

LOGO HERE



常見網路問題

IP衝突



IP重複/衝突的問題與影響

什麼是 IP 衝突?

兩台或以上的裝置在同一個網路中被設定成使用相同的 IP 位址

常見原因

靜態 IP 設定錯誤、DHCP 發放異常、有人私接路由器，發放錯誤 IP 範圍、同一台電腦的兩張網卡設成同樣 IP

對使用者的影響

無法連網、網速異常、服務不穩、ARP 表來回改變 → 導致封包送錯對象

IP重複/衝突的問題與影響



使用者操作	可觀察到的問題	原因
一連上網就跳掉	網路連線反覆斷線、Wi-Fi 顯示「已連線但無網路」	DHCP 取得 IP 衝突或設備間互搶 ARP 權威
開網頁	開很慢、有時完全打不開、載入一半卡住	封包送錯設備或回應不一致導致 timeout
聊天/即時通訊（如 Teams、LINE）	訊息傳送失敗、斷線、無法接收	即時性應用對網路品質要求高，封包掉就會影響體驗
ping 與 traceroute	有時正常、有時 timeout	ARP 表在兩台設備間不停切換造成掉包

IP重複/衝突的問題與影響

在 Windows 中偵測 IP 重複

- arp -a
 - ping [目標 IP]
 - PowerShell: Get-NetNeighbor
- 比對 ARP 表中是否同一 IP 對應不同 MAC

```
PS C:\Users\Judy> arp -a
```

```
介面: 192.168.88.186 --- 0x5
```

網際網路網址	實體位址	類型
192.168.88.1	64- -62	動態
192.168.88.21	e6- -80	動態
192.168.88.50	d4- -47	動態
192.168.88.100	d4- -47	動態
192.168.88.255	ff-ff-ff-ff-ff-ff	靜態
224.0.0.22	01- -16	靜態
224.0.0.251	01- -fb	靜態
224.0.0.252	01- -fc	靜態
239.255.255.250	01- -fa	靜態
239.255.255.255	01- -ff	靜態
255.255.255.255	ff-ff-ff-ff-ff-ff	靜態

IP重複/衝突的問題與影響

在 Cisco Switch 上偵測 IP 重複

- show ip arp
- show mac address-table
- show interface status

利用 ARP 對 MAC，再查 MAC 所在 port
分析是否有重複 MAC/IP

```
*Jul 17 10:45:11.065: %IP-4-DUPADDR: Duplicate address 192.168.88.50 on Vlan1, sourced by 027b.0269.112d
*Jul 17 10:45:55.169: %IP-4-DUPADDR: Duplicate address 192.168.88.50 on Vlan1, sourced by 027b.0269.112d
```

```
Switch#sh ip arp
Protocol Address Age (min) Hardware Addr Type Interface
Internet 192.168.88.1 0 64d1 762 ARPA Vlan1
Internet 192.168.88.21 2 4e7 572 ARPA Vlan1
Internet 192.168.88.50 - d4a 747 ARPA Vlan1
Internet 192.168.88.186 2 c02 e5a ARPA Vlan1
```

```
Switch#sh ip arp
Protocol Address Age (min) Hardware Addr Type Interface
Internet 192.168.88.1 0 64d1 0762 ARPA Vlan1
Internet 192.168.88.21 0 e616 9c80 ARPA Vlan1
Internet 192.168.88.50 - d4ad 8747 ARPA Vlan1
Internet 192.168.88.186 0 c025 fe5a ARPA Vlan1
```

IP重複/衝突的問題與影響

Mikrotik Switch 判斷 IP 重複

RouterOS 指令：

- /ip arp print
- /ip dhcp-server lease print
- /interface ethernet switch host print

抓取封包工具：/tool sniffer

利用 ARP 與 DHCP 資訊比對衝突 IP

```
[judy@MikroTik_10] > ip arp print
Flags: X, I, D, P - PUBLISHED; C - COMPLETE
Columns: ADDRESS, MAC-ADDRESS, INTERFACE
# ADDRESS MAC-ADDRESS INTERFACE
0 X 192.168.88.24 78: :F1 bridge2-vlan10
1 DC :E6: :D6 veth1
2 DC :8C: :08 ether1
3 DC :00: :E2 ether1
4 DC :00: :BA ether1
5 D :F4: :36 bridge4test_0321
6 DC :54: :AD ether1
7 DC 192.168.88.186 C0: :5A bridge1
8 D 192.168.88.20 : : bridge1
9 DC 192.168.88.50 D4: :47 bridge1
10 DC 192.168.88.21 00:1 :A9:40 bridge1
```

```
[judy@MikroTik_10] > ip arp print
Flags: X, I, D, P - PUBLISHED; C - COMPLETE
Columns: ADDRESS, MAC-ADDRESS, INTERFACE
# ADDRESS MAC-ADDRESS INTERFACE
0 X 192.168.88.24 78: F1 bridge2-vlan10
1 DC :E6: D6 veth1
2 DC :8C: 08 ether1
3 DC :00: E2 ether1
4 DC :00: BA ether1
5 D :F4: 36 bridge4test_0321
6 DC :54: AD ether1
7 DC 192.168.88.186 C0: 5A bridge1
8 D 192.168.88.20 : : bridge1
9 DC 192.168.88.50 D4: 47 bridge1
10 DC 192.168.88.21 E6: 9C:80 bridge1
```

IP重複/衝突的問題與影響



如何查出 MAC 對應哪個 Port

- 1 使用 Windows 查 IP 對應 MAC
- 2 到 Cisco Switch 執行 show ip arp
- 3 取得 MAC 後執行 show mac address-table
- 4 找到該 MAC 所在的 port
- 5 確認該 port 連接設備/使用者

LOGO HERE



網路工具介紹

LibreNMS





CONTENTS

01

LibreNMS介紹

02

LibreNMS實作

03

結論

Logo Here



01

LibreNMS介紹

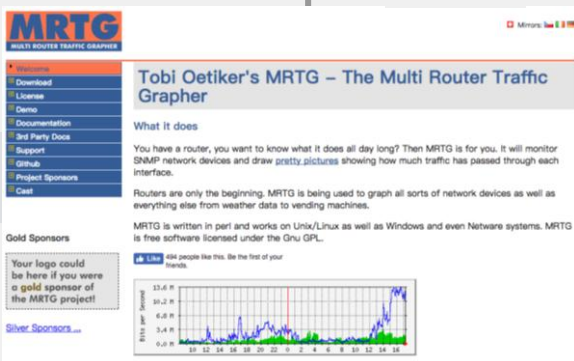


2016年11月2日

LibreNMS起源

傳統使用的開源網管工具

MRTG

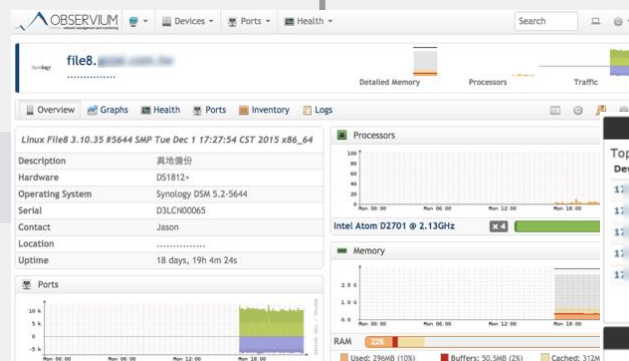


CACTI



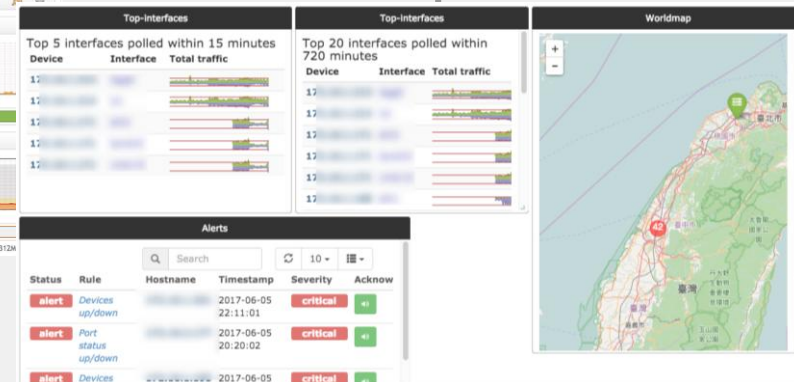
Observium

缺點：Alert系統需付費



LibreNMS

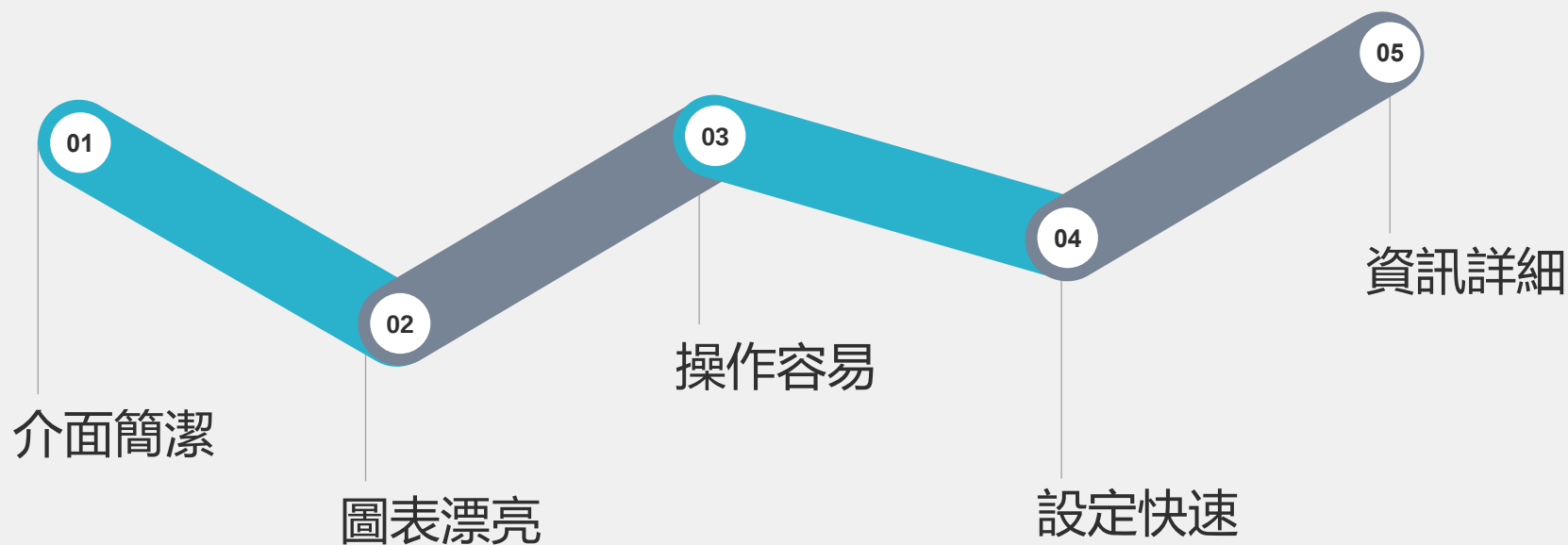
為Observium分支



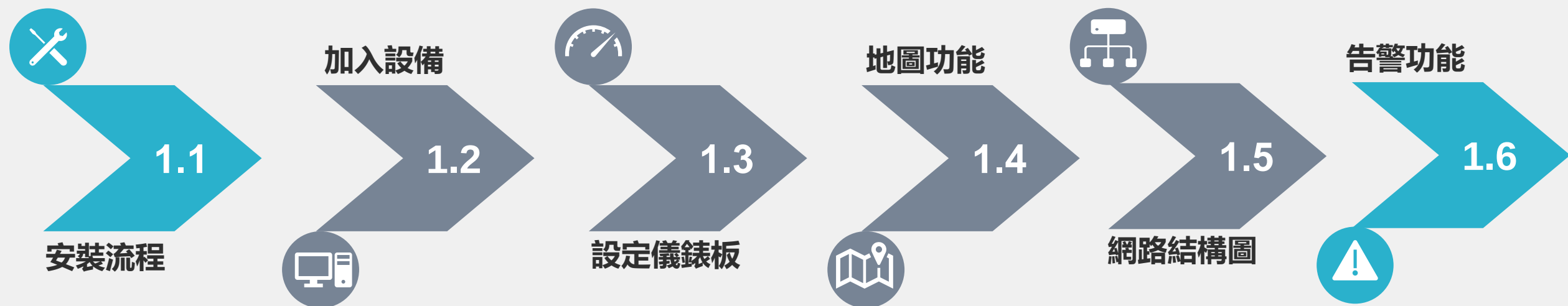
LibreNMS起源

LibreNMS 是一款網路裝置監視系統，經由 SNMP 協定自動搜集數據，使用瀏覽器即可使用，介面簡潔圖表美觀，提供容易了解的系統設定與詳細資訊，具備高度自訂能力的警報系統以及 API 串接服務，並提供行動裝置 App 以利靈活運用。

以下為其優點：



LibreNMS功能介紹





1.1

安裝流程



LibreNMS安裝流程

Ubuntu22.04/Debian12官方教學使用NGINX
Ubuntu20.04/CentOS 可用NGINX或Apache

PHP-FPM

NGINX

MySQL

01

02

03

LibreNMS安裝流程



Install Required Packages

```
$ sudo apt install acl curl fping git graphviz imagemagick mariadb-client mariadb-server mtr-tiny nginx-full nmap  
php-cli php-curl php-fpm php-gd php-gmp php-json php-mbstring php-mysql php-snmp php-xml php-zip rrdtool  
snmp snmpd whois unzip python3-pymysql python3-dotenv python3-redis python3-setuptools python3-systemd  
python3-pip
```

Add Librenms User

```
$ sudo useradd librenms -d /opt/librenms -M -r -s "$(which bash)"
```

Download LibreNMS

```
$ cd /opt  
$ sudo git clone https://github.com/librenms/librenms.git
```

Set Permissions

```
$ sudo chown -R librenms:librenms /opt/librenms  
$ sudo chmod 771 /opt/librenms  
$ sudo setfacl -d -m g::rwx /opt/librenms/rrd /opt/librenms/logs /opt/librenms/bootstrap/cache/ /opt/librenms/storage/  
$ sudo setfacl -R -m g::rwx /opt/librenms/rrd /opt/librenms/logs /opt/librenms/bootstrap/cache/ /opt/librenms/storage/
```

LibreNMS安裝流程



Install PHP dependencies

```
$ sudo su - librenms  
> ./scripts/composer_wrapper.php install --no-dev  
> exit
```

注意 須分開 單行執行!

```
$ sudo wget https://getcomposer.org/composer-stable.phar  
$ sudo mv composer-stable.phar /usr/bin/composer  
$ sudo chmod +x /usr/bin/composer
```

Set Timezone

```
$ sudo vim /etc/php/8.1/fpm/php.ini  
$ sudo vim /etc/php/8.1/cli/php.ini
```

尋找關鍵字 `date.timezone = "Asia/Taipei"` 註解要記得拿掉!

```
$ sudo timedatectl set-timezone Asia/Taipei
```

Configure MariaDB

```
$ sudo vim /etc/mysql/mariadb.conf.d/50-server.cnf
```

```
Within the [mysqld] section add:  
innodb_file_per_table=1  
lower_case_table_names=0
```

LibreNMS安裝流程



Configure MariaDB

```
$ sudo systemctl enable mariadb  
$ sudo systemctl restart mariadb
```

```
$ sudo mysql -u root  
> CREATE DATABASE librenms CHARACTER SET utf8mb4 COLLATE utf8mb4_unicode_ci;  
> CREATE USER 'librenms'@'localhost' IDENTIFIED BY 'password' ;  
> GRANT ALL PRIVILEGES ON librenms.* TO 'librenms'@'localhost' ;  
> FLUSH PRIVILEGES;  
> exit
```

Configure PHP-FPM

```
$ sudo cp /etc/php/8.1/fpm/pool.d/www.conf /etc/php/8.1/fpm/pool.d/librenms.conf  
$ sudo vim /etc/php/8.1/fpm/pool.d/librenms.conf
```

```
Change [www] to [librenms]:  
[librenms]  
Change user and group to "librenms":  
user = librenms  
group = librenms  
Change listen to a unique name:  
listen = /run/php-fpm-librenms.sock
```

LibreNMS安裝流程

Configure Web Server

```
$ sudo vim /etc/nginx/conf.d/librenms.conf
```

```
server {
    listen 80;
    server_name      librenms.example.com;
    root      /opt/librenms/html;
    index index.php;

    charset utf-8;
    gzip on;
    gzip_types text/css application/javascript text/javascript application/x-javascript image/svg+xml text/plain text/xsd
    text/xsl text/xml image/x-icon;
    location / {
        try_files $uri $uri/ /index.php?$query_string; }
    location ~ [^/].php(/|$) {
        fastcgi_pass unix:/run/php-fpm-librenms.sock;
        fastcgi_split_path_info ^(.+\.php)(/.+)$;
        include fastcgi.conf; }
    location ~ /\.(!well-known).* {
        deny all; } }
```

LibreNMS安裝流程



Configure Web Server

```
$ sudo rm -rf /etc/nginx/sites-enabled/default  
$ sudo systemctl restart nginx  
$ sudo systemctl restart php8.1-fpm
```

Enable Inms command completion

```
$ sudo ln -s /opt/librenms/inms /usr/bin/inms  
$ sudo cp /opt/librenms/misc/inms-completion.bash /etc/bash_completion.d/
```

Configure snmpd

```
$ sudo cp /opt/librenms/snmpd.conf.example /etc/snmp/snmpd.conf  
$ sudo vim /etc/snmp/snmpd.conf
```

RANDOMSTRINGGOESHERE 修改成 SNMP community

```
$ sudo curl -o /usr/bin/distro https://raw.githubusercontent.com/librenms/librenms-agent/master/snmp/distro  
$ sudo chmod +x /usr/bin/distro  
$ sudo systemctl enable snmpd  
$ sudo systemctl restart snmpd
```

LibreNMS安裝流程



Cron job

```
$ sudo cp /opt/librenms/librenms.nonroot.cron /etc/cron.d/librenms
```

Enable the scheduler

```
cp /opt/librenms/dist/librenms-scheduler.service /opt/librenms/dist/librenms-scheduler.timer /etc/systemd/system/  
systemctl enable librenms-scheduler.timer  
systemctl start librenms-scheduler.timer
```

Copy logrotate config

```
$ sudo cp /opt/librenms/misc/librenms.logrotate /etc/logrotate.d/librenms
```

Web installer

```
chown librenms:librenms /opt/librenms/config.php
```

<http://librenms.example.com/install>

LibreNMS安裝流程

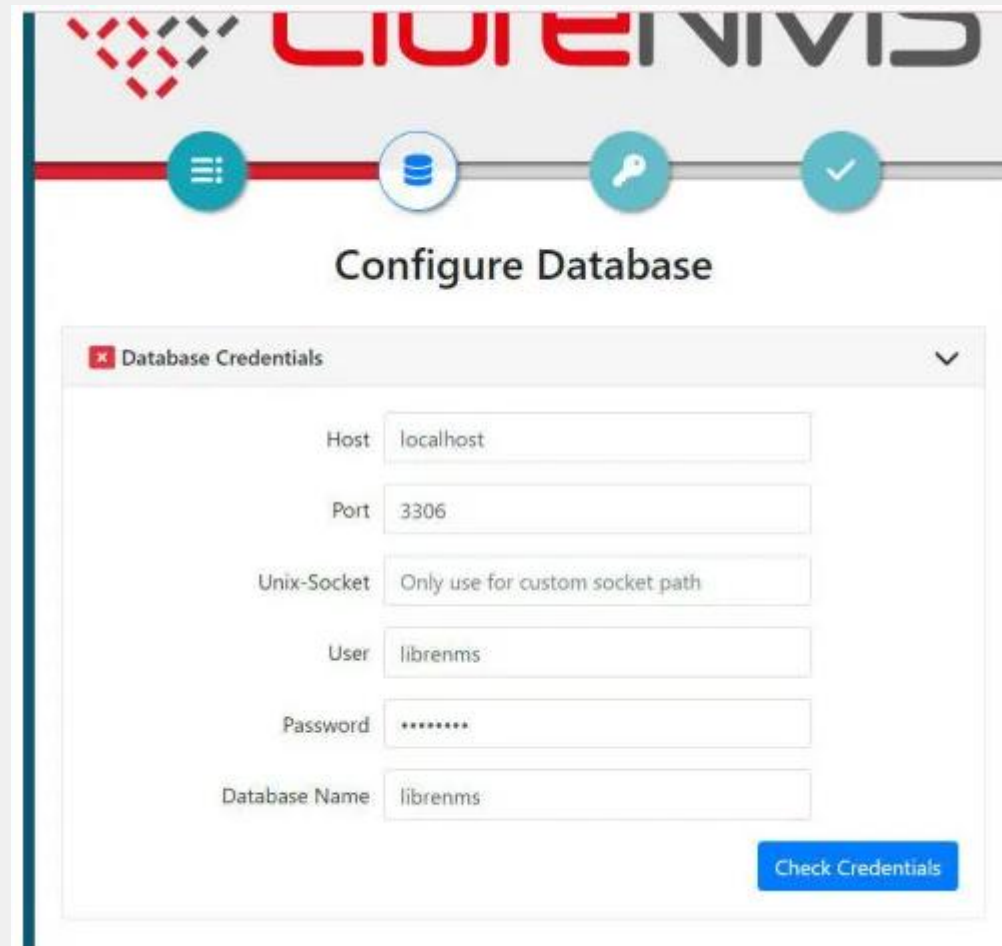
Web installer

<http://librenms.example.com/install>



The LibreNMS Pre-Install Checks screen displays the LibreNMS logo at the top. Below the logo is a progress bar with four steps: a menu icon, a database icon, a key icon, and a checkmark icon. The title "Pre-Install Checks" is centered below the progress bar. A table lists the required components and their status:

Component	Status
PHP (7.3 or higher required)	7.4.30 ✓
pdo_mysql	✓
mysqlnd	✓
gd	✓



The LibreNMS Configure Database screen displays the LibreNMS logo at the top. Below the logo is a progress bar with four steps: a menu icon, a database icon, a key icon, and a checkmark icon. The title "Configure Database" is centered below the progress bar. A form titled "Database Credentials" contains the following fields:

- Host: localhost
- Port: 3306
- Unix-Socket: Only use for custom socket path
- User: librenms
- Password:
- Database Name: librenms

A "Check Credentials" button is located at the bottom right of the form.

LibreNMS安裝流程

Web installer

<http://librenms.example.com/install>



The screenshot shows the 'Configure Database' step of the LibreNMS web installer. At the top, the LibreNMS logo is displayed. Below it is a progress bar with four circular icons: a menu icon, a database icon, a key icon, and a checkmark icon. The title 'Configure Database' is centered below the progress bar. There are two expandable sections, each with a green checkmark icon on the left and a dropdown arrow on the right. The first section is labeled 'Database Credentials' and the second is labeled 'Build Database'.

LibreNMS

Configure Database

✓ Database Credentials

✓ Build Database



The screenshot shows the 'Create Admin User' step of the LibreNMS web installer. At the top, the LibreNMS logo is displayed. Below it is a progress bar with four circular icons: a menu icon, a database icon, a key icon, and a checkmark icon. The title 'Create Admin User' is centered below the progress bar. There are three input fields labeled 'Username', 'Password', and 'Email'. A blue 'Add User' button is located at the bottom right.

LibreNMS

Create Admin User

Username

Password

Email

Add User

LibreNMS安裝流程

Web installer

<http://librenms.example.com/install>

Troubleshooting

```
sudo su - librenms  
./validate.php
```

參考網站: <https://blog.bimap.com.tw/2022/08/01/librenms-snmp-install>
<https://docs.librenms.org/Installation/Install-LibreNMS/#copy-logrotate-config>

Welcome to the LibreNMS install

Stage 5 of 6 complete

We couldn't create the config.php file, please create this manually before continuing by copying the below into a config.php in the root directory of your install (typically /opt/librenms/)

```
<?php  
## Have a look in defaults.inc.php for examples of settings you can see  
  
### Database config  
$config['db_host'] = 'localhost';  
$config['db_port'] = '3306';  
$config['db_user'] = 'librenms';  
$config['db_pass'] = 'password';  
$config['db_name'] = 'librenms';  
$config['db_socket'] = '';  
  
// This is the user LibreNMS will run as  
// Please ensure this user is created and has the correct permissions to  
$config['user'] = 'librenms';  
  
### Locations - it is recommended to keep the default  
#$config['install_dir'] = "/opt/librenms";  
  
### This should *only* be set if you want to *force* a particular host  
### It will prevent the web interface being usable from any other host  
#$config['base_url'] = "http://librenms.company.com";  
  
### Enable this to use rrdcached. Be sure rrd_dir is within the rrdcached  
### and that your web server has permission to talk to rrdcached.  
#$config['rrdcached'] = "unix:/var/run/rrdcached.sock";  
  
### Default community  
$config['snmp']['community'] = array("public");  
  
### Authentication Model  
$config['auth_mechanism'] = "mysql"; # default, other options: ldap, http  
#$config['http_auth_guest'] = "guest"; # remember to configure this user  
  
### List of RFC1918 networks to allow scanning-based discovery  
#$config['nets'][] = "10.0.0.0/8";  
#$config['nets'][] = "172.16.0.0/12";  
#$config['nets'][] = "192.168.0.0/16";  
  
# Update configuration  
#$config['update_channel'] = 'release'; # uncomment to follow the most  
#$config['update'] = 0; # uncomment to completely disable updates
```

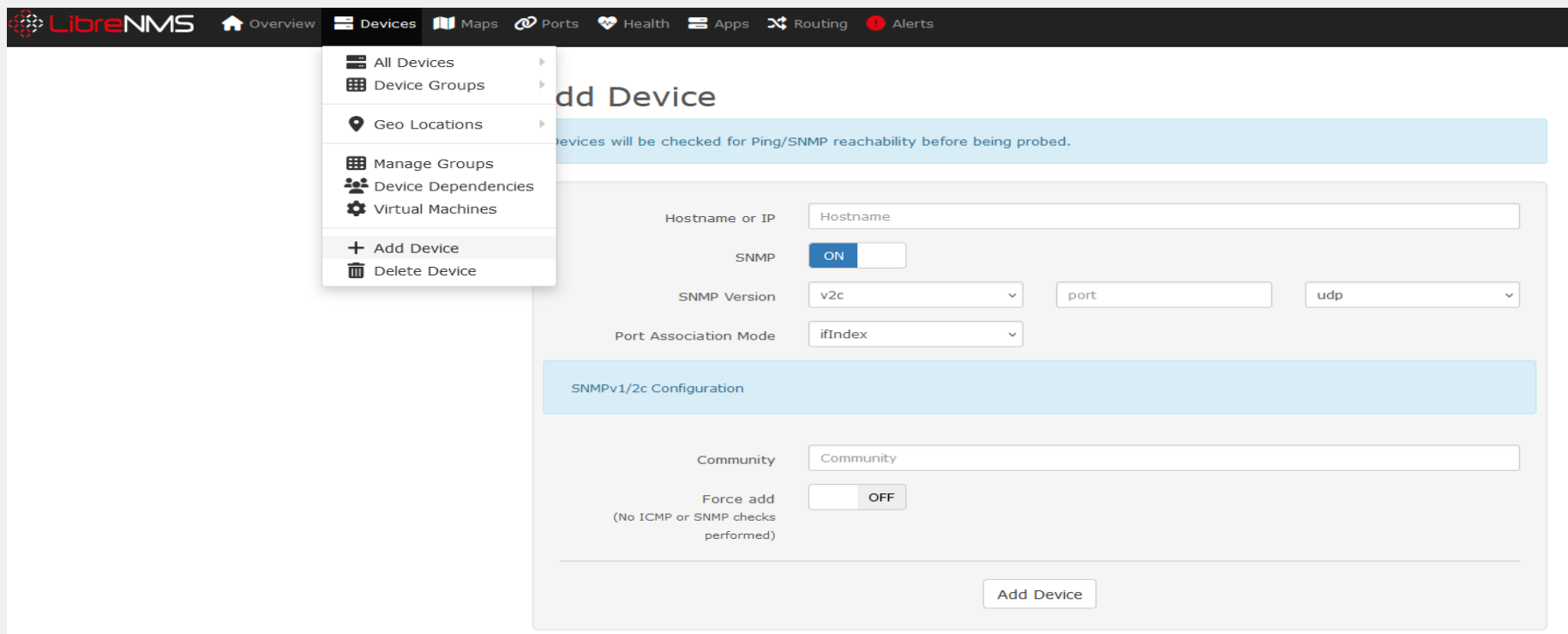
Finish install

加入設備

1.2



加入設備



LibreNMS Overview Devices Maps Ports Health Apps Routing Alerts

Devices will be checked for Ping/SNMP reachability before being probed.

Hostname or IP:

SNMP: ☒ ON

SNMP Version:

Port Association Mode:

SNMPv1/2c Configuration

Community:

Force add (No ICMP or SNMP checks performed): ☐ OFF

Add Device

01

待加入的設備端

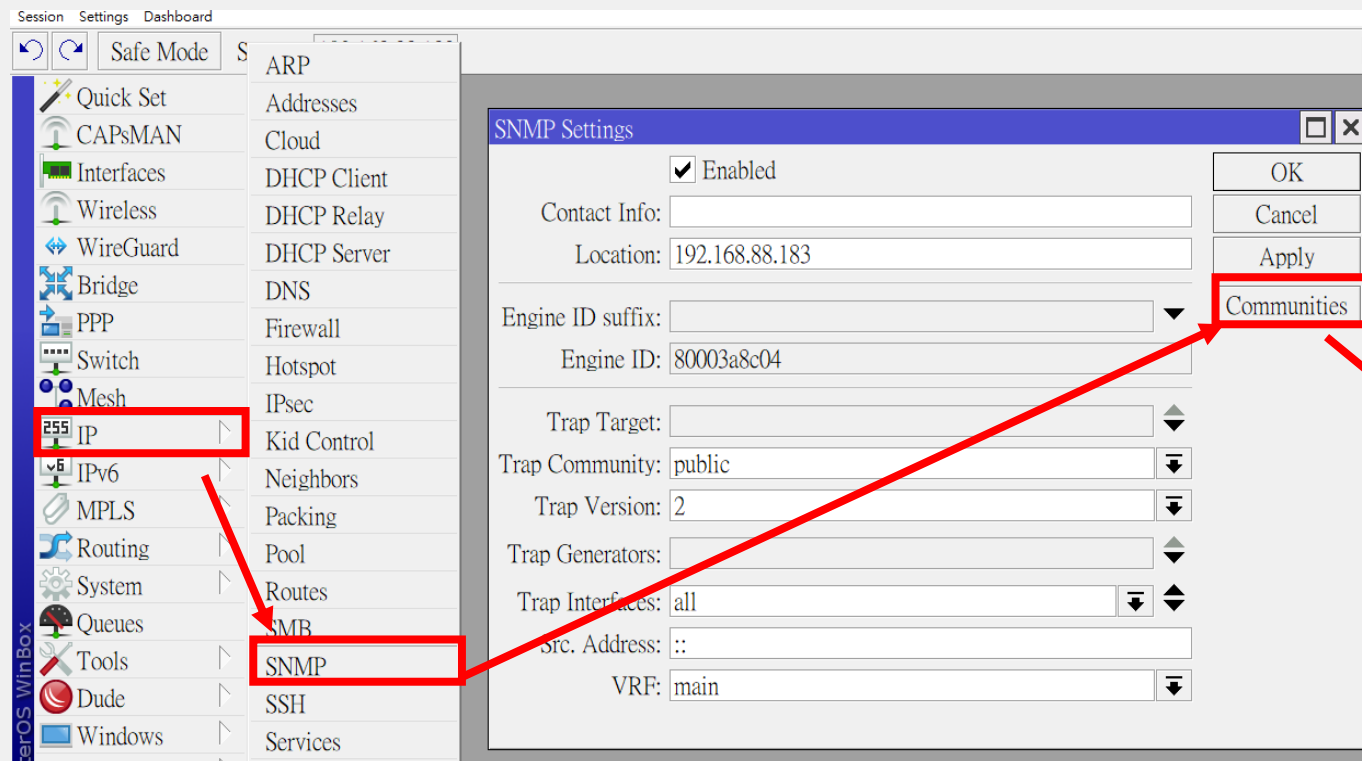
開啟SNMP，設定SNMP Community

02

LibreNMS Server

Device -> Add Device

加入設備--MikroTik



The screenshot shows the 'SNMP Communities' dialog box. It contains a table with the following data:

Name	Addresses	Security	Read Access	Write Access
* public	192.168.88.1	none	yes	no

01

待加入的設備端

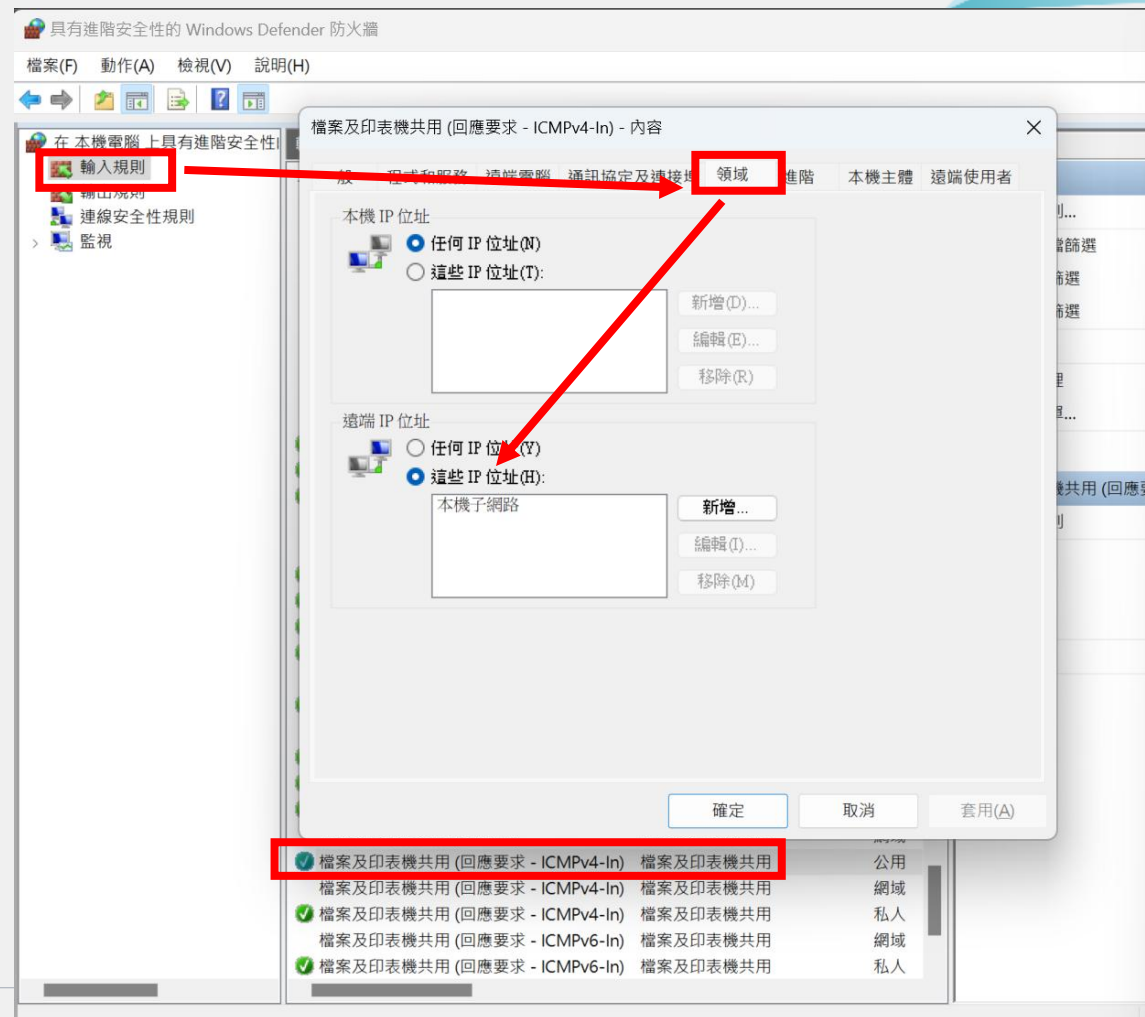
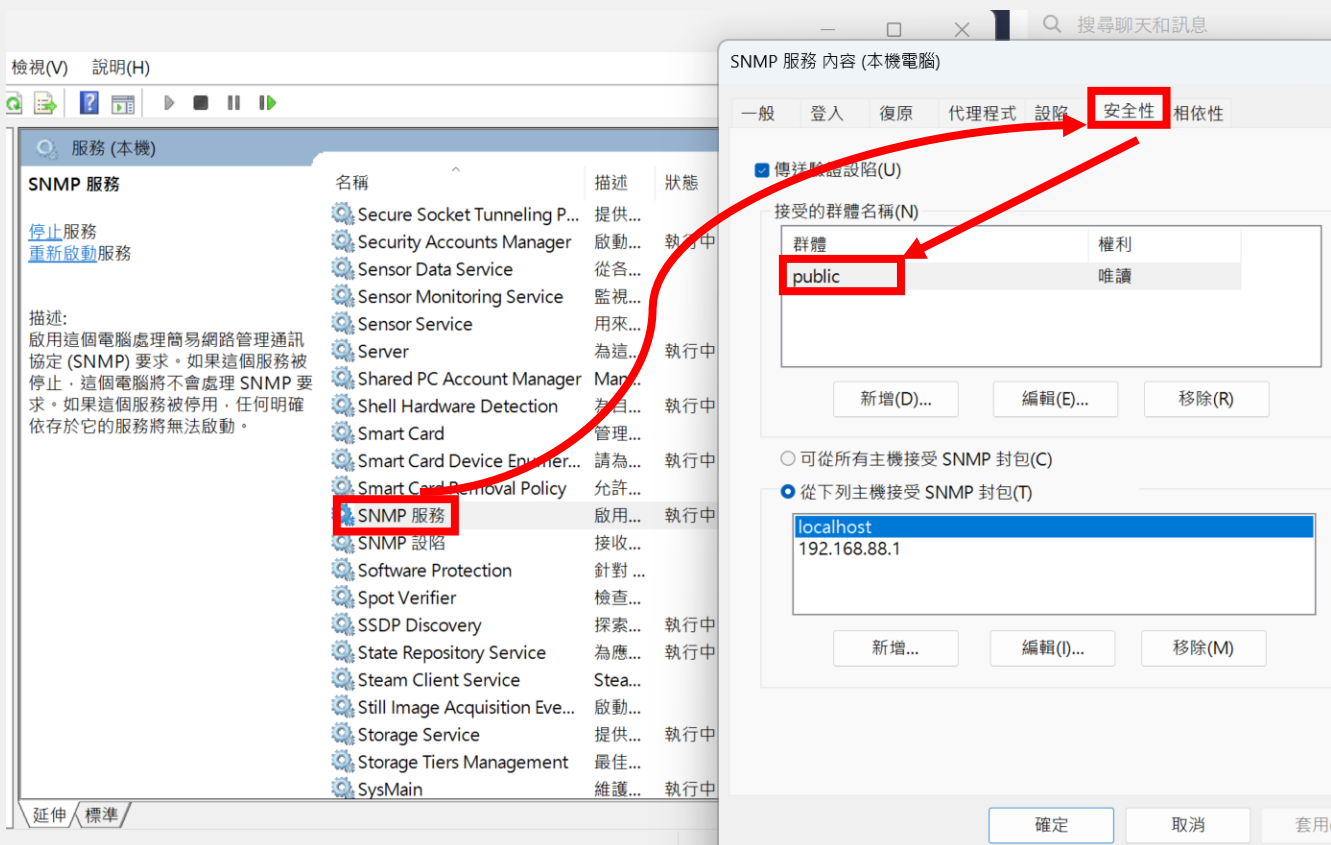
開啟SNMP，設定SNMP Community

02

LibreNMS Server

Device -> Add Device

加入設備--Windows



01

待加入的設備端

服務 -> 開啟SNMP服務/防火牆 -> 允許ping

LibreNMS Server
Device -> Add Device

加入設備—Cisco Switch

4.進入組態模式：

```
Router#configure terminal  
Enter configuration commands, one per line.  End  
with CNTL/Z.  
Router(config)#
```

5.使用以下命令以啟用唯讀(RO)社群字串：

```
Router(config)#snmp-server community public RO
```

其中「public」是唯讀社群字串。

6.使用以下命令以啟用讀取/寫入(RW)社群字串：

```
Router(config)#snmp-server community private RW
```

其中「private」是讀取/寫入社群字串。

```
Switch#sh run | inc snmp  
snmp-server community public-cisco RO  
snmp-server location [25.02086,121.53983]  
Switch#
```

01

待加入的設備端

開啟SNMP，設定SNMP Community

02

LibreNMS Server

Device -> Add Device

加入設備—Ubuntu

安裝

```
apt-get install snmp snmpd
```

配置

```
vi /etc/snmp/snmpd.conf
```

```
# Change RANDOMSTRINGGOESHERE to your preferred SNMP community string
com2sec readonly default public

group MyROGroup v2c readonly
view all included .1 80
```

01

待加入的設備端

開啟SNMP，設定SNMP Community

02

LibreNMS Server

Device -> Add Device

加入設備

S.	Id	M.	Vendor	Device	Metrics	Platform	Operating System	Down Time	Location	Actions
	30			140.112. dorm9407.ntu.edu.tw	 218	Catalyst 9407R (C9407R)	Cisco IOS-XE CAT9K_IOSXE 16.12.4 (Gibraltar)	3yrs 7mos 3w		     
	13			140.112. g9-9300	 47  19	Catalyst 9300 (C9300-24T)	Cisco IOS-XE CAT9K_IOSXE 17.6.4 (Bengaluru)	2mos 1w 5d	[25.01963,121.53941]	     
	17			140.112. mikrotik_g9	 6  2	RB750Gr3	Mikrotik RouterOS 7.9 (Level 4)	2mos 1w 5d	[25.01963,121.53941]	     
	9			140.112. localhost	 4	HPE ProLiant DL380 Gen10 Plus	VMware ESXi 8.0.1 (build 21813344)	4mos 2w 5d	[25.02085,121.53982]	     
	8			140.112. localhost	 4	HPE ProLiant DL380 Gen10 Plus	VMware ESXi 8.0.1 (build 21813344)	4mos 2w 5d	[25.02085,121.53982]	     
	32			140.112. g5-3750	 30  4	Catalyst 3750G (WS-C3750G-24TS-S1U)	Cisco IOS 12.2(25)SEB4 (IPBASE)	3d 6h 26m	[25.01575,121.53526]	     
	27			140.112. mikrotik_b5	 7  6	RB450Gx4	Mikrotik RouterOS 7.10.2 (Level 5)	5mos 1w 5d	[25.01552,121.54492]	     

01

待加入的設備端

開啟SNMP，設定SNMP Community

02

LibreNMS Server

Device -> Add Device

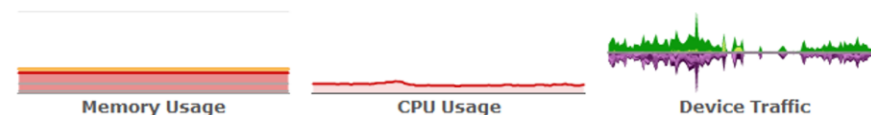
加入設備



Lists: Basic | **Detail** **Graphs:** Bits | CPU | Load | Memory | Uptime | Storage | Disk I/O | Poller | Ping | Temperature

Age

 **172.28.1**
[25.01963,121.53941]



[Overview](#) [Graphs](#) [Health](#) [Ports](#) [VLANs](#) [Neighbours](#) [STP](#) [Inventory](#) [Logs](#) [Alerts](#) [Alert Stats](#) [Latency](#) [Notes](#)



01

待加入的設備端

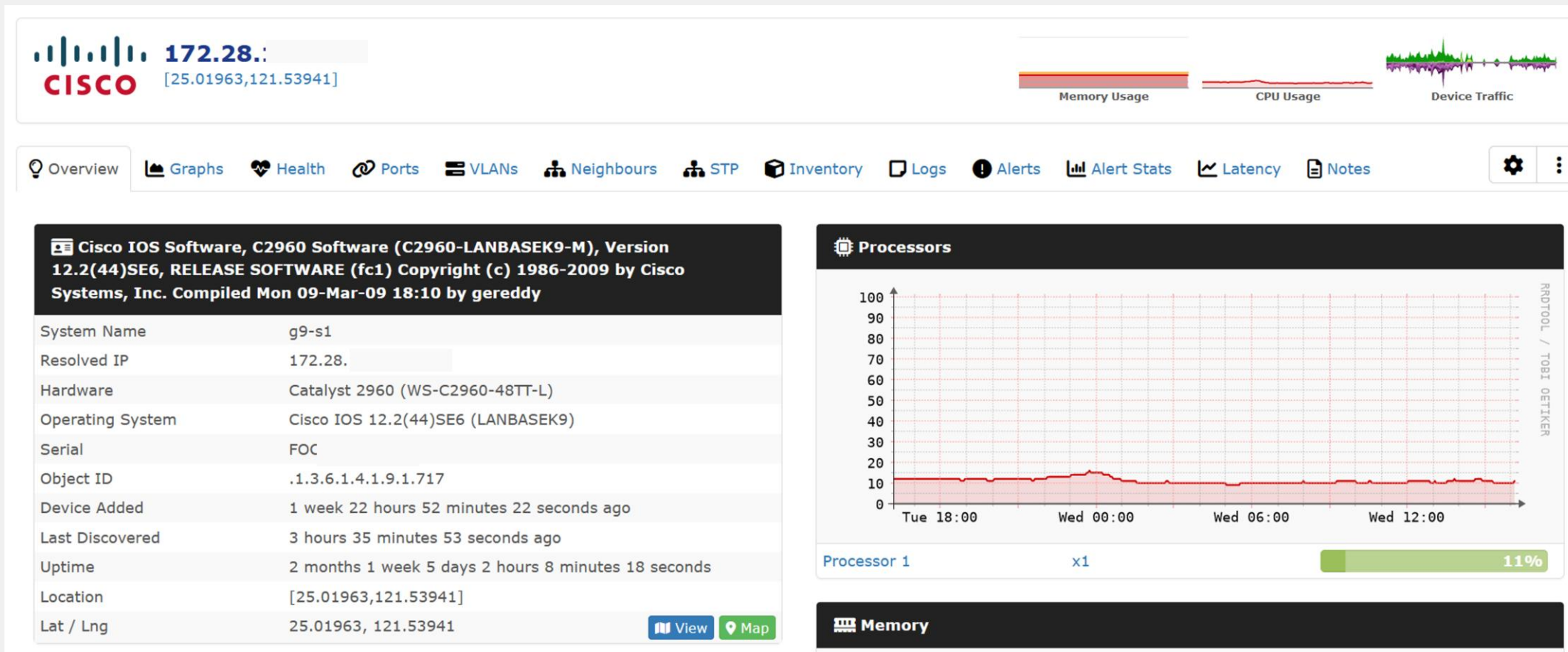
開啟SNMP，設定SNMP Community

02

LibreNMS Server

Device -> Add Device

加入設備



01

待加入的設備端

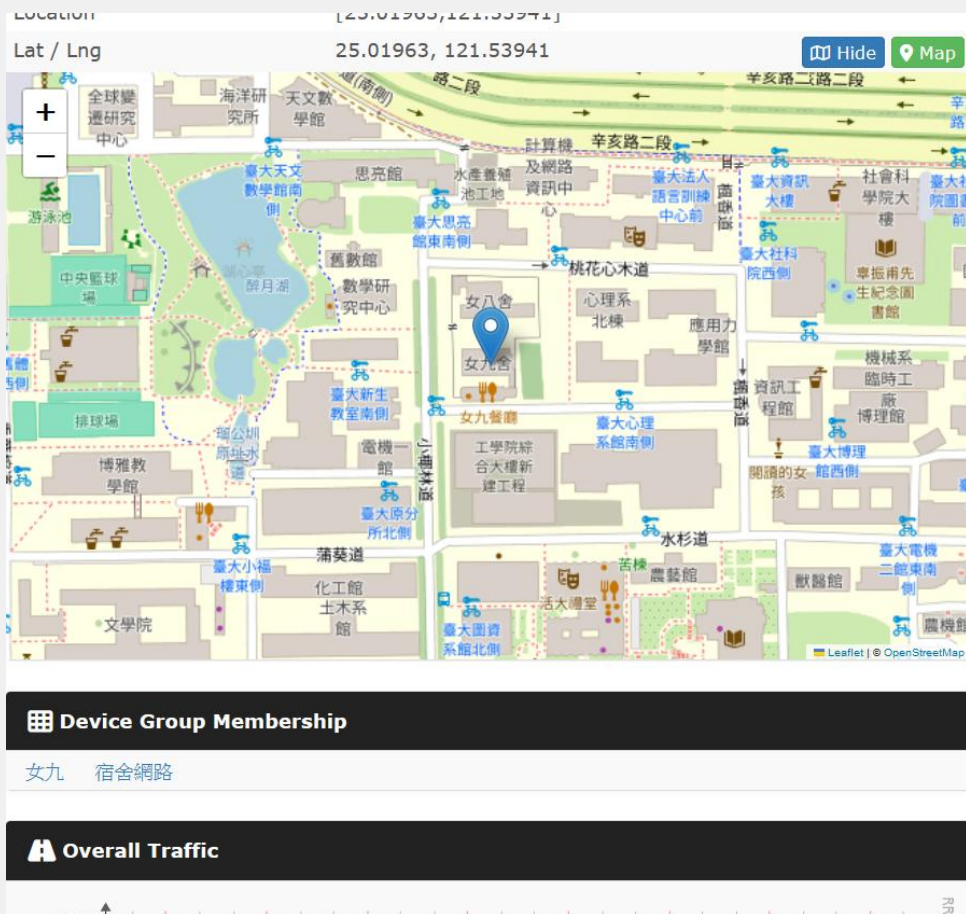
開啟SNMP，設定SNMP Community

02

LibreNMS Server

Device -> Add Device

加入設備

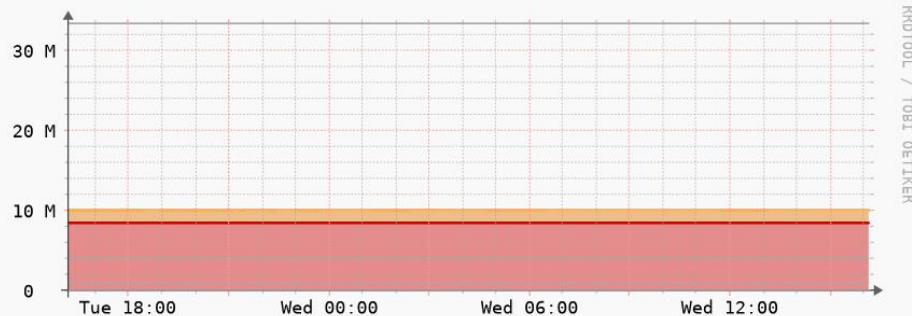


01

待加入的設備端

開啟SNMP，設定SNMP Community

Memory



Processor		25%	25%
I/O		39%	39%
Driver text		0%	

Storage

flash(flash):		32%
---------------	------------------------	-----

State

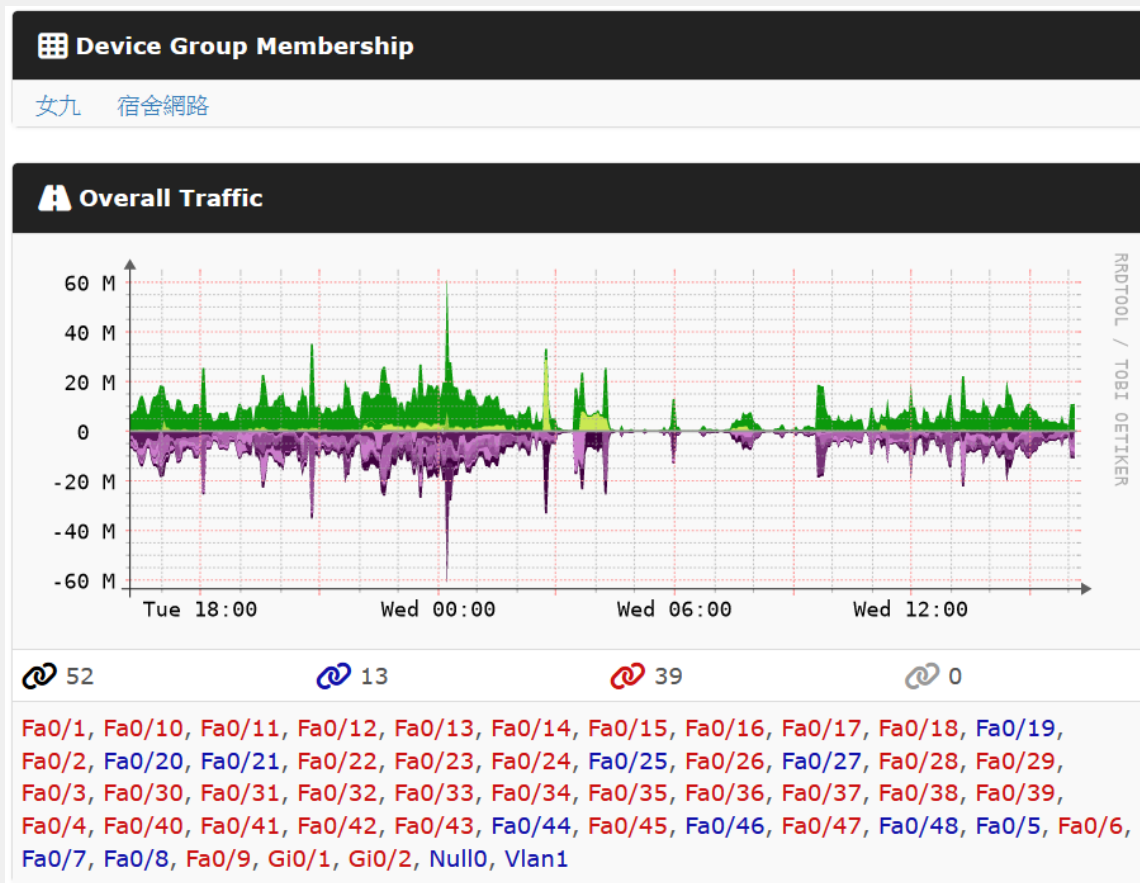
Sw1, PS1 Normal, RPS		normal
NotExist		
Switch#1, Fan#1		normal

02

LibreNMS Server

Device -> Add Device

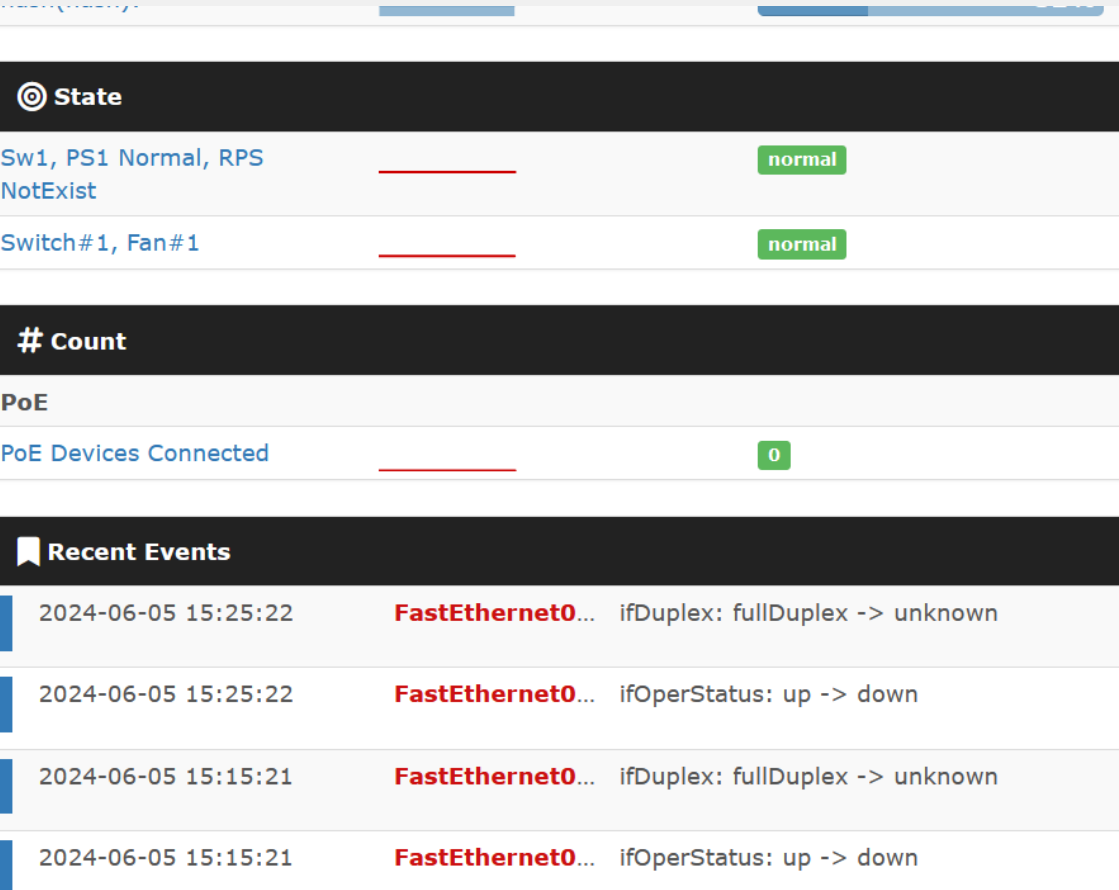
加入設備



01

待加入的設備端

開啟SNMP，設定SNMP Community



02

LibreNMS Server

Device -> Add Device



1.3

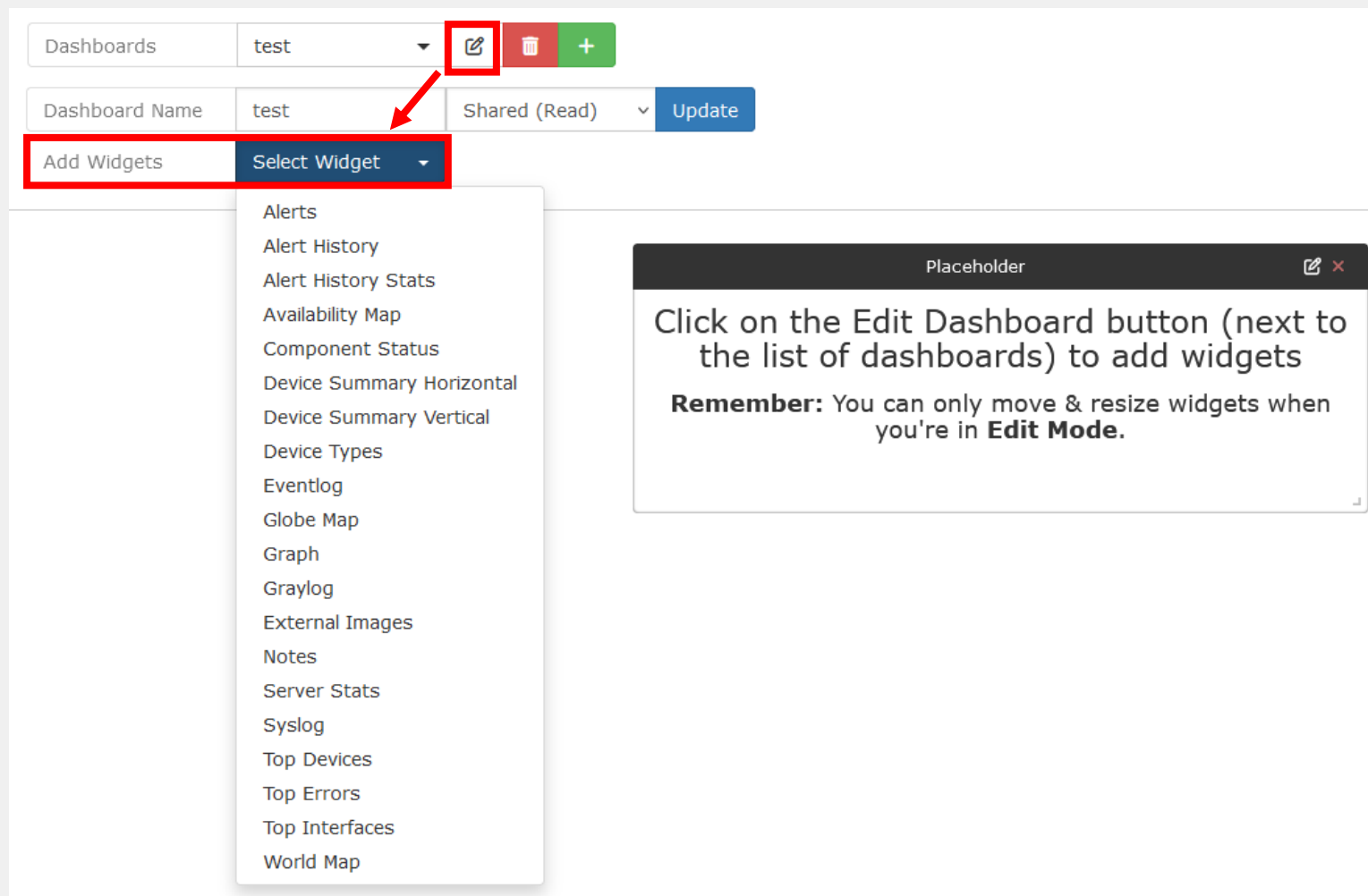
設定儀錶板



設定儀錶板



設定儀錶板



The screenshot displays the dashboard configuration interface. At the top, there is a 'Dashboards' section with a dropdown menu showing 'test'. To the right of the dropdown are three buttons: an edit button (pencil icon), a delete button (trash icon), and a plus button. Below this, there is a 'Dashboard Name' field with 'test' and a 'Shared (Read)' dropdown, followed by an 'Update' button. A red box highlights the 'Add Widgets' button, and a red arrow points to the 'Select Widget' dropdown menu. The dropdown menu lists various widget types: Alerts, Alert History, Alert History Stats, Availability Map, Component Status, Device Summary Horizontal, Device Summary Vertical, Device Types, Eventlog, Globe Map, Graph, Graylog, External Images, Notes, Server Stats, Syslog, Top Devices, Top Errors, Top Interfaces, and World Map. On the right side of the interface, there is a placeholder box with the text: 'Click on the Edit Dashboard button (next to the list of dashboards) to add widgets' and a reminder: 'Remember: You can only move & resize widgets when you're in **Edit Mode**.'

Dashboards test [Edit] [Delete] [Add]

Dashboard Name test Shared (Read) [Update]

Add Widgets Select Widget

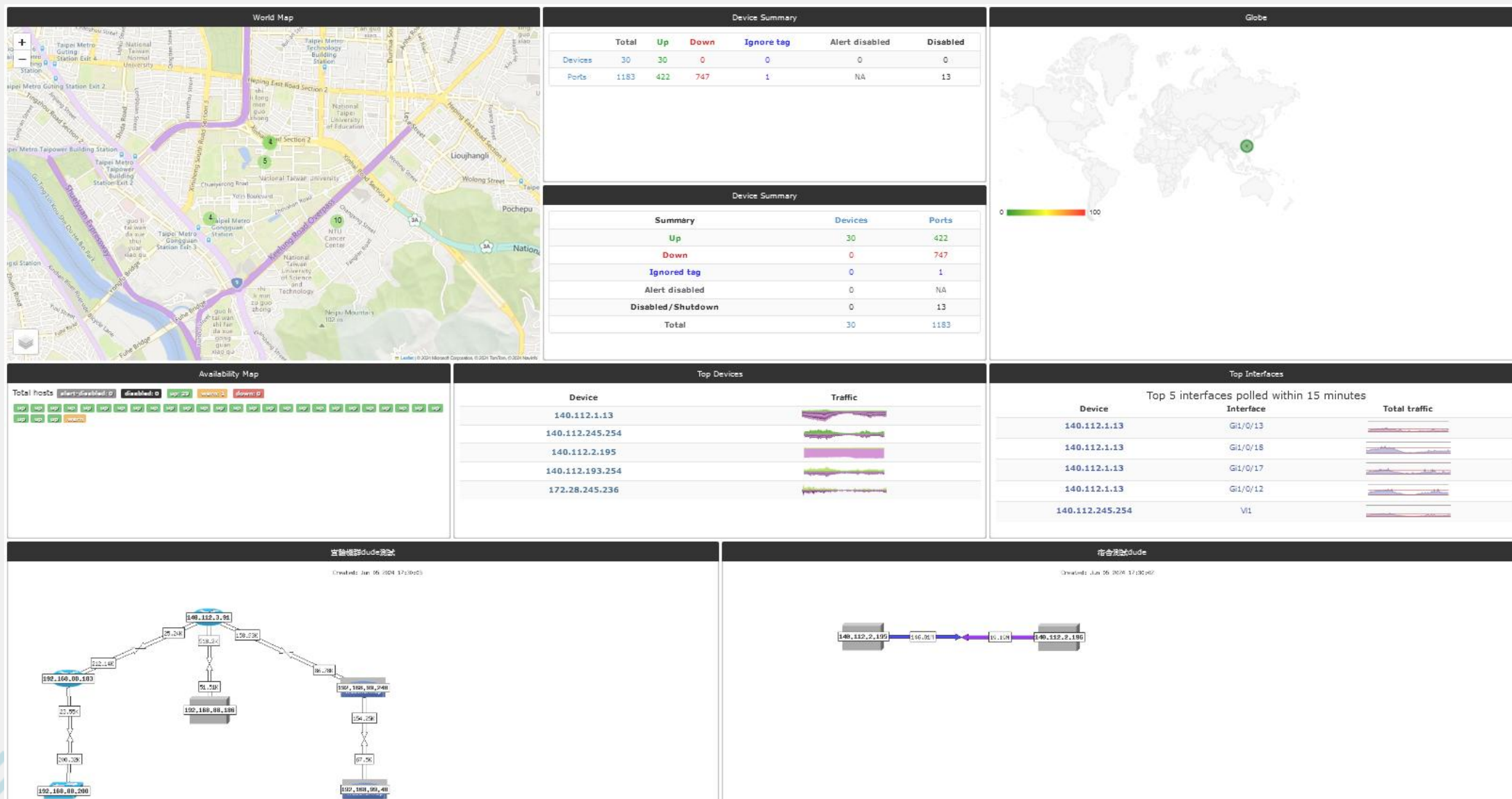
- Alerts
- Alert History
- Alert History Stats
- Availability Map
- Component Status
- Device Summary Horizontal
- Device Summary Vertical
- Device Types
- Eventlog
- Globe Map
- Graph
- Graylog
- External Images
- Notes
- Server Stats
- Syslog
- Top Devices
- Top Errors
- Top Interfaces
- World Map

Placeholder [Edit] [Close]

Click on the Edit Dashboard button (next to the list of dashboards) to add widgets

Remember: You can only move & resize widgets when you're in **Edit Mode**.

設定儀錶板



地圖功能

1.4

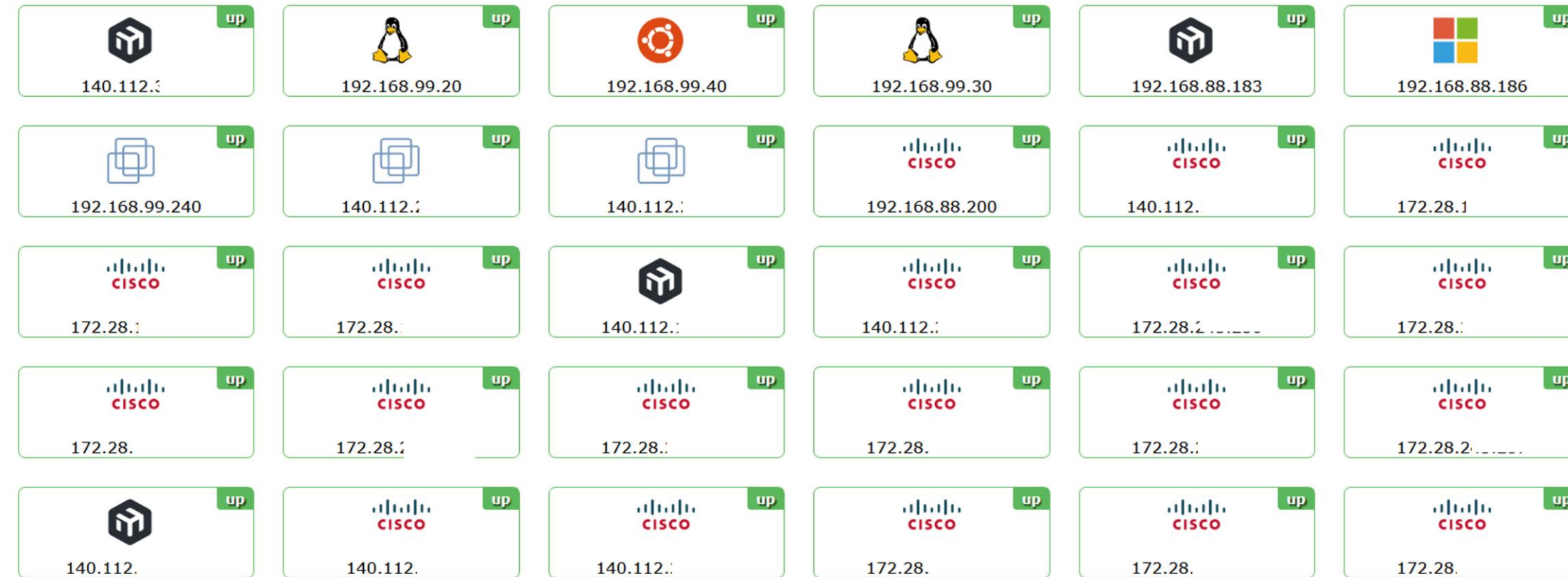


地圖功能-Availability Map

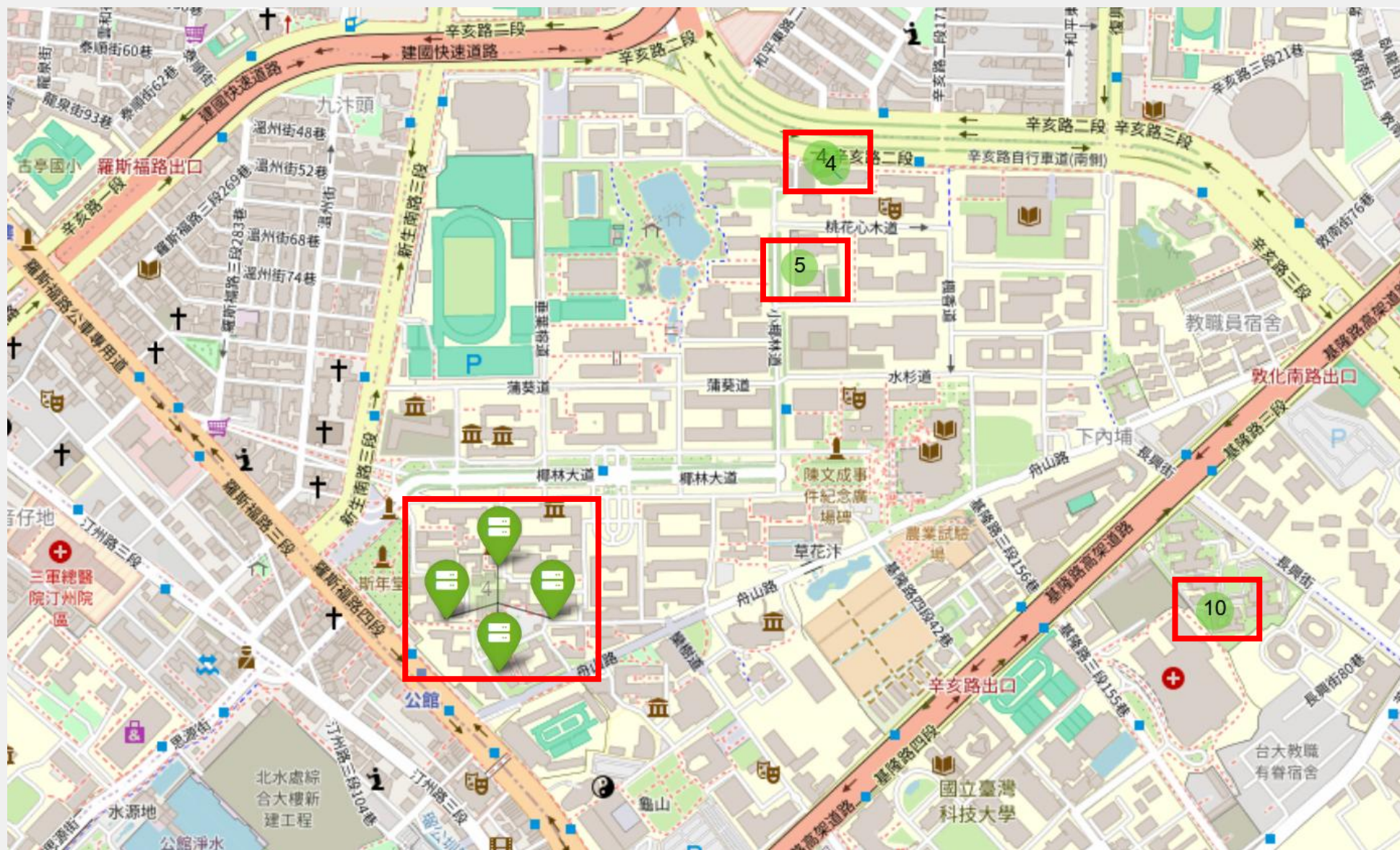


Availability map for **only devices**

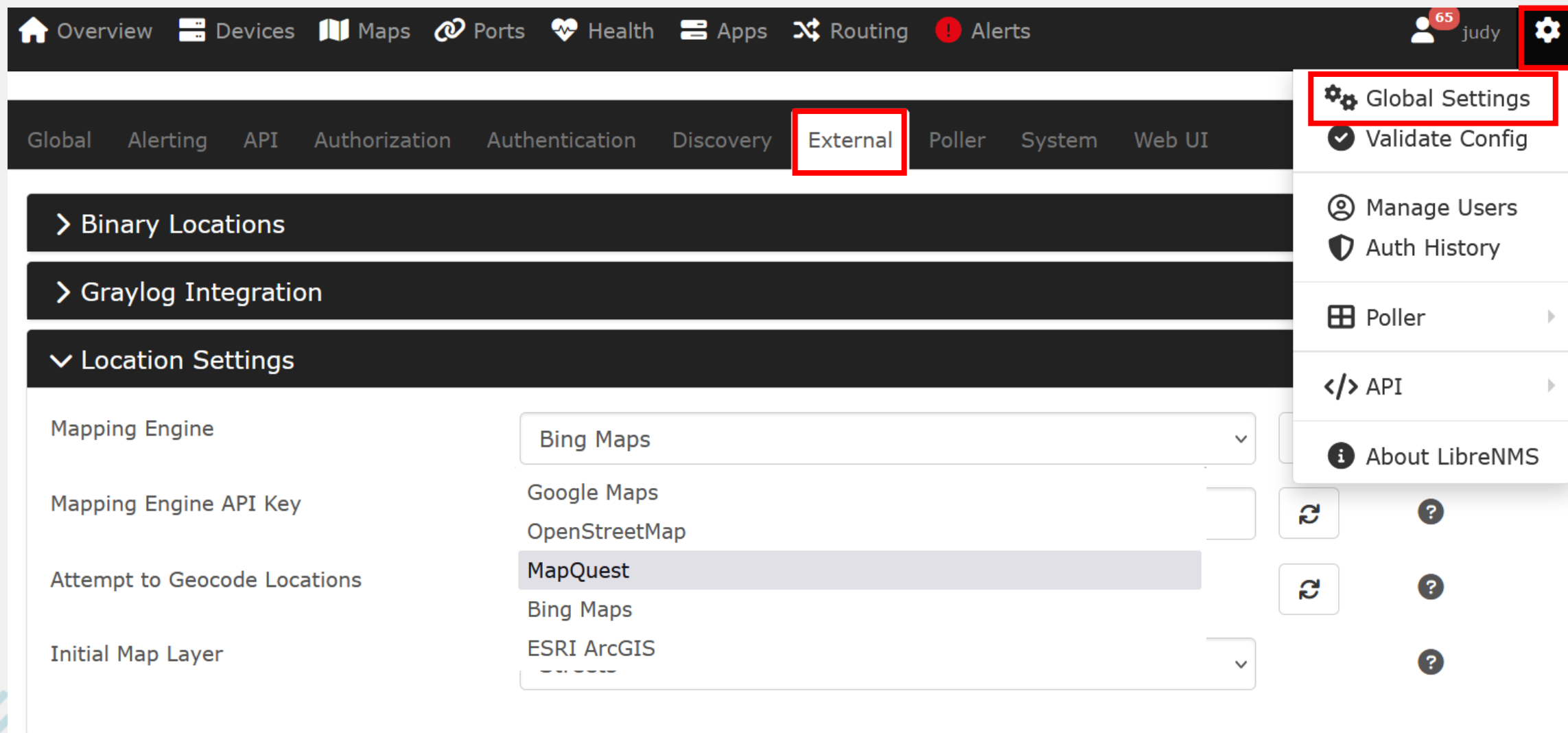
Device group **show all devices** Total hosts **up: 30** **warn: 0** **down: 0**



地圖功能-Geographical



地圖功能-Geographical



The screenshot displays the LibreNMS web interface. The top navigation bar includes links for Overview, Devices, Maps, Ports, Health, Apps, Routing, and Alerts. The user 'judy' is logged in with 65 notifications. The 'External' tab is selected in the sub-navigation bar. The main content area shows the 'Location Settings' section, which includes a 'Mapping Engine' dropdown menu currently set to 'Bing Maps'. Below this, a list of mapping engines is shown: Google Maps, OpenStreetMap, MapQuest (highlighted), Bing Maps, and ESRI ArcGIS. To the right of the list are refresh and help icons. A settings menu is open on the right side of the screen, with 'Global Settings' and 'Validate Config' as the first two items.

Overview Devices Maps Ports Health Apps Routing Alerts

65 judy

Global Alerting API Authorization Authentication Discovery External Poller System Web UI

> Binary Locations

> Graylog Integration

▼ Location Settings

Mapping Engine Bing Maps

Mapping Engine API Key Google Maps OpenStreetMap MapQuest Bing Maps ESRI ArcGIS

Attempt to Geocode Locations

Initial Map Layer

Global Settings

Validate Config

Manage Users

Auth History

Poller

API

About LibreNMS

地圖功能-Geographical

Overview

Devices

Maps

Ports

Health

Apps

Routing

Alerts

65judy

Global Search

Locations

All Devices

Device Groups

Geo Locations

Manage Groups

Device Dependencies

Virtual Machines

Add Device

Delete Device

Location

Coordinates

Devices

Down

Actions

[25.01552,121.54492]	25.01552, 121.54492	10	0	Traffic Edit Delete
[25.01575,121.53526]	25.01575, 121.53526	4	0	Traffic Edit Delete
[25.01963,121.53941]	25.01963, 121.53941	5	0	Traffic Edit Delete
[25.02085,121.53982]	25.02085, 121.53982	3	0	Traffic Edit Delete
[25.02086,121.53983]	25.02086, 121.53983	1	0	Traffic Edit Delete
[25.1575,121.53526]	25.1575, 121.53526	0	0	Traffic Edit Delete
140.112.3	25.020936, 121.53971	0	0	Traffic Edit Delete
192.168.88.183	25.020936, 121.53971	1	0	Traffic Edit Delete
Rack, Room, Building, City, Country [Lat, Lon]	25.020936, 121.53971	1	0	Traffic Edit Delete
Sitting on the Dock of the Bay	25.020936, 121.53971	2	0	Traffic Edit Delete

地圖功能-Geographical

可到Device中的SNMP設定押上location。
亦可在設備上SNMP直接設定。

Delete device

Rediscover device

Hostname / IP

140.112.

Display Name

System Default

Overwrite IP (do not use)

Description

Type

Network

Override sysLocation

ON

[25.01963,121.53941]

```
Switch#sh run | inc snmp
snmp-server community public-cisco R0
snmp-server location [25.02086,121.53983]
```

```
MyR0Group v2c      readonly
all included .1    80
MyR0Group ""      any    noauth exact all  none  none
ation Rack, Room, Building, City, Country [Lat, Lon]
tact Your Name <your@email.address>
```



1.5

網路結構圖



網路結構圖



**Device
Dependency**

01

02

Network

**Weathermap
Weathermapper**

Plugins

03

網路結構圖-01

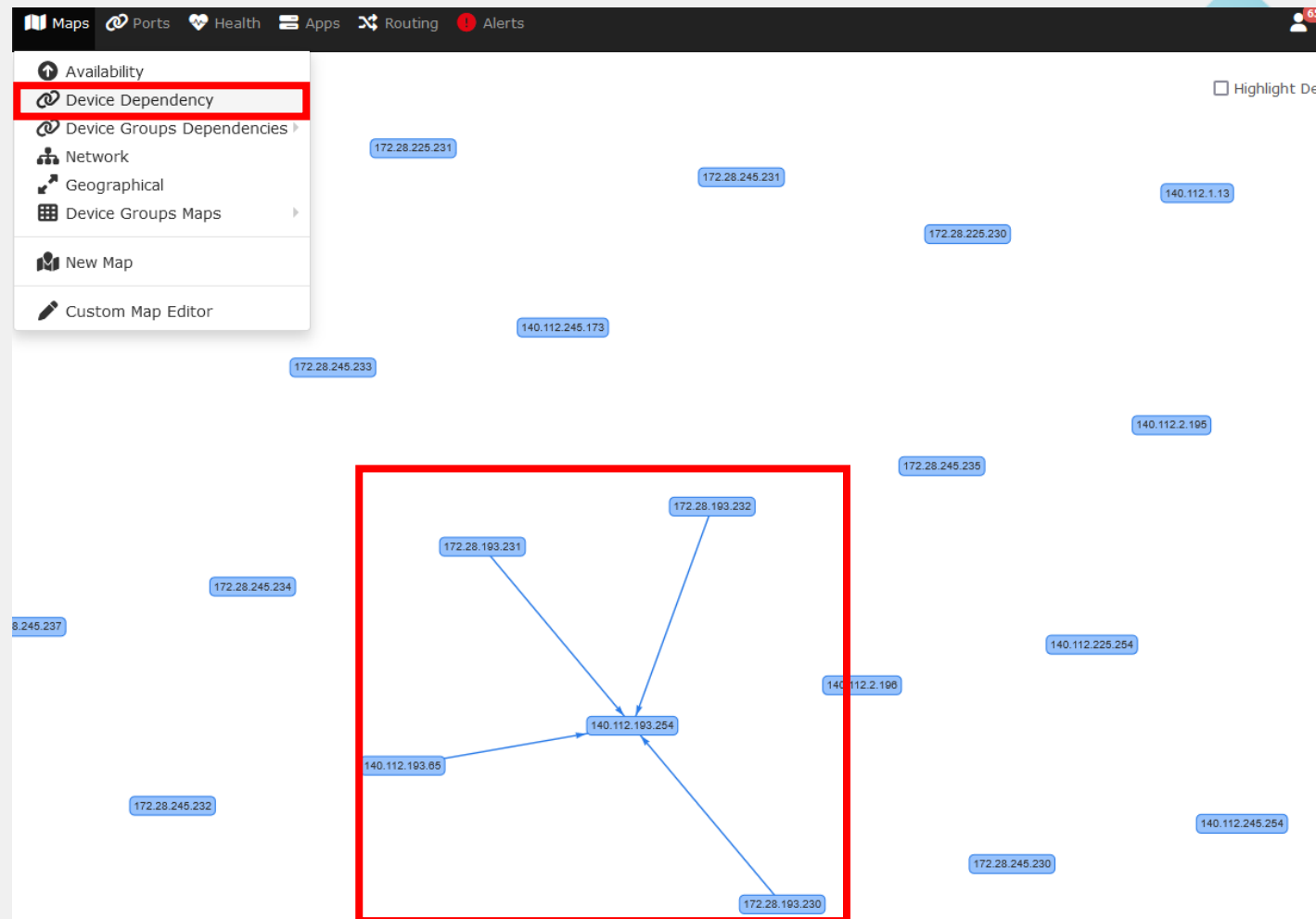
需自行設定關聯

LibreNMS Overview Devices Maps Ports Health Apps Routing Alerts

Manage Device Dependencies

- All Devices
- Device Groups
- Geo Locations
- Manage Groups
- Device Dependencies**
- Virtual Machines
- Add Device
- Delete Device

ID	Hostname	Parent Device(s)
30	140.112.128.9407.ntu	None
13	140.112.128.9-9300	140.112
17	140.112.128.mikrotik_g9	140.112
9	140.112.128.localhost	None
8	140.112.128.localhost	None
32	140.112.128.g5-3750	None
27	140.112.128.mikrotik_b5	None
18	140.112.128.m5-9300	None
1	140.112.128.mikrotik	None
14	172.28.245.g9-s1	140.112



Device Dependency

01

02

Network

Plugins

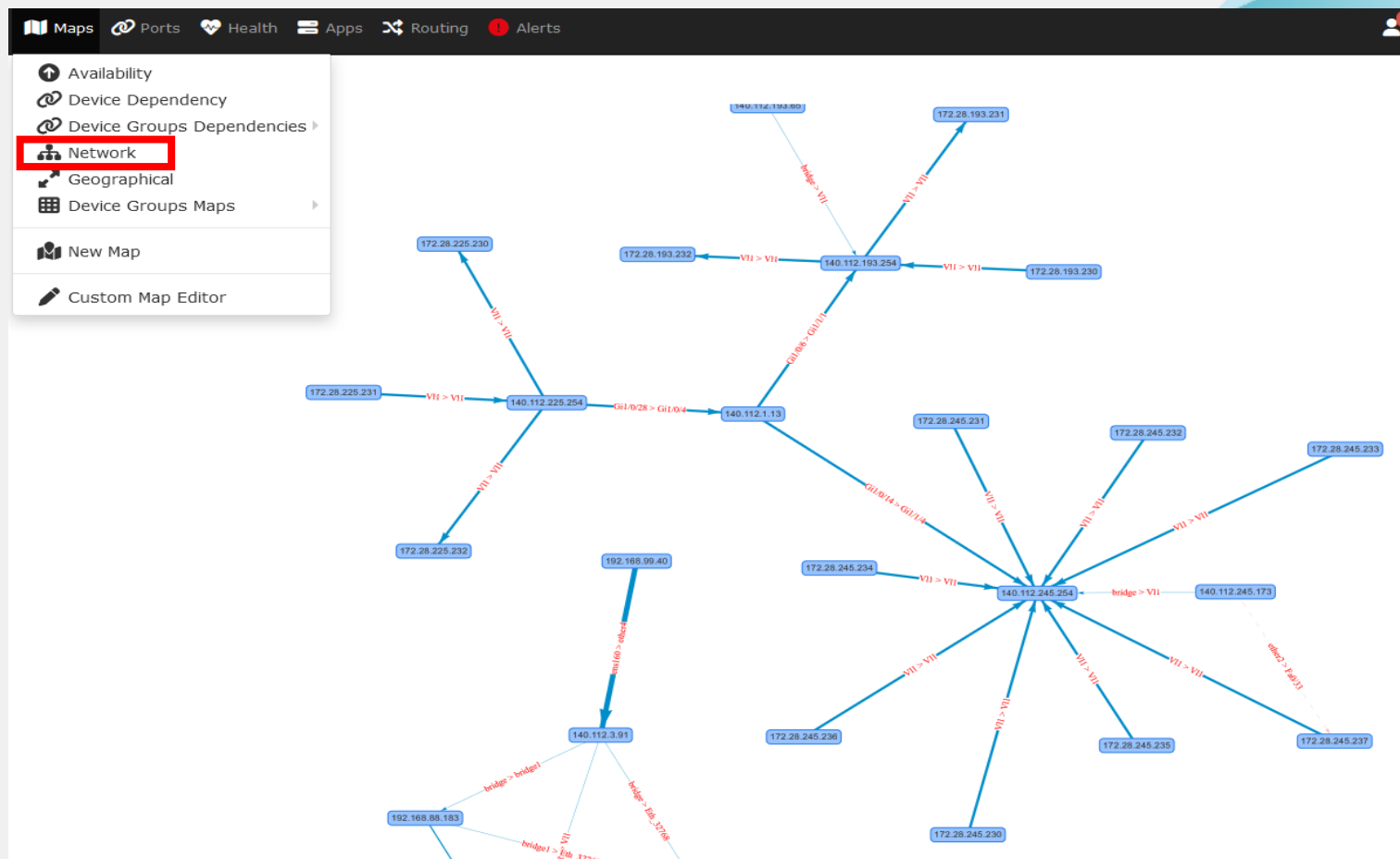
03

Weathermap
Weathermapper

網路結構圖-02

Network Map

- 畫圖依據
 - xDP Discovery
 - MAC addresses (ARP entries matching interface IP and MAC)



Device Dependency

01

02

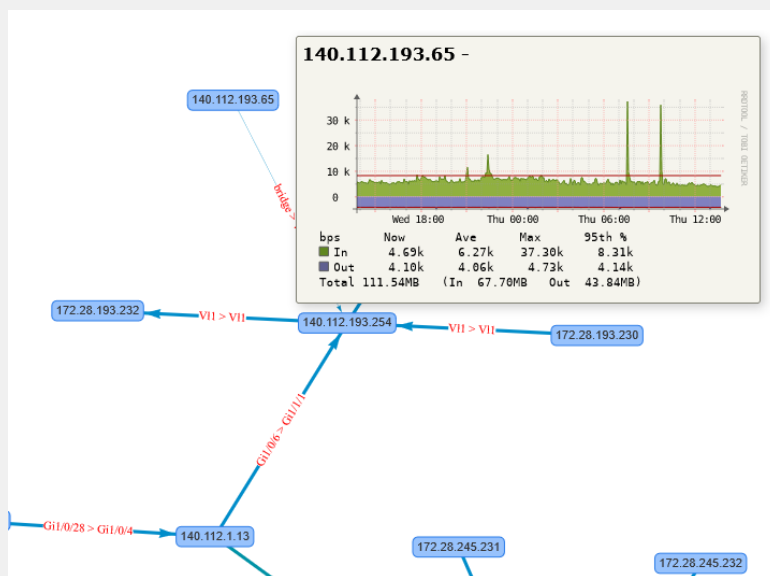
Network

Plugins

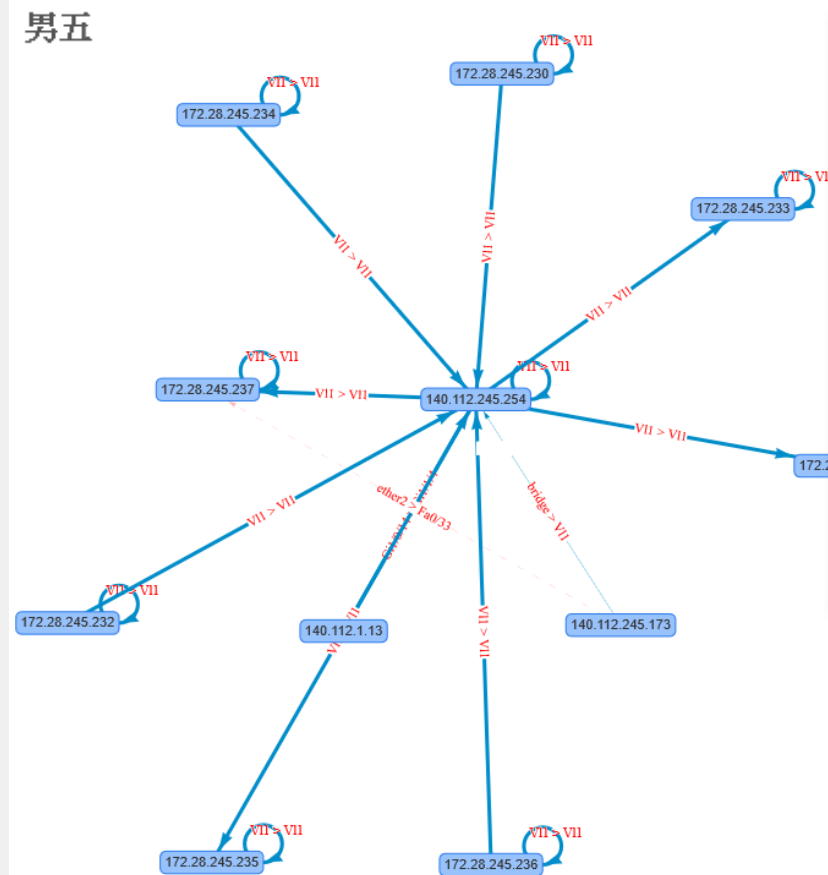
03

Weathermap
Weathermapper

網路結構圖-02



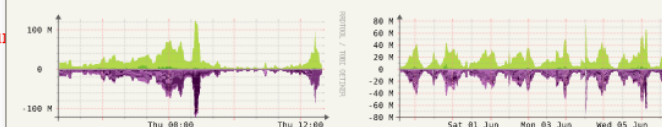
男五



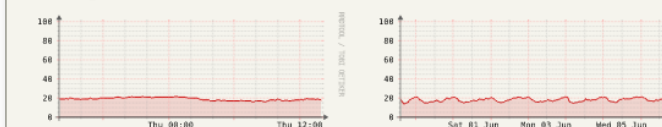
172.28.245.231

WS-C2960-48TT-L - Cisco IOS - 12.2(44)SE6 (LANBASEK9)
[25.01552,121.54492]

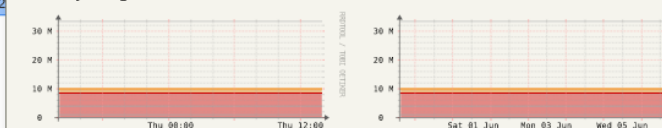
Device Traffic



CPU Usage



Memory Usage



Device Dependency

01

02

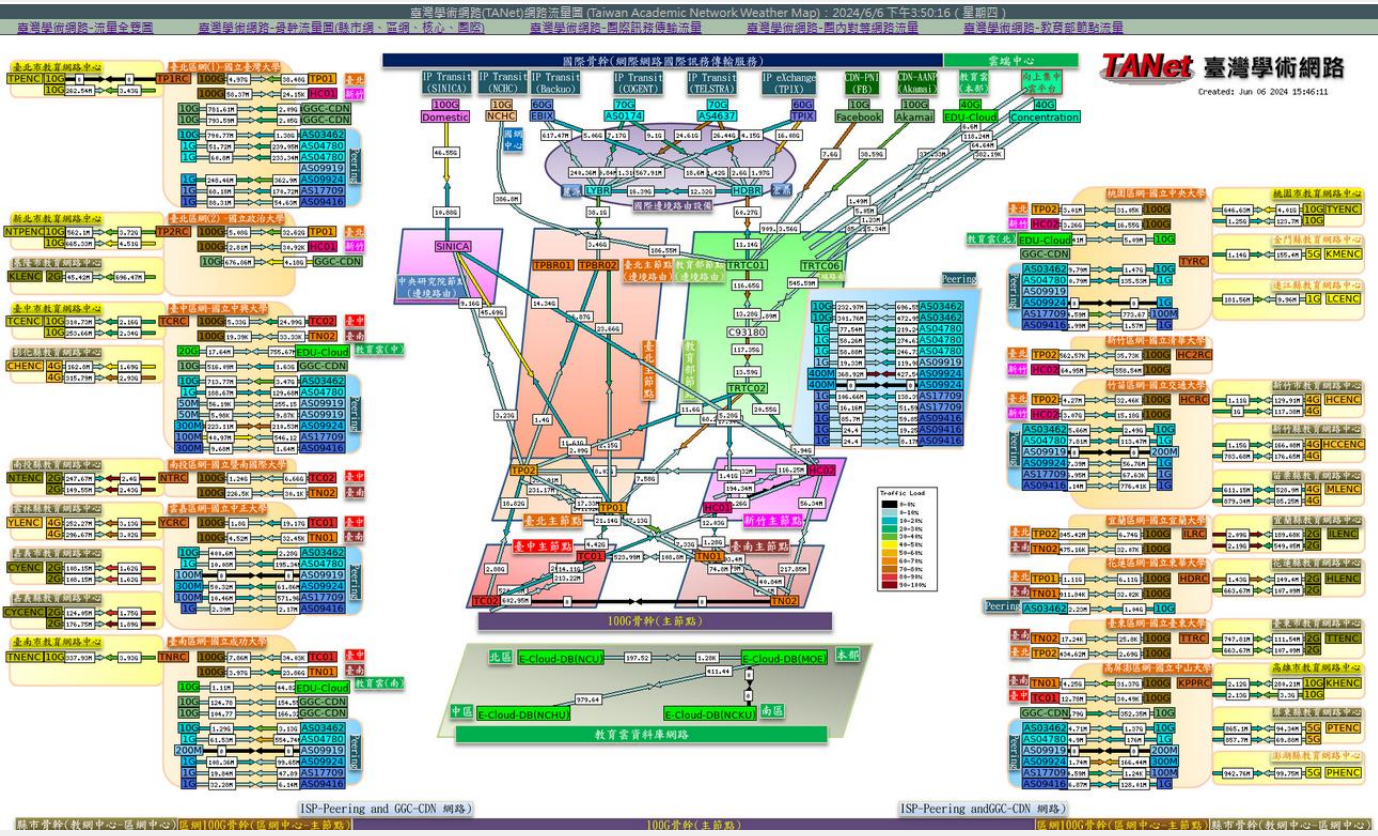
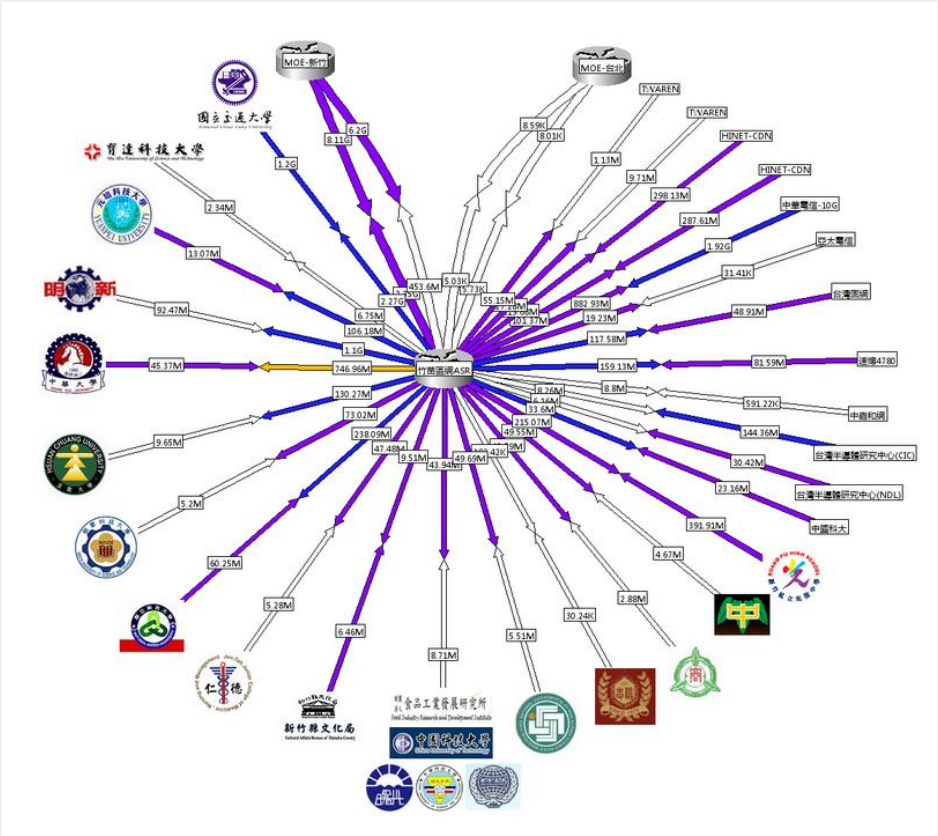
Network

Plugins

03

Weathermap
Weathermapper

網路結構圖-Weathermap



Device Dependency

01

Network

02

Plugins

03

Weathermap
Weathermapper

網路結構圖-Weathermap

安裝

```
cd /opt/librenms/html/plugins  
git clone https://github.com/librenms-plugins/Weathermap.git
```

權限更動

```
chown -R librenms:librenms Weathermap/  
chmod 775 /opt/librenms/html/plugins/Weathermap/configs
```

加入cron表固定更新

```
vi /etc/cron.d/librenms  
*/5 * * * * librenms /opt/librenms/html/plugins/Weathermap/map-poller.php >> /dev/null 2>&1
```

Device Dependency

01

02

Network

Plugins

03

Weathermap
Weathermapper

網路結構圖-Weathermap

The screenshot shows the Weathermap web interface. The top navigation bar includes links for Overview, Devices, Maps, Ports, Health, Apps, Routing, and Alerts. The left sidebar contains a menu with options like Dashboard, Plugins, Tools, Eventlog, Inventory, Outages, and search filters for IPv4/IPv6 Address, MAC Address, ARP Tables, and FDB Tables. The 'Plugins' menu item is highlighted with a red box, and a red arrow points to the 'Plugin Admin' sub-item. Another red arrow points from 'Plugin Admin' to the 'Disable' button in the 'System Plugins' table. The table lists three plugins: ExamplePlugin, Weathermap, and Weathermapper, each with an 'Action' column containing 'Enable' and 'Settings' buttons.

Name	Action
ExamplePlugin	<button>Enable</button> <button>Settings</button>
Weathermap	<button>Disable</button> <button>Page</button>
Weathermapper	<button>Disable</button> <button>Page</button>

Device Dependency

01

02

Network

Plugins

03

Weathermap
Weathermapper

網路結構圖-Weathermap

Welcome

Welcome to the PHP Weathermap 0.98b editor.

NOTE: This editor is not finished! There are many features of Weathermap that you will be missing out on if you choose to use the editor only. These include: curves, node offsets, font definitions, colour changing, per-node/per-link settings and image uploading. You CAN use the editor without damaging these features if you added them by hand, however.

Do you want to:

Create A New Map:

Named:

Note: filenames must contain no spaces and end in .conf

OR

Create A New Map as a copy of an existing map:

Named: based on

OR

Open An Existing Map (looking in /opt/librenms/html/plugins/Weathermap/configs/):

Boy5.conf - (no title)

Dorm.conf - Dorm

Girl5.conf - Girl5

Girl9.conf - Girl9

dorm-test.conf - dorm-test

dude.conf - dude

home-network-example.conf - Network Map (home-network-example)

PHP Weathermap 0.98b Copyright © 2005-2020 Howard Jones - howie@thingy.com
The current version should always be [available here](#), along with other related software.
PHP Weathermap is licensed under the GNU Public License, version 2. See COPYING for details. This distribution also includes the Overlib library by Erik Bosrup.

Change File	Add Node	Add Link	Position Legend	Position Timestamp	Map Properties	Map Style	Manage Colors	Manage Images	Editor Settings	Position ---, ---
-------------	----------	----------	-----------------	--------------------	----------------	-----------	---------------	---------------	-----------------	-------------------

Node Properties

Position	163, 260
Internal Name	node02635
Label	Node
Info URL	
'Hover' Graph URL	
Icon Filename	--NO ICON--

This is where help appears for nodes

Pick a graph — Mozilla Firefox

192.168.99.40/plugins/Weathermap/da

Pick a graph:

Host:

Filter: (case-sensitive)

☒ Set both OVERLIBGRAPH and INFOURL.

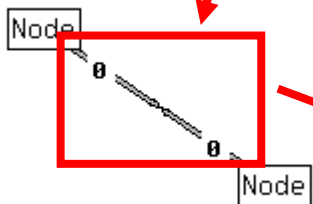
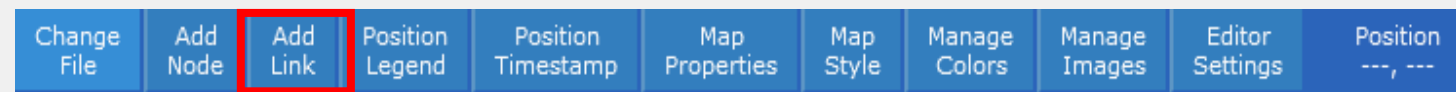
140.112.
140.112.
140.112.
140.112.
140.112.
140.112.
140.112.
140.112.
140.112.
140.112.

02

Network

Weathermapper

網路結構圖-Weathermap



Link Properties

Link from 'node04320' to 'node04338'

Maximum Bandwidth Into 'node04320': 500M bits/sec

Maximum Bandwidth Out of 'node04320': ☒ Same As 'In' or bits/sec

Data Source: **[Pick from LibreNMS]**

Link Width: 1 pixels

Info URL:

'Hover' Graph URL:

IN Comment: 95% ▾

OUT Comment: 5% ▾

Delete Link Edit Vert Horiz Tidy Via

This is where help appears for links

Pick a data source — Mozilla Firefox

192.168.99.40/plugins/Weathermap/da

Pick a data source:

Host: 140.112.193.254 ▾

Filter: (case-sensitive)

☒ Also set OVERLIBGRAPH and INFOURL.

☐ Append TARGET to existing one (Aggregate)

☐ Ignore blank interface descriptions

140.112.193.254/Vlan1	Desc: ## Dorm G 9 ##
140.112.193.254/AppGigabitEthernet1/0/1	Desc: AppGigabitEthernet1/0/1
140.112.193.254/FortyGigabitEthernet1/1/1	Desc: FortyGigabitEthernet1/1/1
140.112.193.254/FortyGigabitEthernet1/1/2	Desc: FortyGigabitEthernet1/1/2
140.112.193.254/GigabitEthernet0/0	Desc: GigabitEthernet0/0
140.112.193.254/GigabitEthernet1/0/1	Desc: GigabitEthernet1/0/1
140.112.193.254/GigabitEthernet1/0/10	Desc: GigabitEthernet1/0/10

Plugins

03

Weathermap
Weathermapper

Network

網路結構圖-Weathermap

Change File

Add Node

Add Link

Position Legend

Position Timestamp

Map Properties

Map Style

Manage Colors

Manage Images

Editor Settings

Position ---, ---

Map Style

Cancel

Submit

Link Labels

Bits/sec

HTML Style

Overlib (DHTML)

Arrow Style

Classic

Node Font

4 (GD builtin)

Link Label Font

3 (GD builtin)

Legend Font

2 (GD builtin)

Font Samples:

Abc123% Abc123% **Abc123%** Abc123% **Abc123%**

Font 1 Font 2 Font 3 Font 4 Font 5

(Drawn using your PHP install)

Helpful text will appear here, depending on the current item selected. It should wrap onto several lines, if it's necessary for it to do that.

Bits/sec

Percentage

None

Overlib (DHTML)

Static HTML

Classic

Compact

mapfile

action

param

param2

debug

01

02

03

Plugins

Weathermap

Weathermapper

Network

網路結構圖-Weathermap



Map Properties Cancel Submit

Map Title

Legend Text

Timestamp Text

Default Link Width pixels

Default Link Bandwidth bit/sec in, bit/sec out

Map Size x pixels

Output Image Filename

Output HTML Filename

Background Image Filename

This is where help appears for maps

```
librenms@ubuntu:~/html/plugins/Weathermap/output$ ls  
boy5.html  dorm.html  dorm-test.html  dude.html  girl5.html  girl9.html  
boy5.png  dorm.png  dorm-test.png  dude.png  girl5.png  girl9.png
```

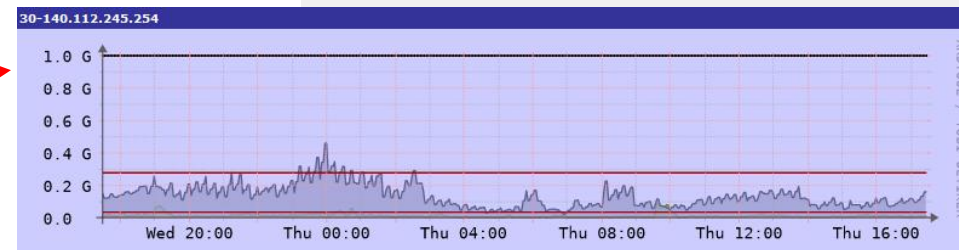
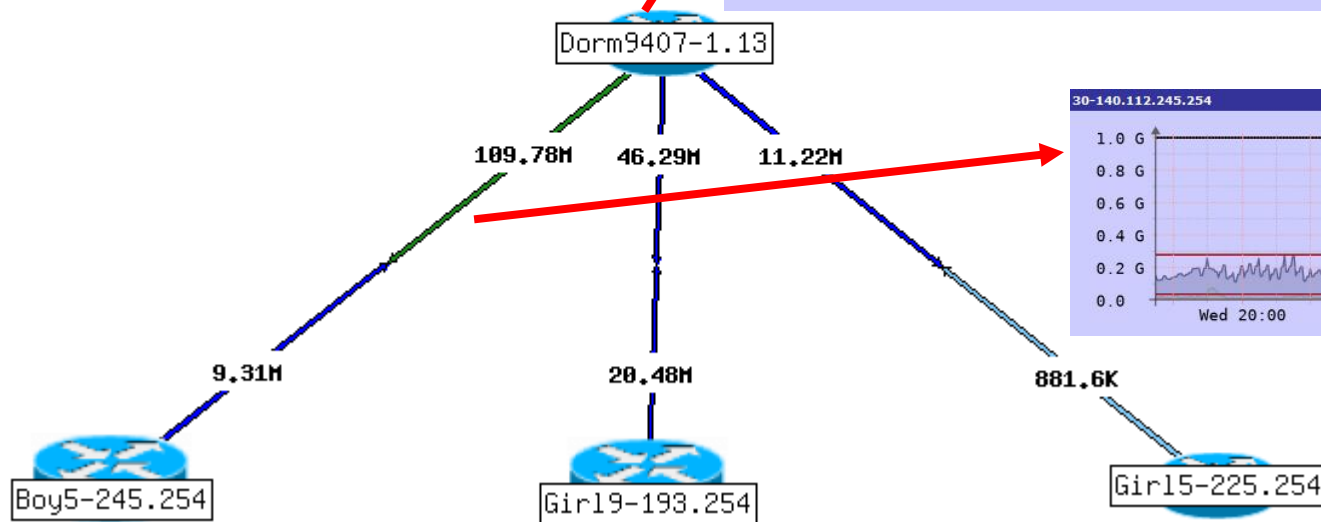
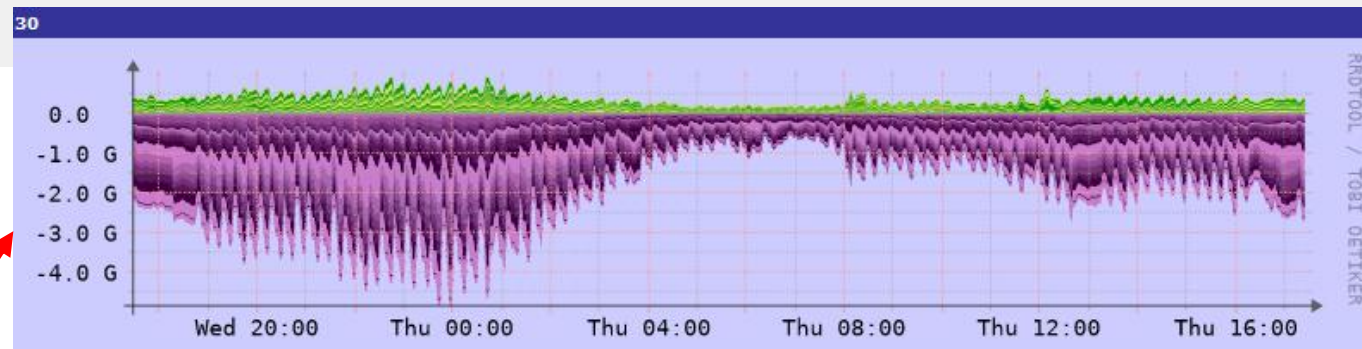
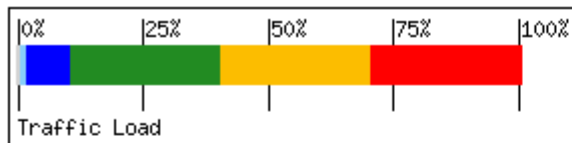
ugins

03

Weathermap
Weathermapper

Network

網路結構圖-Weathermap



Device Dependency

Plugins

01

02

03

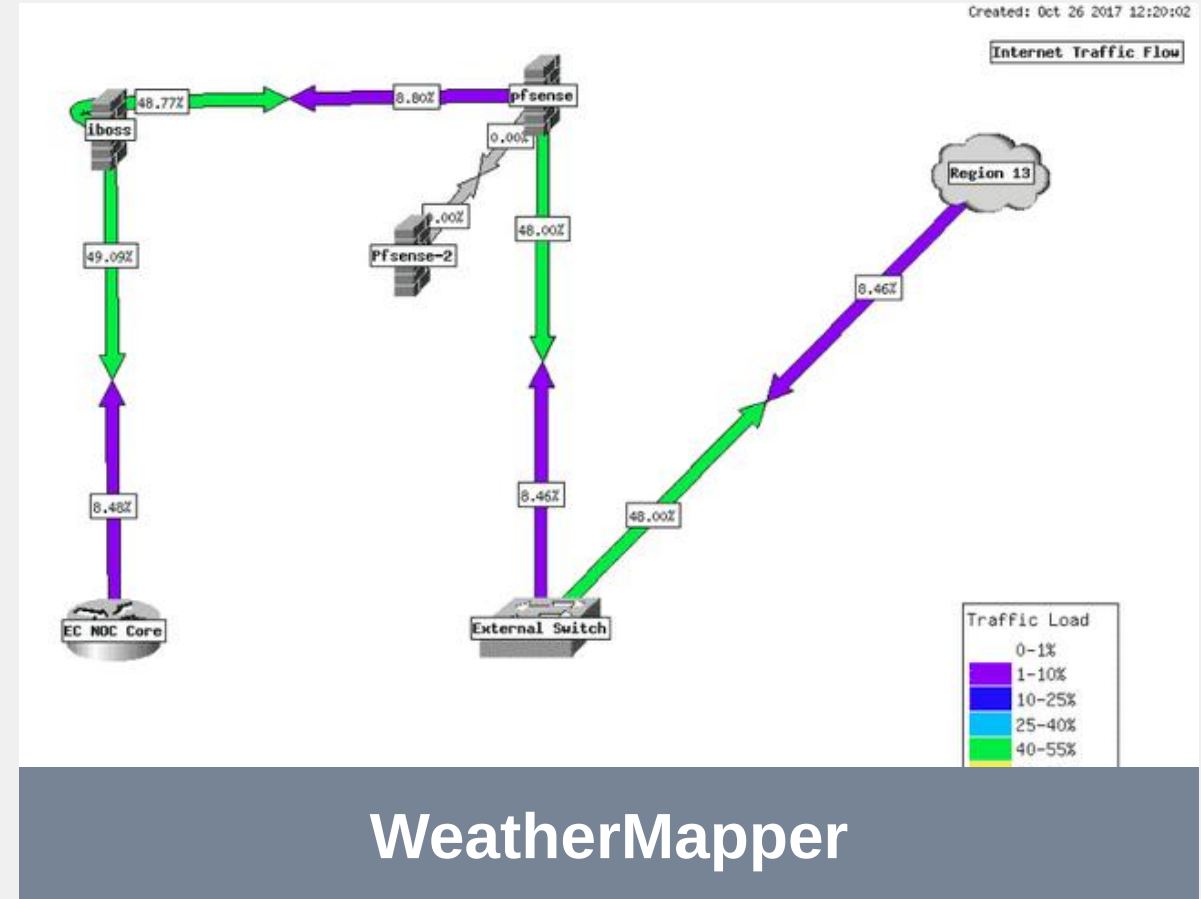
Network

Weathermap
Weathermapper



網路結構圖-WeatherMapper

此插件為了方便Weathermap使用，會根據LibreNMS資料庫，自動產生現有設備關聯的Weathermap



Device Dependency

01

02

Network

Plugins

03

Weathermap
Weathermapper

網路結構圖-Weathermapper

安裝

```
cd /opt  
git clone https://github.com/pblasquez/weathermapper.git
```

更改weathermapper.php檔案

```
$dbh = pdo_connect(  
    $config['mysql'],  
    $config['librenms'],  
    $config['librenms'],  
    $config['password']  
  
    $config['db_host'] = 'localhost',  
    $config['db_name'] = 'librenms',  
    $config['db_user'] = 'librenms',  
    $config['db_pass'] = 'password'
```

Plugins

01

02

Network

03

Weathermap
Weathermapper

網路結構圖-Weathermapper

先執行一次weathermap.php程式

```
$ php weathermapper.php
```

將weathermap功能移入LibreNMS

```
cp -R /opt/weathermapper/librenms_plugin/Weathermapper /opt/librenms/html/plugins/
```

The screenshot shows the LibreNMS web interface. The navigation menu on the left has 'Plugins' highlighted with a red box. A red arrow points from 'Plugins' to 'Plugin Admin', which is also highlighted with a red box. Another red arrow points from 'Plugin Admin' to the 'Disable' button in the 'Weathermapper' row of the 'System Plugins' table.

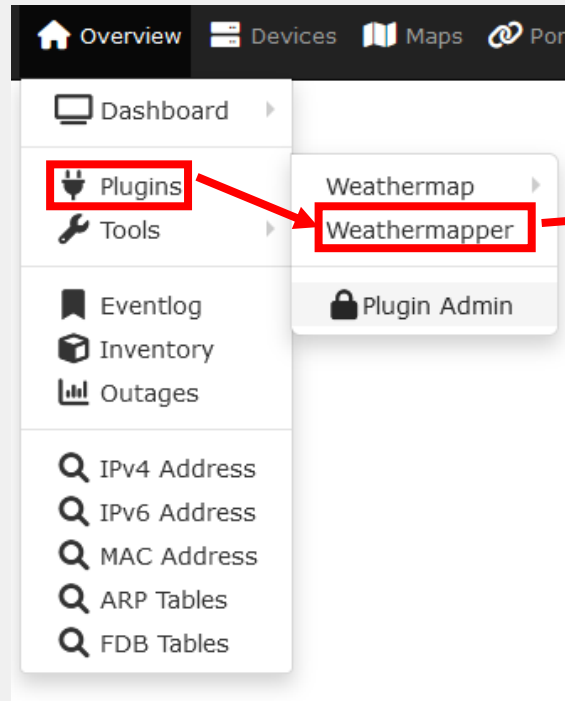
Name	Action
ExamplePlugin	<button>Enable</button> <button>Settings</button>
Weathermap	<button>Disable</button> <button>Page</button>
Weathermapper	<button>Disable</button> <button>Page</button>

Plugins

03

Weathermap
Weathermapper

網路結構圖-Weathermapper



Weathermapper Installation Directory (Must be writable by web server user)

/opt/weathermapper

Weathermap Name (must be unique)

Map design

Top to Bottom

Horizontal pixels between devices	200
Horizontal pixels from edge of canvas	100
Vertical pixels between devices	100
Vertical pixels from edge of canvas	250

Device Selection Method

Hostname Regex

Add device selection method

Create Weathermap

Device Dependency

01

02

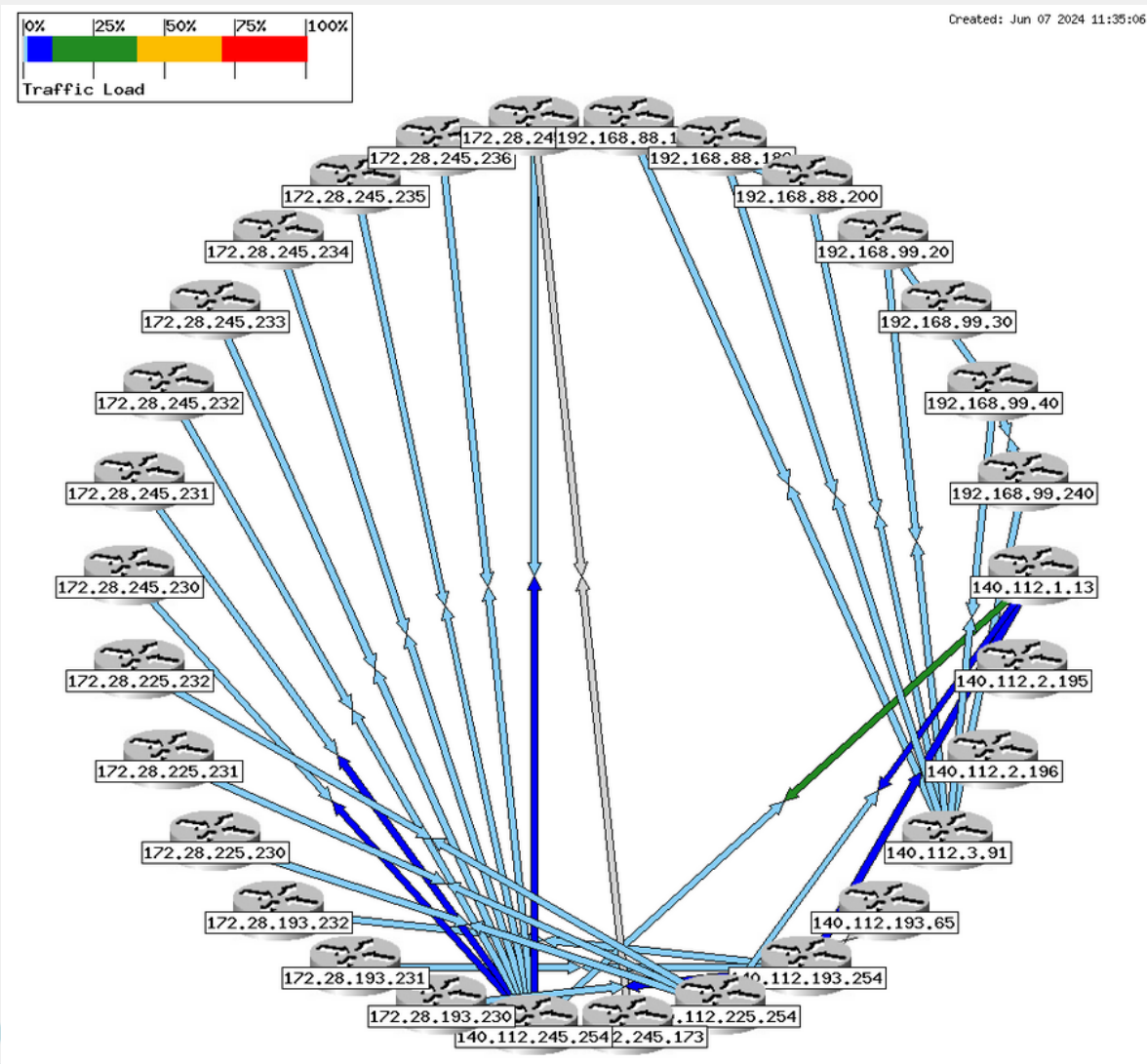
Network

Plugins

03

Weathermap
Weathermapper

網路結構圖-Weathermapper



執行weathermap.php程式

```
$ php weathermapper.php
```

```
librenms@ubuntu:~/html/plugins$ ls Weathermap/configs/  
Boy5.conf  dorm-test.conf  Girl5.conf  home-network-example.conf  
Dorm.conf  dude.conf      Girl9.conf  index.php  
librenms@ubuntu:~/html/plugins/Weathermap/output$ ls  
boy5.html  dorm.png      dude.html  girl5.png  home-network-example.html  
boy5.png  dorm-test.html  dude.png  girl9.html  home-network-example.png  
dorm.html  dorm-test.png  girl5.html  girl9.png  index.php
```

HOSTNAMES

```
$label = 'mylabel';  
$weathermap[$label] = [];  
$weathermap[$label]['title'] = "Network Map (".$label.")";  
$weathermap[$label]['grid_opts'] = $grid_opts;  
$weathermap[$label]['search_opts'] = [];  
$weathermap[$label]['search_opts']['types'] = ['hostname'];  
$weathermap[$label]['search_opts']['hostnames'] = [];  
$weathermap[$label]['search_opts']['hostnames'][] = [  
    'regex' => "myhost[0-9]+.*",  
    'row' => 10  
];
```

Plugins

03

Weathermap
Weathermapper

02
Network

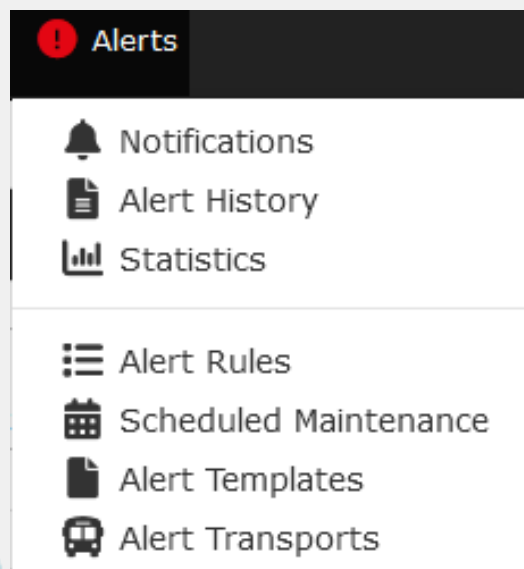
告警功能

1.6



告警功能

Alerts



Rules

可客製化設定告警規則：觸發條件、時間、發送告警之次數等

Templates

制定發送告警的模板，告警訊息內容呈現等等

Transports

告警發送之平台設定

告警功能

在監控規則中掛上通知管道

Rules

可客製化設定告警規則：觸發條件、時間、發送告警之次數等

 Alerts

 Notifications

 Alert History

 Statistics

 Alert Rules

 Scheduled Maintenance

 Alert Templates

 Alert Transports

Create new alert rule - OR - Create rule from collection										50
Type	Name	Devices	Transports	Notification Settings	Rule	Severity	Status	Enabled	Action	
	Device Down (SNMP unreachable)	All Devices	email to judyshih Line Alert	Max: 1 Delay: 120 Interval: 300	<code>macros.device_down = 1 AND devices.status_reason = "snmp"</code>	Critical	✓	ON	 	
	Device Down! Due to no ICMP response.	All Devices	email to judyshih Line Alert	Max: 1 Delay: 60 Interval: 600	<code>macros.device_down = 1 AND devices.status_reason = "icmp"</code>	Critical	✓	ON	 	
	Device rebooted	All Devices	email to judyshih Line Alert	Max: 1 Delay: 120 Interval: 300	<code>devices.uptime < 300 AND macros.device = 1</code>	Critical	✓	ON	 	
	Ping Latency	All Devices	email to judyshih	Max: 1 Delay: 120 Interval: 300	<code>devices.last_ping_timetaken > 10</code>	Critical	⏸	OFF	 	
	Port status up/down	All Devices	email to judyshih Line Alert	Max: 1 Delay: 120 Interval: 300	<code>macros.port_down = 1</code>	Critical	⏸	OFF	 	
	Port utilisation over threshold	All Devices	email to judyshih	Max: 1 Delay: 120 Interval: 300	<code>macros.port_usage_perc >= 80 AND macros.port_up = 1</code>	Critical	⏸	OFF	 	
	Sensor over limit - Check Device Health Settings	All Devices	email to judyshih	Max: 1 Delay: 120 Interval: 300	<code>sensors.sensor_current > sensors.sensor_limit AND sensors.sensor_alert = 1 AND macros.device_up = 1</code>	Critical	⏸	OFF	 	
	Sensor under limit - Check Device Health Settings	All Devices	email to judyshih	Max: 1 Delay: 120 Interval: 300	<code>sensors.sensor_current < sensors.sensor_limit_low AND sensors.sensor_alert = 1 AND macros.device_up = 1</code>	Critical	⏸	OFF	 	
	Service up/down	All Devices	email to judyshih	Max: 1 Delay: 120 Interval: 300	<code>services.service_status != 0 AND macros.device_up = 1</code>	Critical	⏸	OFF	 	
	State Sensor Critical	All Devices	email to judyshih	Max: 1 Delay: 120 Interval: 300	<code>macros.state_sensor_critical = 1 AND sensors.sensor_alert = 1</code>	Critical	!	ON	 	

告警功能

Rules

可客製化設定告警規則：觸發條件、時間、發送告警之次數等

- **Max alert**: 最多要通知幾次
- **Delay**: 問題發生後，延遲多久再來通知 (過濾掉時好時壞跳來跳去的情況)
- **Interval**: 通知間隔，意指通知後隔多久再通知。

Alert Rule :: Docs

Main Advanced

Rule name Device Down! Due to no ICMP response.

Import from

AND OR

macros.device_down equal No Yes Delete

devices.status_reason equal icmp Delete

Severity Critical

Max alerts 1 Delay 1m Interval 10m

Mute alerts OFF Invert rule match OFF

Recovery alerts ON Acknowledgement alerts ON

Match devices, groups and locations list Devices, Groups or Location All devices except in list OFF

Transports x Mail: email to judyshih x Linenotify: Line Alert

Procedure URL

Notes

Save Rule

告警功能

Rules

可客製化設定告警規則：觸發條件、時間、發送告警之次數等

範例1：透過Librenms收集syslog，再於SQL新增欄位flap_tag搭配php程式，偵測短時間內port flapping問題

flap_tag	varchar(255)	YES	NULL
----------	--------------	-----	------

MariaDB [librenms]> SELECT ifName, ifDescr, ifAlias, flap_tag FROM ports WHERE device_id = 70;			
ifName	ifDescr	ifAlias	flap_tag
Gi0/0	GigabitEthernet0/0	GigabitEthernet0/0	NULL
Nu0	Null0	Null0	NULL
Gi1/0/1	GigabitEthernet1/0/1	GigabitEthernet1/0/1	NULL
Gi1/0/2	GigabitEthernet1/0/2	GigabitEthernet1/0/2	NULL
Gi1/0/3	GigabitEthernet1/0/3	GigabitEthernet1/0/3	NULL
Gi1/0/4	GigabitEthernet1/0/4	GigabitEthernet1/0/4	NULL
Gi1/0/5	GigabitEthernet1/0/5	GigabitEthernet1/0/5	NULL
Gi1/0/6	GigabitEthernet1/0/6	GigabitEthernet1/0/6	NULL
Gi1/0/7	GigabitEthernet1/0/7	GigabitEthernet1/0/7	NULL
Gi1/0/8	GigabitEthernet1/0/8	GigabitEthernet1/0/8	NULL
Gi1/0/9	GigabitEthernet1/0/9	GigabitEthernet1/0/9	YES
Gi1/0/10	GigabitEthernet1/0/10	GigabitEthernet1/0/10	YES

Alert Rule :: Docs

Main

Advanced

Override SQL ☒

Query
SELECT * FROM devices,ports WHERE (devices.device_id = ? AND devices.device_id = ports.device_id) AND ports.flap_tag = "yes"

Save Rule

Timestamp	Rule	Hostname
2025-07-14 17:30:31	Interface Flap Detected	172.28.245.237
#1: GigabitEthernet1/0/38; network - GigabitEthernet1/0/38;		

Rules

Alert Rule :: Docs

MainAdvanced

Rule nameDuplicate IP

Import from

ANDOR

↑↓

syslog.msg

contains

Duplicate address

Delete

+ Add rule+ Add group

Timestamp	Rule	Hostname	Location	ACK	Notes	Details
2025-06-30 14:37:27	Duplicate IP	— 140.112.231.254 #1: last_polled => '2025-07-17 10:05:45' last_polled_timetaken => '42.618217945099' last_discovered_timetaken => '18.753' last_ping => '2025-07-17 10:05:03' last_ping_timetaken => '0.726' msg => '140.112.229.254: 318281: Jun 30 11:31:59.096 ROC: %IP-4-DUPADDR: Duplicate address 140.112.229.254 on Vlan1, sourced by 2887.baf2.c571' #2: last_polled => '2025-07-17 10:05:45'	N/A			

告警功能

Template

制定發送告警的模板，告警訊息內容呈現等等

S



- Alerts
- Notifications
- Alert History
- Statistics
- Alert Rules
- Scheduled Maintenance
- Alert Templates**
- Alert Transports

Create new alert template

Q

Search

#	Name	Alert Rules	Action
1	BGP Sessions.		 
0	Default Alert Template	Ping Latency Sensor over limit - Check Device Health Settings Sensor under limit - Check Device Health Settings Service up/down State Sensor Critical Wireless Sensor over limit Wireless Sensor under limit	 
5	Device Down	Device Down (SNMP unreachable) Device rebooted	 
2	Ports	Port status up/down	 
6	Ports Utilization Template	Port utilisation over threshold	 
3	Sensors		 
7	test	Device Down! Due to no ICMP response.	 
8	test2		 

告警功能

Template

制定發送告警的模板，告警訊息內容呈現等等

Alert Template :: Docs

Template name

test

Template

```
@if ($alert-> state == 0) ⓘ 恢復 ⓘ @endif
@if ($alert-> state == 1) ⚠ 告警 ⚠ @endif

<br>標題: {{ $alert->title }}/<br>
規則: {{ $alert->name }}/<br>
設備名稱: {{ $alert->sysName }}/<br>
IP: {{ $alert->hostname }}/<br>
OS: {{ $alert->os }}/<br>
嚴重性: {{ $alert->severity }}/<br>
警示時間: {{ $alert->timestamp }}/<br>
@if ($alert->state == 0)
經過時間: {{ $alert->elapsed }}/<br>
@endif
運行時間: {{ $alert->uptime_short }}/<br>
設備所在位置: {{ $alert->location }}/<br>
```

Attach template to rules

× Device Down! Due to no ICMP response. ×

Alert title

告警

Recovery title

恢復

Update template

告警功能

Template

制定發送告警的模板，告警訊息內容呈現等等

恢復



LibreNMS-Alert <judyshih@g.ntu.edu.tw>

收件者 史詩好

按一下這裡下載圖片。為了協助保護您的隱私，Outlook 不會自動下載郵件中的某些圖片。

恢復

標題：恢復/

規則：Device Down! Due to no ICMP response./

設備名稱：g5-s1/

IP: 172.28.225.230/

OS: ios/

嚴重性: critical/

警示時間: 2024-06-10 17:55:27/

經過時間: 15m 16s/

運行時間: 1w 1d 8h/

設備所在位置: [25.01575,121.53526]/



http://192.168.99.40/graphs/device=33/type=device_processor/



LibreNMS-Alert

收件者「您」

昨天

恢復

標題：恢復/

規則: Device Down! Due to no ICMP response./

設備名稱: g5-s1/

IP: 172.28.225.230/

OS: ios/

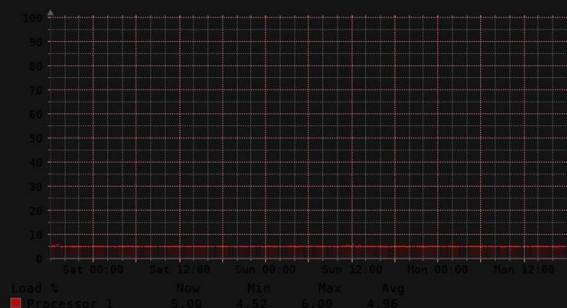
嚴重性: critical/

警示時間: 2024-06-10 17:55:27/

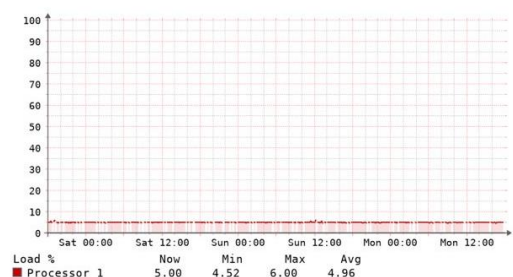
經過時間: 15m 16s/

運行時間: 1w 1d 8h/

設備所在位置: [25.01575,121.53526]/



http://192.168.99.40/graphs/device=33/type=device_processor/



告警可用的方式/平台

- API
- Boxcar
- Canopsis
- Cisco Spark
- Clickatell
- Discord
- Elasticsearch
- Gitlab
- HipChat
- IRC
- JIRA
- Mail
- Microsoft Teams
- Nagios Compatible
- OpsGenie
- osTicket
- PagerDuty
- Philips Hue
- PlaySMS
- Pushbullet
- Pushover
- Rocket.chat
- Slack
- SMSEagle
- Syslog
- Telegram
- Twilio SMS
- VictorOps
- Kayako Classic
- SMSFeedback

告警功能-Gmail

Transports

告警發送之平台設定

需啟用兩步驟驗證



Google 帳戶

在 Google 帳戶中搜尋

- 首頁
- 個人資訊
- 資料和隱私權
- 安全性**
- 使用者和分享內容
- 付款和訂閱
- 關於

登入 Google 的方式

請定期更新這些資訊，確保您隨時都能順利登入自己的 Google 帳戶

 兩步驟驗證	 啟用時間：5月20日	
 密碼金鑰和安全金鑰	開始使用密碼金鑰	
 密碼	上次變更時間：2022年4月7日	
 Google 提示	4 部裝置	

告警功能-Gmail

Transports

告警發送之平台設定

← 兩步驟驗證 並新增更多登入選項，確保您可以順利登入 Google 帳戶

	密碼金鑰和安全金鑰	 新增安全金鑰	>
	Google 提示	 4 部裝置	>
	驗證器	 新增驗證器應用程式	>
	電話號碼		>
	123 備用碼	 取得備用碼	>

應用程式密碼

我們不建議您使用應用程式密碼。在大多數情況下，應用程式密碼並非必要的登入方式。為保護您的帳戶安全，請透過「使用 Google 帳戶登入」功能將應用程式連結到 Google 帳戶。

應用程式密碼

1 個應用程式密碼

>

← App passwords

App passwords let you sign in to your Google Account from apps on devices that don't support 2-step verification. You'll only need to enter it once so you don't need to remember it. [Learn more](#)

You don't have any app passwords.

Select the app and device you want to generate the app password for.

Select app

Select device

Mail

Calendar

Contacts

YouTube

Other (Custom name)

告警功能-Gmail

Transports

告警發送之平台設定



Generated app password

Your app password for your device

ux ek

How to use it

Go to the settings for your Google Account in the application or device you are trying to set up. Replace your password with the 16-character password shown above. Just like your normal password, this app password grants complete access to your Google Account. You won't need to remember it, so don't write it down or share it with anyone.

DONE

Email

securesally@gmail.com

Password

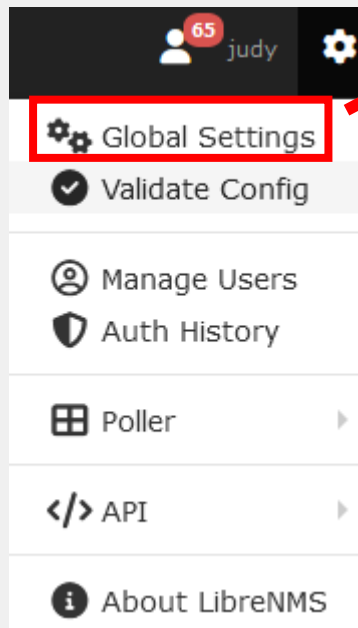
••••••••••••••••

特別注意!!!
密碼只會出現一次

告警功能-Gmail

Transports

告警發送之平台設定



Global **Alerting** API Authorization Authentication Discovery External Poller System Web UI

▼ Email Options

Enable email alerting	☒		?
From name	LibreNMS-Alert	↺	?
From email address	ju h@g.ntu.edu.tw	↺	?
Use HTML emails	☒	↺	?
Attach graph images	☒		?
How to deliver mail	SMTP	↺	?
SMTP Server	smtp.gmail.com	↺	?
SMTP port setting	587	↺	
SMTP timeout setting	10		
Encryption	TLS	↺	
Auto TLS support	☒		?
SMTP authentication	☒	↺	?
SMTP Auth username	ju h@g.ntu.edu.tw	↺	
SMTP Auth password		↺	

此處填入的是
「應用程式密
碼」而非個人密
碼!!

告警功能-Gmail

Transports

告警發送之平台設定

 Alerts

 Notifications

 Alert History

 Statistics

 Alert Rules

 Scheduled Maintenance

 Alert Templates

 Alert Transports

Create alert transport

Transport Name	Transport Type	Default	Details	Action
email to	Mail	Yes	Contact Type: Specified Email Email: jlh@ntu.edu.tw Role: None BCC: Include Graphs: on	  
Line Alert	LINE Notify	No	Token:	  

Create transport group

Transport Group	Members	Action
-----------------	---------	--------

測試

Alert Transport :: Docs

Transport name:

email to jlh

Transport type:

Mail

Default Alert:

ON

Contact Type:

Specified Email

Email:

jlh@ntu.edu.tw

Role:

None

BCC:

OFF

Include Graphs:

ON

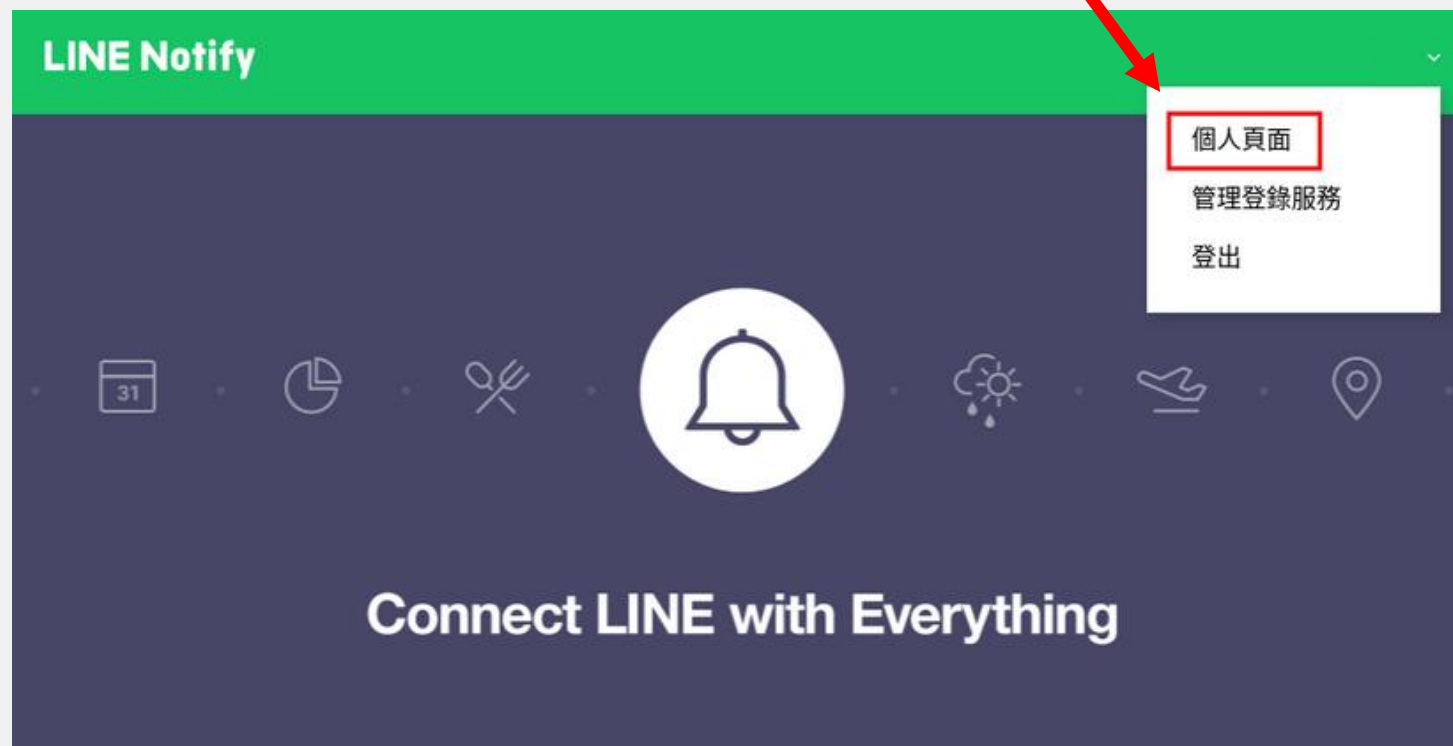
Save Transport

告警功能-Line

Transports

告警發送之平台設定

前往LINE Notify網站，登入Line帳號。
https://notify-bot.line.me/zh_TW/



告警功能-Line

Transports

告警發送之平台設定

已連動的服務

此為已連動的服務一覽。若想解除連動，請按「解除」鍵。



2024.05.23 12:25
從 LibreNMS
傳送至 史

解除

發行存取權杖(開發人員用)

若使用個人存取權杖，不須登錄網站服務，即可設定通知。

發行權杖

[LINE Notify API Document](#)

發行權杖

請填寫權杖名稱(將於傳送提醒時顯示)

最多只能輸入20個字。

請選擇您要接收通知的聊天室。

Search by group name

透過1對1聊天接收LINE Notify的通知

發行

已發行的權杖如下。

lsd48a

若離開此頁面，將不會再顯示新發行的權杖。離開頁面前，請先複製權杖。

複製

關閉

告警功能-Line

Transports

告警發送之平台設定

 Alerts

 Notifications

 Alert History

 Statistics

 Alert Rules

 Scheduled Maintenance

 Alert Templates

 Alert Transports

Alert Transport :: Docs

Transport name:

Line Alert

Transport type:

LINE Notify

Default Alert:

Jira Service Management

Kayako

LINE Messaging API

Token:

LINE Notify

Mail

Matrix

Save Transport

Create alert transport

Transport Name	Transport Type	Default	Details	Action
email to judyshih	Mail	Yes	Contact Type: Specified Email Email: judyshih@ntu.edu.tw Role: None BCC: Include Graphs: on	  
Line Alert	LINE Notify	No	Token:	  

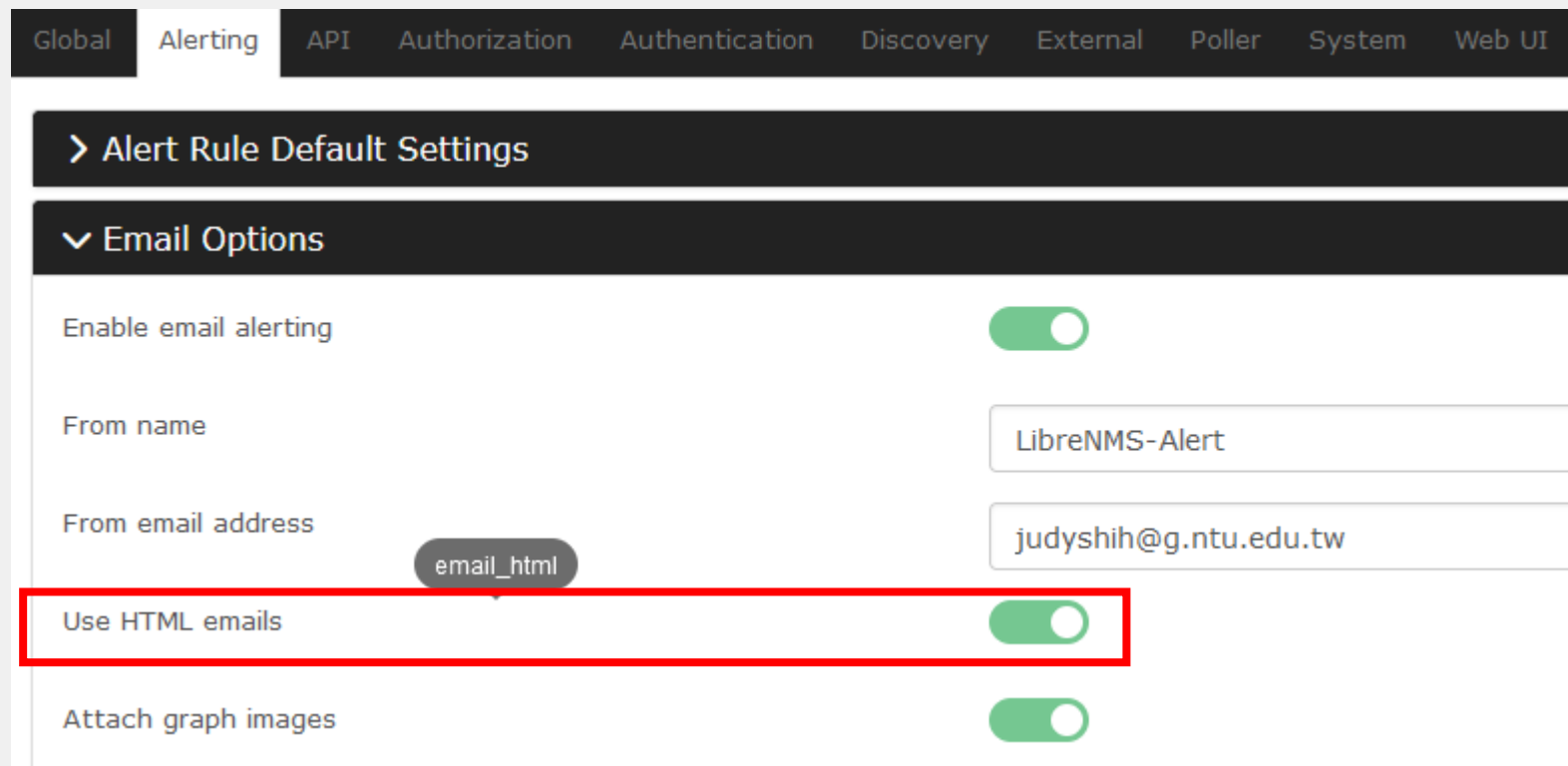
Create transport group

Transport Group	Members	Action
-----------------	---------	--------

告警功能-Line

Transports

告警發送之平台設定

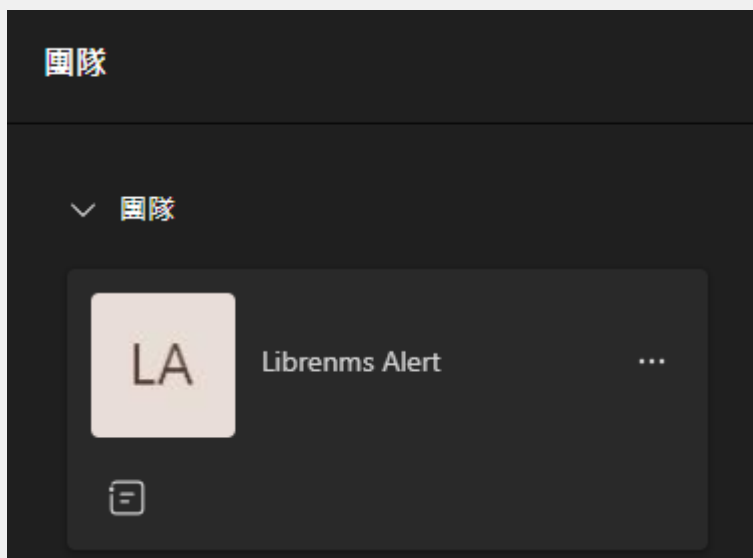


告警功能-Teams

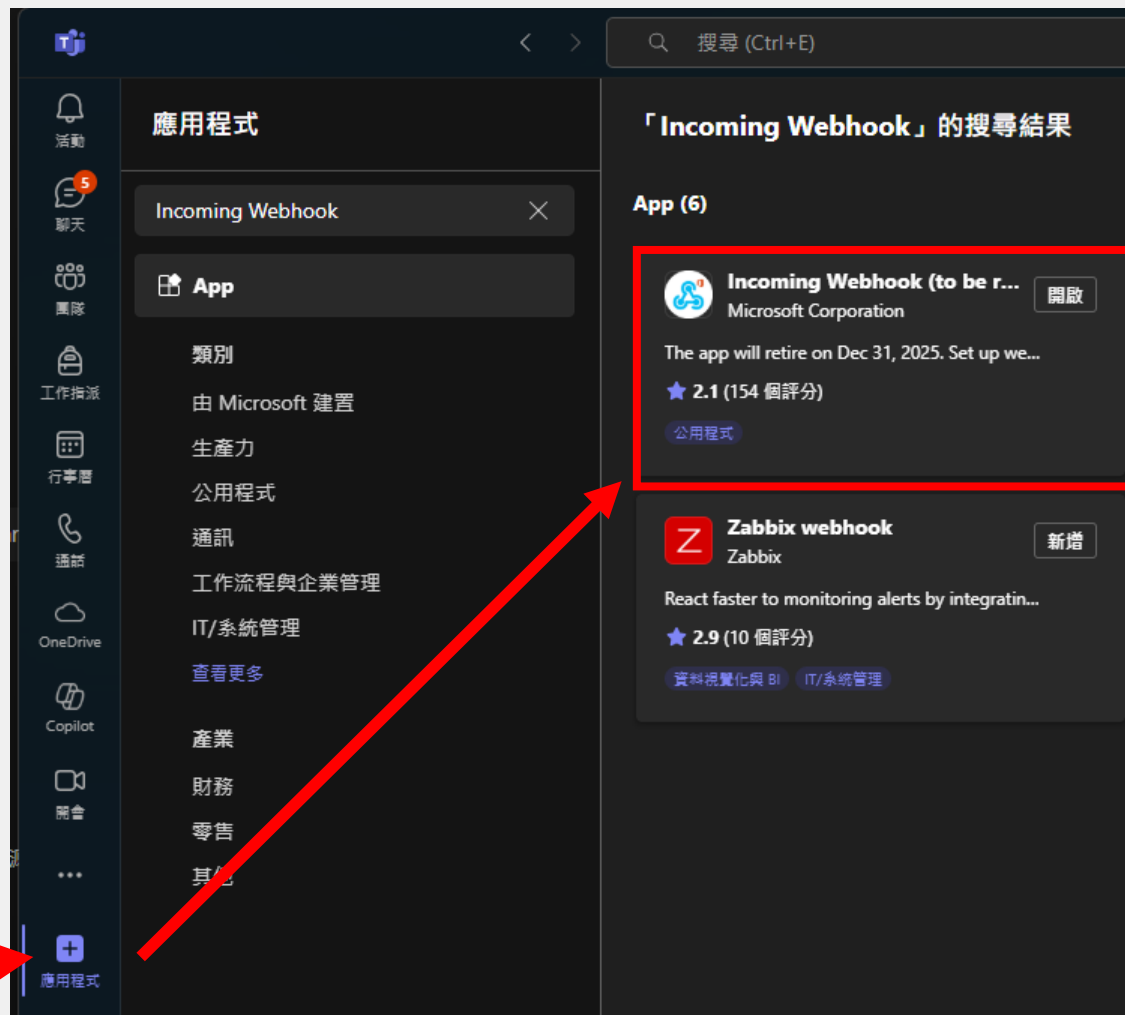
Transports

告警發送之平台設定

在Teams上建立一個團隊



於Teams的應用程式中搜尋 Incoming Webhook，將他新增到剛剛建立的Librenms告警團隊中



告警功能-Teams

Transports

告警發送之平台設定

設置好Incoming Webhook後，會獲得Webhook URL，將其貼到Librenms的Alert Transports中即可

「Librenms Alert」團隊中「General」頻道的連接器

< Home [Send feedback](#)

Incoming Webhook

The Incoming Webhook connector enables external services to notify you about activities that you want to track. To use this connector, you'll need to create certain settings on the other service, which needs to support a webhook that's compatible with the 'Office 365 connector format'.

Fields marked with * are mandatory

To set up an Incoming Webhook, provide a name and select Create. *

Customize the image to associate with the data from this Incoming Webhook.

[Upload Image](#)



Default Image

[Create](#) [Cancel](#)

Alert Transport :: Docs

Transport name:

Transport type: Microsoft Teams ▼

Default Alert: ☐ OFF

Webhook URL: Nd01

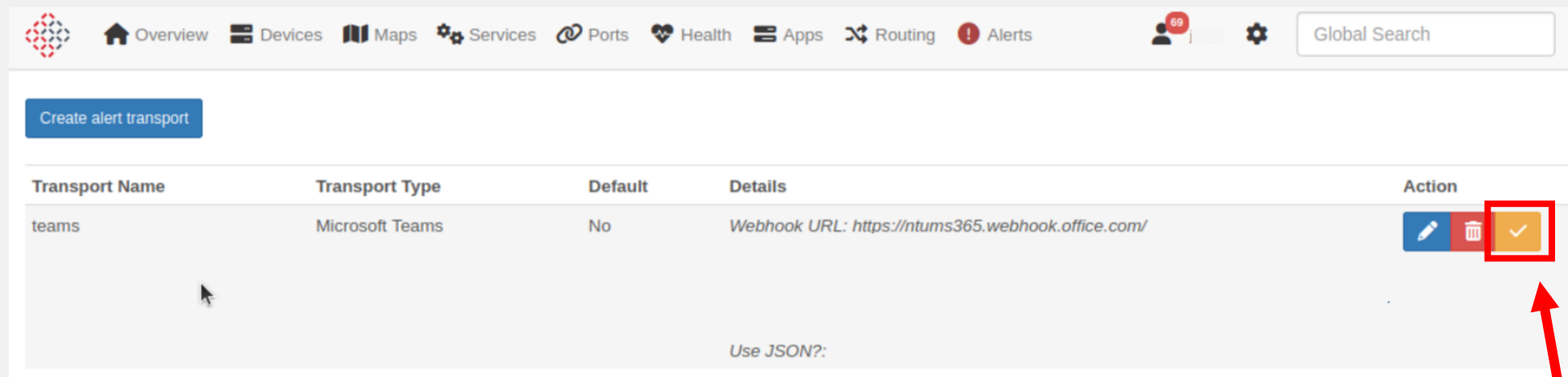
Use JSON?: ☐ OFF

[Save Transport](#)

告警功能-Teams

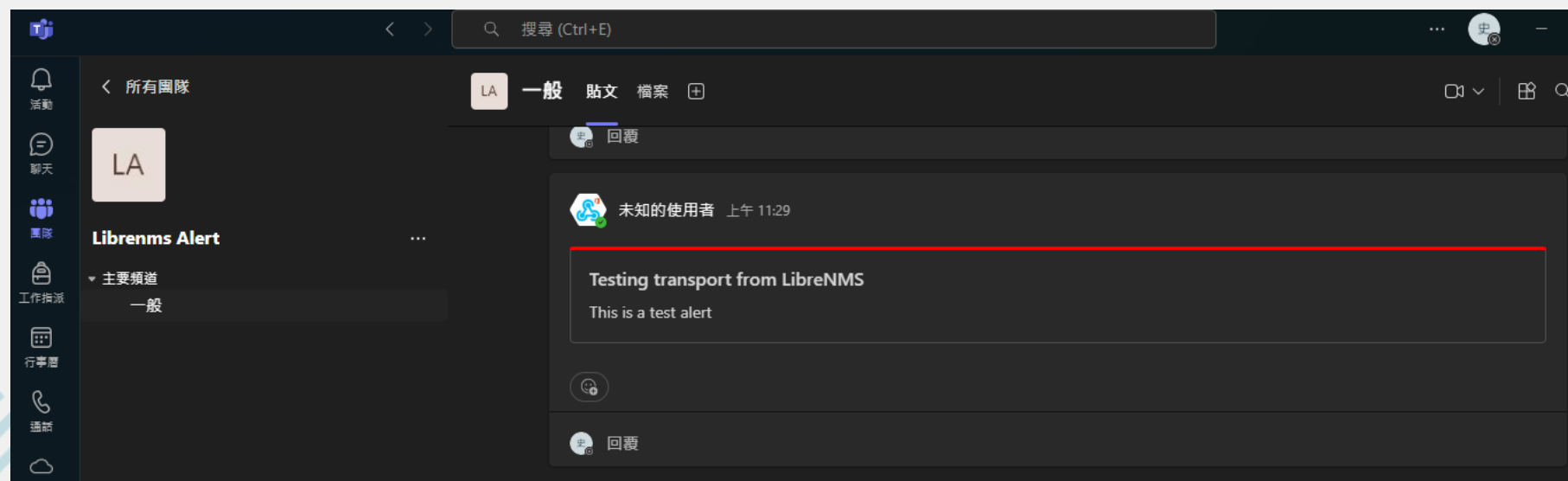
Transports

告警發送之平台設定



Transport Name	Transport Type	Default	Details	Action
teams	Microsoft Teams	No	Webhook URL: https://ntums365.webhook.office.com/	  

Use JSON?:





The End
Thank you