Deployment & User Manual

KiloLink Server Free (Linux System)

(2022-5 version)

Content

1 KiloLink Server Free Deployment

1.1 Preparations

(1) Hardware

Processor: Intel Core i3 CPU or higher

Hard disk: 64G hard disk or higher

RAM: 4GB RAM or higher

(2) Software

Operating system: Linux64-bit operating system（Ubuntu 18.04+ / Debian 9+）

(3) Network

IP address: one public IP address

Bandwidth: Plan according to the network situation, it is recommended to configure at least 4Mbps.

Port: The server needs to use the following ports. If there is a firewall in the server's network, the related ports need to be opened. Therefore, please make sure below ports are open.

Port	Protocol
83	TCP
50000	UDP

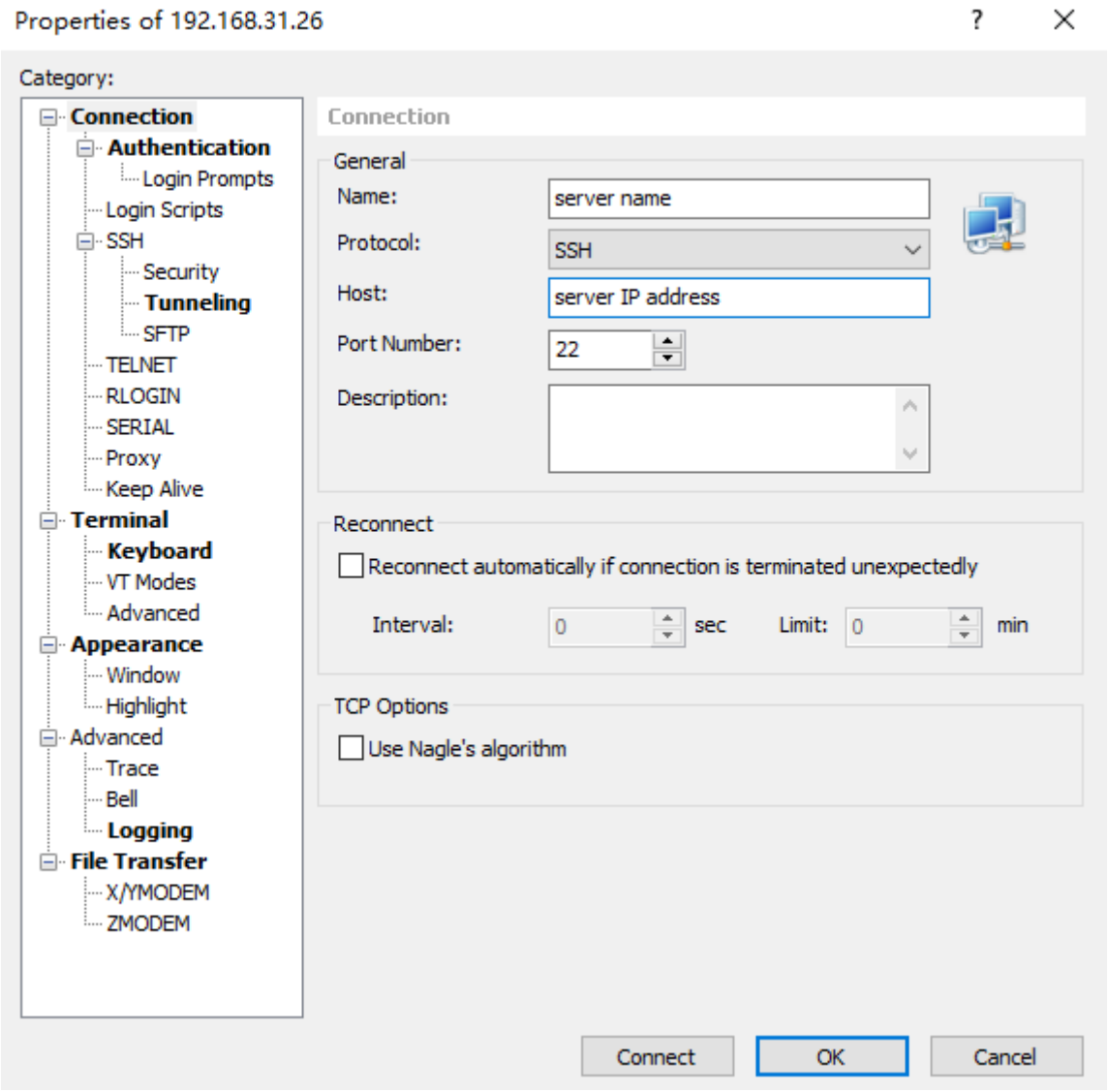
1.2 Logging In

Login to the server by remote terminal software, Xshell or PuTTy is recommended

Xshell download link: https://www.netsarang.com/zh/xshell-download/

PuTTy download link: https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html

1) After downloading and installing, enter the server IP address in the new session, and chooses "SSH" protocol. The port number is 22 by default. Click "OK" when finished



(2) Enter the username and password in the pop-up dialog box, the users need "sudo" to obtain management authorization or login as the root user. Enter the following

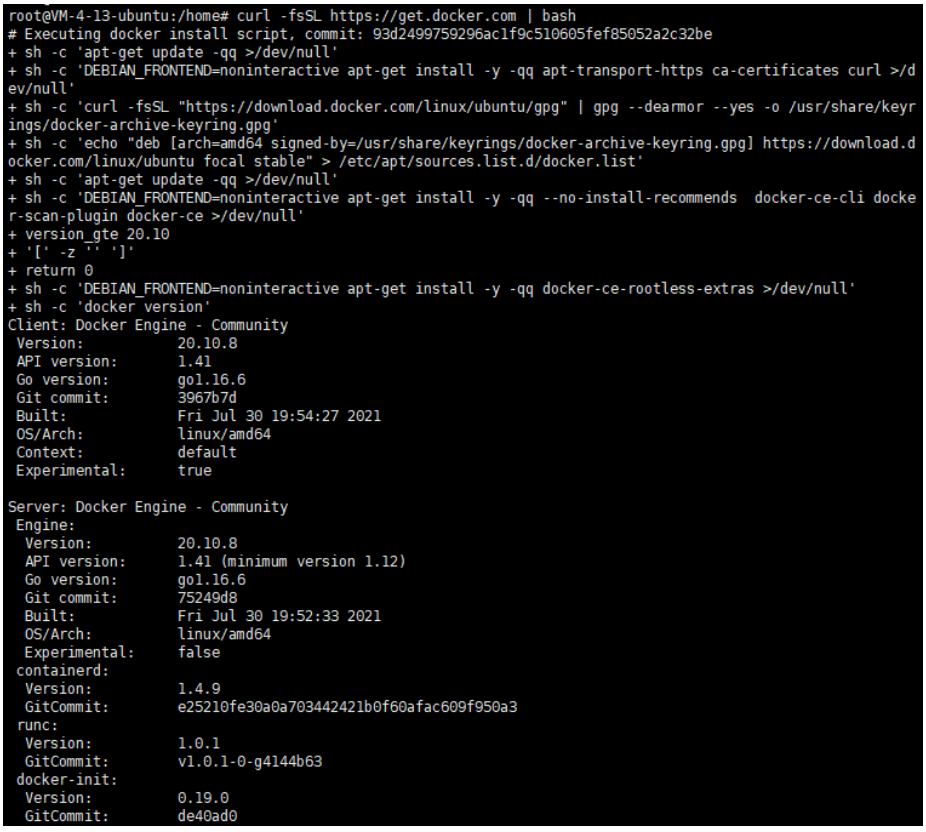
commands in the terminal:

sudo su -

1.3 Deployment steps

Step 1: Install docker

Enter the command in the terminal window: curl -fsSL https://get.docker.com | bash



Step 2: Pull images

Docker pull kiloview/kilolinkserverfree

```
root@kiloview-1:/home/kiloview# docker pull kiloview/kilolinkserverfree
Using default tag: latest
latest: Pulling from kiloview/kilolinkserverfree
11323ed2c653: Pull complete
dfe9cf35b9cb: Pull complete
62343e59dad9: Pull complete
a372c8f42a33: Pull complete
fd7b6b6f1fdd: Pull complete
05332eaaf212: Pull complete
Digest: sha256:2bf8e5825439ee2c72f520be1ac0b28b75a92e45cf1c58ee67441ce08b859fd2
Status: Downloaded newer image for kiloview/kilolinkserverfree:latest
docker.io/kiloview/kilolinkserverfree:latest
root@kiloview-1:/home/kiloview#
```

Step 3: Run container

Enter "docker create --restart=always --name kilolinkserverfree -e KLNKPORT=50000 -v /data:/data --privileged --user root --network host kiloview/kilolinkserverfree" in the terminal window.

```
root@kiloview-1:/home/kiloview# docker create --restart=always --name kilolinkserverfree -e KLNKPORT=60000 -v /data:/data --privileged --u
ser root --network host kiloview/kilolinkserverfree
093504f01528b99fe40ecb7d4c2cc2f74d52ac733449ce7d078eda77e82ad48c
root@kiloview-1:/home/kiloview#
```

Note

The host mode is used by default, so the host IP is used for deployment by default.

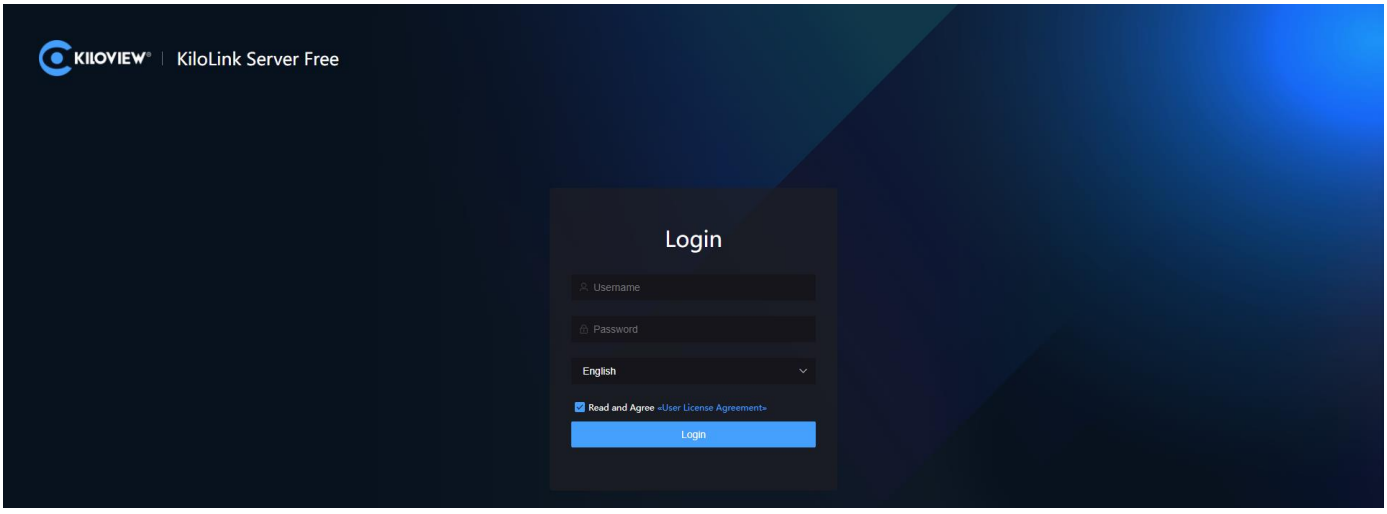
Step 4: Enable docker

docker start kilolinkserverfree

```
root@kiloview-1:/home/kiloview# docker start kilolinkserverfree
kilolinkserverfree
root@kiloview-1:/home/kiloview#
```

Step 5: Login authentication

Enter “IP address of server: 83” in the browser (Google is recommended), press enter to display the login interface of the KiloLink Server. The username is ***admin***, password is ***Kiloview001*** by default.



Note

(1) The default port of the server login has been adjusted to 83.

(2) The device version needs to be updated to the latest version that supports KiloLink Server Free.

(3) The port number of the device is 50000.

2 General questions and solutions

2.1 If there is an error message during the deployment process.

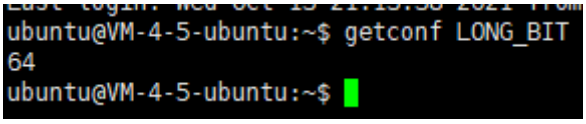
Solution:

2.2 An error hint during the deployment

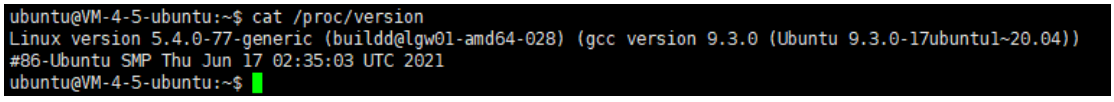
Solution:

Please check the version of your operation system, currently, it only supports Linux64-bit operating system（Ubuntu 18.04+ / Debian 9+）

1) Check Linux digits: getconf LONG_BIT



2) Check the version number of the Linux: cat /proc/version



2.3 No response for a long time for the installation of the docker

Solution:

The process of the installation is relatively slow, please wait patiently. You can use the command "docker version" to check and confirm whether the installation is successful.

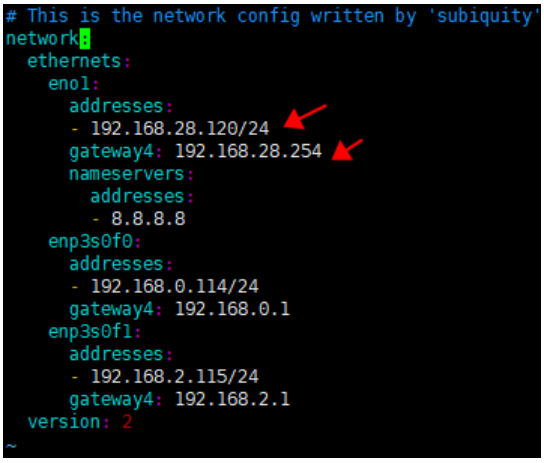
```
root@ndi:~/cp_data3# docker version
Client: Docker Engine - Community
 Version:           20.10.6
 API version:       1.41
 Go version:        go1.13.15
 Git commit:        370c289
 Built:             Fri Apr  9 22:47:17 2021
 OS/Arch:           linux/amd64
 Context:           default
 Experimental:      true

Server: Docker Engine - Community
 Engine:
  Version:          20.10.6
  API version:      1.41 (minimum version 1.12)
  Go version:       go1.13.15
  Git commit:       8728dd2
  Built:            Fri Apr  9 22:45:28 2021
  OS/Arch:          linux/amd64
  Experimental:     false
 containerd:
  Version:          1.4.4
  GitCommit:        05f951a3781f4f2c1911b05e61c160e9c30eaa8e
 runc:
  Version:          1.0.0-rc93
  GitCommit:        12644e614e25b05da6fd08a38ffa0cfe1903fdec
 docker-init:
  Version:          0.19.0
  GitCommit:        de40ad0
root@ndi:~/cp_data3#
```

2.4 Fail to pull the image

```
root@ndi:/# docker run -d --name status --restart=always -v /var/run/docker.sock:/var/run/docker.sock:ro --pid host --network host -e GLANCES_OPT="-w" nicolargo/glances
Unable to find image 'nicolargo/glances:latest' locally
latest: Pulling from nicolargo/glances
e1acddbe380c: Pulling fs layer
ecc7ff4d2622: Pulling fs layer
dae1d9fd74c1: Pulling fs layer
87bc5aa6fc42: Waiting
76f124aca9af: Waiting
9c40be6c51a4: Waiting
c125888d0329: Waiting
342605490b7f: Waiting
docker: error pulling image configuration: Get https://production.cloudflare.docker.com/registry-v2/docker/registry/v2/blobs/sha256/b3/b39a65d9d3bba1f740dd5c3fde71c65ab5f7113448ee923d459547969d65e222/data?verify=1636450334-W9xG%2BdO5e3GWgJ4
08F3%2FByyQne4%3D: dial tcp 104.18.124.25:443: i/o timeout.
See 'docker run --help'.
root@ndi:/# docker run -d --name status --restart=always -v /var/run/docker.sock:/var/run/docker.sock:ro --pid host --network host -e GLANCES_OPT="-w" nicolargo/glances
Unable to find image 'nicolargo/glances:latest' locally
latest: Pulling from nicolargo/glances
docker: error parsing HTTP 408 response body: invalid character '<' looking for beginning of value: "<html><body><h1>408 Request Time-out</h1>\nYour browser didn't send a complete request in time.\n</body></html>\n\n".
See 'docker run --help'.
root@ndi:/#
```

Solution:

To pull the image, you need to get the image files via the internet. If the network delay is high or you cannot connect to the internet, please check whether the network is smooth by pinging an external website.



2.5 “No such file or directory" error reported during command execution

```
Digest: sha256:174396f08a6900a9bf92afb07724b219648f2e7da9c34ca464778ee38e118f59
Status: Downloaded newer image for kiloview/klnkserver:1220
docker.io/kiloview/klnkserver:1220
root@OMNI-STREAM:/home/shaan# docker run -d --restart=always --name klnkserver -e PLATFORMIP=170.20.67.233 --privileged
--user root --network host kiloview/klnkserver:1220
bash: docker run -d --restart=always --name klnkserver -e PLATFORMIP=170.20.67.233 --privileged --user root --network ho
st kiloview/klnkserver:1220: No such file or directory
```

Solution:

When you copy the command from the file, it may include the form character and cause the command to change. Please enter the corresponding command manually.

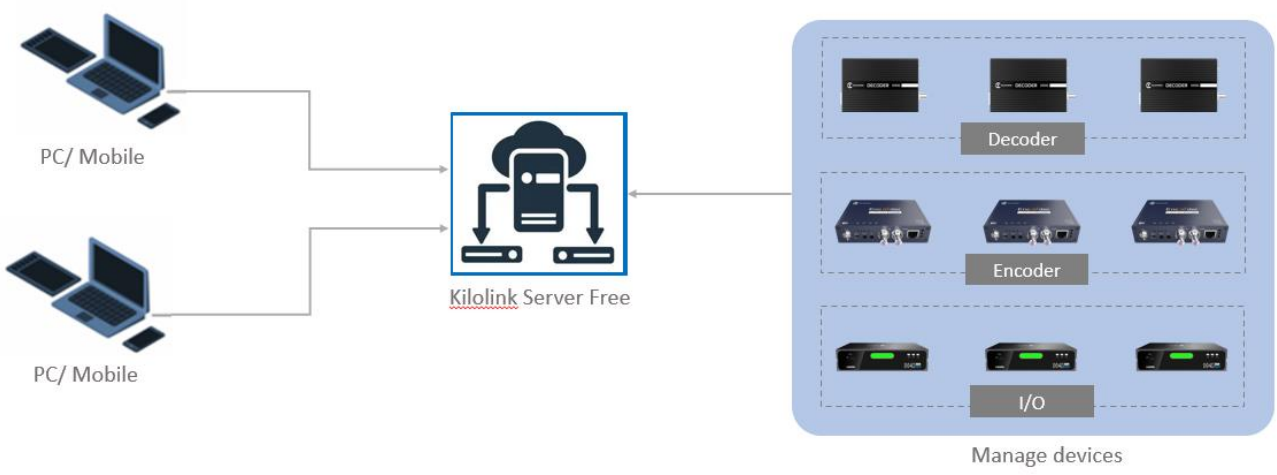
3 KiloLink Sever Free User Guide

3.1KiloLink Server Free Introduction

KiloLink Server Free is a centralized management system developed by Kiloview. It is mainly used for centralized management of KILOVIEW's encoders, decoders and NDI series products. The system supports up to 5 levels of group management according to your different applications, and it can authorize different permissions for each group to achieve more refined device management. It also supports the permission management of the modules, granting different permission to different users and user groups. KiloLink Server Free makes device management more convenient. Users can use different terminals to check the device working status, manage the device, login to the device webpage to configure the parameters, etc.

For more information about KiloLink Server Free, please refer to:

https://www.kiloview.com/en/kilolink-server-free



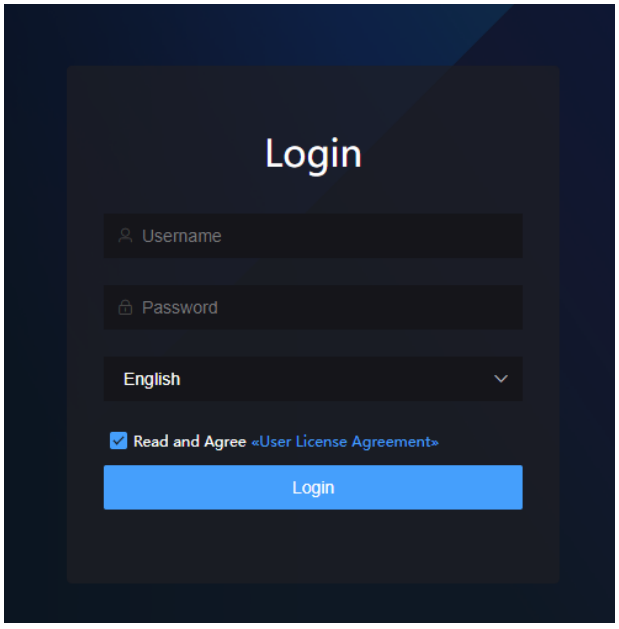
Introduction:

KiloLink Server Free mainly used for centralized management of Kiloview encoders, decoders and NDI devices. Users can login to the system via Web browsers (Chrome, Edge, Safari) to manage and maintain the devices connected to the system.

- Supported models: Including DC220/DC230/D300 decoders, MG300 media gateway; E, G series, N1/N2 and M2 encoders, and N3/N4/N30/N40/U40/N6 FULL NDI devices.
- Update the firmware here: www.kiloview.com/en/support/download/

3.2 Login KiloLink Server Free

Enter http://server IP: 83/ in the browser to login to the KiloLink Server Free. The default username is **admin**, and the password is **Kiloview001**.



Note

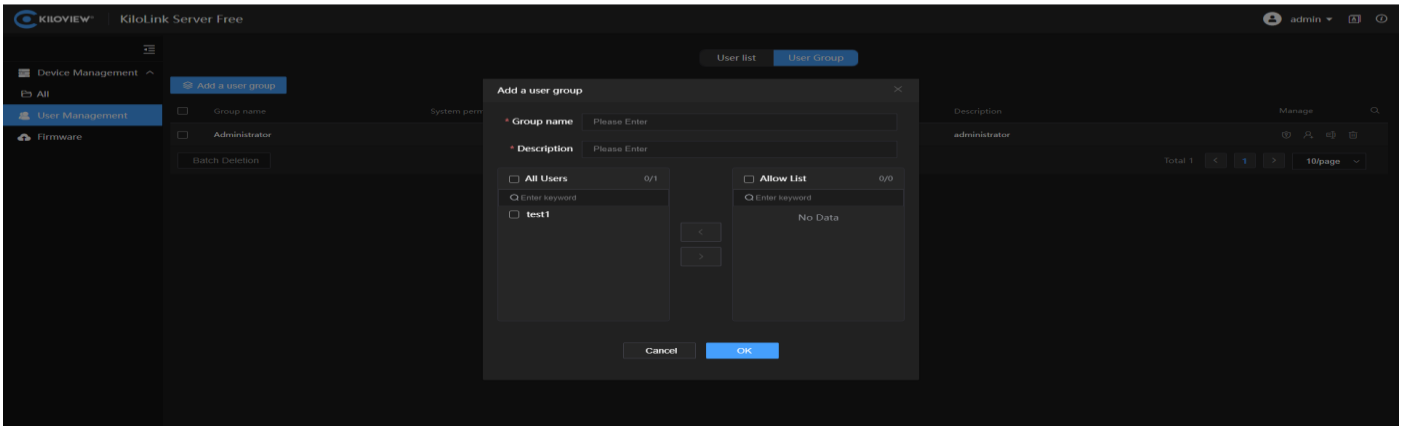
- For information security concern, we recommend you change the password after your first login.
- KiloLink Server Free login port is 83 by default.

4 User Management

After deployment, there is a super administrator account **admin** by default. Log in with the super administrator account, you can create users and user groups via the user management, and add permissions to users and user groups.

4.1 User Management

In user management, you can add, modify, and delete users (individually or in batches). The added user starts without any permissions. You need to add the user to the user group, and the user will have the permissions of the user group.



Introduction

- Modify password; Rename; Delete;

Note

- When adding a user, password must consist of uppercase characters, lowercase characters and digits with 6~32 characters long.

5 User Group

5.1 Add user group

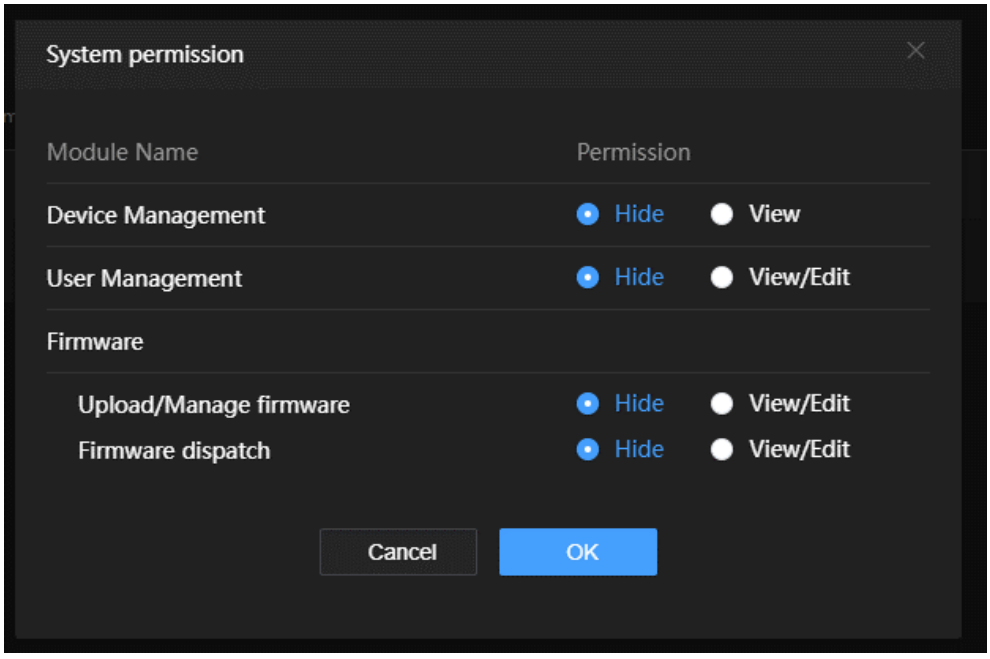
Add a user group and authorize the user group. All users in the user group have the same authority.

The operation is as follows: click "Add a user group", enter the group information, and select users in the "All Users" to the user group.

5.2 User group permission

The system includes three modules: Device Management, User Management and Firmware. All users and user groups should have permissions to operate the system. When log in for the first time, the default super administrator can add users and user groups, and give permissions to the user groups.

In “User Management”, you can only authorize the user group with hidden or view permissions for the "Device Management". If need operation permissions for the device, please turn to the "Access Control" in the “Device Management”. For details, please refer to the chapter 3.1.4 "Device Management - Access Control".



Introduction

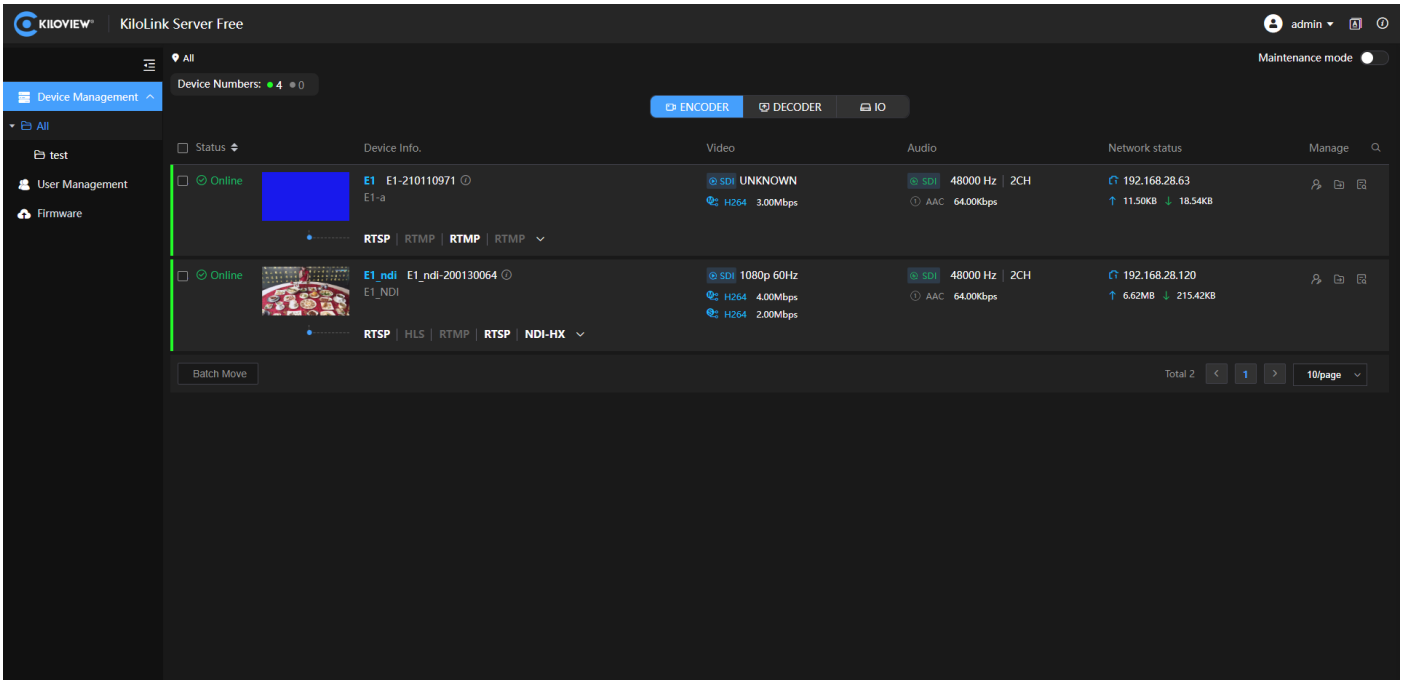
- Hide：Modules are not visible to users of the user group;
- View：Users in the user group can view authorized modules;
- Edit：Users in the user group can edit authorized modules

Note

- The permissions for the "Device Management" module are only available for hiding and viewing in the “User Management”. Edit permissions need to be set in the “Device Management “module.

6 Device Management

Click "Device Management" to manage all devices under "ENCODER", "DECODER" and "IO".

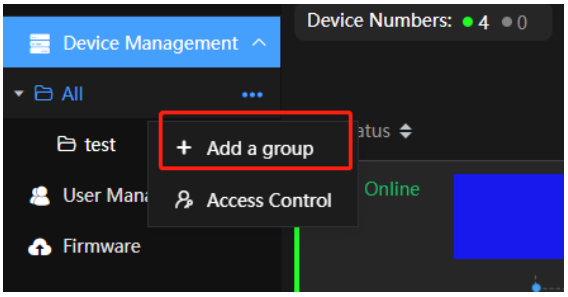


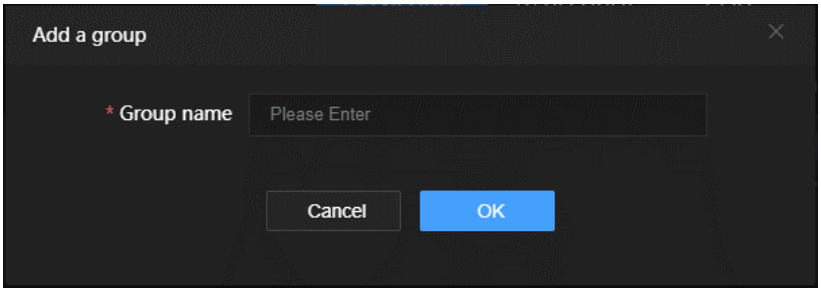
6.1 Group Management

Users can add groups in the Device Management with different application scenarios, and all the devices can be classified to the groups, which is convenient for further maintenance. Each group supports up to add 5 groups.

6.1.1 Add a group

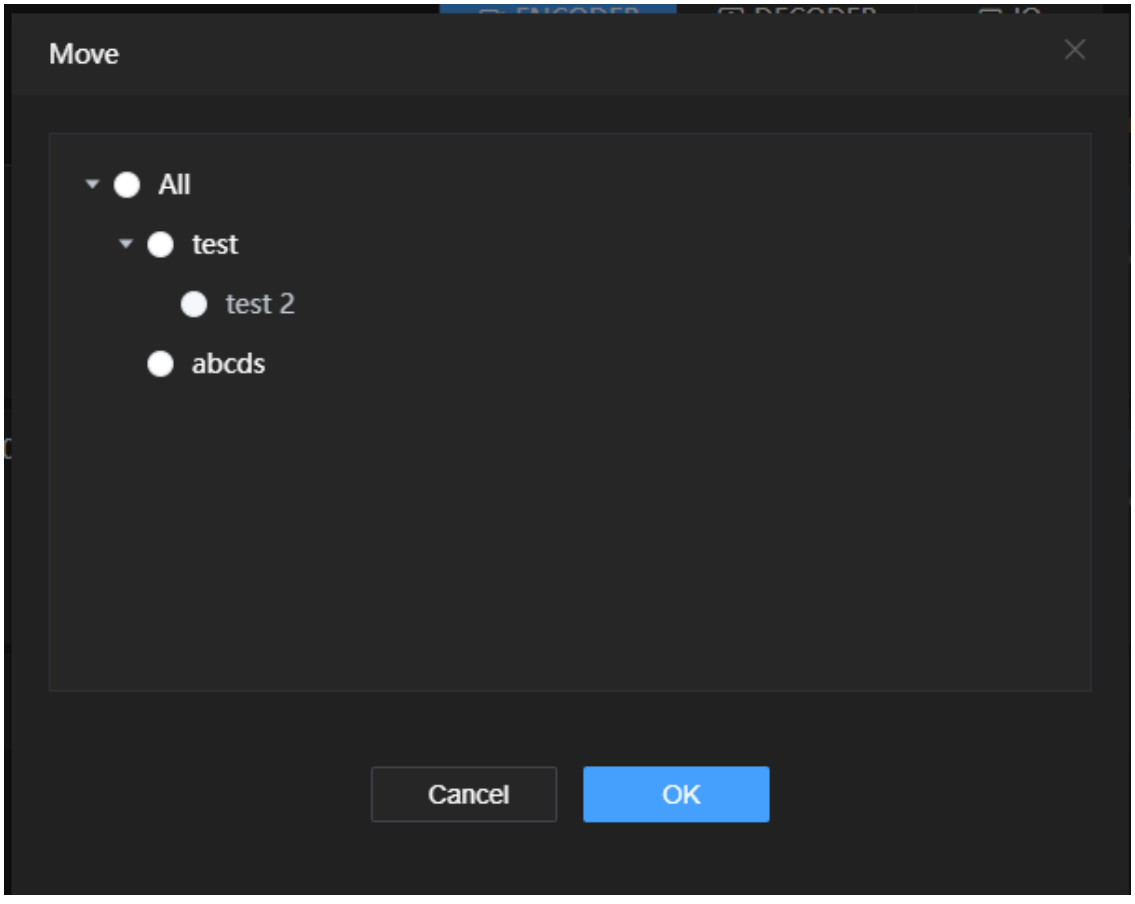
Click" ••• " on the right of each group. Then click "Add a group", enter the group name and click "OK" to add a new group.





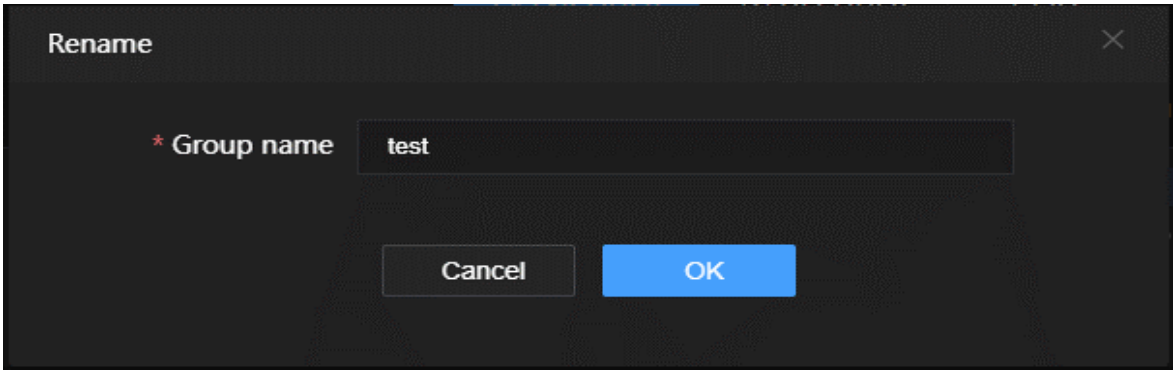
6.1.2 Move the group

When you want to move the group to another one, click "Move" and select the group to move to.



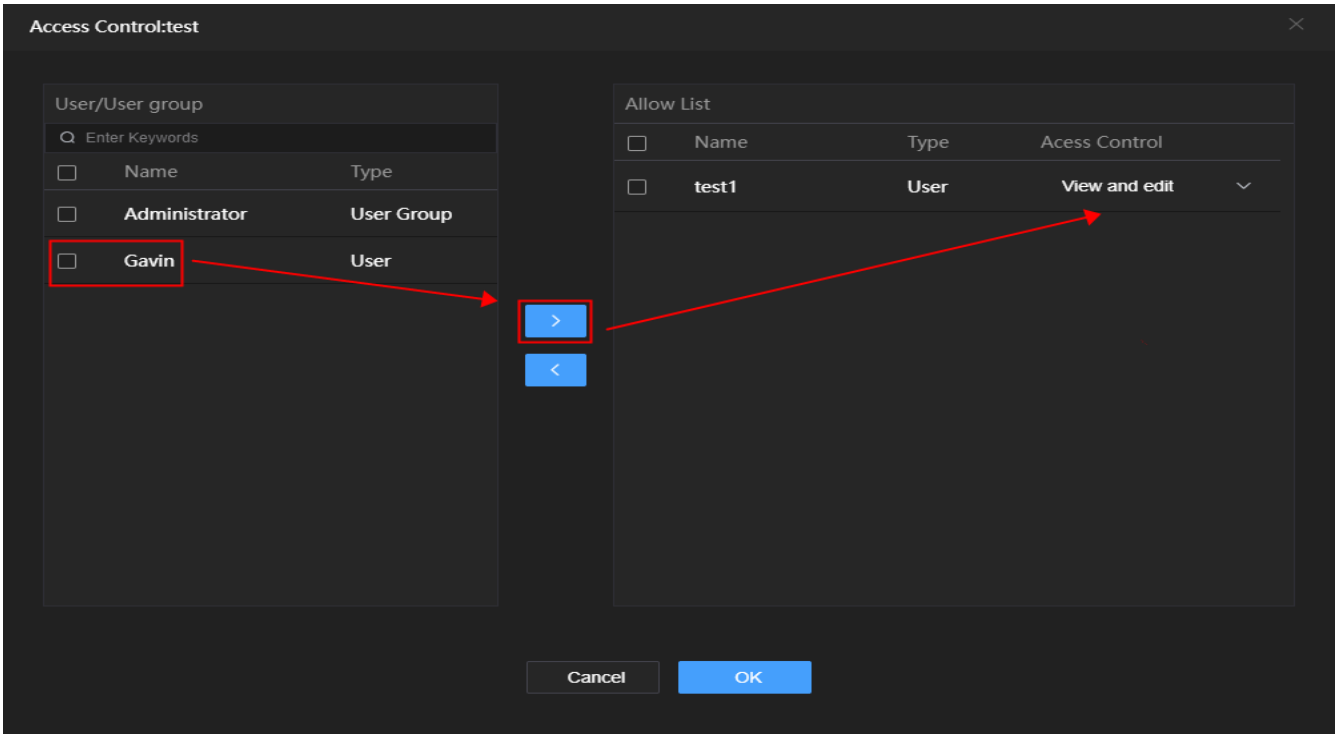
6.1.3 Rename the group

When you want to change the group name, click "Rename", enter a new name, and click "OK".



6.1.4 Access control

In the “Device Management”, click "Access Control", and select the user or user group that needs to be authorized to the “Allow list” on the right, and click  . Then choose the permissions for the user or user group.



Introduction

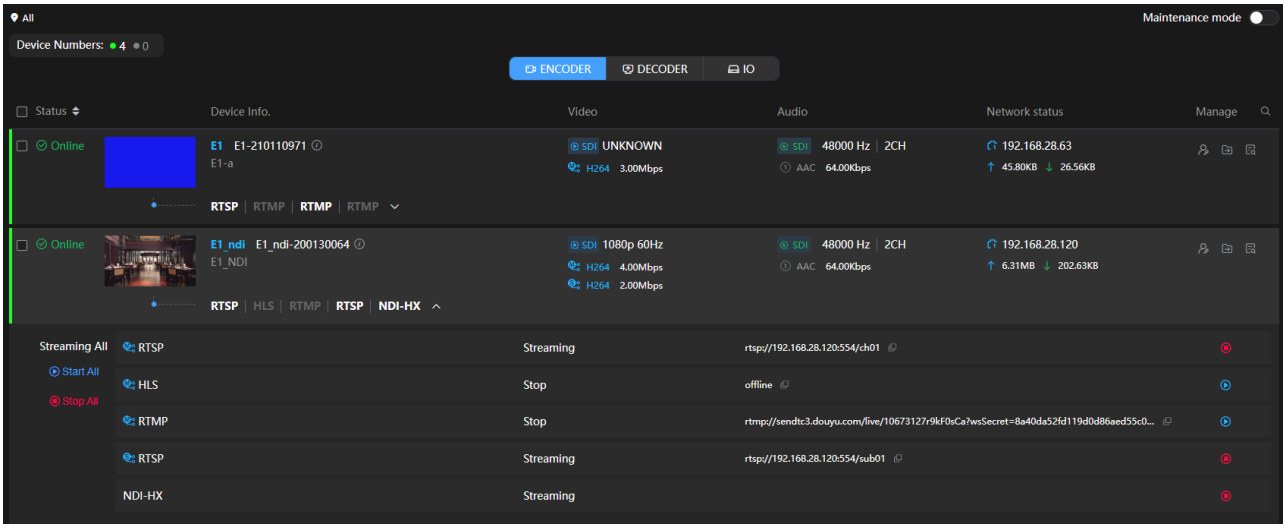
- View only: Only with the viewing permission of the group, and cannot rename, move, delete, etc. the devices under the group;
- View and edit: With the viewing and editing permissions of the group, and can rename, move, delete, etc. the devices under the group;
- The root directory does not support rename, move, and delete, etc.
- The lower-level group have the permissions of the upper-level group by default. But if the lower-level group is limited with some permissions, it is subject to the configured permission;
- Management such as rename, move, and delete a group require the first-level group owns the permissions. For example: the lower-level group "Test group" of "Sales group", if the "Sales group" does not have the editing permission, even if the "Test group" is authorized, the group cannot be edited. Only the lower-level group of "test group" can be edited;
- It is required to have the editing permission for the target directory if you need to remove the group.

7 Device management

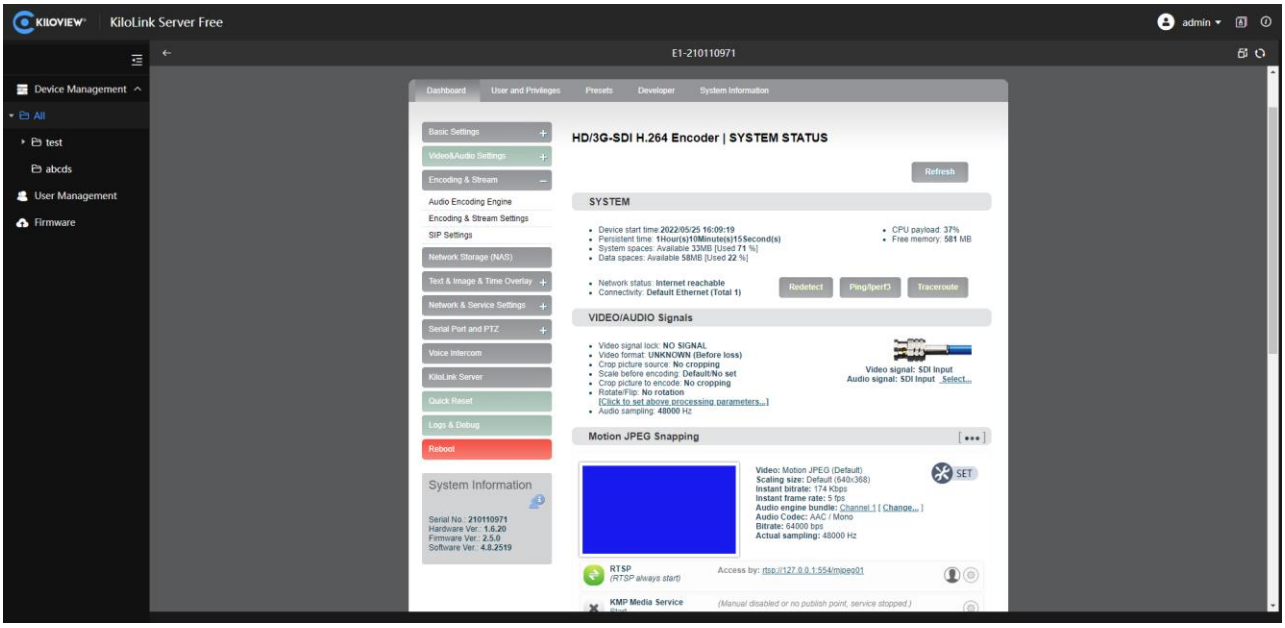
On the device management page, you can check the device status, device information, video and audio information, and network status of all devices. And you can authorize and move the device, even remotely access the device webpage and configure parameters.

7.1 Encoder management

You can check the current status of the encoder, streaming status, video and audio information, etc. Also, you can start/stop streaming. Details as below:



If you want to check the details of the encoder, click  to enter the device webpage and configure the parameters.



Introduction

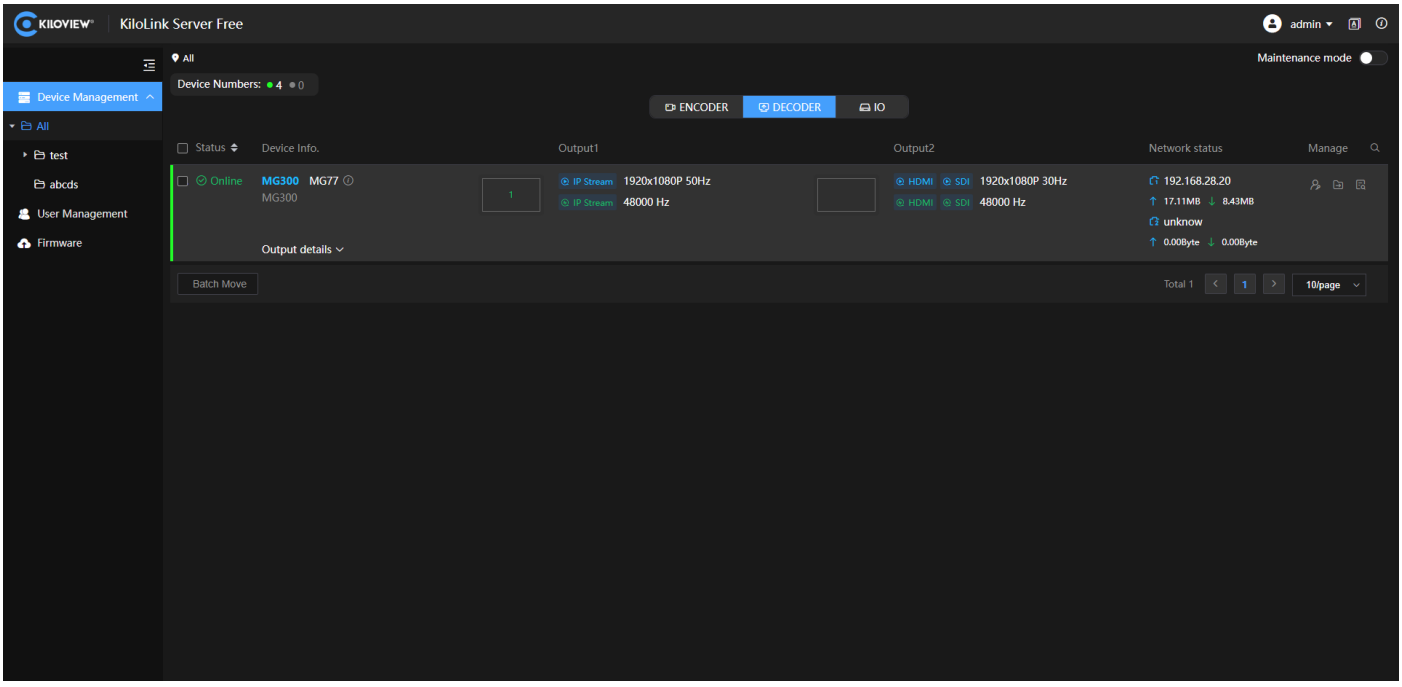
- Click  to sort the devices.
-  shows the online device number,  shows the offline device number
- Device info.: The device model, serial number, version number, etc.
- Video: The information of the video source, including the resolution, the current bitrate, the encoding format and bitrate of the main/sub-stream,  is the main stream and  is the sub-stream;
- Audio: The current audio sample rate, encoding bitrate, encoding format, etc.;
- Network status: IP address and rate of the device,  is the uplink rate,  is the downlink

rate;

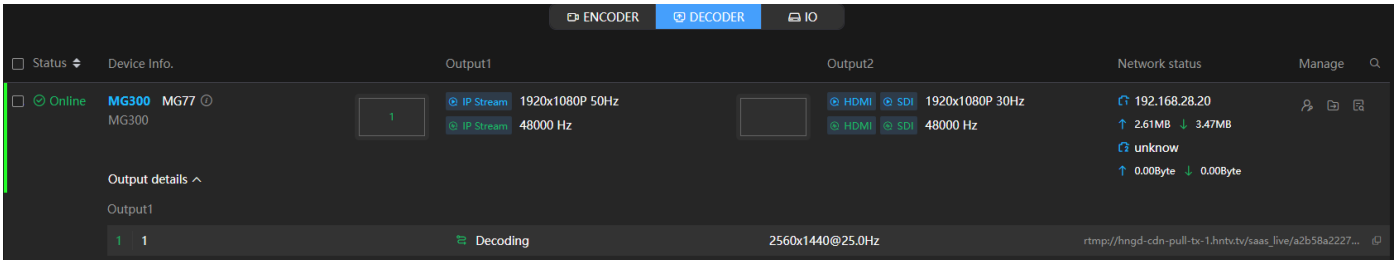
- Manage: means “Access Control” , "View" means only view the device without other operations, "Edit" means rename the device, means move the device, means enter the device webpage;
- Streaming: the device is streaming and you can start or stop it in the system.

7.2 Decoder management

On the device management page, you can check the decoder status, device information, network status and output details as below:



For output details, please check the decoding status and the output number related to the window number of the multi-window output.

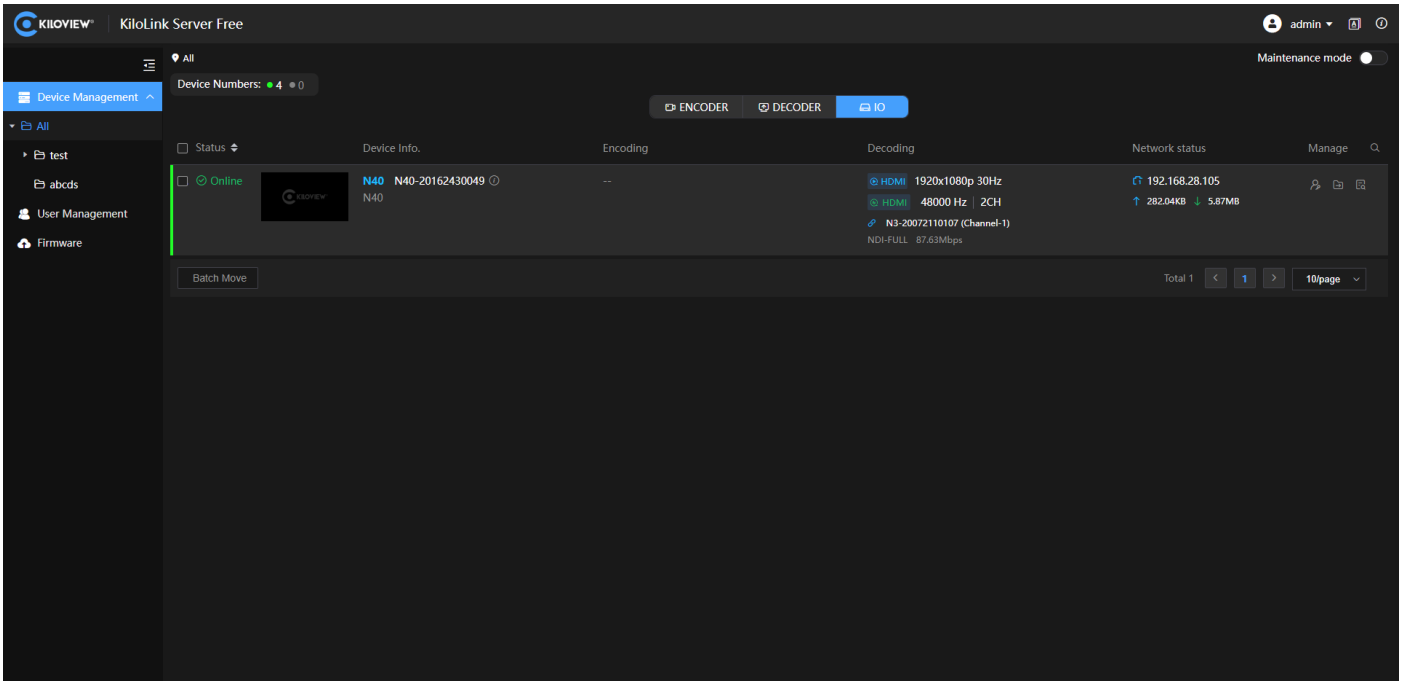


Introduction

- Output 1/Output 2: Configurations of output 1/output 2, including output interface, resolution and audio sample rate;
- Network information: The device network port, the rate of each network port, is the uplink rate, is the downlink rate;
- means that the device is streaming, is decoding, is the connection re-established;

7.3 NDI device management

On the device management page, you can check the NDI device status, device information, encoding and decoding status and network status.



Introduction

- Encoding: NDI device is in encoding mode, displays the current video encoding information, including video source resolution, audio sample rate, audio channel, real-time bitrate, etc.;
- Decoding: NDI device is in decoding mode, displays the current video decoding information, including video resolution, video output interface, audio sample rate, channel, NDI source name, bitrate, etc.;

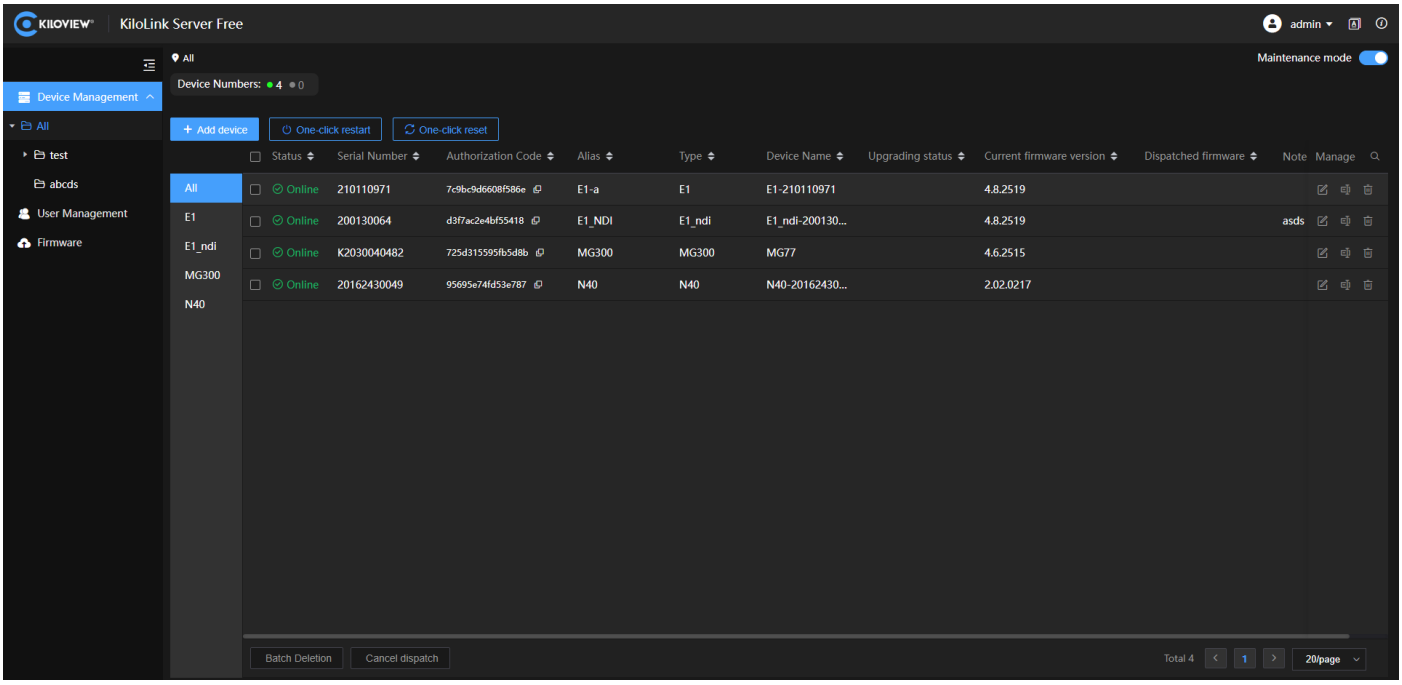
- Network status: The network information and the IP address, is the uplink rate, is the downlink rate.

Note

- When moving the device, please ensure that the user has the editing permission of the current group and the target group.
- The free version supports up to add 32 devices.

8 Device Maintenance

Enabling "Maintenance mode", you can add devices to the system, and manage the devices with one-click reboot or one-click reset.

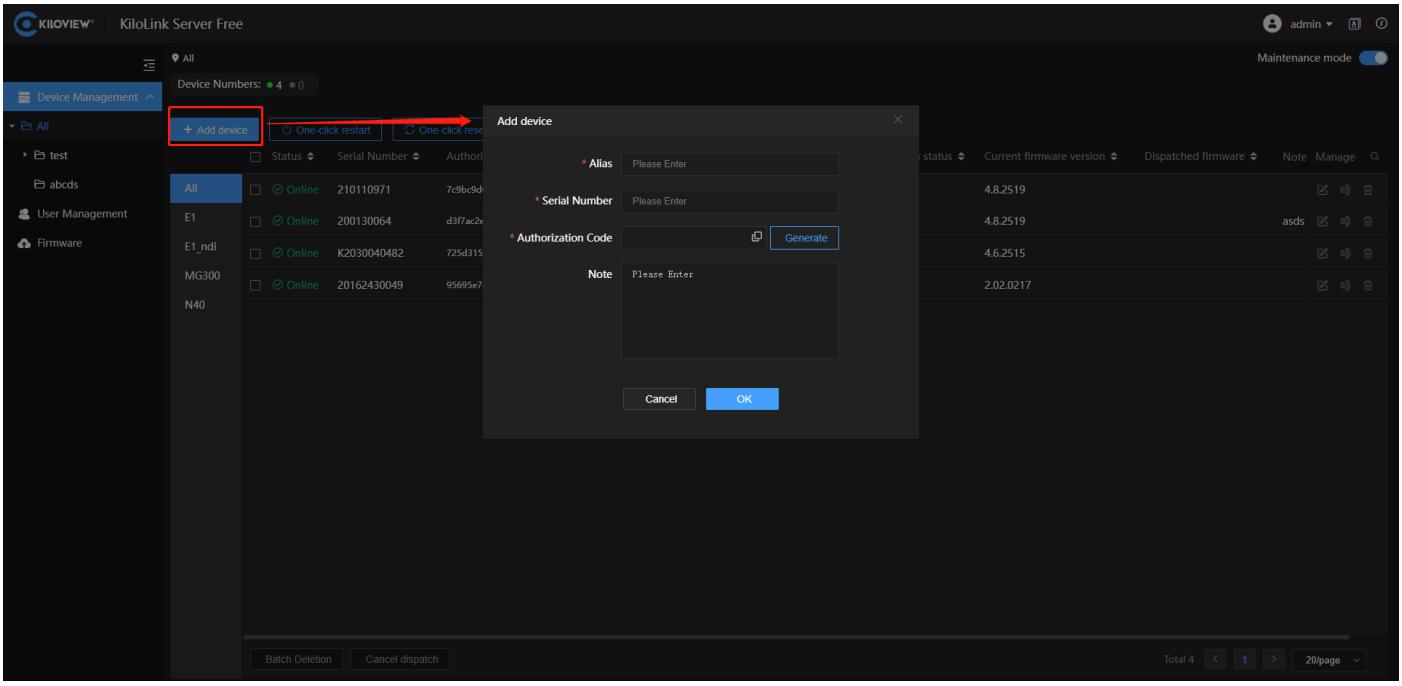


Introduction

- : Edit authorization code and note of the device;
- : Rename the device;
- : Delete the device;

8.1 Add device

Click "Add Device", enter the device name and serial number to generate an authorization code.

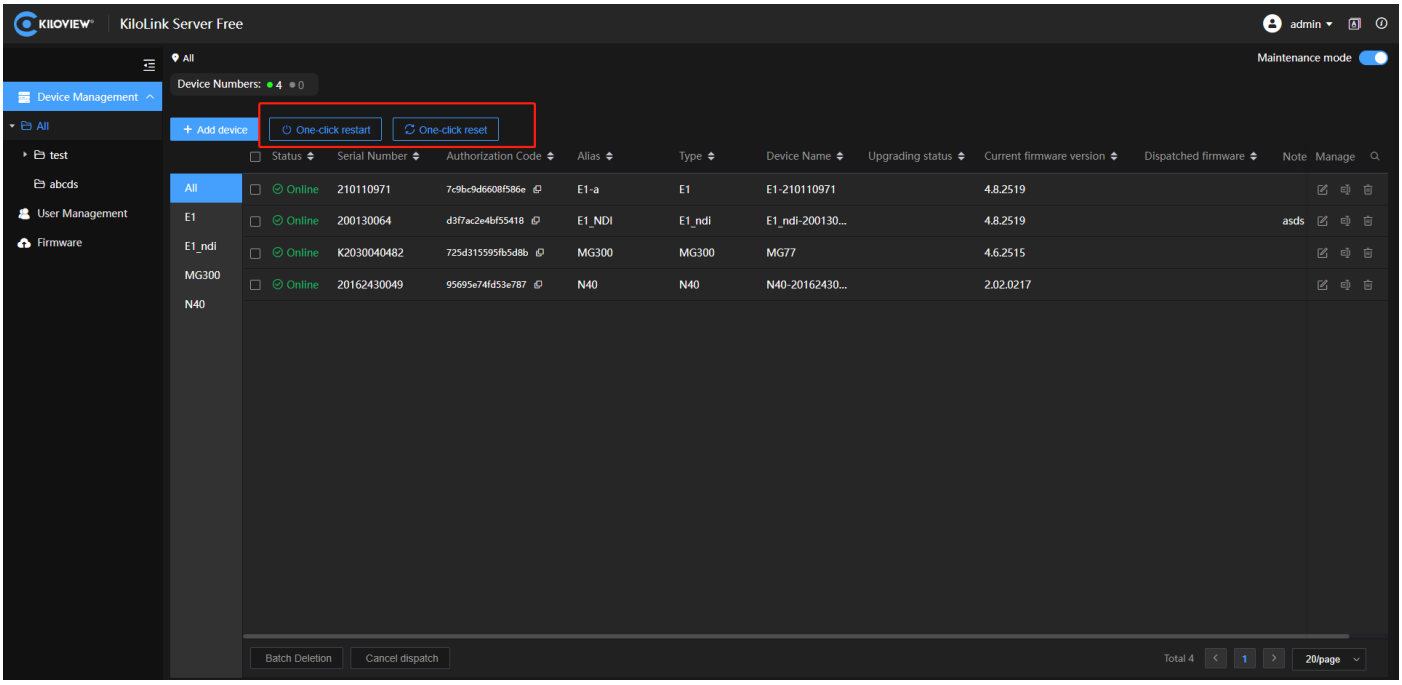


Note

- The authorization code generated when a device is added to the server. It will be used to authorize the device to log in to the server from the device webpage.

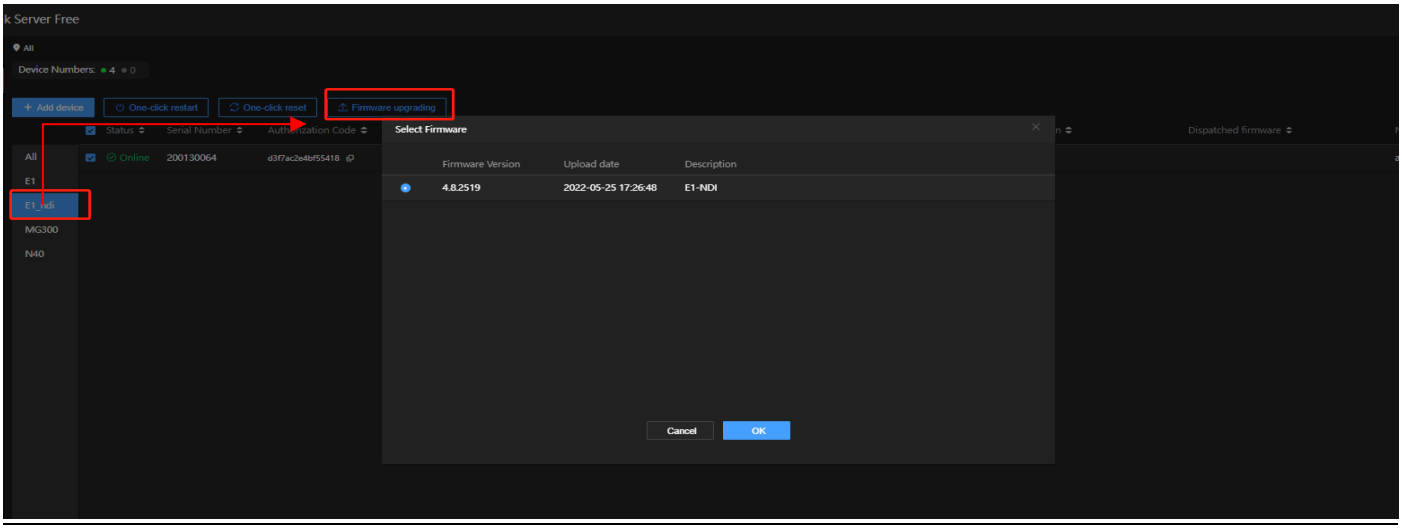
8.2 Reboot and reset

Select the devices that need to be restarted and reset with one-key restart or one-key reset.



8.3 Firmware upgrade

Select the product model to be upgraded, and click "Firmware Upgrading" appeared at the top of the page, select the firmware, then the firmware will be dispatched to the device. After dispatched, please reboot the device to complete the firmware upgrading.



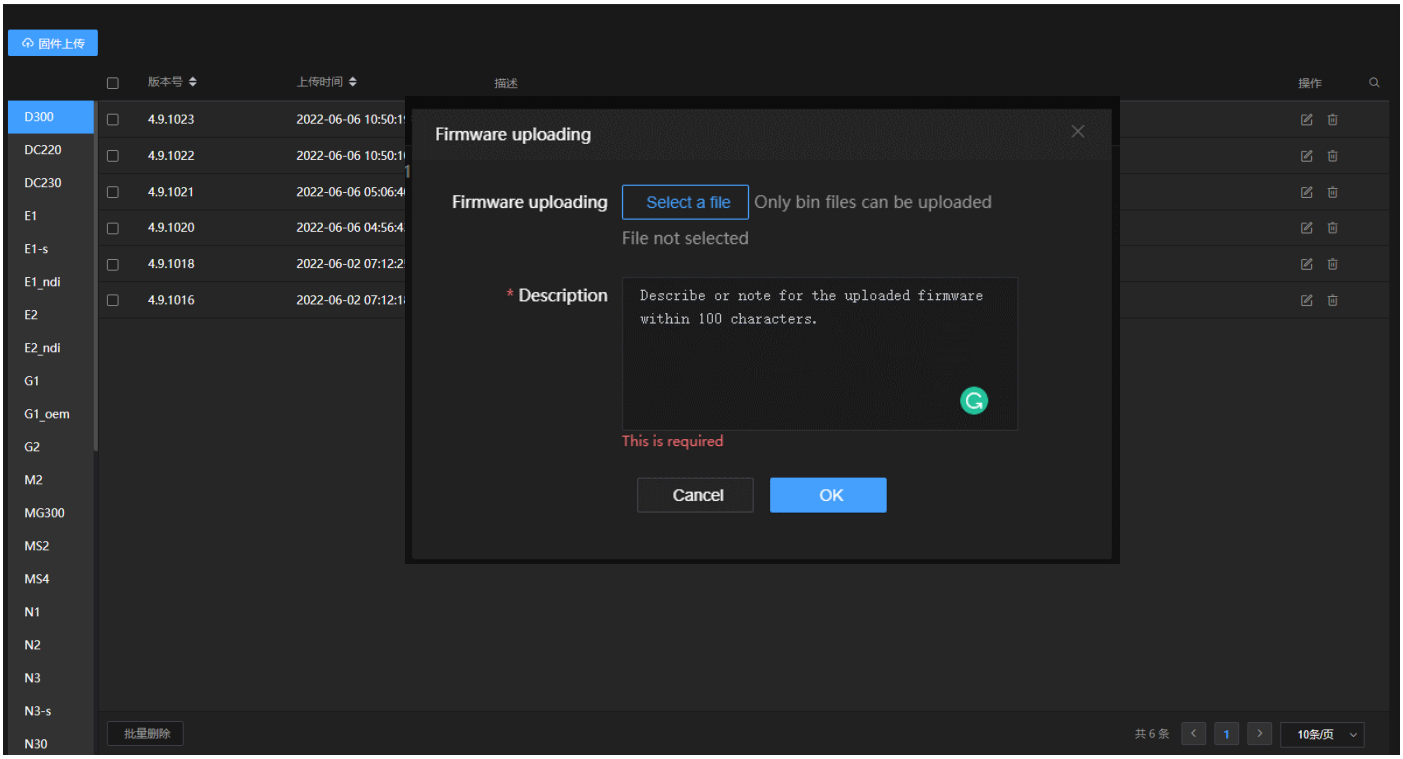
Note

- After the firmware dispatched, the device needs to be rebooted to complete the firmware upgrading;

- Firmware download: if multiple channels download together, each channel will occupy about 2M bandwidth. Therefore, the download will be slow when the downlink bandwidth is not enough.

9 Firmware

The users can upload the firmware to the system, and upgrade the firmware of the device.



For more questions, please contact us via:

https://www.kiloview.com/en/support

Please scan with browser.

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