



# QRM+

QNAP's Remote Server Management Solution

*Tutorials*

rev 20170922



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# How to use QRM+ to manage your devices?

QRM+ is a centralized remote device management solution from QNAP designed for IT teams, home users, production line managers, or anyone who wants to monitor and manage computer devices (such as: computers, servers, etc).

QRM+ is a web-based solution that provides basic device management capabilities such as device discovery, mapping, monitoring, or management of all critical computing devices on the network, such as servers, computers, embedded computers, or compact computers.

Centralized management of QRM+ improves the manageability of IT infrastructure and computer equipment, and reduces the time required to troubleshoot and analyze system resource performance.

## Browser support

QRM+ supports most modern web browsers. For the best user experience, we recommend using the latest version of Google Chrome. QRM+ also supports the latest versions of:

- Safari
- Microsoft Edge
- Firefox

## Requirements for installing QRM+

Supported hardware:

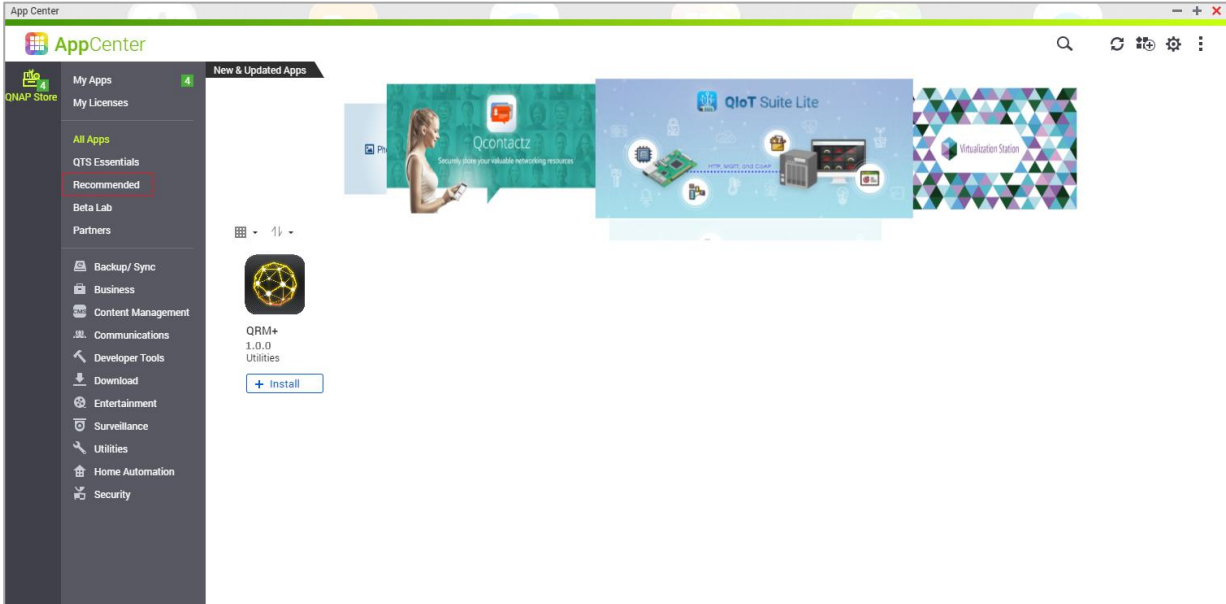
- QNAP NAS that support QTS 4.3.0 (or later): TS-x53B, TVS-x73, TS-x85
- QNAP NAS that support QTS 4.2.2 (or later): SS-x53, TES-x85U , TS-x53U, TS-x53A, TS-x51U, TS-x51A, TS-x51+, TS-x51, TS-x80, TVS-x63+, TVS-x63, TS-x63U, TS-x70, TS-X89U, TVS-x71, TVS-x82, TVS-x82T, TVS-x82ST, X51 , X53, X63, X70 , X70U , X71 , X80 , X80U , X82 , X82T , X82ST , X82U ,TS-x79 Pro, TS-x79U-RP, TS-ECx79U-RP, TS-ECx79U-SAS-RP, SS-ECx79U-SAS-RP
- IEI QGW Series that support QTS 4.2.1 (or later): TANK-860-QGW, TANK-760-QGW
- The NAS/QGW must have at least 4GB RAM.

Container Station and QRMAgentPack must be installed before using QRM+.



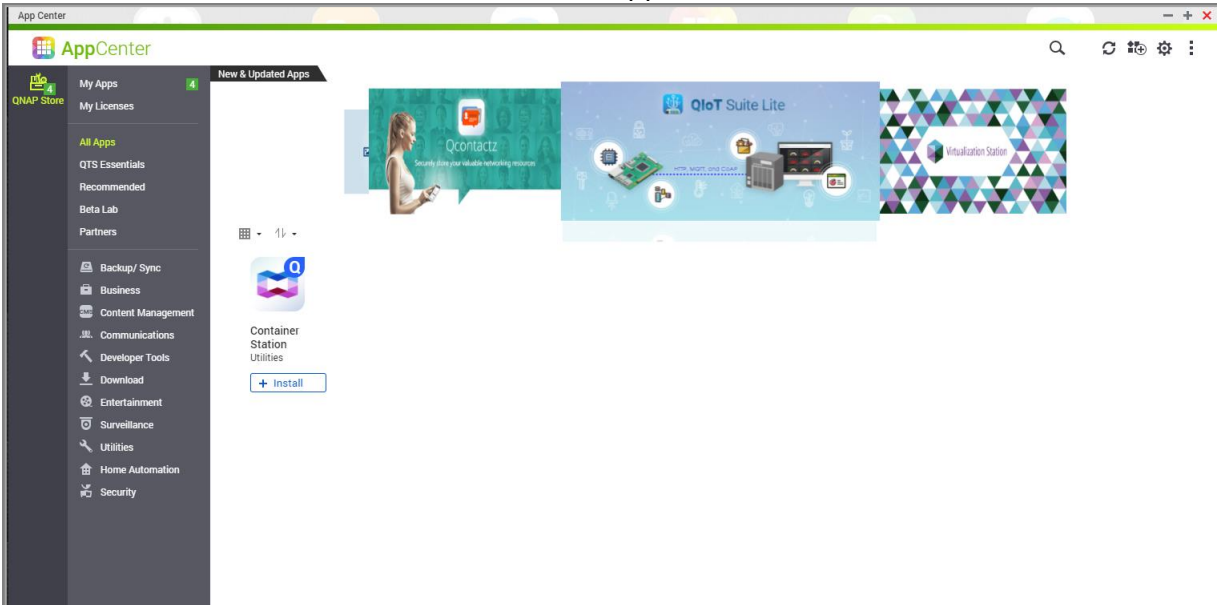
## Installing Container Station, QRMAgentPack and QRM+:

Step 1: Open the App Center, go to "Recommended" and download "QRM+". Container Station and QRMAgentPack will be automatically downloaded as well.



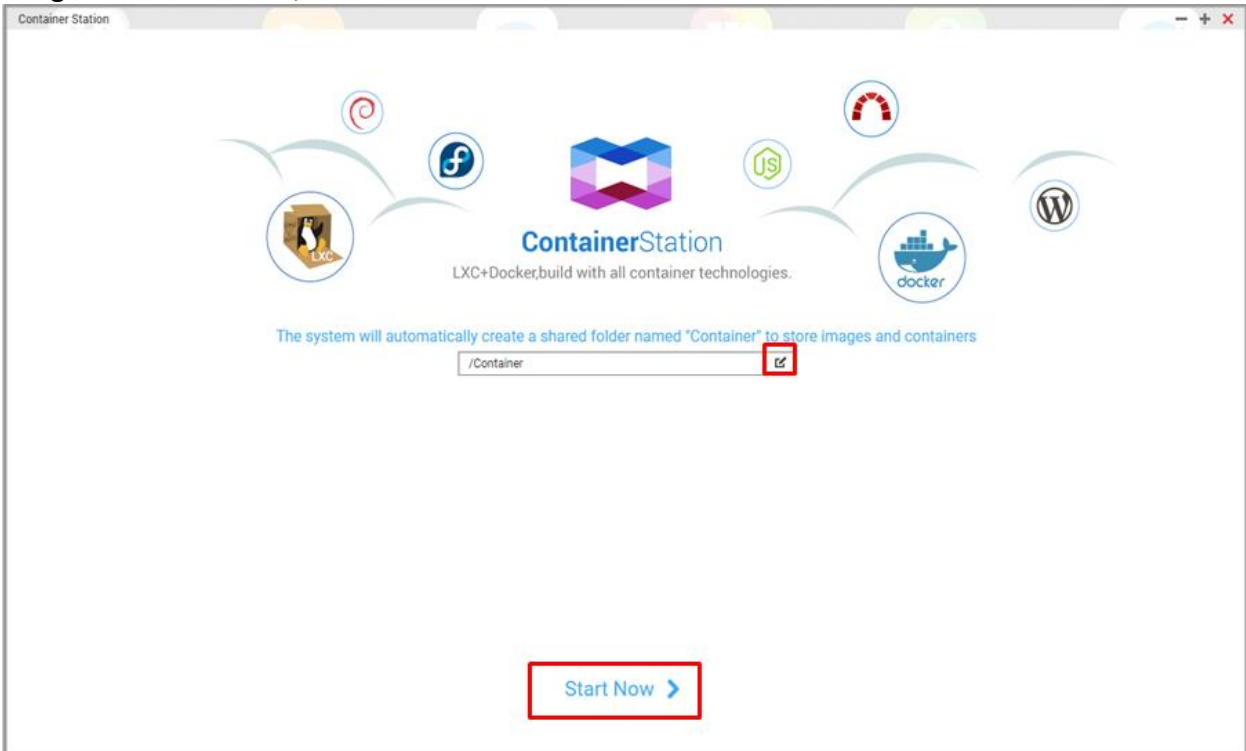
## Separately installing Container Station, QRMAgentPack and QRM+:

Step 1: Open the App Center and search for "Container Station". If you have not installed Container Station then an "+ Install" button will appear. Click the "+ Install button".

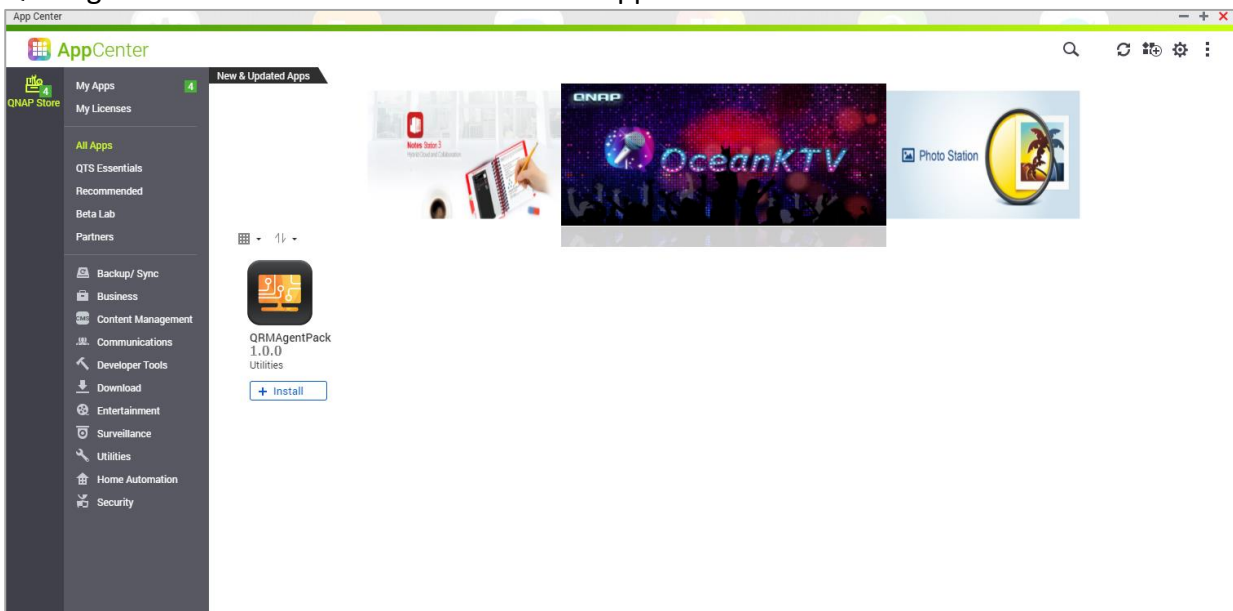




Step 2: Open Container Station and follow the installation wizard. After selecting a folder to store images and containers, click "Start Now".

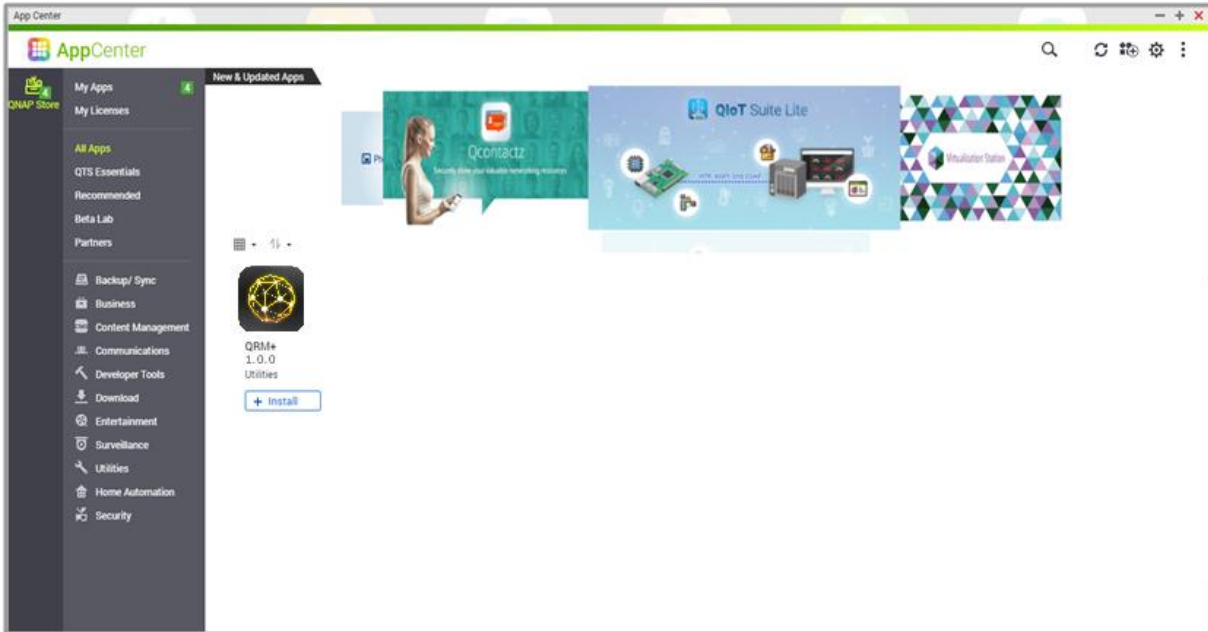


Step 3: Return to the App Center and search for "QRMAgentPack". If you have not installed QRMAgentPack then an "+ Install" button will appear. Click the "+ Install button".





Step 4: Return to the App Center and search for "QRM+". An app called "QRM+ " will be listed. If you have not installed QRM+ then an "+ Install" button will appear. Click the "+ Install button".

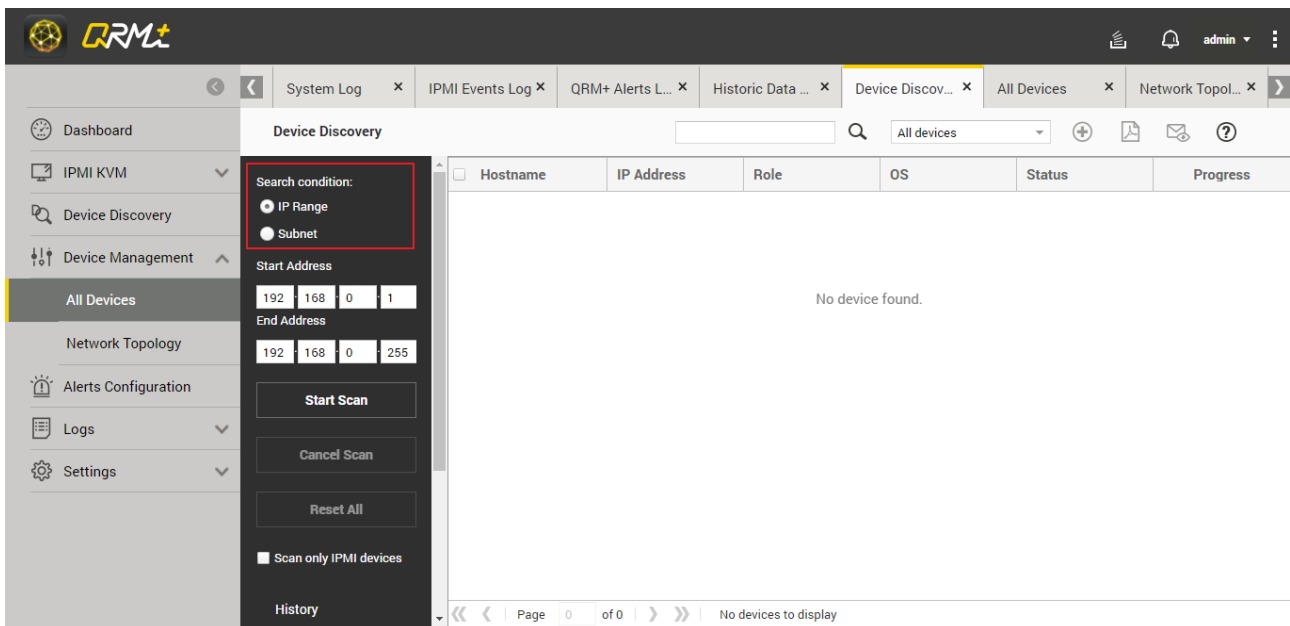


## 1. Device Discovery

With QRM+, you can use the Device Discovery feature to discover the network you're in. Device Discovery allow users to discover computer devices on the current network based on the scan range they set up and quickly incorporate them into QRM+ Management. On the Device Discovery page, users can start scan, stop scan, reset, query scan history, filter scan results, add devices, generate scan result reports, and send current view as Email.

QRM+ supports the following two search types:

1. IP range
2. Subnet



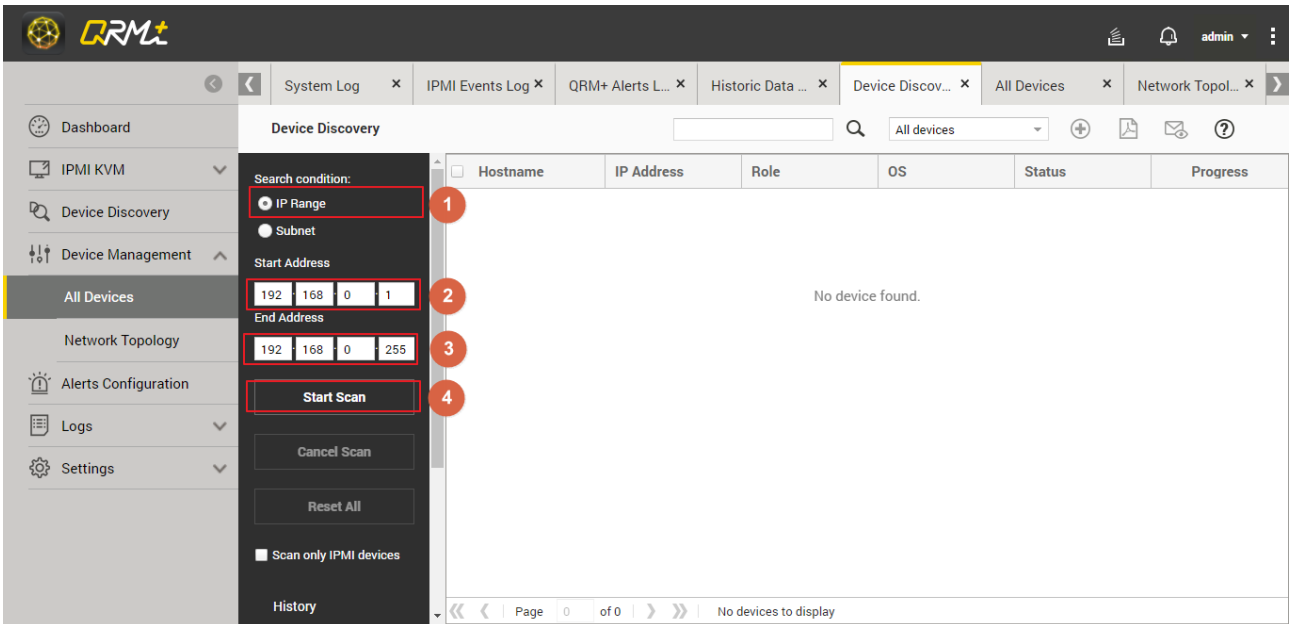
### 1.1 Start Scan

If the user clicks the "Start Scan" button, QRM+ will start scanning all the devices within the IP range or in the subnet. During the scan, discovered devices are placed in order from the top down, and the user can add the discovered device to QRM+ without waiting for the scan to finish. Details are described in the section "[Adding a Device to a QRM+ During Scan](#)".

To scan a specific IP range, follow the steps below:

- Step 1: Select the IP range
- Step 2: Enter the starting IP address
- Step 3: Enter the ending IP address
- Step 4: Click "Start Scan"



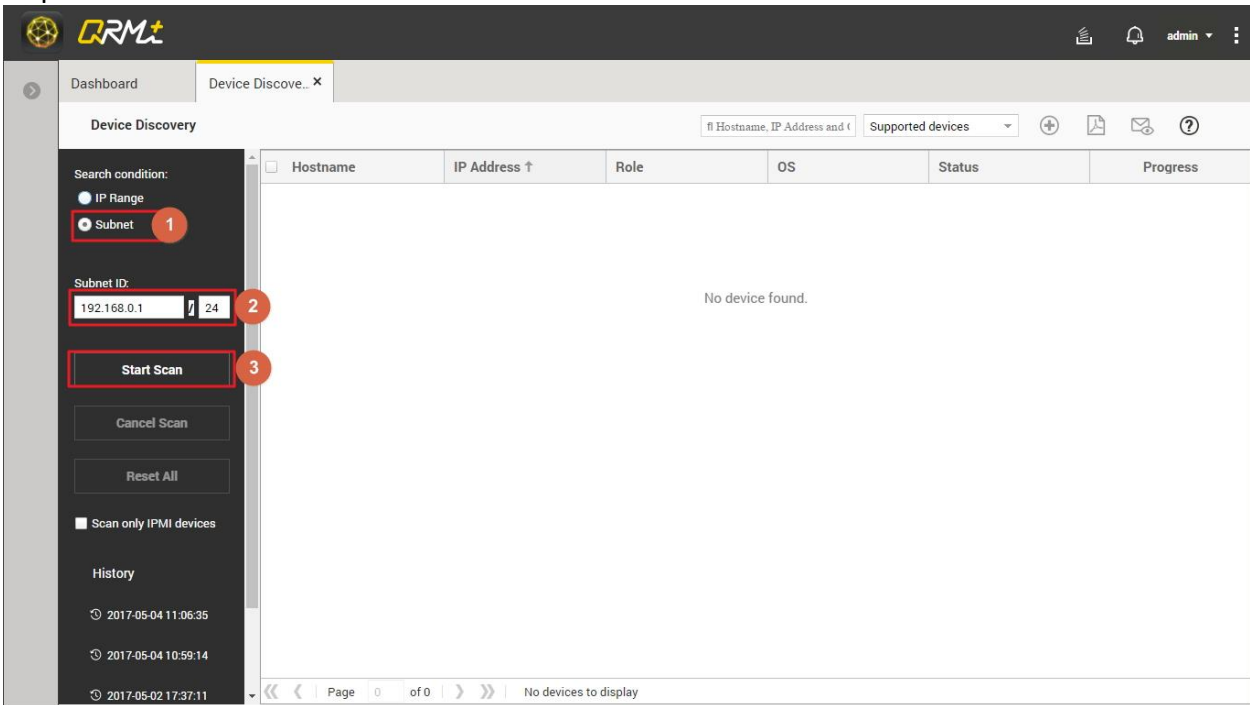


To scan a specific subnet range, follow the steps below:

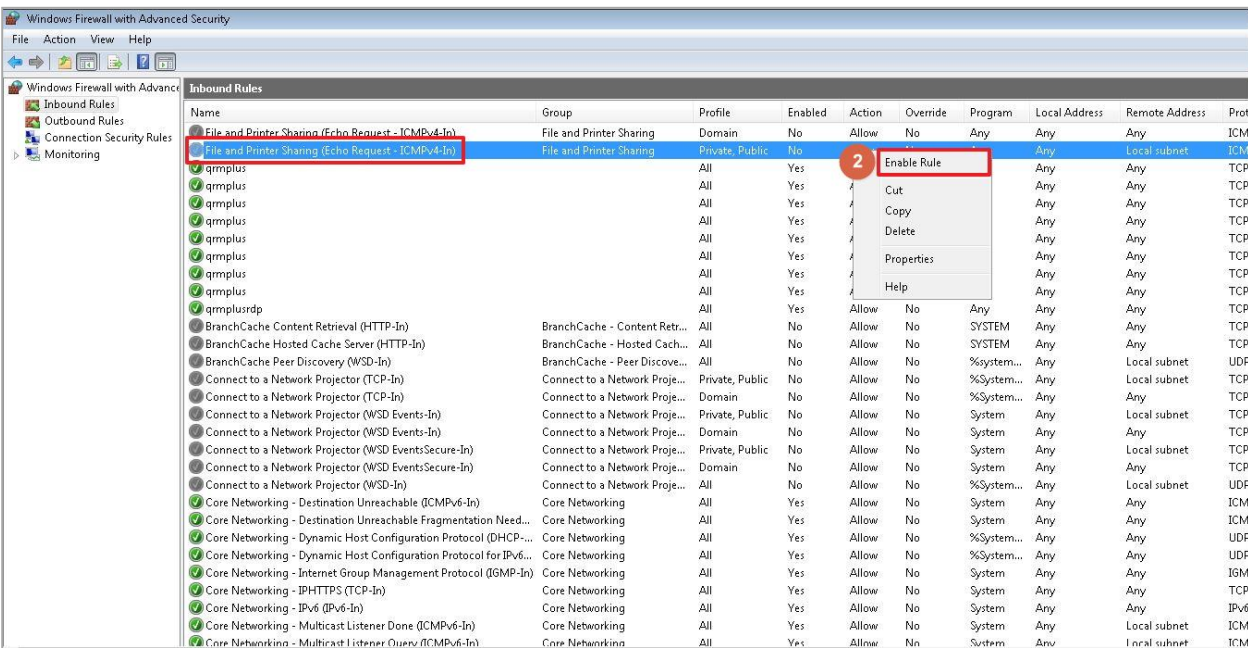
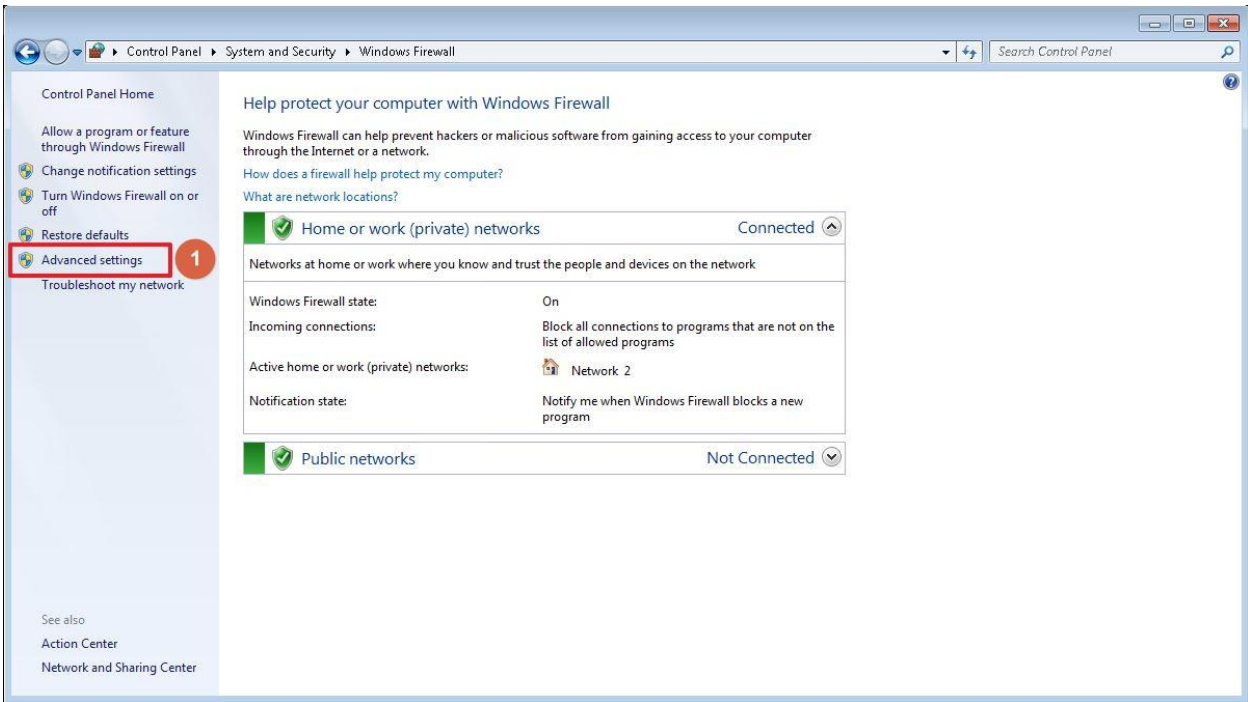
Step 1: Set the subnet

Step 2: Enter the CIDR, default is 24

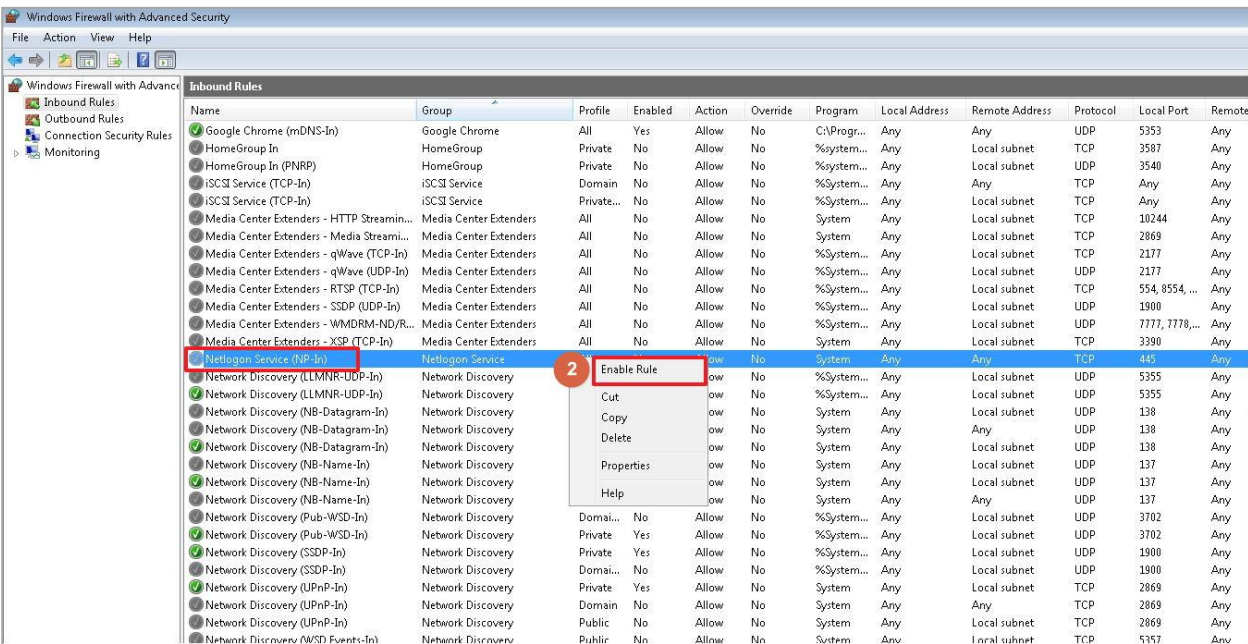
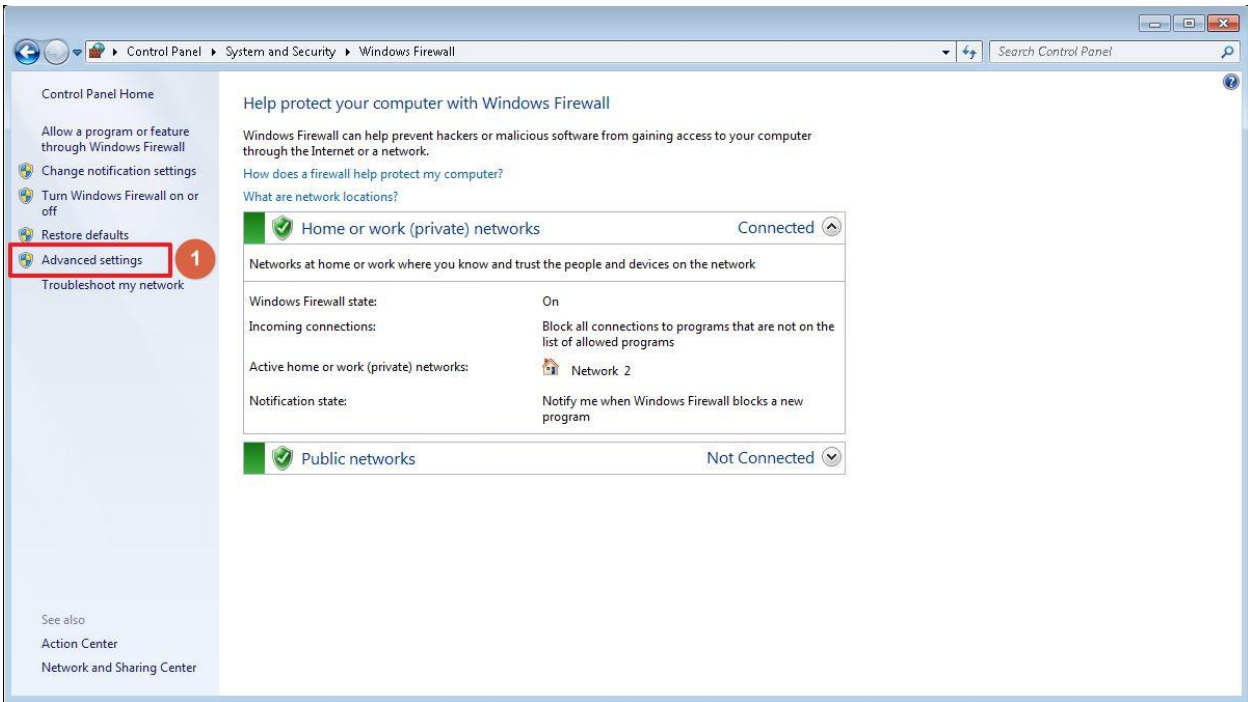
Step 3: Click "Start Scan"



Note: QRM+ uses ICMP protocol to search for devices within a specified IP address range. If the target device does not allow ICMP requests, QRM+ will not be able to find the target device. To support QRM+ search, enable ICMP requests on the target device.



Note: MS Windows firewall rules will also affect QRM+ and treat target device as unsupported device. To solve the problem, go to Control Panel> System & Security> Windows Firewall. Click the "Advanced Settings" button to set up (as shown below).



## 1.2 Stop scanning

During a scan, the user can click the Stop Scan button to stop the scan.

The screenshot shows the QNAP QRM+ interface during a scan. The 'Device Discovery' panel is active, showing search conditions (IP Range: 192.168.0.1 to 192.168.0.255) and a 'Cancel Scan' button highlighted with a red box. The table on the right shows four devices in 'Scanning...' status. A notification at the bottom right says 'No need to wait for scan complete. Just click to add.'

Hostname	IP Address ↑	Role	OS	Status	Progress
192.168.0.1	192.168.0.1				Scanning...
192.168.0.100	192.168.0.100				Scanning...
192.168.0.101	192.168.0.101				Scanning...
192.168.0.102	192.168.0.102				Scanning...

## 1.3 Resetting

The user can reset the settings after the scan is completed or after having clicked on the scan history. When the Reset button is clicked, the contents of the table on the right side of the screen will be cleared.

The screenshot shows the QNAP QRM+ interface after a scan is completed. The 'Device Discovery' panel shows 'Scan Completed (100%)' and a 'Reset All' button highlighted with a red box. The table on the right shows four devices with 'Completed' status.

Hostname	IP Address ↑	Role	OS	Status	Progress
192.168.0.1	192.168.0.1	NAS	QTS	New Device	Completed
192.168.0.100	192.168.0.100	Device	IPMI Managemen...	New Device	Completed
192.168.0.101	192.168.0.101	Unknown	Unknown	New Device	Completed
192.168.0.102	192.168.0.102	Device	IPMI Managemen...	Already Added	Completed

## 1.4 Steps to add the device to QRM+

Users can select a device from the list of discovered devices and click "Add Device to QRM+" button to add one or more devices to QRM+. Different types of devices have different add methods:

1. Users of IPMI device must provide administrator account and password to allow QRM+ to establish IPMI connection. After successful installation, QRM+ will be able to monitor and manage the device.
2. Users of Linux device must provide administrator account and password to allow QRM+ to install the QRMAgent on the remote device. After successful installation, QRM+ will be able to monitor and manage the device.
3. Users of MS Windows device must download QRMAgent to the machine to be installed and extract the QRMAgent archive on the machine to run the installation program. After successful installation, QRM+ will be able to monitor and manage the device.

Step 1: Select the device you want to add from the list of discovered devices, you can select multiple devices.

Step 2: Click the "Add device to QRM+" button.

Hostname	IP Address ↑	Role	OS	Status	Progress
<input type="checkbox"/>	192.168.0.1	NAS	QTS	New Device	Completed
<input type="checkbox"/>	192.168.0.100	Device	IPMI Managemen...	New Device	Completed
<input checked="" type="checkbox"/>	192.168.0.101	Unknown	Unknown	New Device	Completed
<input type="checkbox"/>	192.168.0.102	Device	IPMI Managemen...	Already Added	Completed

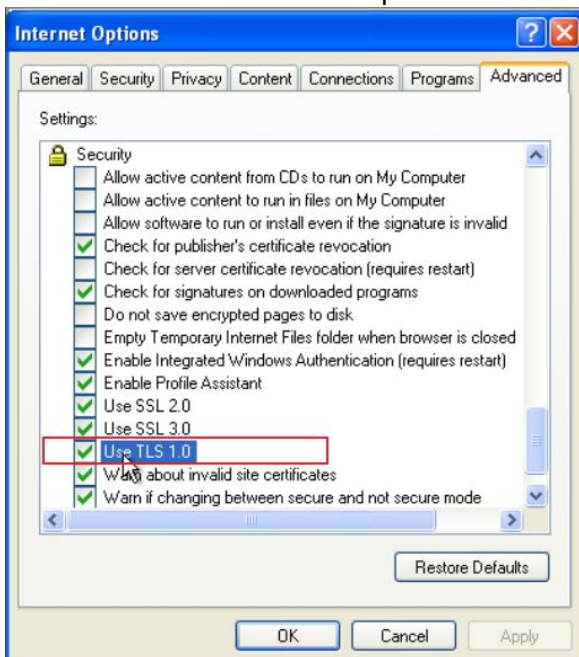
Step 3: Select the devices to be added in the device list screen.



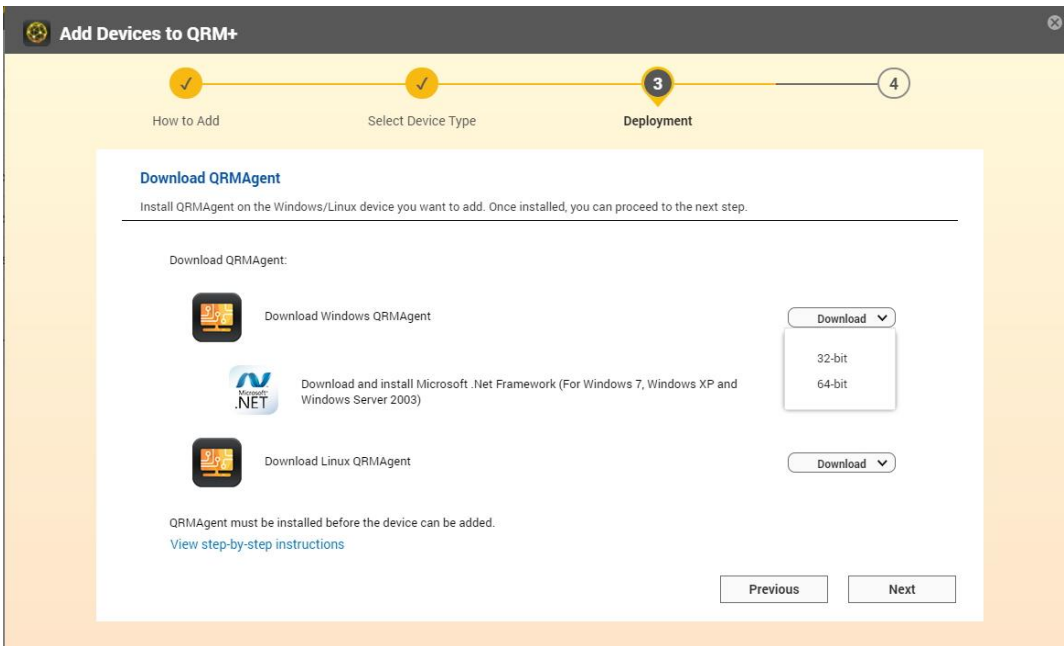
Step 4: Different device types (Windows device, Linux device, or IPMI device) have different installation methods:

Step 4-1: If Windows device is selected in Step 3, a QRMAgent download window will be displayed. Click "Download Windows QRMAgent" button to download the installation package.

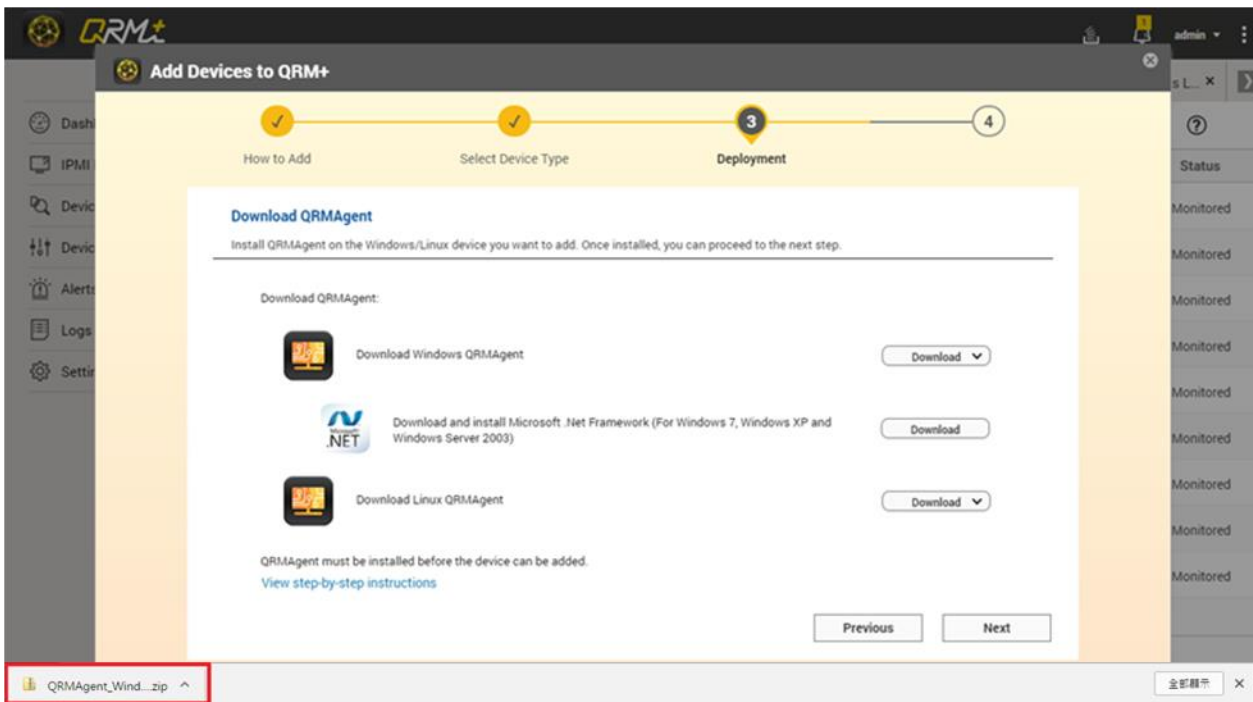
If you have enforced secure connections in your QTS settings and want to install QRMAgent on a device with a 64-bit version of Windows XP or Windows Server 2003, follow these steps: Go to "Control Panel" > "Internet Options" > "Advanced" and ensure that "Use TLS 1.0" is enabled.



Step 4-1-1 : Users can select the appropriate QRMAgent installation package.

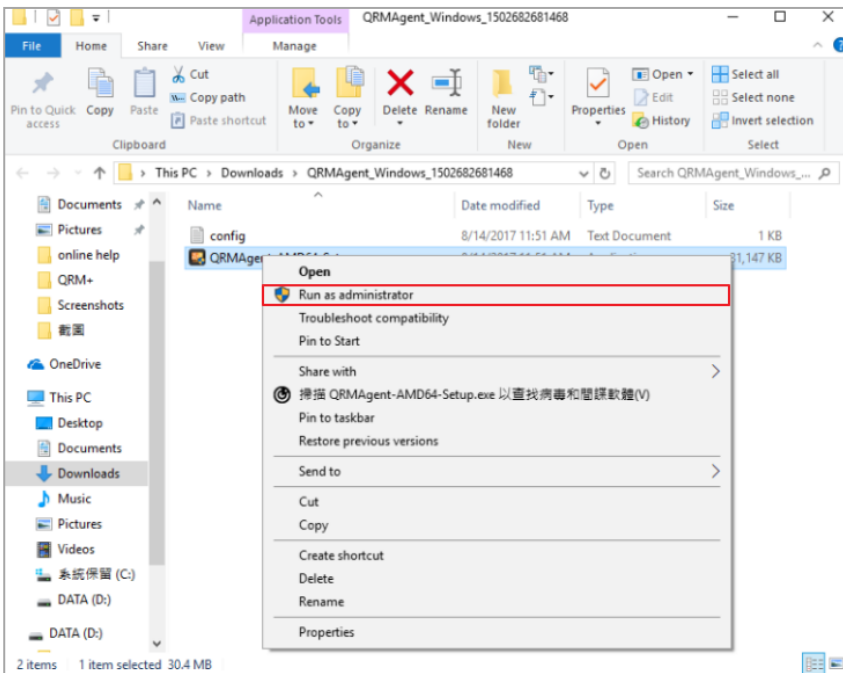


Step 4-1-2 : Copy the installation package to the device to be managed.

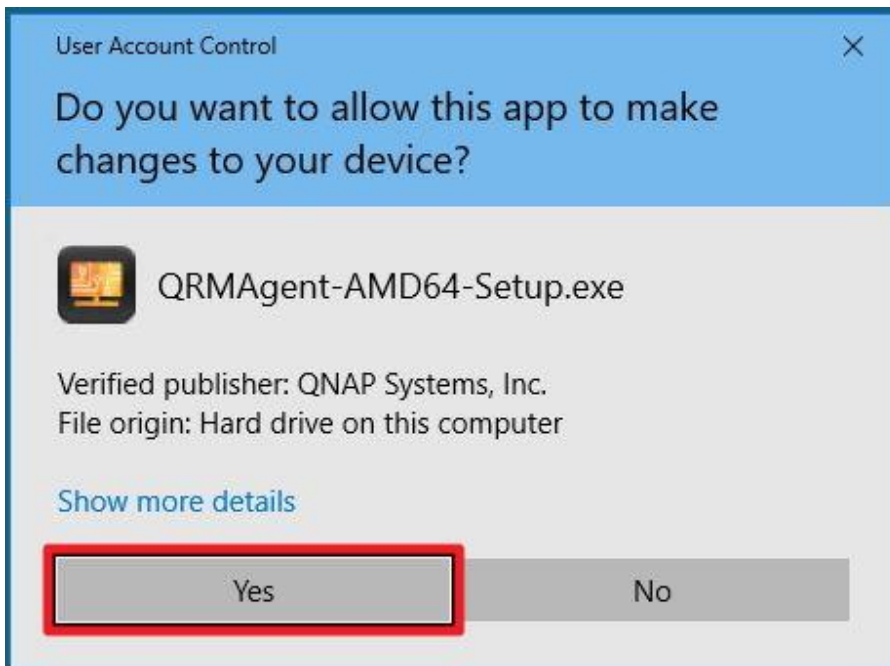




Step 4-1-3 : Unzip the installer, right click on the installer and select "Run as administrator".



Step 4-1-4 : Click "Yes" to allow the installer to make changes to your device.

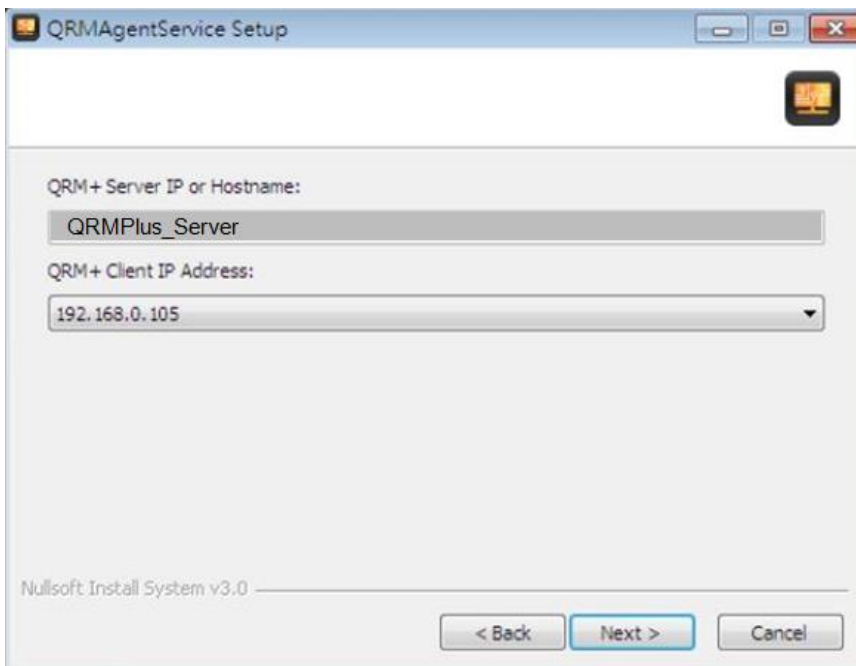




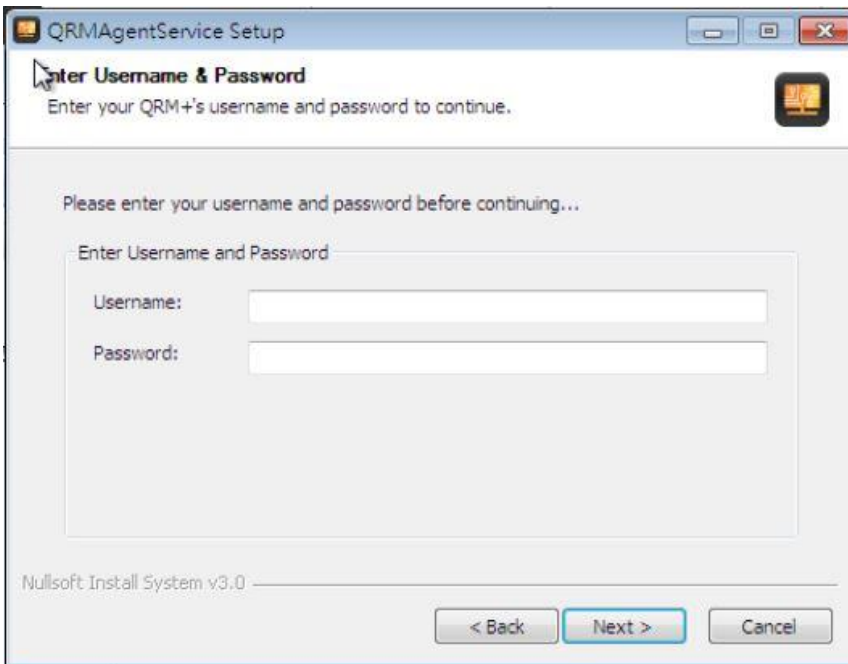
Step 4-1-5 : Click "Next".



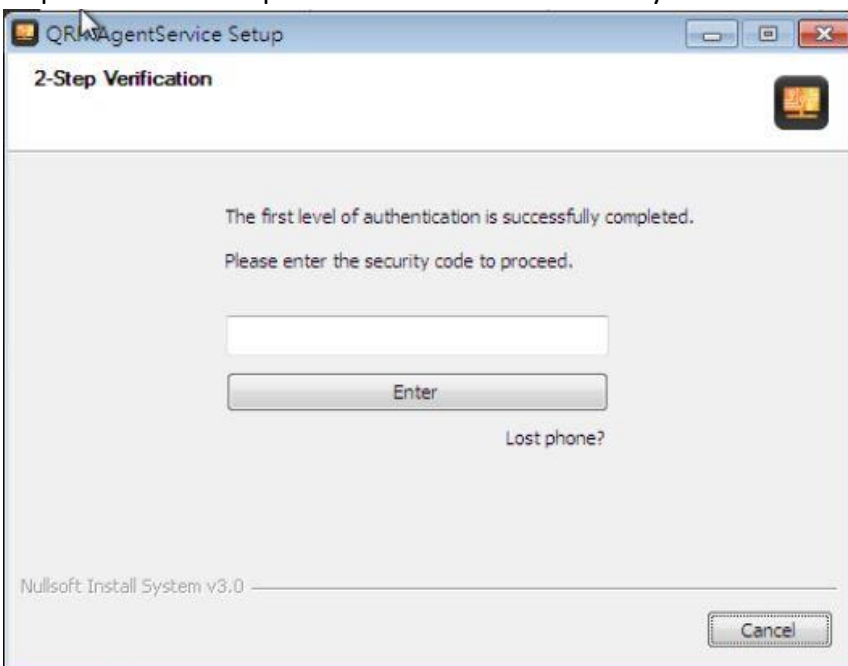
Step 4-1-6 : Choose the IP address and click "Next".



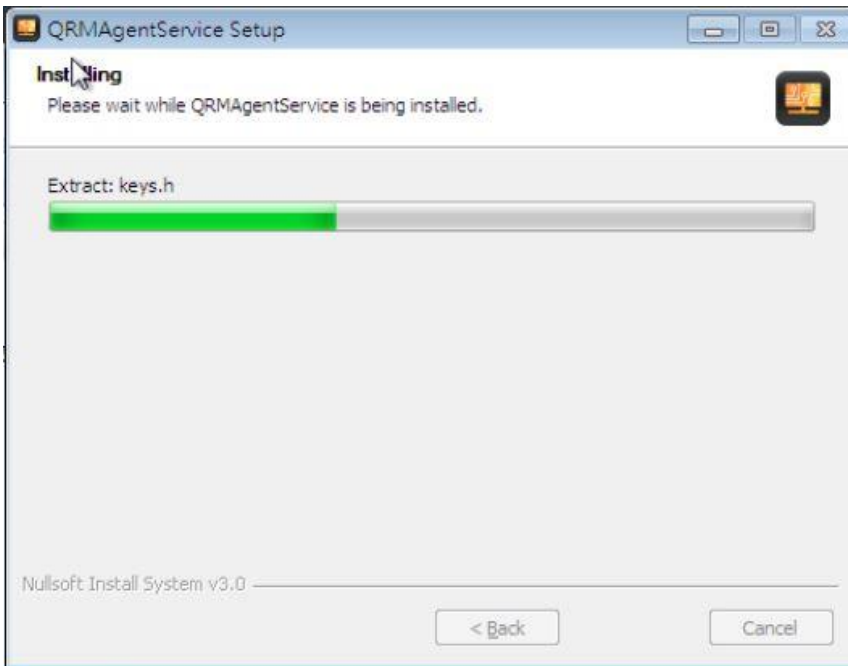
Step 4-1-7 : Enter the Username and Password of QRM+.



Step 4-1-8 : If 2-step Verification is enabled then you must enter the security code.

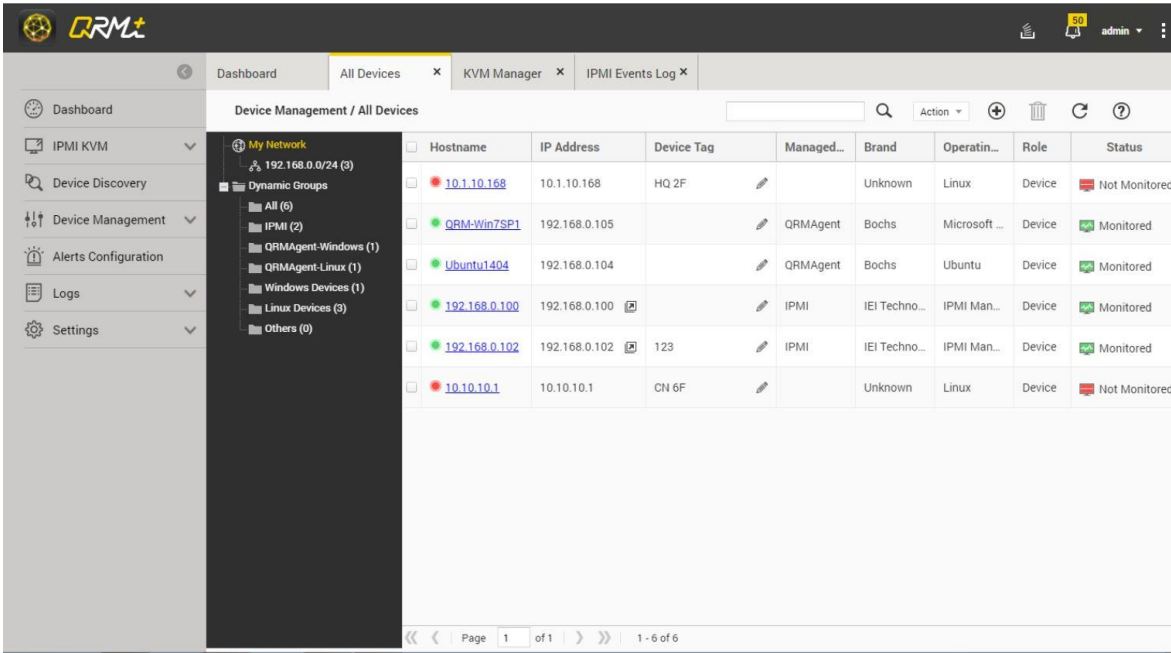


Step 4-1-9 : The QRMAgentService will be installed.

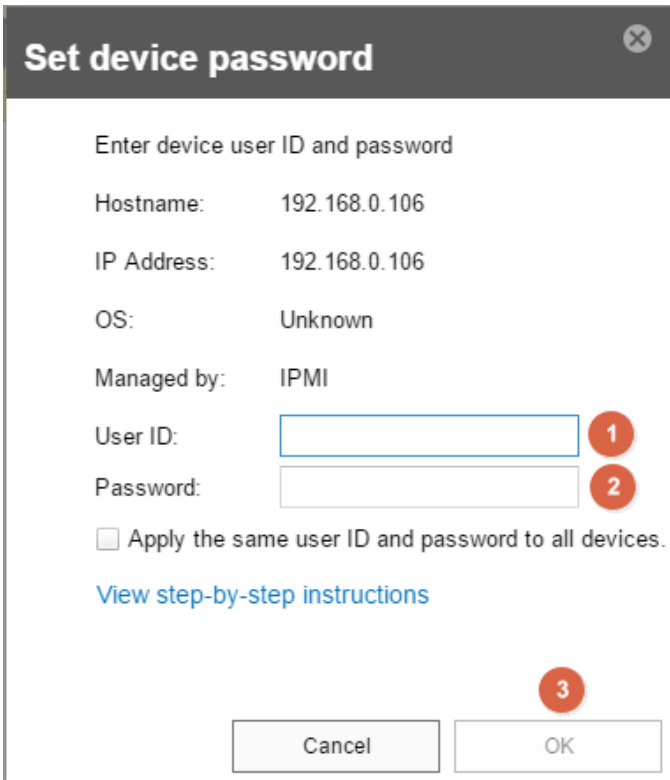


Step 4-1-10 : Click "Finish" and you will see the installation status in the device list.

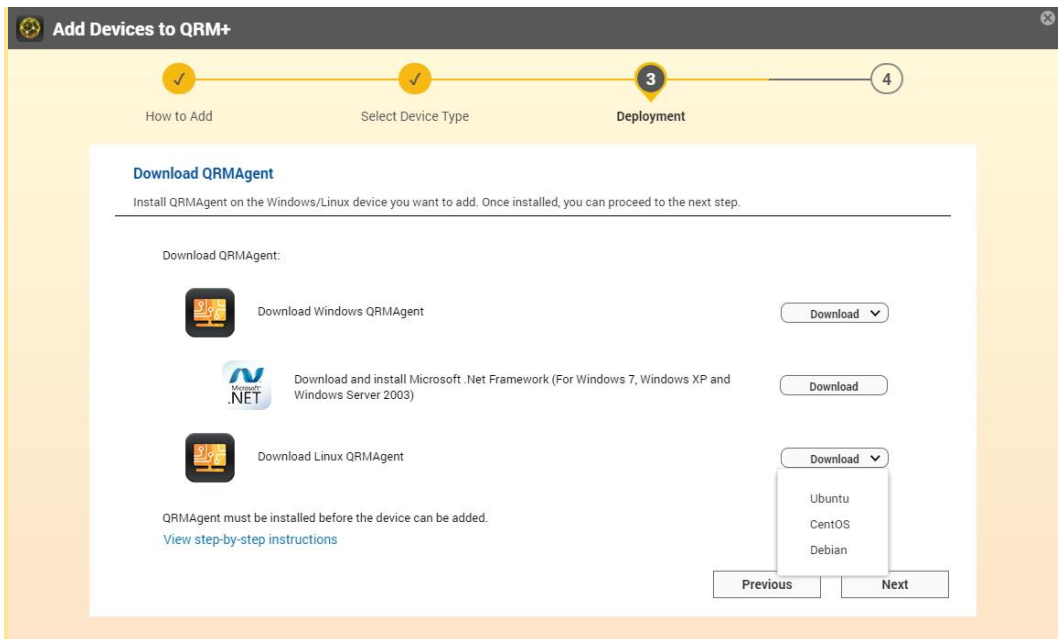




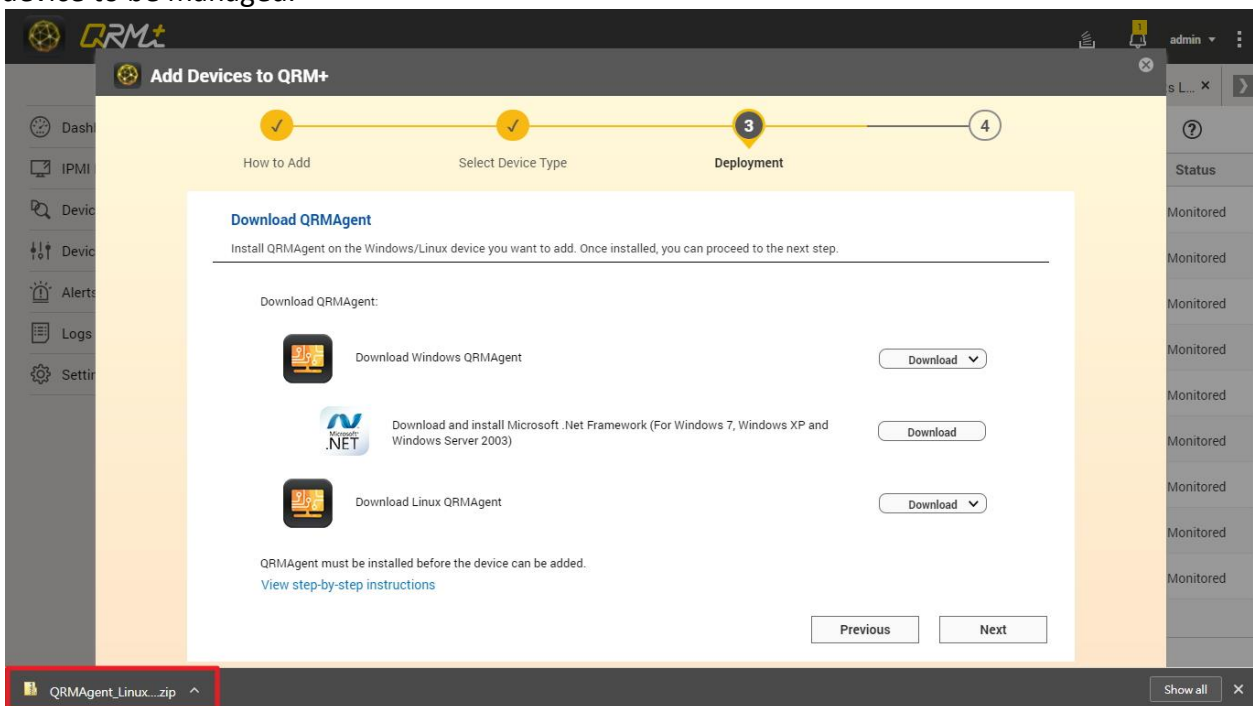
Step 4-2 : If IPMI device is selected in Step 3, you must enter the administrator's User ID and Password then click "OK".



Step 4-3 : If Linux device is selected in Step 3, you will be prompted to download QRMAgent for Linux. Click "Download" next to "Download Linux QRMAgent".



步驟 4-3-1 : After the QRMAgent installation package has been downloaded, copy it to the Linux device to be managed.





步驟 4-3-2 : In the Linux shell, unzip the QRMAgent installation package.

```
ubuntu@ubuntu14: ~  
ubuntu@ubuntu14:~$  
ubuntu@ubuntu14:~$  
ubuntu@ubuntu14:~$  
ubuntu@ubuntu14:~$ unzip QRMAgent_Linux_1504145467412.zip
```

Use the following command to run the QRMAgent installation program:  
“sudo bash InstallUbuntuQRMAgent.sh <Client IP Address>”

```
ubuntu@ubuntu14: ~/QRMAgent_Linux_installer  
ubuntu@ubuntu14:~/QRMAgent_Linux_installer$  
ubuntu@ubuntu14:~/QRMAgent_Linux_installer$  
ubuntu@ubuntu14:~/QRMAgent_Linux_installer$  
ubuntu@ubuntu14:~/QRMAgent_Linux_installer$  
ubuntu@ubuntu14:~/QRMAgent_Linux_installer$ sudo bash InstallUbuntuQRMAgent.sh 192.168.100.95
```

步驟 4-3-3 : Enter the QRM+ Username and Password.

```
ubuntu@ubuntu14: ~/QRMAgent_Linux_installer  
ubuntu@ubuntu14:~/QRMAgent_Linux_installer$  
ubuntu@ubuntu14:~/QRMAgent_Linux_installer$  
ubuntu@ubuntu14:~/QRMAgent_Linux_installer$  
ubuntu@ubuntu14:~/QRMAgent_Linux_installer$ sudo bash InstallUbuntuQRMAgent.sh 192.168.100.95  
Please enter your QRM+'s username and password to continue.  
Please enter your QRM+'s username:  
test  
Please enter your QRM+'s password:  
test
```

步驟 4-3-4 : Confirm your sign in with 2-step Verification (if enabled).

```
ubuntu@ubuntu14: ~/QRMAgent_Linux_installer  
--2017-09-11 17:14:45-- http://192.168.100.1:8080/qrmplusapi/api/v1/account/login  
Connecting to 192.168.100.1:8080...connected.  
HTTP request sent, awaiting response... 200 OK  
Length: 105 [application/json]  
Saving to: 'response.json'  
  
100%[=====] 105 --.-K/s in 0s  
  
2017-09-11 17:14:45 (14.9 MB/s) - 'response.json' saved [105/105]  
  
The first level of authentication is successfully completed. Please enter the security code to proceed.  
1) Security Code  
2) Lost phone  
1  
Please enter security code.  
Security code:  
123456
```

步驟 4-3-5 : The installation process will be displayed.

```
ubuntu@ubuntu14: ~/QRMAgent_Linux_installer
--2017-09-11 17:16:04-- http://192.168.100.1:8080/qrmplusapi/api/v1/account/login
Connecting to 192.168.100.1:8080...connected.
HTTP request sent, awaiting response... 200 OK
Length: 936 [application/json]
Saving to: 'sec_answer_response.json'

100%[=====] 936          --.-K/s   in 0s

2017-09-11 17:16:04 (133 MB/s) - 'sec_answer_response.json' saved [936/936]

Python 2.7.6
* INFO: PYTHON_PATH: /usr/bin/python
* INFO: PYTHON_VERSION: 2.7.6

* INFO: System Information:
* INFO: CPU: GenuineIntel
* INFO: CPU Arch: x86_64
* INFO: OS Name: Linux
* INFO: OS Version: 3.13.0-32-generic
* INFO: Distribution: Ubuntu 14.04
```

步驟 4-3-6 : You will see the device status in the list.

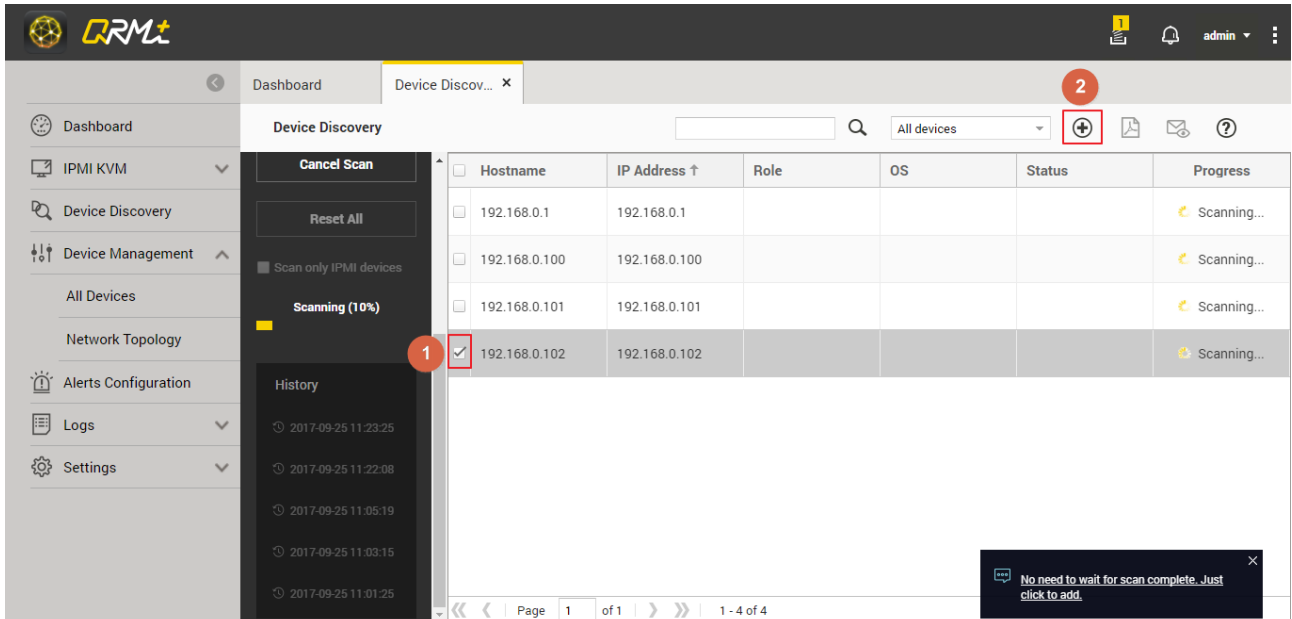
The screenshot shows the QRM+ web interface. The top navigation bar includes 'Dashboard', 'Device Discov...', 'Application Se...', 'All Devices', 'Network Topo...', 'QRMAgent Re...', 'User Manage...', and 'Notification S...'. The 'All Devices' page is active, displaying a table of devices under the heading 'Device Management / All Devices'. The table has the following columns: Hostname, IP Address, Device Tag, Managed by, Brand, Operating Syst..., Role, and Status. Two devices are listed:

Hostname	IP Address	Device Tag	Managed by	Brand	Operating Syst...	Role	Status
192.168.0.100	192.168.0.100		IPMI	IEI Technology ...	IPMI Manageme...	Device	Monitored
Ubuntu1404	192.168.0.105		QRMAgent	Bochs	Ubuntu	Device	Monitored

The left sidebar shows a tree view of 'My Network' with sub-items: 192.168.0.0/24 (1), Dynamic Groups, All (2), IPMI (1), QRMAgent-Windows (0), QRMAgent-Linux (1), Windows Devices (0), Linux Devices (1), and Others (0). The bottom of the page shows 'Page 1 of 1' and '1 - 2 of 2'.

## 1.5 Add device to QRM+ during the scan

Step 1: During the scanning process, select the device to be added as labeled 1 and click the button "Add device to QRM+" as labeled 2.



Hostname	IP Address ↑	Role	OS	Status	Progress
<input type="checkbox"/>	192.168.0.1	192.168.0.1			Scanning...
<input type="checkbox"/>	192.168.0.100	192.168.0.100			Scanning...
<input type="checkbox"/>	192.168.0.101	192.168.0.101			Scanning...
<input checked="" type="checkbox"/>	192.168.0.102	192.168.0.102			Scanning...

Step 2: Refer to "[Add device to QRM+](#) Step 3"

## 1.6 Scan History

QRM+ maintains a scan history. Users can view the last 5 scans in the history pane of the left column and select the device to install in QRM+ from the list of discovered devices. Just follow the "Add device to QRM+" tutorial step by step.



## 2. Main Dashboard

The Main Dashboard is the main page of QRM+. In the Main Dashboard, you can add multiple widgets to monitor the health of your device or server. This page allows users to add, remove, reorganize, choose layout, export as PDF, email current view and update widgets.

Note: Devices need to be added to QRM+ before they can be monitored using gadgets in the dashboard

### 2.1 Add Widget

[Watch the video](#)

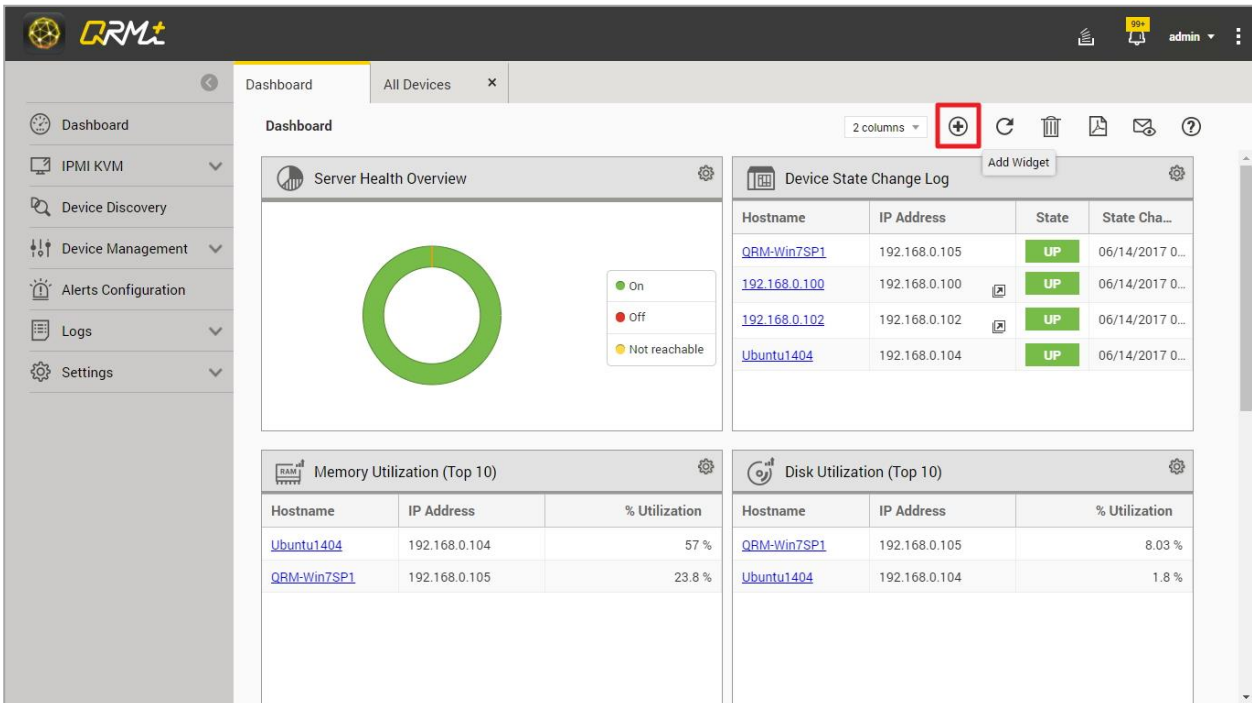
Users can add gadgets to the dashboard to continuously monitor the health of the device or server. The following information can be monitored:

1. CPU Usage
2. Memory Usage
3. Disk Usage
4. Network Usage
5. Health Status
6. IPMI system information and more

Users can customize their own Master Dashboard to monitor multiple devices at the same time.

Setup steps:

Step 1: Go to the Dashboard page and click the "Add Widget" button



Step 2: Select the type of data you want to monitor:

Step 2-1: Select the data type you want to monitor in the left column. There are six types: CPU usage, memory usage, disk usage, network usage, health status and IPMI system information.

Step 2-2: Select the method of data presentation that matches your needs

Step 2-3: Click "Next"

**Add new widget to dashboard**

1 ID\_DASHBOARD\_METRIC\_TYPE

- CPU 1**
  - CPU Utilization (Top 10)**

This widget displays Top 10 devices by their respective Average CPU Utilization, in Grid/Table format. This widget will help you to know which of your servers are having maximum CPU Utilization. The grid will refresh every 60 seconds.
  - CPU Utilization (24H)**

This widget displays the Average CPU Utilization values from last 24 hours for a single device being managed, in an Area Chart format. This Area Chart will keep updating every 5 mins so that always user can see the values from last 24 hours till the current moment.
  - CPU Utilization (Live) 2**

This widget displays the Live Average CPU Utilization for a single device being managed, in an Area Chart format. This Area Chart will keep updating with Live Data Polling frequency, set by the QRM+ admin.
- Memory
- Disk
- Network
- General
- IPMI

**Next**

Step 3: After selecting the device you want to monitor, click "Next"

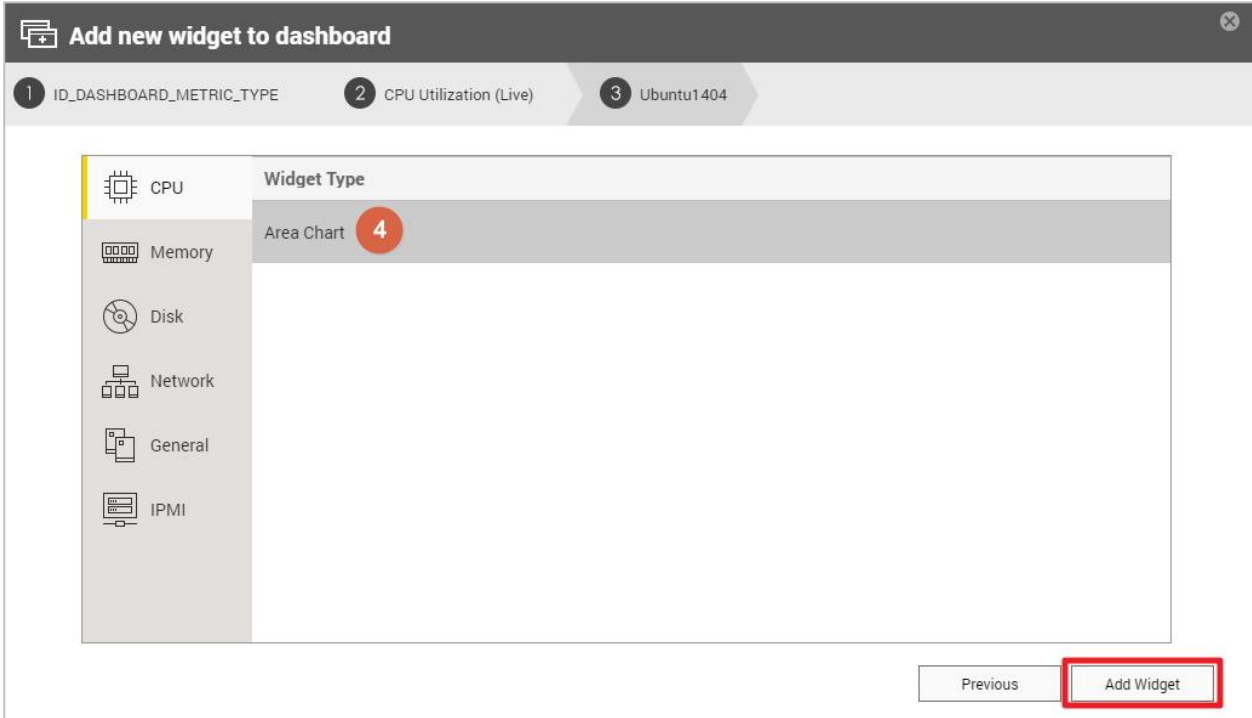
**Add new widget to dashboard**

1 ID\_DASHBOARD\_METRIC\_TYPE    2 CPU Utilization (Live)

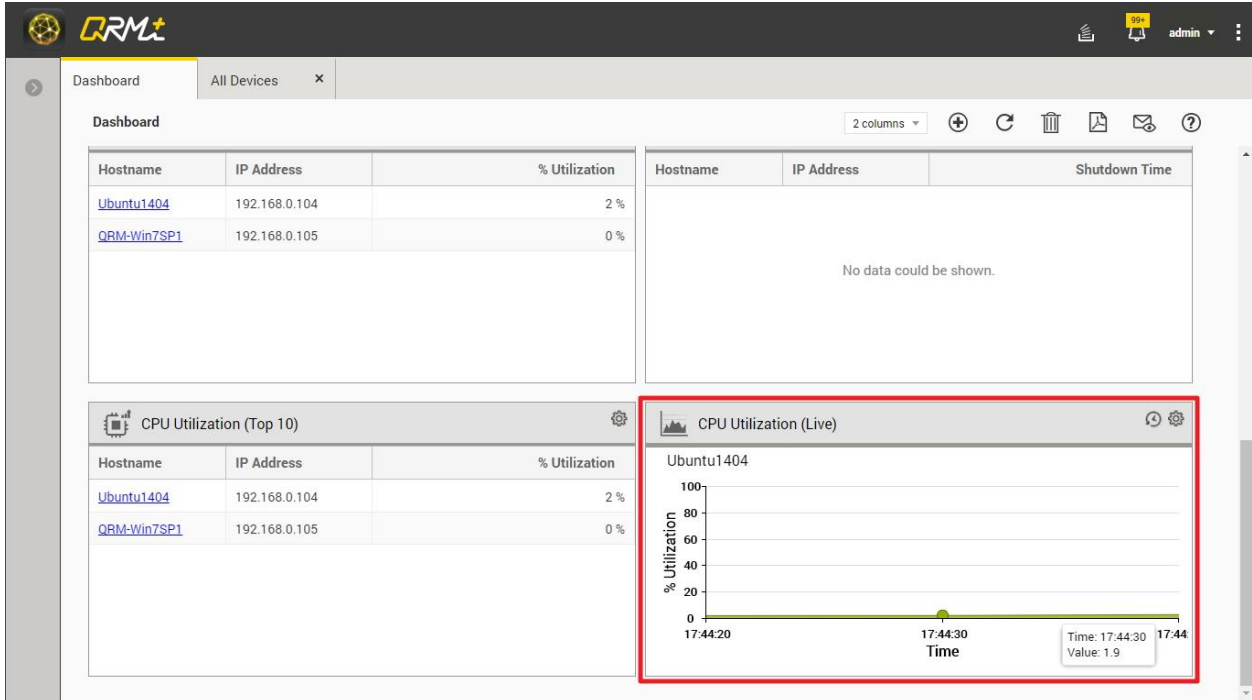
	Hostname	IP Address	Device Tag	Managed by	Operating System
CPU	QRM-Win7SP1	192.168.0.105	TP 2F	QRMAgent	Microsoft Windows...
Memory	Ubuntu1404	192.168.0.104	TP 3F	QRMAgent	Ubuntu
Disk					
Network					
General					
IPMI					

**Previous**    **Next**

Step 4: After selecting the type of chart, click the "Add Widget" button to complete the operation



Step 5: When the setup is complete, the widget will be added to the last position in the Dashboard

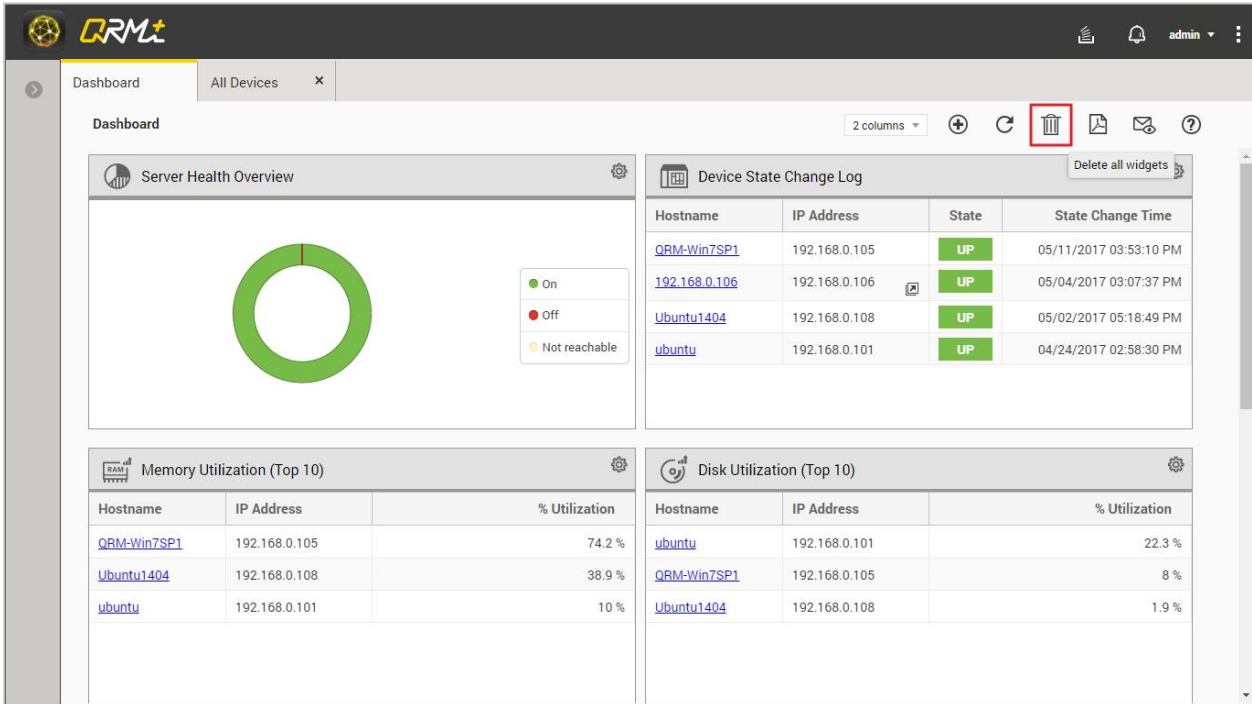


## 2.2 Delete all widgets in the Dashboard

[Watch the video](#)

Setup steps:

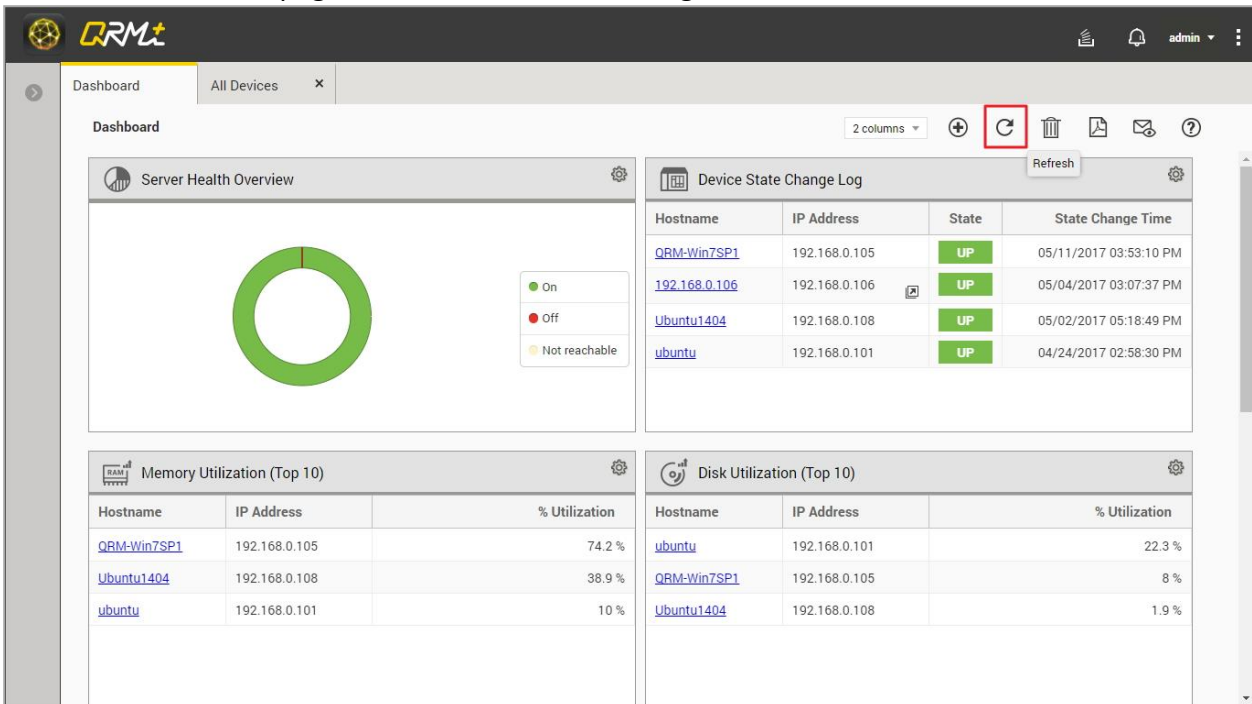
Go to the Dashboard page and click the "Delete All Widgets" button



## 2.3 Refresh all widgets in the Dashboard

Setup steps:

Go to the Dashboard page and click the Refresh Widgets button



## 2.4 Select the layout mode

[Watch the video](#)

User can adjust the layout of the Main Dashboard according to their requirements. QRM+ Main Dashboard provides:

- 1 column display
- 2 columns display
- 3 columns display

After selecting one of the three layout modes, all widgets will be adjusted accordingly.

Setup steps:

Step 1: Go to the Dashboard page and click the Layout Mode button

The screenshot shows the QRM+ Main Dashboard interface. At the top right, a dropdown menu is set to '2 columns'. The dashboard is divided into four main sections:

- Server Health Overview:** A green ring chart indicating system health. Legend: On (green), Off (red), Not reachable (yellow).
- Device State Change Log:** A table showing device status changes.
- Memory Utilization (Top 10):** A table showing memory usage for various devices.
- Disk Utilization (Top 10):** A table showing disk usage for various devices.

Hostname	IP Address	State	State Change Time
<a href="#">QRM-Win7SP1</a>	192.168.0.105	UP	05/11/2017 03:53:10 PM
<a href="#">192.168.0.106</a>	192.168.0.106	UP	05/04/2017 03:07:37 PM
<a href="#">Ubuntu1404</a>	192.168.0.108	UP	05/02/2017 05:18:49 PM
<a href="#">ubuntu</a>	192.168.0.101	UP	04/24/2017 02:58:30 PM

Hostname	IP Address	% Utilization
<a href="#">QRM-Win7SP1</a>	192.168.0.105	74.2 %
<a href="#">Ubuntu1404</a>	192.168.0.108	38.9 %
<a href="#">ubuntu</a>	192.168.0.101	10 %

Hostname	IP Address	% Utilization
<a href="#">ubuntu</a>	192.168.0.101	22.3 %
<a href="#">QRM-Win7SP1</a>	192.168.0.105	8 %
<a href="#">Ubuntu1404</a>	192.168.0.108	1.9 %

Step 2: Select "1 column", "2 columns" or "3 columns"

The screenshot shows the QNAP QRM+ dashboard with several widgets. The 'Device State Change Log' widget is highlighted, and a dropdown menu is open above it, showing options for '1 column', '2 columns', and '3 columns'. The '2 columns' option is currently selected. The widget displays a table of device state changes.

Hostname	IP Address	State	State Change Time
<a href="#">QRM-Win7SP1</a>	192.168.0.105	UP	05/11/2017 03:53:10 PM
<a href="#">192.168.0.106</a>	192.168.0.106	UP	05/04/2017 03:07:37 PM
<a href="#">Ubuntu1404</a>	192.168.0.108	UP	05/02/2017 05:18:49 PM
<a href="#">ubuntu</a>	192.168.0.101	UP	04/24/2017 02:58:30 PM

## 2.5 Export as PDF file

[Watch the video](#)

You can export view from the current dashboard as PDF files and download them to your local computer.

Setup steps:

Step 1: Go to the Dashboard page and click the Export as PDF File button

The screenshot shows the QNAP QRM+ dashboard with the 'Device State Change Log' widget. The 'Export as PDF' button is highlighted with a red box. The widget displays a table of device state changes.

Hostname	IP Address	State	State Change Time
<a href="#">QRM-Win7SP1</a>	192.168.0.105	UP	05/11/2017 03:53:10 PM
<a href="#">192.168.0.106</a>	192.168.0.106	UP	05/04/2017 03:07:37 PM
<a href="#">Ubuntu1404</a>	192.168.0.108	UP	05/02/2017 05:18:49 PM
<a href="#">ubuntu</a>	192.168.0.101	UP	04/24/2017 02:58:30 PM

## Step 2: Showing "Generating View as PDF"

The screenshot shows the QRM+ dashboard with a notification box overlaid on the 'Device State Change Log' table. The notification reads 'Report generation in progress...'. The table contains the following data:

Hostname	IP Address	State	State Change Time
<a href="#">QRM-Win7SP1</a>	192.168.0.105	UP	05/11/2017 03:53:10 PM
<a href="#">192.168.0.106</a>	192.168.0.106	UP	05/04/2017 03:07:37 PM
<a href="#">Ubuntu1404</a>	192.168.0.108	UP	05/02/2017 05:18:49 PM
<a href="#">ubuntu</a>	192.168.0.101	UP	04/24/2017 02:58:30 PM

## Step 3: Download the view to the local computer

The screenshot shows the QRM+ dashboard with a PDF report viewer open at the bottom. The report viewer displays the title 'QRM+ Report - ...pdf'. The dashboard content is identical to the previous screenshot, showing the 'Device State Change Log' table and other monitoring widgets.

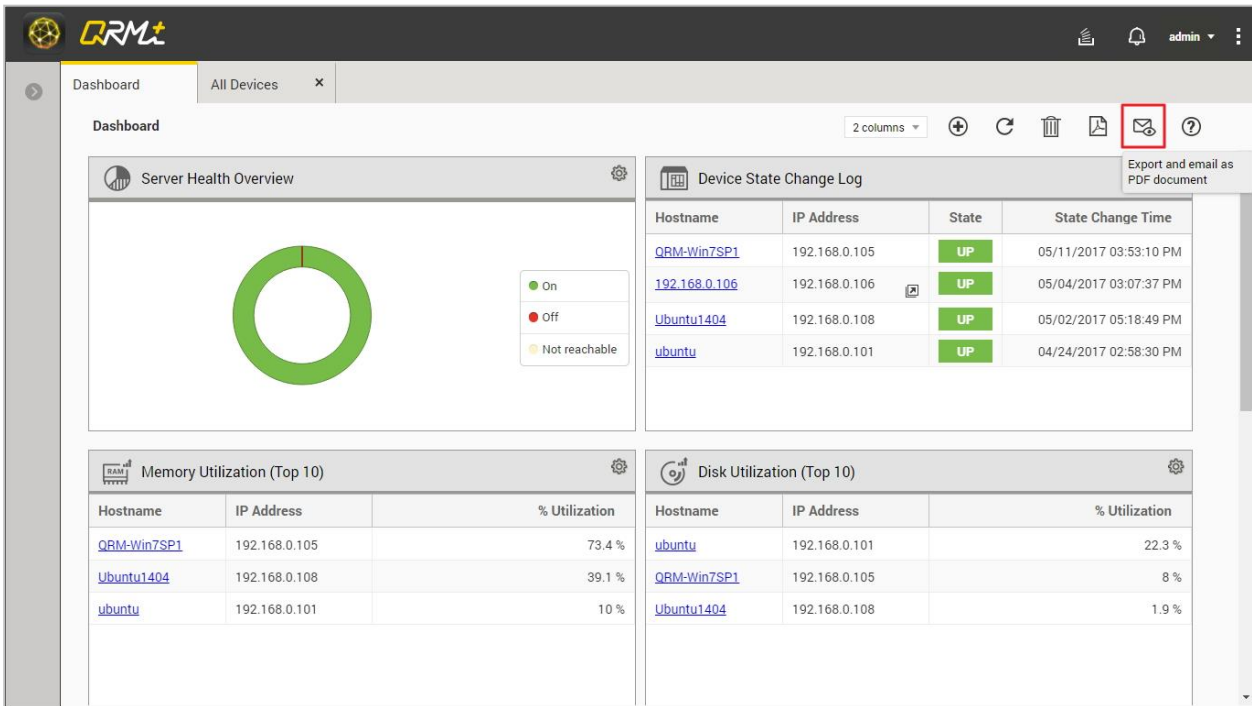
## 2.6 Email current view

[Watch the video](#)

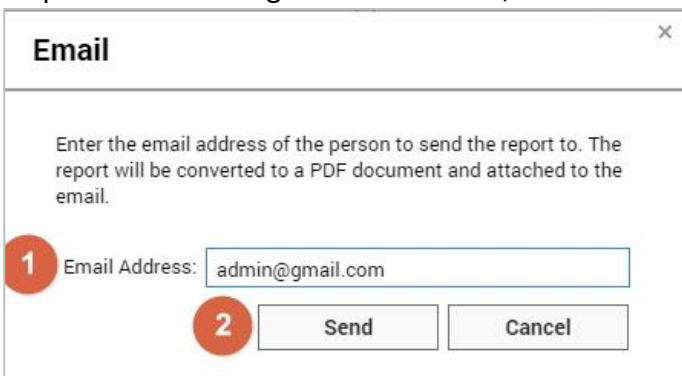
You can export the view from your current dashboard as PDF files and email them to a custom Email address. (Note: This function requires SMTP-related settings to be set up in the "Settings" page)

Setup steps:

Step 1: Go to the Dashboard page and click the "Email current view" button

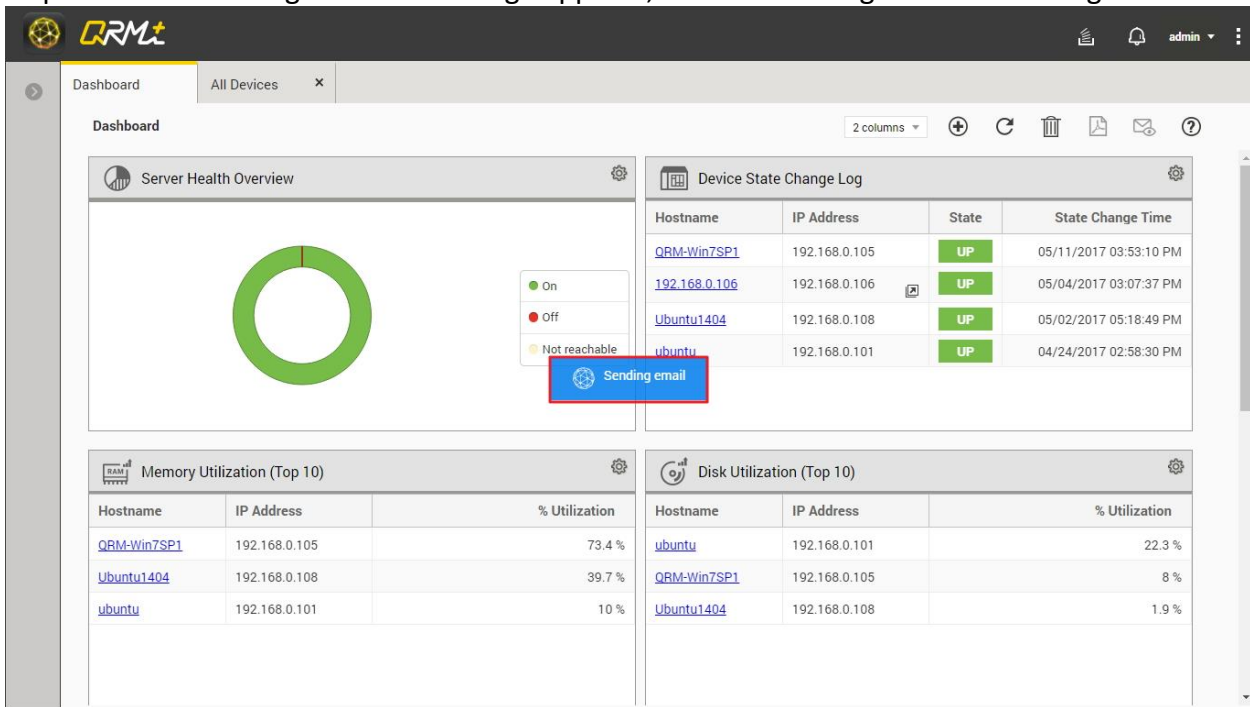


Step 2: After entering the mail address, click the "Send" button





Step 3: When "Sending email..." message appears, the mail is being sent in the background



## 2.7 QRM+ provides both real-time and historical data presentation

1. Real-time Data Widget: Updates your data every 10 seconds after you have added the widget.
2. 24 Hours Data Widget: displays historical data trends of the last 24 hours at any time, updated once every 60 seconds.

Note: All widgets can be dragged and moved within the Main Dashboard.

# 3. Device Management

## 3.1 Device List

The Device Management page provides a list of all the devices currently managed by QRM+, along with their brief information and associated status. Users can quickly find the device and find out their current status using the Device Management page.

Hostname	IP Address	Device Tag	Managed by	Brand	Model	Operating System	Role	Status
172.17.30.169	172.17.30.169			Unknown	Unknown	Unknown	Device	Not Monitored
172.17.31.20	172.17.31.20		IPMI	IEI Technology Corp.	Unknown	Unknown	Device	Monitored
172.17.31.17	172.17.31.17		IPMI	IEI Technology Corp.	Unknown	Unknown	Device	Monitored
172.17.30.130	172.17.30.130	12121	IPMI	HP	Unknown	Unknown	Device	Monitored
10.4.14.11	10.4.14.11		IPMI	Supertmicro	Unknown	Linux	Device	Monitored
Win10-RDP	172.17.31.68		QRMAgent	Gigabyte Technology Co...	Intel64 Family 6 Model 4...	Microsoft Windows 10	Device	Monitored
172.17.31.18	172.17.31.18		IPMI	IEI Technology Corp.	Unknown	Unknown	Device	Monitored
172.17.31.19	172.17.31.19		IPMI	IEI Technology Corp.	Unknown	Unknown	Device	Monitored
172.17.30.145	172.17.30.145			Unknown	Unknown	Unknown	Device	Not Monitored
172.17.30.146	172.17.30.146			Unknown	Unknown	Unknown	Device	Not Monitored
WIN-SP	172.17.20.125			Unknown	Unknown	Windows	Device	Not Monitored
10.64.202.47	10.64.202.47			Unknown	Unknown	Windows	Device	Not Monitored
GALAXY	172.17.30.35			Unknown	Unknown	Windows	Device	Not Monitored

### Device Name:

Device Name not only differentiates the different devices, through different light colors, it also shows its current connection status with QRM+.

### Status :

Users will know whether the device is currently being monitored by QRM+ by looking at the Status column. For a non-IPMI device, additional QRMAgent must be installed for it to be monitored via QRM+.

### Add Device:

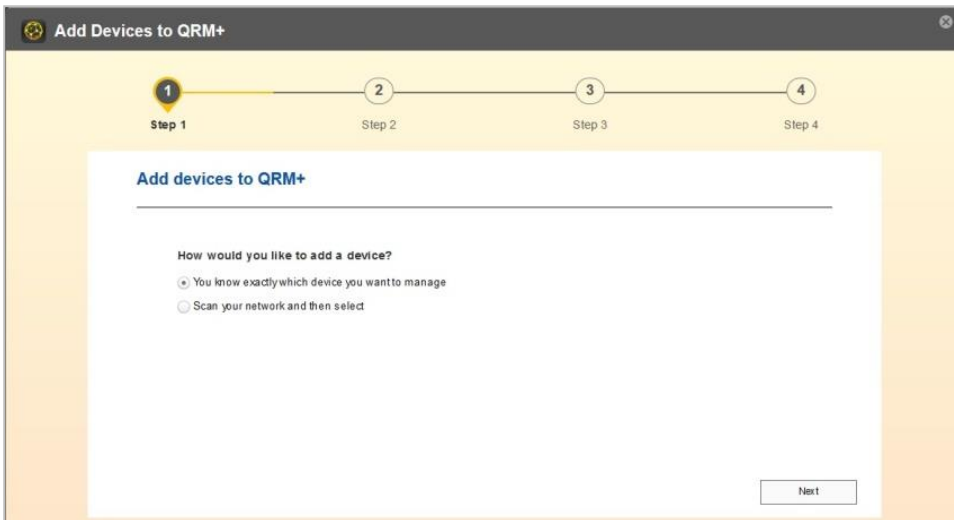
Users can add devices to QRM+ management via the Add Device feature

Add Device steps

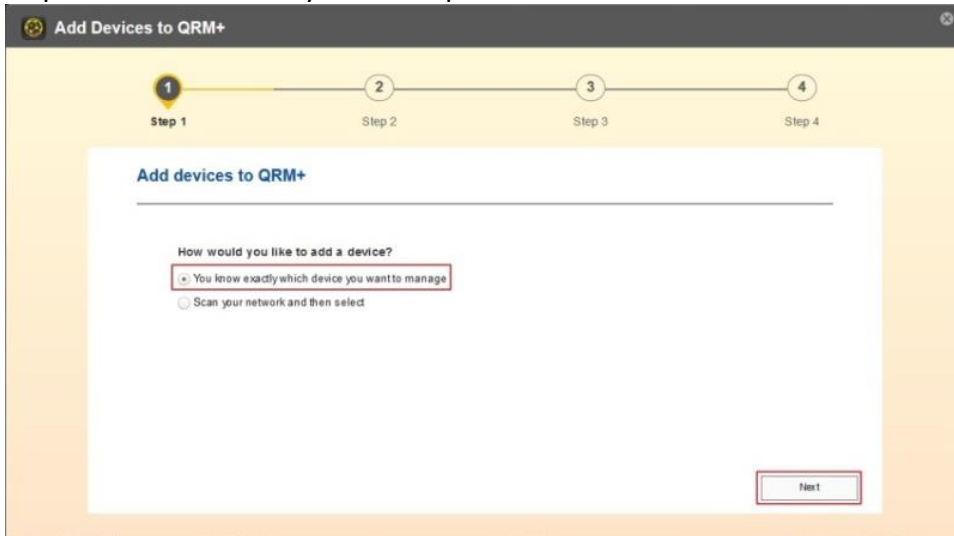
Step 1: Click the "Add Device" button

Step 2: Choose how you want to add the device

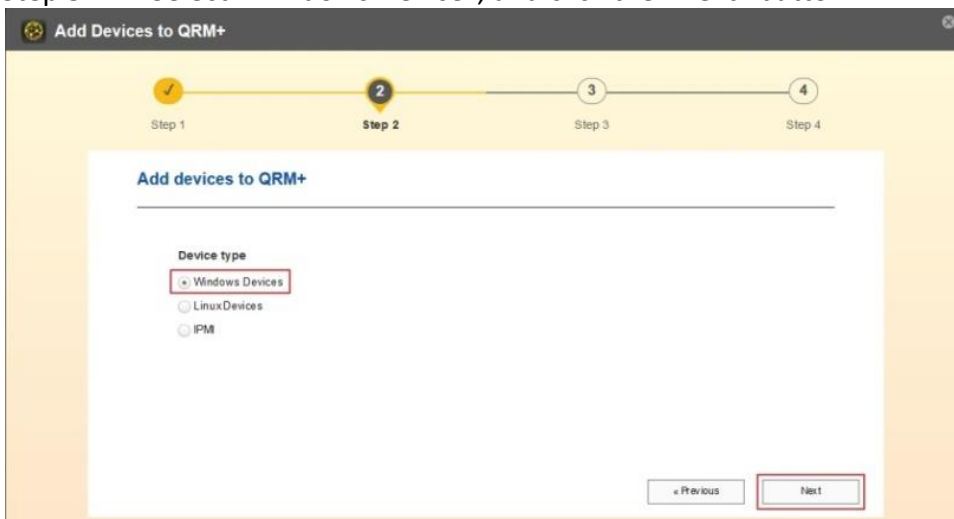
1. Quickly add the specified device
2. Search the network to help you find the install method



Step 3-1: Select "Quickly add the specified device" and click the "Next" button

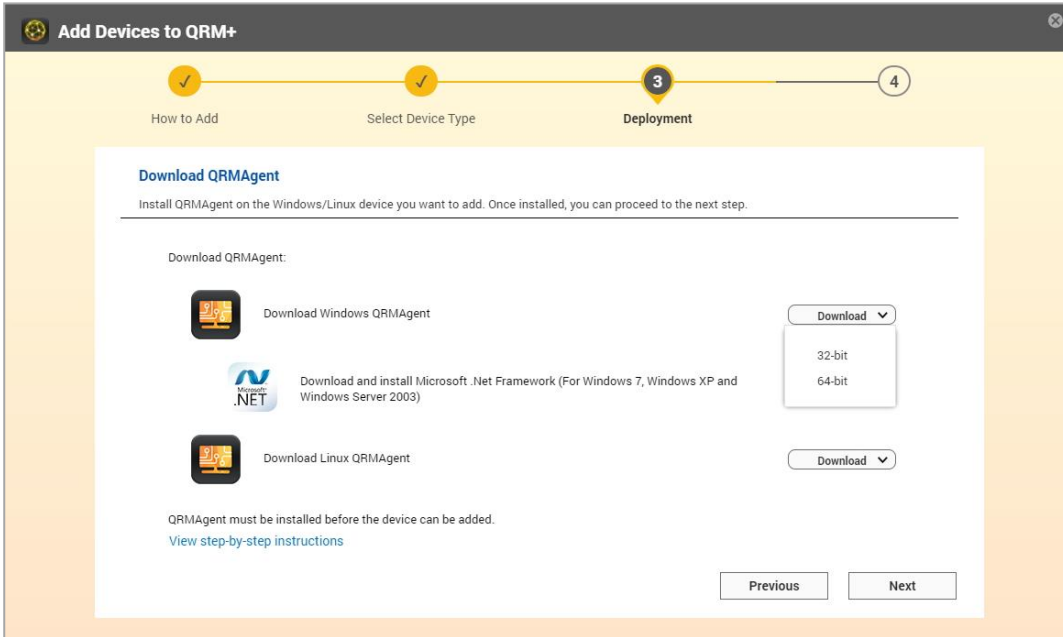


Step 3-1-1: Select "Windows Device", and click the "Next" button



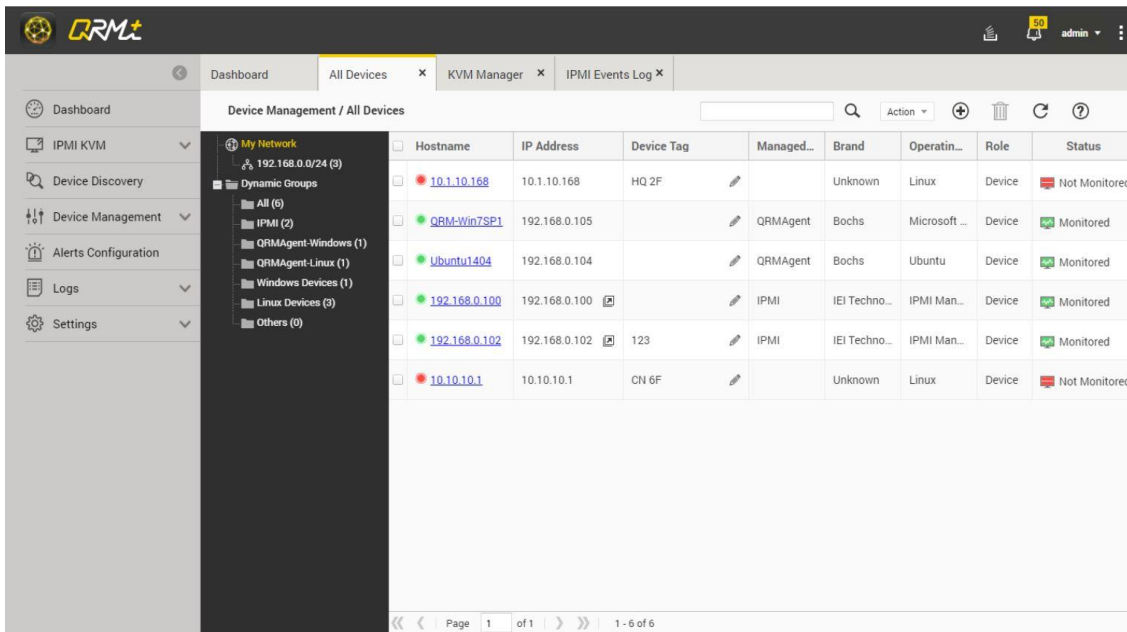


Step 3-1-2: Click the "Download Windows QRMAgent" button to download the installation package

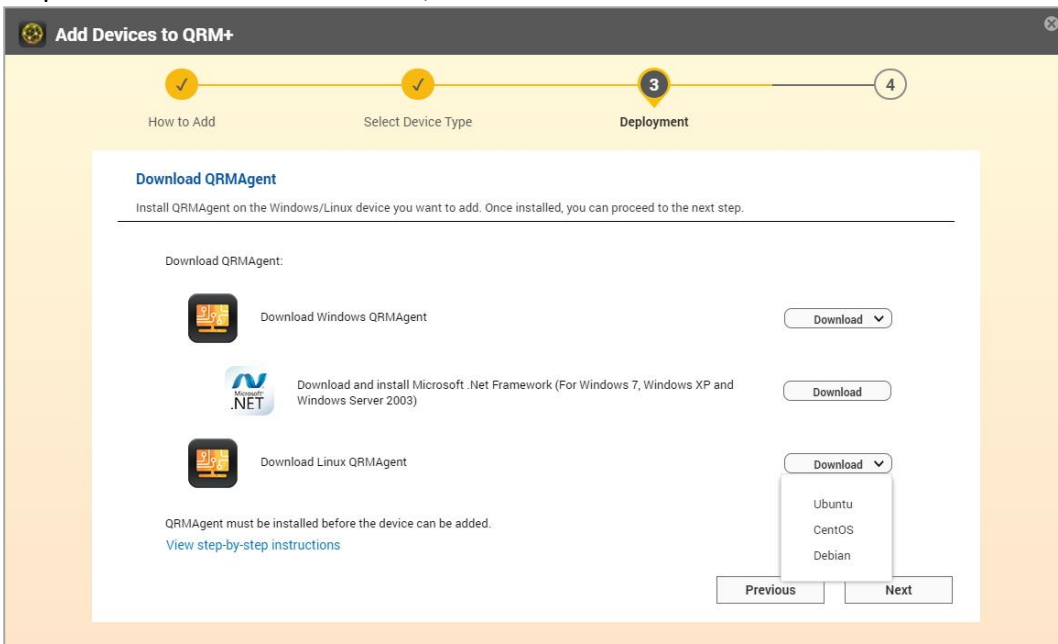


Step 3-1-3: Copy the installation package to the device you want to manage. After decompressing and running the installation program, you can check the installation status in the device list

Refer to "[Steps to add the device to QRM+](#)" to know installation instructions.

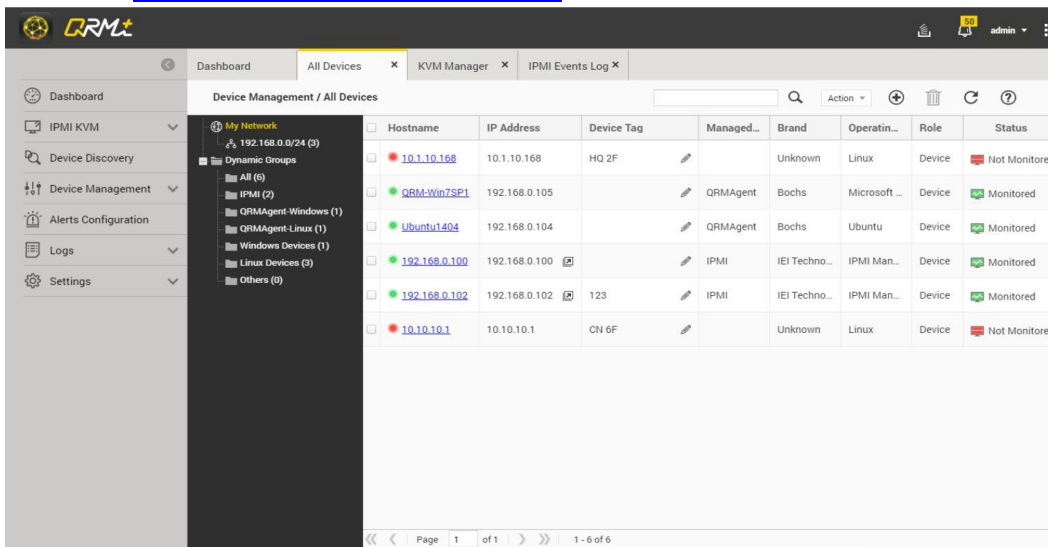


Step 3-2-1: Select "Linux Device", and click the "Next" button



Step 3-2-2: You can view the progress of installation or press the "Finish" button to go to the device list page. Subsequent results of installation status will also be displayed in the device list screen.

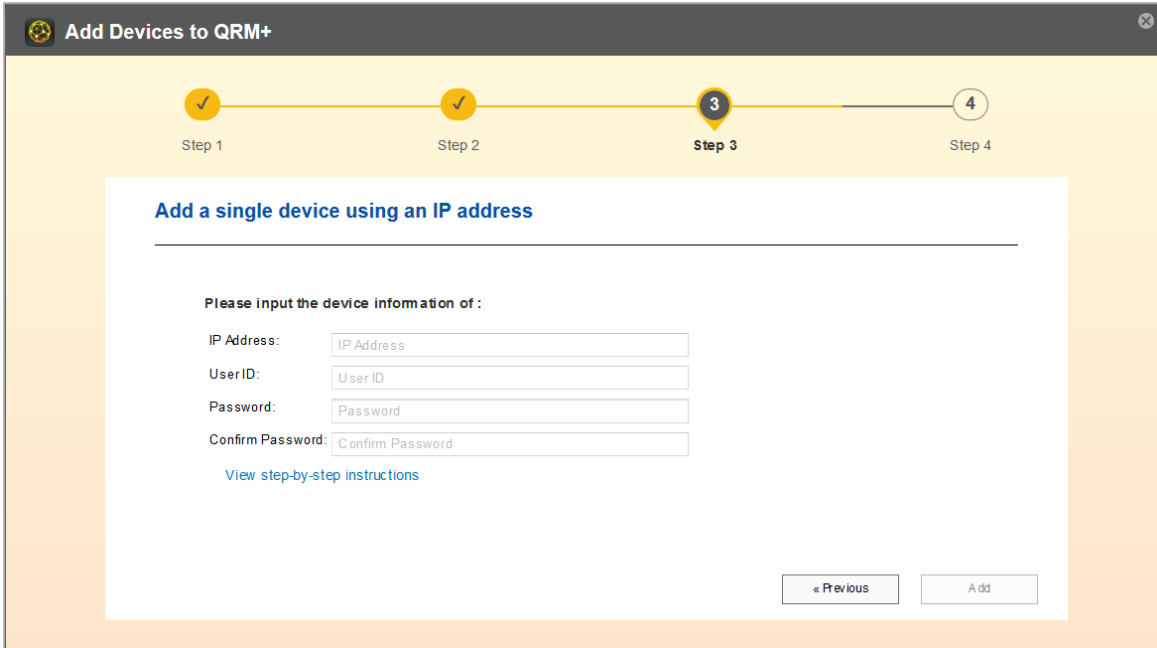
Refer to "[Steps to add the device to QRM+](#)" to know installation instructions.



Step 3-3-1: Select "IPMI Device", and click the "Next" button

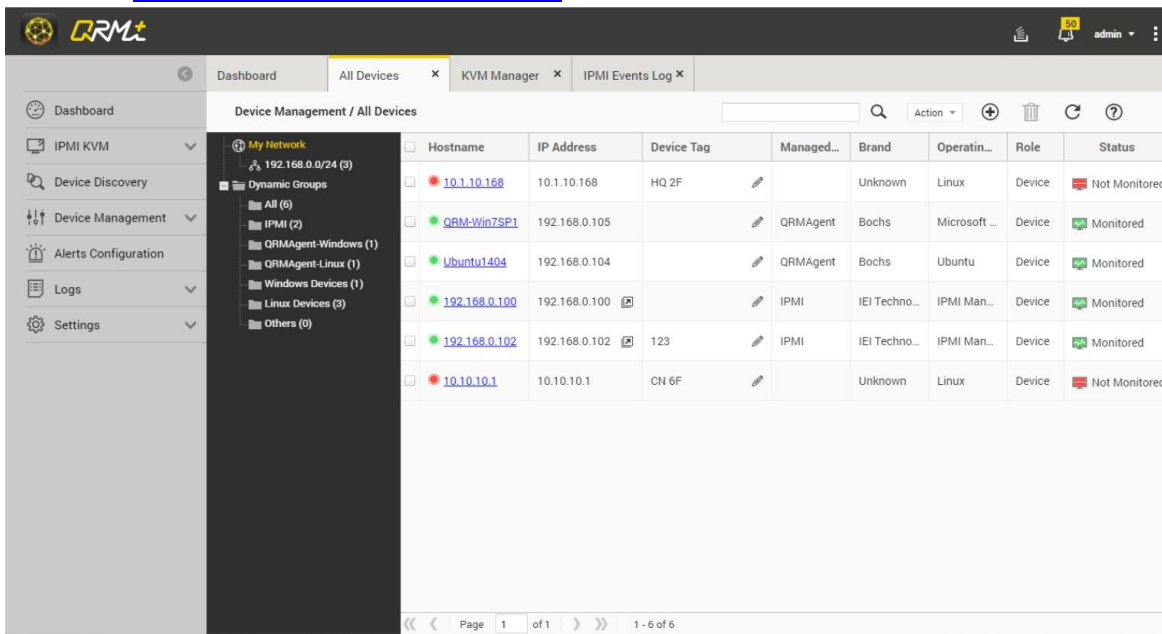
Step 3-3-2: Enter information about the target device

1. Enter the target device IP address
2. Enter the account number
3. Enter the password
4. After confirming the password, press the "Next" button



Step 3-3-3: You can view the progress of installation or press the "Finish" button to go to the device list page. Subsequent results of installation status will also be displayed in the device list screen.

Refer to "[Steps to add the device to QRM+](#)" to know installation instructions.



### Remove Device:

Users can use the Remove Device function to remove devices from the list of QRM+ managed devices, **and remove the related data as well.**

### Reinstall:

If a user's device fails during installation due to an unexpected error, such as a sudden network interruption, the user can click the "Reinstall" button to quickly reinstall it.

### Modify remote management account:

If a user's device fails to install due to a wrong password, the user can click the "Modify Remote

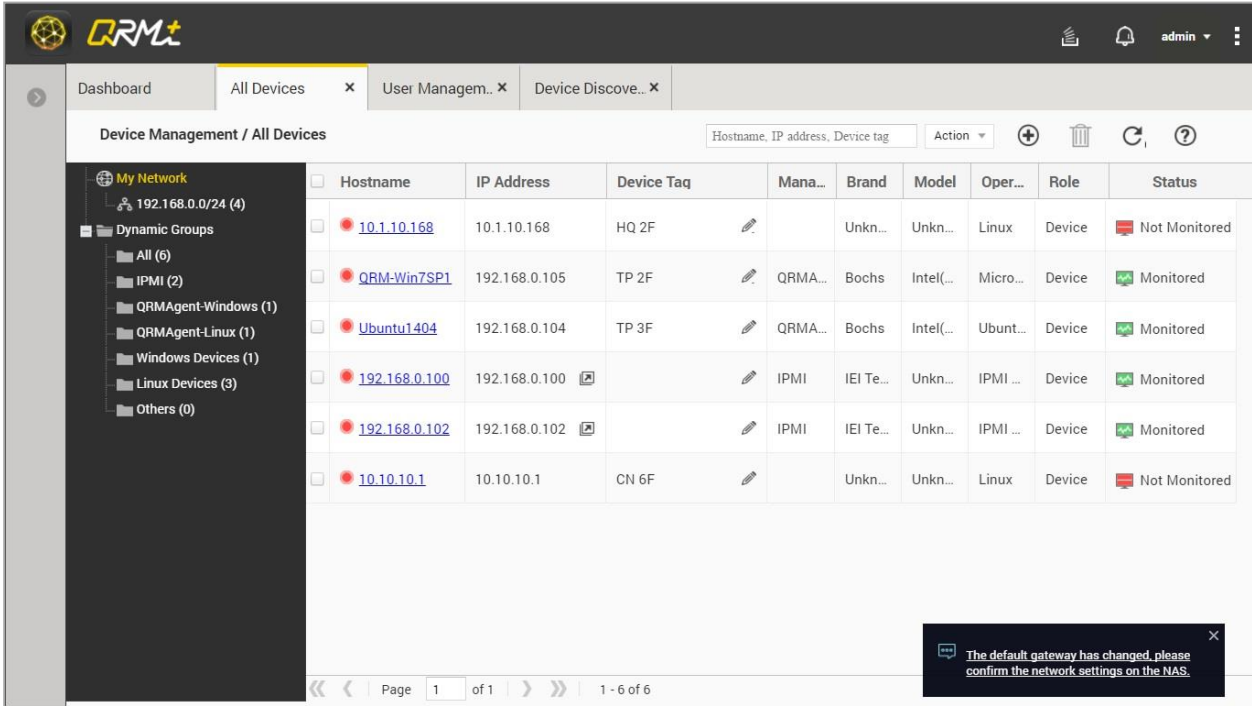
Management Account" to quickly re-set the account password.

### Power Control:

You can power control the remote unit, such as performing power-on, power-off, restart, and power cycling (only applicable to IPMI devices).

### Note

If all devices show turned off, the default gateway may have changed. Confirm the network settings on the NAS.

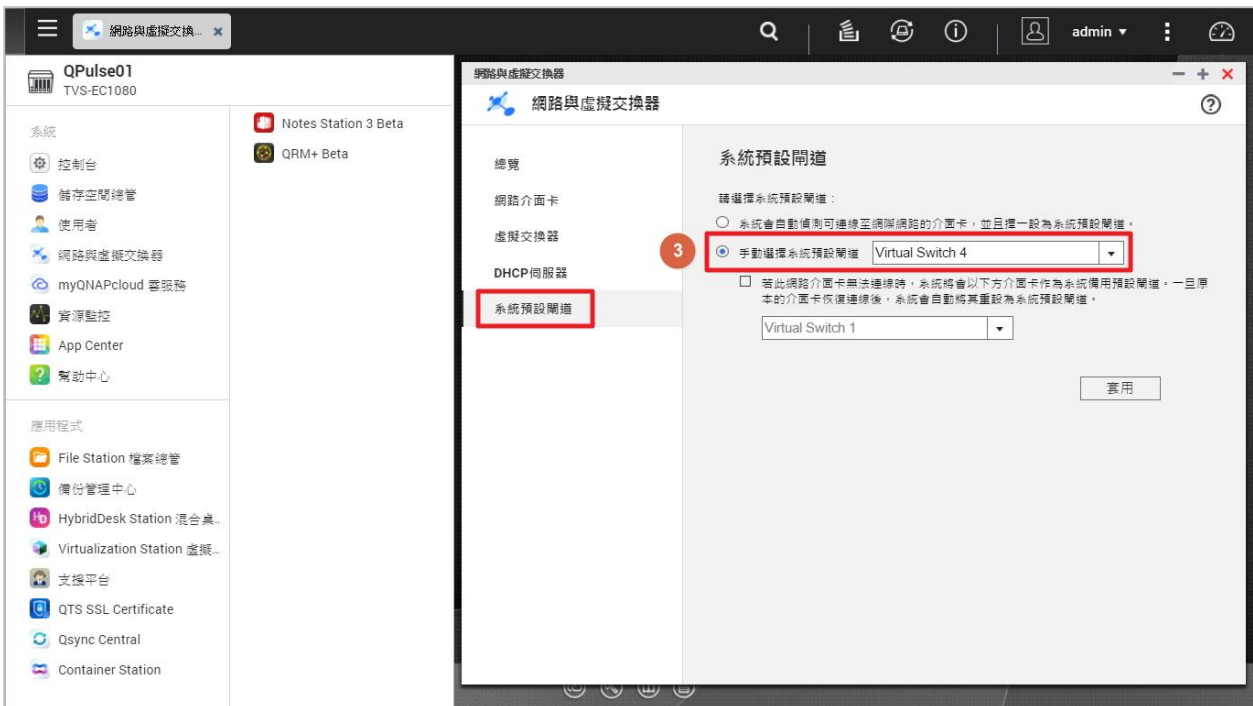
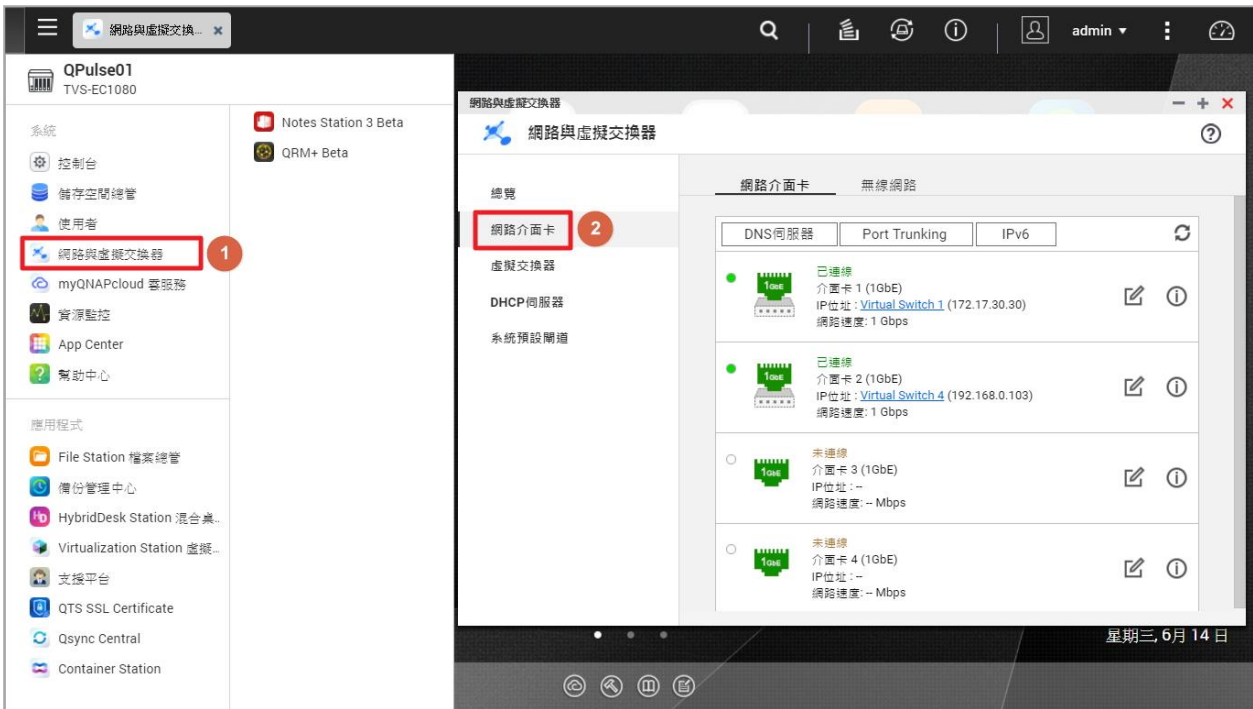


Host	Hostname	IP Address	Device Tag	Mana...	Brand	Model	Oper...	Role	Status
<input type="checkbox"/>	<a href="#">10.1.10.168</a>	10.1.10.168	HQ 2F		Unkn...	Unkn...	Linux	Device	Not Monitored
<input type="checkbox"/>	<a href="#">QRM-Win7SP1</a>	192.168.0.105	TP 2F		QRMA...	Bochs	Intel(...	Device	Monitored
<input type="checkbox"/>	<a href="#">Ubuntu1404</a>	192.168.0.104	TP 3F		QRMA...	Bochs	Intel(...	Device	Monitored
<input type="checkbox"/>	<a href="#">192.168.0.100</a>	192.168.0.100			IPMI	IEI Te...	Unkn...	IPMI ...	Monitored
<input type="checkbox"/>	<a href="#">192.168.0.102</a>	192.168.0.102			IPMI	IEI Te...	Unkn...	IPMI ...	Monitored
<input type="checkbox"/>	<a href="#">10.10.10.1</a>	10.10.10.1	CN 6F		Unkn...	Unkn...	Linux	Device	Not Monitored

Step 1: Log in to QTS and open "Network & Virtual Switch".

Step 2: Check the network ports that can reach the Internet.

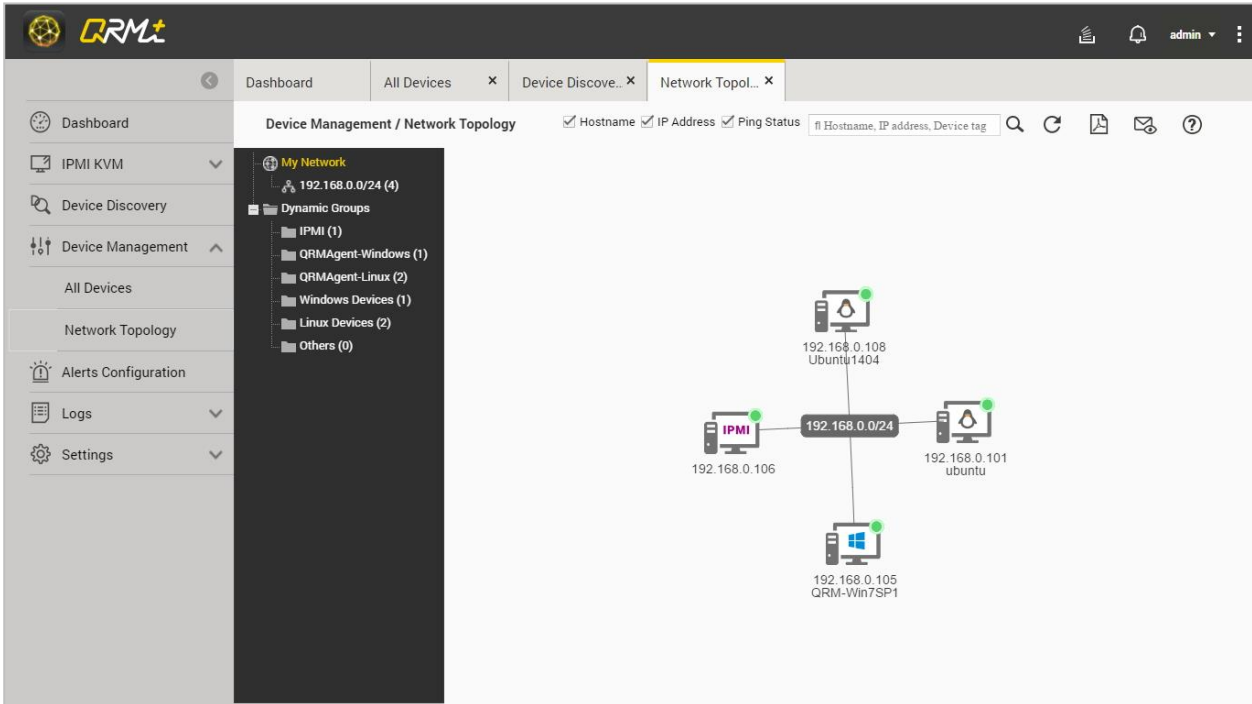
Step 3: Manually select the network port that can reach the Internet.





## 3.2 Network Topology

QRM+ provides visual network topology to quickly present the managed device's network structure, automatically groups devices based on device information, and changes status icons according to the current real-time status.



1. My network shows different subnet groups
2. Dynamic Groups will automatically sub-group according to subnet, operating system and other information
3. Device Name
4. IP address of the device
5. Current status of the managed device (Power On, Power Down, or network outage)
6. Device Discovery

## 4. Single Device Management

QRM+ currently supports two types of device management:

Type 1: QRMAgent management

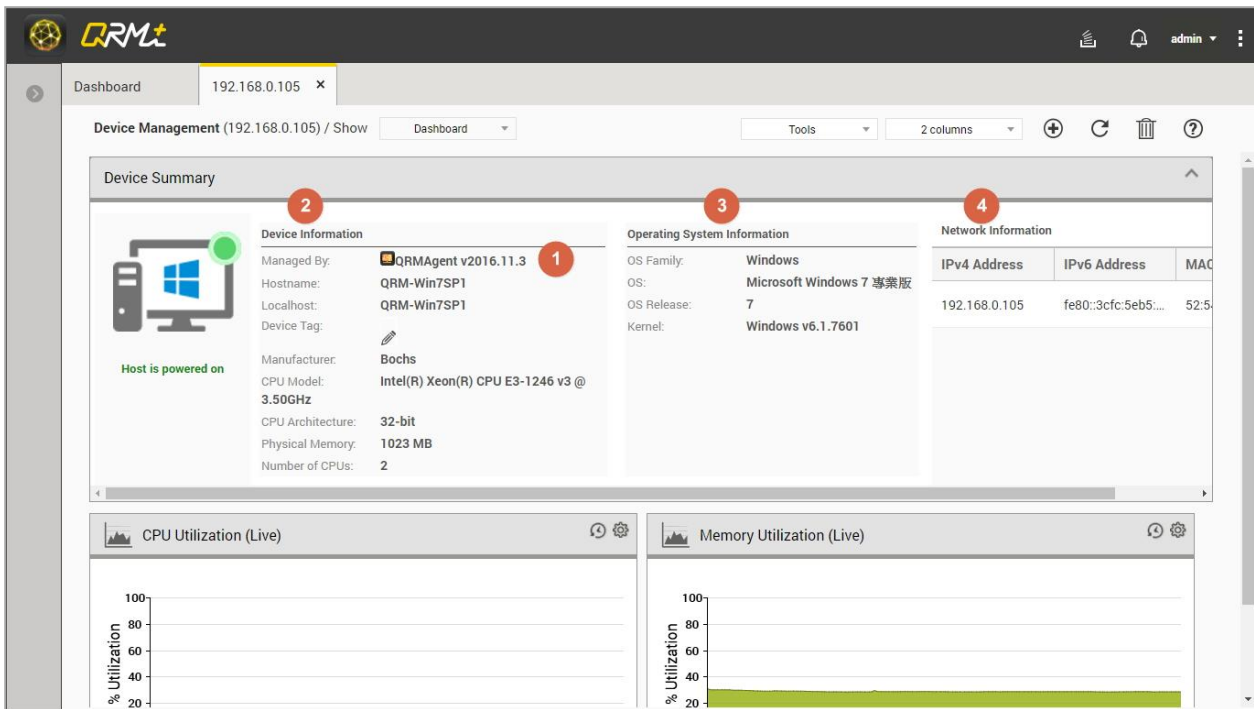
Type 2: IPMI protocol management

Monitoring and management functions of QRMAgent single device page is described below

### 4.1 QRMAgent Single Device Dashboard

QRMAgent Single Device Dashboard provides detailed information about a specific managed device, including:

1. QRMAgent version
2. Device Information
3. Operating system information
4. Network information



In QRMAgent Single Device Dashboard, users can add or remove widgets, select layout modes, and use the tools in the tool set to manage QRMAgent devices.

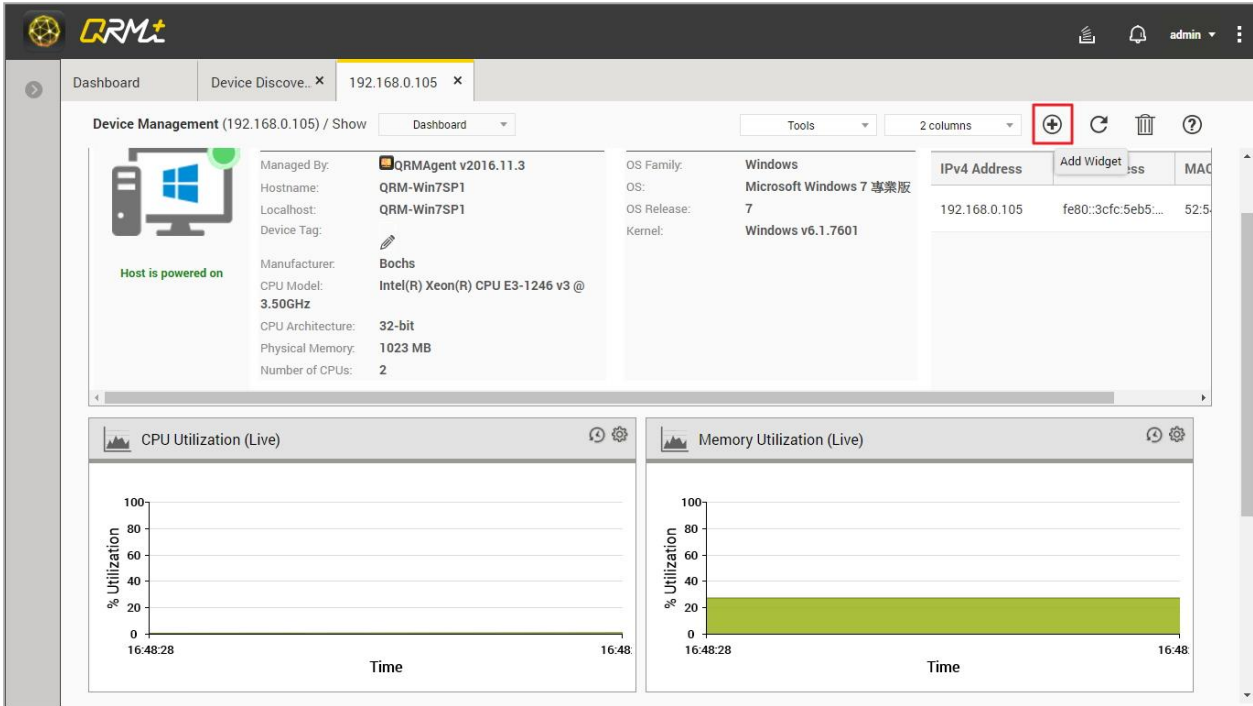
### 4.2 Add Widget

[Watch the video](#)

Users can add multiple widgets to customize QRMAgent Single Device Dashboard to monitor CPU usage, memory usage, disk usage, network usage and more, there are also multiple chart types at the user's disposition.

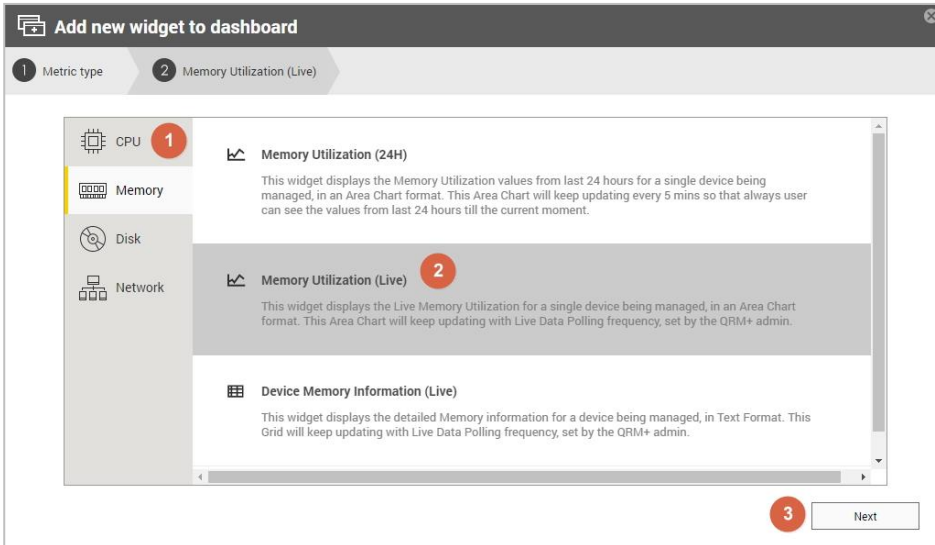
Setup steps:

Step 1: Go to QRMAgent Single Device Dashboard page and click the "Add Widget" button



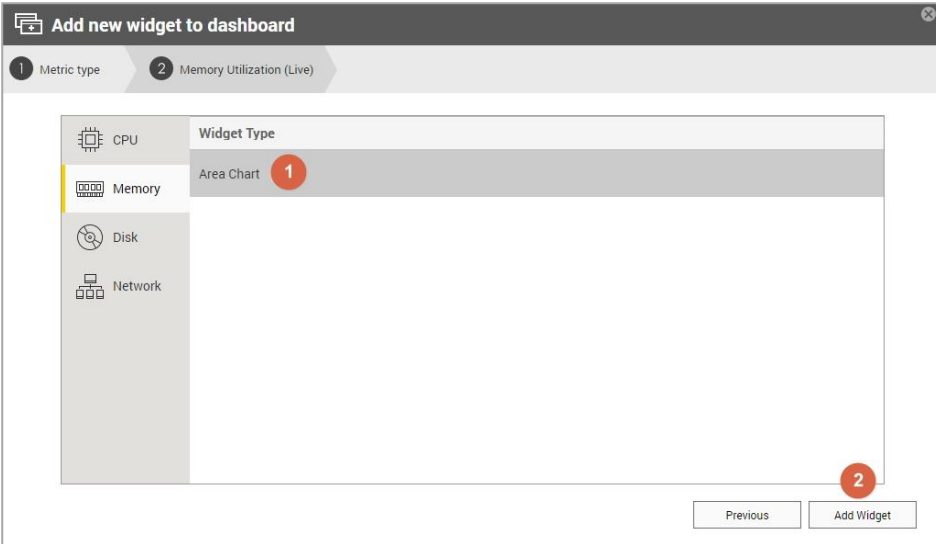
Step 2: Complete the settings of data type and data range to be monitored:

1. Select the type of data you want to monitor. There are four types: CPU usage, memory usage, disk usage, and network usage.
2. Select the data range (real-time data or last 24 hours of historical data)
3. Click "Next"

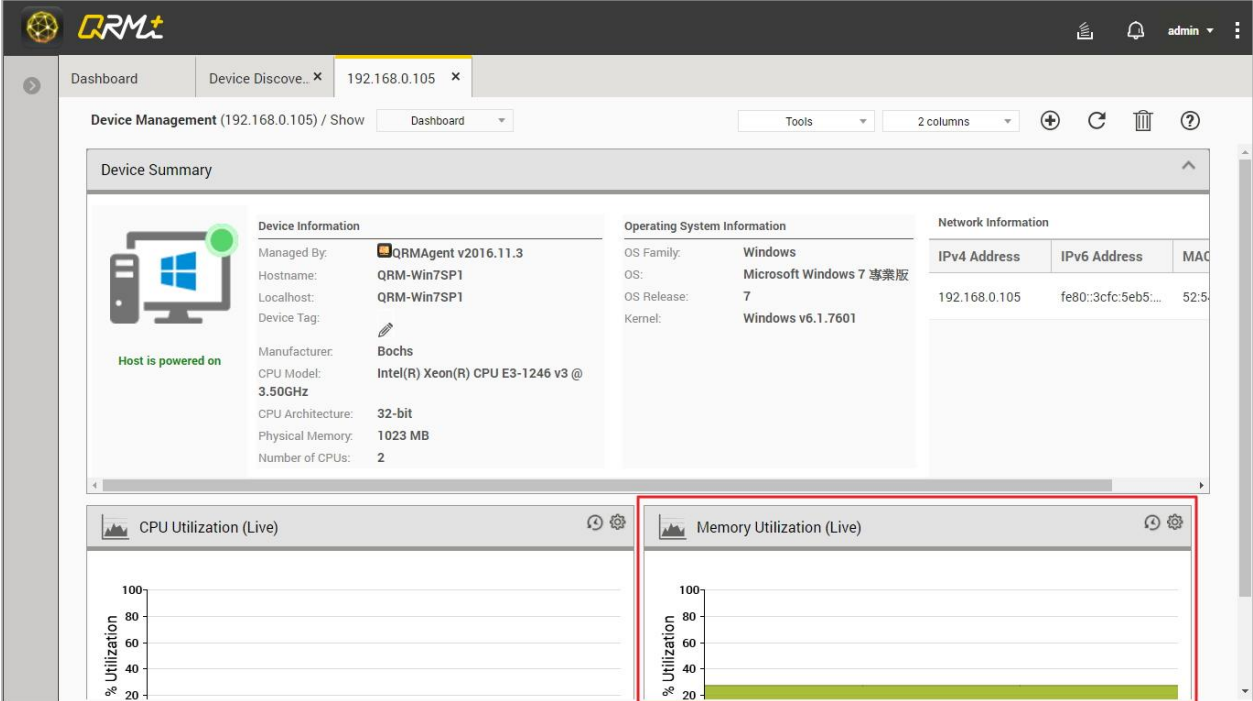


Step 3: Complete the chart type setting

1. Select the type of chart
2. Click the "Add Widget" button to complete the operation



Step 4: When the setup is complete, the widget will be added to the last position in the Dashboard

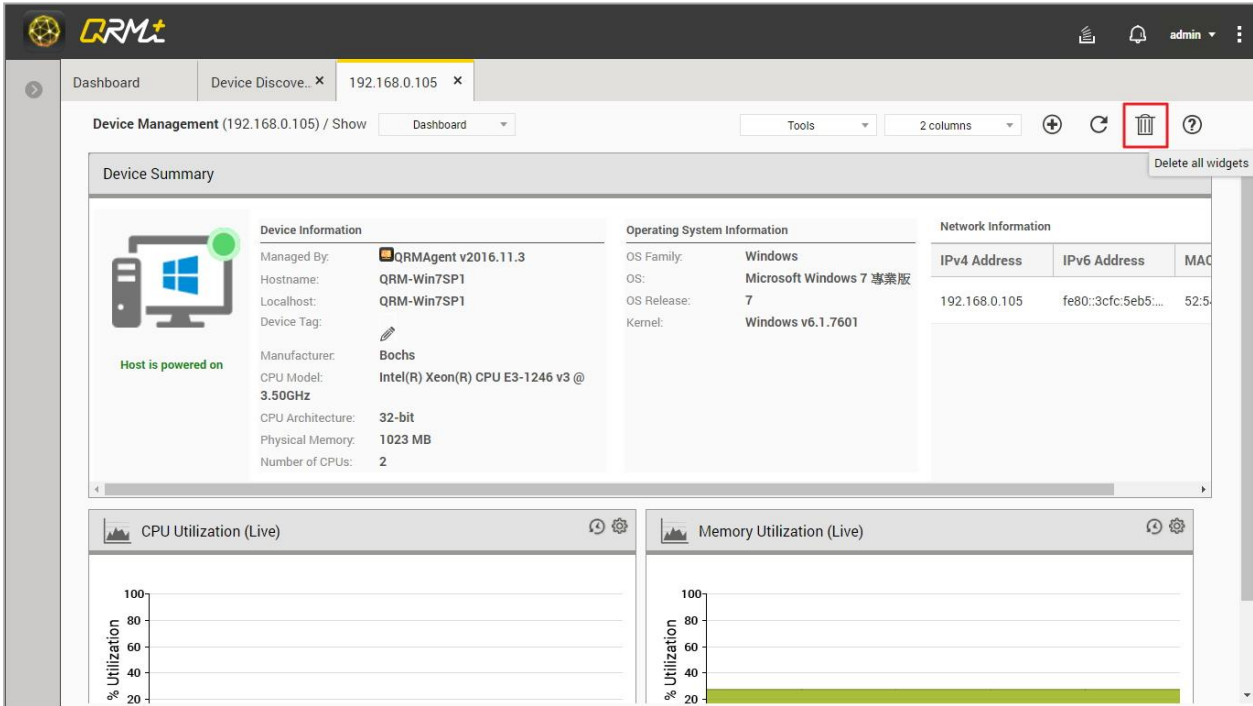


## 4.3 Delete all widgets in the QRMAgent Single Device Dashboard

[Watch the video](#)

Setup steps:

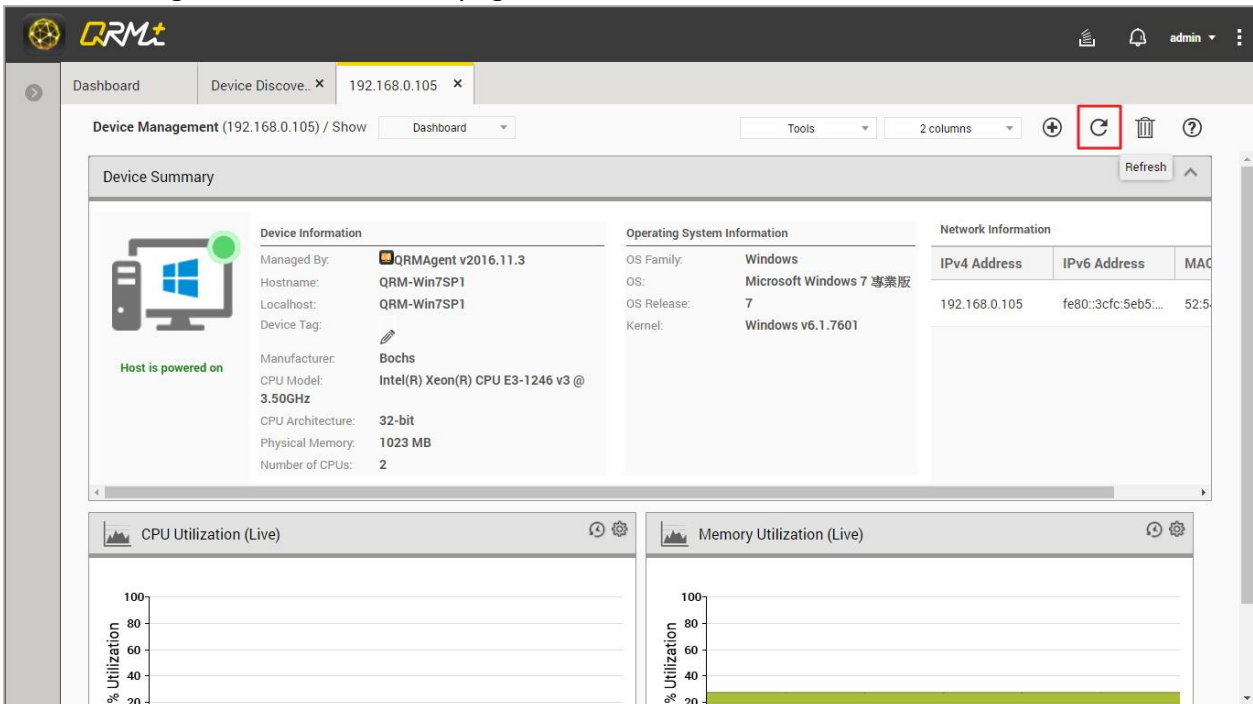
Go to the QRMAgent Single Device Dashboard page and click the "Delete All Widgets" button



## 4.4 Refresh all widgets information in the Dashboard

Setup steps:

Go to the Single Device Dashboard page and click the "Refresh" button



## 4.5 Select the layout mode

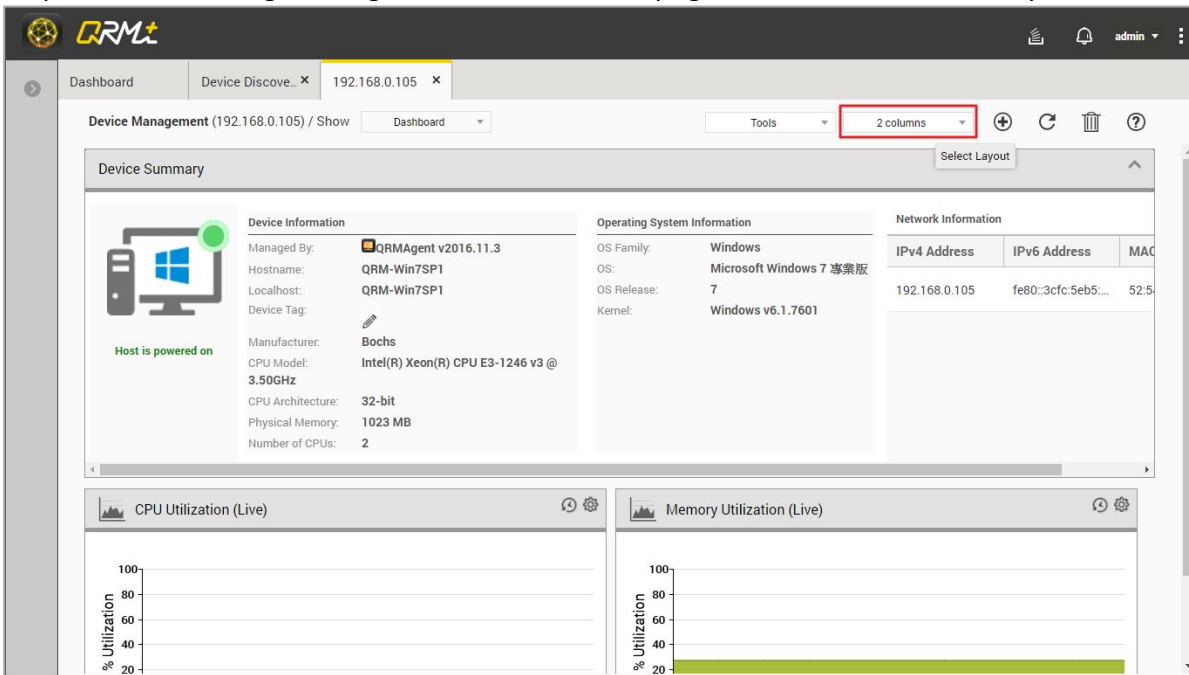
[Watch the video](#)

Users can customize the layout of QRMAgent Single Device Dashboard, and the widgets will re-arrange themselves accordingly.

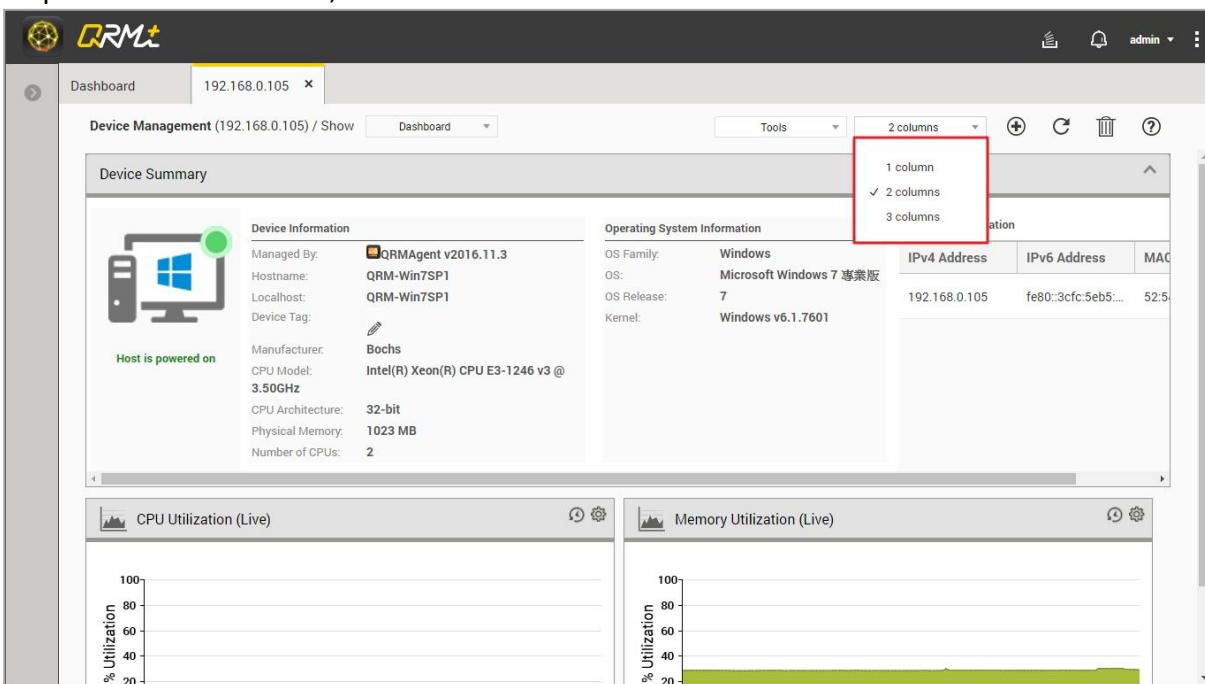
- 1 column display
- 2 columns display
- 3 columns display

Setup steps:

Step 1: Go to QRMAgent Single Device Dashboard page and Click the "Select Layout" button



Step 2: Select "1 column", "2 columns" or "3 columns"



## 4.6 Tools - Browse Device

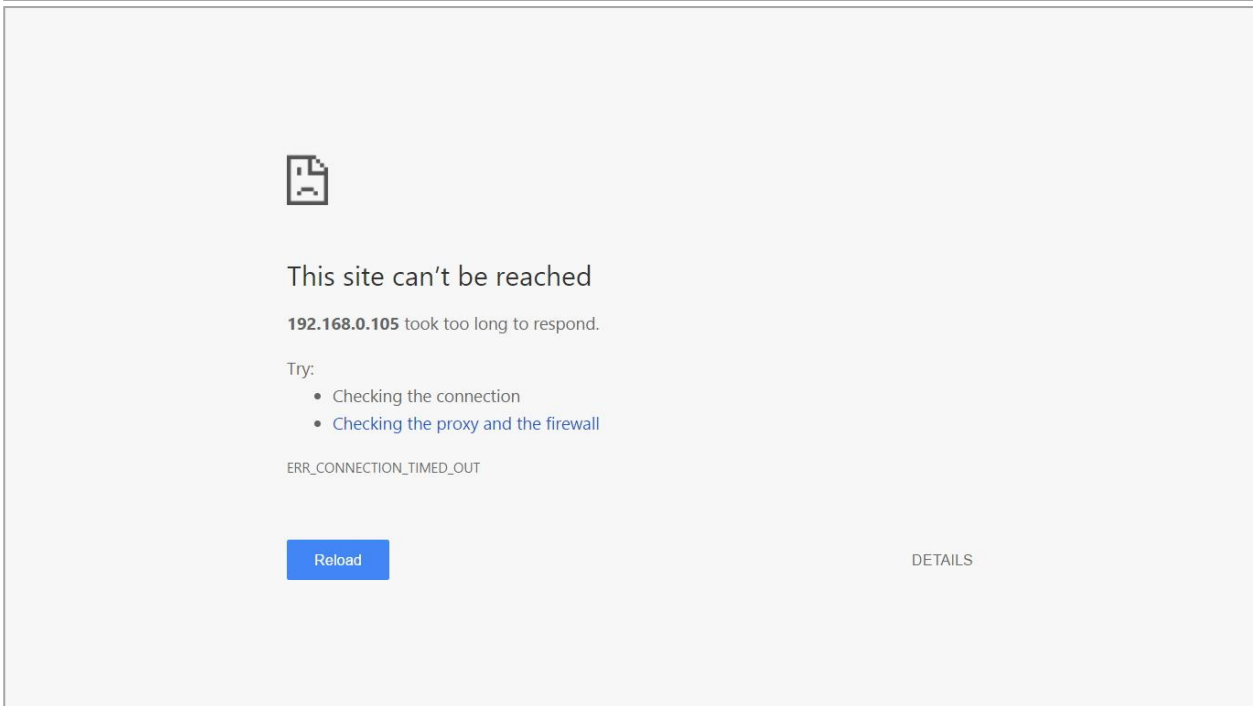
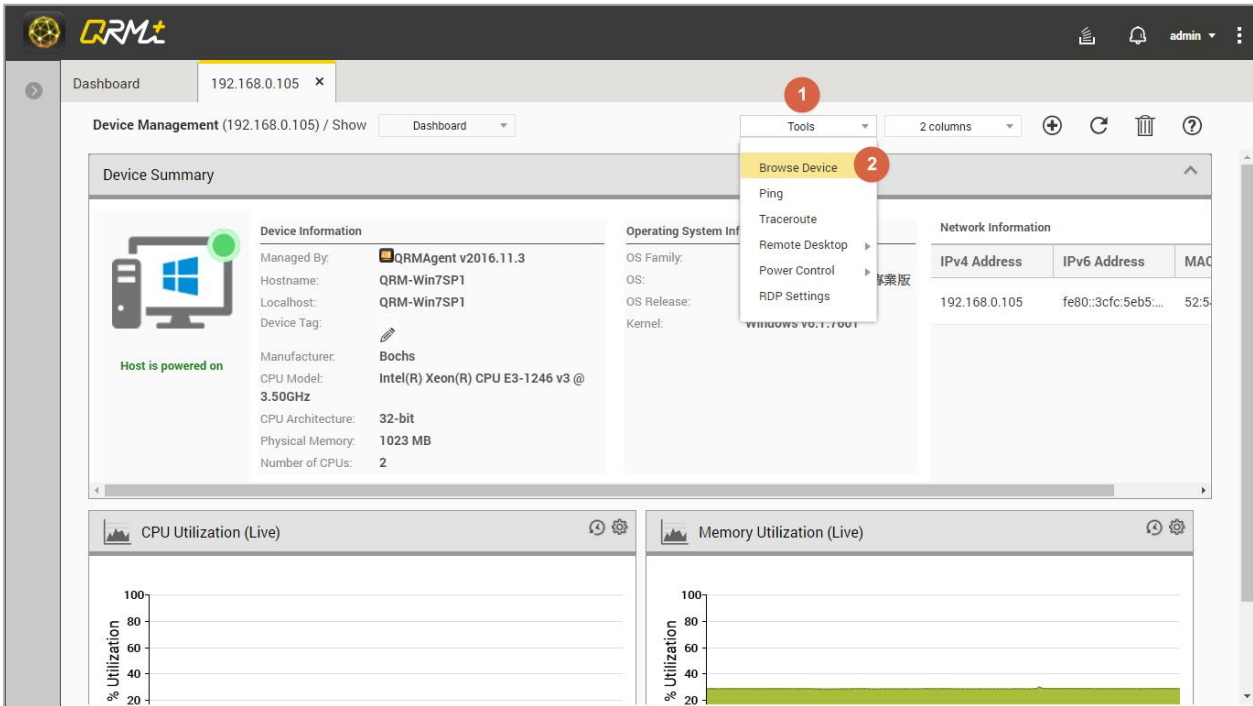
[Watch the video](#)

The IP address of this device is used as URL to open a new browser tab. If the device is currently Power Down or is not a web server, it will not be able to connect and a connection error message will be displayed.

Setup steps:

Step 1: Go to QRMAgent Single Device Dashboard page and click the "Tools" button

Step 2: Select "Browse Device"



## 4.7 Tools - ping

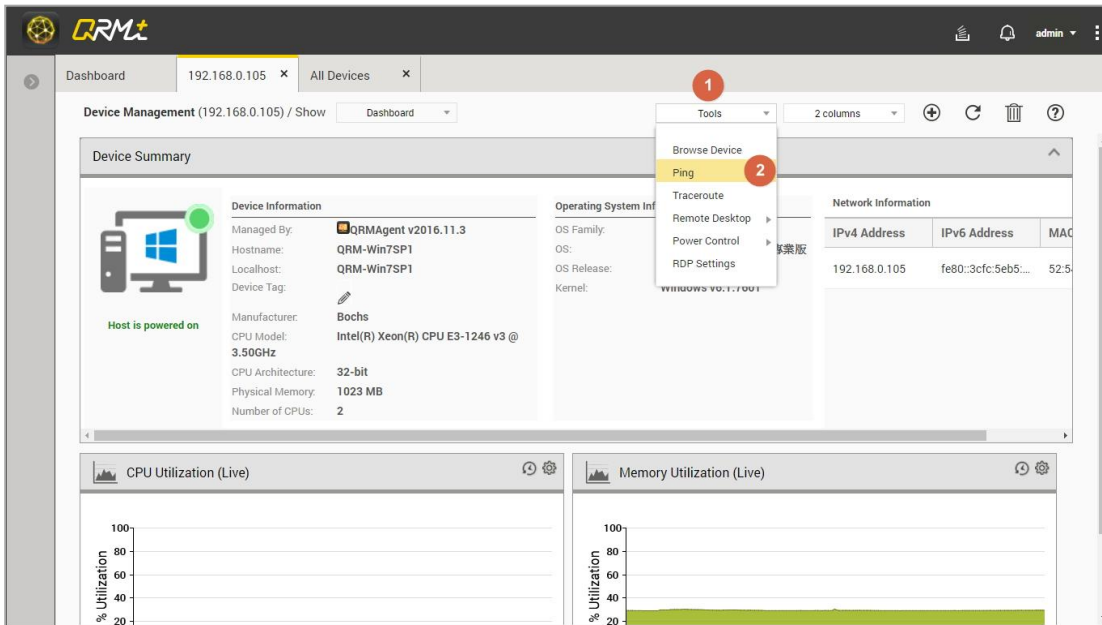
[Watch the video](#)

QRM+ provides Ping monitoring function to test whether a packet can reach a specific device through IP protocol and to view the connection status of QRM+ with the device

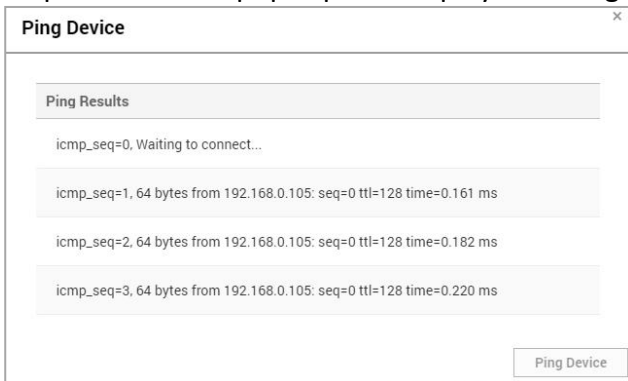
Setup steps:

Step 1: Go to QRMAgent Single Device Dashboard page and click the "Tools" button

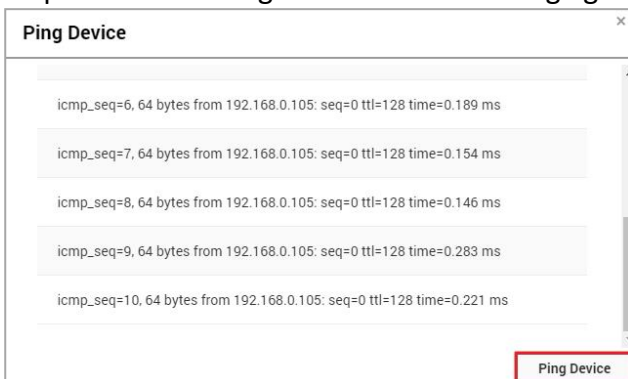
Step 2: Select "Ping"



Step 3: A window pops up and displays the Ping command execution result



Step 4: Click the Ping Device button to Ping again





## 4.8 Tools – traceroute

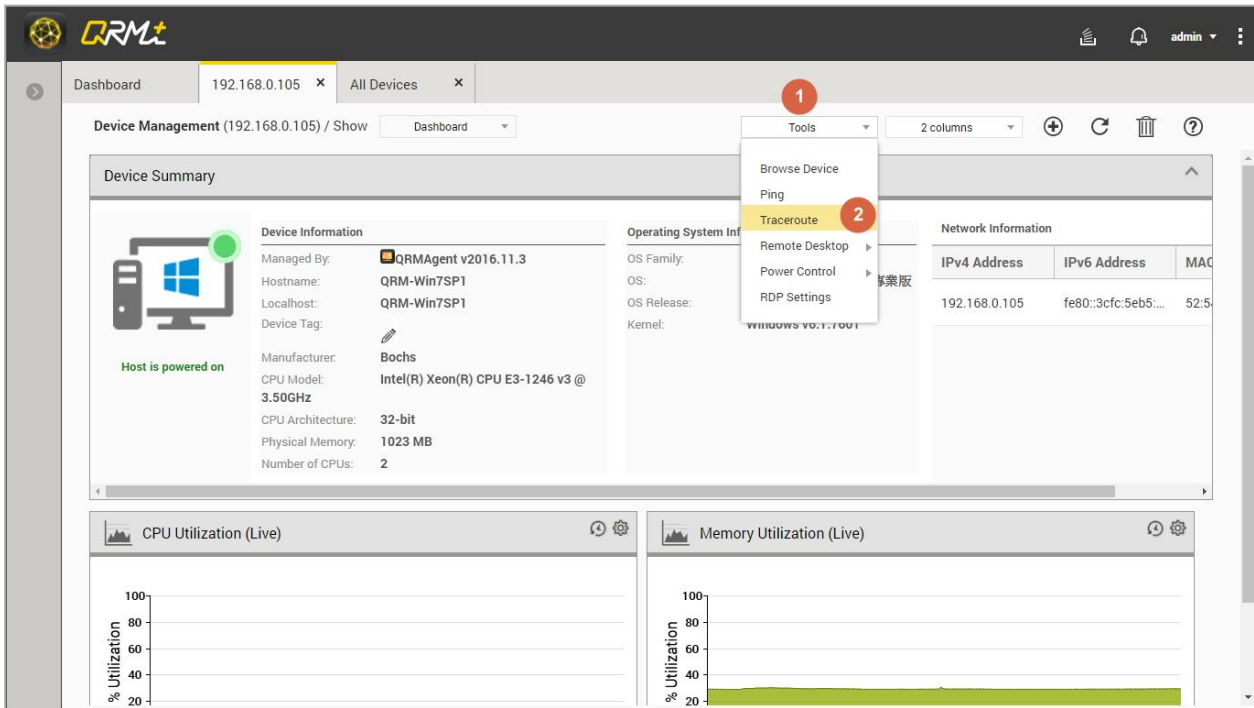
[Watch the video](#)

QRM+ provides Tracerout monitoring, which displays the IP addresses of the routers throughout the IP network in a new window.

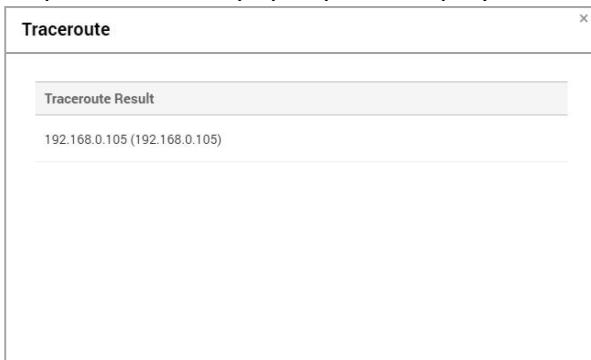
Setup steps:

Step 1: Go to QRMAgent Single Device Dashboard page and click the "Tools" button

Step 2: Select "Traceroute"



Step 3: A window pops up and displays the Traceroute command execution result



## 4.9 Tools - Remote Desktop

[Watch the video - RDP](#)

[Watch the video - VNC](#)

[Watch the video - SSH](#)

QRM+ provides integrated remote desktop functionality, you can select the appropriate remote access method according to different device types:

1. Windows device: RDP or VNC remote desktop
2. Linux device: VNC remote desktop or SSH connection (no need to install SSH client program)
3. IPMI device: KVM over IP remote computer management program

Note: The remote device must enable the option to allow users to connect to the computer  
Setup steps:

Step 1: Go to QRMAgent Single Device Dashboard page and click the "Tools" button

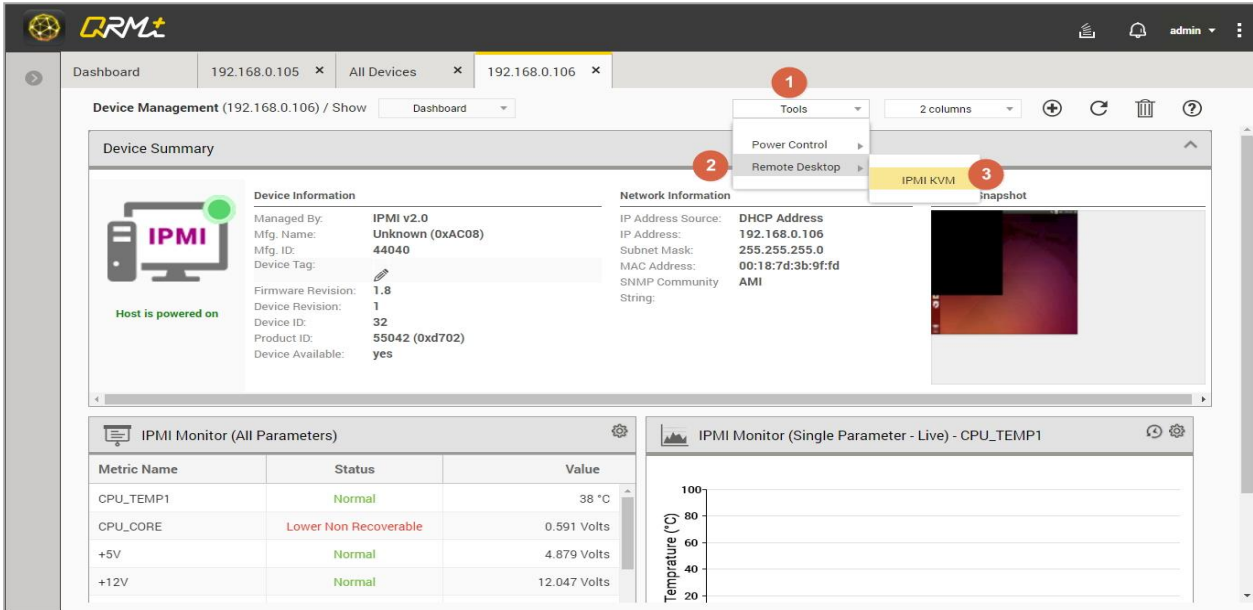
Step 2: Select "Remote Desktop"

Step 3: Select the appropriate remote access method according to different device types

1. Windows device: RDP or VNC Remote Desktop (users need to install VNC server program on Windows device)
2. Linux device: VNC remote desktop or SSH connection (no need to install SSH client program)
3. IPMI device: KVM over IP remote computer management program

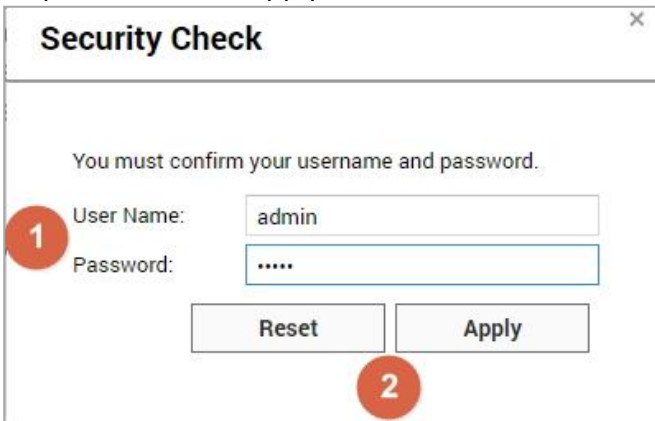
The screenshot displays the QRM+ interface for a device at IP 192.168.0.105. The 'Tools' dropdown menu is open, showing options like 'Browse Device', 'Ping', 'Traceroute', 'Remote Desktop', 'Power Control', and 'RDP Settings'. The 'Remote Desktop' option is selected, and its sub-menu is visible, with 'RDP' highlighted. The device summary shows it is a Windows device (OS Family: Windows) managed by QRMAgent v2016.11.3. Below the summary are live graphs for CPU and Memory Utilization.

Address	IPV6 Address	MAC
0.105	fe80::3fc:5eb5:...	52:5...



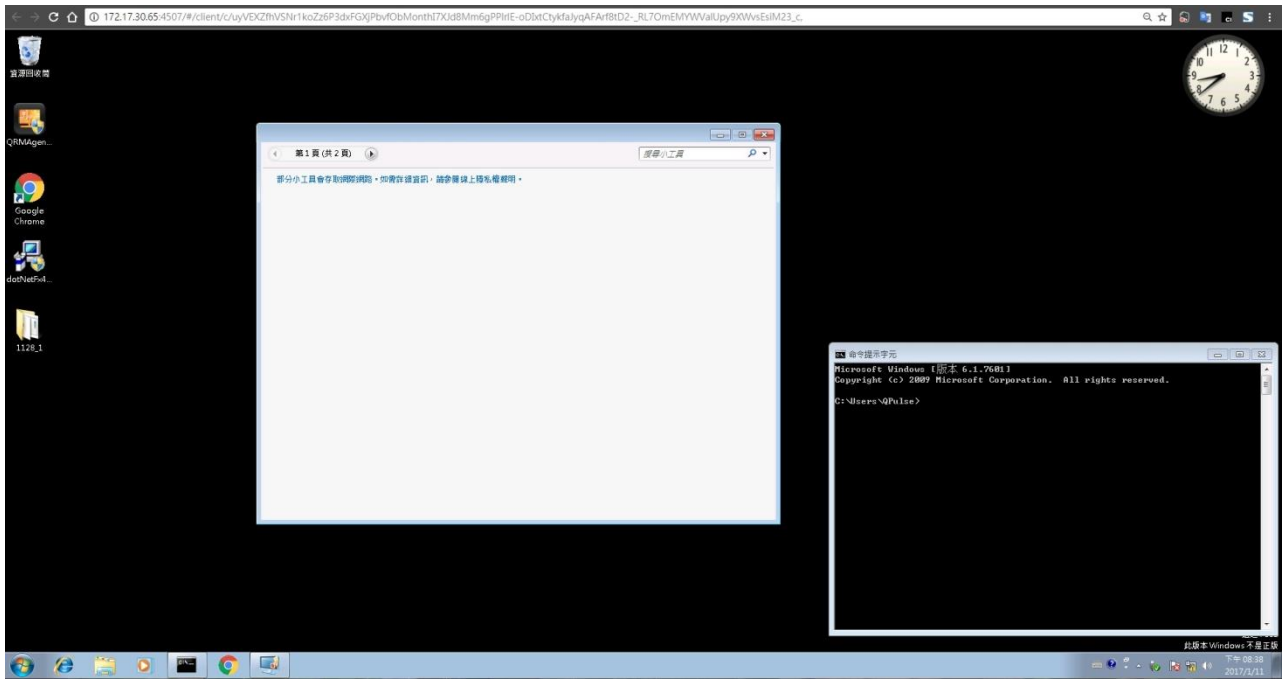
Step 4: A security check window will pop up, asking the user to enter the remote device account number and password

Step 5: Select the "Apply" button, or click the "Reset" button to re-enter

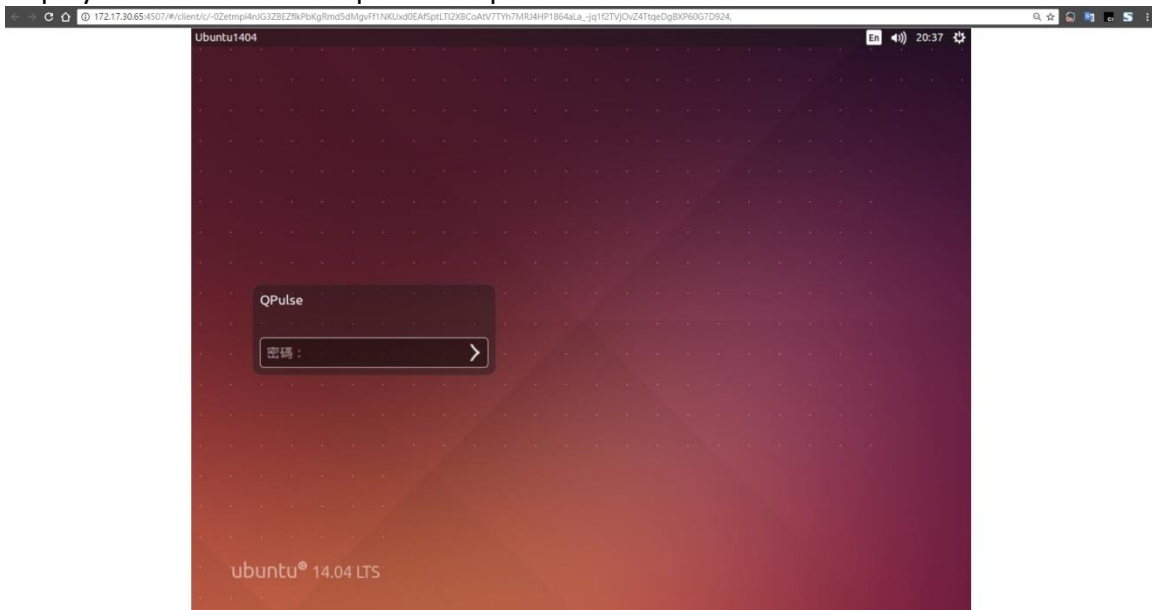


Step 6: The browser opens a new page to display the remote desktop. If the connection is successful, the remote desktop will be displayed. If the connection fails, an error message will be displayed and the user can try to reconnect.

Displays the remote desktop screen upon successful RDP connection

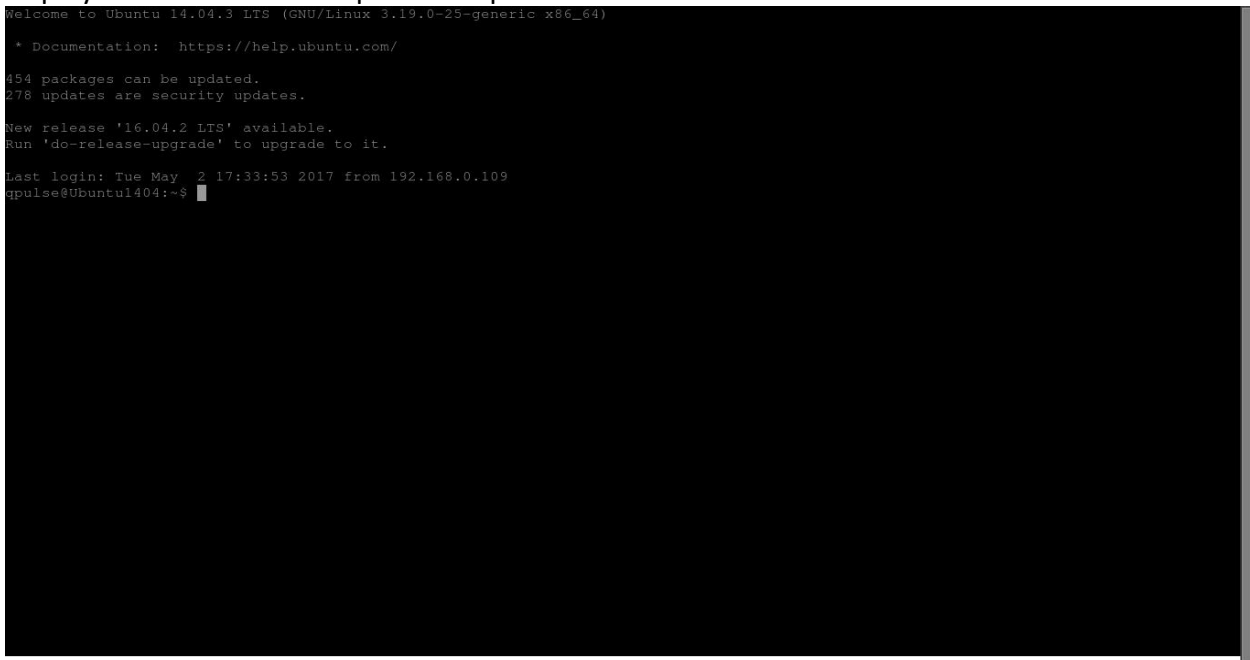


Displays the remote desktop screen upon successful VNC connection

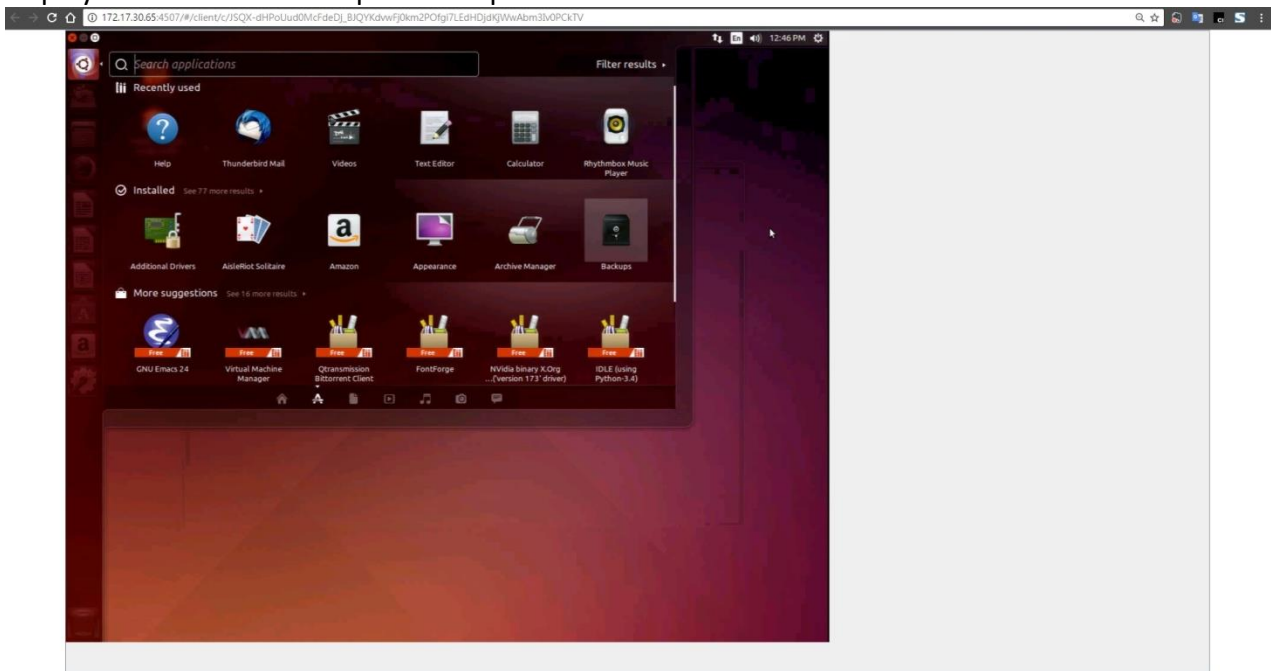




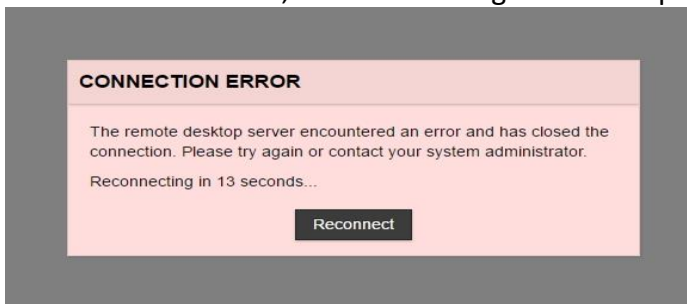
## Displays the remote desktop screen upon successful SSH connection



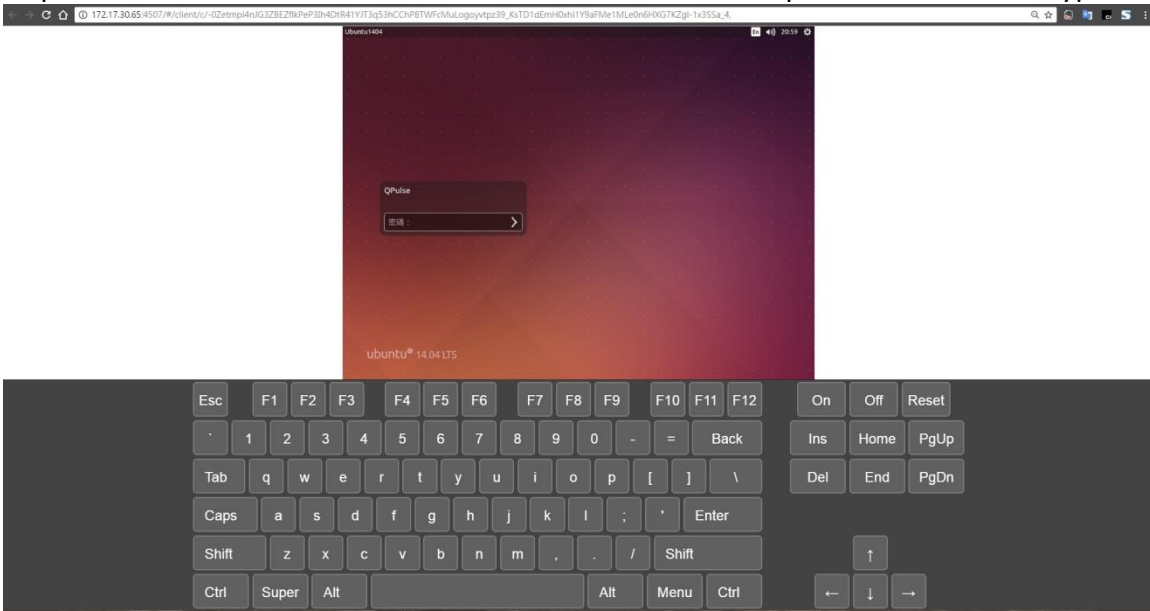
## Displays the remote desktop screen upon successful KVM connection



If the connection fails, an error message will be displayed and the user can try to reconnect.



Step 7: Press CTRL + SHIFT + ALT in the new browser tab to open the on-screen keypad



## 4.10 Tools - Power Control

[Watch the video](#)

There are two control modes for device power control via QRMAgent:

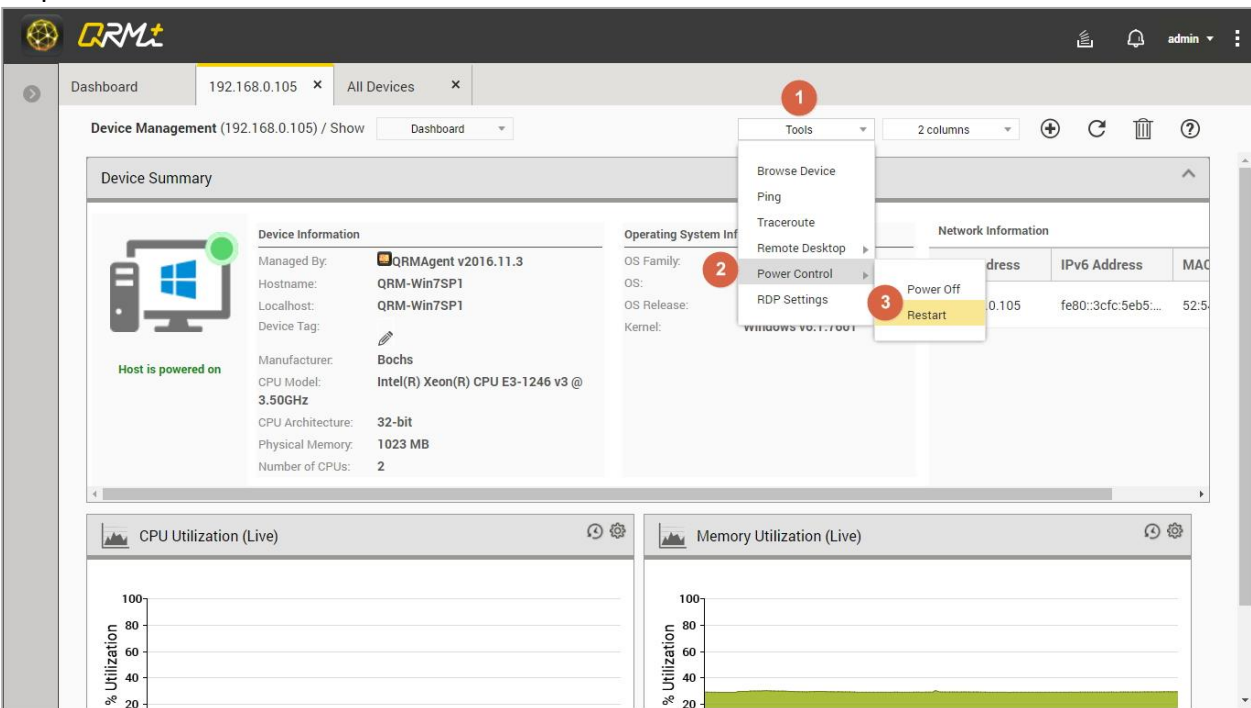
1. Power Off
2. Restart

Setup steps:

Step 1: Go to QRMAgent Single Device Dashboard page and click the "Tools" button

Step 2: Select "Power Control"

Step 3: Select "Power Off" or "Restart"



Monitoring and management functions of IPMI single device page is described below

## 4.11 IPMI Single Device Dashboard

IPMI Single Device Dashboard provides detailed information about a managed device, including:

1. IPMI version
2. Device Information
3. Network information
4. Remote Snapshot

In IPMI Single Device Dashboard, users can add or remove widgets, select layout modes, and use the tools in the tool set to manage IPMI devices.

## 4.12 Add Widget

Users can add multiple widgets to monitor IPMI devices, which can assist in displaying data of the IPMI server's internal sensors

Setup steps:

Step 1: Go to IPMI Single Device Dashboard page and click the "Add Widget" button

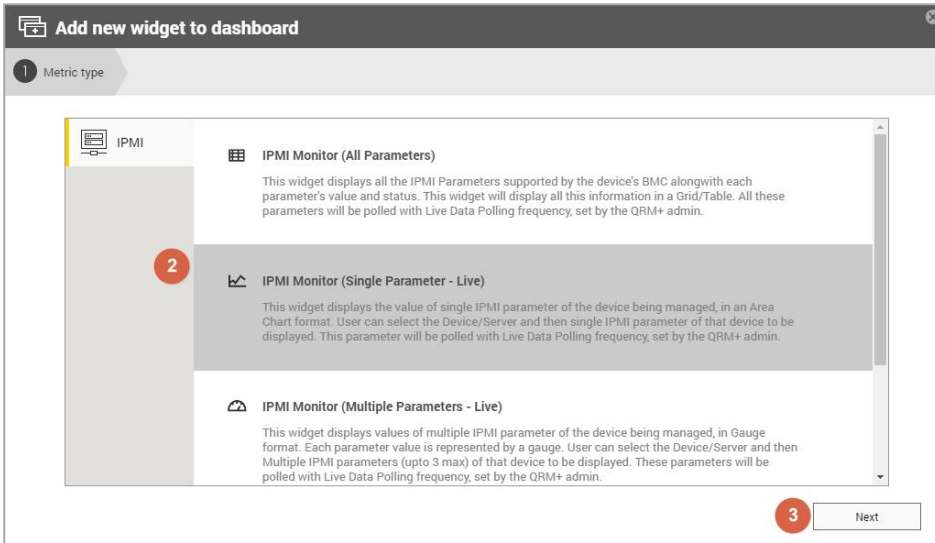
The screenshot shows the QNAP QRM+ interface for IPMI device management. The top navigation bar includes the QRM+ logo, a search icon, a notification bell, and the user 'admin'. Below the navigation bar, there are tabs for 'Dashboard', '192.168.0.105', '192.168.0.108', 'All Devices', and '192.168.0.106'. The main content area is titled 'Device Management (192.168.0.106) / Show' and includes a 'Dashboard' dropdown, a 'Tools' dropdown, and a '2 columns' layout selector. A red box highlights the 'Add Widget' button, which is represented by a plus sign icon. Below this, the 'Device Summary' section is visible, containing four panels: 'Device Information', 'Network Information', 'Remote Snapshot', and 'IPMI Monitor (All Parameters)'. The 'IPMI Monitor' panel displays a table of sensor metrics.

Metric Name	Status	Value
CPU_TEMP1	Normal	38 °C
+5V	Normal	4.879 Volts
+12V	Normal	12.047 Volts
DDR3	Lower Non Critical	1.295 Volts

Step 2: Select the widget type, there are four types in total, including IPMI Monitor (All Parameters)

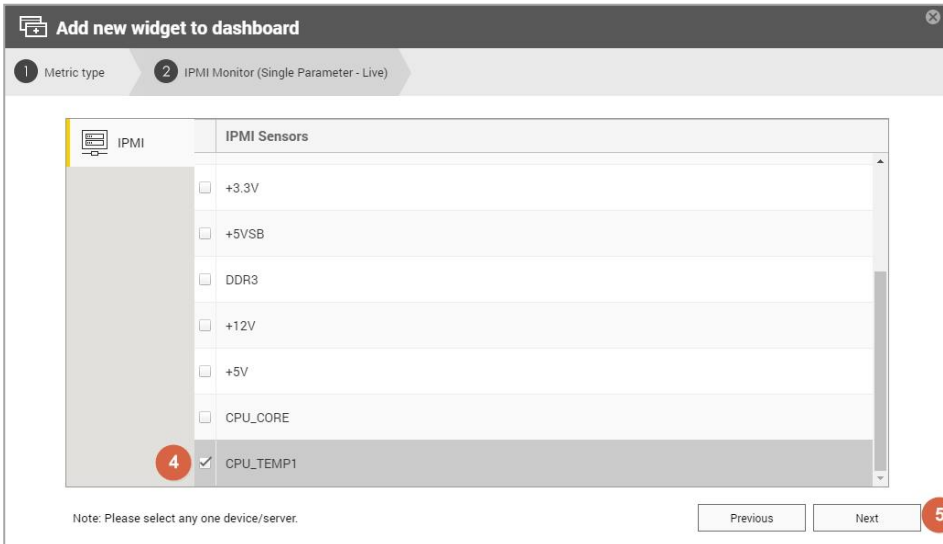
1. IPMI Monitor (All Parameters)
2. IPMI Monitor (Single Parameter - Live)
3. IPMI Monitor (Multiple Parameters - Live)
4. IPMI Monitor (Single Parameter / 24H)

### Step 3: Click "Next"



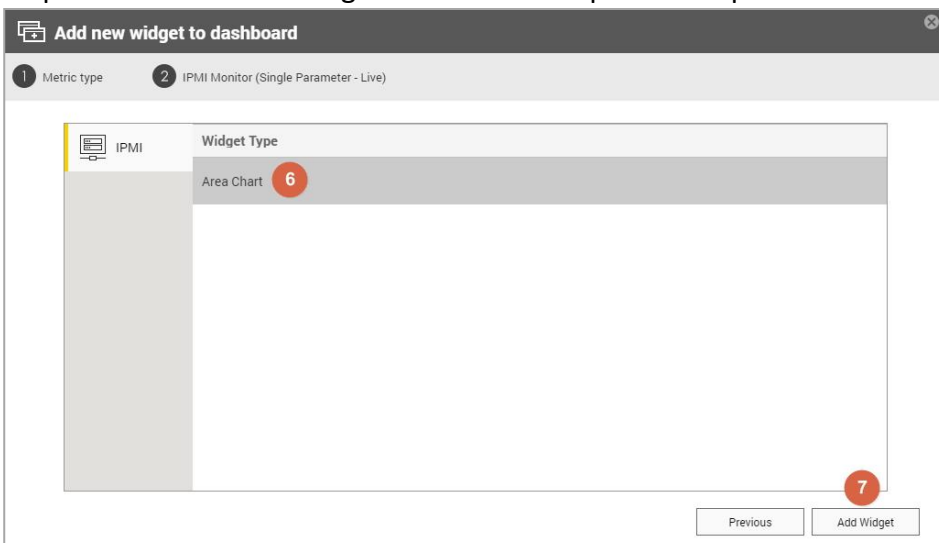
### Step 4: Select the type of sensor to be monitored in the IPMI device

### Step 5: Click "Next"



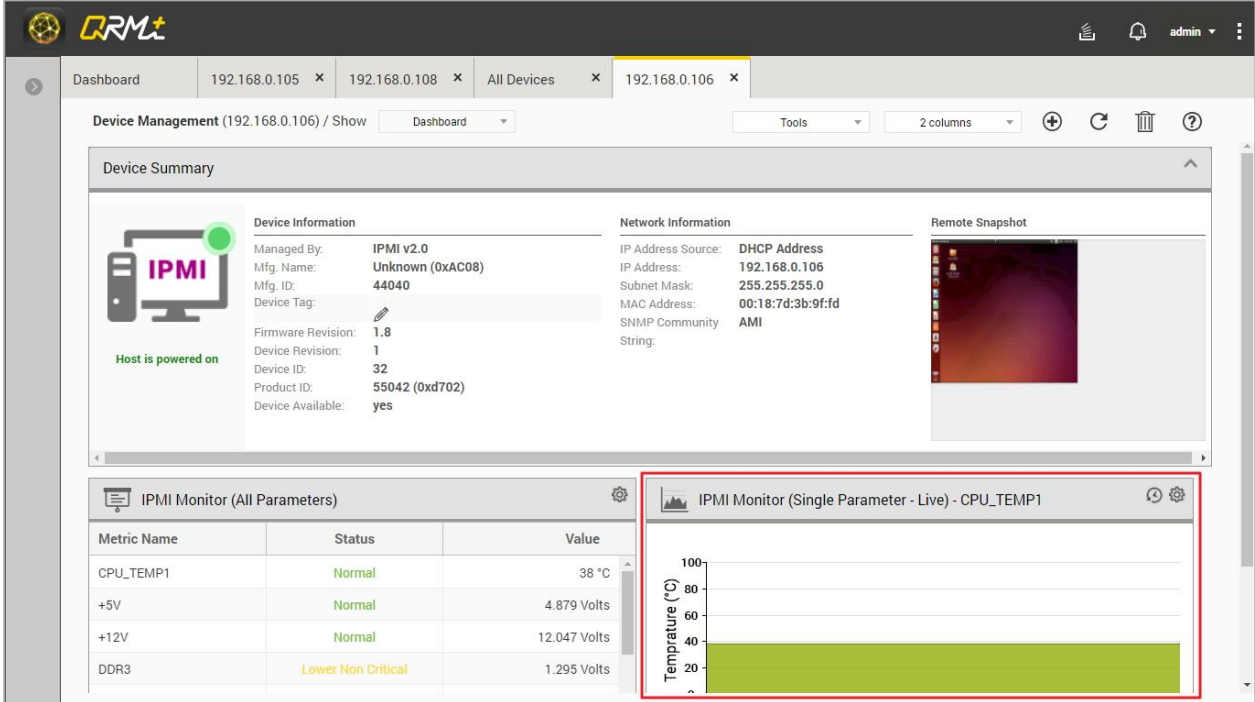
### Step 6: Select the type of chart

### Step 7: Click the "Add Widget" button to complete the operation





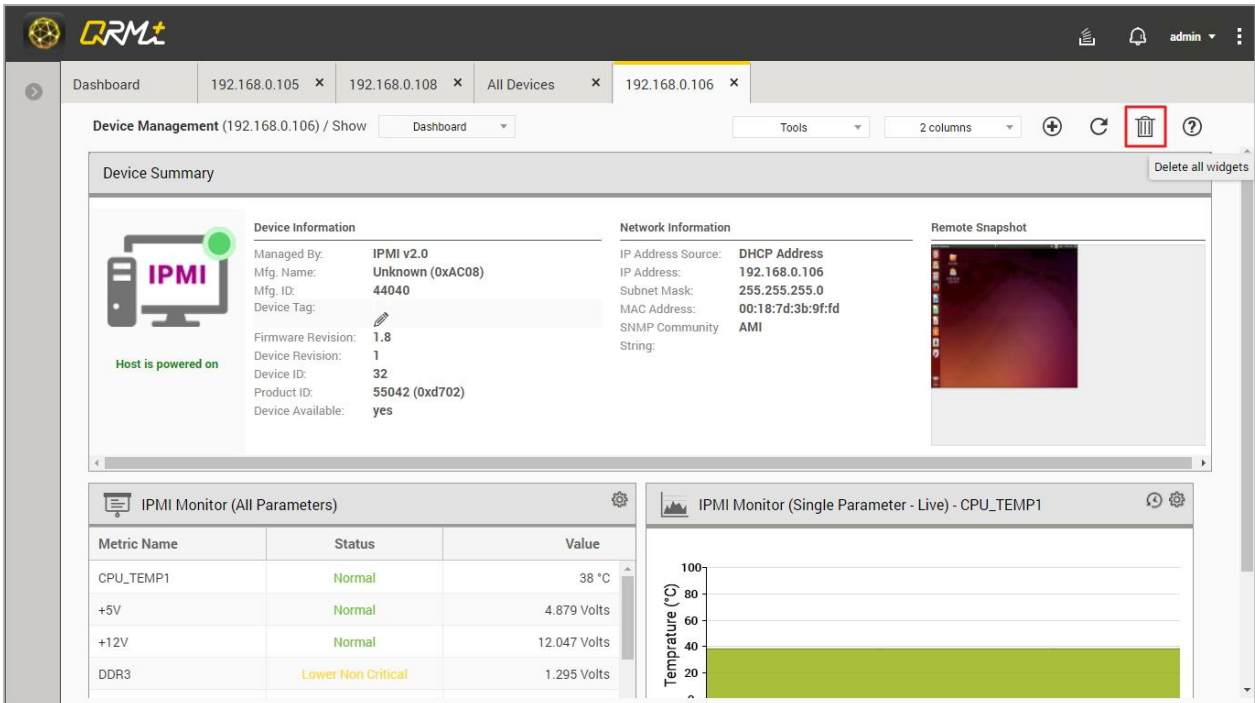
Step 8: When the setup is complete, the widget will be added to the last position in the Dashboard



## 4.13 Delete all widgets in the IPMI Single Device Dashboard

Setup steps:

Go to the IPMI Single Device Dashboard page and click the "Delete All Widgets" button



## 4.14 Refresh all widgets in the IPMI Single Device Dashboard

Setup steps:

Go to the IPMI Single Device Dashboard page and click the "Refresh" button

The screenshot shows the QNAP QRM+ interface for IPMI management. The top navigation bar includes 'Dashboard', '192.168.0.105', 'All Devices', and '192.168.0.106'. The main content area is titled 'Device Management (192.168.0.106) / Show' and contains a 'Device Summary' widget. This widget is divided into three sections: 'Device Information', 'Network Information', and 'Remote Snapshot'. The 'Device Information' section shows details like 'Managed By: IPMI v2.0', 'Mfg. Name: Unknown (0xAC08)', and 'Device ID: 32'. The 'Network Information' section shows 'IP Address Source: DHCP Address', 'IP Address: 192.168.0.106', and 'MAC Address: 00:18:7d:3b:9f:fd'. The 'Remote Snapshot' section shows a thumbnail of the device's remote desktop. A 'Refresh' button is located in the top right corner of the 'Device Summary' widget, highlighted with a red box. Below the 'Device Summary' widget, there are two monitoring widgets: 'IPMI Monitor (All Parameters)' and 'IPMI Monitor (Single Parameter - Live) - CPU\_TEMP1'. The 'IPMI Monitor (All Parameters)' widget displays a table with the following data:

Metric Name	Status	Value
CPU_TEMP1	Normal	38 °C
CPU_CORE	Lower Non Recoverable	0.847 Volts
+5V	Normal	4.879 Volts
+12V	Normal	12.047 Volts

The 'IPMI Monitor (Single Parameter - Live) - CPU\_TEMP1' widget shows a live temperature graph for CPU\_TEMP1, with the y-axis labeled 'Temperature (°C)' ranging from 0 to 100. The current temperature is shown as a green bar at approximately 38°C.

## 4.15 Select the layout mode

Users can customize the layout of IPMI Single Device Dashboard, and the widgets will re-arrange themselves accordingly.

- 1 column display
- 2 columns display
- 3 columns display

Setup steps:

Step 1: Go to IPMI Single Device Dashboard page and Click the "Select Layout" button

The screenshot shows the IPMI Single Device Dashboard for device 192.168.0.106. The 'Select Layout' dropdown menu is open, and '2 columns' is selected. The dashboard displays the following information:

Metric Name	Status	Value
CPU_TEMP1	Normal	38 °C
+5V	Normal	4.879 Volts
+12V	Normal	12.047 Volts
DDR3	Lower Non Critical	1.295 Volts

Step 2: Select "1 column", "2 columns" or "3 columns"

The screenshot shows the IPMI Single Device Dashboard for device 192.168.0.106. The 'Select Layout' dropdown menu is open, showing three options: '1 column', '2 columns' (selected), and '3 columns'. The dashboard displays the following information:

Metric Name	Status	Value
CPU_TEMP1	Normal	38 °C
CPU_CORE	Lower Non Recoverable	0.527 Volts
+5V	Normal	4.879 Volts
+12V	Normal	12.047 Volts

## 4.16 Tools - Power Control

There are four power control modes for IPMI devices:

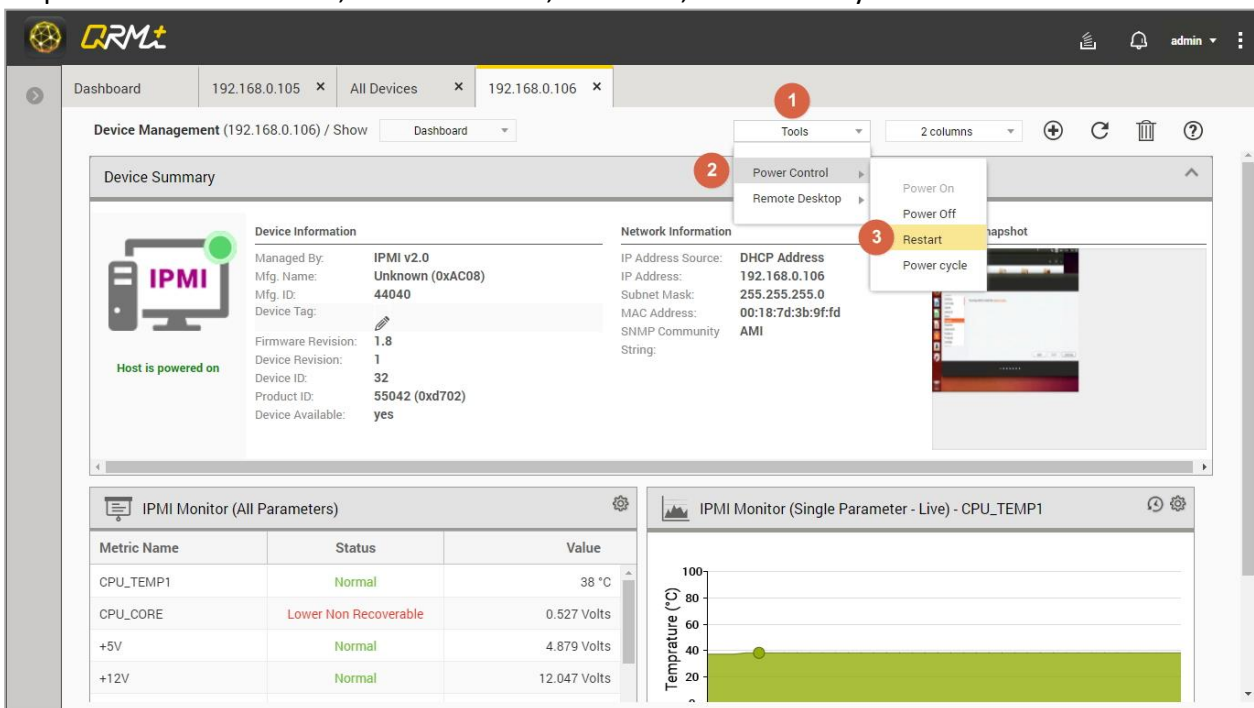
1. Power On
2. Power Down
3. Restart
4. Power Cycle

Setup steps:

Step 1: Go to IPMI Single Device Dashboard page and click the "Tools" button

Step 2: Select "Power Control"

Step 3: Select "Power On", "Power Down", "Restart", or "Power Cycle"



## 4.17 IPMI KVM Remote Desktop

The IPMI KVM feature allows the user to monitor and operate the remote IPMI device on the desktop. (Note: IPMI KVM currently only supports Supermicro and IEI Technology Inc. models)

Setup steps:

Step 1: Go to IPMI Single Device Dashboard page and click the "Tools" button

Step 2: Select "Remote Desktop"

Step 3: Select "IPMI KVM"

**Device Management (192.168.0.106) / Show** Dashboard

**Device Summary**

**Device Information**

- Managed By: IPMI v2.0
- Mfg. Name: Unknown (0xAC08)
- Mfg. ID: 44040
- Device Tag:
- Firmware Revision: 1.8
- Device Revision: 1
- Device ID: 32
- Product ID: 55042 (0xd702)
- Device Available: yes

**Network Information**

- IP Address Source: DHCP Address
- IP Address: 192.168.0.106
- Subnet Mask: 255.255.255.0
- MAC Address: 00:18:d:3b:9f:fd
- SNMP Community: AMI
- String:

**Tools**

- Power Control
- Remote Desktop
- IPMI KVM snapshot

**IPMI Monitor (All Parameters)**

Metric Name	Status	Value
CPU_TEMP1	Normal	38 °C
CPU_CORE	Lower Non Recoverable	0.527 Volts
+5V	Normal	4.879 Volts
+12V	Normal	12.047 Volts

**IPMI Monitor (Single Parameter - Live) - CPU\_TEMP1**

Temperature (°C) graph showing a value of approximately 38°C.

Step 4: When finished, the browser will open a new window to display the desktop screen of the remote IPMI device

Search applications

Filter results

Recently used

- Help
- Thunderbird Mail
- Videos
- Text Editor
- Calculator
- Rhythmbox Music Player

Installed (See 77 more results)

- Additional Drivers
- AisleRiot Solitaire
- Amazon
- Appearance
- Archive Manager
- Backups

More suggestions (See 18 more results)

- GNU Emacs 24
- Virtual Machine Manager
- QTransmission BitTorrent Client
- FontForge
- NVIDIA binary X.Org ... (version 173 driver)
- IDLE (using Python-3.4)

Taskbar: 12:46 PM

# 5. KVM Dashboard

KVM Dashboard provides centralized remote monitoring, where each widget represents an IPMI KVM device that can be set up for remote control and monitoring.

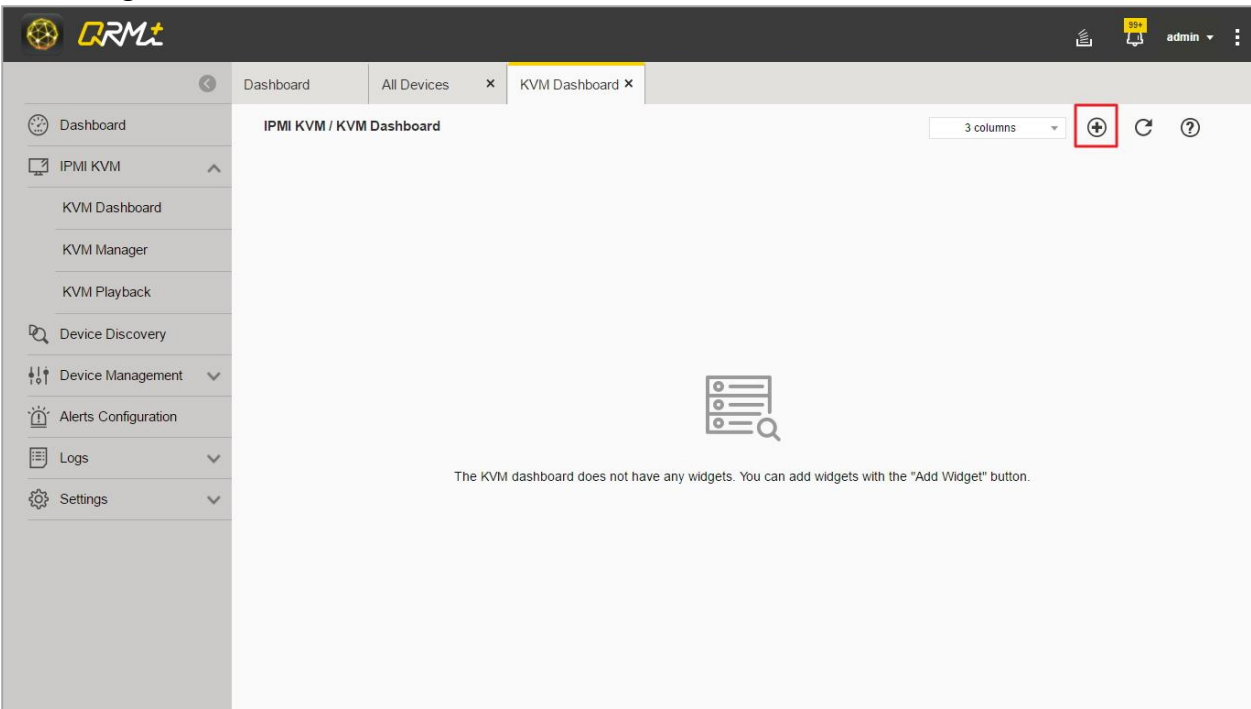
## 5.1 Add Widget

[Watch the video](#)

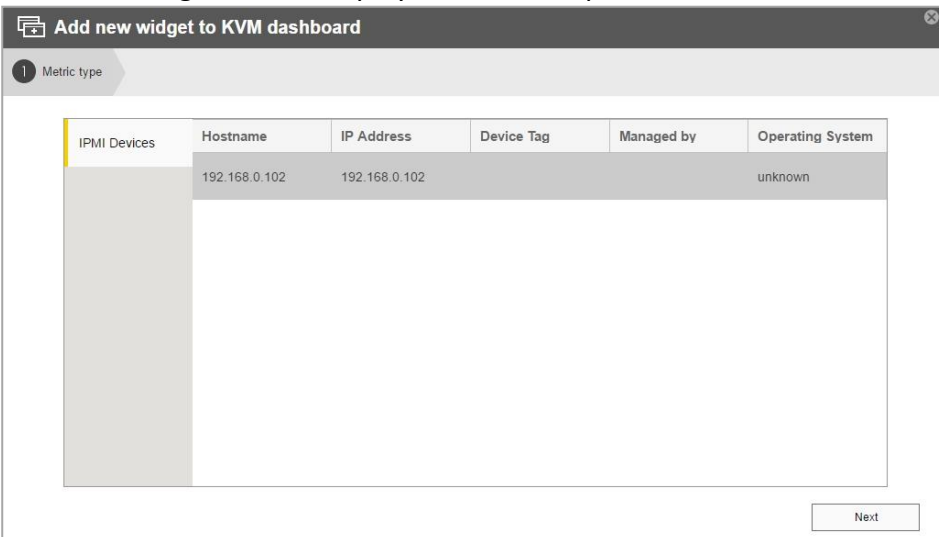
You can add KVM widget to the KVM Dashboard

Setup steps:

Step 1: Complete the steps to [add a new device](#) in the "KVM Manager" section, then click the "Add KVM Widget" button



Step 2: Select the IPMI device you want to set up the KVM widget, and click the "Add" button. The new KVM widget will be displayed in the last position of the KVM Dashboard



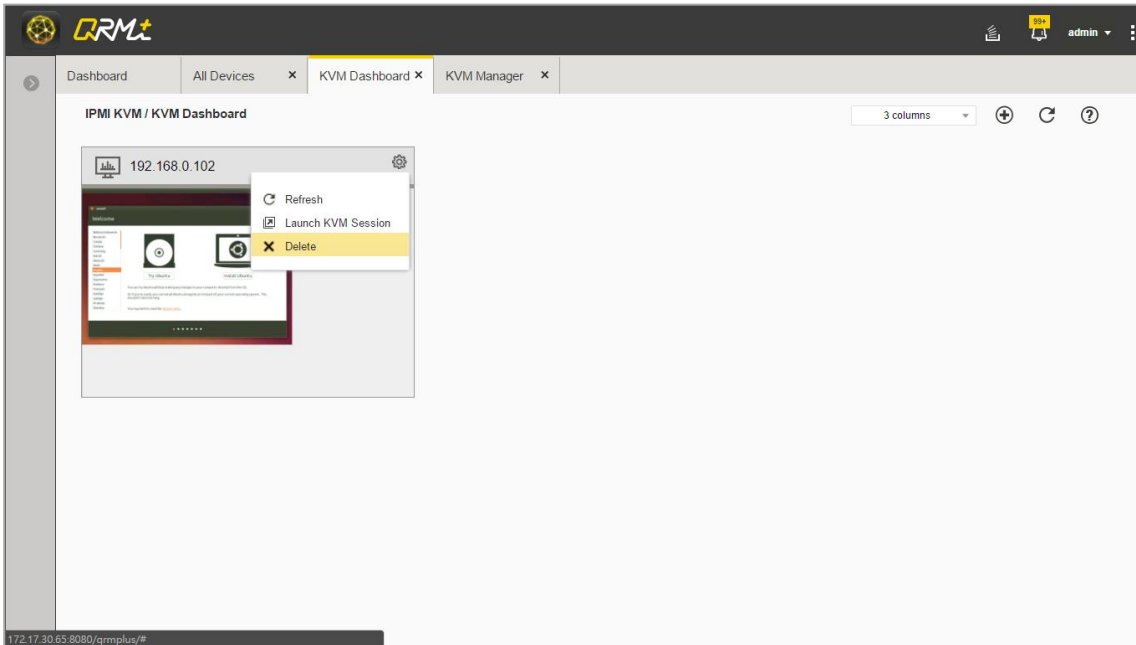
## 5.2 Delete Widget

[Watch the video](#)

You can delete KVM widgets from the KVM Dashboard

Setup steps:

Go to the KVM Dashboard, click the Settings button at the top right of the KVM widget, and select "Delete".

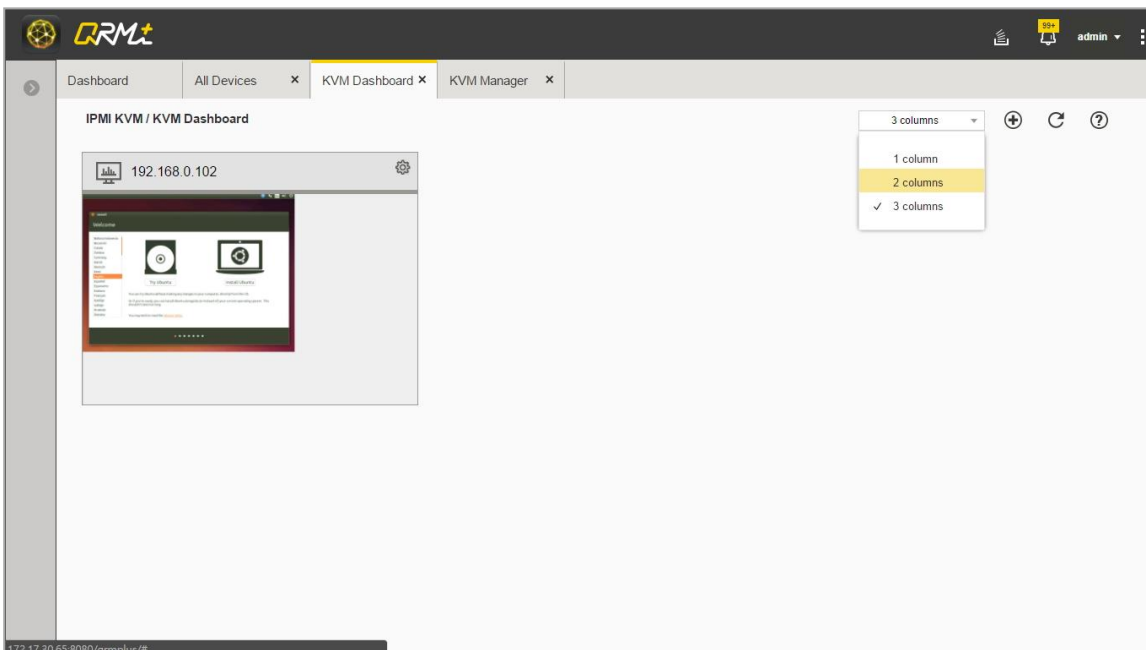


## 5.3 Layout mode

Users can customize the KVM Dashboard layout

Setup steps:

Go to the KVM Dashboard page, click on the "Select layout" button and select "1 Column", "2 Columns" or "3 Columns"



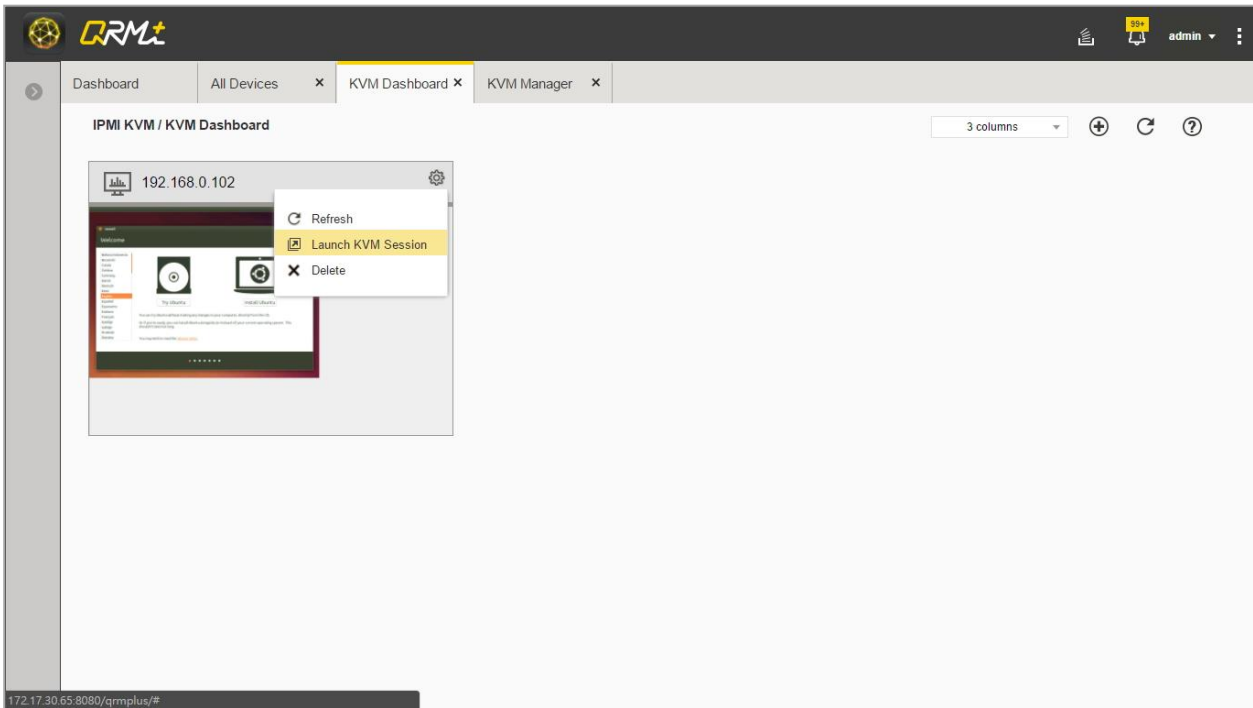
## 5.4 Launch KVM Remote Desktop

[Watch the video](#)

The dashboard periodically updates the screens of currently monitored devices. Users can launch a KVM Remote Desktop in a new tab for remote control and screen monitoring

Setup steps:

Go to the KVM Dashboard, click Settings on the KVM widget that needs to be controlled remotely, and select "Launch KVM Session"

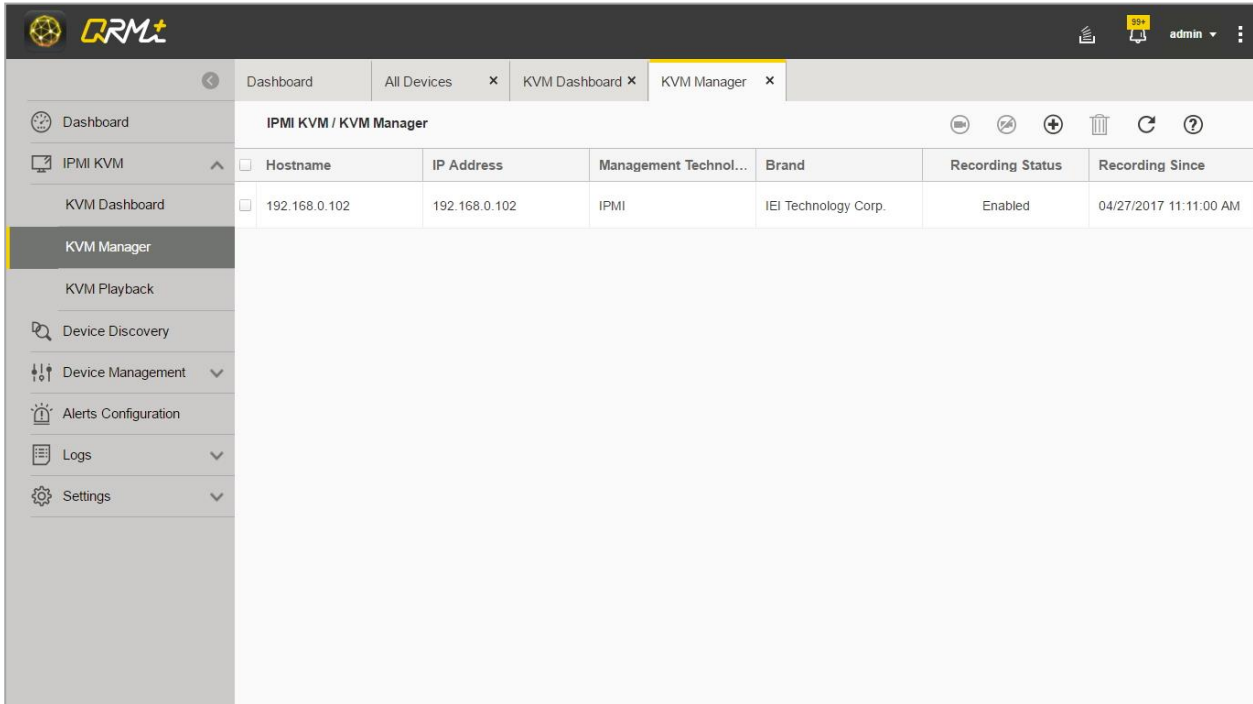


Note: IPMI KVM currently only supports Supermicro and IEI Technology Inc. models



## 6. KVM Manager

KVM Manager can help manage IPMI devices that support KVM functionality, add or delete IPMI devices, and set whether or not to enable video playback.



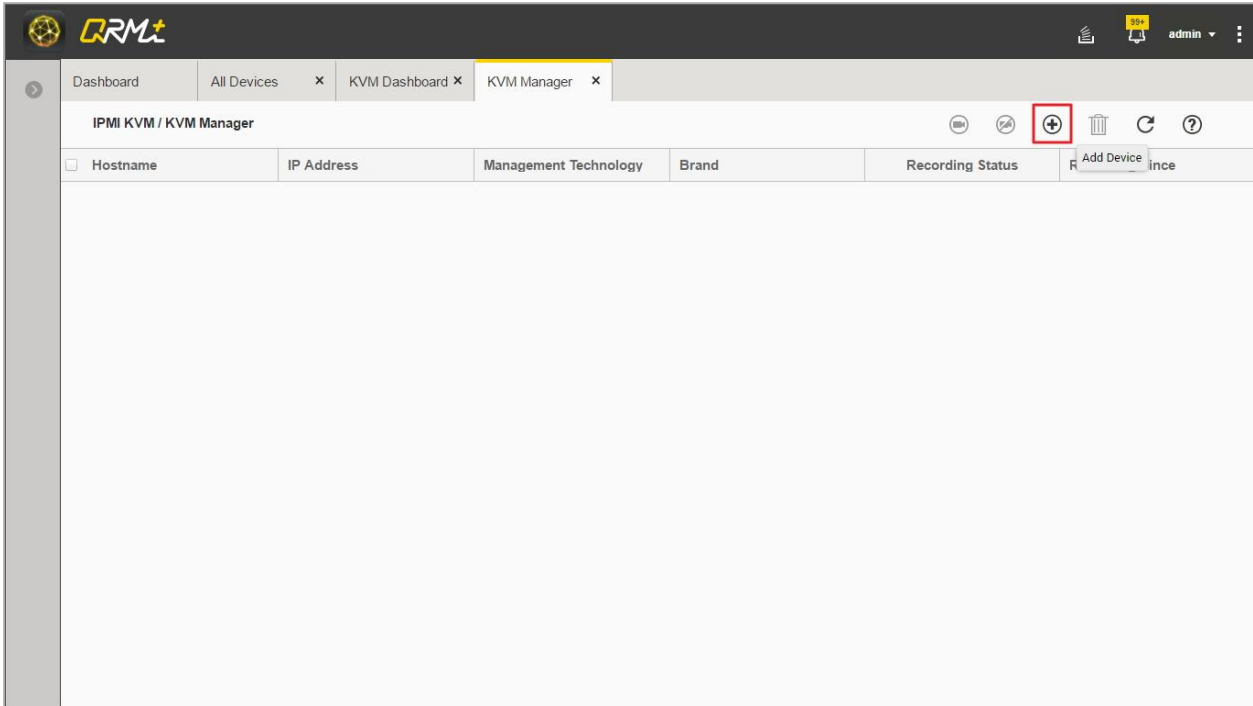
### 6.1 Add Device

[Watch the video](#)

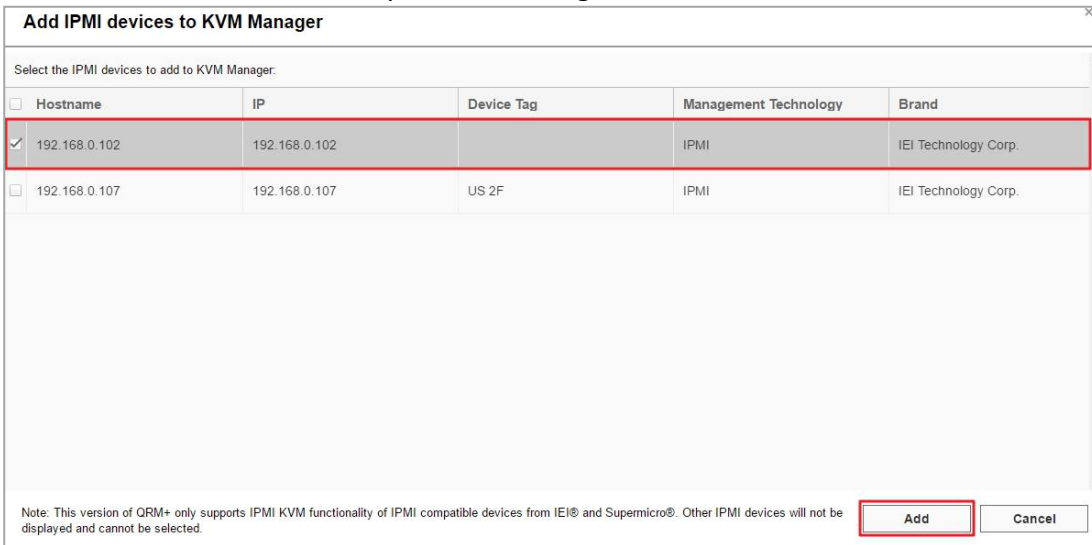
KVM devices that are not yet managed need to be added to the list of KVM managed devices to enable remote control, video playback, and KVM dashboard monitoring

Setup steps:

Step 1: Go to the KVM Manager page and click the "Add" button



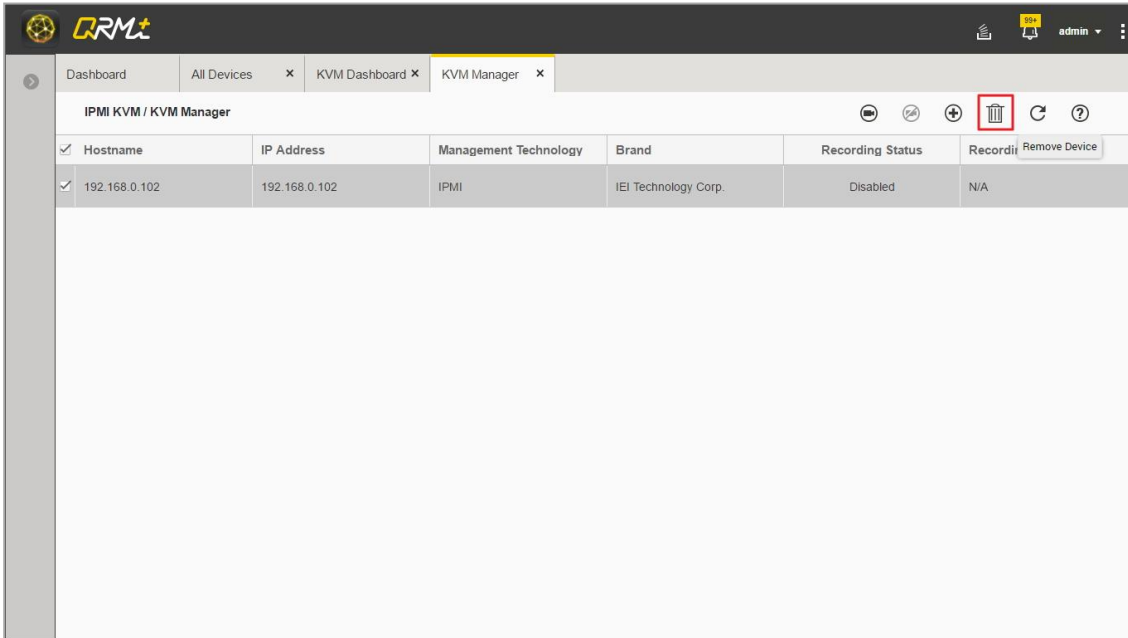
Step 2: Select the IPMI device for which you want to have the KVM management function, then click the "Add" button to complete the configuration.



## 6.2 Remove Device

[Watch the video](#)

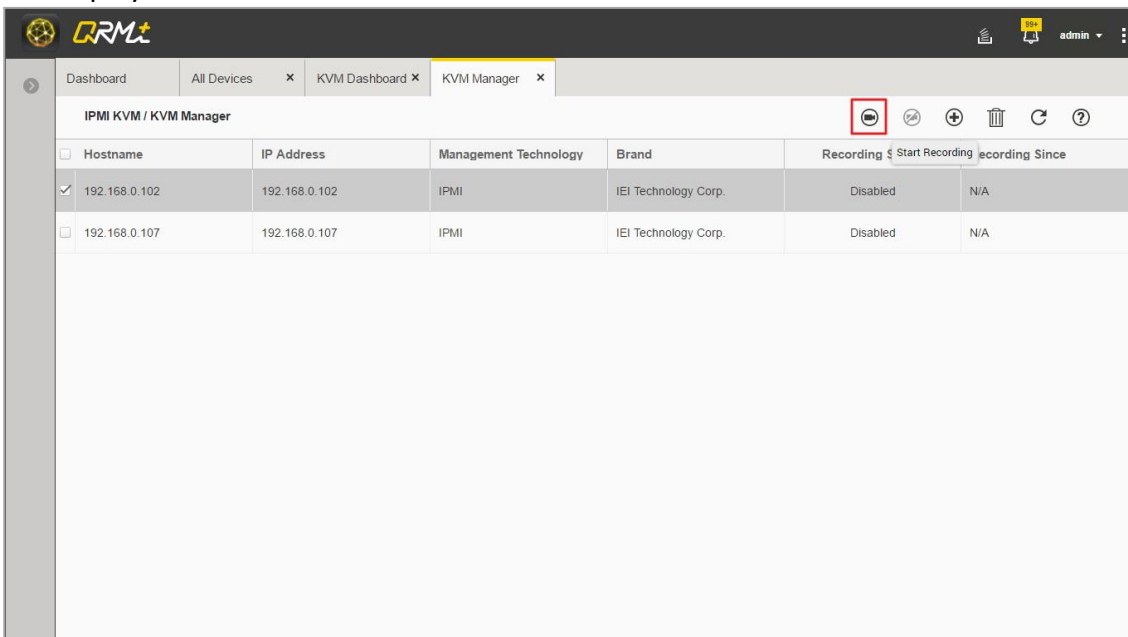
Removing the device will remove the device from the management list, and the removed device will not be able to be remotely controlled, played back, or monitored through the KVM Dashboard, and its associated video files and associated KVM dashboard will be removed as well



## 6.3 Start Recording

[Watch the video](#)

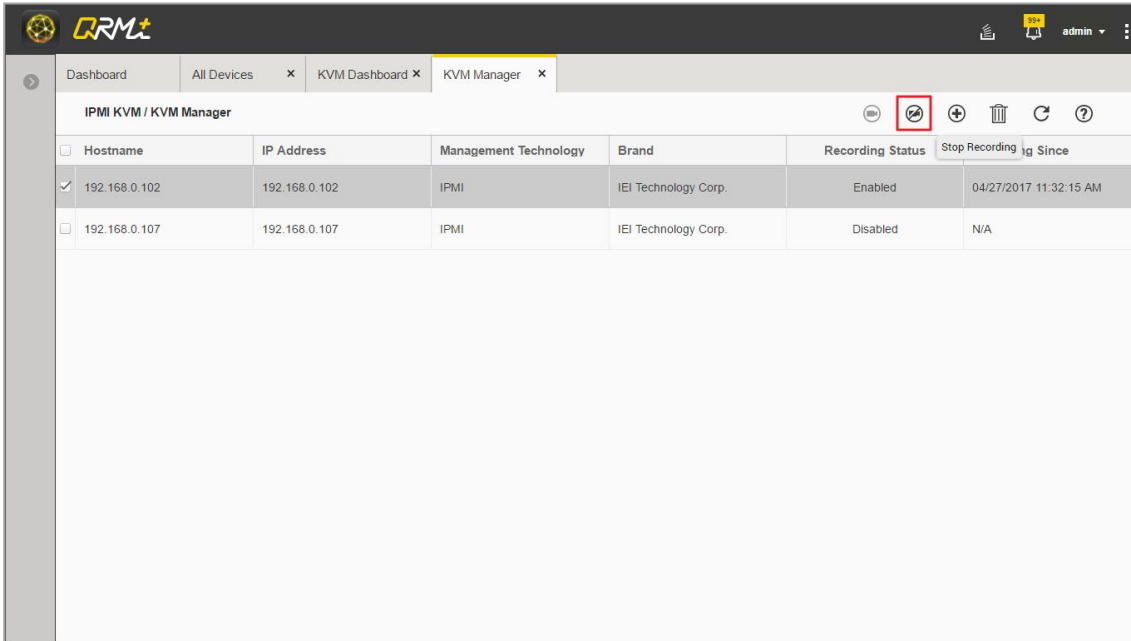
Start Recording will record the screen activities of the remote managed device and save the file for future playback.



## 6.4 Stop Recording

[Watch the video](#)

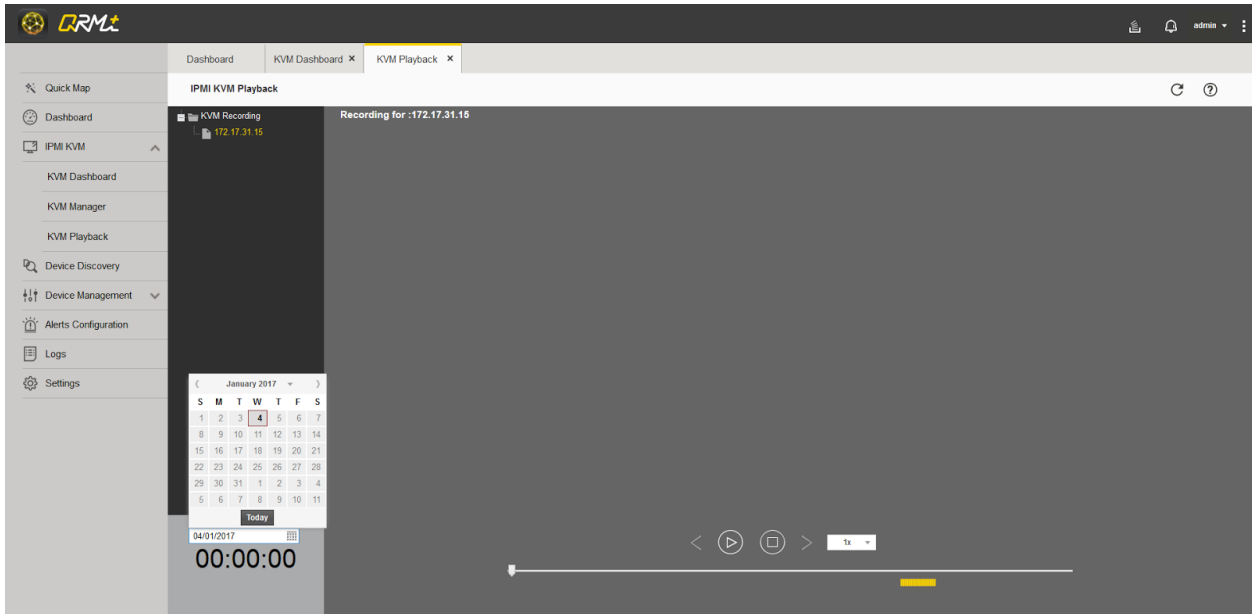
Stop Recording will stop the remote video recording and saving to file function, but it does not affect the already saved video files, and such files can still be played back.



Note: IPMI KVM currently only supports Supermicro and IEI Technology Inc. models

## 7. KVM Playback

KVM Playback can play user-recorded videos and a user can quickly search a playback device based on time interval



### 7.1 Select Device

[Watch the video](#)

A user can select the IPMI device that needs playback from the list of KVM devices on the left

### 7.2 Select Date

Users can retrieve the video file by specifying the date, if there is a video file, the playback progress bar will be marked with a yellow bar

### 7.3 Playback Control

The user can perform basic operations such as play back, pause or stop the video

### 7.4 Playback speed selection

Users can decide the playback speed, making it more convenient in retrieving video files

## 8. Alert Configuration

In QRM+, you can set different alert configurations for different device types. When the set alert condition is met, an alert will appear in the upper right notification window of QRM+ management page, so that administrators will know the current situation and solve the problem immediately; you can set up SMTP in advanced settings / notification settings, and set up notification policy for alert to be sent via E-Mail to administrators to facilitate problem solving. On this page, users can add, delete, edit, deactivate, and enable alert configurations.

### 8.1 Add Alert

Users can click the Add Alert button to add a new alert, the alert type is either QRM+ alert or IPMI event notification

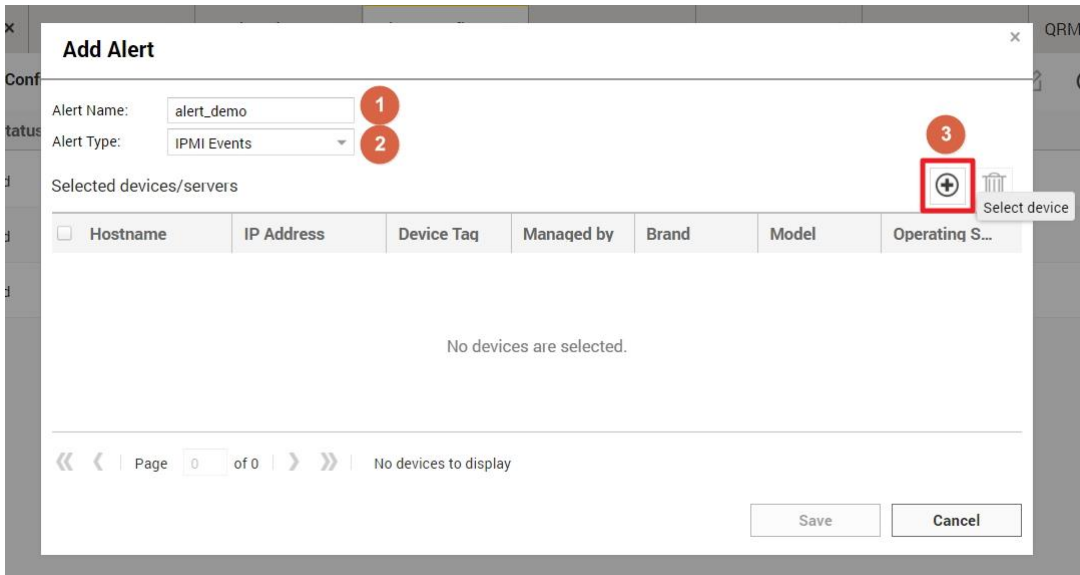
Setup steps:

Step 1: Enter the Alert Configuration page and click the "Add Alert" button

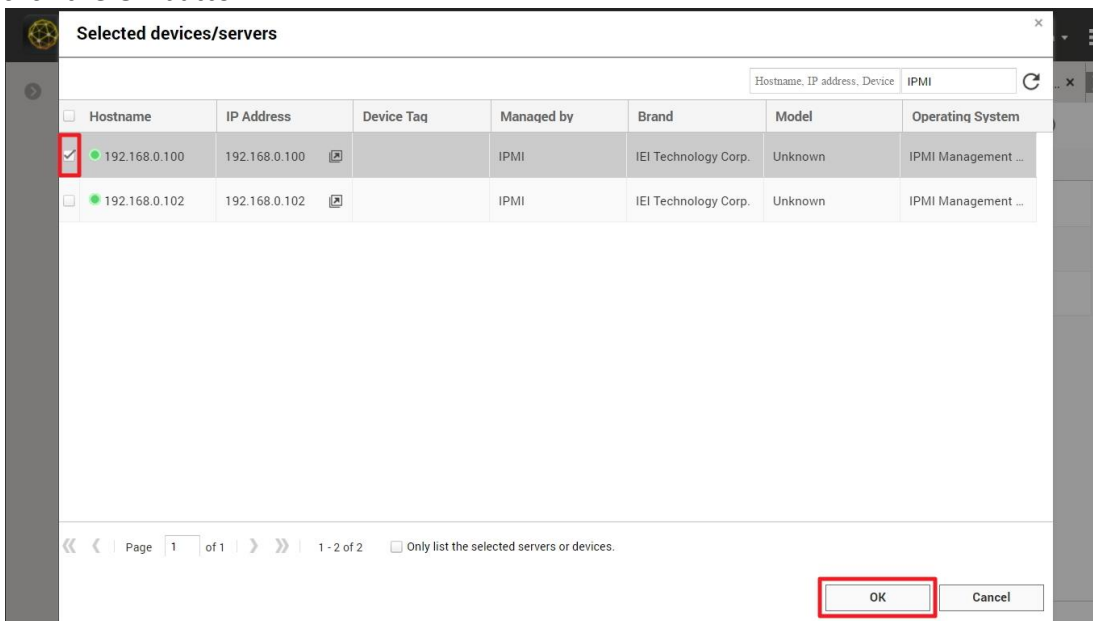
Alert Status	Alert Name	Alert Type	Monitored v...	Condition	Add Alert devices/servers	
<input type="checkbox"/>	Enabled	Email Server Alert (memory)	QRM+ Alerts	Memory Utiliz...	> 50%	N/A
<input type="checkbox"/>	Enabled	Email Server Alert (cpu)	QRM+ Alerts	CPU Utilizatio...	> 60%	N/A
<input type="checkbox"/>	Enabled	Email Server Alert (disk)	QRM+ Alerts	Disk Utilizatio...	> 70%	N/A

Step 2: In the Add Alert window, complete the alert type setting:

1. Set Alert Name
2. Set Alert Type (either QRM+ Alert or IPMI event notification. There are four types of QRM+ alerts: CPU usage, memory usage, power status, and disk usage)
3. Click the Select Device button



Step 3: Select the device you want to set the alert, you can select one or multiple devices, then click the OK button



Step 4: Click the Save button to complete the new alert (Note: If the Save button is grayed out, it means that there are errors in alert name, alert type, or selected device)

**Add Alert**

Alert Name:

Alert Type:

Selected devices/servers

<input type="checkbox"/>	Hostname	IP Address	Device Tag	Managed by	Brand	Model	Operating S...
<input checked="" type="checkbox"/>	192.168.0.100	192.168.0.100		IPMI	IEI Technolog...	Unknown	IPMI Manage...

Page 1 of 1 | 1 - 1 of 1

## 8.2 Delete Alert

Users can click the "Delete Alert" button to remove one or more alerts at once.

Setup steps:

Step 1: Enter the Alert Configuration page and select the alert configuration you want to delete

Step 2: Click the "Delete Alert" button

Step 3: Click the "OK" button to complete the operation

## 8.3 Enable Alert

Users can click the "Enable Alert" button to enable one or more alerts at once.

Setup steps:

Step 1: Enter the Alert Configuration page and select the alert configuration you want to enable

Step 2: Click the "Enable Alert" button to complete the operation

**Alerts Configuration**

<input type="checkbox"/>	Alert Status	Alert Name	Alert Type	Monitored v...	Condition	Select	Delete Alert vers
<input type="checkbox"/>	Disabled	Email Server Alert (memory)	QRM+ Alerts	Memory Utiliz...	> 50%	N/A	
<input type="checkbox"/>	Disabled	Email Server Alert (cpu)	QRM+ Alerts	CPU Utilizatio...	> 60%	N/A	
<input type="checkbox"/>	Disabled	Email Server Alert (disk)	QRM+ Alerts	Disk Utilizatio...	> 70%	N/A	
<input checked="" type="checkbox"/>	Enabled	alert_demo	IPMI Events	N/A	N/A		192.168.0.100

Page 1 of 1 | 1 - 4 of 4



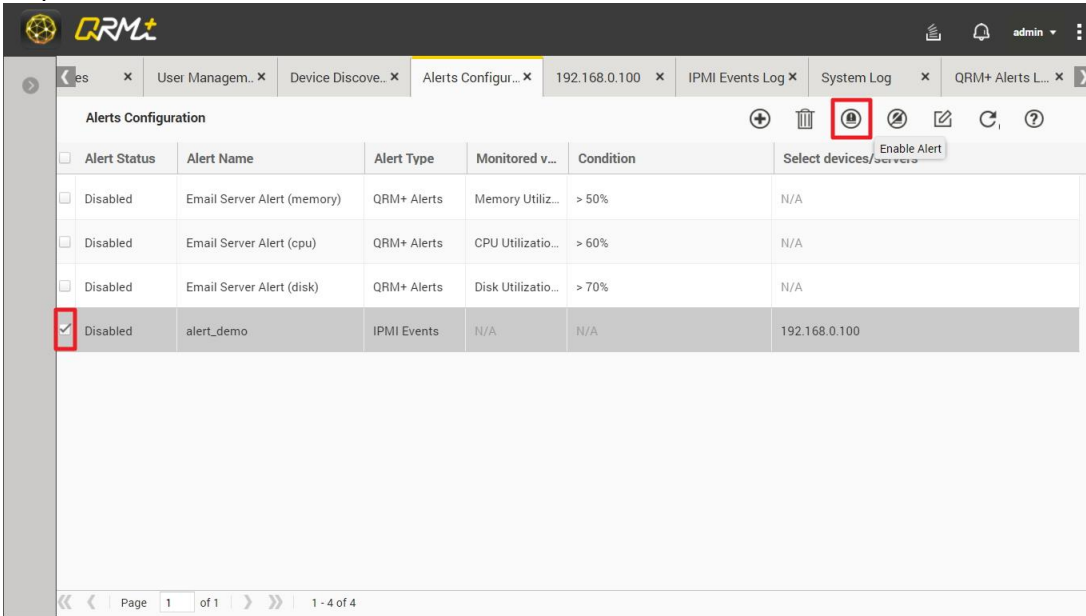
## 8.4 Disable Alert

Users can click the "Disable Alert" button to disable one or more alerts at once.

Setup steps:

Step 1: Enter the Alert Configuration page and select the alert configuration you want to disable

Step 2: Click the "Disable Alert" button to disable the alert



## 8.5 Edit Alert

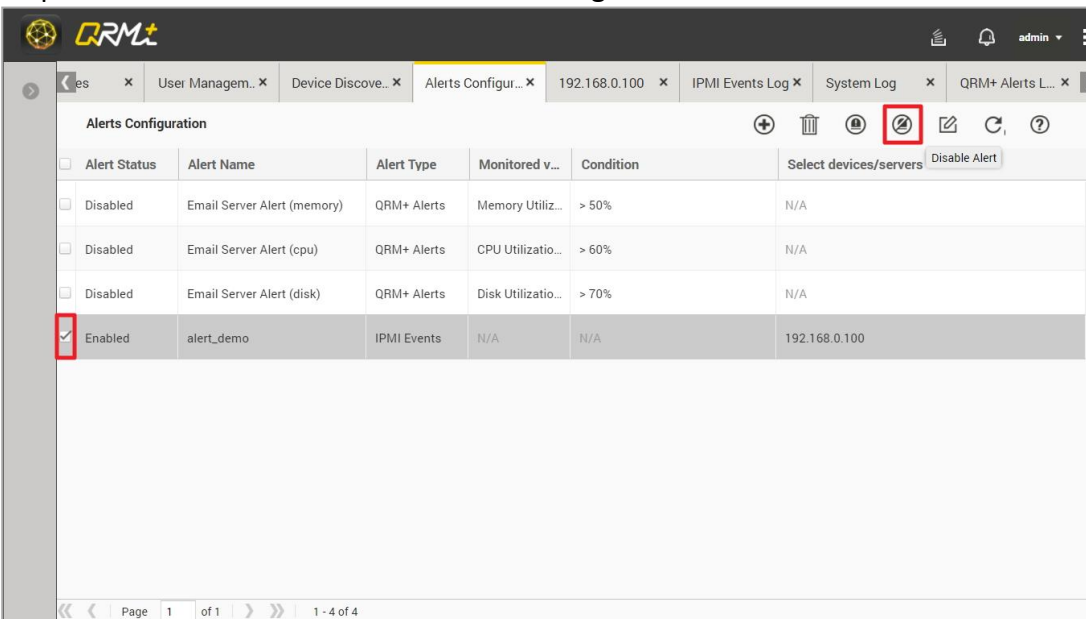
The user can click the Edit Alert button to edit the alert. Only one alert can be edited at a time.

Setup steps:

Step 1: Enter the Alert Configuration page, select the alert you want to edit, and click the "Edit Alert" button

Step 2: Edit the item you want to modify (please note: the alert type can not be modified)

Step 3: Click the "Save" button to finish editing



# 9. Logs

QRM+ provides four types of logs: Alerts log, IPMI event log, history log, and system log. This page is an advanced application. The user sets the corresponding alert type on the Alert Configuration page. Once an event occurs, you will be able to view the results in the Alert Log or IPMI Event Logs on the Logs page (the alert log generation time needs to be set in the Alert Notification setting in the Settings / Notification Settings; IPMI Event Log is once per minute).

## 9.1 Alerts Log

QRM+ Alerts Log page displays alerts for all Windows or Linux devices. Users need to select QRM+ Alerts from the Add Alert page and add one of the four types : CPU usage, memory usage, power status, or disk usage. Once an event occurs, you will be able to view the details of the alert on this page after the event has lasted for 5 minutes.

The basic steps are:

Step 1: Select Alerts Log in the Logs page

Step 2: View the alert info, including the Hostname, IP address, Device Tag, On Time and Off Time, etc.

Step 3: View the current number of alerts

Step 4: Click the "Refresh" button at any time to get the latest alert message

Alert ID	Hostname	IP Address	Device Tag	Description	Alert Status	On T...	Off T...
104	Ubuntu1404	192.168.0.104	TP 3F	Memory Utilization > 10%	Enabled	2017-...	N/A
103	QRM-Win7SP1	192.168.0.105	TP 2F	Disk Utilization > 5%	Disabled	2017-...	2017-...

The Alerts Log has advanced search features:

Step 1: Click the "Advanced Search" button on the Alerts Log page

Step 2: Click Select Device and select a device (can only select one)

Step 3: Click the "Apply" button to search for all alerts on the target device

The screenshot shows the QRM+ Alerts Log interface. At the top, there are navigation tabs: Dashboard, All Devices, System Log, QRM+ Alerts L..., and Application Se... The main content area is titled "Logs / QRM+ Alerts Log". It features an "Advanced Search" section with a red box around it. This section includes an "IP Address" input field with a "Select device" button (marked with a red circle '2'), and a "Period" dropdown menu. To the right of the search section, there is a search icon (marked with a red circle '1') and a refresh icon. Below the search section, there is an "Apply" button (marked with a red circle '3') and a "Reset" button. The main area contains a table of alerts with the following data:

Alert ID	Hostname	IP Address	Device Tag	Description	Alert Status	On Time	Off Time
104	Ubuntu1404	192.168.0.104	TP 3F	Memory Utilization > 10%	Enabled	2017-06-16 15:28:50	N/A
103	QRM-Win7SP1	192.168.0.105	TP 2F	Disk Utilization > 5%	Disabled	2017-06-16 15:24:20	2017-06-16 15:27:16

At the bottom of the page, there is a pagination control showing "Page 1 of 1" and "1 - 2 of 2".

QRM+ provides Log Retention Settings feature, which can be set for periodic viewing. The default alert log retention period is 1 week. Logs older than one week will be deleted by the system. Users can adjust the length of period according to their needs.

The screenshot shows the "Settings / Application Settings" page in QRM+. The left sidebar contains navigation options: Dashboard, IPMI KVM, Device Discovery, Device Management, Alerts Configuration, Logs, Settings, User Management, Notification Settings, Application Settings, and QRMAgent Repository. The main content area is titled "Settings / Application Settings" and contains "Log Retention Settings". The "Alert Log" dropdown menu is highlighted with a red box and set to "1 Week". Other log retention settings include IPMI Events Log, KVM Video Recording, Historic Data Logs, and System Log, all set to "1 Week". Below this, there are "Data collection on devices" settings: "Interval between periodic scans on remote devices (minutes)" set to "1" and "Interval between real-time scans on remote devices (seconds)" set to "10". An "Apply" button is located at the bottom of the settings section.

## 9.2 IPMI Events Log

IPMI Events Log shows all IPMI event history, on this page, the user can view all IPMI historical events. Note: QRM+ does not proactively generate these events. These events are generated by IPMI BMC. QRM+ only periodically retrieves these events and at the same time clears the events from IPMI BMC memory.

Setup steps:

Step 1: Select "IPMI Events" in the Alerts Configuration / Add Alert page

Step 2: Select the target device

Step 3: Save the alert

After adding the IPMI alert, users can view all IPMI events in the Logs / IPMI Events log and click the Refresh button to obtain the latest IPMI Events.

Event ID	Hostname	IP Address	Device Tag	Sensor Type	Metric Name	NAS Time	Event Time	Description
68524	192.168.0.100	192.168.0.100		Temperature	CPU_TEMP1	2017-06-16 16:...	2017-06-16 07:...	Lower Critical going low
68525	192.168.0.100	192.168.0.100		Temperature	CPU_TEMP1	2017-06-16 16:...	2017-06-16 07:...	Lower Non-critical going low
68523	192.168.0.100	192.168.0.100		Temperature	CPU_TEMP1	2017-06-16 16:...	2017-06-16 07:...	Lower Critical going low
68522	192.168.0.100	192.168.0.100		Voltage	DDR3	2017-06-16 15:...	2017-06-16 07:...	Lower Critical going low
68521	192.168.0.100	192.168.0.100		Voltage	DDR3	2017-06-16 15:...	2017-06-16 07:...	Lower Critical going low
68520	192.168.0.100	192.168.0.100		Voltage	+3.3VSB	2017-06-16 15:...	2017-06-16 07:...	Lower Non-critical going low
68518	192.168.0.100	192.168.0.100		Voltage	+3.3VSB	2017-06-16 15:...	2017-06-16 07:...	Lower Non-recoverable going low
68519	192.168.0.100	192.168.0.100		Voltage	+3.3VSB	2017-06-16 15:...	2017-06-16 07:...	Lower Critical going low
68515	192.168.0.100	192.168.0.100		Voltage	+3.3VSB	2017-06-16 15:...	2017-06-16 07:...	Lower Non-critical going low
68516	192.168.0.100	192.168.0.100		Voltage	+3.3VSB	2017-06-16 15:...	2017-06-16 07:...	Lower Critical going low

IPMI Events log provides advanced search capabilities to allow a user to select a specific device to view their events:

Step 1: Select the target device

Step 2: Select Sensor Type (optional)

Step 3: Select IPMI Metric Name (optional)

Step 4: Select Period (optional)

Step 5: Click the Apply button to filter out the IPMI events that the user needs to retrieve

The screenshot shows the 'IPMI Events Log' page in QRM+. The 'Advanced Search' section includes an 'IP Address' field with '192.168.0.100' and a 'Select device' button. Below it are 'Sensor Type' and 'Metric Name' dropdowns, and a 'Period' dropdown. 'Apply' and 'Reset' buttons are on the right. A table below lists events with columns: Event ID, Hostname, IP Address, Device Tag, Sensor Type, Metric Name, NAS Time, Event Time, and Description. The table contains several rows of event data.

Event ID	Hostname	IP Address	Device Tag	Sensor Type	Metric Name	NAS Time	Event Time	Description
68524	192.168.0.100	192.168.0.100		Temperature	CPU_TEMP1	2017-06-16 16:...	2017-06-16 07:...	Lower Critical going low
68525	192.168.0.100	192.168.0.100		Temperature	CPU_TEMP1	2017-06-16 16:...	2017-06-16 07:...	Lower Non-critical going low
68523	192.168.0.100	192.168.0.100		Temperature	CPU_TEMP1	2017-06-16 16:...	2017-06-16 07:...	Lower Critical going low
68522	192.168.0.100	192.168.0.100		Voltage	DDR3	2017-06-16 15:...	2017-06-16 07:...	Lower Critical going low
68521	192.168.0.100	192.168.0.100		Voltage	DDR3	2017-06-16 15:...	2017-06-16 07:...	Lower Critical going low

QRM+ provides Log Retention Settings feature, which can be set for periodic viewing. The default IPMI events log retention period is 1 week. Logs older than one week will be deleted by the system. Users can adjust the length of period according to their needs.

The screenshot shows the 'Settings / Application Settings' page. Under 'Log Retention Settings', there are dropdown menus for 'Alert Log', 'IPMI Events Log', 'KVM Video Recording', 'Historic Data Logs', and 'System Log', all set to '1 Week'. The 'IPMI Events Log' dropdown is highlighted with a red box. Below this is the 'Data collection on devices' section with two more dropdowns: 'Interval between periodic scans on remote devices (minutes)' set to '1' and 'Interval between real-time scans on remote devices (seconds)' set to '10'. An 'Apply' button is at the bottom.

## 9.3 Historic Data Log

QRM+ provides historical data obtained by a specific sensor type of a specific device over a specific time frame. For example, a user can select a device, set the period as one day or one week, select the sensor type as CPU usage, then QRM+ will present the CPU Utilization as a line chart. This feature is useful for analyzing the values of different sensor types over a specific time frame in order to take actions for improvement.

To display the historical data as a line chart in QRM+, follow the steps below:

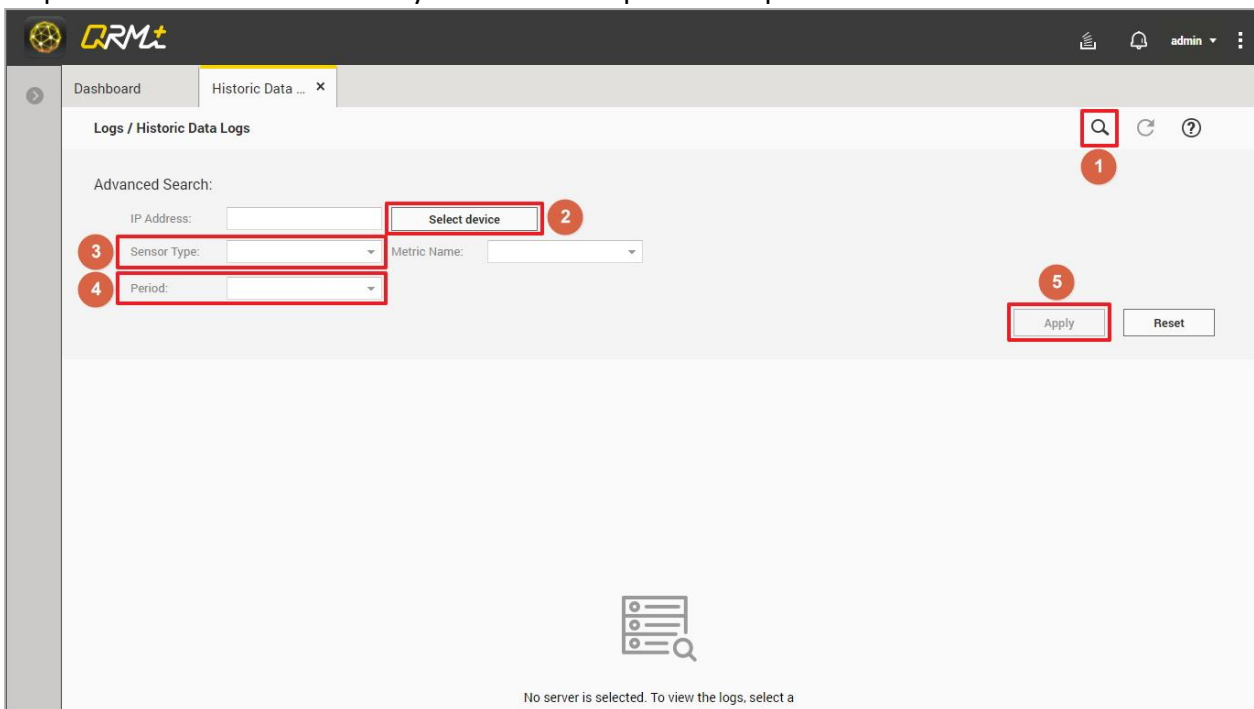
Step 1: Click what is indicated by Label 1

Step 2: Click what is indicated by Label 2, select the target device (required)

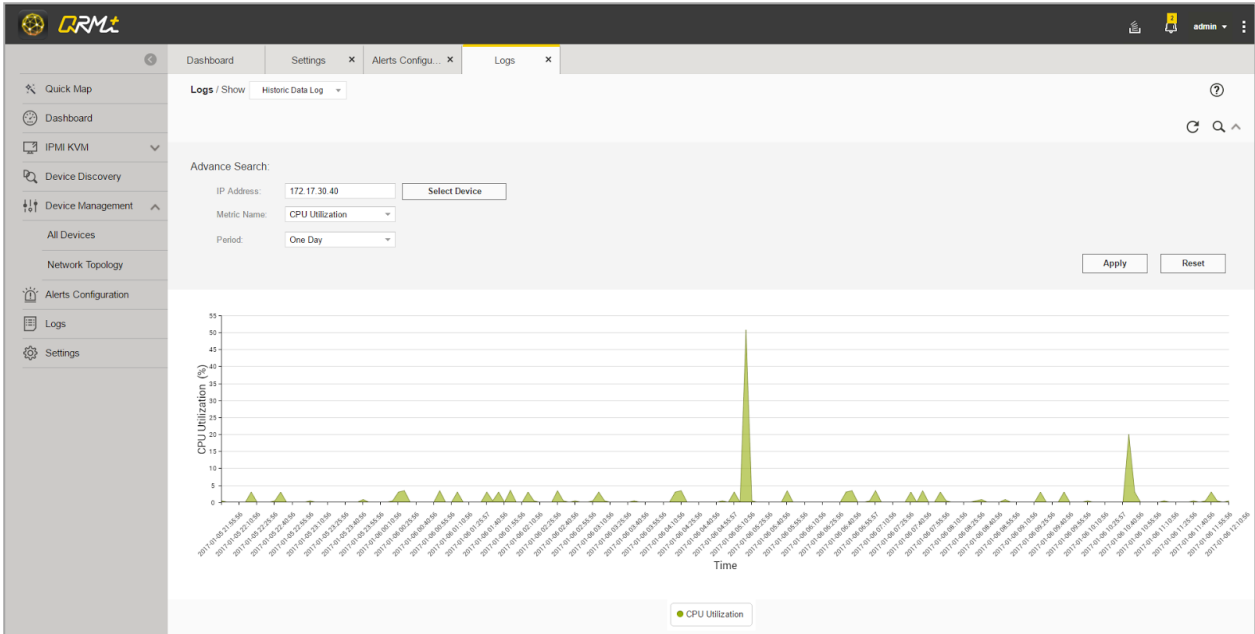
Step 3: Click what is indicated by Label 3, select Metric Name (required)

Step 4: Click what is indicated by Label 4, select the Period (required)

Step 5: Click what is indicated by Label 5 to complete the operation



The line chart for a specific device is shown below



QRM+ provides Log Retention Settings feature, which can be set for periodic viewing. The default Historic Data Log retention period is 1 week. Logs older than one week will be deleted by the system. Users can adjust the length of period according to their needs.

The screenshot shows the 'Settings / Application Settings' page. Under 'Log Retention Settings', the following values are shown:

- Alert Log: 1 Week
- IPMI Events Log: 1 Week
- KVM Video Recording: 1 Week
- Historic Data Logs: 1 Week (highlighted with a red box)
- System Log: 1 Week

Under 'Data collection on devices':

- Interval between periodic scans on remote devices (minutes): 1
- Interval between real-time scans on remote devices (seconds): 10

An 'Apply' button is located at the bottom of the settings panel.

## 9.4 System Log

System Log shows the messages, alerts, errors, and other events logged by QRM+ as well as the user's activities.

How to access the System Log: In the Logs page, select "System Log"

The screenshot shows the QRM+ System Log interface. The left sidebar contains navigation options: Dashboard, IPMI KVM, Device Discovery, Device Management, Alerts Configuration, Logs, QRM+ Alerts Log, IPMI Events Log, Historic Data Logs, System Log, and Settings. The main area displays a table of log entries under the heading "Logs / System Log".

Type	Time	Category	Content	User Name	Source IP
🕒	2017-06-15 18:03:...	Authentication	User Login Successful	admin	172.17.30.63
⚠️	2017-06-15 18:03:...	Authentication	User Login Failure	admin	172.17.30.63
🕒	2017-06-14 16:55:...	Device Power Cont...	[IPMI] Successfully power on for 192.168.0.102	admin	172.17.30.63
🕒	2017-06-14 16:55:...	Device Power Cont...	[IPMI] Successfully power on for 192.168.0.100	admin	172.17.30.63
🕒	2017-06-14 16:55:...	Device Power Cont...	[IPMI] Power cycle operation started for device: 192.168.0.102	admin	172.17.30.63
🕒	2017-06-14 16:55:...	Device Power Cont...	[IPMI] Power cycle operation started for device: 192.168.0.100	admin	172.17.30.63
🕒	2017-06-14 15:51:...	Device Power Cont...	[IPMI] Successfully power off for 192.168.0.102	admin	172.17.30.63
🕒	2017-06-14 15:51:...	Device Power Cont...	[IPMI] Successfully power off for 192.168.0.100	admin	172.17.30.63
🕒	2017-06-14 15:51:...	Device Power Cont...	[IPMI] Power off operation started for device: 192.168.0.102	admin	172.17.30.63
🕒	2017-06-14 15:51:...	Device Power Cont...	[IPMI] Power off operation started for device: 192.168.0.100	admin	172.17.30.63

At the bottom of the log list, there is a pagination control showing "Page 1 of 1" and "1 - 12 of 12".

System Log provides advanced search options that allow users to search according to different alert types:

Step 1: Select the alert type

Step 2: After selecting the period, press "Apply" to complete the operation

The screenshot shows the QRM+ System Log interface with the "Advanced Search" section expanded. The "Alert Type" dropdown menu is set to "All events" and is highlighted with a red box and a red circle containing the number "1". Below it, the "Period" dropdown menu is also highlighted with a red box and a red circle containing the number "2". To the right of the "Period" dropdown, the "Apply" button is highlighted with a red box and a red circle containing the number "2". The "Reset" button is also visible. The log table below shows the same data as the previous screenshot.



## 10. Settings

The Settings page contains the system user account and permissions management, only user with administrator permissions can enter this page.

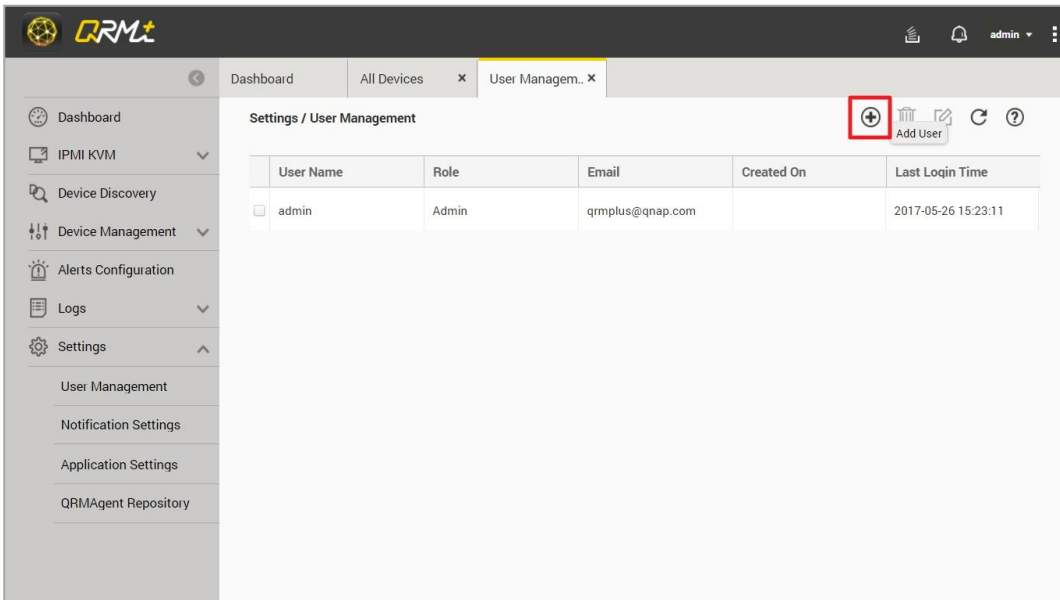
### 10.1 User Management

User Management provides the functions for setting up user permissions, adding or deleting users. QRM+ account must be bundled with a QTS account. Only QTS accounts can be added as QRM+ accounts. If a QTS account is deleted, the associated QRM+ will become unavailable.

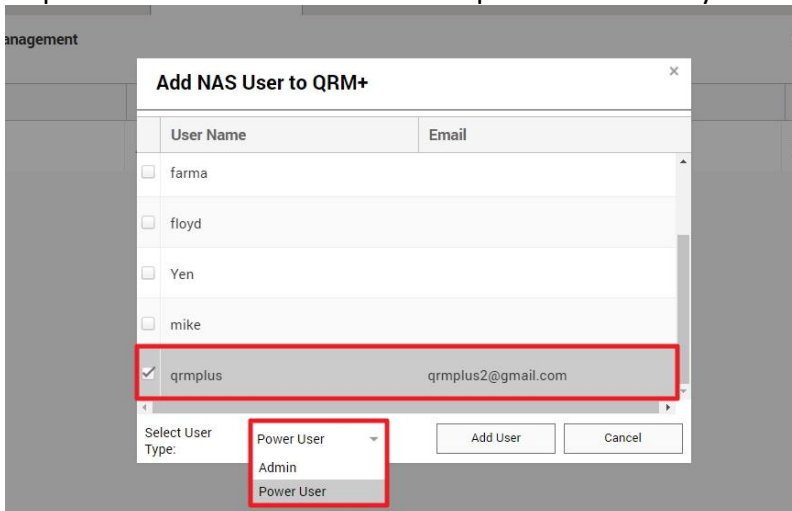
#### Add User:

[Watch the video](#)

Step 1: Select "User Management" from the Settings page and click the "Add" button



Step 2: After select the user and the permissions that you want to add, click "Add User" to finish.

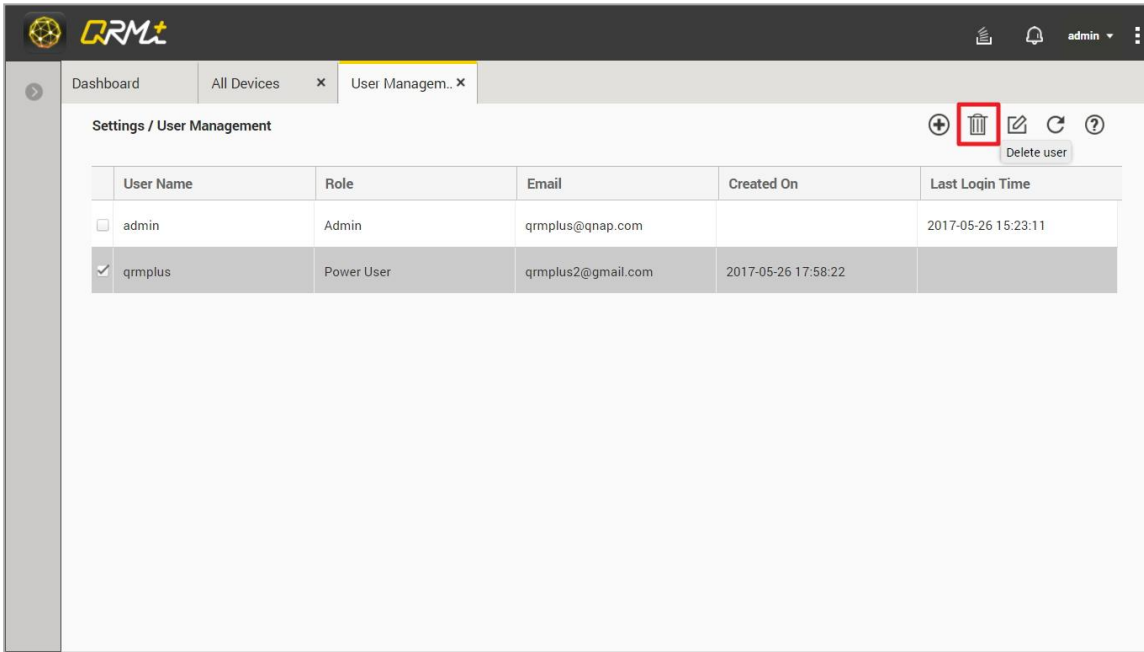


#### Deleting Users:

[Watch the video](#)

Select "User Management" in the Settings page, select the user you want to delete and click the

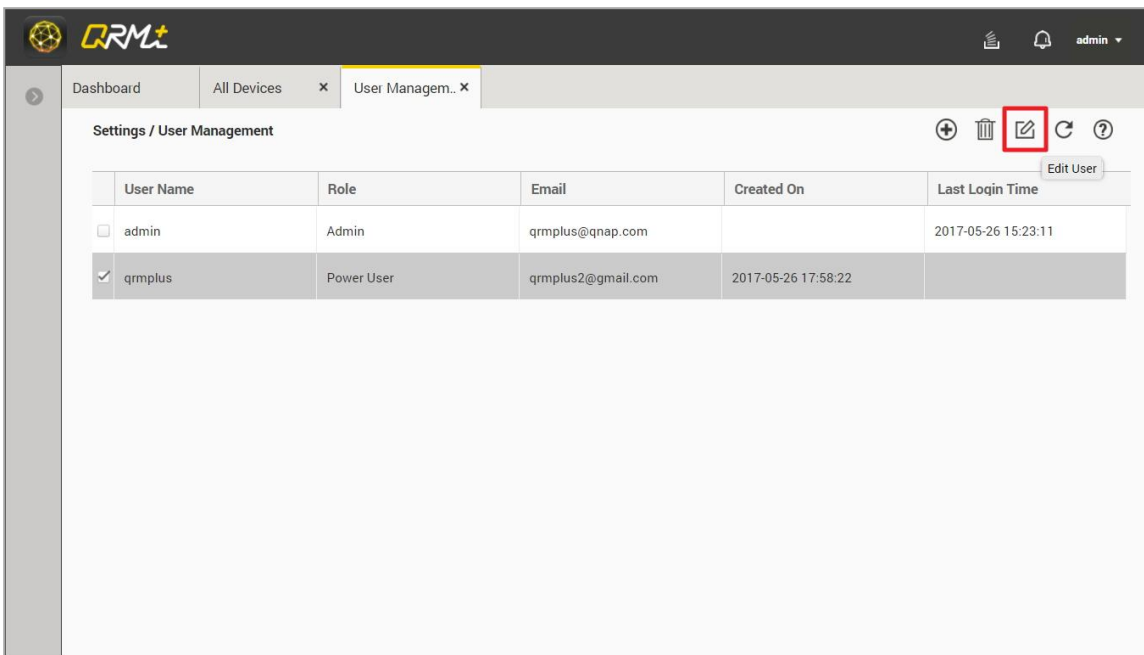
## "Delete" button



## Editing Permissions

[Watch the video](#)

Step 1: Select "User Management" from the Settings page, select the user you want to edit and click the "Edit" button

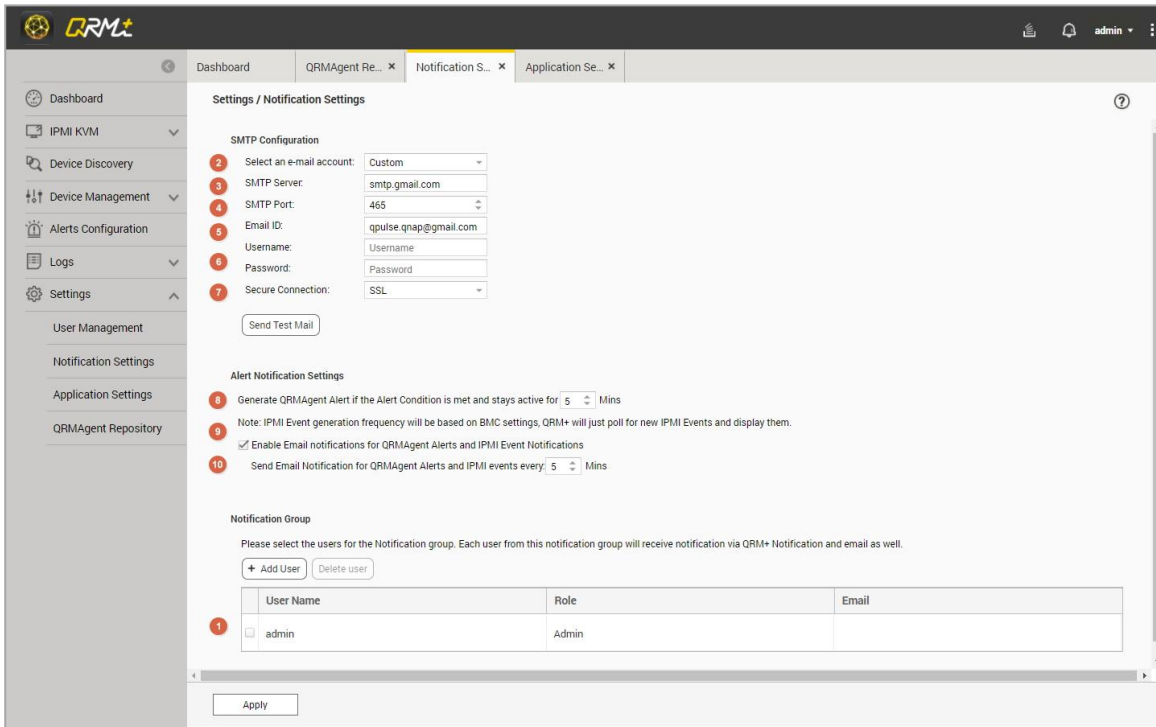


Step 2: Select the permission level you want to change from the drop-down menu and click the "Save" button to complete the operation



## 10.2 Notification Settings

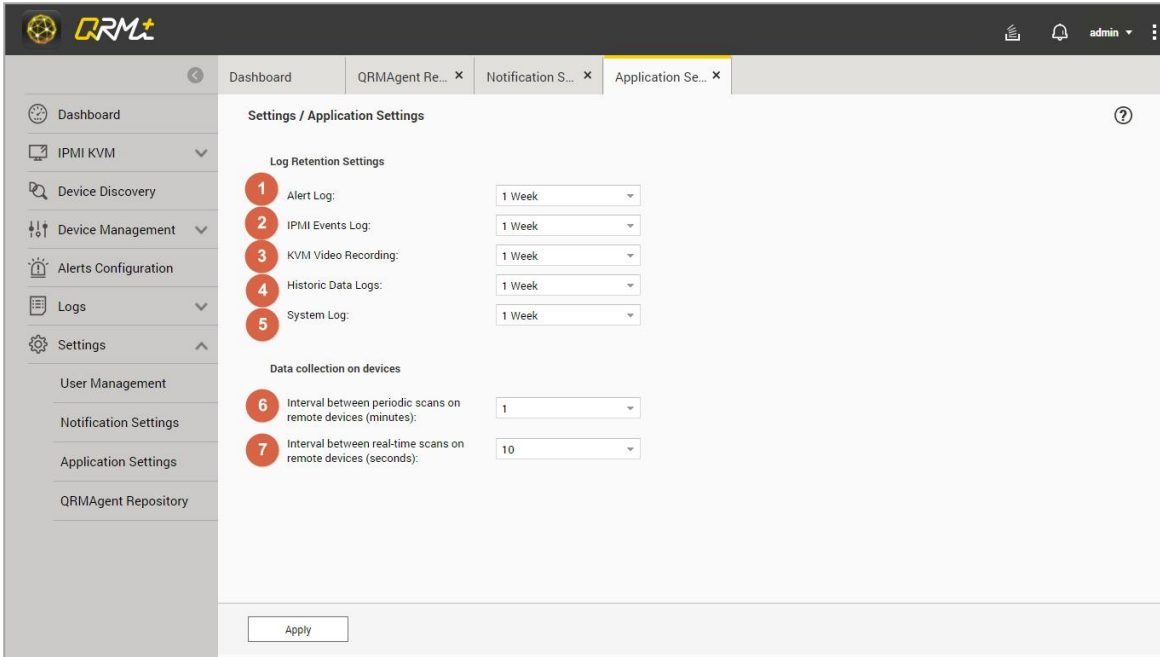
The notification settings allow users to be notified immediately when an event occurs, thus improving emergency response capabilities. Detailed setup instructions are as follows:



1. The list of accounts that need to be notified
2. SMTP type
3. SMTP server location
4. SMTP server port
5. E-mail account
6. E-mail password
7. Secure connection mode
8. How long after an alert condition has lasted before sending an alert
9. Whether to enable e-mail sent Agent alert and IPMI event alert
10. Time interval for sending repeat alerts

## 10.3 Application Settings

Application Settings let users adjust the system log files and video retention settings according to their needs, users can also adjust real-time data and automatic device scan period based on performance.



1. Alert log retention period
2. IPMI Events Log retention period
3. KVM video file retention period
4. Historical data log retention period
5. System logs retention period
6. Device scan and automatic refresh period
7. Real-time data automatic refresh period

## 10.4 QRMAgent information

Select "QRMAgent Repository" in the Settings page to list the currently supported operating system platforms and their Agent versions.

