

LILIN Device Cloud User Manual

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1.0 Before Using LILIN DeviceCloud

LILIN DeviceHub can manage IP cameras and NVRs via LILINHub App. LILIN Device Cloud stores recording status, on-line status, and operational status sent by LILIN DeviceHub. If there is an issue for an IP camera, installers are able to perform remote reboot for that IP camera via LILIN Web Smart PoE switch. This is to make sure that devices are in operation.

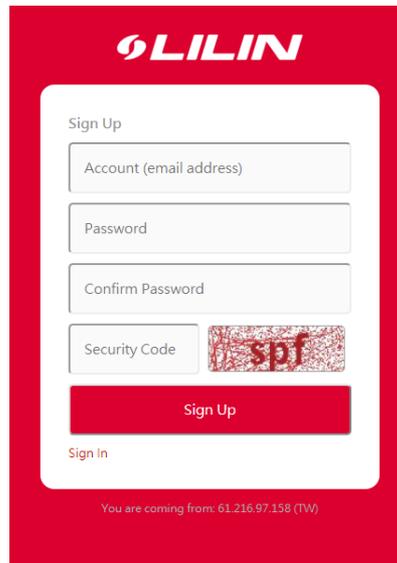


- Use your mobile phone for monitoring all devices status for client sites
- Remote reboot the device restoring back to work as needed
- No more rush to a client site for maintenance
- Plan client sites visiting for maintenance afterwards
- Centralized client sites management with AWS redundancy
- iOS and Android for device maintenance push notification
- HTTPs communication and encrypted database cloud computing
- Customize your company logo for end user Apps
- Support dashboard for quick managing devices at client sites
- Auto scan your network IP cameras and NVRs
- Auto update to LILIN Device Cloud from client sites
- Plug-n-play, no P2P, no port forwarding
- LILIN WebSmart PoE switch supported for power reboot
- Support HDMI and mouse for local management
- Support SmartPlug for device reboot.
- Support Google Map device alarm.

1.1 Sign Up a Cloud Account

Visit <https://cloud.ddnsipcam.com> for sign up a cloud account.

You can also visit LILIN DeviceHub ->“ACCOUNT” for creating an account.



The image shows a LILIN Sign Up form on a red background. The form is white and contains the following fields: Account (email address), Password, Confirm Password, and Security Code. A security code image showing '307' is displayed next to the Security Code field. Below the fields is a red 'Sign Up' button and a 'Sign In' link. At the bottom, it says 'You are coming from: 61.216.97.158 (TW)'.

2.0 LILIN DeviceHub

LILIN DeviceHub is installed at a client site for managing IP cameras and NVRs. IP cameras connection information and NVRs recording status are sent to LILIN Device Cloud via LILIN DeviceHub.

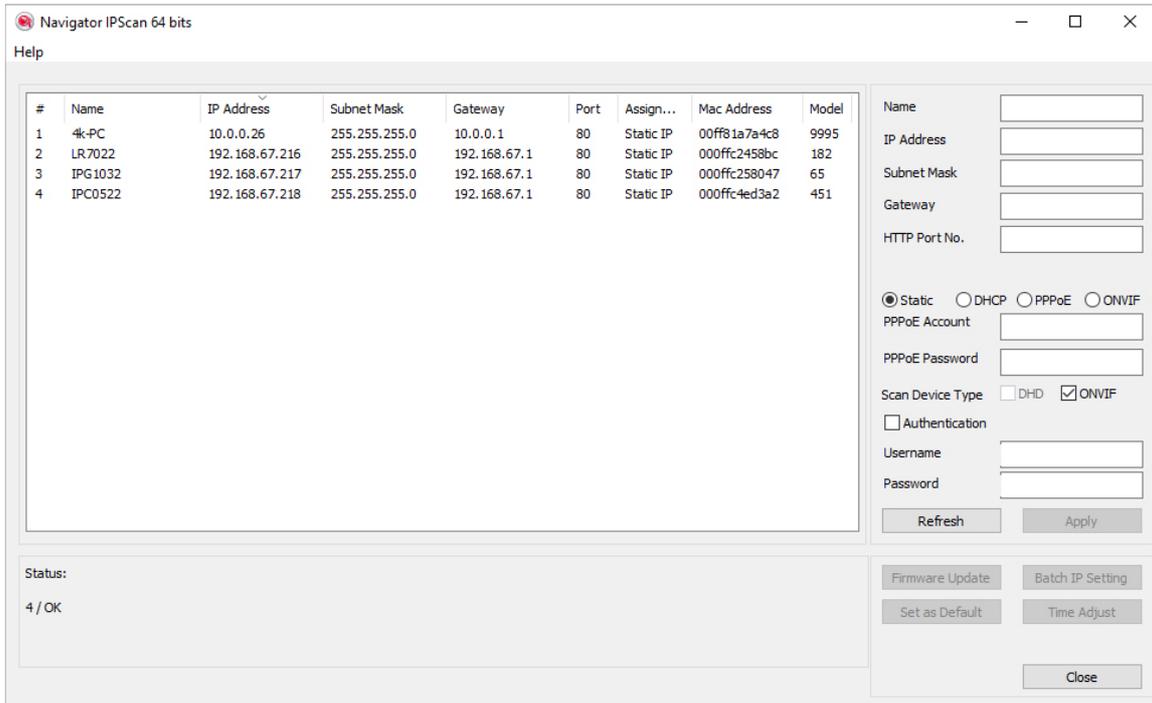


2.1 LILIN DeviceHub Installation

For using LILIN Device Cloud, plug in the DeviceHub to a local area network where the network is connected for Internet access. LILIN DeviceHub is defaulted to a DHCP client. There is no IP address configuration needed. Once the DeviceHub is connected, it automatically connects to Internet.

2.2 Use a PC for Accessing LILIN DeviceHub

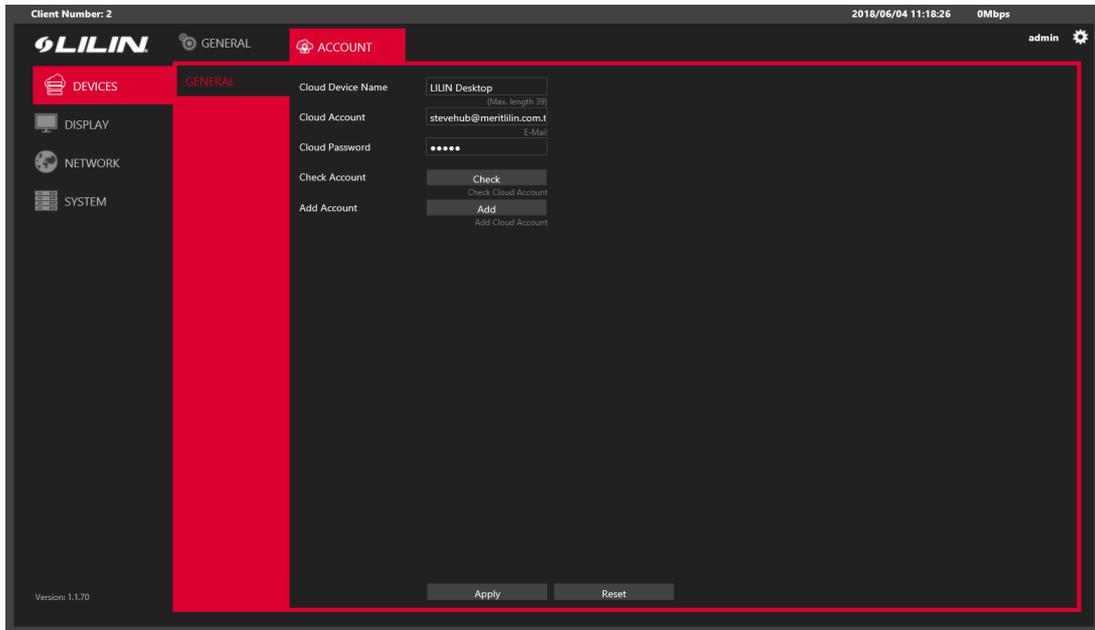
For accessing LILIN DeviceHub on a PC, download LILIN IPScan. IPScan is able to scan LILIN DeviceHub. Double click on the DeviceHub in IPScan for configuring devices over a web browser.



To login on LILIN DeviceHub, please type “admin” for user account and “1111” for password.

Click on “DEVICES”->“ACCOUNT” for creating an account. Provide the following information:

- Cloud Device Name: Identify the DeviceHub on LILIN Device Cloud or on the App.
- Cloud Account: The account (email) for accessing LILIN Device Cloud.
- Cloud Password: The password for accessing LILIN Device Cloud.
- Check Account: Check if the account is in use.
- Add Account: Create an account for LILIN Device Cloud.



Once an account is created successfully, click on Check Account button that will prompt a success message.

2.3 Use the HDMI of DeviceHub for Accessing LILIN Device Cloud

Connect the HDMI and a USB mouse to LILIN DeviceHub. This allows operating LILIN DeviceHub via an HDMI monitor.

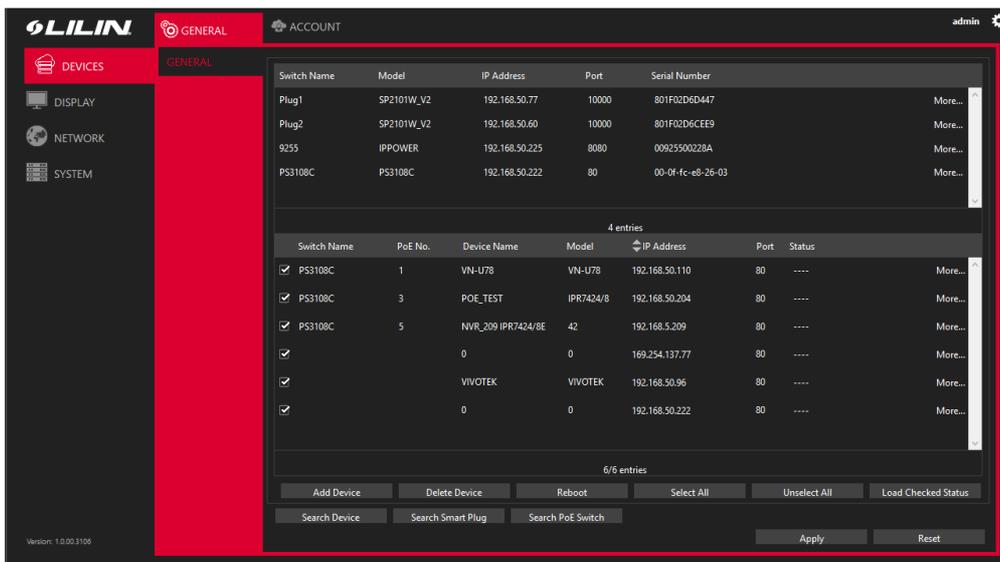
2.4 Device Management via LILIN DeviceHub

Click on “DEVICES”->“GENERAL” on DeviceHub. Set up the cameras and NVRs for management purpose. Follow the steps below for set up devices:

- Search device: This is to explore ONVIF cameras and LILIN NVRs.
- Add device: Manually add devices to the management list.
- Delete device: Remove the selected devices from management list.
- Reboot: PoE power reboot for IP camera or software reboot.

After all network devices are set up, click Apply to save the device management list. In order to synchronize the information of all devices to the LILIN Device Cloud, go to "DEVICES" ->"ACCOUNT" and click "Apply" to synchronize information with the LILIN Device Cloud.

You can also perform reboot a network locally by clicking on Reboot button.



Add Device	Manually add a device for monitoring.
Delete Device	Delete a device for monitoring.
Reboot	Remote reboot a device via DeviceHub.
Select All	Select all devices for cloud monitoring.
Unselect All	Unselect all devices for cloud monitoring.
Load Checked Status	Reload camera name and recording status to DeviceHub.
Search Device	Search all the network devices.
Search Smart Plug	Search EdiMax SmartPlug.
Search PoE Switch	Search WebSmart PoE switch.
Apply	Make sure to click Apply button for storing the settings.

Note: You must select the devices for LILIN cloud to manage.

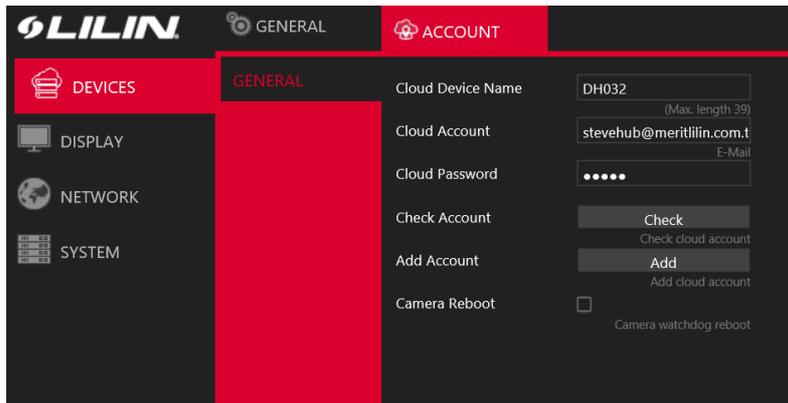
2.4-1 How to Select Devices for LILIN Device Cloud

For monitoring a site, check a device for monitoring. Once devices are checked, these devices information will be monitored and sent to LILIN Device Cloud via DeviceHub.

Switch Name	PoE No.	Device Name	Model	IP Address	Port	Status	
<input checked="" type="checkbox"/> PS3108C	1	VN-U78	VN-U78	192.168.50.110	80	----	More...
<input checked="" type="checkbox"/> PS3108C	3	POE_TEST	IPR7424/8	192.168.50.204	80	----	More...
<input checked="" type="checkbox"/> PS3108C	5	NVR_209 IPR7424/8E	42	192.168.5.209	80	----	More...

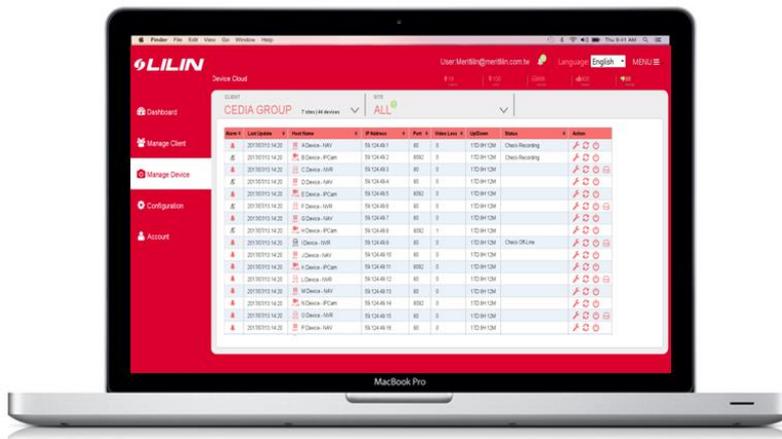
2.4-2 DeviceHub Stand-alone without LILIN Device Cloud

Camera Reboot mode: If you do not want to use LILIN Device Cloud, you are able to use Camera Reboot mode. DeviceHub is operated as stand-alone mode the same as a watch-dog timer for monitoring IP cameras or NVRs without LILIN Device Cloud.



3.0 LILIN Device Cloud

Visit <https://cloud.ddnsipcam.com> for login your account.



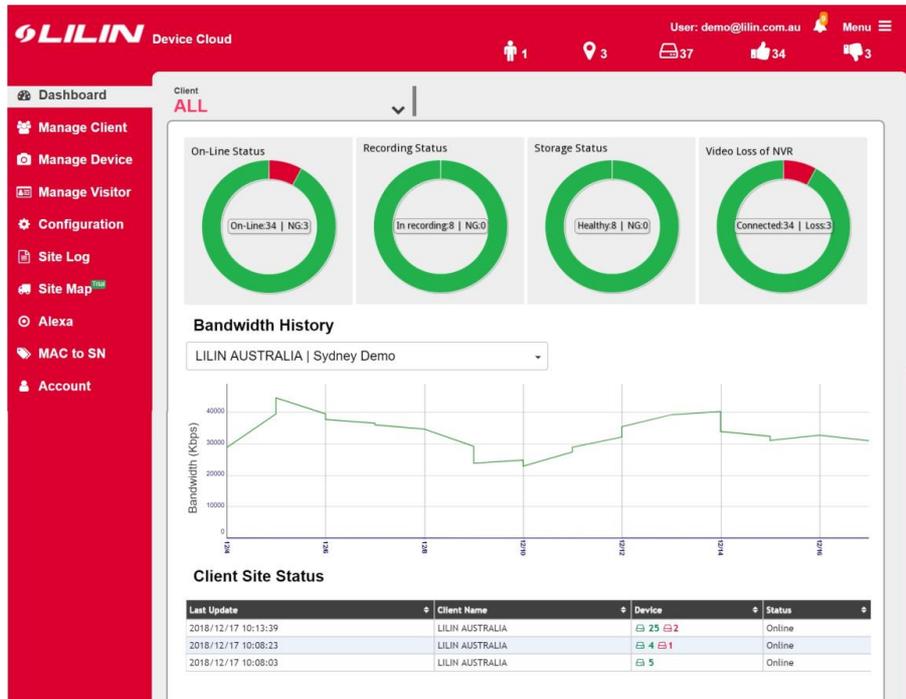
3.1 Dashboard

After login to the cloud, a dashboard page gets shown. Device status and bandwidth are described below:

- On-Line Status: Devices on-line status
- Recording Status: The NVR and IP camera recordings are in operation.
- Storage Status: The status of NVR and IP cameras storage
- Video Loss of NVR: The video loss status of NVR or DVR

Bandwidth History

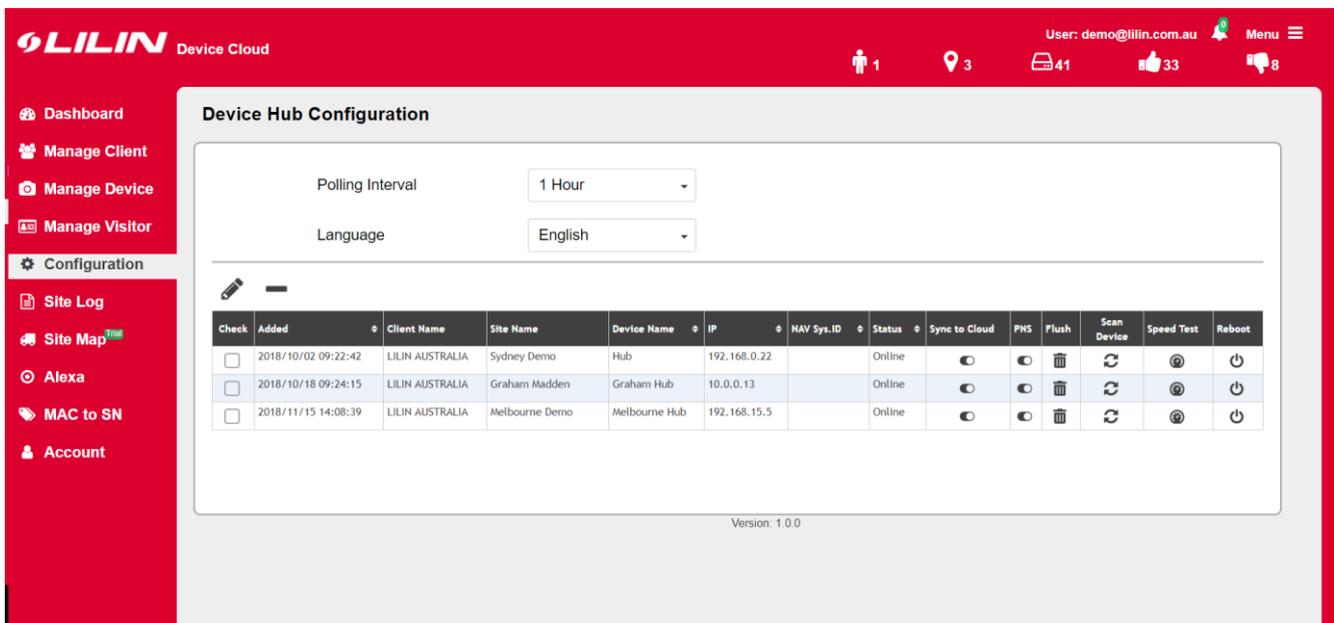
The bandwidth history is useful for determining the bandwidth in between the site and the cloud. If an end user experiences video streaming issue, the bandwidth history can be used for determining the uploading bandwidth.



3.2 Access the DeviceHub on LILIN Device Cloud

Once a DeviceHub is connected to Internet, the DeviceHub is registered at LILIN Device Cloud-> "Configuration".

- Polling Interval: The detection period for device status to LILIN Device Cloud
- Language: The language of Device Cloud



Select and check the DeviceHub, click on Edit button. Please specify the Client Name and Site Name. This allows the DeviceHub categorized for future use.

Make sure that the Sync to Cloud is enabled for sending device status back to the cloud. You can temporarily turn Sync to Cloud to off for not sending device status.

Configuration✕

Edit Device Hub

Device Name

Sync to Cloud

Client

Site

OK
Cancel

To manage the DeviceHub via LILIN Device Cloud, follow the steps below:

- Delete the device of the DeviceHub monitoring from LILIN Device Cloud.
- Retrieve the status of all devices from the DeviceHub to LILIN Device Cloud again.
- Reboot the DeviceHub
- Speed test in between the site and LILIN Device Cloud

Check	Added	Client Name	Site Name	Device Name	IP	NAV Sys.ID	Status	Sync to Cloud	PNS	Flush	Scan Device	Speed Test	Reboot
<input type="checkbox"/>	2018/10/22 03:28:16	Steve Hu	7F Demo	DH032 Steve A1	192.168.3.66	45CA-QB-HM	Online	<input type="checkbox"/>	<input type="checkbox"/>		80%		
<input type="checkbox"/>	2018/10/22 13:16:35	Steve Hu	7F	DH032-7F			Offline	<input type="checkbox"/>	<input type="checkbox"/>				

3.3 Manage Client

Before a DeviceHub gets configured, please create a new Client. Click on + sign to create a new client. To delete a client, check the client and click on – sign. Since a client might have multiple sites, click +/- button for creating sites for the client.

User: demo@lilin.com.au
Menu

1
3
41
33
8

Dashboard
Client: LILIN AUSTRALIA
Site: ALL

Manage Client
+
-
Site

Manage Device
+
-

Manage Visitor
+
-

Configuration
+
-

Site Log
+
-

Site Map
+
-

Alexa
+
-

MAC to SN
+
-

Account
+
-

Site List

Check	Alarm	Site Name	Phone	Hub	Device	Type	Last Update
<input type="checkbox"/>		Sydney Demo	02 9646 4878	1	23	Installer	2018/11/20 10:13:33
<input type="checkbox"/>		Graham Madden	0423 865887	1	5	End User	2018/12/03 10:18:08
<input type="checkbox"/>		Melbourne Demo	0402723659	1	5	Installer	2018/11/20 10:02:17



Click on Edit button to enter a client's detail. Enter the Name, Company Name, Phone Number, Address, and Client Type for the client.

Manage Client

Edit Client

Name: Steve Client

Company Name:

Phone: 0800-080-888

Address:

Client Type: Installer

OK Cancel

3.4 Manage Site

Once a client is created, please create sites for a user. A user could have multiple sites for device management purpose.

To add a site, click on + sign. To delete a site, check the site and click on – sign.

CLIENT Steve Client **SITE** SecuTech

Site List:

Check	Alarm	Last Update	Site Name	Hubs	Device	Type
<input type="checkbox"/>		2018-04-16 14:33:11	Steve Site	0	0	Installer
<input type="checkbox"/>		2018/04/23 17:29:04	SecuTech	1	17	Installer

The Edit Site dialog box shows up. Enter the information as needed.

Manage Client

Edit Site

Name: Graham Madden

Company Name: LILIN AU

Phone: 0423 965887

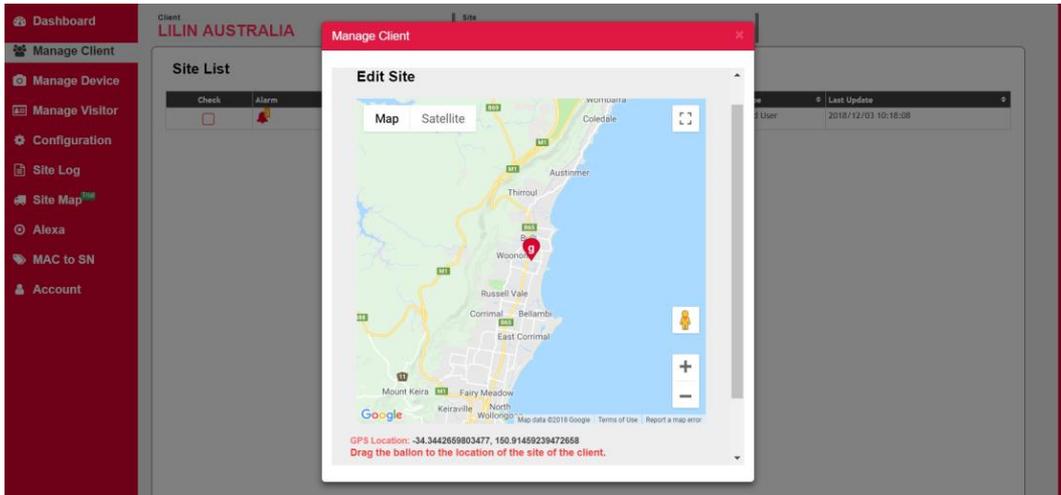
Address: 17 Austin Street, Woonona NSW2517

Map Position: -34.3442659803477, 150.91459239472658

Client Type: End User

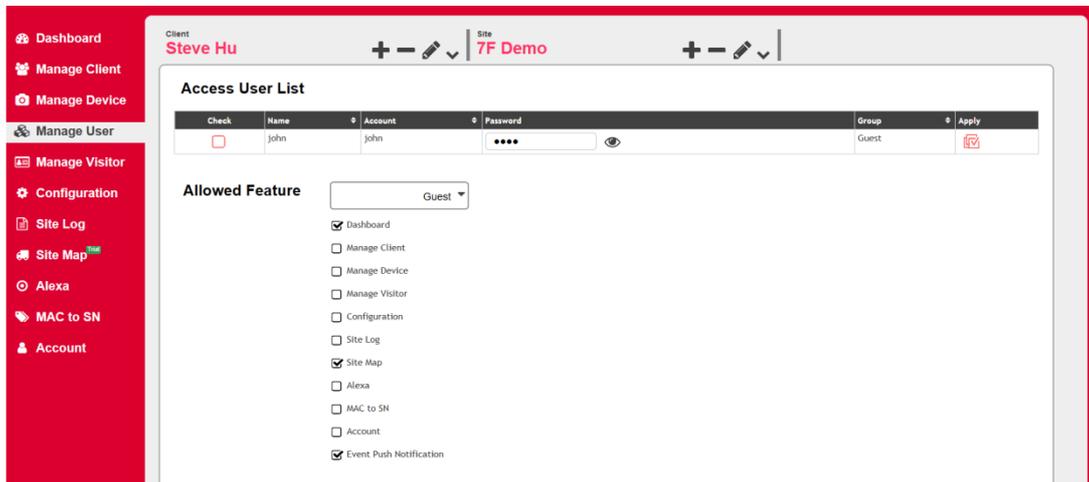
3.4.1 Map Position

Click on Map Position button. This can display Google Map for installation sites. Please drag the balloon for the location. This feature is useful. An installer can use LILINHub app to determine a customer's location with device maintenance information.



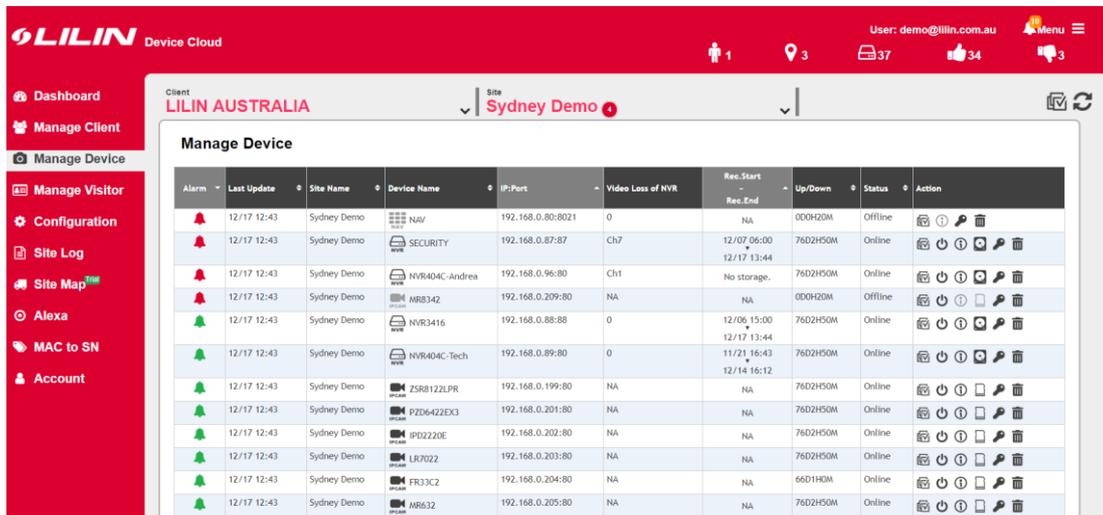
3.5 Manage User

For a large corporation, there might be many roles for using this system. A system administrator is able to setup allowed features for a client, an operator, or an installer. For assigning a feature for a role, switch the client and the sites for assigning the authentication level. Select multiple check boxes that can apply all for users.



3.6 Manage Device

Once a DeviceHub gets configured, the DeviceHub starts to send all devices status to Manage Device page.



Delete all data of the DeviceHub from LILIN Device Cloud.

- Retrieve the status of all devices from the DeviceHub to LILIN Device Cloud again.
- Reboot the device
- Check device on-line status and firmware version.
- Check HDD status of an NVR
- Check SD card recording status of an IP camera
- Change username and password of a remote device

Device Status

Click on information button that can show the detail of the NVR or the camera.

Message✕

Device Name	MAC	Version	Last Reboot	Max Ch.	Max number of HDDs allowed	HDD(s) Installed	RAID
NVR3416	000FFC1147E2	3.0.56	29/11/2018 16:19:05	16	4	1	No

OK

Message✕

Device Name	MAC	SD Card	Version	Last Reboot
ZMR6522X	000FFC51703C	No	4.2.90_1	2018/12/13 16:13:10

Features:

Motion Detection
 Alarm In
 Face Detection
 People Counting
 Tripwire
 IVS 2.1
 Fish Eye
 Auto Focus
 PTZ
 Audio In
 Audio Out
 SD Card

OK

Click on HDD information button that can show the detail information of the NVR HDDs.

Message✕

HDD Used(%)	HDD Size	Disk error.	Rec.Start	Rec.End
99	931 GB	No	02/11/2018 08:00	17/12/2018 14:08

HDD #1
27738 Hours / > 2 years

HDD Running Time

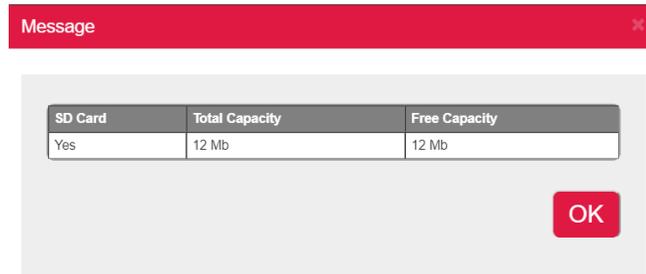
HDD Temp.

HDD Capacity

OK



Click on SD card button that can display the SD card detail of the camera.



3.7 Site Log

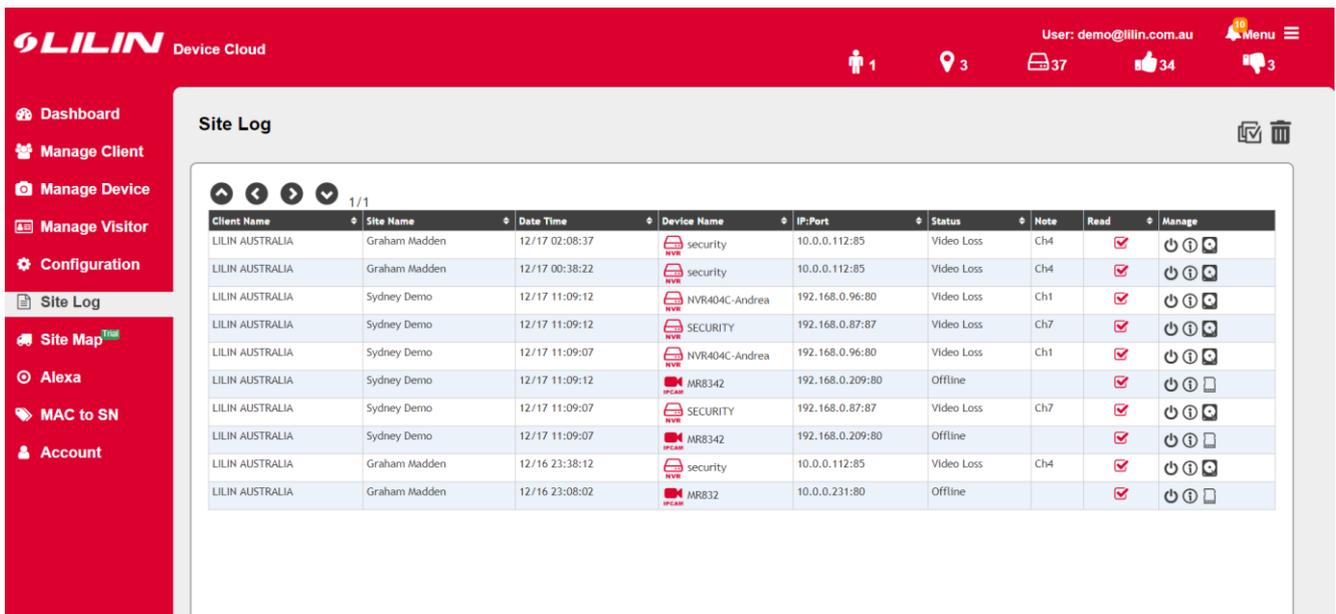
Once a device is detected, the information gets relayed from DeviceHub to Device Cloud. The device status gets kept at Site Log page. The log will be kept for 30 days.



Select the entire device logs for deleting purpose.



Delete the selected device log.



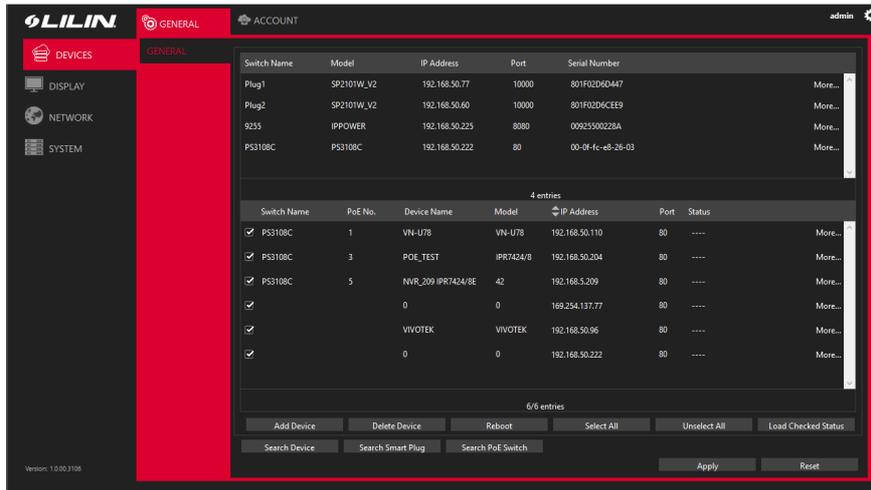
3.8 Alexa Integration

Visit LILINHub Alexa Skill User Manual for detail.

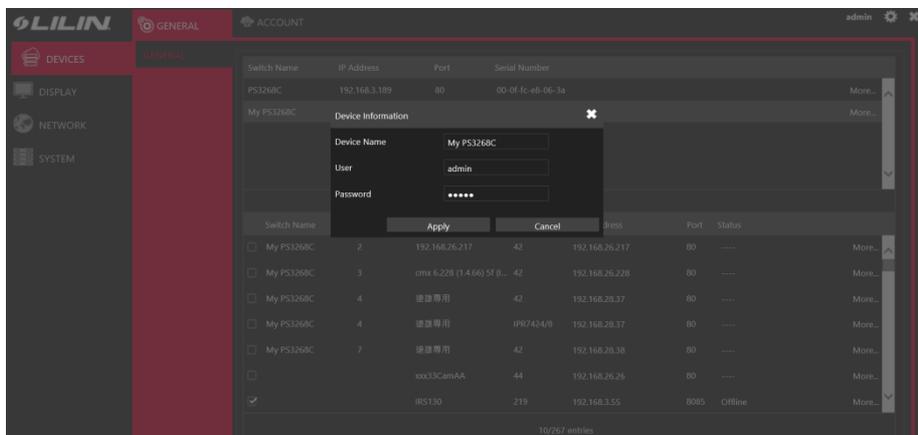
4.0 PoE Switches Supported

LILIN WebSmart PoE switches are supported for IP camera power reboot. Once the PoE switches are connected into the network of LILIN DeviceHub, DeviceHub is able to scan WebSmart PoE switch.

- DHCP client of LILIN WebSmart PoE switch should be enabled.
- DHCP server of LILIN WebSmart PoE switch should be disabled.
- UPnP Client of LILIN WebSmart PoE switch should be disabled.



To rename a WebSmart PoE switch, click on More button and enter the Device Name for the PoE switch.



4.1 SmartPlug Supported

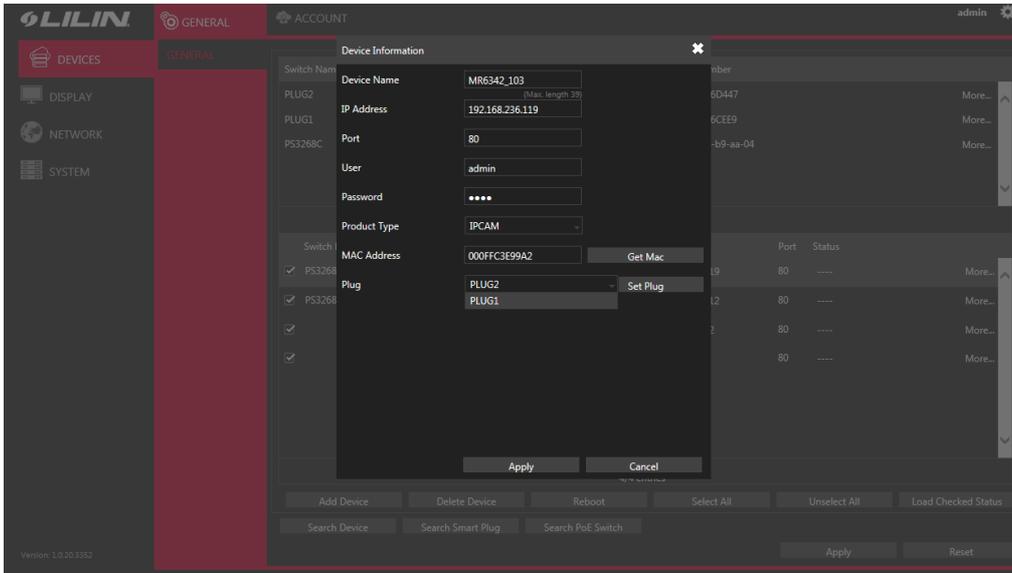
Third party EdiMax SmartPlug, SP-2101W v2, is supported. Make sure that SP-2101W v2 is properly configured for its WiFi connection. Follow SP-2101W's instruction manual for enabling authentication. The WiFi router should be in the same network as DeviceHub. SP-2101W v2 can then be scanned by DeviceHub. Since there are many devices connected, you can assign few devices connecting to the SmartPlug.



Click on **Search Smart Plug** button for searching the SmartPlug. The SmartPlug will be displayed on the Power switch table. Click on More button for changing the name.

Switch Name	Model	IP Address	Port	Serial Number	
PLUG2	SP2101W_V2	192.168.40.80	10000	801F02D6D447	More...
PLUG1	SP2101W_V2	192.168.40.57	10000	801F02D6CEE9	More...
PS3268C	PS3268C	192.168.40.58	80	00-40-c7-b9-aa-04	More...

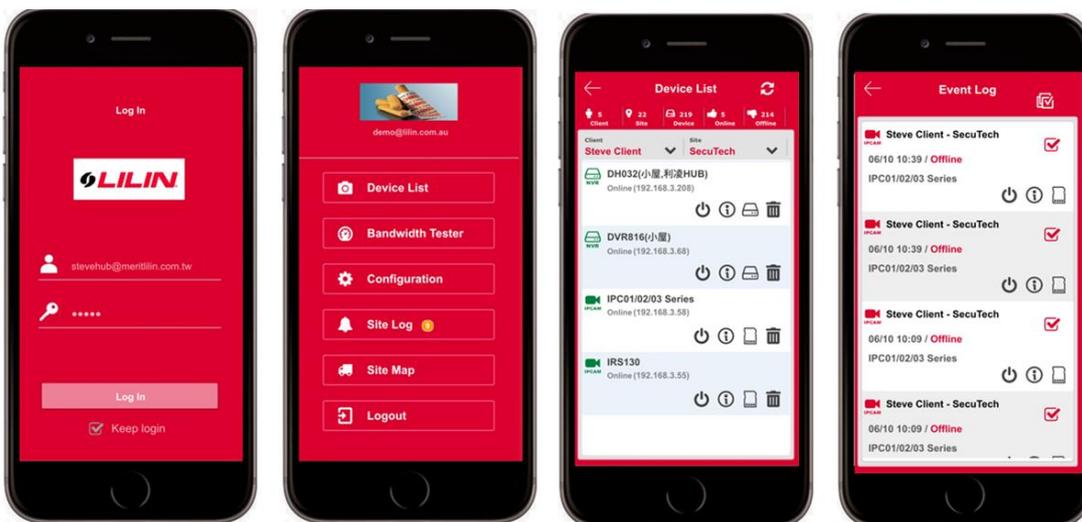
There might be many devices connected to the SmartPlug. Please click on More button of the device. Assign the Plug to the device. Once this is configured, a user can reboot the device from LILINCloud and App.



5.0 LILINHub App



Visit iOS and Android App stores for downloading the LILINHub App. Once the App is installed, logon LILIN Device Cloud by using the email address (account) and the password created.

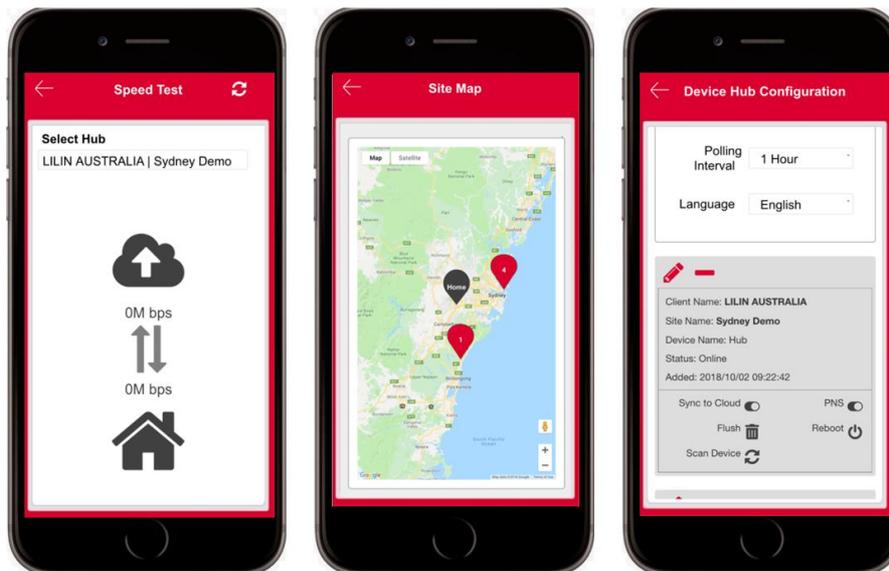


-  **Device List** Show detail a device's status.
-  **Bandwidth Tester** Test bandwidth from a site to the Cloud.
-  **Configuration** Setup a DeviceHub for push notification, reboot, or re-scan.
-  **Site Log** 47 Show the push notification of a site log.
-  **Site Map** Display a site map.
-  **Logout** Log out of the system.

Once login to LILIN Device Cloud, you can manage a site for device status. You can also get alarm push notification if devices experience issues.

-  **5 Clients** The number of clients is being managed.
-  **27 Sites** The number of sites is being managed.
-  **232 Devices** The number of devices is being managed.
-  **0 Online** The number of online devices
-  **232 Offline** The number of offline devices.
-  **Make all the event logs as read and processed.**

Note: If you have a LILIN DDNS account, you can use LILIN DDNS account.



5.1 Speed Test

To test the bandwidth of a remote site, first select a site (DeviceHub) and click on the refresh button  on the App for getting the bandwidth.

5.2 Site Map

Once the site map is configured from Manage Site, you are able to use LILINHub app for the device status of installed sites. Click on Red balloon for a site having maintenance issues. Green balloon means that the site is running OK.

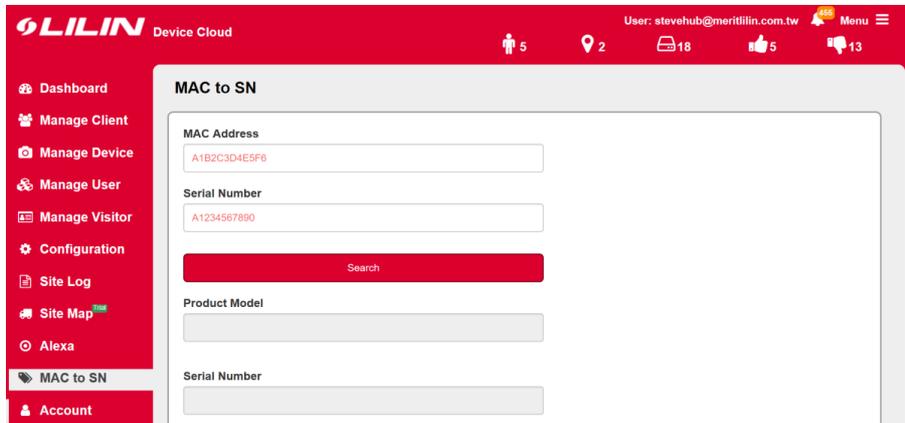


5.3 DeviceHub Configuration

- Sync to Cloud** Enable device to sync to LILIN Device Cloud.
- Flush** Flush button can delete all the devices for the DeviceHub. Click Scan device for a fresh start.
- Scan Device** Scan devices to the DeviceHub for new devices.
- PNS** Push notification service. You can turn it off for disabling push notification to LILINHub App.
- Reboot** Reboot the DeviceHub.

6.0 Mac to SN

If you are an installer, MAC to SN (MAC address to serial number) feature is a good tool for finding the serial number for RMA service.



To use this feature, make sure that you entered “Installer” at Business field.

Account Detail

Company Name
Merit LILIN

Name
Steve Hu

Contact Mail
stevehub@meritlilin.com.tw

Phone
(02)22989988

Address
fullerton ca usa

Business
Installer

7.0 Account

Please provide all the necessary information at Account page. You are able to use your own logo for using LILINHub app. For editing your logo, click on the BMP file.

Account Information

User's Logo Change your Logo

GET IT ON
Google Play

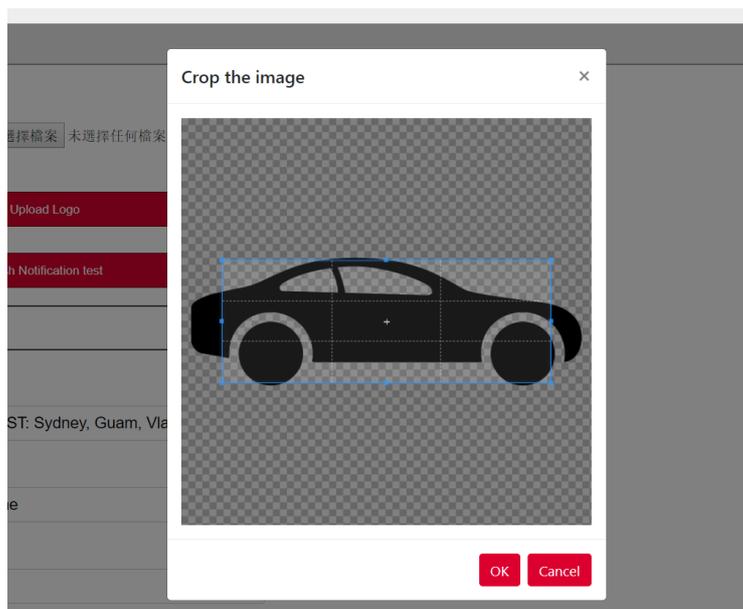
Upload Logo

Push Notification test

Account Detail

Time Zone
(GMT +08:00) Beijing, Perth, Singapore, Taipei

Click on Submit button for uploading a graphic or a logo file to LILIN Device Cloud. You are able to edit the logo file by dragging the blue window below:





8.0 Alarm Push Notification of LILINHub App

The following device status will be sent to LILINHub App via LILIN Device Cloud.

Status	Description	App Notification
NVR video loss	Camera video loss of a NVR	Yes
Recording error	NVR recording time is incorrect.	Yes
Storage error	NVR HDD broken SMART error	Yes
Off-line	IP of a camera or NVR is not in operation.	Yes

8.1 Feature Support List

Device	Recording Time	Reboot	Storage Size	HDD Error	Video Loss	Firmware Version
IP Camera	YES	YES	YES	N/A	YES	YES
ONVIF camera	NO	YES	NO	N/A	YES	NO
NVR	YES	YES	YES	YES	YES	YES
DHD	NO	YES	NO	NO	NO	NO
NAV	YES	N/A	NO	NO	YES	YES

Appendix

Specifications

Features	Specifications
LILIN Device Hub	DH032 Device Hub
Camera support	LILIN IP camera, SD card monitoring, camera name, reboot
ONVIF camera support	Reboot via LILIN WebSmart PoE switch & power plug
NVR & DVR	LILIN NVR and DVR supported
Number of devices supported	128 devices
Voice control	Alexa controls for door, gate, NVR, and PTZ
PoE switch	LILIN WebSmart PoE PS3108C, PS3188C, PS3268C switches integrated
SmartPlug	EdiMax, SP-2101W v2
PoE port mapping	Support IP camera and WebSmart PoE port mapping and power reboot
Dashboard	Recording status, on-line status, off-line status, video loss
Remote reboot	LILIN IP cameras via LILIN WebSmart PoE switch & SmartPlug
NTP	Network time protocol supported for sync network devices
DST	Daylight saving time supported
Protocol	HTTPs to cloud, HTTP for local access, UDP discovery, ONVIF discovery
CPU	ARM Cortex A9 CPU @ 600 MHz
Fan	Fanless design
HDMI	1080P
Power	DC12V
Language supported	English, Italian, Traditional Chinese
Device Cloud	
Site management	Yes
Installer own logo	Yes
Device management	Reboot, refresh
Recording checking	NAV, NVR, and LILIN IP camera
Storage checking	NVR, LILIN IP camera SD card
Device reboot	NVR, LILIN IP camera, ONVIF IP camera
Bandwidth	Network speed report for a site
Map	Google map
Authentication	Feature table configurable, user accounts, 5 access level configurable
App management	
Mobile phone	iOS & Android
Notification	Device status alarm notification, HDD, no recording, video loss
Device management	Reboot, refresh for devices status for remote devices
Map	Google map
Bandwidth	Network speed report for a site
Authentication	Account login