WiController User Manual

Applicable Model:

- Wisnetworks Indoor Access Point Series
- Wisnetworks SMB series
- Wisnetworks CPE series
- Wisnetworks Base Station series
- Wisnetworks Bridge series

Release Version 1.0
Firmware version: 1.0.0271
www.wisnetworks.com
support@wisnetworks.com

This document contains information that is proprietary to Wisnetworks Technologies. No part of this publication may be reproduced, modified, or distributed without prior written authorization of Wisnetworks Technologies Co,. Ltd. This document is provided as is, without warranty of any kind.

Statement of Conditions

The information contained in this document is subject to change without notice. Wisnetworks shall not be liable for errors contained herein or for incidental or consequential damage in connection with the furnishing, performance, or use of this document or equipment supplied with it.

Information to User

Any changes or modifications of equipment not expressly approved by the manufacturer could void the user's authority to operate the equipment and the warranty for such equipment.

Contents

1. Application

This guide is to help you know and configure WiController. Firstly learn about application scope of WiController.

WiController supports the following devices,

- Wisnetworks Indoor Access Point Series
- Wisnetworks SMB series
- Wisnetworks CPE series
- Wisnetworks Base Station series
- Wisnetworks Bridge series

2. Installation Preparation

2.1 System Requirements

WiController is a kind of PC software running on X86 architecture, based on B/S architecture and built-in database system.

System and hardware configuration:

OS: Windows7 Professional or above, Windows Server 2003 or above

CPU: Intel core i3 or above (or same performance AMD CPU)

Memory: 2 GB or above

Disk: 10 GB or above

Display: 1440 x 900 or above

Browser: Google Chrome suggested. IE 9 version or above, compatible with Firefox

Attention: For different browser with different compatibility, please change browser when have incompatibility problem.

2.2 Installation Process

Open install software WiController_install.exe, enter setup interface, as Figure 2-1.

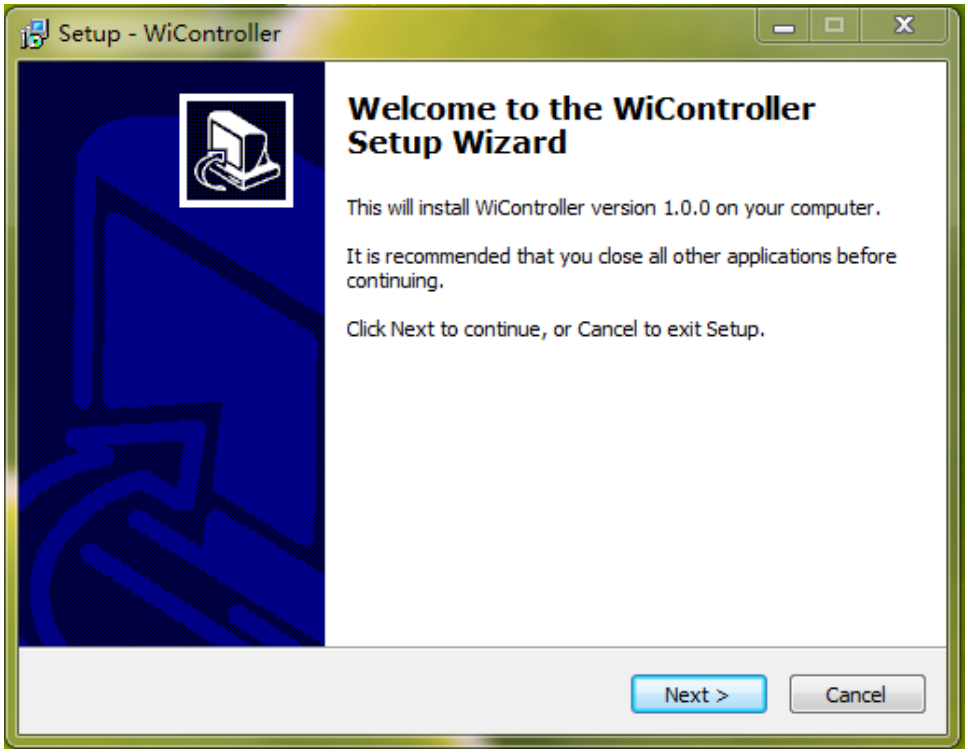


Figure 2-1

Click “Next”, enter setup interface, select destination location, click “Next”, or default location and directly click “Next”, as Figure 2-2.

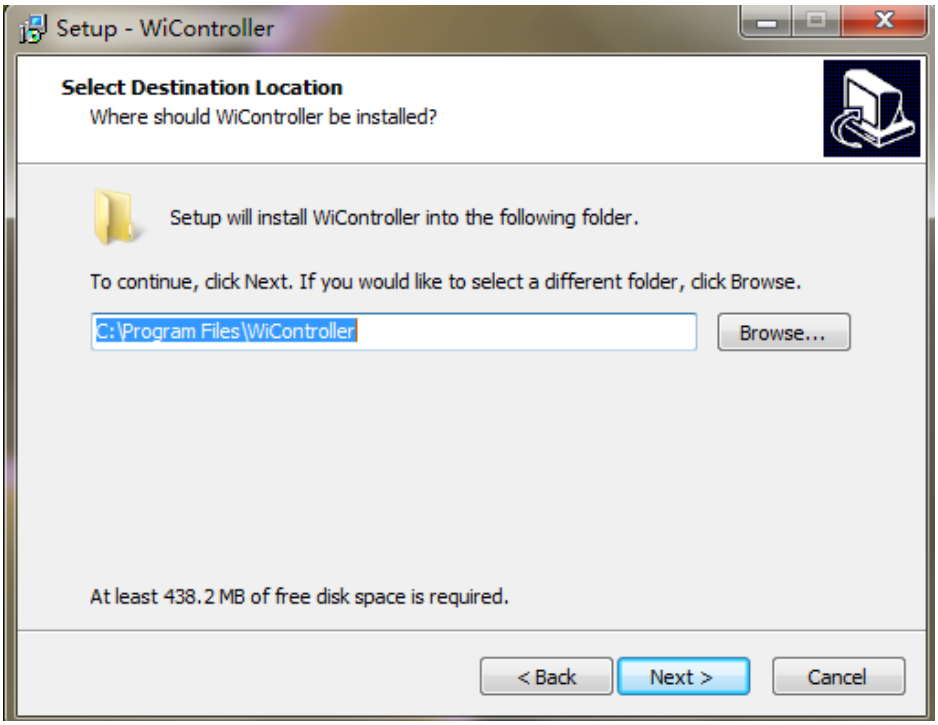


Figure 2-2

Select Start Menu folder, generally the default. If select a different folder, click “Browser” and click “Next”, as Figure 2-3.

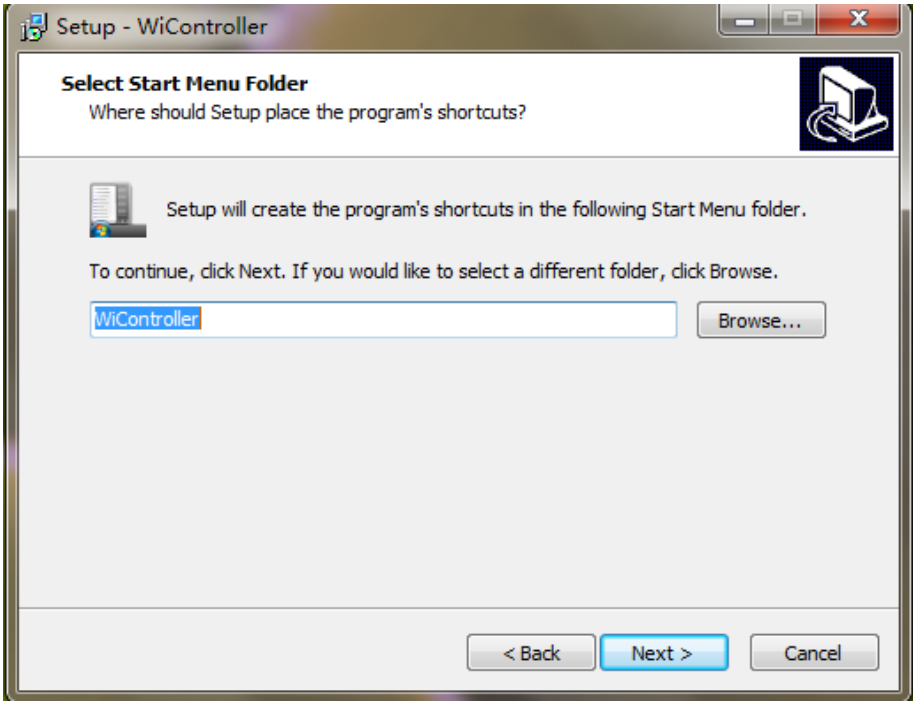


Figure 2-3

Enter setup interface, and show previous settings information, such as destination location. Then check and click “Install”, as Figure 2-4.

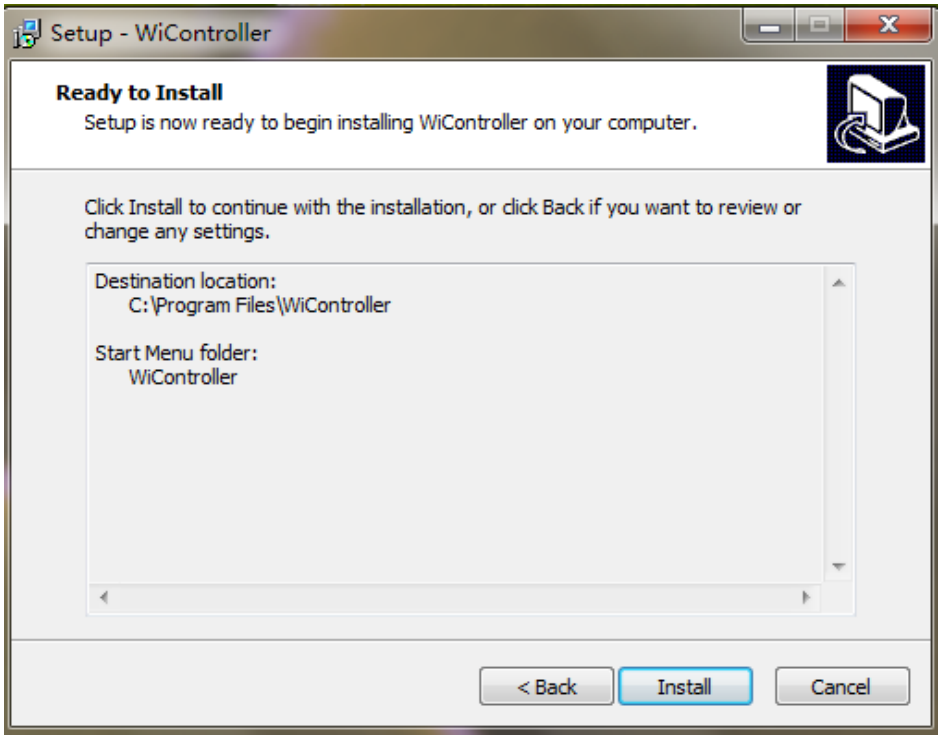


Figure 2-4

When installing, it will pop up message of installing plug-in, including VC++2008 (Figure 2-5), VC++2010 (Figure 2-6) and WinPcap (Figure 2-7). Like other installation, follow the instructions and install.

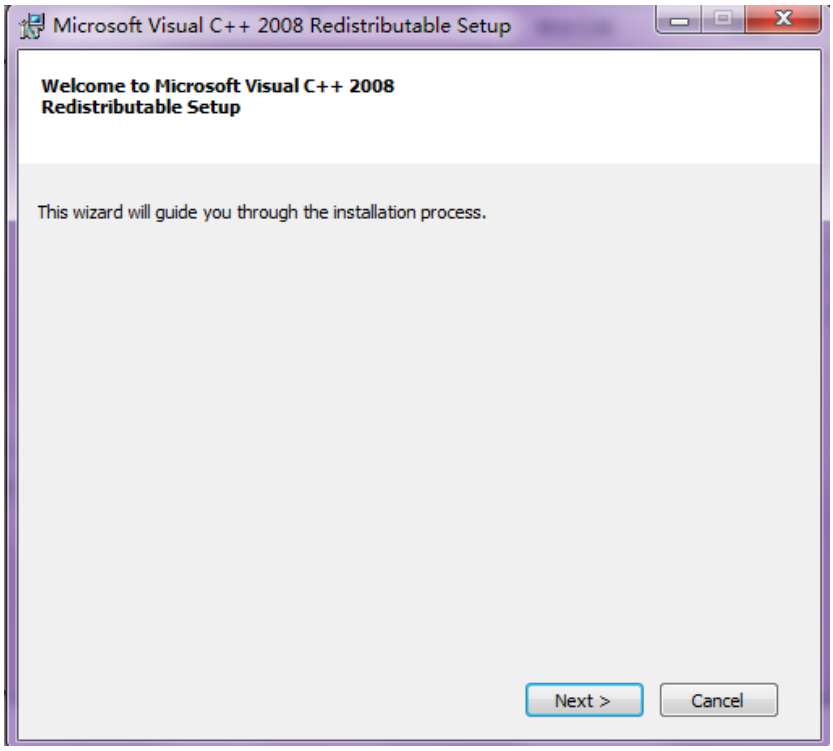


Figure 2-5

Figure 2-6

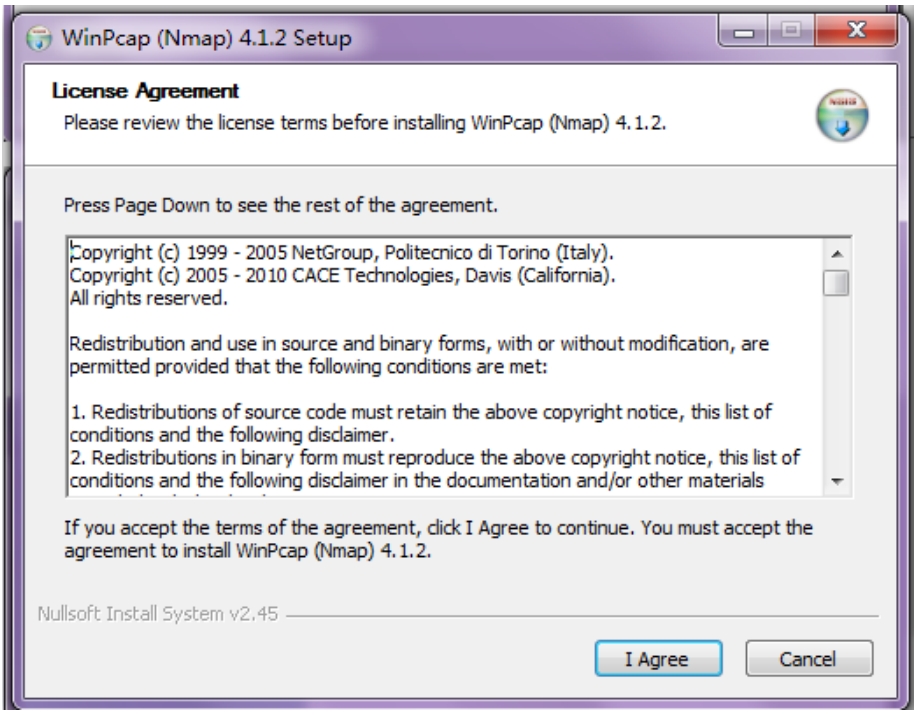


Figure 2-7

Then pop up message f services starting successfully, as Figure 2-8 .

Figure 2-8

When all files are installed successfully, click “Finish” (Figure 2-9), and WiController is installed. Then Restart PC and WiController can go smoothly.

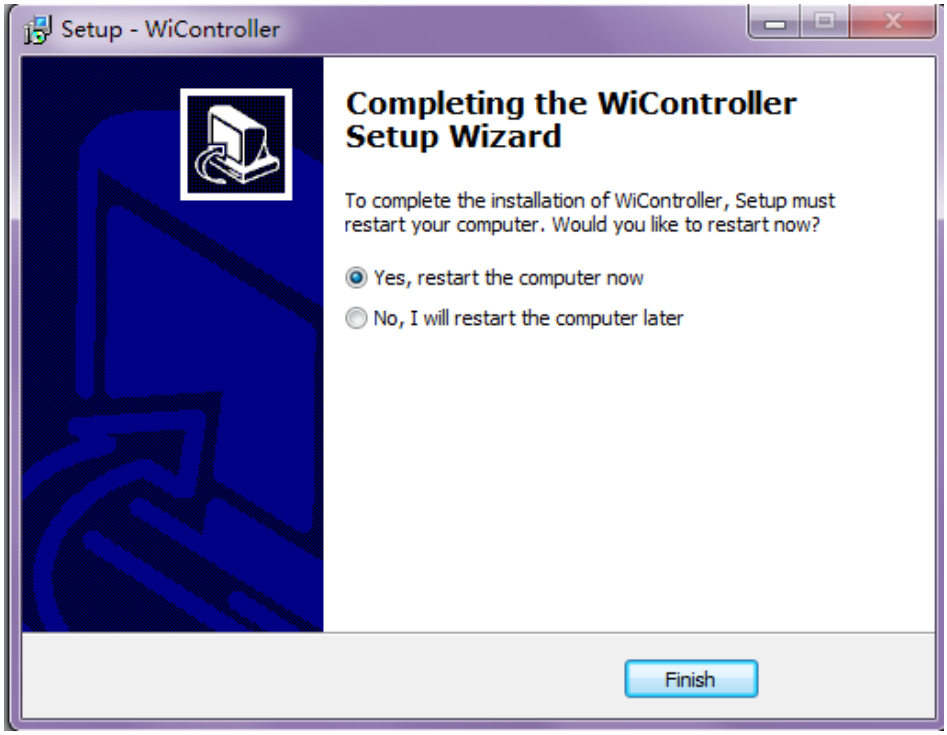


Figure 2-9

Attention:

Before installation, ensure that TFTP service of PC is not open. Because install package contains TFTP service, or an error will occur for service conflict;

1. Change program file pythonw.exe as administrator (\Program Files\WiController\Python27\pythonw.exe);

2. Change program file OpenTFTPServerOpenTFTPServerMT.exe as administrator (\Program Files\ WiController \OpenTFTPServerOpenTFTPServerMT.exe).

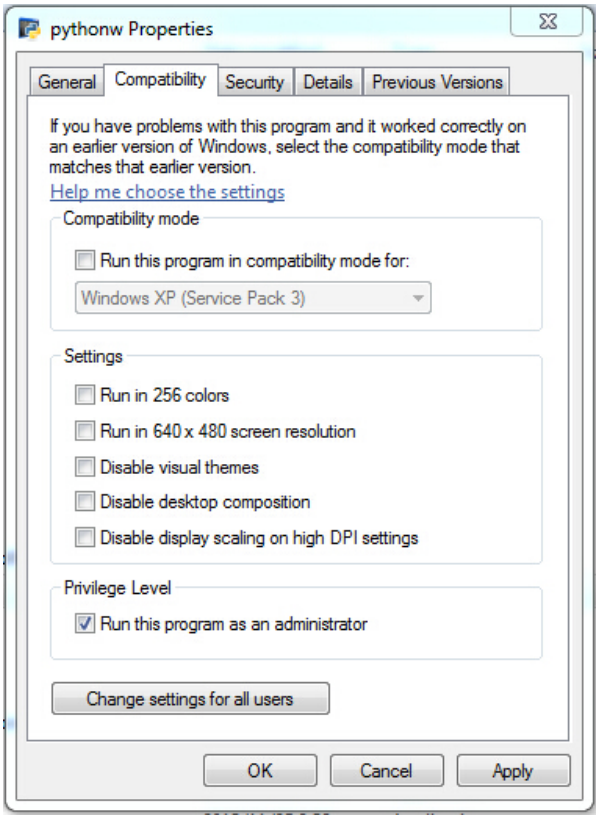


Figure 2-10

3. Configuration Instruction

Network:

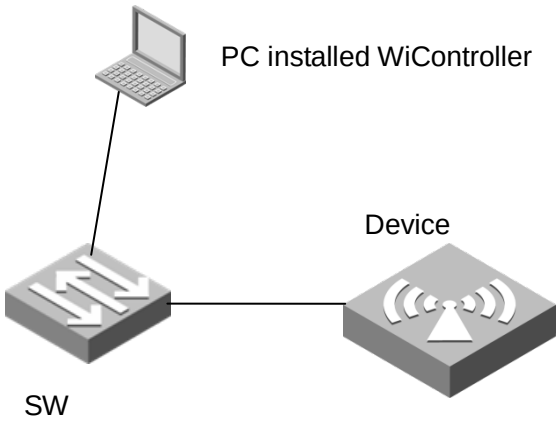


Figure 3-1

Operating Steps:

Enter http://localhost:8080/ in the browser and go into the login page of WiController, as Figure 3-2, the default name/password is admin，click “Login” and go into management system of WiController.

Figure 3-2

3.1 Navigation

In Devices Tree, when different devices need to be managed, build several nodes and every node can manage some devices due to location, such as, under the node Lobby, it is device WIS-Q2300; under the node Room, it is other radios. Users can divide nodes according to reality.

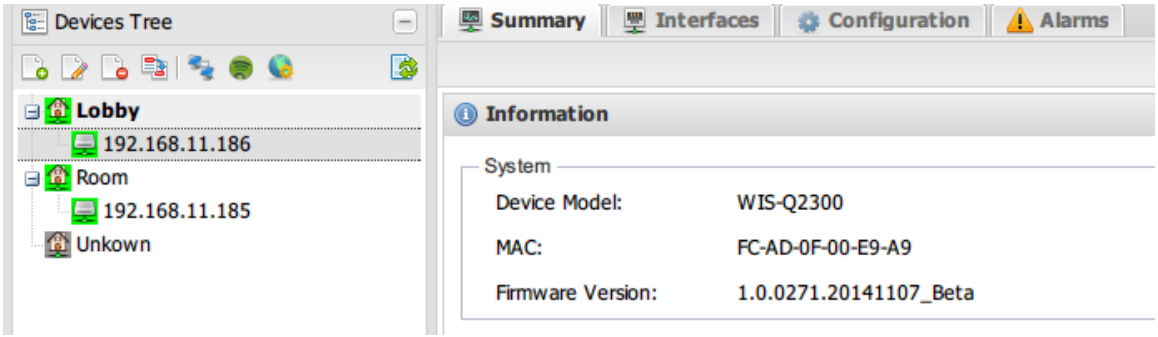


Figure 3-3

Menu includes device management and system management (Figure 3-4). Specific functions will be introduced in the following.

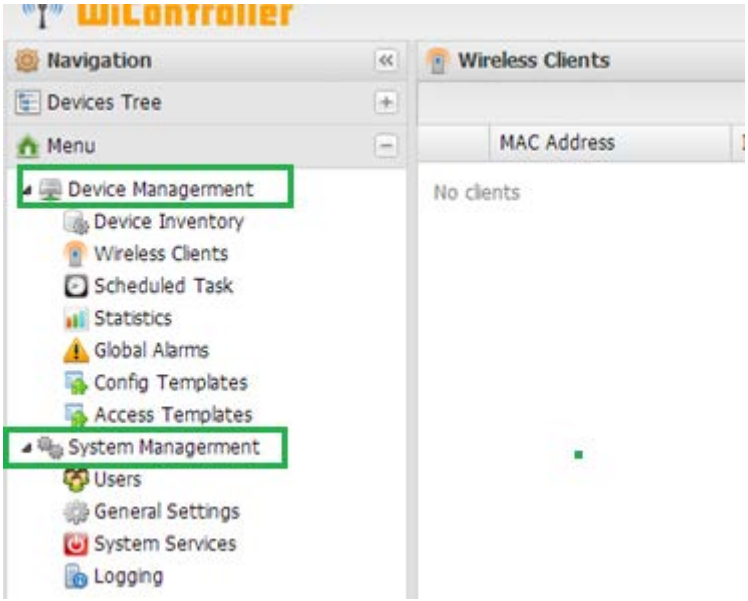


Figure 3-4

3.2 Discovering manually and managing AP

In “Discover the device” of “Device Inventory”, configure scan task. Here introduce the meanings of every setting.

Scan Type: scan by subnet and by IP address range;

Subnet/mask: configure subnet（configure when choose scanning by subnet , as Figure 3-5）;

Start IP: configure start IP（configure when choose scanning by IP address range, as Figure 3-6）;

End IP: configure send IP（configure when choose scanning by IP address range, as Figure 3-6）;

Access template: configure access SNMP template, generally the default template;

Add to district: add to district, as Figure 3-5, add the discovered device to Lobby;

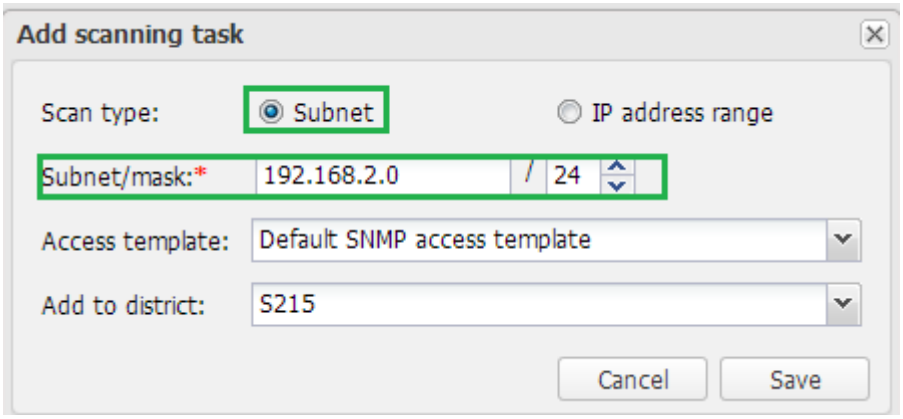


Figure 3-5

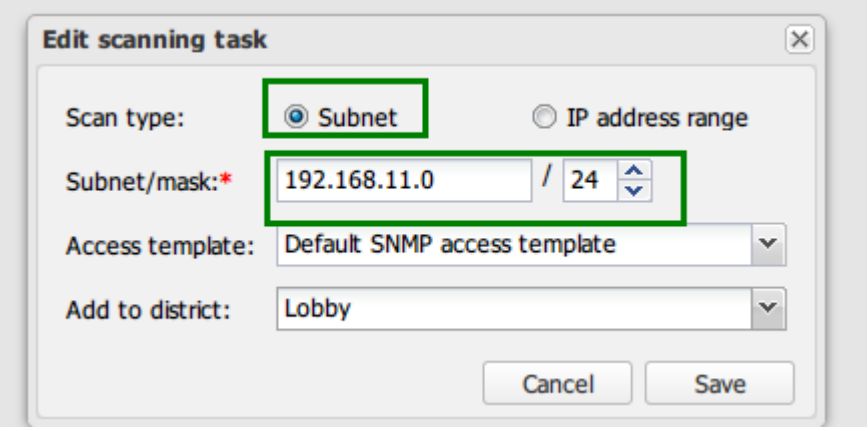


Figure 3-6

After scanning, it will reminder which devices are consistent, or not consistent, as Figure 3-7.

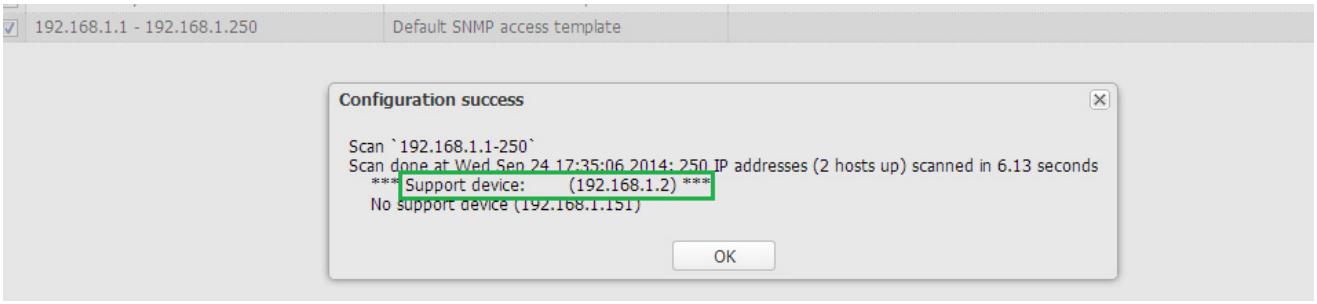
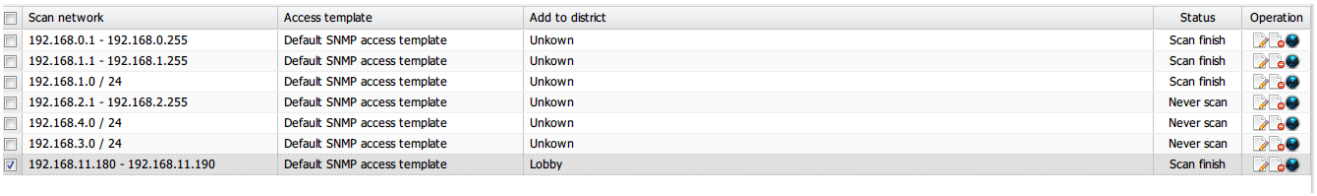


Figure 3-7

After scanning by subnet, the same as scanning by IP address range discover devices. The scanning result is the same as Figure 3-8.



Scan network	Access template	Add to district	Status	Operation
192.168.0.1 - 192.168.0.255	Default SNMP access template	Unkown	Scan finish	
192.168.1.1 - 192.168.1.255	Default SNMP access template	Unkown	Scan finish	
192.168.1.0 / 24	Default SNMP access template	Unkown	Scan finish	
192.168.2.1 - 192.168.2.255	Default SNMP access template	Unkown	Never scan	
192.168.4.0 / 24	Default SNMP access template	Unkown	Never scan	
192.168.3.0 / 24	Default SNMP access template	Unkown	Never scan	
192.168.11.180 - 192.168.11.190	Default SNMP access template	Lobby	Scan finish	

Figure 3-8

3.3 Discovering automatically and managing AP

Configure option 43 function at the switch linked with the device. Start the device and automatically add to NMS, then the system could manage devices. For example H3C switch, here introduce configuration of option 43.

In the mode of DHCP server address view, configure the followings:

option 43 hex 80 07 00 00 01 XX XX XX XX

1) Hex shows hex input;
2) 80 shows IP address;
3) 07 shows the following byte length;
4) 01 shows the number of server. If only one destination server, it is 01;
5) XX XX XX XX shows server IP address, using hex to represent it. For example: option 43 hex 80 07 00 00 01 C0 A8 01 97, server IP address is 192.168.1.151.

3.4 AP Configuration

In the devices Tree, click the device online, as Figure 3-9, check summary, interfaces, configuration, and

alarms.

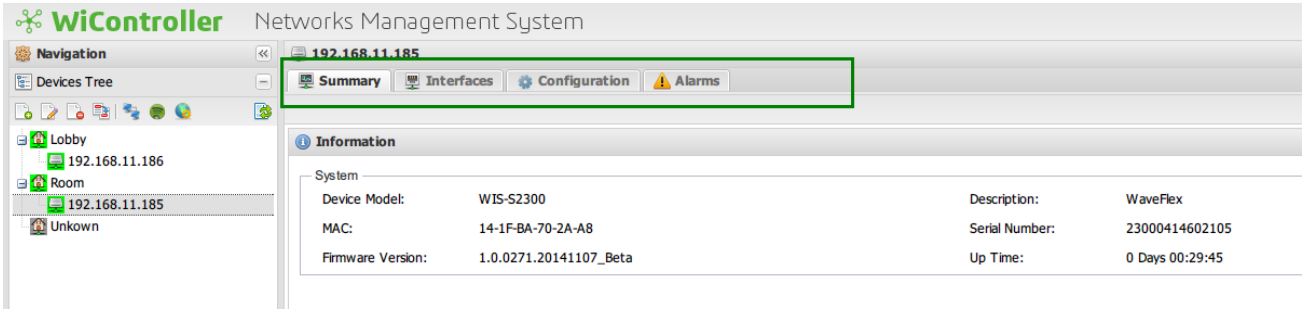


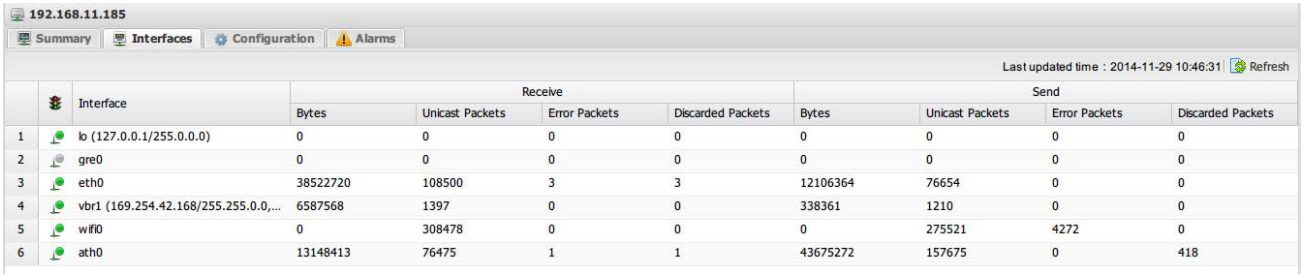
Figure 3-9

3.4.1 Summary

It shows summary of the device, such as device mode, MAC, firmware version, series number and so on, as Figure 3-9.

3.4.2 Interfaces

It shows interfaces of the device, such as unicast packets, discarded packets, error packets, as Figure 3-10.



	Interface	Receive				Send			
		Bytes	Unicast Packets	Error Packets	Discarded Packets	Bytes	Unicast Packets	Error Packets	Discarded Packets
1	lo (127.0.0.1/255.0.0.0)	0	0	0	0	0	0	0	0
2	gre0	0	0	0	0	0	0	0	0
3	eth0	38522720	108500	3	3	12106364	76654	0	0
4	vbr1 (169.254.42.168/255.255.0.0,...	6587568	1397	0	0	338361	1210	0	0
5	wifi0	0	308478	0	0	0	275521	4272	0
6	ath0	13148413	76475	1	1	43675272	157675	0	418

Figure 3-10

3.4.3 Configuration

It shows SNMP information of the device and settings of SNMP, as Figure 3-11.

- **SNMP Configuration**

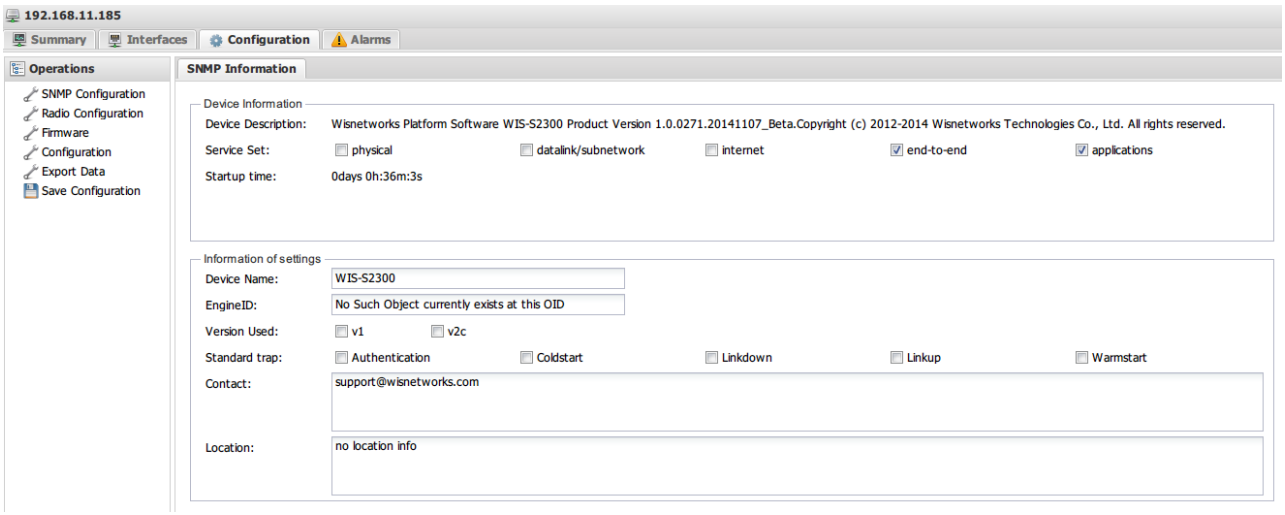


Figure 3-11

- **Radio configuration**

This page is to configure radio, such as working channel, channel width, power, WEP encryption, and so on, as Figure 3-12. The working channel is configured as 153, click “Submit”, and working channel will be sent to the device. The configuration of other parameters is the same as the configuration of channel.

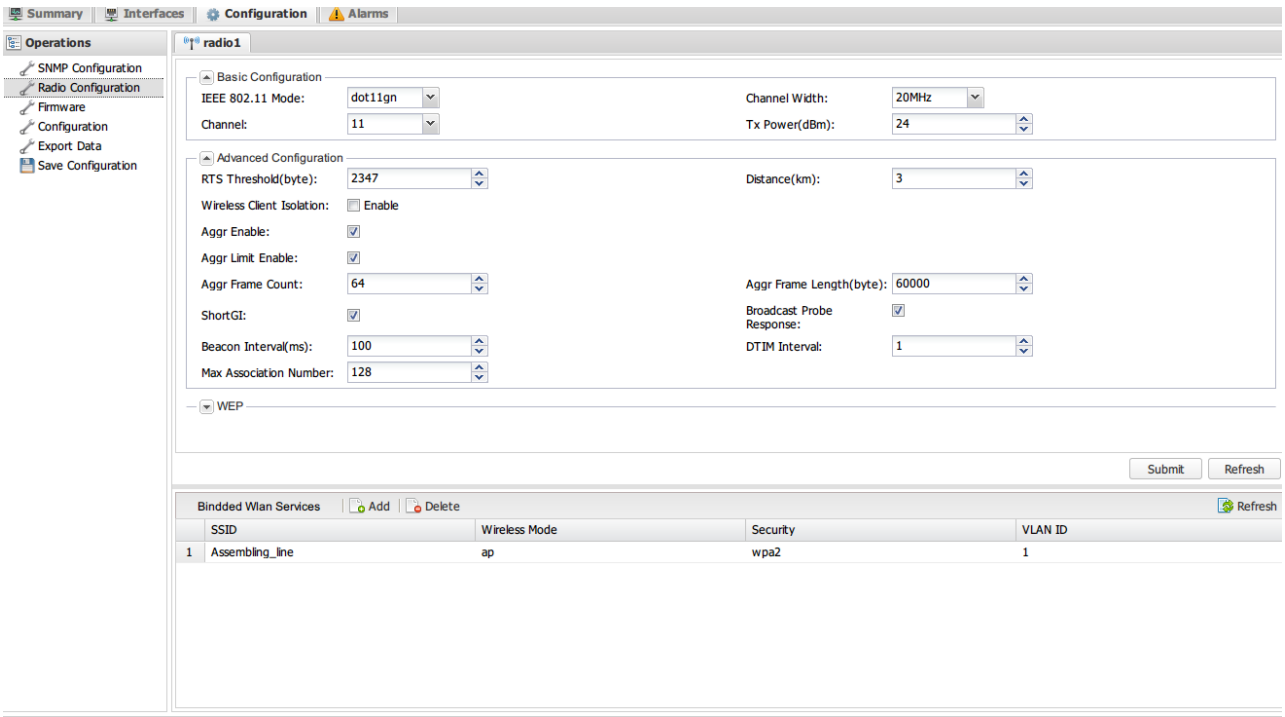


Figure 3-12

As Figure 3-12, in the bottom of the page, it will show information of WLAN services, such as SSID, wireless mode, security and so on.

- **Firmware**

Upgrade one device, as Figure 3-13, click “Select” to select the upgrade file, upload successfully the file and show it in the following list, and then click upgrade button, the device will start to upgrade. When finish upgrading and rebooting the device, it will pop up the message of upgrading successfully, as Figure 3-14.

Figure 3-13

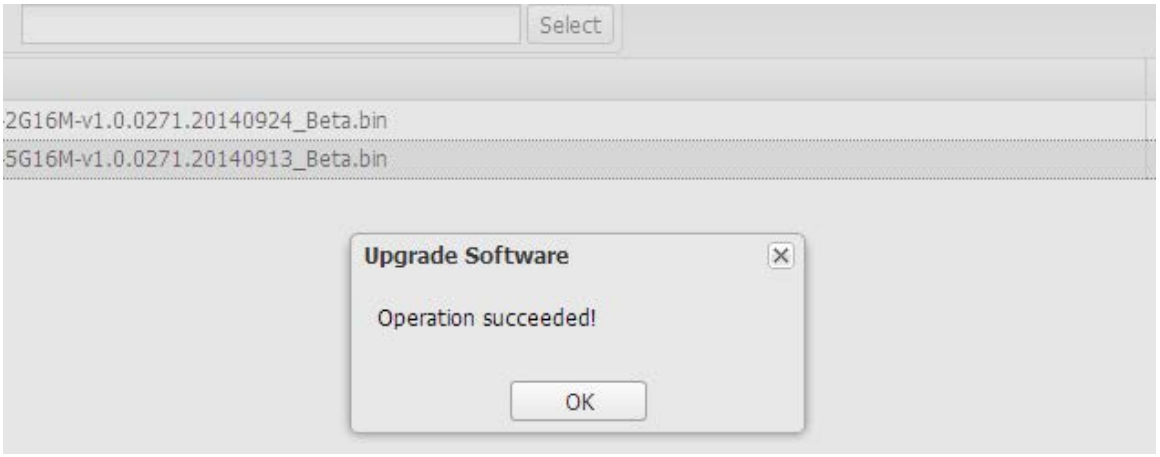


Figure 3-14

- Configuration

Import the file of configuration, as Figure 3-15, click “Select” to select the file from local file, and show the uploaded file in the following list. Click upgrade button, and import configuration file.

Attention: Upgrade page and configuration page are similar. Please check carefully and operate it.

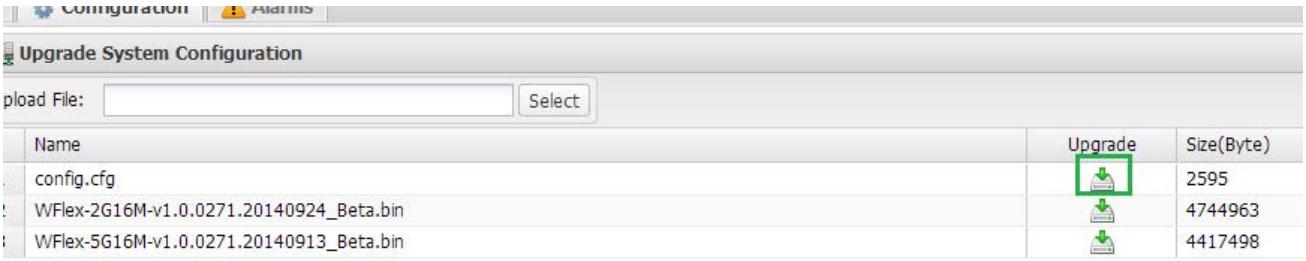


Figure 3-15

- **Export Data**

Click “Export Data” to export data file of the device, as Figure 3-16.

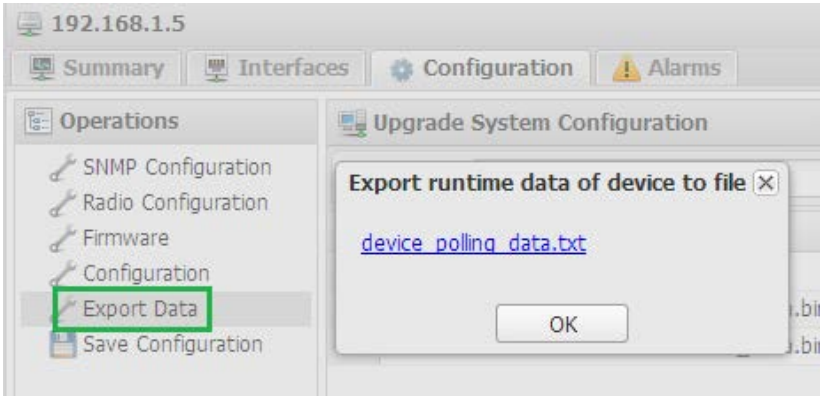


Figure 3-16

- **Save configuration**

Save configuration of the device, as Figure 3-17.

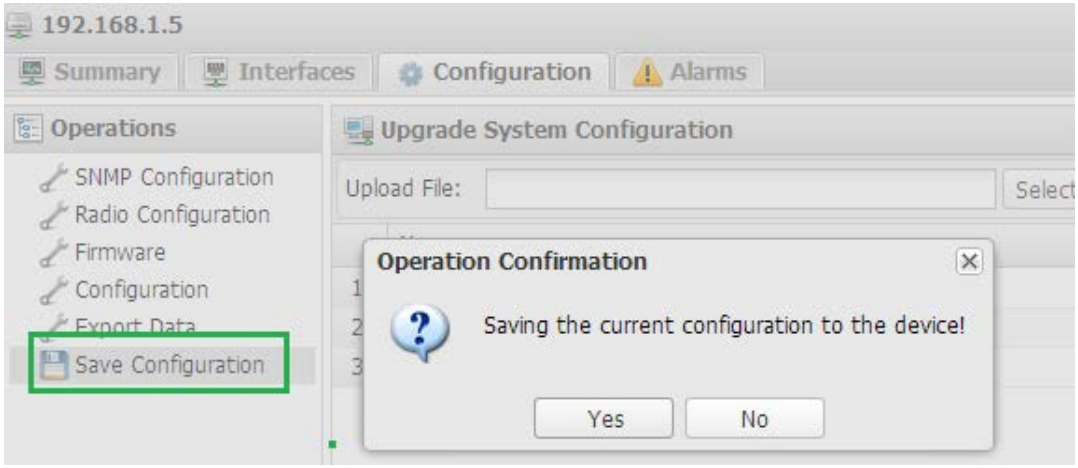


Figure 3-17

3.4.4 Alarms

It shows trop of AP, as Figure 3-18.

Figure 3-18

3.5 Template AP Configuration

Template AP configuration is mainly to add AP templates, WLAN service templates, and filter templates, bind WLAN service templates to AP templates, match the device with AP templates. Then WiController can manage those devices. Specific operation will be introduced in the following.

Add AP template(Figure 3-19), click “add AP template” to configure AP template name, device type, filter rules, and IP range, click “Submit”, and finish adding AP template.

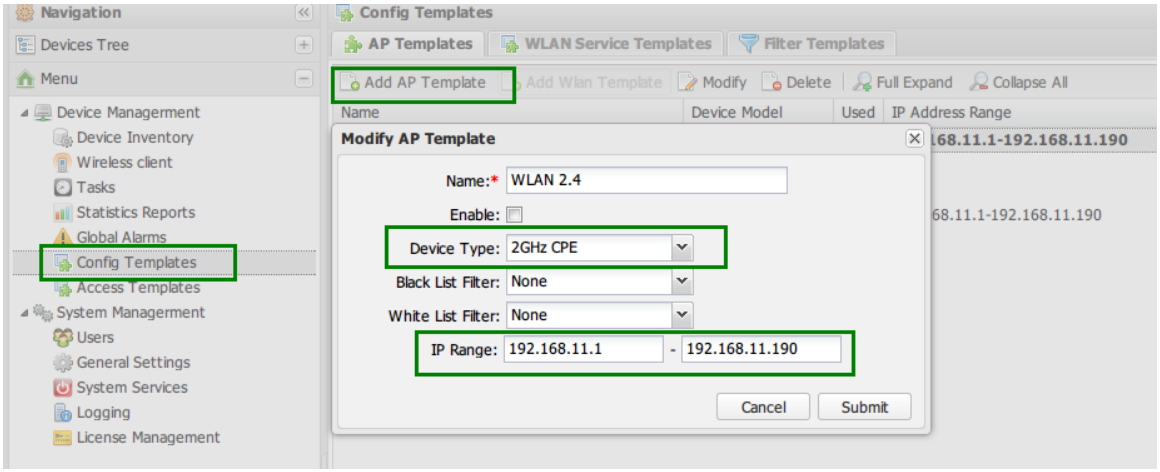


Figure 3-19

Add WLAN service template(Figure 3-20), click “Add ” to configure WLAN template name, SSID, service mode, max client, security, and so on, click “Submit”, and finish adding WLAN service template. As Figure 3-20, here is clear WLAN service, or encrypted WLAN service (WEP/WPA/WPA2) according to reality.

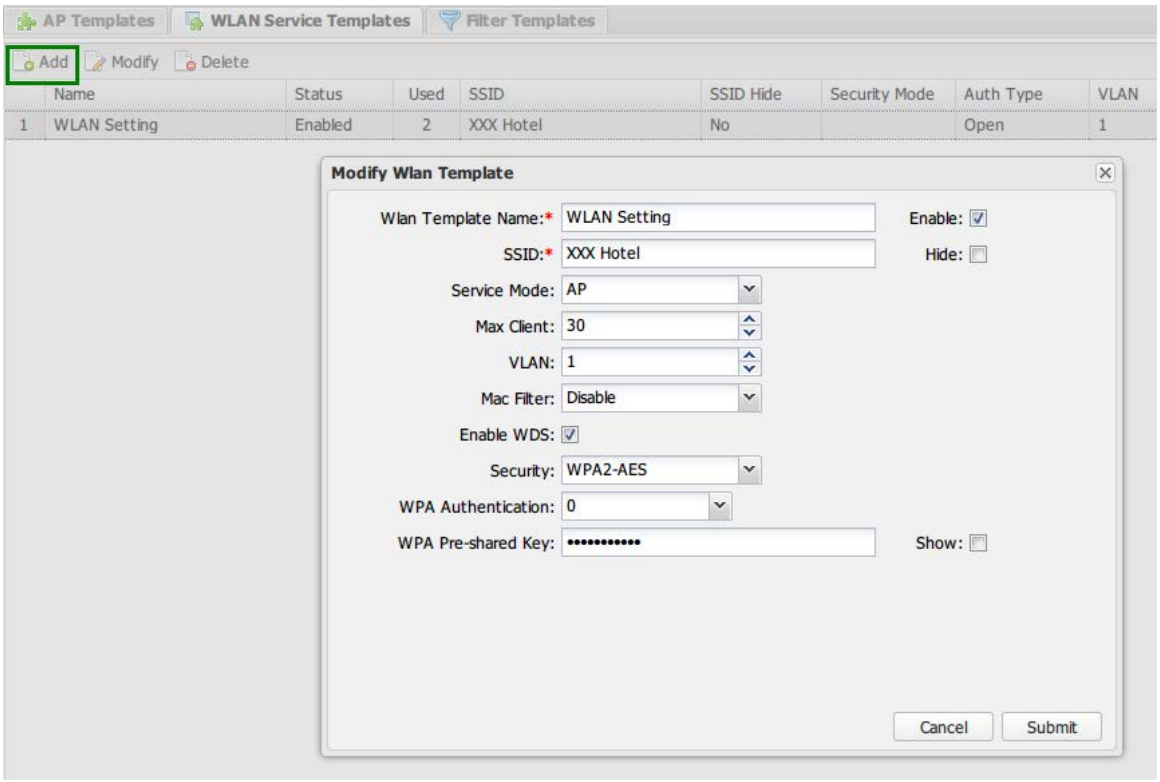


Figure 3-20

Add filter template, click “Add” to configure filter name (Figure 3-21). Add MAC address of the device, as Figure 3-22, click “Add”, configure MAC address, and finish adding filter template.

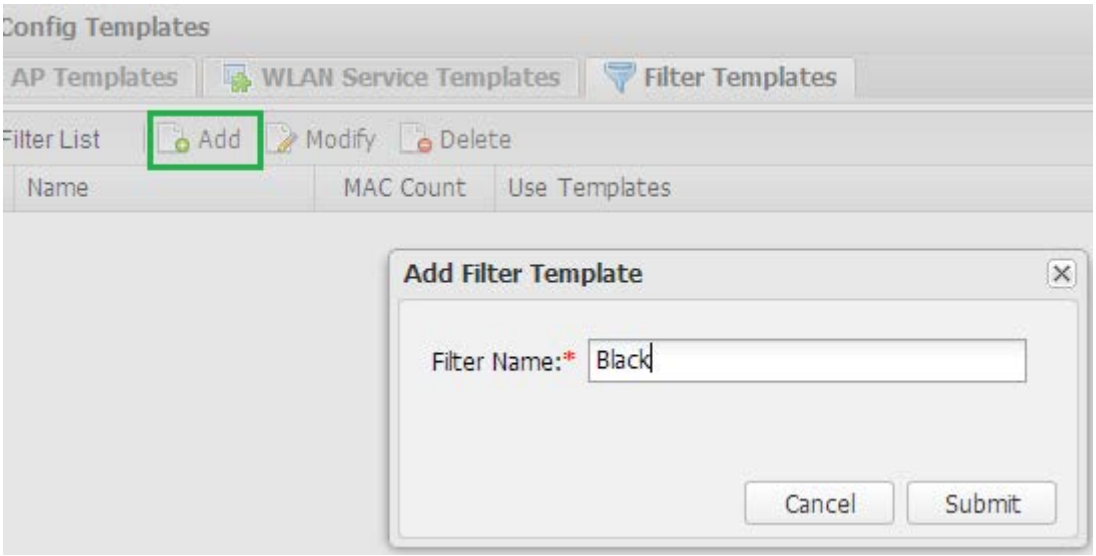


Figure 3-21

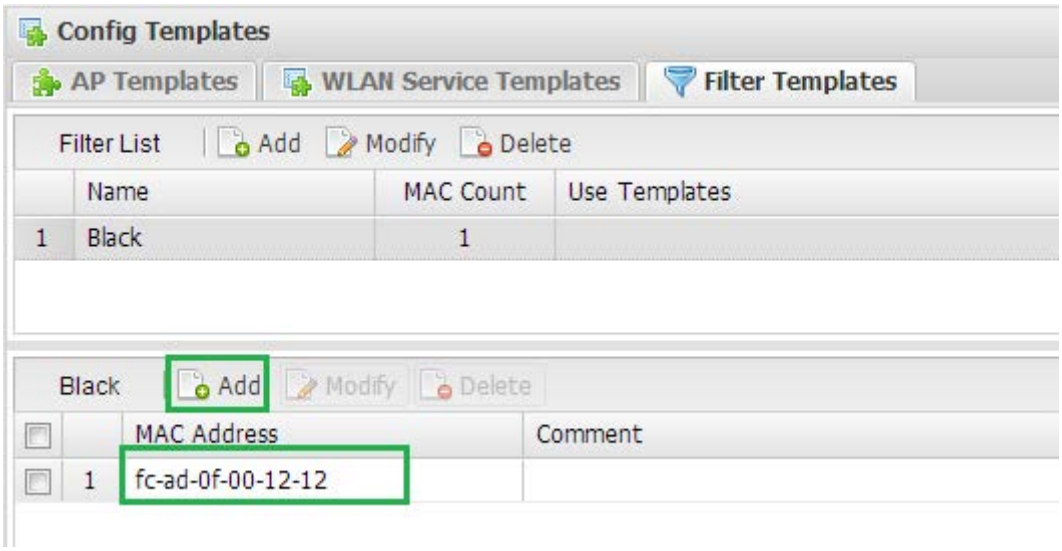


Figure 3-22

Now AP template, WLAN template and filter template are added. Return the page of AP templates, as Figure 3-23, select Radio 1, click “Add Wlan Template” and select added Wlan template, click “Submit” to bind Wlan template to AP template.

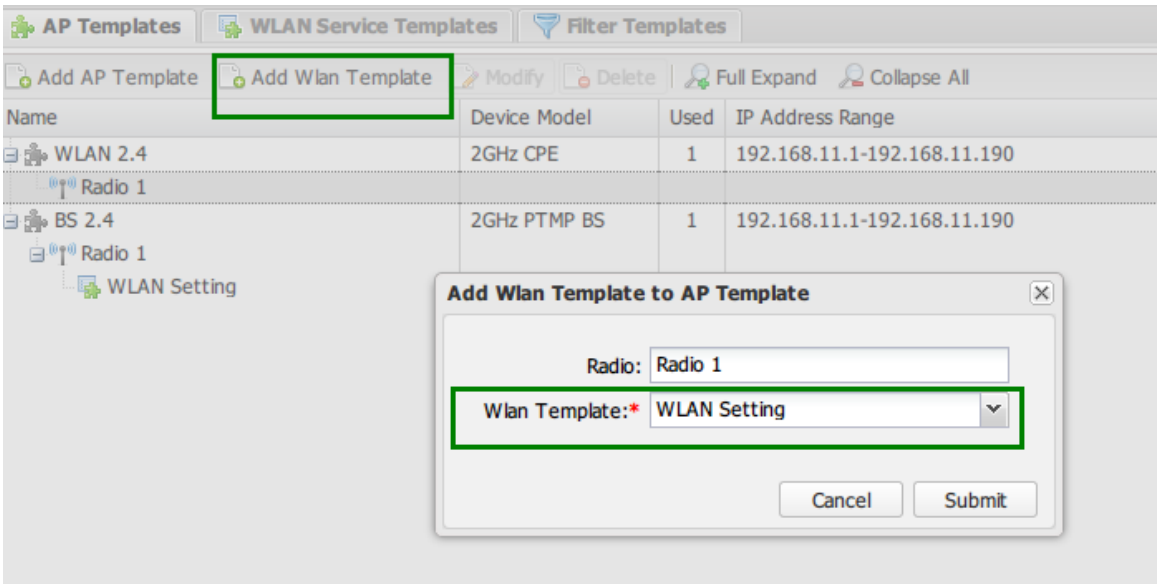


Figure 3-23

Select AP templates, as Figure 3-24, click “**Rescan**”, consistent device is scanned and match automatically with AP templates.

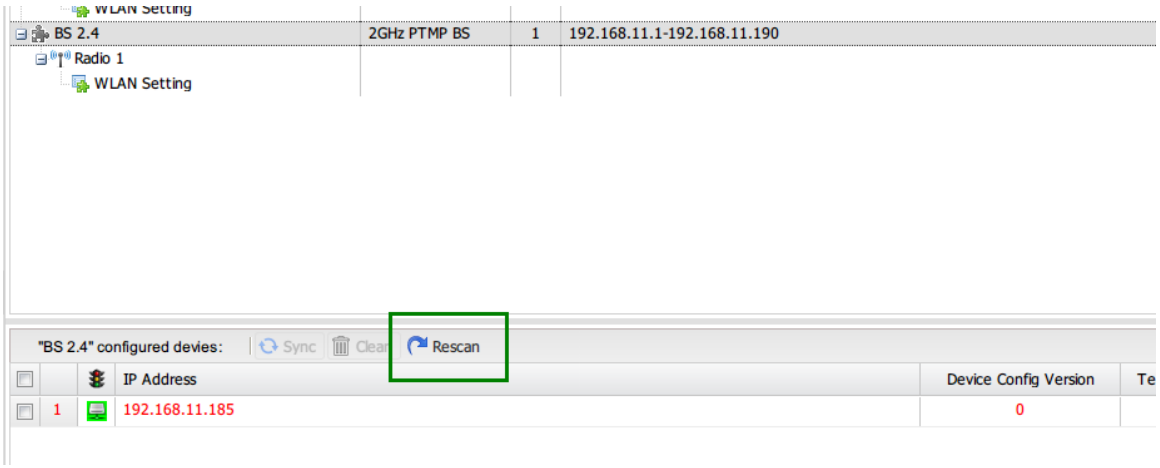


Figure 3-24

When device config version and template config version is inconsistent, the device will be showed red (Figure 3-25). Select the device, click "**Sync**" to sync, and device config version and template config version is consistent, the device will be showed gray (Figure 3-26). Now configuration will be sent to the device.

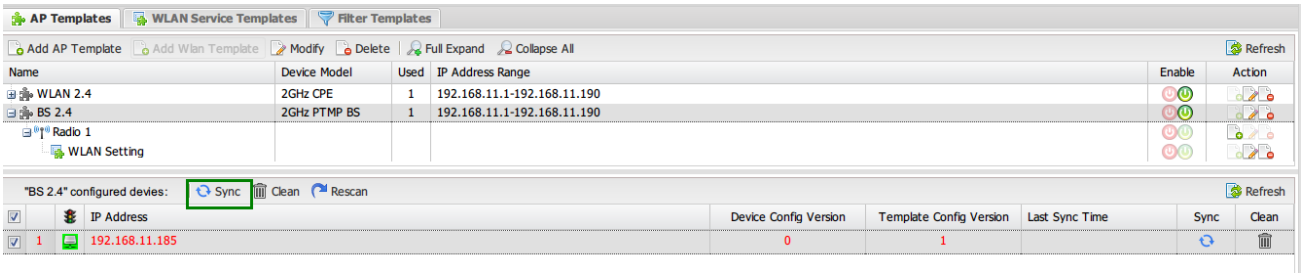


Figure 3-25

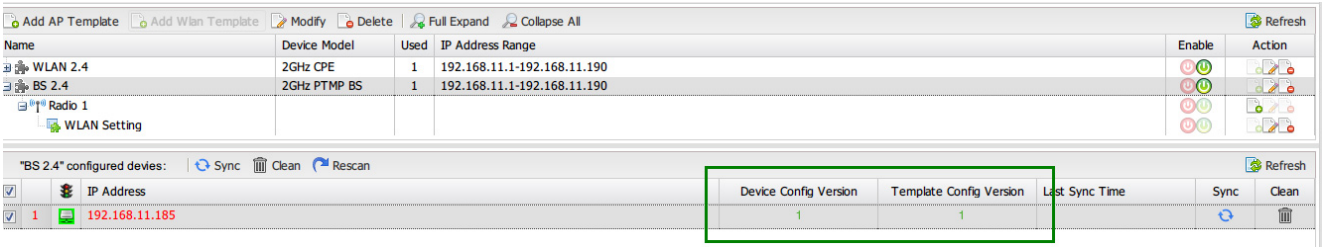


Figure 3-26

Attention: When configure device mode of AP templates, select it according to the reality. If selected mode and true mode are inconsistent, the device cannot match with AP templates.

3.6 Schedule Task

When configure schedule task, multiple devices can be upgraded simultaneously, or rebooted.

In Firmware Files, click “Select” to select device version file and upload to Wicontroller, as Figure 3-27.

Figure 3-27

Click “Add” and pop up message, as Figure 3-28.

Description: describe the task, or null;

Type: task type, with “Upgrade” and “Reboot” two kinds of types;

Firmware: select firmware version. In “reboot”, no need to configure it, as Figure 3-29.

Start Date: configure start date;

Start Time: configure start time;

Active: active or not.

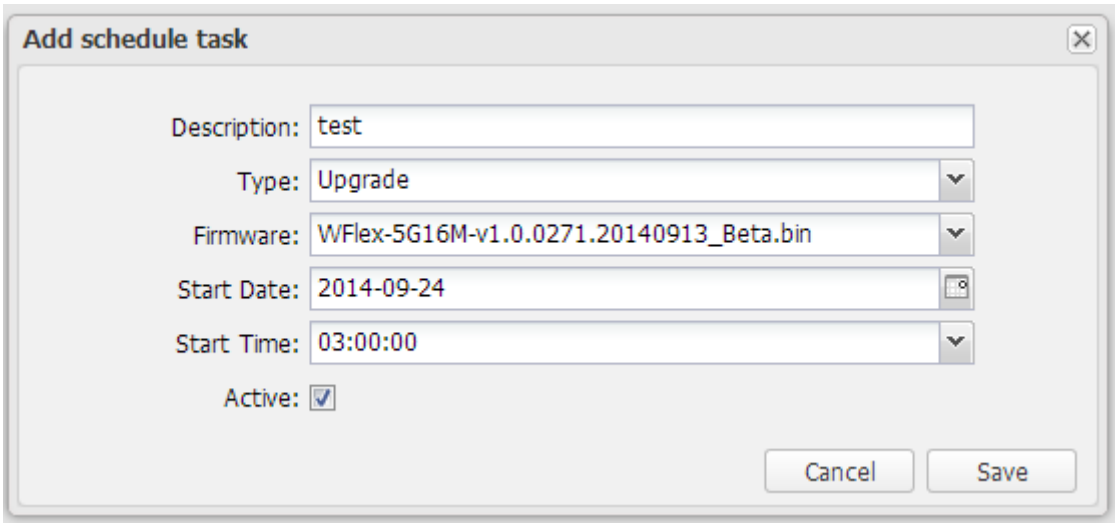


Figure 3-28

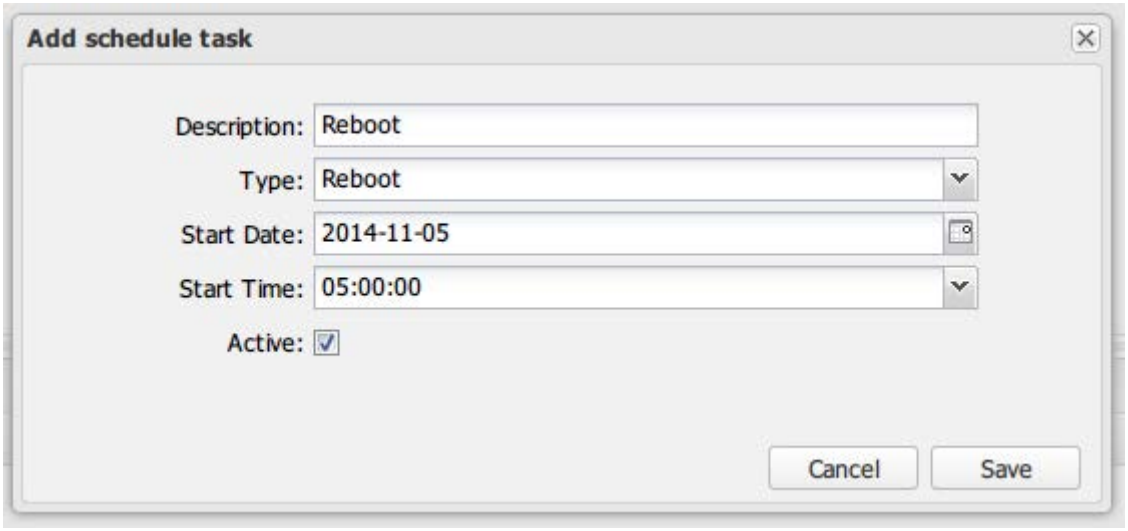


Figure 3-29

Add the device in schedule task. Select the task and click “Add” to add multiple devices. Then added devices can be managed, as Figure 3-30.

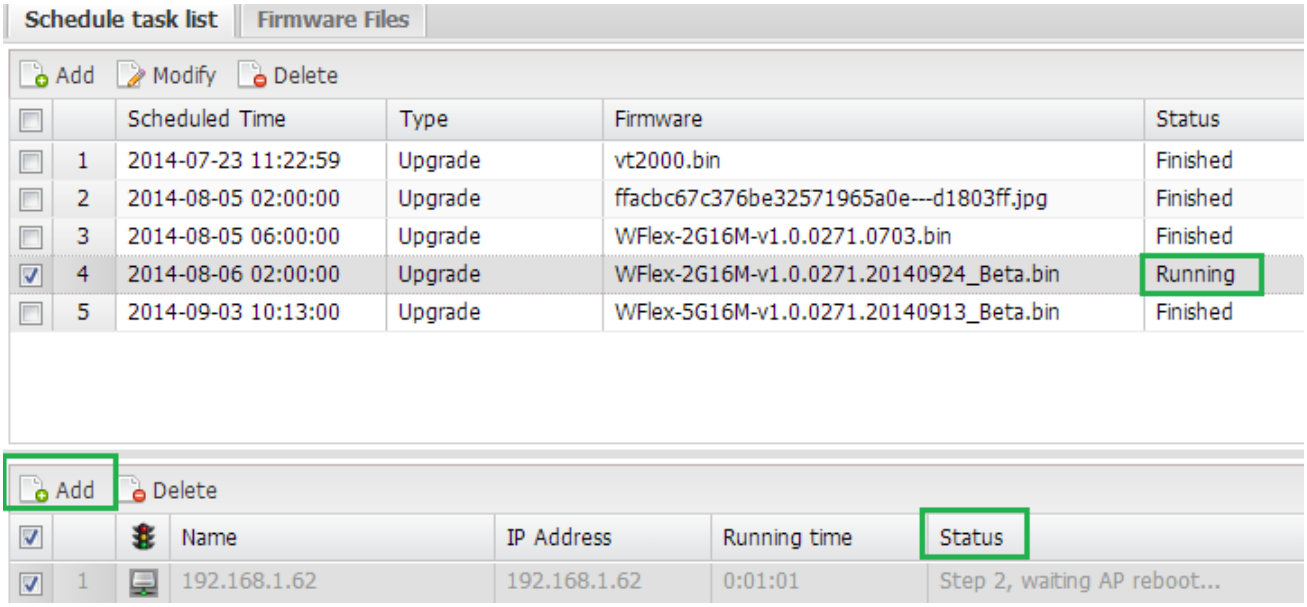


图 3-30

Add a device (192.168.1.62). When it is time to upgrade it, WiController will send automatically upgrade order to the device. Status will show “Running” to start upgrading. Status of the device also will show the progress of upgrading.

Step1: downloading device version by TFTP server;

Step2: waiting AP rebooting;

Step3: waiting AP starting;

Step4: waiting SNMP starting.

When finishing starting, Status shows “Finished” and Status of the device will show upgrade time, firmware version, upgrade use time (Figure 3-31).

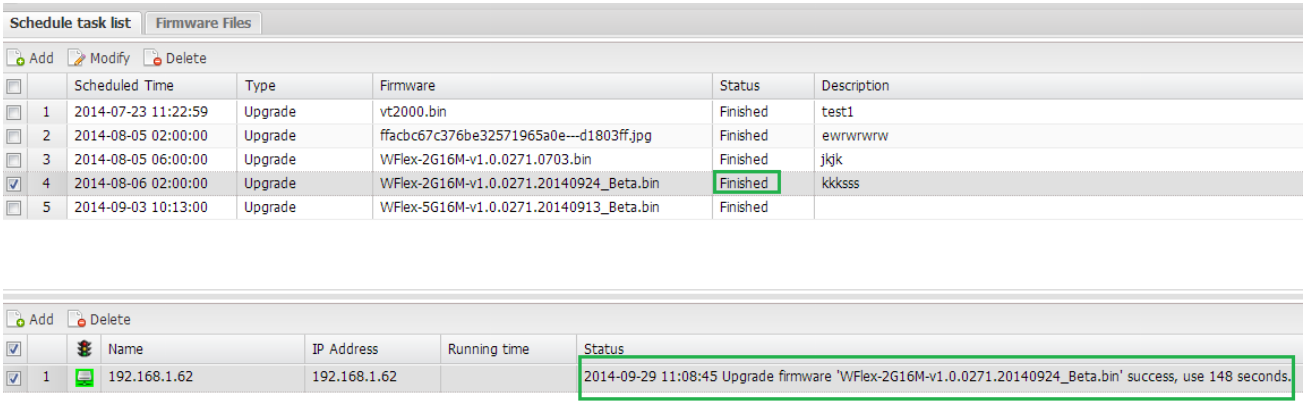


Figure 3-31

Configuration of reboot task and upgrade task is similar. Add reboot task, select the managed device. When it is time of configured reboot time, Wicontroller will send automatically reboot order to the device. And Status of the device will show progress of reboot, as Figure 3-32.

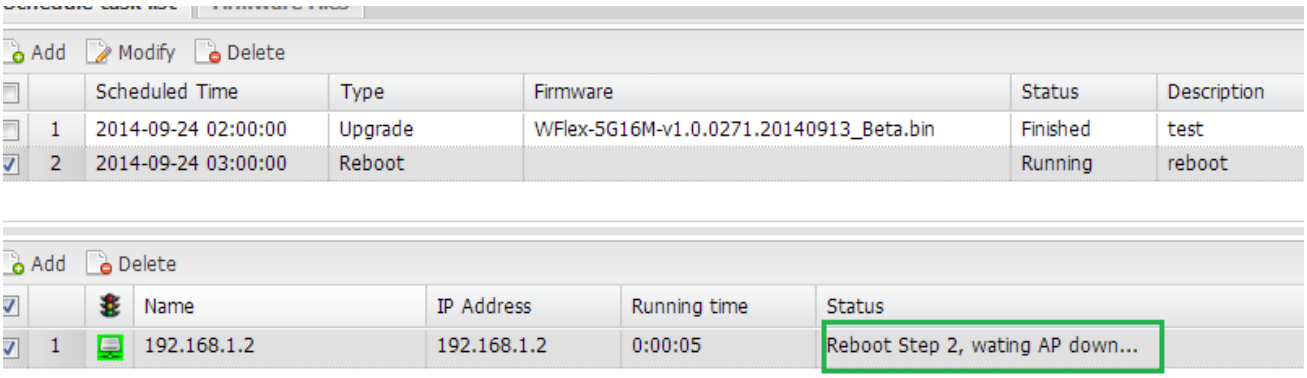


Figure 3-32

3.7 Graph Statistics

Devices statistics are showed by graph, including AP Statistics, Client Statistics, and Data Statistics. Specific statistics are introduced in the following.

AP Statistics, as Figure 3-33, online/offline APs, offline hours of top 10 offline APs, online hours of top 10

online APs.

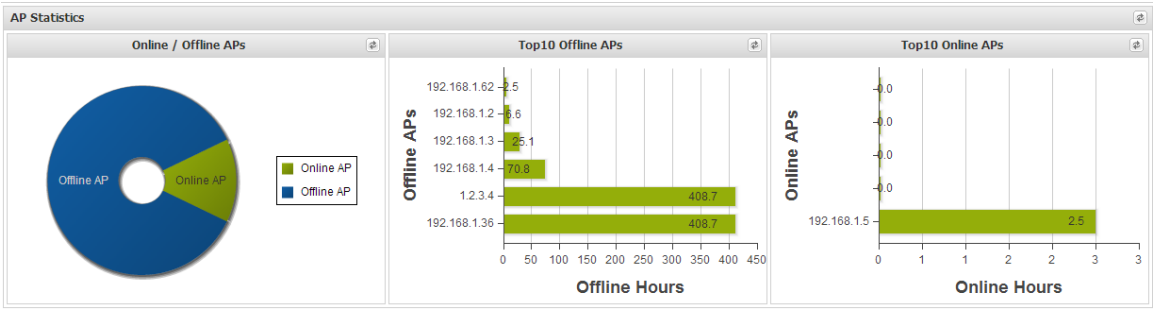


Figure 3-33

Client Statistics include 2.4G/5G Clients, top 10 clients of APs, top 10 clients of services, as Figure 3-34.

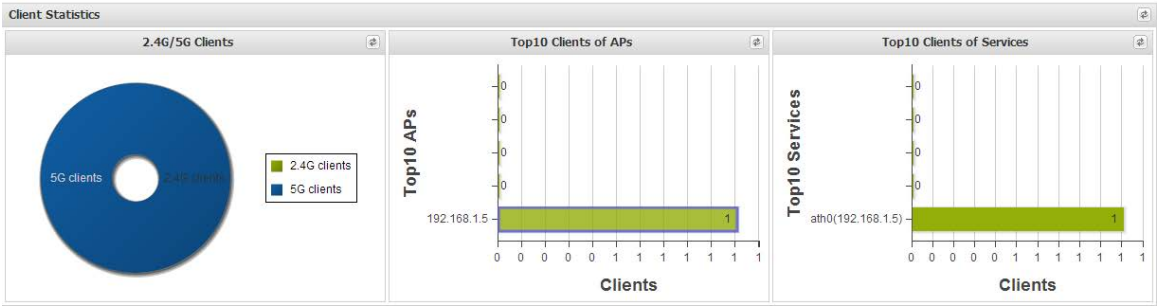


Figure 3-34

Data Statistics include top 10 throughput of APs, top 10 throughput of services, and top 10 throughput of clients, as Figure 3-35.

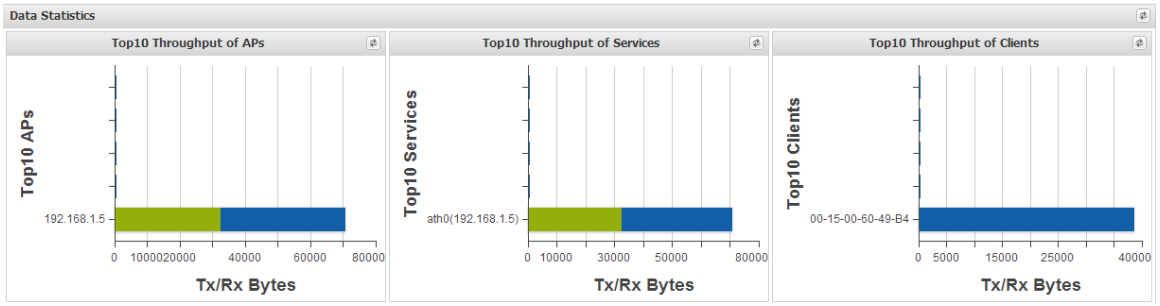


Figure 3-35

Attention: Only top 10 are showed in all ranking statistics.

3.8 System Management

Users: Manage users of Wicontroller (add, modify, and delete users) .

1) Click “Add” to add user (Figure 3-36), and configure user name, password, user lever, user description (or null), contact (or null), Then click “Save”. Now adding new user is finished.

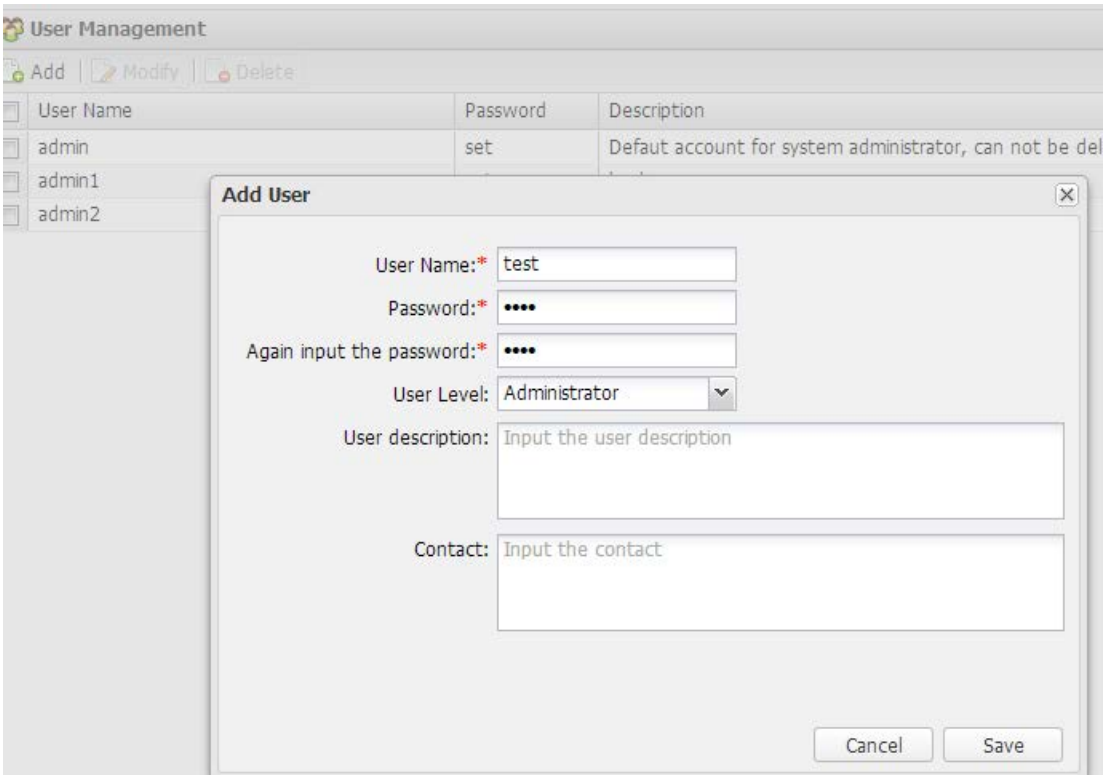


Figure 3-36

2) Select user, as Figure 3-37, click “Modify” to modify user information.

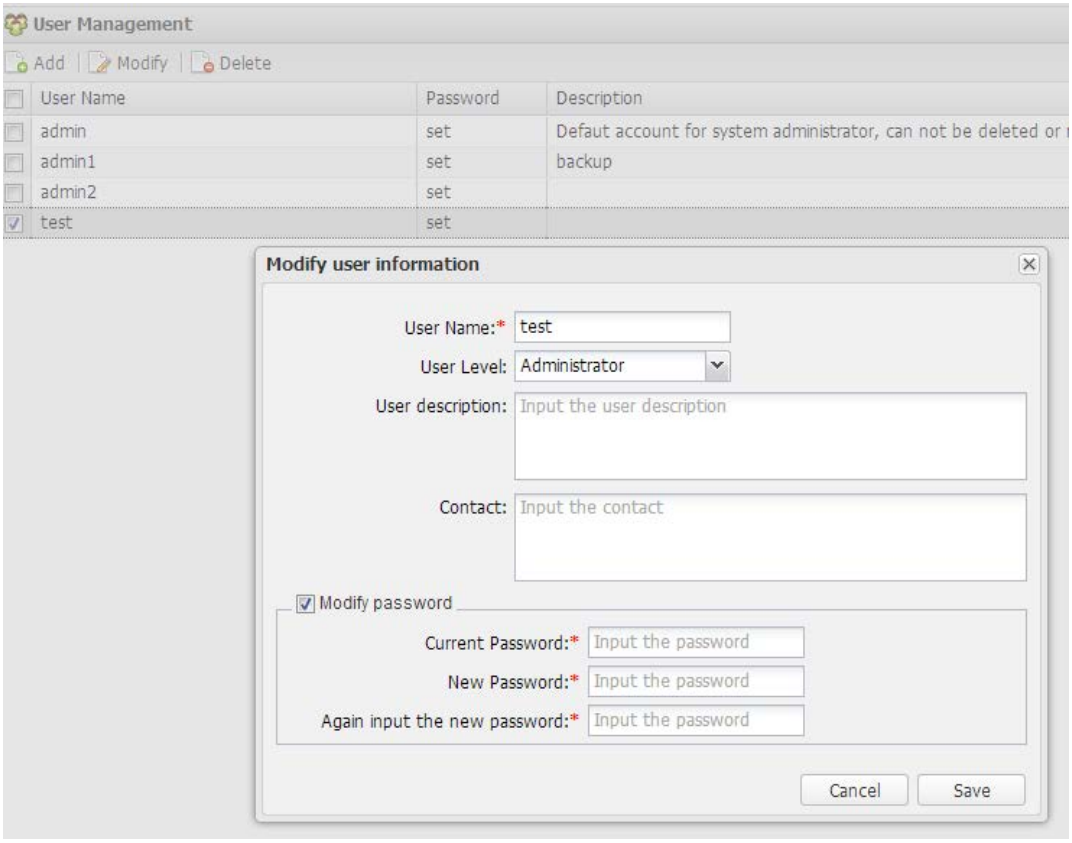


Figure 3-37

3) Select user, as Figure 3-38, click “Delete” to delete user.

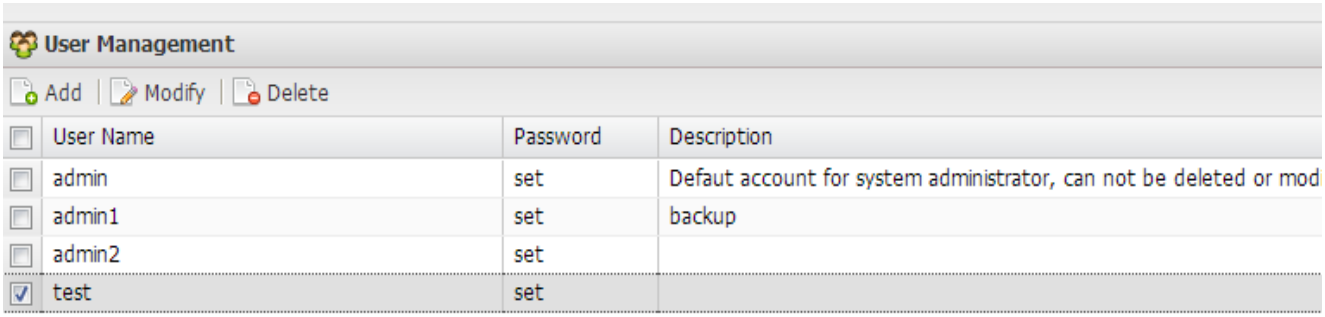


Figure 3-38

General settings: modify system parameters, such as max lever of devices tree, period of refreshing configuration, max concurrent processes for polling and so on. Generally user can choose the default settings, or modify parameters according to the reality.

General Settings

System Parameters

	Name	Value	Description
1	Max level of the device tree	6	Max level of the device tree, the limit is 8.
2	period of refreshing configuration	86400 (秒)	period of refreshing configuration
3	Max concurrent processes for polling	5	Max concurrent processes for polling
4	period of status polling	60 (秒)	period of status polling
5	system debug switch	1	open the switch will slow down the system

Figure 3-39

System services: Here are all running services of WiController, such as, MySql, Polling Service, SNMP Trap Service, Telnet Service and so on, as Figure 3-40. And MySql and Apache are necessary services of WiController, the default is open. So “Stop” “Reboot” “Open” buttons of MySql and Apache are all gray, and users cannot manage those two services.

Other services can be managed, like “stop”, “reboot”, or “open” services.

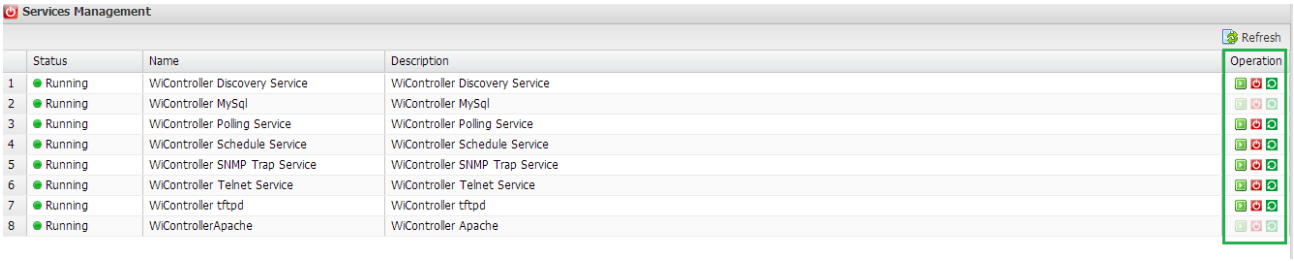


Figure 3-40

Logging: system logs, as Figure 3-41

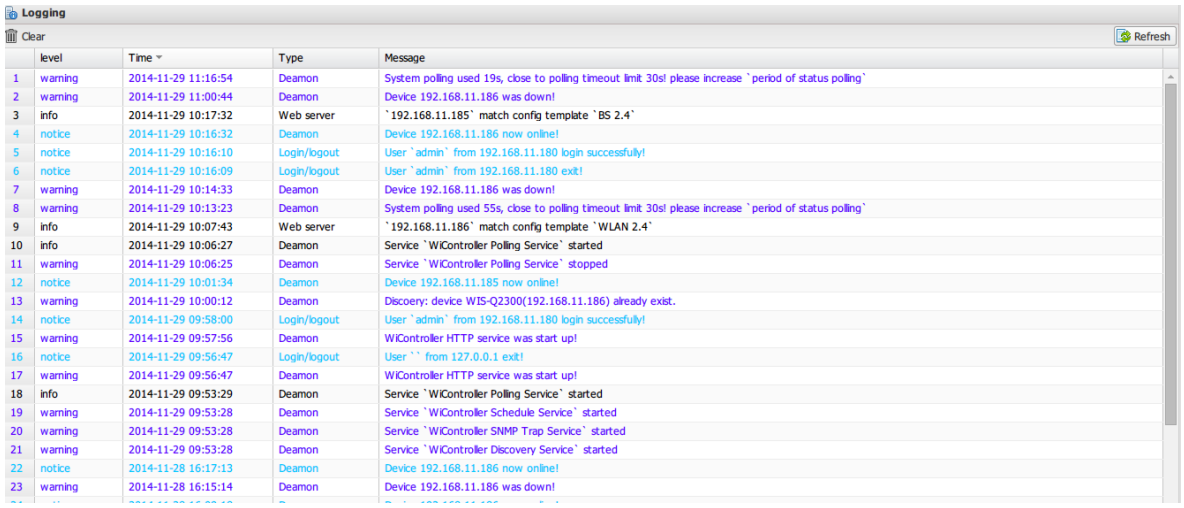


Figure 3-41

Appendix A

Models Mapping in AP Templates

Device Type	Model
WIS-A7900	WIS-A7900
WIS-A7900D	WIS-A7900D
WIS-A7900N	WIS-A7900N
WIS-A790UFO	WIS-A790UFO
2GHz CPE	WIS-Q2300
5GHz CPE	WIS-Q5300
2GHz CPE Lite	WIS-Q2300L
2GHz PTMP BS	WIS-L2416S
	WIS-L2417S
	WIS-L2415S
	WIS-S2300
5GHz PTMP BS	WIS-L5818S
	WIS-L5820S
	WIS-L5819S
	WIS-S5300
	WIS-L5800N
2GHz PTP Bridge	WIS-L2415D
5GHz PTP Bridge	WIS-L5819D
	WIS-L5825D
	WIS-D5250
	WIS-G5250
2GHz AP	WIS-CM2300
	WIS-CM2310
2GHz AP Lite	WIS-CM2300L
2GHz Inwall AP	WIS-WM2300
2GHz Inwall AP with PSE	WIS-WM2310