

Atop Technologies, Inc.

Network Management Utility

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Who Should Use This User Manual

This manual is to be used by qualified network personnel or support technicians who are familiar with network operations, and might be useful for system programmers or network planners as well. This manual also provides helpful and handy information for first time users. For any related problems, please contact your local distributor. If they are unable to assist you, please redirect your inquiries to <u>www.atoponline.com</u>.

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1 Introduction

1.1 *Purpose of the Manual*

This manual explains the available technical features of the Network Management Utility. During the device configuration, users can follow instructions, examples, and guidelines provided in the manual for a general and advanced network management. Some general technical information is also given to help users manage their devices. A background in general theory is necessary when reading it. Please refer to the Glossary for technical terms and abbreviations.

1.2 Who Should Use This User Manual

This manual should be used by qualified network personnel or support technicians who are familiar with network operations. It can be useful for system programmers and network planners. This manual will also come handy for new users. If there are any issues, please reach us at <u>www.atoponline.com</u>.

1.3 *Scope*

Network Management Utility is a software utility developed by ATOP Technologies. It is a special tool for device management and configuration of our products. It can be used for daily management and setting tasks on various Atop's network devices such as:

- Device discovery and listing
- Device grouping
- Login with password
- Network parameter configuration
- Firmware update
- Reset to Default
- Backup and restore configuration

1.4 System Requirements

- Windows 7/8
- Windows 2008
- Windows Vista
- Windows Professional 2003
- Windows 2000/Windows NT
- Windows 10 is supported and fully functional; however, some issues related to font-size have been reported.

Note: All figures herein are intended for the illustration purpose only. Certain features of this software work only on some specific ATOP devices.

2 Getting Started

1.1 Installation of Network Management Utility

The Network Management Utility can be either installed from the CD that comes in your product package or can be downloaded from <u>www.atoponline.com</u>. Once the installer is available on your PC, proceed to install it by double clicking on the Network Management Utility program icon which has the icon as shown in Figure 2.1.



Network Management Utility Setup 2.0.7.exe

Figure 2.1 Network Management Utility© Program Icon

For Windows 7 users, it is strongly recommended to allow the program to run in the Compatibility Mode. This can be done by right clicking the **Network Management Utility Setup 2.X** program icon and selecting the **Properties** menu as shown in Figure 2.2. Then, click on the **Compatibility** tab and tick on the **"Run this program in compatibility mode for:"** box and tick on the **"Run this program as an administrator"** box, as shown in Figure 2.3. Finally, click **OK** button and proceed to install the program.

		Open	
Networ Managem	•	Run as administrator	
Utility Set		Troubleshoot compatibility	
2.0.7.ex		Run with graphics processor	>
		Pin to Start	
		7-Zip	>
		CRC SHA	>
	÷	Scan with Windows Defender	
	È	Share	
		Give access to	>
		Pin to taskbar	
		Restore previous versions	
		Send to	>
		Cut	
		Сору	
		Create shortcut	
		Delete	
		Rename	
		Properties	

	Network Management Utility Setup 2.0.6 Properties	×
	General Compatibility Security Details Previous Versions	
	If this program isn't working correctly on this version of Windows, try running the compatibility troubleshooter.	
	Run compatibility troubleshooter	
1-0	How do I choose compatibility settings manually?	
100	Compatibility mode	
Network	Run this program in compatibility mode for:	
Manageme	Windows 8 \sim	
	Settings	
	Reduced colour mode	
	8-bit (256) colour 🗸 🗸	
	Run in 640 x 480 screen resolution	
	Disable full-screen optimisations	
	Run this program as an administrator	
	Change high DPI settings	
	Change settings for all users	
	OK Cancel Apply	

Figure 2.2 Right Click the Network Management Utility© Program Icon

Figure 2.3 Right Click Properties → Compatibility Tab → Tick Two Boxes

1.2 Installation

Click the **OK** button in setup program's properties as shown above. Then, after double click on the setup icon, a pop-up window will be launched, as shown in Figure 2.4. After finishing it, the **Network Management Utility Setup** program is installed into your computer system.

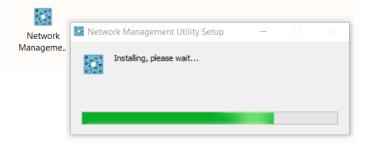


Figure 2.4 An Installing Pop-up Window

3 User Interface

Double click already installed **Network Management Utility Setup 2.X** to launch the program. While loading the program, its logo and version appear as shown in Figure 3.1 below.



Figure 3.1 Lunching when Double Click the Network Management Utility Setup

The user interface (UI) of **Network Management Utility Setup 2.X** is depicted in Figure 3.2. The window consists of the followings: 1) pull-down menus at the top, 2) a vertical left menu, and 3) a working space in the middle of the window. When users click at a vertical left menu, an icon bar (at the second top horizontal layout) will appear for the **Device List** and **Topology** menus. The following chapters will describe each item and its function in details. Here, how to first discover the connected devices will be explained.

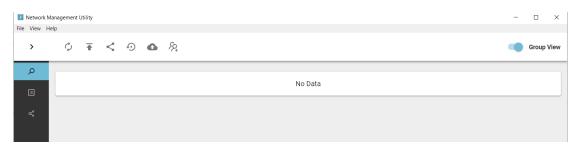


Figure 3.2 First-time Launch of Network Management Utility Setup 2.X

Clicking on the discovery icon at the top icon bar. It will show number of connected devices to the **Network Management Utility Setup 2.X**, as shown in Figure 3.3. If these devices are still not grouped together, number of devices will be showed as unGrouped.



Figure 3.3 Working Space after Clicking on Discovery Icon

Click on the drop-down icon on the right, and the list of the found device(s) is displayed as table with the following columns: **Online**, **Device Type**, **Model**, **IP Address**, **MAC Address**, **Host Name**, **Kernel**, **AP**, and **Access** as shown in Figure 3.4. When users click at the head of the column, the devices are sorted according to values of devices in that column.

	< (⊅ ∓ <	• •	F2			Gro
evice List							
vent Log	unGrou	uped (1 device	es)				
opology							Q Search X
	Online	Device Type	Model	IP Address	MAC Address	Hostname	You have to join it in any group first for access.
	Online	Device Type Basic	Model	IP Address	MAC Address 00:60:E9:21:85:3E	Hostname System	

Figure 3.4 List of Connected Devices after Clicking Discover Icon

The first column called **Online** shows the status of each device: active (green dot) or inactive (red dot). The second column called **Device Type**, shows whether it is a basic or an advanced device. The third column is the **Model** number of the found device(s). The fourth column is the **IP** Address of the corresponding device. The fifth column is the **MAC** Address of the device. The sixth column is the **Host Name** of the device. The seventh column is the **Kernel** version of the device. The eighth column is the **AP** information or application version of the device. Note that Atop's firmware of a device generally consists of application version and kernel version. The last column, **Access**, indicates whether the device is already accessible (\checkmark) or not (\times). Users have to join the device in any group first for its accessibility. That is users have to create a group and add the device to that group first to view it as accessible.

4 Top Drop-down Menus

There are three menus on the drop-down menu: File, View, and Help. In the following sections, each sub-menus within each menu are described in details.

4.1 *File*

The first menu on the pull-down menus is the File, as shown in Figure 4.1. In this menu, there are four submenus:

- Preference...
- Import Settings...
- Export Settings...
- Quit

twork Management U	tility									-	
/iew Help											
eference Ctrl port Settings Ctr	1+1 4	¢ ∓	<	•) (<i>P</i> ₄						Group
port Settings Ctrl											
Event Log	Group	A (1 de	vices)								^
Topology									Q	Search	×
	Online	Device	е Туре	Model	IP Address	MAC Address	Hostname	Kernel	Ap	Access	
	٠	Basic		105202	10.0.50.100	00:60:E9:21:85:3E	System	1.18	IO5202 V1.18	~	

Figure 4.1 Submenus within File Menu

4.1.1 Preference

As shown in Figure 4.2 below, four sub-menus are contained within the **Preference** sub-menu under **File** menu: **General**, **Mail, SNMP**, and **Advanced**.

🔝 Network Management	Utility	- 0	×
File View Help		_	
🔅 Prefe	erences		×
General	Network Interface Card		
Mail			
SNMP	default - 0.0.0.0 🗸		
Advanced			



4.1.2 General Sub-left menu

In this **File** \rightarrow **Preference** Sub-menu \rightarrow **General** Sub-left menu, the **Network Interface Card** are displayed. Here, all interfaces are listed including virtual interface, As shown in Figure 4.3 below.

🔯 Network Management Utility	_	×
File View Help		
Preferences		×
General Network Interface Card		
Mail		
default - 0.0.0		
SNMP default - 0.0.0.0		
Advanced Microsoft Wi-Fi Direct Virtual Adapter ~ 0.0.0		
Microsoft Wi-Fi Direct Virtual Adapter #2 - 0.0.0.0		
Intel(R) Ethernet Connection (3) I218-LM - 10.0.50.101		
Intel(R) Dual Band Wireless-N 7265 - 192.168.1.39		

Figure 4.3 File \rightarrow Preference Sub-menu \rightarrow General Sub-left Menu

4.1.3 Mail Sub-left Menu

In this File \rightarrow Preference Sub-menu \rightarrow Mail Section, users can enable automatic sent-mail notification, as shown in Figure

4.4 below. Click **Enable Notification** to toggle **Enable Notification** to enable the service, such as Gmail, Hotmail, Yahoo. Select option **Mail Service List** if using mail service from available standard provider; otherwise, select **User Definition** and enter your choice of host mail and port.

Network Management Utilit File View Help	ity	×
🔅 Prefer	ences	×
General Mail SNMP Advanced	Mail Service Enable Notification Mail Service List Gmail User Definition Host Port	
	Mail Settings Mail Username Password To: + New Mail Cc: + New Mail Bcc: + New Mail	

Figure 4.4 File \rightarrow Preference Sub-menu \rightarrow Mail Sub-left Menu

Users have many choices of mail services, as shown in Figure 4.5 below.

Gmail	~	Gmail	~	Gmail	~	Gmail	~	Gmail ^	ור	Gmail	\wedge
126	<u>^</u>	Gmail	•	Mail.ru	•	Outlook365	•	SES	•	SES-US-EAST-1	-
163		Godaddy		Maildev		Postmark		SES-US-EAST-1		SES-US-WEST-2	
1und1		GodaddyAsia	1	Mailgun		QQ		SES-US-WEST-2		SES-EU-WEST-1	
AOL		GodaddyEurope		Mailjet		QQex		SES-EU-WEST-1		Sparkpost	
DebugMail		hot.ee		Mailosaur	- 11	SendCloud		Sparkpost		Yahoo	
DynectEmail		Hotmail		Mandrill		SendGrid		Yahoo		Yandex	
FastMail		iCloud		Naver		SendinBlue		Yandex		Zoho	1
GandiMail	-	mail.ee		OpenMailBox	-	SendPulse	-	Zoho	•	qiye.aliyun	

Figure 4.5 List of Mail Services Available within File \rightarrow Preference Sub-menu \rightarrow Mail Sub-left Menu

Click + New Mail to enter valid email address of each email header: To:, CC:, and BCC:.

4.1.4 SNMP Sub-left Menu

In this **File** \rightarrow **Preference** Sub-menu \rightarrow **SNMP** Sub-left Menu, users can enable SMNP service and configure setting such as SNMP Scan, Default Community, and Others, as shown in below.

Network Management Utility File View Help		-	٥	×
Preference	95			×
General	SNMP Scan			
Mail	D Enable			
SNMP				
Advanced	> IP Range List			
	SNMP Polling Interval 30 min			
	ICMP Timeout 2000 ms			
	SNMP Timeout 3000 ms			
	Default Community			
	SNMP Version v2c V			
	Read Community public			
	Write Community private			
	Others			
	Precheck device SNMP feature before specific operate.			

Figure 4.6 List of SNMP Scan Sub-section Available within File \rightarrow Preference Sub-menu \rightarrow SNMP

In File \rightarrow Preference Sub-menu \rightarrow SNMP Sub-left Menu, toggle \square Enable to enable SNMP scan and click \square ADD to add range of IP addresses in IP Range List, as shown in below.

Network Management Utility	User Manual	錯誤! 使用 [常用] 索引標 籤將 Heading 1,Product Manual 套用到您想要在此處 顯示的文字。
Add New IP Range		SNMP Scan Enable
Start IP Address End IP Add 10.0.50.101 - 10.0.50.		✓ IP Range List
Start address must be less then end address a	and in the same network segm	ent. I 10.0.50.101 - 10.0.50.200
	CANCEL	OK 🗉 ADD

Figure 4.7 SNMP Scan Sub-section within File \rightarrow Preference Sub-menu \rightarrow SNMP Sub-left Menu

Please refer to Section 4.1.4 if an SNMP function is not enabled. That is if the software continues notifying that "(This feature only for device with SNMP support.)" and the "**OK**" link cannot be clicked even user already enabled an SNMP function via the **Network Management Utility Setup 2.X.** User should enable an SNMP function via web interface of the device instead. User can follow the instruction in Section 0 to initialize a web configuration page. Note that when the SNMP is enabled, the device type changes from Basic to Basic/SNMP.

Online I	Device Type	Model	IP Address	MAC Address		Kernel	Ар	Access
E	Basic/SNMP	Managed Switch, EHG7508-8PoE	10.0.50.1	00:60:E9:19:53:8B	EHG7508	3.11	3.11	~

Figure 4.8 Device Type is shown as Basic/SNMP

The description of each field in the File-Preference-SNMP Sub-left Menu-SNMP Scan section is shown in Table 4.1.

Table 4.1 Description of each field in the File-Preference-SNMP Sub-left Menu-SNMP Scan Section

Field Name	Description	Default Value
IP Range List	A start and end IP addresses of devices to scan SNMP message	N/A
SNMP Polling	The period of time between the end of the timeout period of the last polling, where polling	
Interval	consists of launching remote queries synchronously, either actively or on demand.	30 mins
ICMP Timeout	The maximum number of milliseconds before a ICMP response is received	2000 ms
SNMP Timeout	The maximum number of milliseconds before a SNMP response is received	3000 ms

In File \rightarrow Preference Sub-menu \rightarrow SNMP Sub-left Menu, users can set **Default Community**, as shown in Figure 4.9 below.

SNMP Version	v2c ∨
Read Community	
public	

Figure 4.9 Default Community Sub-section within File \rightarrow Preference Sub-menu \rightarrow SNMP Sub-left Menu

The description of each field in the File-Preference-SNMP Sub-left Menu-Default Community section is shown in 4.2 below.

Network Management Utility

Table 4.2 Description of each field in the File-Preference-SNMP Sub-left Menu-Default Community Section

Field Name	Description	Default Value
SNMP Version	Version of SNMP available on SNMPv1 and SNMPv2c (with data encryption)	v2c
Read Community	Community string (in clear text) allows access to a device and read its statistics	public
Write Community	Community string (in clear text) allows access to a device and write its statistics (or	private
	edit its configurations)	

To make the device's information available for public viewing/editing, you can enable the **SNMP** function by toggling the **Enable** option and fill in the two passphrases (or SNMP Community Strings) below it. By filling in the passphrase for the "**Read Community**", the connected device allows other network management software to read its information. By filling in the passphrase for the "**Write Community**", the connected device allows other network management software to read/modify its information. The default device's SNMP Community Strings (or passphrases) for **Read Community** and **Write Community** are "**public**" and "**private**", respectively.

In File \rightarrow Preference Sub-menu \rightarrow SNMP Sub-left Menu \rightarrow Others section, users can precheck device SNMP feature before some specific operations in the Others section, as shown in Figure 4.10 below.

Others

Precheck device SNMP feature before specific operate.

Figure 4.10 Others Sub-section within File \rightarrow Preference Sub-menu \rightarrow SNMP Sub-left Menu

When performing some specific setting such as network setting, the program will precheck device SNMP feature first as shown in Figure 4.11 below.

📓 Network Management U	Jtility						- 0
ile View Help						 	
	< (þ 🖬 <	•	F2.			Group \
Я Device List							
🗉 Event Log	Group	A (1 devices)					^
≪ Topology							O court M
· ·······							Q Search 🗙
- 1		Basic	cl		С. I	1.18	· ·
			_ Cheo	king SNMP	teature		

Figure 4.11 Precheck Device SNMP Feature First before Specific Operations

```
4.2 View
```

The second menu on the pull-down menus is the **View**, as shown in Figure 4.12. In this menu, there is one submenu: • Toggle to full screen

🔯 Network Management Utility	- 🗆 ×
File View Help	
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P Device List	
Event Log Group A (1 devices)	~
 < Topology unGrouped (0 devices) 	

Figure 4.12 Toggle Full Screen Submenus within View Menu

When selecting **Toggle to Full Screen** or press F11 button, the window will expand to full. When re-selecting it or press F11 button again, the window will be minimized to the original size.

4.3	Help			

The third menu on the pull-down menus is the **Help**, as shown in Figure 4.13. In this menu, there is one submenu:

• About Network Management Utility

etwork Management View Help	Utility								-	
About Net	work Management L		•	۶۹.						Group V
Device List										
Event Log	Group	A (1 devices)								^
Topology								Q	Search	×
	Online			IP Address	MAC Address					
	•	Basic	105202	10.0.50.100	00:60:E9:21:85:3E	System	1.18	IO5202 V1.18	~	
						1-1 of 1 items	< 1 >	10 / page 🗸	Goto	
		1								
	unGrou	uped (0 devices	s)							~

Figure 4.13 About Network Management Utility Submenus within Help Menu

When selecting About Network Management, logo and version of the software appear, as shown in Figure 4.14 below.

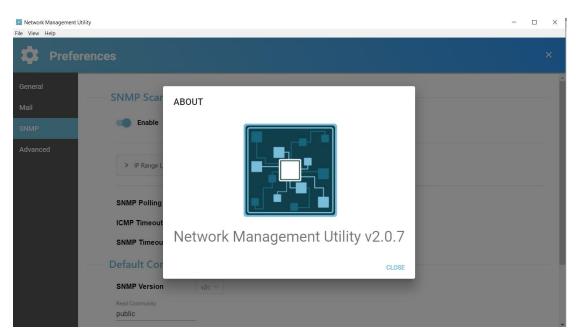


Figure 4.14 About Network Management Utility Window

5 Side Vertical Menus

Side Vertical Menus consists of the followings, as shown in Figure 5.1:

- Device List
- Event Log
- Topology

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								-
								Q Search
Online	Device Type	Model	IP Address	MAC Address	Hostname	Kernel		Q Search
Online	Device Type	Model	IP Address	MAC Address	Hostname	Kernel	Ар	Q Search Access

Figure 5.1 Side Verticle Menus

5.1 *Device List*

In the Side Vertical Menus \rightarrow **Device List**, it consists of

1) a device table in each device group's working space and

2) the top horizontal icon bar. In this section, only the first part will be described. Details of the second part will be explained in Chapter 6.

In the Side Vertical Menus \rightarrow **Device List**, connected devices are listed here according to its group. If any devices were not added to any grouped, these devices will be listed in the unGrouped section as shown in Figure 5.2. As described in Section 3, the list of the found device(s) is displayed as table with the following columns: **Online**, **Device Type**, **Model**, **IP Address**, **MAC Address**, **Host Name**, **Kernel**, **Ap**, and **Access**. When users click at the head of the column, the devices are sorted according to values of devices in that column.

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opology									Q	Search 🗙	:
opology	Online	Device	• Туре	Model	IP Address	MAC Address	Hostname	You have to j for access.	ioin it in any group		:
opology	Online	Device Basic	э Туре	Model	IP Address 10.0.50.100	MAC Address 00:60:E9:21:85:3E	Hostname System				:

Figure 5.2 List of Connected Devices in Side Vertical Menus → Device List

The description of each field in the Side Icon Menu→Device List is shown in Table 5.1 below.

Field Name	Description
Online	Indicate the status of each device: active (green dot) or inactive (red dot).
Device Type	Indicate whether it is a basic or an advanced device
Model	Model number of the found device(s)
IP Address	The IP Address of the corresponding device
MAC Address	MAC Address of the device
Host Name	Host Name of the device
Kernel	Kernel version of the device
AP Information	Application version of the device
Access	Indicate whether the device is already accessible (\checkmark) or not (\times) . Users have to
	create a group and add the device to that group first to view it as accessible.

Table 5.1 Description of each field in the Side Icon Menu \rightarrow Device List

In this File \rightarrow Preference Sub-menu \rightarrow SNMP Sub-left Menu, users can enable SMNP service and configure setting such as SNMP Scan, Default Community, and Others.

5.2	Add New Group		

As mentioned in Chapter 3, when user would like to access the device, user has to add the device into the group first. To create/add a new group, user can click at **Add New Group** icon on top horizontal icon bar. A new small box will appear to let user enter a group name, as shown in Figure 5.3. After entering a group name, click **APPLY** button.

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Group	Group A	APPLY					Q	Search 🗙
Online	Device Type	Model	IP Address	MAC Address	Hostname	Kernel	Ap	Access
٠	Basic/SNMP	Managed Switch, EHG7508-8PoE	10.0.50.101	00:60:E9:19:53:8B		3.11	3.11	~

Figure 5.3 Click Add New Group Icon in the Top Horizontal Icon Bar

If the new group is successfully created, the notification window will be launched showing the success message, as shown in Figure 5.4.

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	Group	B (2 devices)				^
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		Basic/SNMP	Mar		3.11 3.11 🗸	/
		N/A		Success!	~	/
				Add new group successful.	< 1 > 10 / page V Goto	

Figure 5.4 Success Window after Successfully Added a New Group

5.3 Group View (Toggle Icon)

On the most right, there is a toggle menu Group View, called Group View. If user enables it, it will show active devices in a group view. If not, all connected devices will be displayed in the same working area without classifying them into groups. Figure 5.5-(a) shows a list of devices without classifying it in a group, while Figure 5.5-(b) shows a list of devices in a group. Note that devices have to be added into a group first before; otherwise, connected devices will be listed in an **unGrouped** section.

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	Group A	(1 devices)							
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	Group B	(2 devices)							
								Q Se	arch 🗙
	Online	Device Type	Model	IP Address	MAC Address	Hostname	Kernel	Ap Acc	ess
	•	Basic/SNMP	Managed Switch, EHG7508-8PoE	10.0.50.101	00:60:E9:19:53:8B		3.11	3.11 🗸	
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	Basic	SNMP	Managed Switch, EHG7508-8PoE	10.0.50.101	00:60:E9:19:53:8B		3.11	3.11	~
						1-2 of 2 it	ems < 1	5 10 / pa	age 🗸 🛛 Go

Figure 5.5 A List of Devices (a) in grouping (b) without Classifying in a Group

5.4	Edit groups

In the working space of the device list, if users right click on the area outside the table of device list but still inside a group or right click on any group after minimizing a device list, it will show the following menus: Edit Group Name, Remove Group, and Edit Member, as shown in Figure 5.6. Note that this function is not active in section of upGrouped devices.

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Device List									
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	Online	Device Type	Model	IP Address	MAC Address	Hostname	Kernel	Ap	Access
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						1-1 of 1 items	< 1 >	10 / page \lor	Goto
					🔪 🖍 Edit Group N	lame			
		uped (0 device			Remove Gro	up			

Figure 5.6 Right Click on any Space in a Group but outside the Device Table

5.4.1 Edit Group Name

When a user clicks on **Edit Group Name**, a small new window is launched, as shown in Figure 5.7. User can input a new group name and then click **APPLY** button for it to take effect.

Group Name	APPLY

Figure 5.7 Enter a New Name Window

5.4.2 Remove Group

When a user clicks on **Remove Group**, a small new window is popped up. User needs to click an **OK** button to confirm the request, as shown in Figure 5.8.

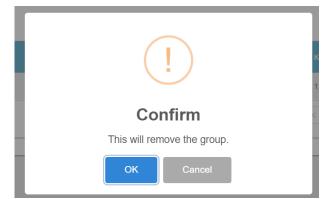


Figure 5.8 Confirmation Dialog for User to Remove a Group

When the selected group is successfully removed, the new window is initialized to notify its success, as show in Figure 5.9 below.

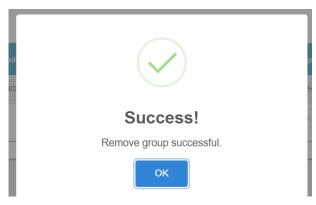


Figure 5.9 Confirmation on Sucessfully Removing a Group

5.4.3 Edit Member

When a user clicks on **Edit Member**, a new **Group** x - **Edit Group Member** window is launched. User needs to select devices that are wanted to be added in the **Group** x (Group A in this example), and click > **Add Member** button to move devices from the left sub-window into the right sub-window, as shown in Figure 5.10. Note here that one device can be added into more than one group.

✓ 1/1 item		Non Member		0 item	Memb
Search		٩		Search	
✓ EHG7508	236.67.1.0	00:60:E9:19:53:8B	> Add Member	Not Found	

Figure 5.10 Add Member to the Selected Group

If user would like to remove any devices from the selected group (**Group A** in this example), user needs to click on devices that are wanted to be removed, and click < **Remove Member** button to move devices from the right sub-window into the left sub-window, as shown in Figure 5.11.

Q_ Group A - E	dit Group Member				×
0 item	Non Member		✓ 1/1 item		Member
Search	٩		Search EHG7508	236.67.1.0	ی 00:60:E9:19:53:8B
Ne	ot Found	> Add Member			
					APPLY

Figure 5.11 Remove Member from the Selected Group

After clicking **APPLY** button, the **Edit Group Member** window is closed and devices in Group A are shown in the device list. A small notification window for **Device Online** appears on the bottom right corner, as shown in Figure 5.12.

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Group	A (1 devices)							
							Q	Search 🗙
Online								
٠	Basic	EHG7508	236.67.1.0	00:60:E9:19:53:8B	EHG7508	3.11	EHG7508-8PoE Application: V3.11	~
						1-1 of 1 items	Device online	1

Figure 5.12 Devices Added/Removed to/from Group A

5.5 Perform actions on devices assigned to groups

With a right click on the list of devices in any group, the drop-down menu appears as shown in Figure 5.13 below: **Open Web**, **Telnet**, **Beep**, **Reboot**, **Network Setting**, **Device Advanced Setting**, **Port Information**, and **Backup and Restore**. Note that if the connected device is not added into a group, this right click feature is not functional.

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Device List									
Event Log	Group	A (1 devices)							
Topology		,						Q	Search 🗙
	Online	Device Type	Model	IP Address	MAC Address	Hostname	Kernel	Ар	Access
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				-	e Advanced Setting nformation				
				🚹 Backu	p And Restore				

Figure 5.13 Drop-down Menu when Right Click on the Device List in any Group

5.5.1 Open Web

Selecting **Open Web** \rightarrow **Open on OS browser** will initiate configuration of the device through web-based, as shown in Figure 5.14. User will be prompt with username and password to login, as shown in Figure 5.15. The default username and password are "admin" and "default".

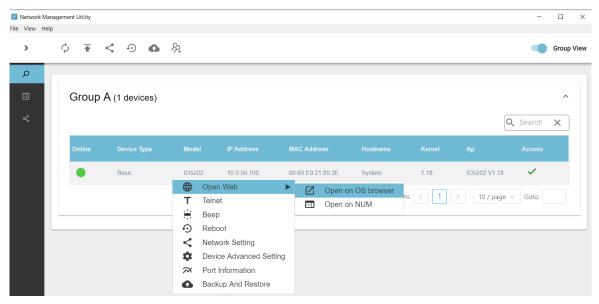


Figure 5.14 Drop-down Menu, Right Click, Device List in any Group, Open Web → Open on OS browser

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\leftarrow \rightarrow X \textcircled{red} $\textcircled{ ext{ = }}$ 10.0.50.100/	
	Windows Security ×
	Microsoft Edge
	The server 10.0.50.100 is asking for your username and password.
	That server also reports: "GoAhead".
	Warning: Your username and password will be sent using basic authentication on a connection that isn't secure.
	admin
	••••••
	OK Cancel
l	

Figure 5.15 Login to Web-based Configuration

Selecting **Open Web** \rightarrow **Open on NUM** will initiate web configuration of the device through NUM, as shown in Figure 5.16. Click \times to close the web configuration and return to working space of the device list.

★ → C ▲ http://10.0.50.1 Sector Antipication Administration Forward Power Over Ethernet Model name Tunking Hoder Statue Power Over Ethernet Model name Tunking Hoder Statue Power Over Ethernet Model name Tunking Hoder Statue Power Over Ethernet Model name Power Over Ethernet Hoder Statue Power Over Ethere Hoder	Basie Basie Basie Basie Port Port Over therenet Turking Unicast MAC GARP/OVRP/Over therenet Spanning Tree VAIN Spanning Tree VAIN Security Brey Rings LIDP PROPINET Proprist	e View Help				
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Port Device Description Maaged Switch, EHG7508-8PoE Power Over Ethernet MAC address 00:60:E9:19:53:8B MAC address 00:60:E9:19:53:8B Application Version 3:11 Unicast/Multicast MAC GARP/IGVRP/GMRP Kernel Version 3:11 Image Build Info. 2016 SNMP Kernel Version 3:11 Image Build Info. 2016 SNMP Board Temperature 45:75 Centigrade ERPS/Ring LLDP PROFINET EtherNet/IP FROuting Client JP Setting	Port Device Description Managed Switch, EHG7508-8PoE Power Over Ethernet Tunking Unicast/Multicast MAC Application Version 3.11 Unicast/Multicast MAC GARP/GVRP/GMRP Kernel Version 3.11 Image Build Info 2016 SNMP Memory 43944K cached Sourity ERPS/Ring LLDP PROFINET EtherNet/IP IPRouting Client IP Setting Client IP Setting					
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		ROFINET itherNet/IP P Routing ilient IP Setting				┍╶┓╹

Figure 5.16 Right Click on the Device List in any Group and Select Open Web → Open on NUM

5.5.2 Telnet

Selecting **Telnet** will initiate Telnet program.

5.5.3 Beep

Selecting **Beep** after right click on the device list will initialize the Beep confirm window, as shown in Figure 5.17 below. Click an ok button and the device will beep two times.

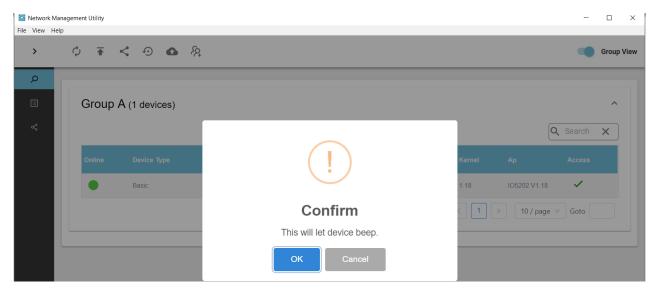


Figure 5.17 Select Beep and the Beep Confirm Window is Launched

5.5.4 Reboot

Selecting **Reboot** after right click on the device list will initialize the Reboot confirm window, as shown in Figure 5.18 below. Click an ok button and the device will be rebooted. After the device finished rebooting, the reboot successfully window appears, as shown in Figure 5.19.

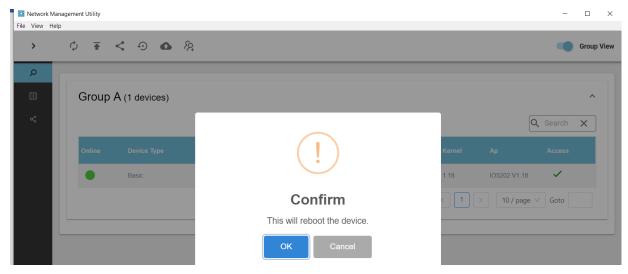


Figure 5.18 Select Reboot and the Restart Confirm Window is Launched

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	Basic		1.18 IO5202 V1.18 🗸
		Success!	< 1 > 10 / page < Goto
		Device reboot success.	
		ок	

Figure 5.19 Notification of the Reboot Success Window

5.5.5 Network Setting

Selecting Network Setting after right click on the device list will first Precheck Device SNMP Feature First before Specific Operations and then initialize the Network Setting window, as shown in Figure 5.20 below. Here is the summary of network setting which is a bit different from full setting that users can configure through Network Setting of the Top Vertical Icon Bar.

🔯 Network Management Utility

ile View Help	unty						
	< ¢	∓ < €) () <i>k</i>			N	etwork Setting
Device List Event Log Topology	Group /	A (1 devices)				81	anaged Switch, EHG7508- PoE(00:60:E9:19:53:8B)] DHCP IP Address 10.0.50.1
	Online					Hoodilallio	Netmask
	•	Basic/SNMP	Managed Switch, EHG7508-8PoE	10.0.50.1	00.60 E9:19:53:8B	1-1 of 1 items	Gateway
							Cancel Apply

Figure 5.20 Network Setting Window After Right Click on the Device List

You can enable **DHCP** (Dynamic Host Configuration Protocol) in the first option so that the device can retrieve its network setting automatically from a DHCP server, which should be available in your LAN. Consult your local network administrator about DHCP server, if necessary. If the **DHCP** option is checked, the other settings within this **Network Setting** window will be disabled, except **Hostname**. If you did not enable the **DHCP** option, the **IP Address**, **Subnet Mask**, **Default Gateway**, and the **Preferred DNS** and **Alternate DNS** addresses will also be active. You can fill in these settings for LAN interface of the device. After completing all IP network information on this web page, please click on **Apply** button to allow the configuration to take effect. Please make sure the device username and password setting and SNMP community is correct. Then, **Network Setting** window will be closed, and the status of settings will be notified to the user in the **Device List** window, as shown in Figure 5.21 below.

Group	A (1 devices))			🕑 Set	network sett	ings succ	ess!
							Q	Search 🗙
Online			IP Address	MAC Address				
	Basic/SNMP	Managed Switch, EHG7508-8PoE	10.0.50.1	00:60:E9:19:53:8B	EHG7508	3.11	3.11	~

Figure 5.21 Notification of the Success Setting in the Device List Window

5.5.6 Device Advanced Setting

Selecting **Device Advanced Setting** after right click on the device list will first **Precheck Device SNMP Feature First before Specific Operations** and then initialize the Advanced Setting window, as shown in Figure 5.22.

File View F	Management Utility							- (×
>		< 🖸 🛆	£9.				Advance Setting		
<mark>ک</mark> ۱۱۱۱ ۲	Group	A (1 devices)					IO5202(00:60:E9:21:85:3E) Authentication Alarm General		
	Online	Device Type Basic	Model	IP Address	MAC Address	Hostname System	Admin Password		
						1-1 of 1 items	SNMP		0
							SNMP Version v2c V Read Community public Write Community private		
								Cancel	Apply

Figure 5.22 Authentication Tab in Advanced Setting Window After Right Click on the Device List

The description of each field in the Side Vertical Menus-Device List-Right Click on Device List-Advanced Setting-Authentication Tab is shown in Table 5.2 below.

Table 5.2 Description of each field in Device List-Advanced Setting-Authentication Tab

Sections within Advance Setting	Field Name	Description	Default Value
General	admin	Username to access the device	admin
	password	Password to access the device	Default
SNMP	SNMP version	Version of SNMP available for the device (v1 and v2c)	v2c
	Read community	The community string for access device statistics (concept similar to a password)	Public
	Write community	The community string for config device (concept similar to a password)	private

Figure 5.23 shows when selecting Alarm tab in the Side Vertical Menus-Device List-Right Click on Device List-Advanced Setting.

< ¢	∓ < ⊙					Advance S	etting	
Group	A (1 devices)					Managed Switch 8PoE(00:60:E9:1	9:53:8B)	
	· · · ·					Authentication	Alarm	
Online	Device Type	Model	IP Address	MAC Address	Hostname	Name	LinkUp	LinkDov
	Basic/SNMP	Managed Switch, EHG7508-8PoE	10.0.50.1	00:60:E9:19:53:8B	EHG7508	Port1		
					1-1 of 1 items	Port2		
						Port3		
						Port4		
						Port5		~
						Port6		
						Port7		
						Port8		
						Power		
						Name	On	Off
						Power1		~

Figure 5.23 Side Vertical Menus-Device List-Right Click on Device List-Advanced Setting-Alarm Tabl

Click check on LinkUp or LinkDown for any ports to receive their notifications. Similarly, click on On and Off option for any power source to get the notification on its change. Figure 5.24 shows examples of the notification which will appear at the right bottom corner one at a time when there is a change on the chosen port and power source.



Figure 5.24 Notification at the Bottom Right Corner for Alarming (Appear One at a Time)

5.5.7 Port Information

Selecting **Port Information** after right click on the device list in any group will first **Precheck Device SNMP Feature First before Specific Operations** and then initialize the **Port Information** window, as shown in Figure 5.25. If the software notifies that SNMP feature fail, user has to enable SNMP first through NMU or web configuration. Please refer to Section 4.1.4 for detailed settings.

Network Man File View Hel								- c	×
>	Φ - ₹ <	\$ • • • • • • • • • • • • • • • • • • •						Gro	oup View
Q					_				
	Group A	(1 devices)	🚫 Check	SNMP feature fail.	_				^
~			Please	check SNMP of this device is en				Q Search X	
					ОК				
								~	
						1-1 of 1 items <	1 > 10/g		
	unGroup	oed (0 devices)							~

Figure 5.25 Notification of Failure on SNMP Feature

Figure 5.26 shows device information, real-time traffic in graph, and port status when selecting Port Information in the Side Vertical Menus-Device List-Right Click on Device List.

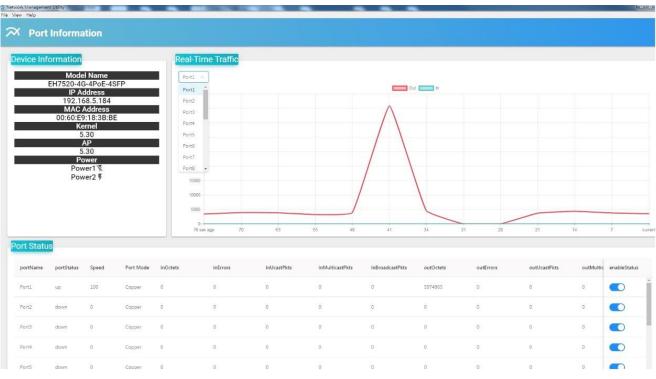


Figure 5.26 Selecting Port Information in Side Vertical Menus-Device List-Right Click on Device List

5.5.8 Backup and Restore

Selecting **Backup and Restore** after right click on the device list will initialize **Backup and Restore** window. User can fill in a filename and select the destination folder to back-up the device configuration by clicking on **SELECT FOLDER** button. Then click on the **BACKUP** button to backup the configuration. Please make sure that your selected NIC has a real external IP address by clicking on File \rightarrow Preferences \rightarrow General \rightarrow Network Interface Card. If the backup process is success, the notification will appear, as shown in .

		🔍 Search 🗙
Backup		Ap Access
Path:		I AP Access
C:\Users\user\AppData\Local\Programs\network-management-utility\backupConfigs\0060E919538B	SELECT FOLDER	3.11 🗸
File Name:		
EHG76xx		> 10 / page ∨ Goto
ВАСКИР		
Restore		
File:		
	SELECT FILE	
RESTORE		

Figure 5.27 Backup Part of Vertical Menu-Device List-Right Click on Device List-Backup and Restore

To restore the configuration, user can select a previously saved configuration filename and then click on the **RESTORE** button to restore the configuration. Again, please make sure that your selected NIC has a real external IP address by clicking on File \rightarrow Preferences \rightarrow General \rightarrow Network Interface Card. Here, new small window will be launched. User need to confirm his/her requirement to restore the configuration by clicking an **OK** button, as shown in

Figure 5.28.

	00:60:E9:19:53:8B - Backup and Restore	×
Back	sup.	
Path:		
	sers\user\AppData\Local\Programs\network-management-utility\backupConfigs\00	FOLDER
File Na	ime:	
Rest		
File:		CT FILE
C:\Us	sers\user\AppData\Local\Programs\network-management-utility\backupConfigs\00601	
RESTO	ORE	
	ackup or Restore fail, please check you select NIC with a real external IP. (File \rightarrow Preferences \rightarrow Network Interface Card)	General

Figure 5.28 Restore Part of Vertical Menu-Device List-Right Click on Device List-Backup and Restore

?	Do you want to restore the	nis device?	
		Cancel	OK

Figure 5.29 Confirmation Window for the Restore Part

If the restoration process is success, the notification will appear, as shown in Figure 5.30. The device automatically restarts afterwards, and user will hear a few beeps sound to indicate its restart. The notifications of the device becoming offline and then online again appear on the bottom right corner.

	✓ Restore	e configuration success.
Backup ath: C\Users\user\AppData\Local\Programs\network-management-utility\backupConfigs\0C lie Name:	SELECT FOLDER	Ap Access
BACKUP Restore		10 / page \vee 🛛 Goto 🦳
INC. C\Users\user\AppData\Loca\\Programs\network-management-utility\backupConfigs\0066 RESTORE	OI SELECT FILE	

Figure 5.30 Notification on the Success of Configuration Restore

User Manual

5.6 Event Log

When clicking on Event Log within the Side Vertical Menus, three sub-tabs are presented: Event, SNMP trap, and Syslog.

5.6.1 Event Tab

Figure 5.31 illustrate what inside the **Event** tab. User can see history events listed and can sort them according to **Time** and **SOURCE IP** address. Events can be cleared by clicking on a **CLEAR** button. The history events are listed in a table form, which consists of the following columns: **Time**, **Source IP**, **Mode**, **MAC Address**, and **Message**. **Time** indicates timestamp when the event occurred. **Source IP**, **Model**, and **MAC Address** is the IP address, model, and MAC address of the device. **Message** displays whether the device is online or offline at time the event occurred.

Event SNMP trap S	iyslog			
HISTORY CLEAR				
Time 🜲	Source IP 🌲	Model	MAC Address	Message
2020-05-31 10:56:05	10.0.50.100	IO5202	00:60:E9:21:85:3E	online
2020-05-31 10:56:04	10.0.50.100	105202	00:60:E9:21:85:3E	offline
2020-05-31 10:55:24	10.0.50.100	105202	00:60:E9:21:85:3E	online
2020-05-31 10:55:22	10.0.50.100	105202	00:60:E9:21:85:3E	offline

Figure 5.31 History Events inside the Side Vertical Menu \rightarrow Event Log \rightarrow Event Tab

When clicking on a **HISTORY** button, a new window is launched, as shown in Figure 5.32. Users can filter out unwanted events by filling in a MAC Address and a Date/Time range of **viewing** events. Make sure that there is no space when entering a MAC address. Click **REFRESH** button to see events that are already filtered out unwanted events.

MAC Address	Start Time ~	End Time 📋	REFRESH		
Time 🜲	Source IP 🌲	Model	MAC Address	Message	
·					
2020-06-03 21:08:05	236.67.1.0	EHG7508	00:60:E9:19:53:8B	offline	
2020-06-03 20:49:21	236.67.1.0	EHG7508	00:60:E9:19:53:8B	online	
2020-06-03 19:39:28	236.67.1.0	EHG7508	00:60:E9:19:53:8B	offline	
2020-06-03 19:22:24	236.67.1.0	EHG7508	00:60:E9:19:53:8B	online	

Figure 5.32 History Events inside the Side Vertical Menu \rightarrow Event Log \rightarrow Event Tab \rightarrow HISTORY Button

5.6.2 SNMP Trap Tab

Figure 5.31 illustrate what inside the **SNMP Trap** tab. User can see history of SNMP Trap by clicking on a **HISTORY** button, and clear them by clicking on a **CLEAR** button.

🔝 Netwo	rk Management Utility —		×
File View	Help		
>			
Q	Event SNMP trap Syslog		
	HISTORY CLEAR		
	Time \$ Source IP \$ Up Time \$ GT \$ ST \$ Version \$ Enterprise Community	/ Var	t _
	No data		

Figure 5.33 History Events inside the Side Vertical Menus \rightarrow Event Log \rightarrow SNMP Trap Tab

The history of SNMP Trap is listed in a table form, which consists of the following columns: **Time, Source IP, Up Time, GT, ST, Version, Enterprise, Community, and Varbinds.** The details of each field are described in Table 5.3 below.

Table 5.3 Description of Each Field in the Side Vertical Menus \rightarrow Event Log \rightarrow SI	SNMP Tab Tab

Field in SNMP Trap Tab	Description
Time	Timestamp when the SNMP Trap event occurred.
Source IP	IP address of the device
Up time	The active time of the device
GT	The SNMP generic type
ST	The SNMP specified type
Version	The SNMP version used at the time of SNMP trap.
Enterprise	The SNMP Enterprise OID
Community	The SNMP community
Varbinds	The variable number of values that are included in an SNMP packet.

When clicking on a **HISTORY** button, a new window is launched, as shown in Figure 5.34. Users can filter out unwanted SNMP Trap events by filling in a **SOURCE IP** Address and a Date/Time range of **viewing** events. Make sure that there is no space when entering a SOURCE IP address. Click **REFRESH** button to see events that are already filtered out unwanted events.

10.0.50.404		05.04		_														
10.0.50.101	2020-	-05-31	11:4:	9				~ 2020-	05-31	11:49								
	« <		Ν	/lay 20	20					J	un 202	0		> >>				
Time	Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa		Future	Committee	-
Time 🌲		27				1	2	31	1	2	3	4	5	6	*	Enterprise	Community	-
	3	4	5	6	7	8	9	7	8	9	10	11	12	13				
	10	11	12	13	14	15	16	14	15	16	17	18	19	20				
	17	18	19	20	21	22	23	21	22	23	24	25	26	27				
	24	25	26	27	28	29	30	28	29	30	1	2		4				
	31	1	2		4					7			10	11				

(a)

ap History						×
10.0.50.101	2020-05-31 11:	49	~ 2020-05-31 11:4	49		
	N	lay 31 2020	M	lay 31 2020		
	11	49	11	49		
Time 🍦	12	50	12	50	\$ Enterprise	Community
	13	51	13	51		
	14	52	14	52		
	15	53	15	53		
	16	54	16	54		
	17	55	17	55		
	18	56	18	56		
	19	57	19	57		
		F 0		P.0.		

(b)

Figure 5.34 History Events Event Log \rightarrow SNMP Trap Tab \rightarrow HISTORY Button Selecting Date (a) and Time (b)

Figure 5.35 illustrate what inside the **Syslog** tab. User can see history of Syslog events by clicking on a **HISTORY** button, and clear them by clicking on a **CLEAR** button.

🔝 Netv	ork Mar	nagement Util	lity							-	×
File Vie	w Help	c									
>											
Q		Event	SNMP trap Sys	slog							
		HISTOR	YCLEAR								
Ū		Time	\$	Source IP 🌲	Up Time 🌲	Facility 🌲	Severity 🌲	Tag	Message		*
						No data					

Figure 5.35 History Events inside the Side Vertical Menus \rightarrow Event Log \rightarrow Syslog Tab

Description of each field in Syslog table is shown in Table 5.4 below.

Table 5.4 Description of Each Field in the Side Vertical Menu	s∋	Event Log \rightarrow Syslog Tab
---	----	------------------------------------

Field in	Description
Syslog Tab	
Time	Timestamp when the Syslog event occurred.
Source IP	IP address of the device
Up time	The active time of the device
Facility	Type of process that created the syslog event, e.g., kernel, mail system, and security/authorization
Severity	Critical level of the information, e.g., emergency and alert
Tag	Name of the program or process that generated the message
Message	Details of the syslog information

When clicking on a **HISTORY** button, a new window is launched, as shown in Figure 5.36. Users can filter out unwanted Syslog events by filling in a **SOURCE IP** Address and a Date/Time range of **viewing** events. Make sure that there is no space when entering a SOURCE IP address. Click **REFRESH** button to see events that are already filtered out unwanted events.

Syslog History							×
Source IP	Start Time ~	End Time	REFRESH				
Time 🍦	Source IP 🖕	Up Time 🍦	Facility 🍦	Severity 🌲	Tag	Message	۵ ۲
			No data				

Figure 5.36 History Events insdie the Side Vertical Menus \rightarrow Event Log \rightarrow Syslog Tab \rightarrow HISTORY Button

User Manual

5.7 *Topology*

There are two parts within the Vertical Menus \rightarrow Topology: 1) Drawing Space and 2) Top Icon bar – Horizontal layer.

5.7.1 Drawing Space

When clicking on the icon of device (e.g., EHG7508 in this picture), the device properties are displayed, as shown in Figure 5.37. If the device icon is in grey colour and mark ⁽²⁾ appears, the connected device is not ready to be access and reconfigure its setting. Check in the Device List and see if the device's SNMP is enabled or not. Please refer to Section 4.1.4 if an SNMP function is not enabled. If the problem is persisted, user should enable an SNMP function via web interface of the device instead. Follow the instruction in Section 0 to initialize a web configuration page. Note that when the SNMP is enabled, the device type changes from Basic to Basic/SNMP.

File View	Management Utility Help		-		×
>	Group: All Device V				
Q					
	Device List • 00:60:E9:19:53:8B 10.0.50.1	Show IP 🔽 Show Model 🗹 Show Hostname 🗌 Physics	Q FIT VIEW	POINT	
«		EDIT LAYOUT			
	Device Properties IP Address 10.0.50.1 MAC Address 00:60:E9:19:5 AP EHG7508-BP: ppication: V3 Device Type gwd Gateway 10.0.0.254 Hostname EHG7508 DHCP false Kernel 3.11 Model EHG7508 *	00:60:E9:19:53:8B 100.501 EKG7508 EKG7508			

Figure 5.37 History Events inside the Side Vertical Menus → Topology (SNMP Disabled)

After enabled SNMP, the device's icon becomes green-blue colour and text underneath becomes blue colour, as shown in Figure 5.38. User can click **Show IP**, **Show Model**, and **Show Hostname** to display text information on IP address, device's model and device's hostname respectively, underneath the device's icon. When clicking Edit Layout button, new set of icons will appear: Add Node, Add Link, Save, and Cancel, as

Network Management Utility		-		×
File View Help Group: All Device	v			
₽ Device List				
Device List event Log o0:60:E9:19:53:8B 10.0.50	Show IP 🗹 Show Model 🗹 Show Hostname 🗹 Physics	Q FIT VIEW	/ POINT	
📽 Topology	ADD NODE ADD LINK SAVE X CANCEL			
Device Properties IP Address 10.0.50.101 MAC Address 00:60:E9:19 AP 3.11 Device Type all Gateway 100.550.1 Hostname DHCP false Kernel 3.11 Model Managed Sy EHG7508.8	OSGESTS:SS 0.66.ESTS:SS 100.60101 Managed Switch, EH07008-BPGE			

Figure 5.38 Working Space for Drawing a Topology: Side Menus → Topology (SNMP Enabled)

When clicking ADD NODE or ADD LINK button, a new small window is launched, as shown in Figure 5.39. For adding a new node, user can click anywhere on the working space and enter MAC Address for a new node or click on Virtual Node option. For adding a link, user can click on two nodes that the new link will be connected.

Add Node X	Add Edge X
Virtual Node 00:60:E9:19:53:8E Group A × Group A ✓	From 00:60:E9:19:53:8E Port 1 To 00:60:E9:19:53:8B Port 1
(a)	(b)

Figure 5.39 Drawing a Topology in Side Menus \rightarrow Topology \rightarrow (a) ADD NODE or (b) ADD LINK

The color coding used in the drawing is:

- Blue: User defined match with real.
- Black: Real edge and user without defined.
- Dotted Line: User defined but not exist.
- Red-X: Device offline.

There is a Physics option to illustrate moving simulation so that user can see nodes and edges more clearly. This is shown in Figure 5.40

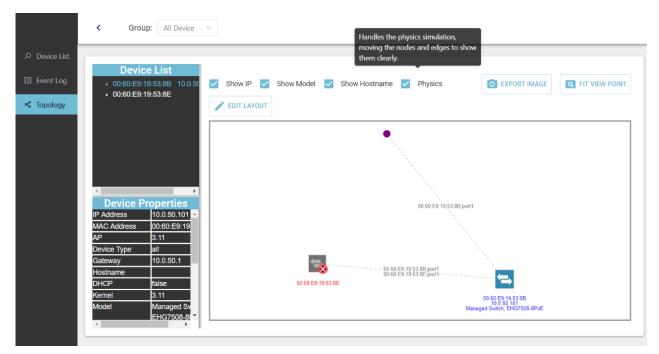


Figure 5.40 Topology drawing example

When clicking on any node or link on the topology's working space, a DELETE button appears, as show in Figure 5.41 below. Here, user has a choice to delete any nodes and links. Click on a CANCEL button to go back to EDIT Layout Button.

 00:60:E9:19:53:8B 10.0.50 Show IP Show Model Show Hostname Physics EXPORT IMAGE ADD NODE ADD LINK Device Properties 00:60:E9:19:53:8E 00:60:E9:19:53:8E:port1 00:60:E9:19:53:8E:port1 00:60:E9:19:53:8E:port1 00:60:E9:19:53:8E:port1 	Device List	
Device Properties 00:60:E9:19:53:8E 00:60:E9:19:53:8E		
00:60:E9:19:53:88 10.0.50.101 Managed Switch, EHG7508-8PoE	< Device Properties	00:60:E9:19:53:8B 10.0:50.101

Figure 5.41 DELETE Button insider the Side Vertical Menus → Topology

If a new device is added in any group using a MAC address, user can view its details in the table inside the Device List. However, if a newly added device is a virtual node, nothing will be added in the Device List. In this example, a new device is added using a MAC address in the drawing topology in Group A. Thus, the new device is added in Group A shown in the Device List, as shown in Figure 5.42 below.

	<	¢ ∓ ≺	⊕ ▲ ½						🛑 Gr		
Device List	_										
event Log	Group	A (2 devices))								
opology								Qs	Q Search X		
	Online										
	٠	Basic/SNMP	Managed Switch, EHG7508-8PoE	10.0.50.101	00:60:E9:19:53:8B		3.11	3.11	~		
		Basic			00:60:E9:19:53:8E				~		
					1-2 of 2 iten	ns < 1	> 10/	page 🗸	Goto		

Figure 5.42 Device List when Adding a New Device using a MAC Address in Topology

Here, if user added node and link and would like to leave to other setting page, click on the Save Button to save the work. The drawing topology disappears if visiting other setting page without saving your work first. The notification of successfully saving topology will appear on the top right corner as shown in Figure 5.43.

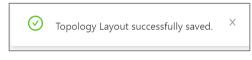


Figure 5.43 Notification of Successfully Saving of Topology Layout

User can also click on the "EXPORT the image" to save the topology. Select the destination folder to save the image file, as shown in Figure 5.44.

	blob:file:///76a281b2-ad	0a-4608-abda-cad7a5377dc9			×]	
<	← → × ↑ 🕹 > Th	is PC > Downloads >	~ Ü	Search Downloads	م		
Device List	Organise - New folde	r			· •		
	✓ S This PC	Name	Date modified	Туре	Size ^		
vent Log • (~	V Today (1)				EXPORT IMAGE	
• (> Desktop	b4077d2e-f3ff-4674-973d-63ccc6d786ec	6/6/2020 3:15 PM	TMP File	6		
opology	> 🖹 Documents	 Earlier this week (3) 					
	> 🖶 Downloads	1554036466	6/4/2020 4:37 PM	PDF File	2,0		
	> ESTGitUp_assets	ComputeRmLtf	6/2/2020 1:59 PM	Microsoft Excel 9	7		
	> 🎝 Music	EHG7508-8PoE.bin	6/2/2020 10:26 AM	BIN File	1		
	> 📧 Pictures	✓ Last week (23)					
	> 🛃 Videos	SecureEndpointManager (14)	5/29/2020 5:26 PM	Application	2,9		
	> 🐛 Local Disk (C:) 🗸	SecureEndpointManager (13)	5/29/2020 5:19 PM	Application	2,9 ¥		
	File name: all200	0606151517			~		
IP Add	Save as type: All File	es (*.*)			~		
MAC A	c						
AP Device	∧ Hide Folders			Save	Cancel		
Gatewa Hostna DHCP Kernel Model Netma	ne false					60:E9:19:53:8B 10.0.50.101 Switch, EHG7508-8F	PoE

Figure 5.44 Export Image in the Side Vertical Menus \rightarrow Topology

The export image file is .svg. User can use internet web browser to view it.

5.7.1 Top Icon Bar – Horizontal Layer

Menu icons on the Top Horizonal Icon Bar of Topology in the Side Vertical Menu consists of the followings:

- All Device
- Group x
- ...

User can click on each group to create a topology and save for each group, as shown in Figure 5.45.

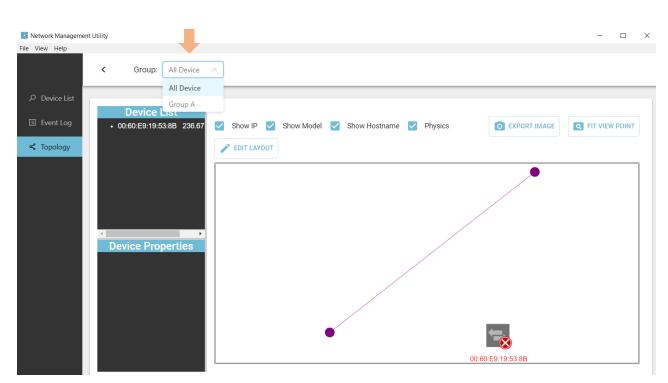


Figure 5.45 Topology in Group A in the Side Vertical Menus \rightarrow Topology

6 Top Horizontal Icon Bar - Device List

Menu icons on the Top Horizonal Icon Bar consists of the followings:

- • or Icon
- Discovery
- Firmware Update
- Network Setting
- Reset to Default
- Backup and Restore
- Add new group
- Group View

6.1 > or < Icon

On the most left is an icon 🕐. Here if you click it, it will expand the area of the **Side Vertical Menus** and show name of

each icon, as shown in Figure 6.1 below. If you want to shrink the area of the **Side Vertical Menus**, click ⁽⁾ icon as shown in Figure 6.2.

	c $$	< 🖸 🗅	ŝ						Grou
_	τ γ τ		<i>?</i> +						Group
	Group	B (1 devices)							^
		, ,							
								Q Search	×
	Online								
	٠	Basic/SNMP	Managed Switch, EHG7508-8PoE	10.0.50.101	00:60:E9:19:53:8B		3.11	3.11 🗸	
					1-1 of 1 i	tems < 1	> 10	/ page \vee 🛛 Goto	

Figure 6.1 Clicking > Icon to Expand the Area of the Side Vertical Menus

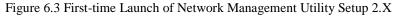
Q Searc
Searc
1000
/1.18 ×

Figure 6.2 Clicking < Icon to Shrink the Area of the Side Vertical Menus

6.2 Discovery

Before discover the connected devices, the working space will be as shown in Figure 6.3 below.

Network M File View H		Utility						- 🗆 X
	¢	Ŧ	<	Ð	٥	<i>F</i> 2‡		Group View
							No Data	
~								



When clicking on the discovery icon at the top icon bar, if the SNMP function is on, the pop-up window will appear to notify that an SNMP Scan is on process as shown in Figure 6.4.

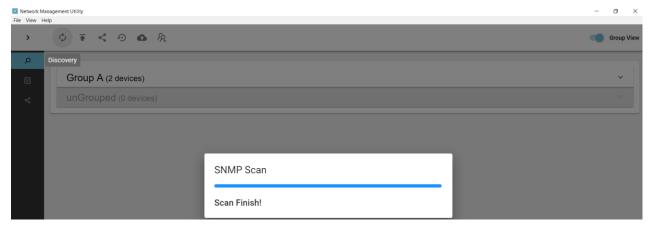


Figure 6.4 SNMP Scan is Ongoing

After finished it, connected devices will be displayed in the Device List, as shown in Figure 6.5. If these devices are still not grouped together, number of devices will be showed as unGrouped. If the device is already added to a group, it will be showed in the device table of that group. Refer to Section 5.2 on how to add a new group and Section 錯誤! 找不到參照來源。 on how to add device into a group. Note that each device can be added to more than one group.

🔯 Network Management Utility _ ٥ × File View Help \$ T < 0 6 & > Group View Q Group A (1 devices) \mathbf{v} Group B (2 devices) ^ Q Search \times Managed Switch, EHG7508-8PoE 10.0.50.101 00:60:E9:19:53:8B ~ Basic/SNMP 3.11 3.11 ~ Basic 00:60:E9:19:53:8E 1-2 of 2 items < 1 > 10 / page > Goto unGrouped (0 devices)

Figure 6.5 Devices in the Device Table in each Group

Table 6.1 below explains each field in the device table in details.

Field	Description
Online	Status of each device: active (green dot) or inactive (red dot)
Device Type	Basic or Advanced
Model number	The model number of the found device(s).
IP Address	An IP Address of the corresponding device
MAC Address	The MAC Address of the device.
Host Name	The Host Name of the device.
Kernel	The Kernel version of the device
AP Information	The AP information or application version of the device. Note that Atop's
	firmware of a device generally consists of application version and kernel
	version.
Access	Indicate whether the device is already accessible (\checkmark) or not (\times). Users
	have to join the device in any group first for its accessibility. That is users
	have to create a group and add the device to that group first to view it as
	accessible.

Table 6.1 Definition of Each Field in the Device Table

6.3 *Firmware Update*

When clicking on the **Firmware Update** on the **Top Horizonal Icon Bar**, the notification box will appear on the top of the working space of the Device List of Side Vertical Menus, as shown in Figure 6.6 below.

Grour	D A (1 dev		i Firmware Update Select devices and p						
	D B (2 dev								
	Online	Device Type	Model	IP Address	MAC Address	Hostname	Kernel	Ар	Q Searc
					00:60:E9:19:53:8B		3.11	3.11	~
		Basic/SNMP	Managed Switch, EHG7508-8PoE	10.0.50.101	00.00.E9.19.33.0D		0.11		

Figure 6.6 Click on Firmware Update in the Top Horizontal Icon Bar

After selecting on the device that you want to update the firmware and click **OK** in the notification box on the top of the window, a new window is launched as shown in Figure 6.7. Here, user can press **BROWSE** button and guide through file directory to select the firmware file (.dld) you want to update.

Network Management Utility

Network Management Utility File View Help						- 0 ×
Firmware Update	e					
1 Select a firmware file.			2 Firmware upda	ating.		3 Finish!
New Firmware File				BROWS	SE	
Model		IP Address	MAC Address		Progress	Status
Managed Switch, EHG7508-8PoE		10.0.50.101	00:60:E9:19:53:8B			Waiting
		℃ → USB Drive (E:) →	✓ Ŭ Se	arch USB Drive (E;)	× A	
	 Local Disk (C:) DATA (D:) USB Drive (E:) USB Drive (E:) 	Name Work EH75XX_K516_A516.dld	Date modified 6/6/2020 8:20 PM 4/18/2019 12:39 AM	File folder DLD File	10,285	
< UPDATING						FINISH >
						CANCEL START

Figure 6.7 Go Through the File Directory to Select the Firmware File (.dld)

Click **Open** button after selecting the firmware file (.dld). Then the **START** button will be activated. User can click the **START** button at the bottom right corner of the Firmware Update window to start updating.

While waiting for the updating firmware to finish, the progress status is displayed in the **Progress** field and the update status is shown in the **Status** field, as shown in Figure 6.8. If user would like to stop updating the firmware, user can press read STOP button on right bottom right corner.

Network Management Util	lity	User Manual		目索引標 籤將 Heading l 套用到您想要在此處 顯示的文字。
Network Management Utility File View Help				- a ×
Firmware Update				
Select a firmware file.		2 Firmware updating.		3 Finish!
New Firmware File E:\EH75XX_K516_A5	I 6.dld	MAC Address	BROWSE	Status
Managed Switch, EHG7508-8PoE	10.0.50.101	00:60:E9:19:53:8B	Progress	Upload Image
< UPDATING				FINISH >

Figure 6.8 Go through the File Directory to Select the Firmware File (.dld)

After the updating process is finished, the moving progress line reaches the final end, and the status will change to Upload Success or Upload Fail. Figure 6.9 illustrate an example when the firmware updating process is finished with failure.

🔯 Network Management Utility				- 🗆 ×
File View Help				
Firmware Update				
Select a firmware file.		Firmware up	dating.	3 Finish!
New Firmware File 📗 E:\EH75XX_K516_	A516.dld		BROWSE	
Model	IP Address	MAC Address	Progress	Status
Managed Switch, EHG7508-8PoE	10.0.50.101	00:60:E9:19:53:8B		Upload Fail(E007)

Figure 6.9 The Firmware Update is Finished with a Failure (Code E007)

After clicking FINISH button, the Firmware Update window will be closed and user will go back to the Device List's working space window. In the example, the firmware date is unsuccessful and the error code is E007.

User Manual

6.4 *Network Setting*

When clicking the **Network Setting** on the **Top Horizonal Icon Bar** of the **Device List**, the new window is launched, as shown in Figure 6.10. Here, on the left side is the Network Setting. User can choose whether to obtain an IP address automatically or manually. By checking the box in front of DHCP (Obtain an IP automatically), your device will set the IP address and other parameters automatically. After checking the DHCP option, user does not need to input IP Assign option on the right side of the window. The START button on the bottom right is activated and ready to begin. Here, the Progress is shown as 0% before clicking START button.

etwork Setting	IP Assign			
DHCP	Start Address	CALCU	LATE	
0.0.0.0	Model	MAC Address	IP Address	Progress
Gateway	Managed Switch, EHG7508-8PoE	00:60:E9:19:53:8B	0.0.0	0%
Hostname				
Preferred DNS server				
0.0.0				
Alternate DNS server				

Figure 6.10 Click Network Setting Icon in the Top Horizontal Bar of the Device List - Automatic Setting

If the checking box in front of the DHCP option is unchecked, user has to manually set the network parameters. Figure 6.11 shows the Network Setting when DHCP option is unchecked.

Proceed to fill in the Netmask, Gateway, Hostname, Preferred DNS server, and Alternate DNS server. Also, user need to put in the IP address on the right side of the Network Setting, the IP Assign Part as shown in Figure 6.11. There is an IP address input box named "Start Address" with a CALCULATE button. Press CALCULATE to see if the input IP address is valid. If yes, the START button at the bottom right of the Network Setting Window will be activated. After Clicking the START button, information of the device will be presented, including Model, MAC Address, IP Address, and Progress. If the setting is success, the Progress information will show as a green check sign.

< Network Setting					×
Network Setting	IP Assig	s	CALCULATE		
255.255.255.0 Gateway- 10.0.50.1	* Network s	setting finish with 0 fa MAC Address		Progress	
Hostname	EHG7508	00:60:E9:19:53:8B	10.0.50.101		
Alternate DNS server					
				ST	ART

Figure 6.11 Click Network Setting Icon in the Top Horizontal Bar of the Device List – Manual Setting

6.5 *Reset to Default*

In order to reset the configuration setting to the default value, user has to first 1) enable an SNMP function of the connected device, 2) create a group if none is available or if a new group is required for the connected device, and 3) add the device into a newly created group (refer to Section 5.2). If an SNMP function is not enabled yet, please refer to Section 4.1.4. to enable it. If the software continue notifies that "(This feature only for device with SNMP support.)" and the "**OK**" link cannot be clicked even user already enabled an SNMP function via the **Network Management Utility Setup 2.X**, user should enable an SNMP function via web interface instead. User can follow the instruction in Section 0 to initialize a web configuration page.

After the SNMP function is enabled, select connected devices that you want to reset the configuration settings to the factory default and then press **"OK"**, as shown in Figure 6.12 below.

		(i) Reset To Deault						
Group A (1	devices)	Select devices and press C (This feature only for device)		port.)				^
							Q Search	×
✓ Online	Device Type	Model	IP Address	MAC Address	Hostname	Kernel	Ap Acce	ss
	Basic/SNMP	Managed Switch, EHG7508-8PoE	10.0.50.1	00:60:E9:19:53:8B	EHG7508	3.11	3.11 🗸	
				1-1 of 1 item	s < 1	> 107	page ∨ Goto	

Figure 6.12 Select Devices and Click OK to Reset to Default

New window with the details of devices i.e., Model, MAC address, IP address, and the status appears for the user to re-confirm whether the select device is the correct one, as shown in Figure 6.13. If yes, click START button to start the reset process. Here, the STATUS is WAITING.

Idress	IP Address	Status
9:19:53:8B	10.0.50.1	WAITING

Figure 6.13 Confirm Window to Reset to Default Setting

After clicking START, when the "reset to default" process is finished, the STATUS is changed to SUCCESS, as shown in Figure 6.14. Click to \times in the top right corner to close the window.

MAC Address	IP Address	Status
00:60:E9:19:53:8B	10.0.50.1	SUCCESS
	MAC Address 00:60:E9:19:53:8B	

Figure 6.14 Success to Reset to Default Setting

6.6 Backup and Restore

Similar to **Reset to Default** function icon, user has to first 1) enable an SNMP function of the connected device, 2) create a group if none is available or if a new group is required for the connected device, and 3) add the device into a newly created group (refer to Section 5.2). If an SNMP function is not enabled yet, please refer to Section 4.1.4 to enable it. If the software continue notifies that "(This feature only for device with SNMP support.)" and the "**OK**" link cannot be clicked even user already enabled an SNMP function via the **Network Management Utility Setup 2.X**, user should enable an SNMP function via web interface instead. User can follow the instruction in Section 0 to initialize a web configuration page.

After the SNMP function is enabled, select connected devices that you want to Backup and Restore the configuration settings to the factory default and then press **"OK"**, as shown in Figure 6.15.

	<	¢ 1	F <	•• 🚯 🌾							Group
Device List	Gro	up A (1	devices)	(i) Backup and Re Select devices an (This feature on	nd press <mark>OK</mark> or <mark>C</mark>		1				^
Topology										Q 5	earch 🗙
											Access
		٠	Basic/SNM	P Managed Switch, E	HG7508-8PoE	10.0.50.1	00:60:E9:19:53:8B	EHG7508	3.11	3.11	~
							1-1 of 1 items			age 🗸	Goto

Figure 6.15 Click Backup and Restore in the Top Horizontal Icon Bar

After clicking **OK**, the new **Backup and Restore** window will be launched, as shown in Figure 6.16. Here, the window is divided to two parts, **Devices** and **Files**.

evices				Files		
Backup V START						
Model	MAC Address	IP Address	Status			
Managed Switch, EHG7508-8PoE	00:60:E9:19:53:8B	10.0.50.1	WAITING			

Figure 6.16 Backup and Restore Window is Launched after Clicking OK

If users chose to back-up the configuration, select **Backup** from the drop-down box and click START button. Within this **Devices** part, there is the information of the device such as Model, MAC Address, IP Address, and Status. Before clicking START button, the Backup **Status** is WAITING. Figure 6.17 shows the **Backup and Restore** window after finishing the Backup process and success. The device will be restarted as the user can see the notification window (on the bottom right corner) for the device going offline and online again. If it is failed, make sure that your selected Network Interface Card (NIC) is the one with a real external IP address. Go to File \rightarrow Preferences \rightarrow General \rightarrow Network Interface Card to check on it. Figure 6.18 illustrates what happens when the Backup is failed.

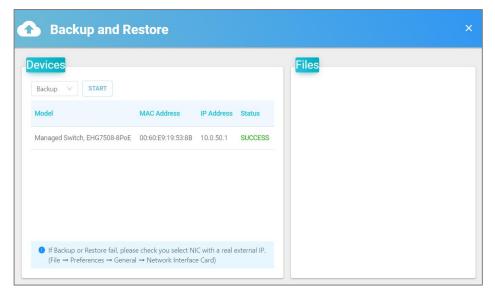


Figure 6.17 Success Backup after Clicking Icon in the Top Horizontal Icon Bar

Network Management U	Utility						-	
View Help P Device List	< ∴ ₹ < ↑ Backup and	න ය ව Restore					×	Group \
Event Log	Devices Backup V START				Files		ch	^ ×
	Model Managed Switch, EHG7508-8F		P Address 0.0.50.1	Status				
	 If Backup or Restore fail, p (File → Preferences → Ger 	lease check you select NIC v neral → Network Interface C		ternal IP.		18	Device offline Managed Switch, EH IP address: 10.0.50.1 MAC address: 00:60:	

Figure 6.18 Failure Backup after Clicking Icon in the Top Horizontal Icon Bar

By clicking on the device under the Model, MAC Address, IP Address, and Status information, user will see a list of configuration files that are already backup, as shown in Figure 6.19. User can click red \times at the end of each file to remove its backup configuration.

Backup and Re	estore				
Devices Backup V START				Files	36 🗙
Model	MAC Address	IP Address	Status	0060E919538B_2006071342	00 ×
Managed Switch, EHG7508-8PoE	00:60:E9:19:53:8B	10.0.50.101	WAITING		

Figure 6.19 Configuration Files that are Already Backup

If user would like to restore the configuration, user has to follow these steps. First, select **Restore** option from the drop-down box. Second, click on the device under the Model, MAC Address, IP Address, and Status information. A list of configuration files will be displayed on the right side of the window. Third, select the configuration file that you want to restore and click **START** button. Before clicking START button, the Backup **Status** is WAITING. Figure 6.20 shows the **Backup and Restore** window after finishing the Restore process and success. After the restore is success, there is a couple of beeps sound from the device and the device will be restarted. The user will see the notification box (on the bottom right of the window) showing that the device is going offline and online again. Similarly, to the Backup configuration process, if it is failed, make sure that your selected Network Interface Card (NIC) is the one with a real external IP address.

Backup and Re	estore				
evices				Files	
Restore V START	MAC Address	IP Address	Status	 ✓ 0060E919538B_200603104913 ■ 0060E919538B_200603110038 	
Managed Switch, EHG7508-8PoE	00:60:E9:19:53:8B	10.0.50.1	SUCCESS		
				Device offline Managed Switch IP address; 10.0.3	
 If Backup or Restore fail, pleas (File → Preferences → Genera) 			external IP.	MAC address: 00	

Figure 6.20 Sucess Restoring the Configuration File



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