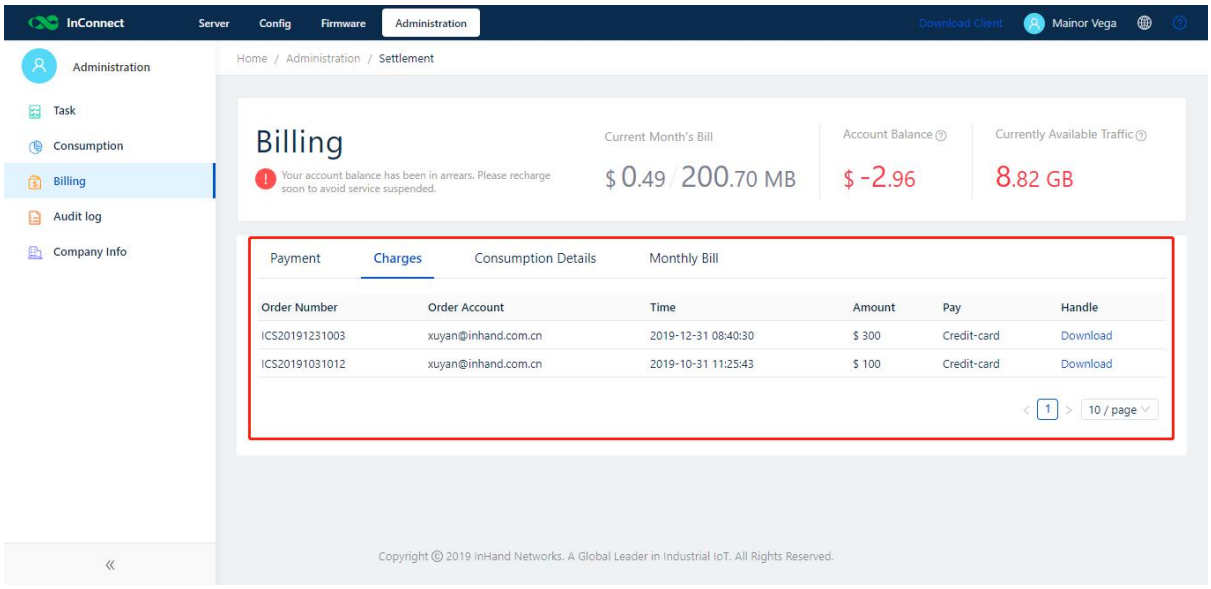
On the **Billing** page, you can recharge the account for the networking services provided by InConnect. Before payment, you must agree with the Payment Terms:



Note

To ensure normal service connection, InConnect provides a 10-GB traffic credit. If you do not recharge your account after the 10-GB traffic credit is used up, your InConnect service is suspended. After you recharge your account to the traffic credit, your service is restored immediately.

After recharging, you can view your charges details on the **Charges** tab page or download the recipient to view your order details. InConnect updates your usage logs periodically on the **Billing** page based on your usage. It sends a monthly bill through email on the first day of each month, indicating your traffic usage and billing information of the previous month:



6.3.4. Company Information

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

6.3.5. Log

You can view login and operations records of InConnect on the page of **Audit Log**.

7. FAQ

Q1: How many user accounts and routers can I add to one InConnect account?

A1: You can add a maximum of 4,000 user accounts and routers. You can connect a maximum of 254 downstream devices to each router.

Q2: Is it billed by bandwidth or by traffic?

A2: It is billed by traffic at a unit price of USD 2.5/GB.

Q3: What is the minimum monthly traffic for a router when it does not generate any traffic data and the network is normal?

A3: About 30-40 MB.

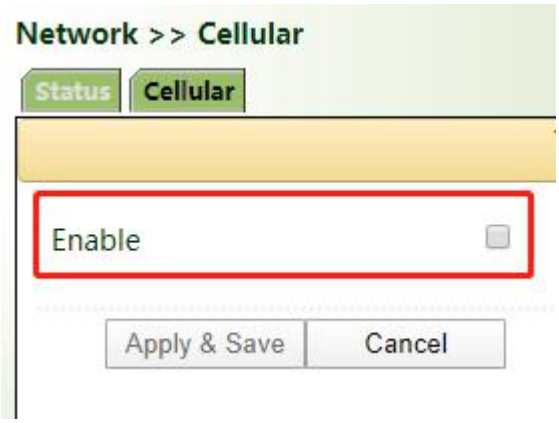
Q4: Where is the InConnect server deployed? Amazon in the U.S. or Amazon in China?

A4: For users inside China, the server is deployed in Amazon in China. For users outside China, the server is deployed in Amazon in the U.S.

8. Appendix Router Networking

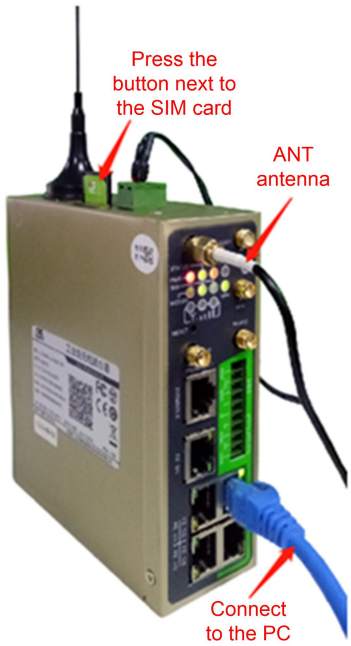
The following takes IR915 as an example. For details about networking of other devices, see the hardware user manual or visit https://www.inhandnetworks.com/.

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



8.1. Method 1: Access the network through dial-up or SIM card

1. Insert the SIM card to the slot 1 and tighten the 4G LTE antenna to the ANT terminal.

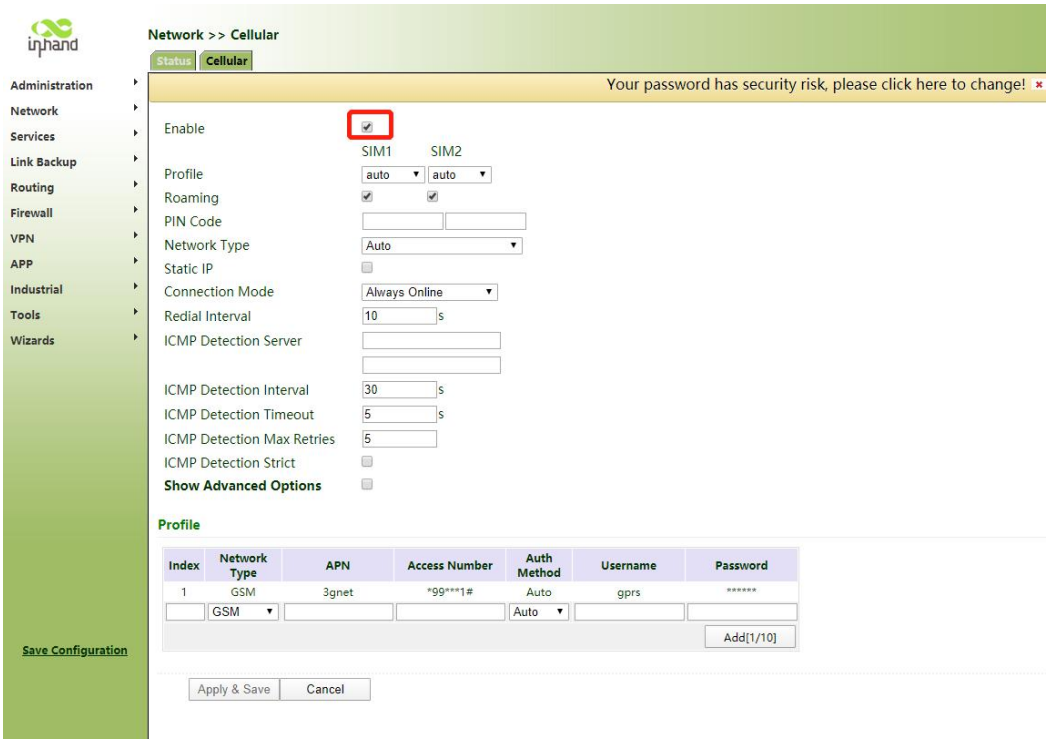


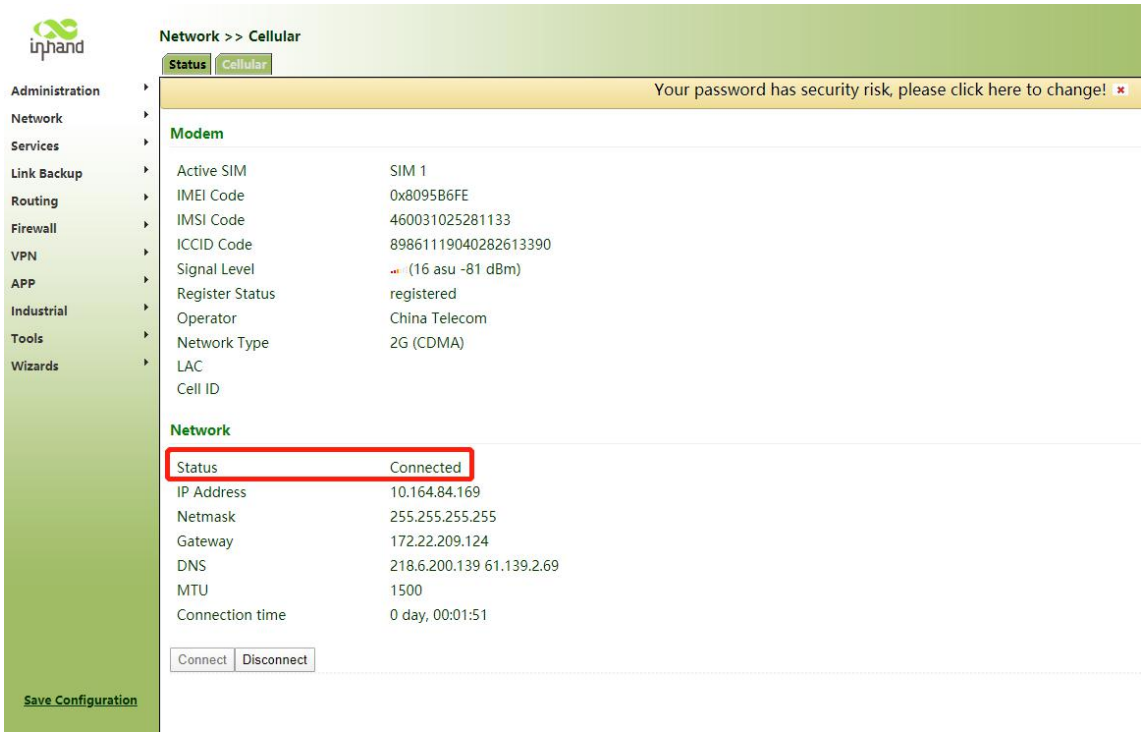
Note

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.

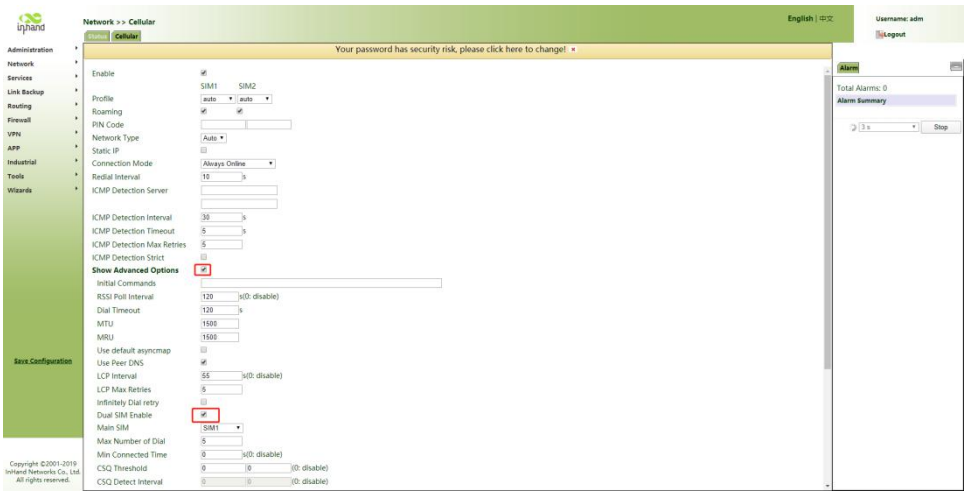
2. Open the browser and log in to the device. (See Method 2: Ethernet).

3. Choose **Network** >> **Cellular** >> **Enable**. Wait until the network connection status is **Connected** and an IP address is allocated. Then, the network is connected through the SIM card. If a private network card is still used, fill in the dial-up parameter set.



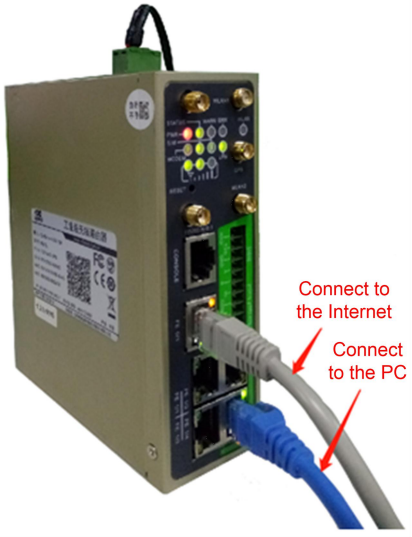


4. When two SIM cards are inserted to the device, select **Dual SIM Enable**.



8.2. Method 2: Ethernet

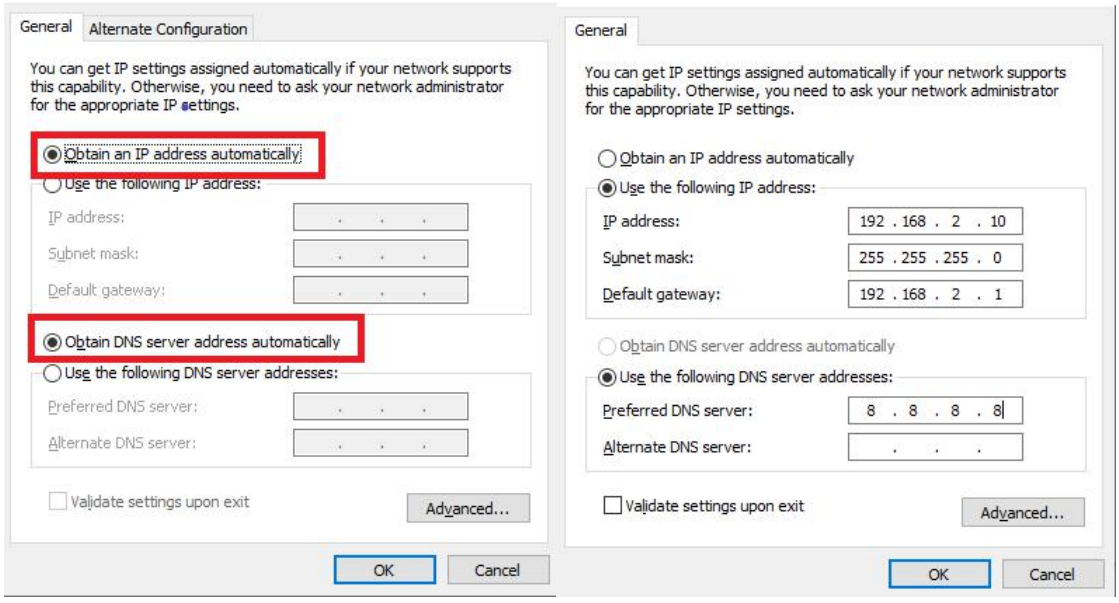
1. Connect the LAN (FE 1/1 or GE1/1) port to a PC and the WAN port to the Internet.



2. Set the IP addresses of the PC and router to be in the same network segment.

Method 1: Automatically get the IP address (recommended)

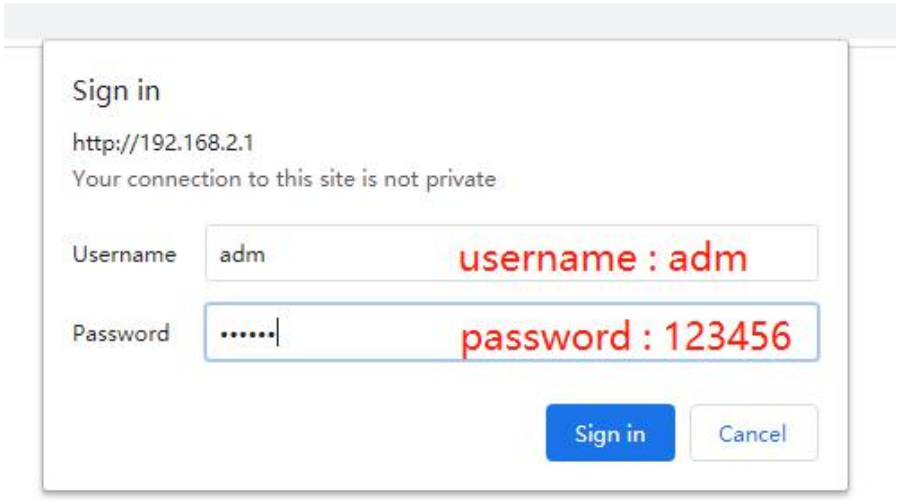
Method 2: Use a fixed IP address. Set the EF/GF ports of the PC and router to be in the same network segment. Set the initial IP address of the router to 192.168.2.1 and the subnet mask to 255.255.255.0. Select **Use the following IP address**. Enter an IP address ranging from 192.168.2.2 to 192.168.2.254,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



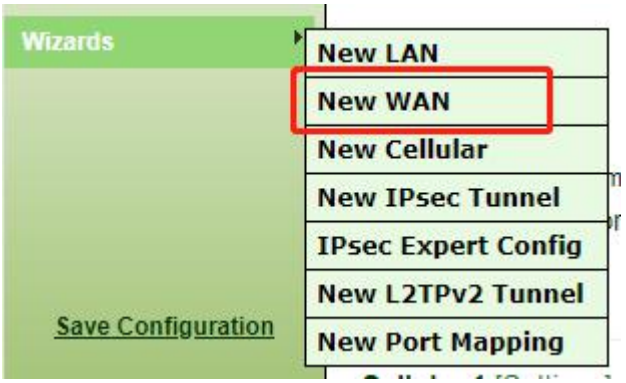
Automatically get the IP address Use a fixed IP address

3. In the address bar of the browser, enter the default gateway address 192.168.2.1 to enter the gateway web login page.

4. Enter the username and password and then click **Sign In**.

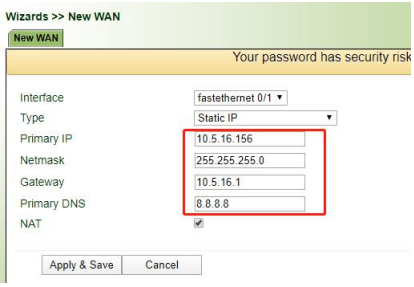


5. Choose **Network** >> **New WAN**. Configure an IP address for the WAN port to connect the router to Internet.



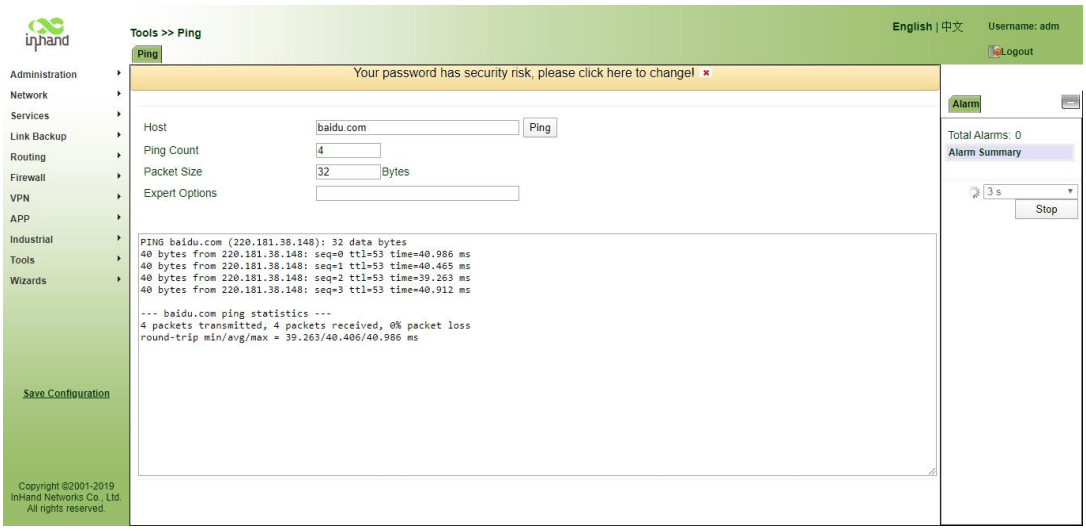
6. We recommend that you select **Dynamic Address (DHCP)**. If you select **Static IP Address**, manually configure the network parameters and then save the configuration.

Dynamically allocate the IP address



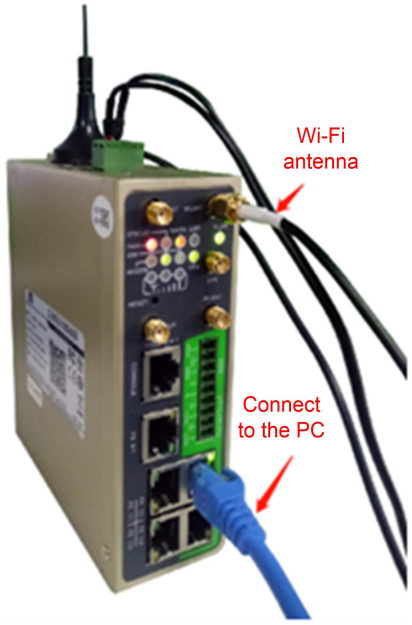
Configure parameters of the static IP address

7. Choose **Tools** >> **Ping**. In the **Host** field, enter a common Chinese website to test whether the router can connect to the Internet. If the following figure is displayed, the router can connect to the Internet.



8.3. Method 3: Wi-Fi

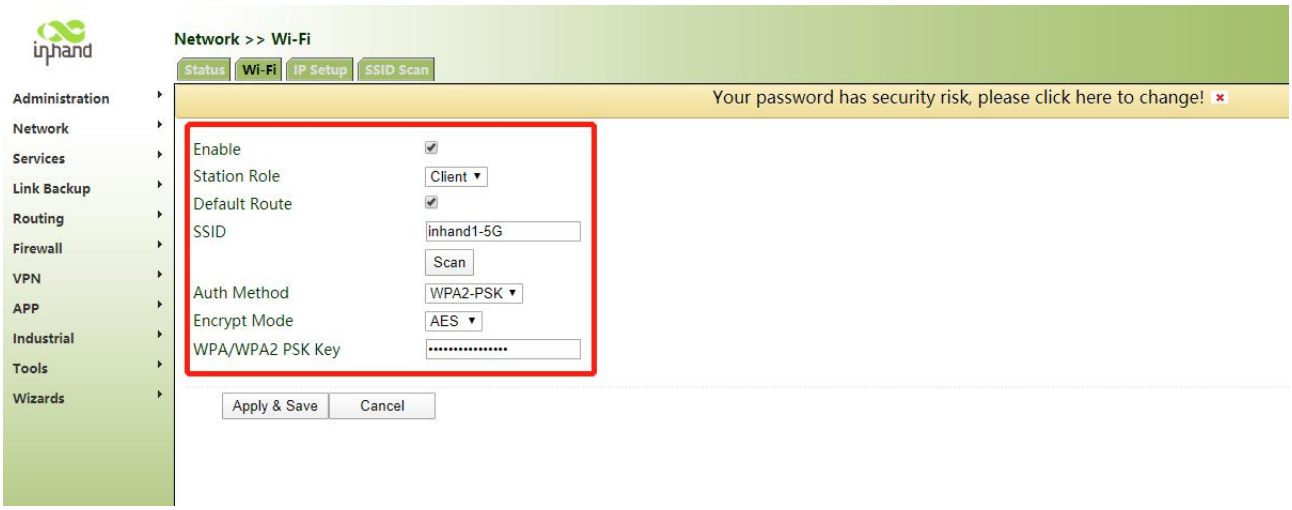
1. Use a network cable to connect the PC to the gateway LAN port, and connect the Wi-Fi antenna to the WLAN1/2 port.



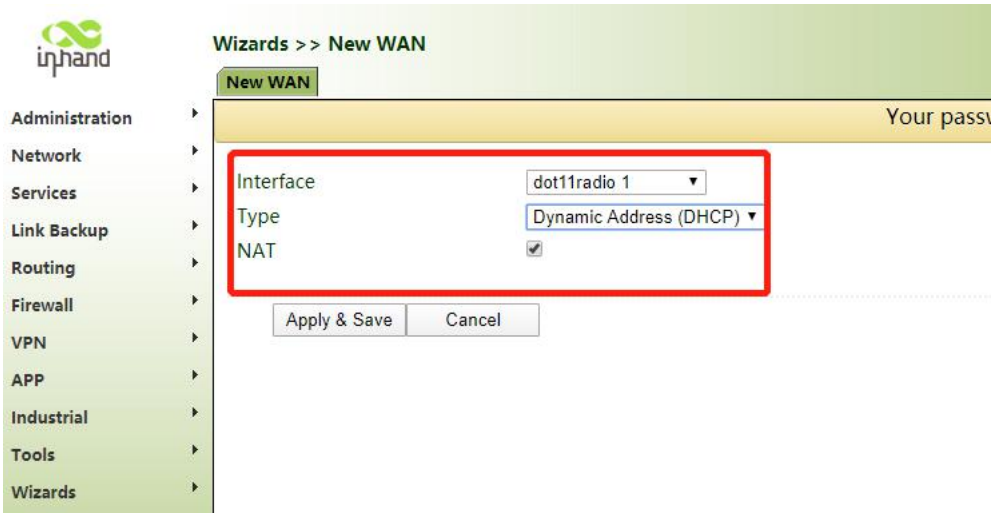
2. Set the IP addresses of the PC and the router to be in the same network segment. (See Method 2: Ethernet).

3. Access the device web management page. (See Method 2: Ethernet).

4. Choose **Network** >> **WLAN**, select **Client** from **Interface Type**, enter the Wi-Fi parameters, and then click **Apply & Save**. Click the **Status** tab. The network connection status is **Connected**.



5. Choose **Wizards** >> **New WAN**, and configure the parameters as follows:



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