# Industrial Ethernet Products Management Utility

## Open-Vision v3.0

## User's Manual

**Version 1.0**
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# Getting to Know Your Switch

## 1.1 About the Open-Vision v3.0

Open-Vision v3.0 is ORing Industrial Networking Corp in 2010 year newly issued the powerful software utility, his function surmounts. Open-Vision v3.0 includes four utilities "Commander"、"Topology view"、"Host monitor"、MIB Brower, With Open-Vision v3.0 Commander, user can set parameters to multiple switches at the same time. provides a powerful interface for users to manage all switches in the network.

Open-Vision v3.0 is not only a powerful utility for users to configure but also a useful utility for monitoring. Users can monitor switches' status via Host monitor. When the monitored switches fail, the failure information will be displayed on Host monitoring interface.

Open-Vision v3.0

## 1.2 Install Java machine

Please make sure if your computer if install JRE (if not ，Please download Java Runtime Environment (JRE) 6 Update 3 from SUN http://java.sun.com/javase/downloads/index.jsp.

# 1.3 System requirements

Minimum System RequirementsIV

- Pentium IV or above (2.0 MHZ or above)
- VGA Monitor with 1024 x 768 resolution
- WINDOWS NT,2K ,2K3, XP
- 512 MB RAM (1 GB recommended)
- Java 2 Runtime Environment version 1.5
- Internet Explorer 6.0 or higher

Supported Network Protocols

- TCP / IP
- UDP
- SNMP

Operating System

Windows

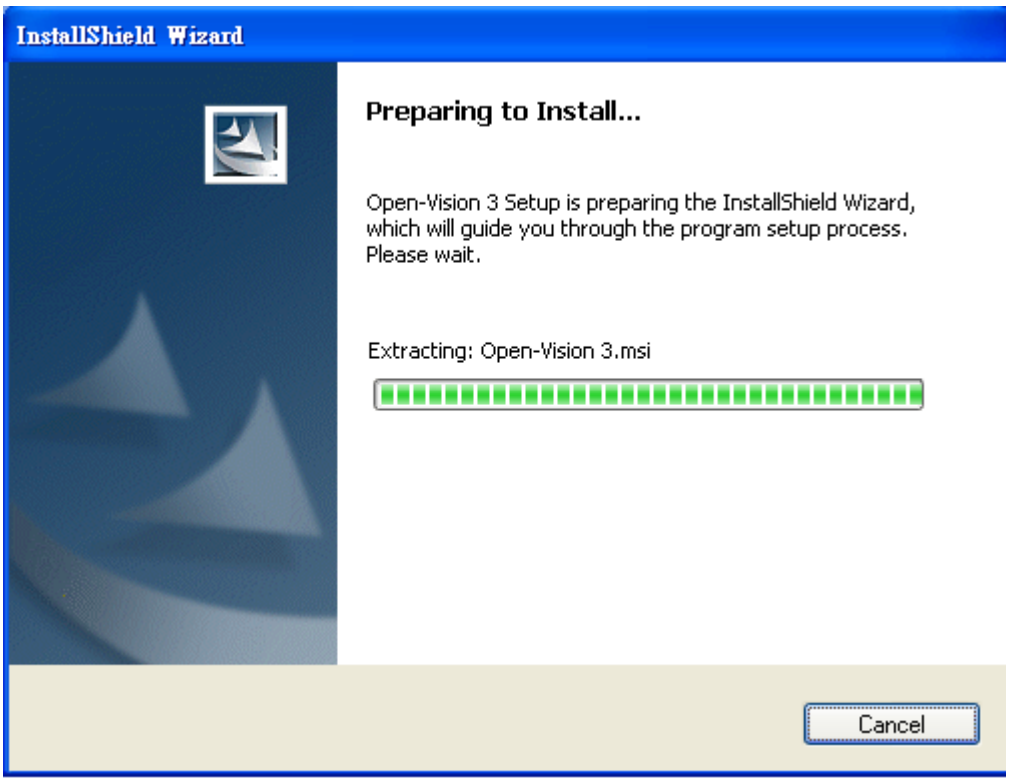
- NT
- 2000
- 2003
- XP
- Vista
- Windows 7

# 1.4 Prepare to install Open-Vision

Before using Open-Vision, users need to install the utility first.
Double click Open-Vision.exe, started the install process.

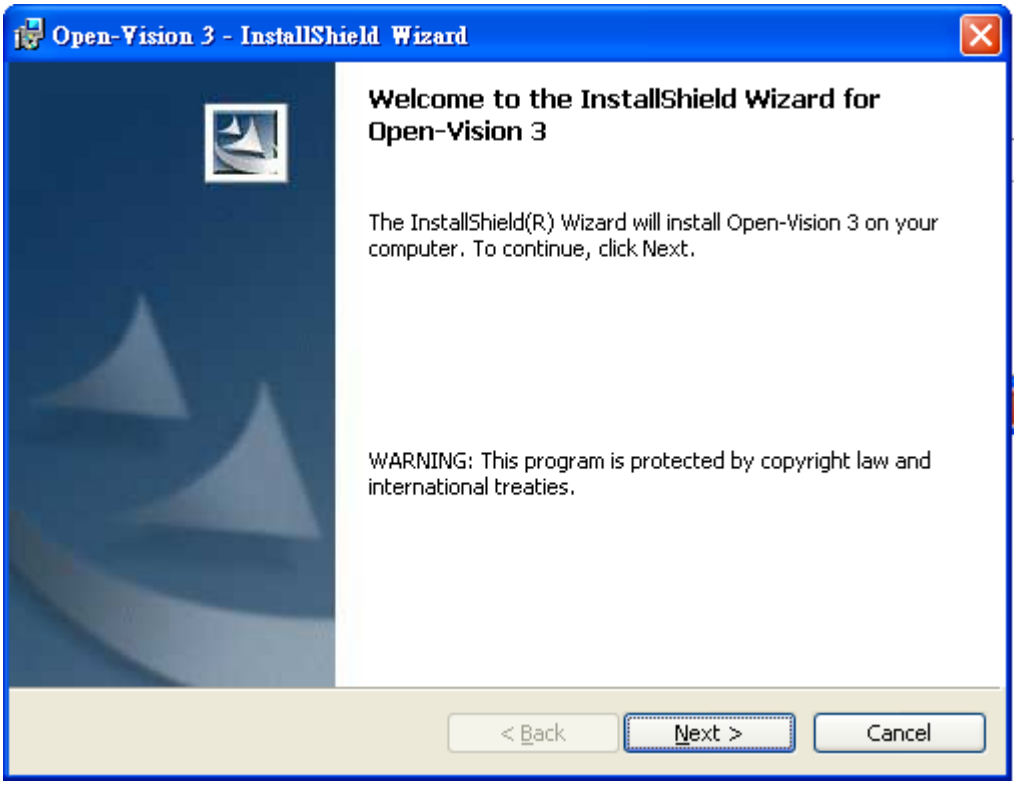
**Step 1**

After execution of Open-Vision v3.0.exe, the Operation System start to install Open-Vision v3.0



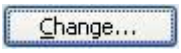
## Step 2

Click [Next] to continue setup process.

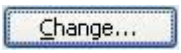


## Step 3

Users are able to change the path that they want to install in.

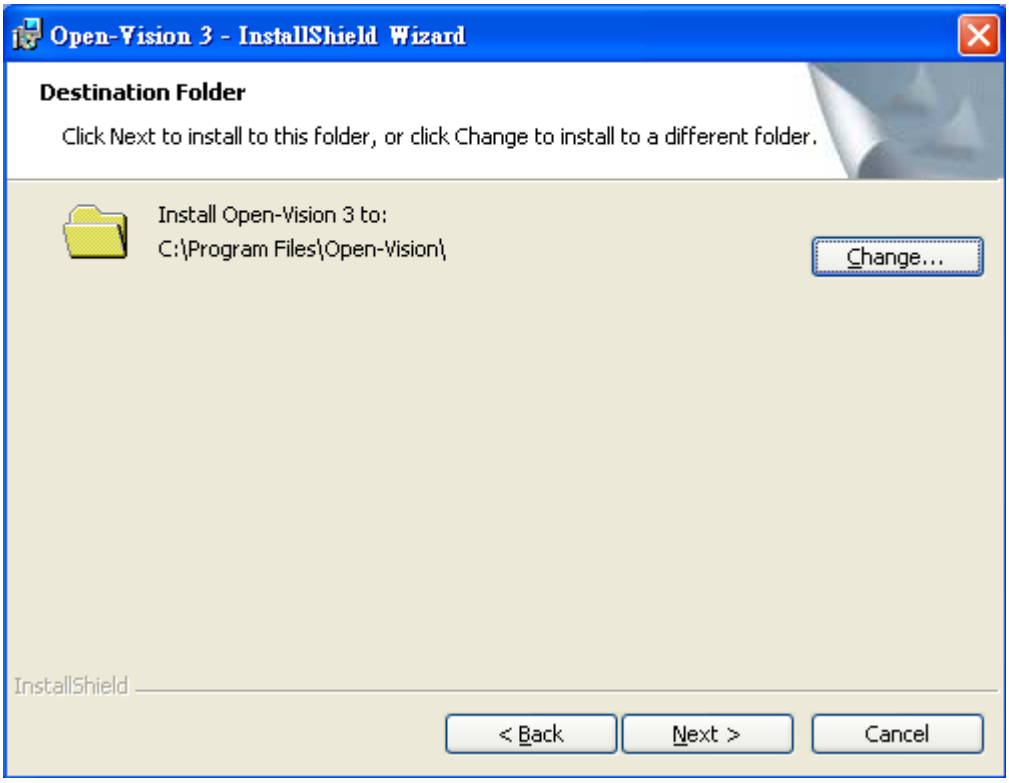
Click  to change the path.



When click  , users can configure the path that they want to install from the pop-up windows.

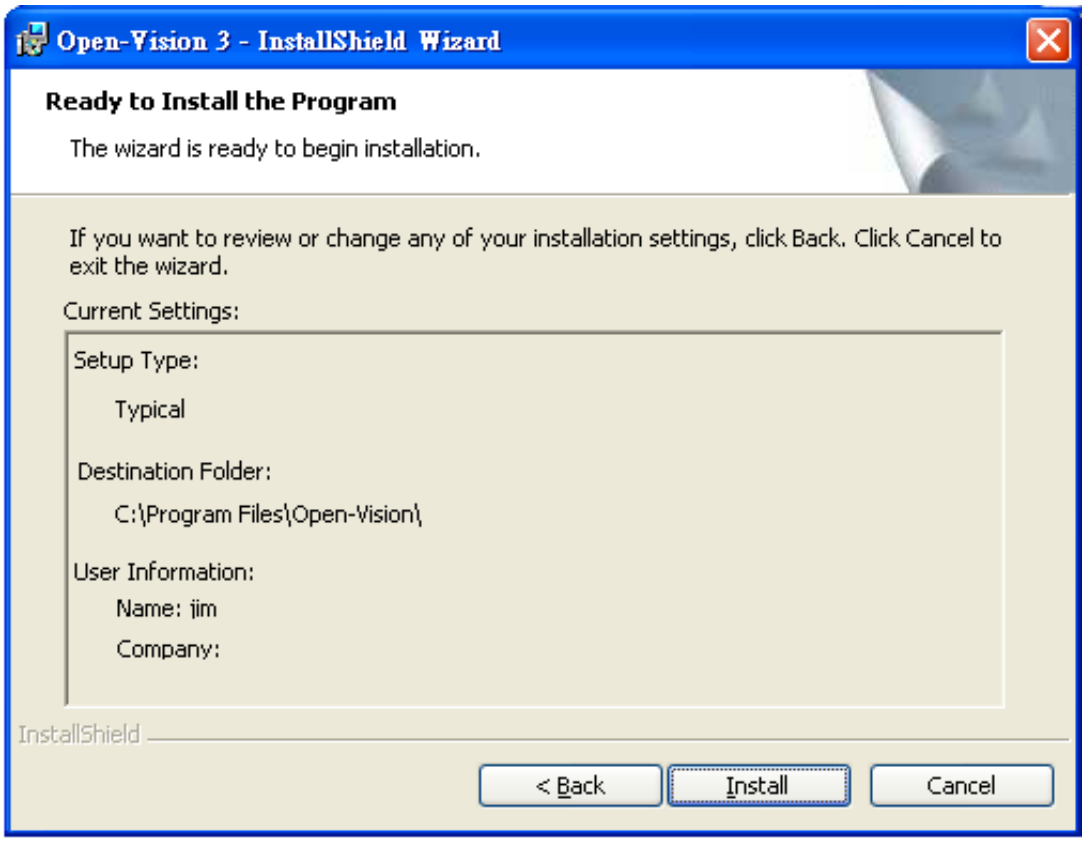
## Step 4

Completed the path, and then click [Next]



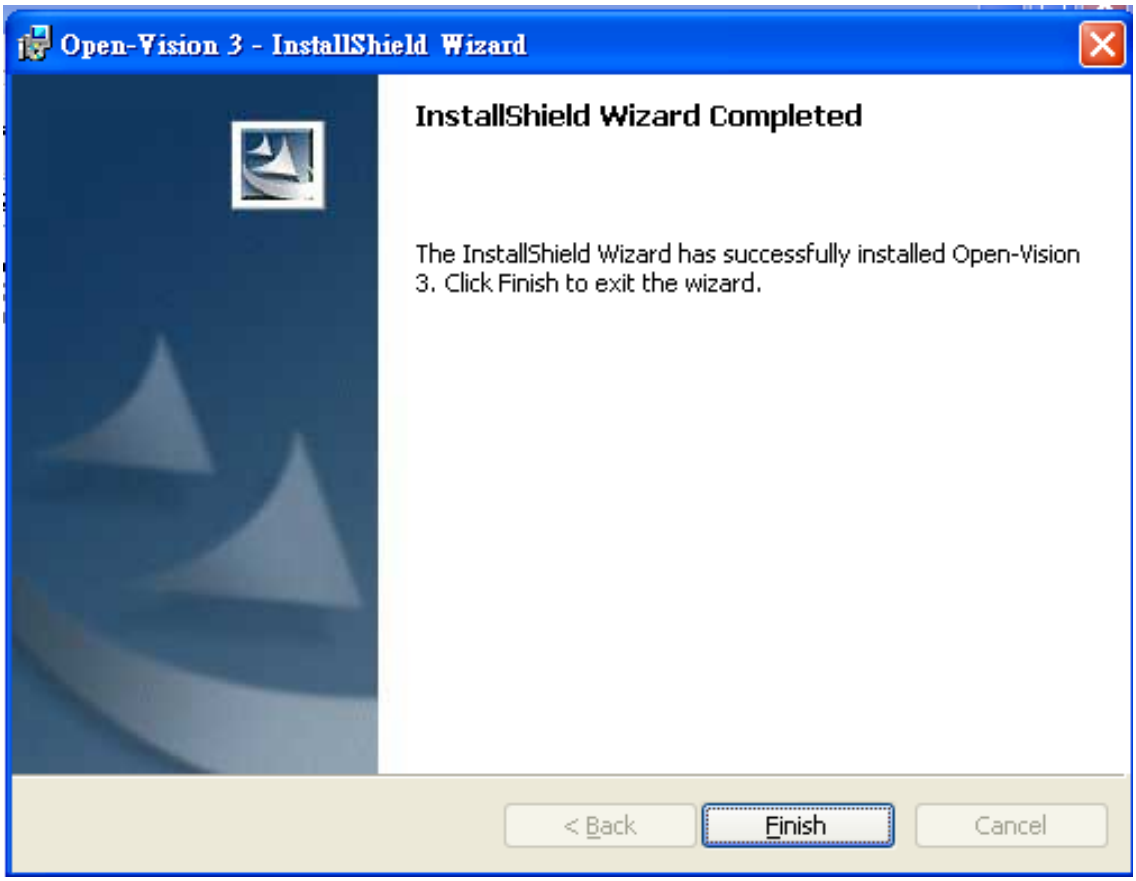
## Step 5

Please double check the installing information of this page. If everything is correct, then click "Install."



## Step 6

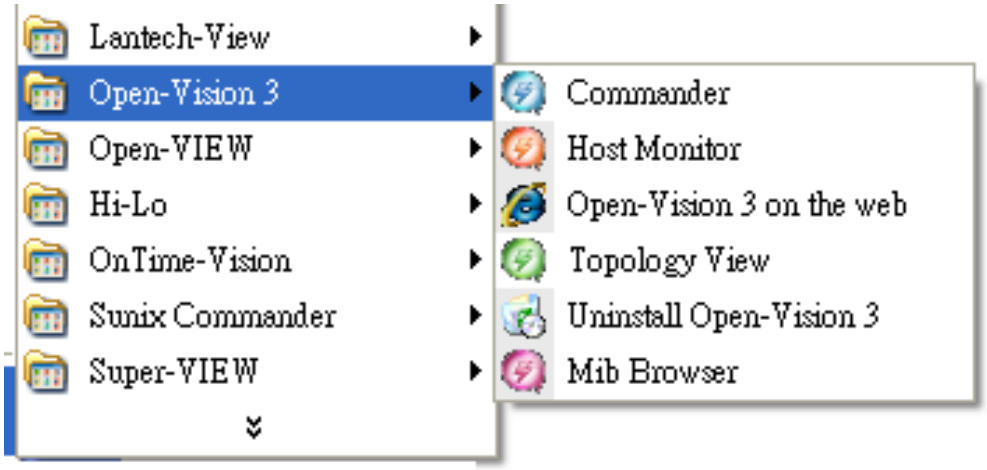
When the Installation process is finished, click "Finish" to complete the Installing process.



# Apply Open-Vision Commander to Switch Connection

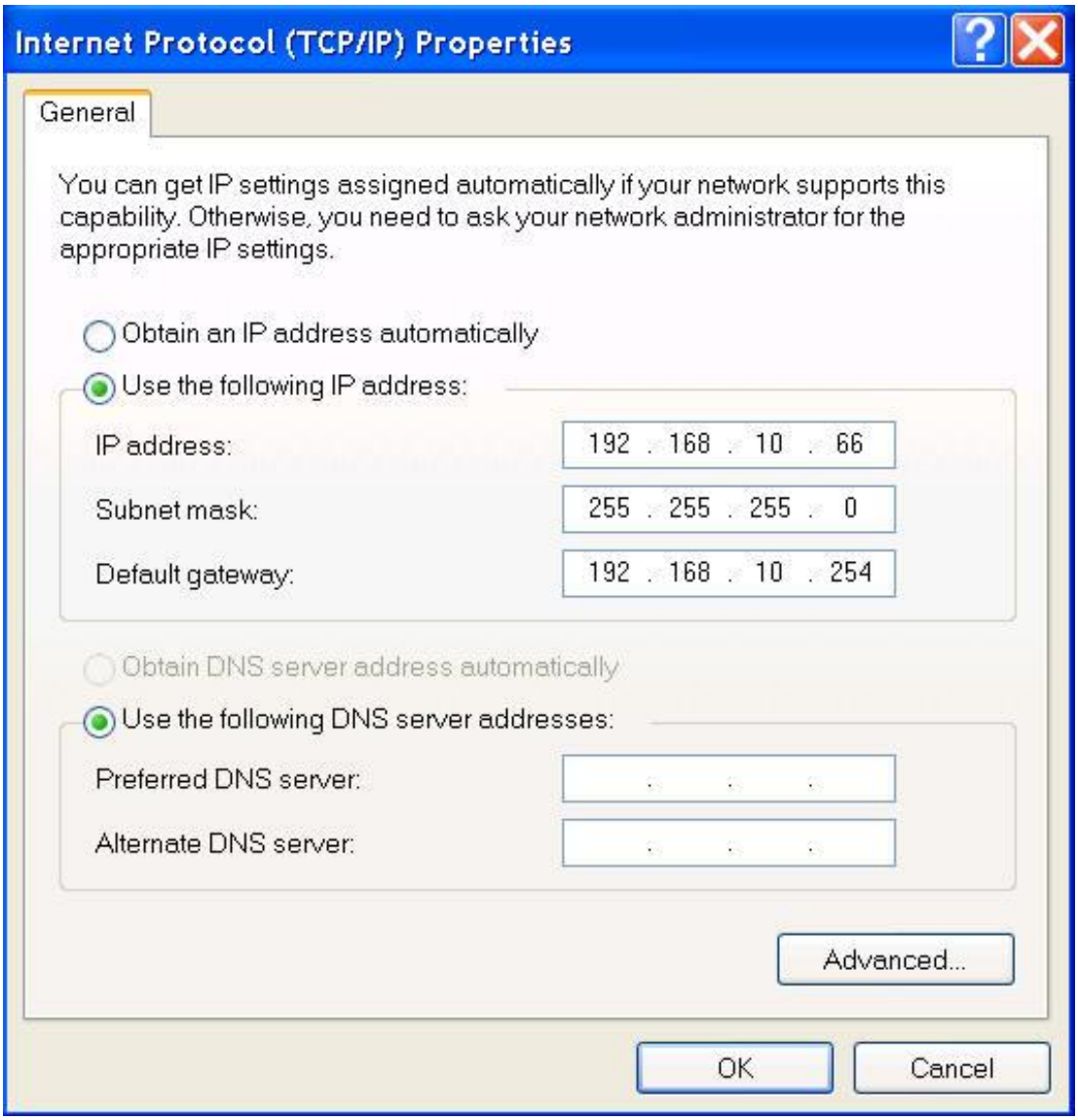
## 2.1 Getting start to use Open-Vision Commander

Select 「**Start**」→「**All Programs**」→「**Open-Vision**」→「**commander**」 to execute Open-Vision v3.0



## 2.2 Make sure PC's Network setting

First of all, double check the configuration of the PC's IP address, Subnet mask, Default gateway…etc., and make sure the PC is connected to Default Gateway and the switch you wish to connect properly.



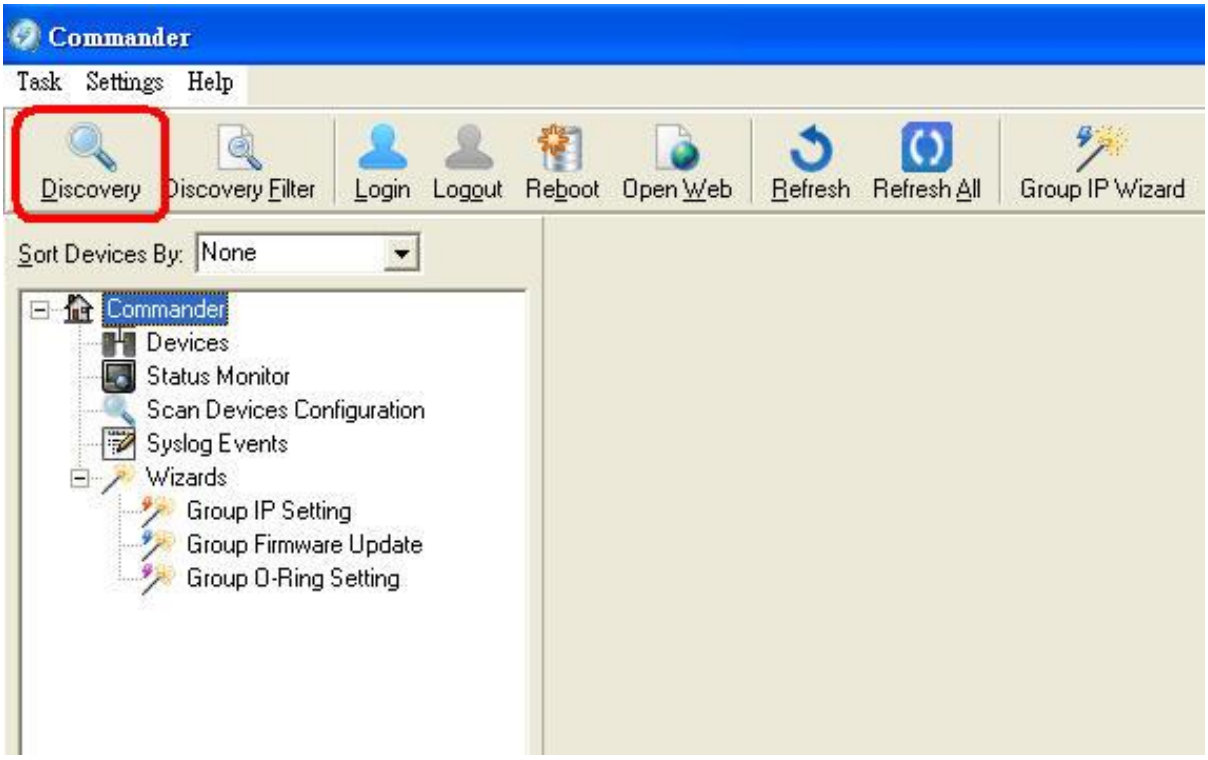
# 2.3 How to discover different IP domain device?

## 2.3.1 In the same broadcast domain

When the monitored PC and the managed switches are within the same broadcast domain, as illustrated by Figure 1-1,

Figure 1-1

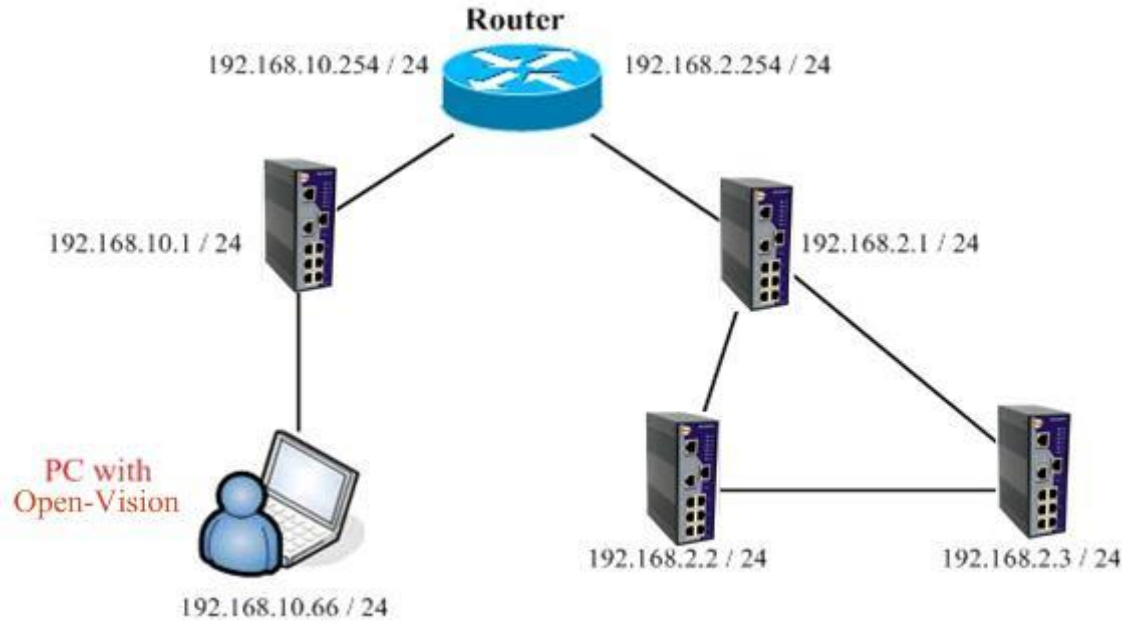
Click「Discovery」directly on the Open-Vision to search the switches.



## 2.3.2 In the different broadcast domain

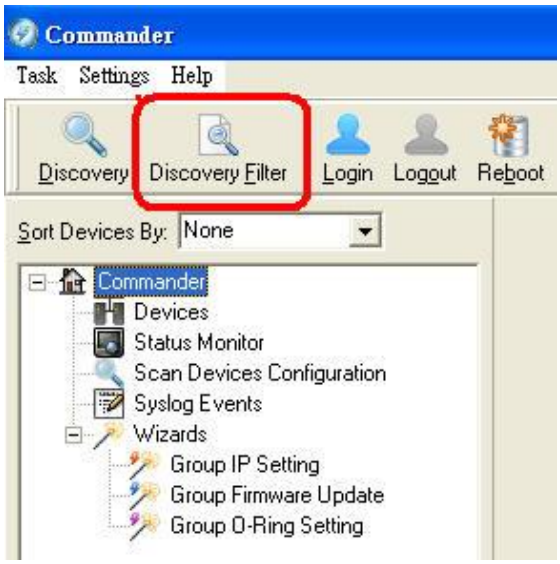
If the monitored PC and the managed switches are in different broadcast domain, as illustrated by Figure 2-2, then users need to use the advanced search function to search the switches.

Figure 2-2

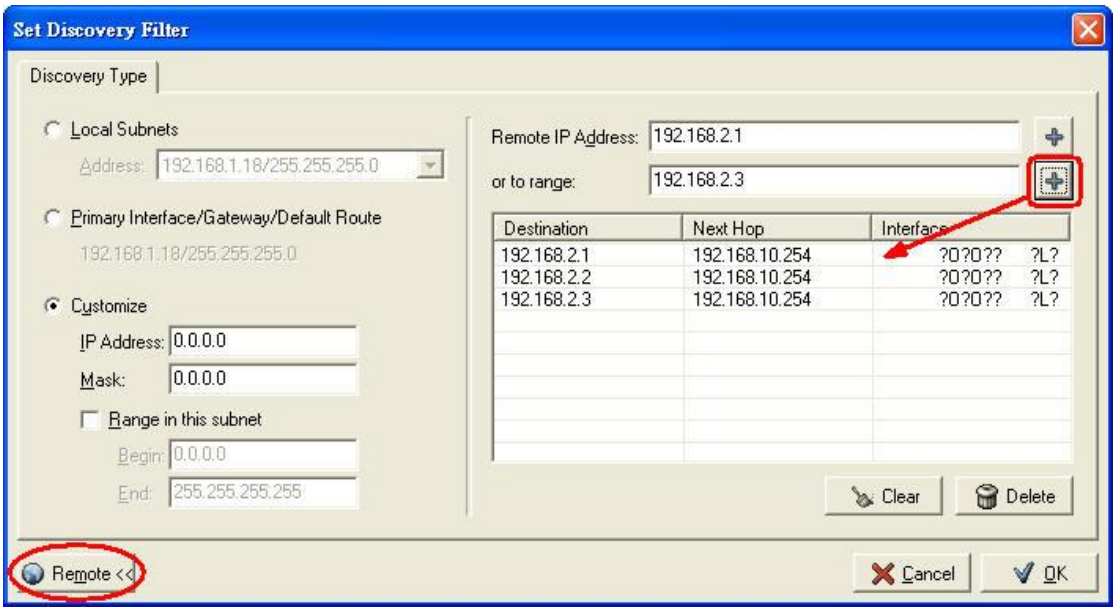



Make sure the PC is connected to Default Gateway and the switch you wish to connect properly.

If the Network is proper, open Open-Vision, and click "Discovery Filter."



Select "Remote" and a window open up as shown below.

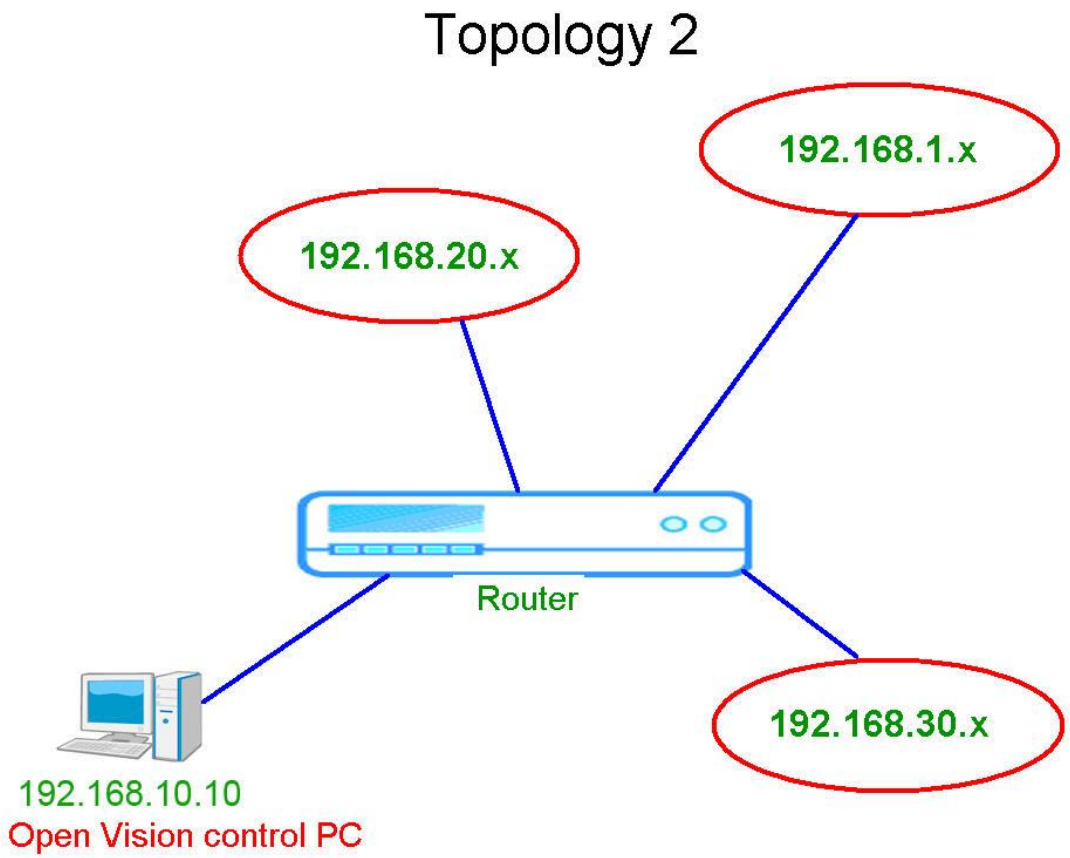



Insert the Switch IP Address range you wish to search and click , the IP address will be added automatically as shown in the diagram above. Click "ok" to start the searching of switch.

And the switches in different network will be found by Open-Vision.

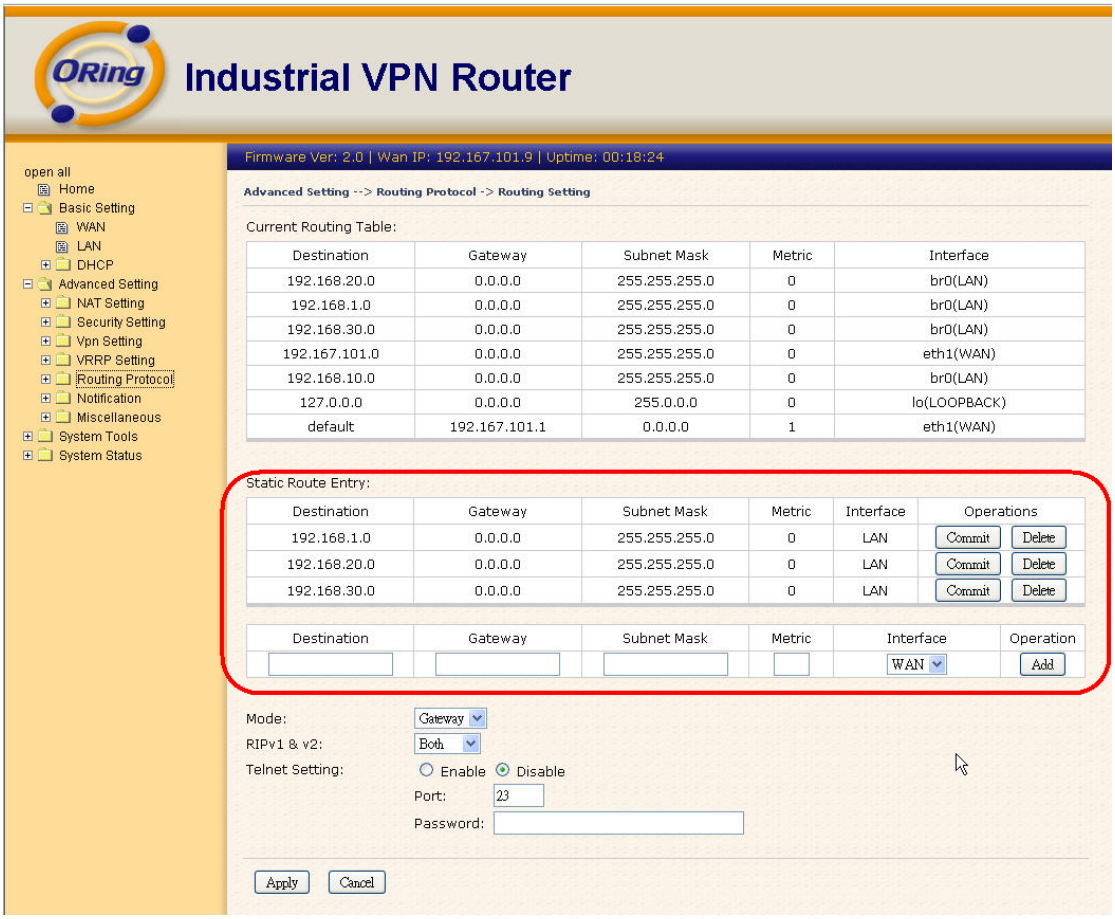
Use the example:

Use open vision tool , through Router controls different Domain IP ORing Switch.



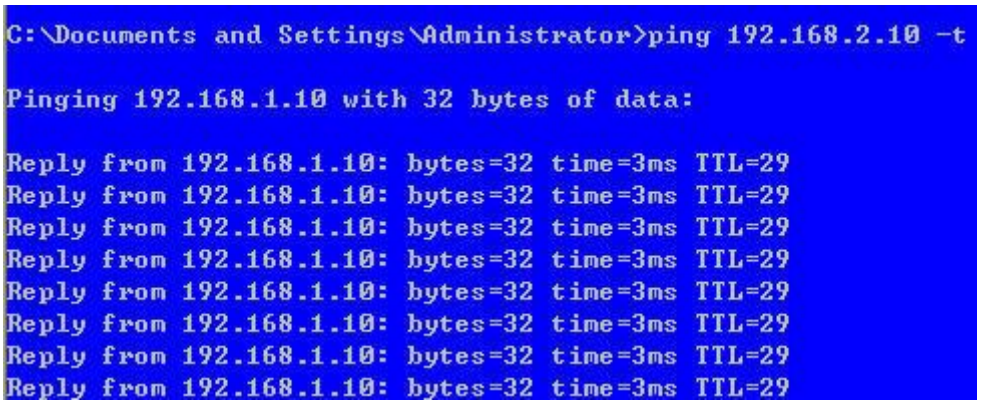

We must set up Routing Protocol in Router, add we wanted control domain (192.168.1 x, 192.168.20 x, 192.168.30 x) ,Set up finish, Control PC will start routing, after router will finish routing, " Control PC" Can connect as 192.168.1.x, 192.168.20.x, 192.168.30.x, three different domain, open vision too can at the same time management three different domain ORing switch .

1、 Config router default Routing function , Add 192.168.1.0、192.168.20.0、192.168.30.0, three kinds of different domain




2、 Use Ping order, " Ping" ORing Switch of three kinds of different Domain, can all join normal Link, Routing succeeds,

**Command :**C:\Ping 192.168.1.10 -t



**Command :**C:\Ping 192.168.20.20 -t

```
C:\Documents and Settings\Administrator>ping 192.168.20.20 -t

Pinging 192.168.20.20 with 32 bytes of data:

Reply from 192.168.20.20: bytes=32 time=9ms TTL=29
Reply from 192.168.20.20: bytes=32 time=3ms TTL=29
Reply from 192.168.20.20: bytes=32 time=3ms TTL=29
Reply from 192.168.20.20: bytes=32 time=3ms TTL=29
Reply from 192.168.20.20: bytes=32 time=3ms TTL=29
Reply from 192.168.20.20: bytes=32 time=3ms TTL=29
Reply from 192.168.20.20: bytes=32 time=3ms TTL=29
Reply from 192.168.20.20: bytes=32 time=3ms TTL=29
```

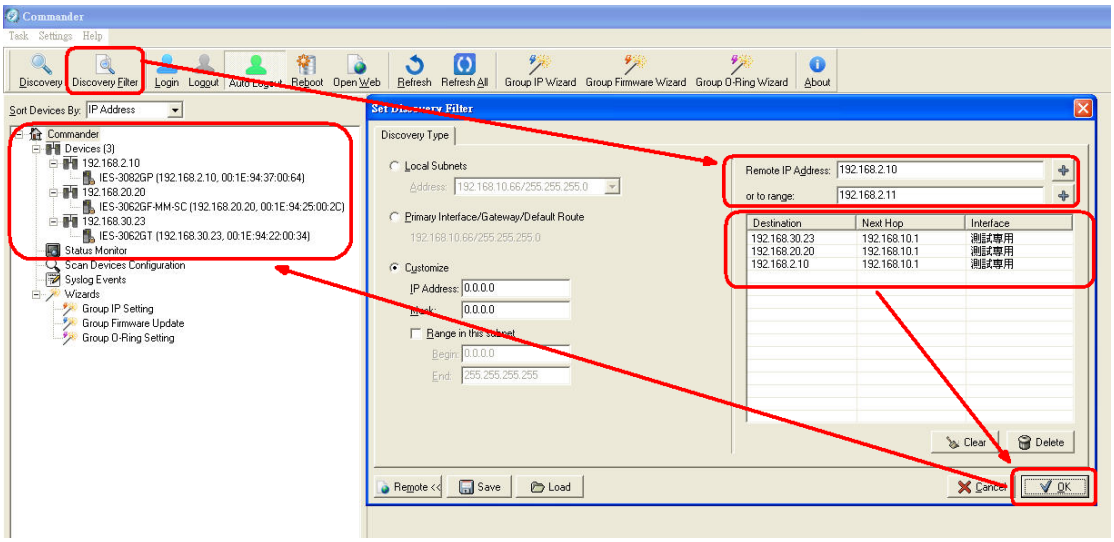
**Command :**C:\Ping 192.168.20.20 -t

```
C:\Documents and Settings\Administrator>ping 192.168.30.23 -t

Pinging 192.168.30.23 with 32 bytes of data:

Reply from 192.168.30.23: bytes=32 time=10ms TTL=29
Reply from 192.168.30.23: bytes=32 time=3ms TTL=29
Reply from 192.168.30.23: bytes=32 time=3ms TTL=29
Reply from 192.168.30.23: bytes=32 time=3ms TTL=29
Reply from 192.168.30.23: bytes=32 time=3ms TTL=29
Reply from 192.168.30.23: bytes=32 time=3ms TTL=29
Reply from 192.168.30.23: bytes=32 time=3ms TTL=29
Reply from 192.168.30.23: bytes=32 time=3ms TTL=29
```

3、 Start open vision, uses Discovery Filter Function, input wanted to scan Domain, as picture shows Scanned and finished, pushed OK, Open Vision and succeeded in detecting and examined to three kinds of different Domain " ORing switch"



# 2.4 Open-Vision Main interface

The Open-Vision main interface shows as below:

System Bar

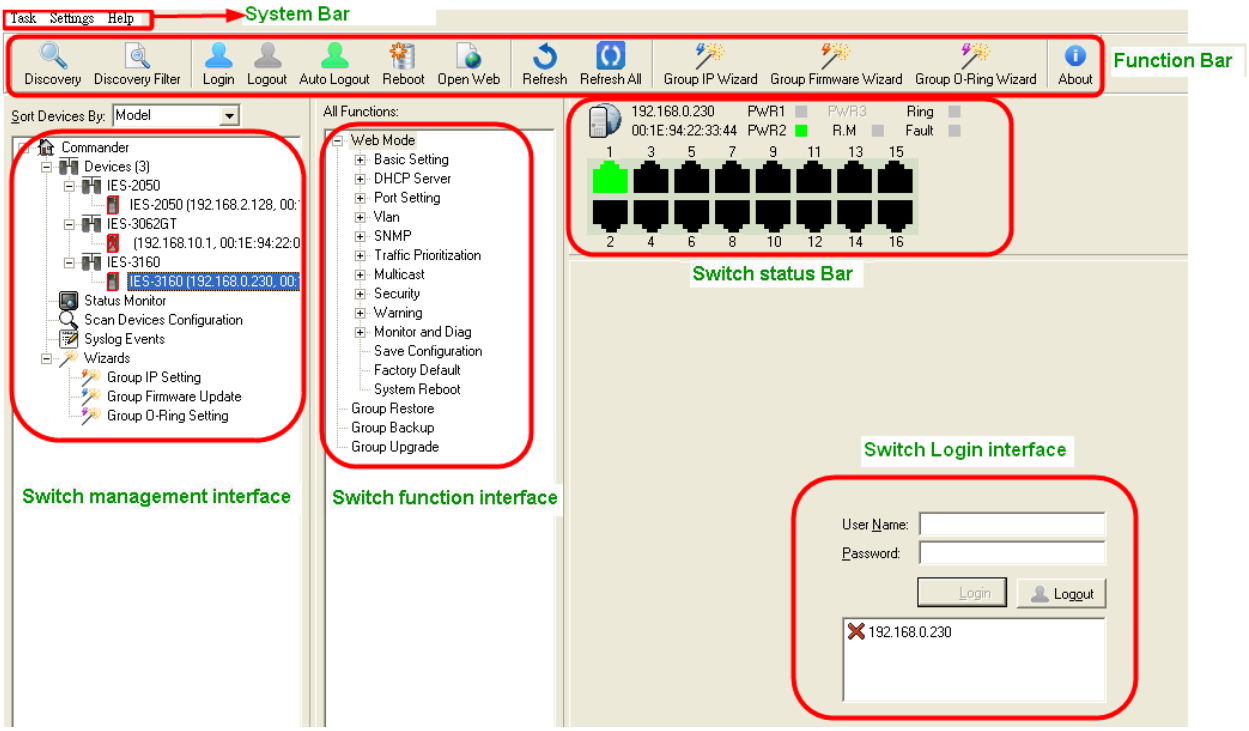
Function Bar

Switch Management Interface

Switch Function Interface

Switch Status Interface

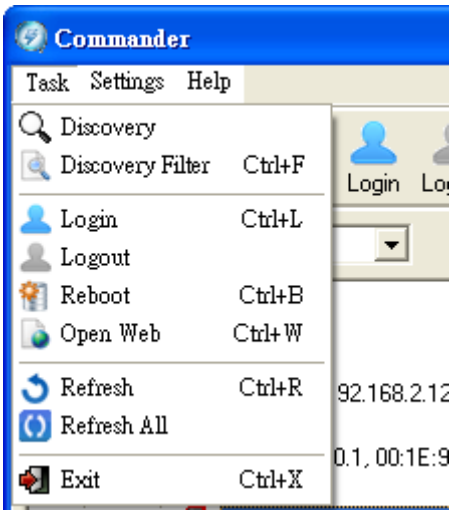
Switch Configuration Interface



# System Bar

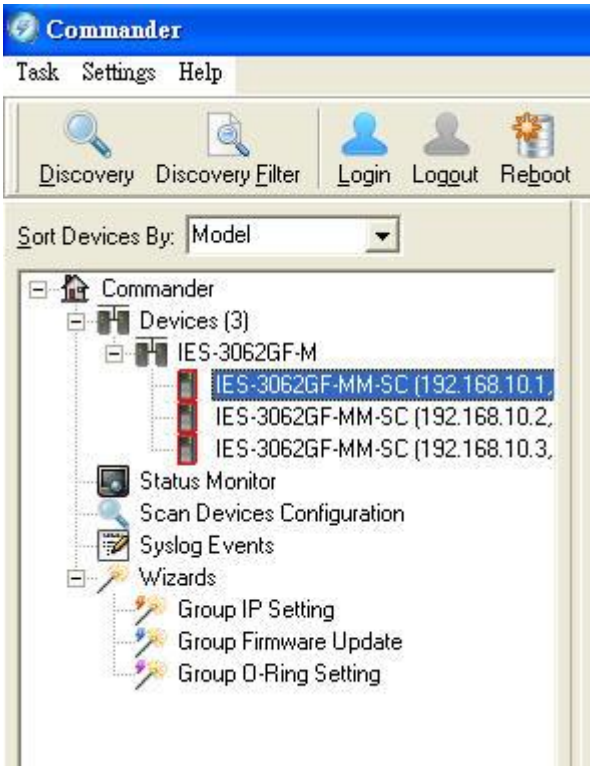
## 3.1 Task

User can select task to show Open-Vision tasks menu.



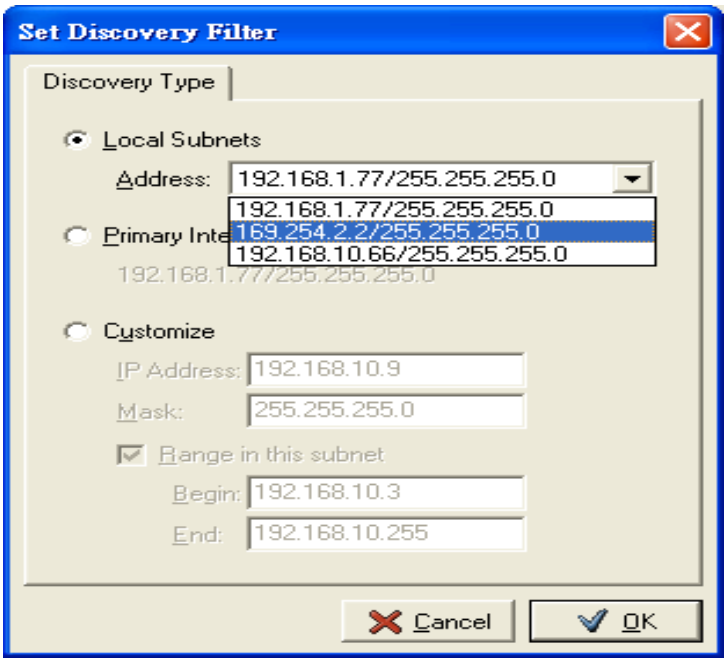

| Task | Hotkey | Description |
|---|---|---|
| Discovery | Ctrl + D | Click Discovery or Ctrl + D to discover the switches on the same subnet. Open-Vision will display all discovered switches on the management interface. Open-Vision discovers switched depend on discovery filter shows as next task. Note: all switches can be the same IP address. Open-Vision can discover and change IP by the Group IP Setting function. |

Discovering switches displayed on management interface.

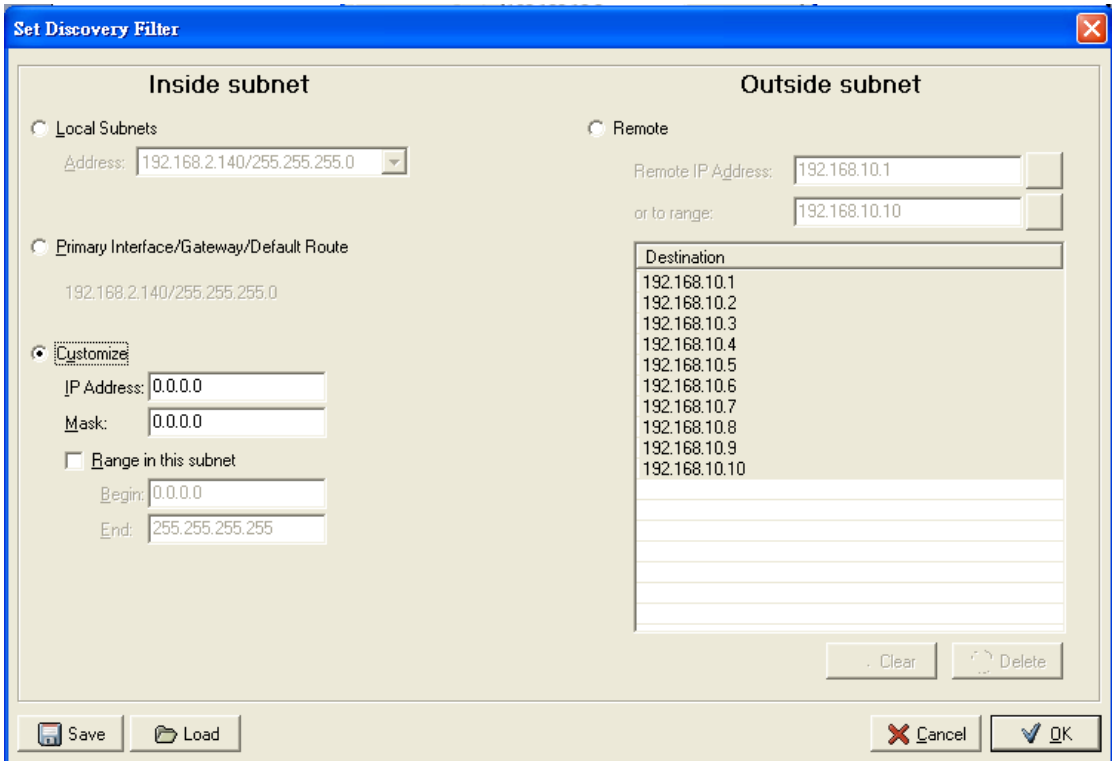



| Task | Hotkey | Description |
|---|---|---|
| Discovery Filter | Ctrl + F | • Local Subnets: Open-Vision will only discover all switches connect to the specific IP of NIC that user select.<br>• Primary Interface/Gateway/Default Route: Open-Vision will select a primary interface to discover switches.<br>• Customize: Set up the subnet to filter, user also can define a smaller rage in the subnet to filter. When use Remote function, users are able to use specific IP addresses to discover switches. |

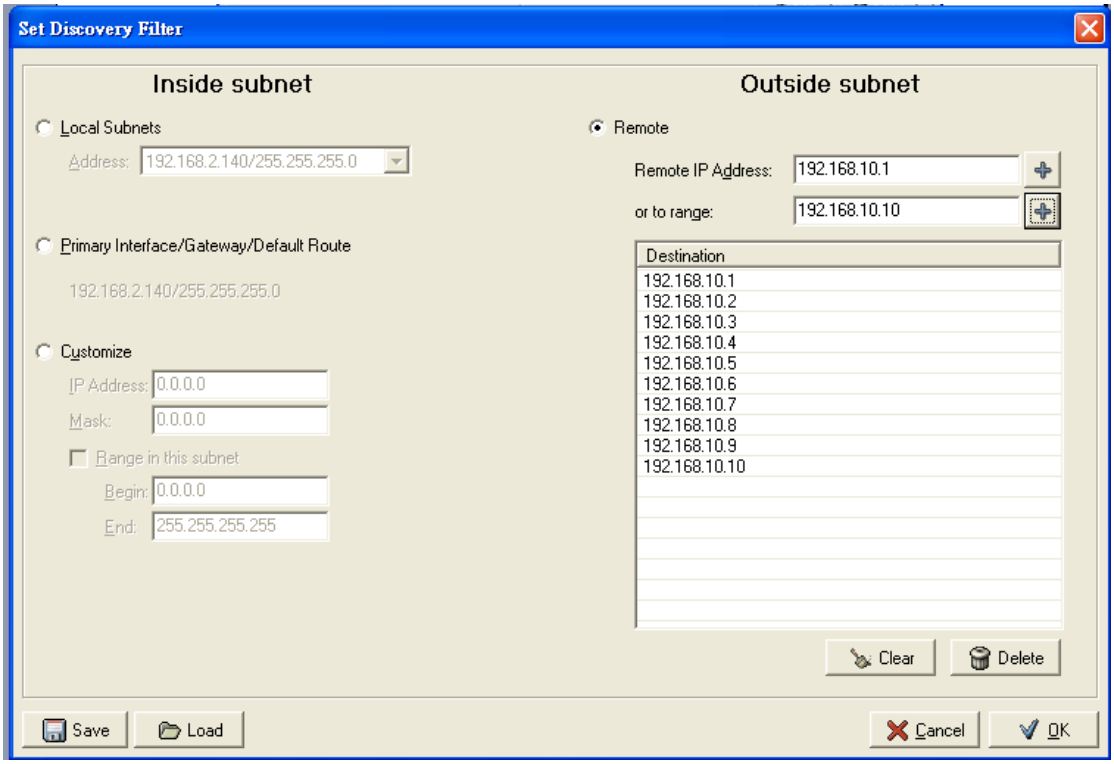
- Local Subnets: Open-Vision will only discover all switches connect to the specific IP of NIC that user select.



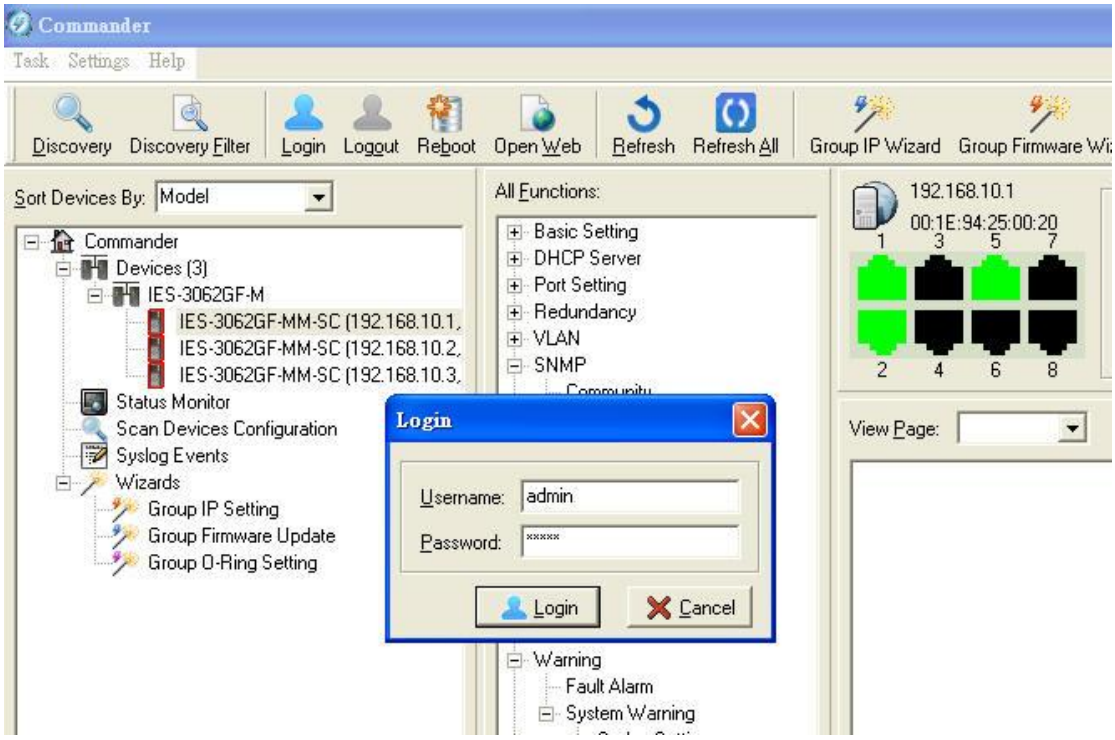

- Primary Interface/Gateway/Default Route: Open-Vision will select a primary interface to discover switches.



Customize: Set up the subnet to filter, user also can define a smaller rage in the subnet to filter. When use Remote function, users are able to use specific IP addresses to discover switches.

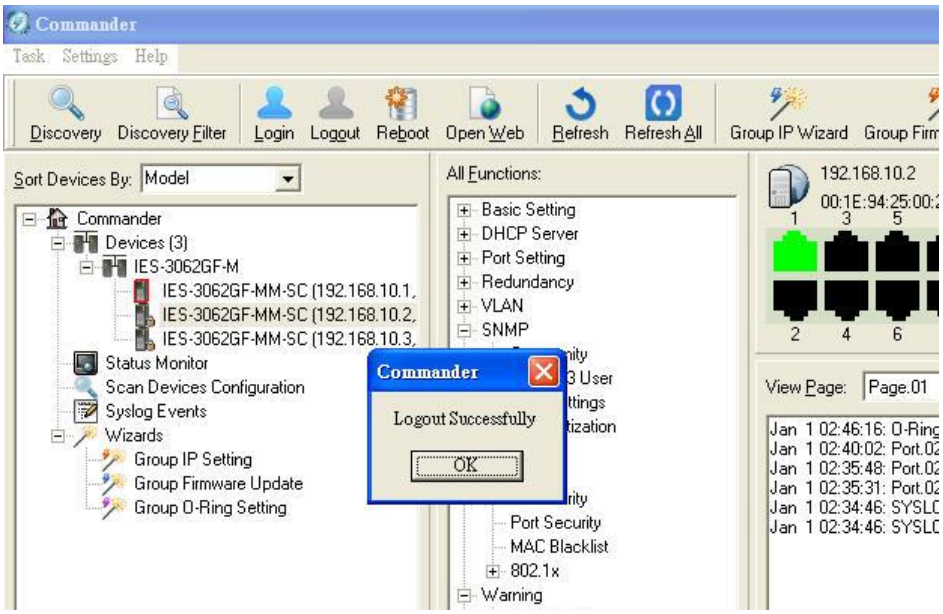



| Task | Hotkey | Description |
|---|---|---|
| Login | Ctrl + L | Select switch to login to configure. Open-Vision can login to multiple switches that user selected. Enter account and password to login (the same with web management). Note: When user login and idle about 300 seconds, Open-Vision will logout automatically. When login success, the switch icon will change from to. |

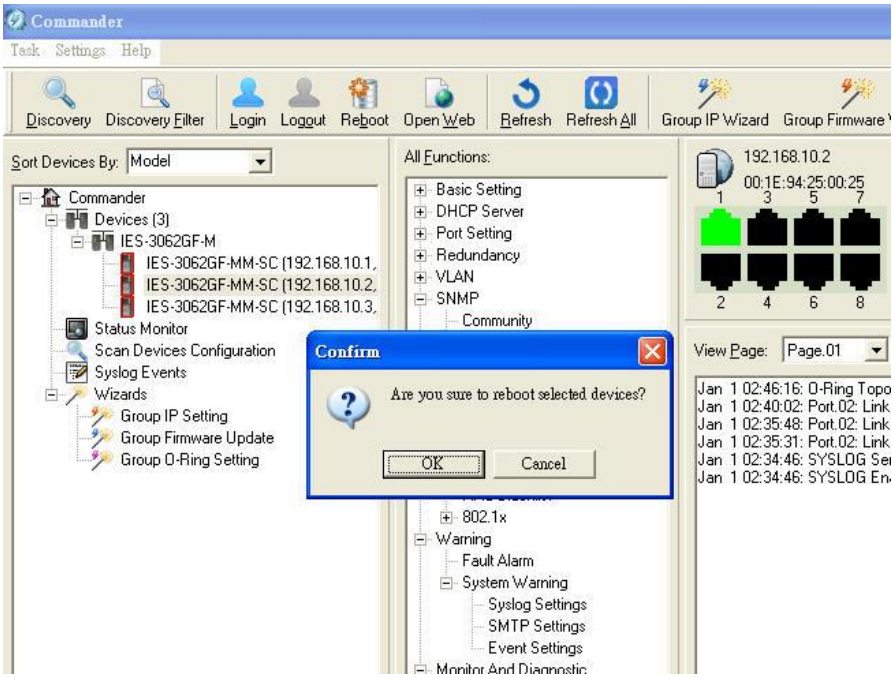



Login Interface

| Task | Hotkey | Description |
|---|---|---|
| Logout | N/A | Select switch to logout. Open-Vision can logout from multiple switches that user selected. When logout success, the switch icon will change from to. |



| Task | Hotkey | Description |
|---|---|---|
| Reboot | Ctrl + B | Select switch to reboot. Open-Vision can reboot multiple switches that user selected. When user click reboot, a dialog window will be displayed on screen for confirming. |




| Task | Hotkey | Description |
|---|---|---|
| Open Web | Ctrl + W | Select switch to open web UI management. Open-Vision will open browser of your OS automatically. |

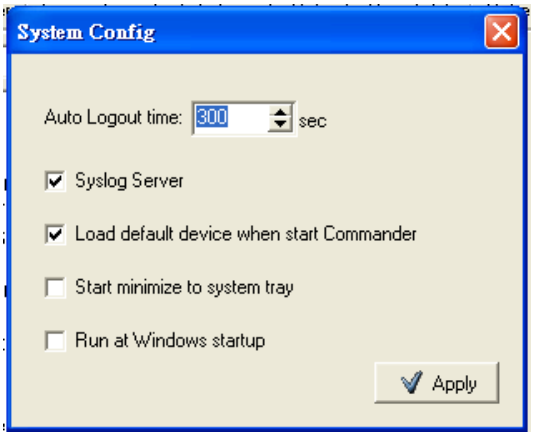
| Task | Description |
|---|---|
| Refresh | Refresh the specific switch function management interface and switch configuration interface. |
| Refresh All | Refresh all switch function management interfaces and switch configuration interfaces |

## 3.2 Settings

| Task | Description |
|---|---|
| Load Device | Users are able to re-load the IP address list. |
| Save Device | Users are able to save the IP address list on the Discovery Filter/Remote page. |
| Save Default Device | Users can now "Device" is set to default values. Future start "Commander" of these devices will be displayed directly, without re-discovery.(need enable system config→ Load default device when start commander) |

| Task | Description |
|---|---|
| System Config | **Auto Logout time :**<br>User can setting auto logout time.<br><br>**Syslog server :**<br>Enable or disable commander syslog server.<br><br>**Load default device when start commander :**<br>Commander starts, automatically read the last used device information (required the first use of setting → save default device save using configuration.) |

| | |
|---|---|
| | **Start minimize to system tray:**<br>Open the commander, the automatic down to windows taskbar.<br><br>**Run at Windows startup:**<br>When WINDOWS starts automatically start Open vision-Commander |




## 3.3 Help

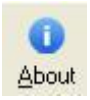
| Label | Hotkey | Description |
|---|---|---|
| About | F1 | Show Open-Vision version information. |

# Function Bar

## 4.1 Icons Introduction

There are many icons on function bar. The functions of the icons are the same with Tasks that we introduce in previous chapter.

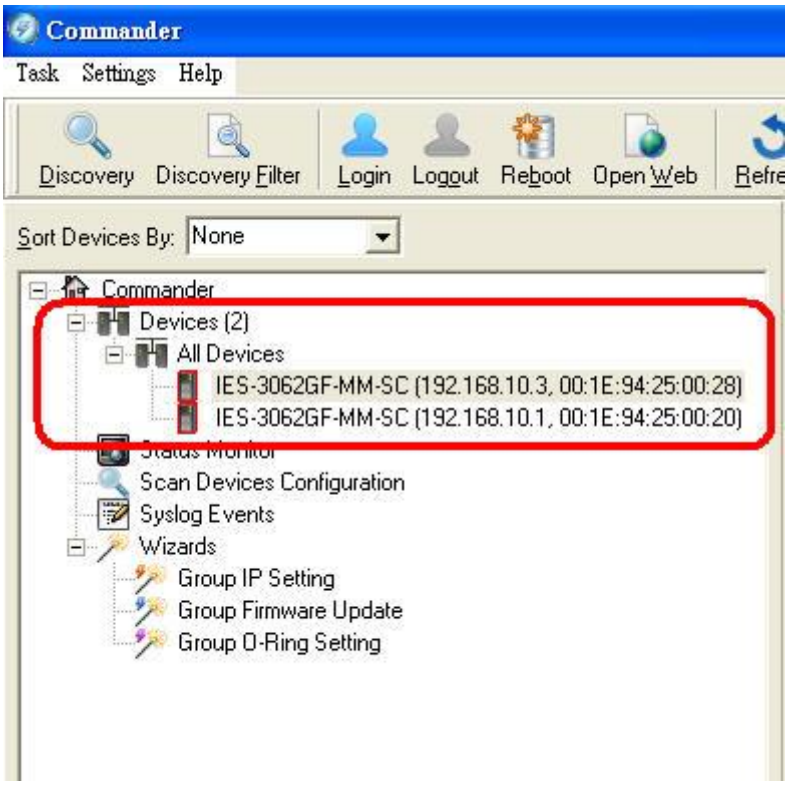
| Icon | Description |
|---|---|
| | Same with task "Discovery". |
| | Same with task "Discovery Filter". |
| | Same with task "Login". |
| | Same with task "Logout". |
| | Same with task "Reboot". |
| | Same with task "Open Web". |
| | Same with task "Refresh". |
| | Same with task "Refresh All". |
| | One of Open-Vision powerful functions. Open-Vision Group IP Wizard can configure multiple switches' IP Address. The function will be introduced more detail in Switch Management Interface chapter. |

| | |
|---|---|
| | One of Open-Vision powerful functions. Open-Vision Group IP Wizard can update multiple switches' firmware. The function will be introduced more detail in Switch Management Interface chapter. |
| | One of Open-Vision powerful functions. Open-Vision Group O-Ring Wizard can setting multiple switches' O-Ring Function. The function will be introduced more detail in Switch Management Interface chapter. |
|  | Same with task "about". |

# Switch Management Interface

## 5.1 Devices

User can see and manage all discovered switches by the device function. User can select wanted switch to execute tasks.

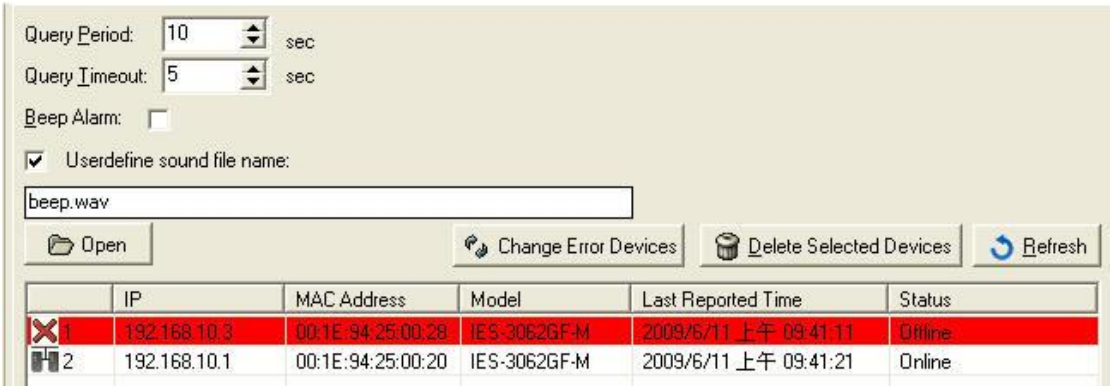



Switch Management Interface

| Label | Description |
|---|---|
| Devices | Show the amount of discovered switches. |
| All Devices | Show all discovered switches' detail information. |

## 5.2 Status Monitor

Status Monitor provides user to monitor multi switches in a page. Through the color changes, user can know something happened to switches, then tack action to repair the situation.

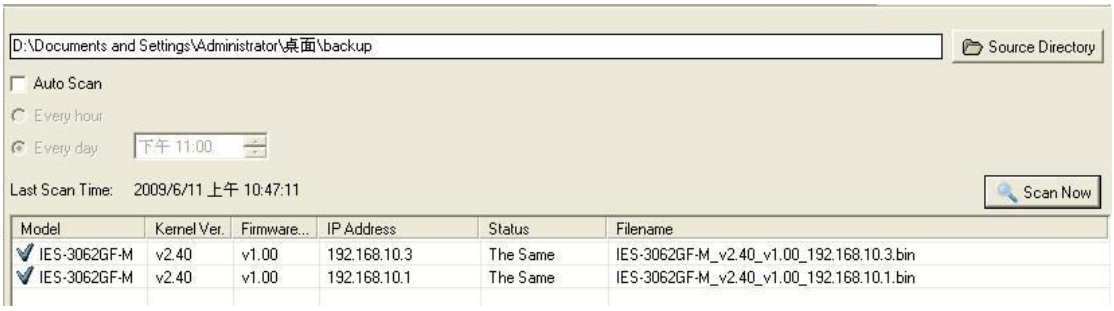



Status Monitor Interface

| Label | Description |
|---|---|
| Query Period | The period that Open-Vision will send a packet to device to query status. |
| Query Timeout | Set the timeout period. After the period, Open-Vision does not receive reply from device, warning message will be displayed. |
| Beep Alarm | Mark the blank for beep alarm. Open-Vision will let your PC make sound to inform user that some events happen. |
| Change error Devices | When switch breaks down, Our can direct change switch, then push " change error Devices " , commander utility will upgrade breaks down switch that information , Let new switch replace bad switch |
| Delete Selected Devices | When the devices does not exist, we can utilize " delete selected Devices " to delete in list not existing the device information |
| Refresh | Refresh the status. |
| IP | Show the IP Address of discovered switch. |
| MAC Address | Show the MAC Address of discovered switch. |
| Model | Show the Model name of discovered switch. |
| Last Reported Time | Show the last time that Open-Vision receives report from switch. |
| Status | Show switch online/offline and show events alarm. |
| Open | The user can oneself define ALARM sound file.(MP3, WAV) |

## 5.3 Scan Devices Configuration

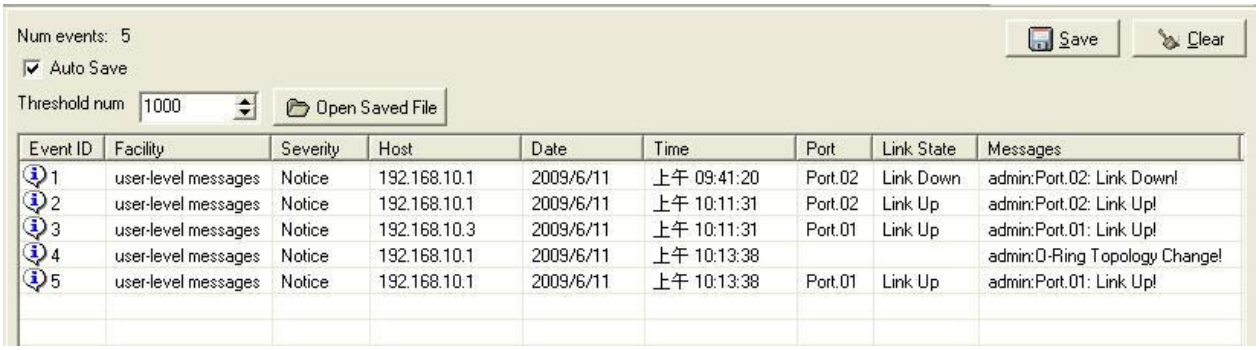
"Scan Devices Configuration" function, can scan config to compare device config with backup config，Guarantee the exactness of device cofnig. Avoid the artificial establishment mistake.




| Label | Description |
|---|---|
| Source Directory | Show the amount of discovered switches. |
| Auto Scan | Show all discovered switches' detail information. |
| Every hour | Enable, every hour will automatic scan device config |
| Every day | Enable, the time to appoint every day, will automatic scan device config |
| Scan Now | Star Scan devices configuration function |
| Model | Show device model name |
| Kernel Ver | Show device firmware kernel ver |
| Firmware Ver | Show device firmware ver |
| IP Address | Show device the IP Address |
| Status | Show device config check status |
| Filename | Show device config filename |

## 5.4 Syslog Events

Commander utility has a built-in syslog server. User does not need to use other syslog software. In syslog event window, the events will be record and user can know what event happened to the switches.

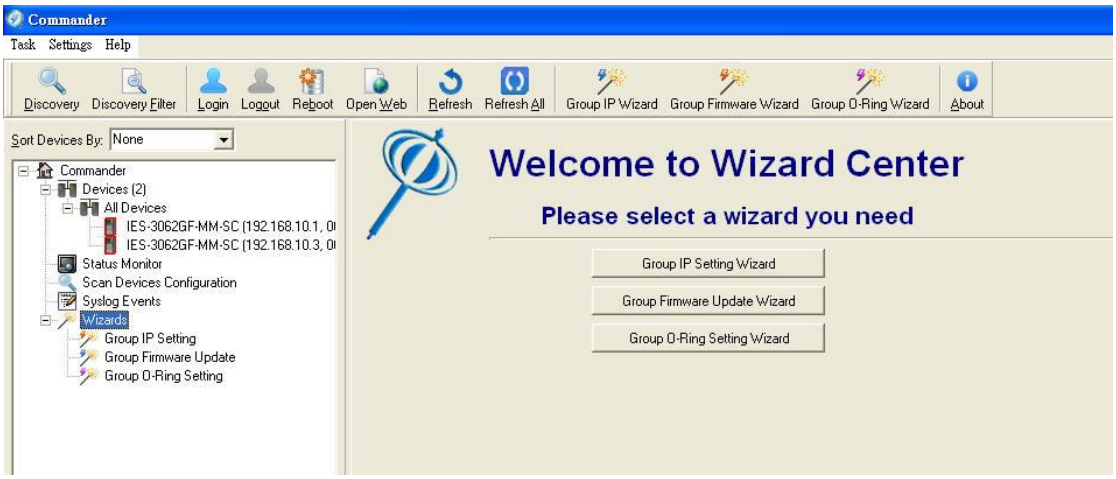



Syslog events Interface

| Label | Description |
|---|---|
| Auto Save | According to threshold number setting , carry out save movement, when system log exceeds the threshold number , commander utility will auto save system log file to excel file. |
| Threshold num | When LOG achieve this number will be automatically saved |
| Save | Save system log info to excel file |
| clear | Clear all system log |
| Event ID | The number of the happened event. |
| Facility | Class of the event. |
| Severity | Show the event urgent degree. |
| Host | Show the event source address. |
| Date | Show the date of the happened event. |
| Time | Show detail time of the happened event. |
| Port | Show connect port |
| Link state | Show link status |
| Messages | Show switch status |

## 5.5 Wizards

A friendly UI of Open-Vision to help user to set IP address or update firmware of a group of switch. The wizard lets users step by step to do the jobs. It is very convenient for network administrator to save time for configuring IP and updating firmware. Besides saving time, it can also reduce the mistakes made by user.




Wizard Interface

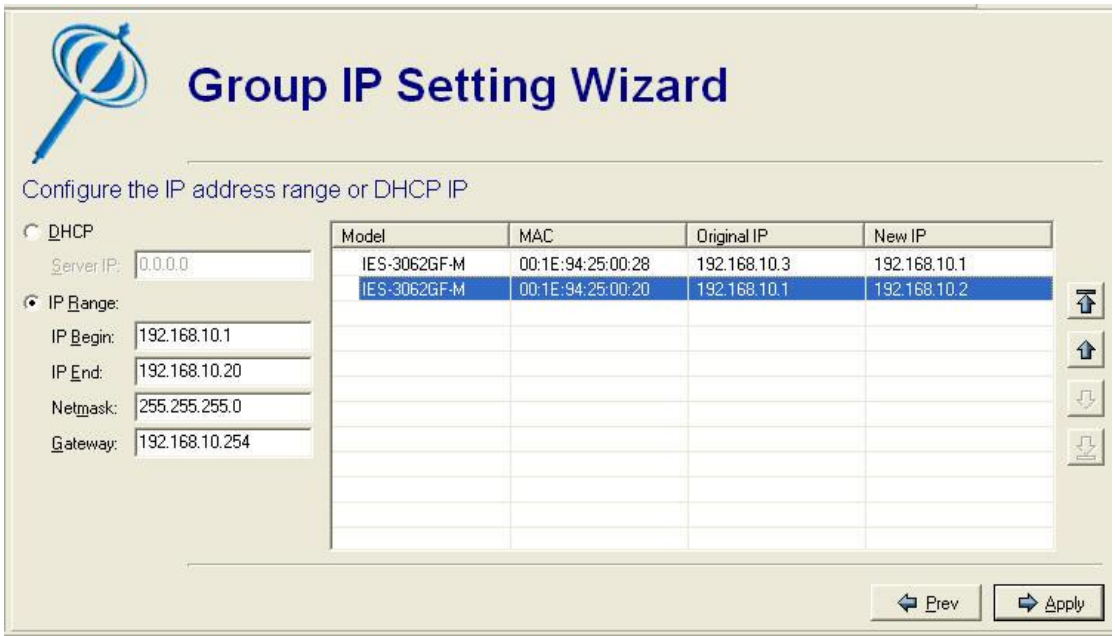
## 5.6 Group IP Setting Wizard

Group IP Setting Wizard helps you walk through whole IP address configure process of a group of devices. A few steps would be taken during this process:

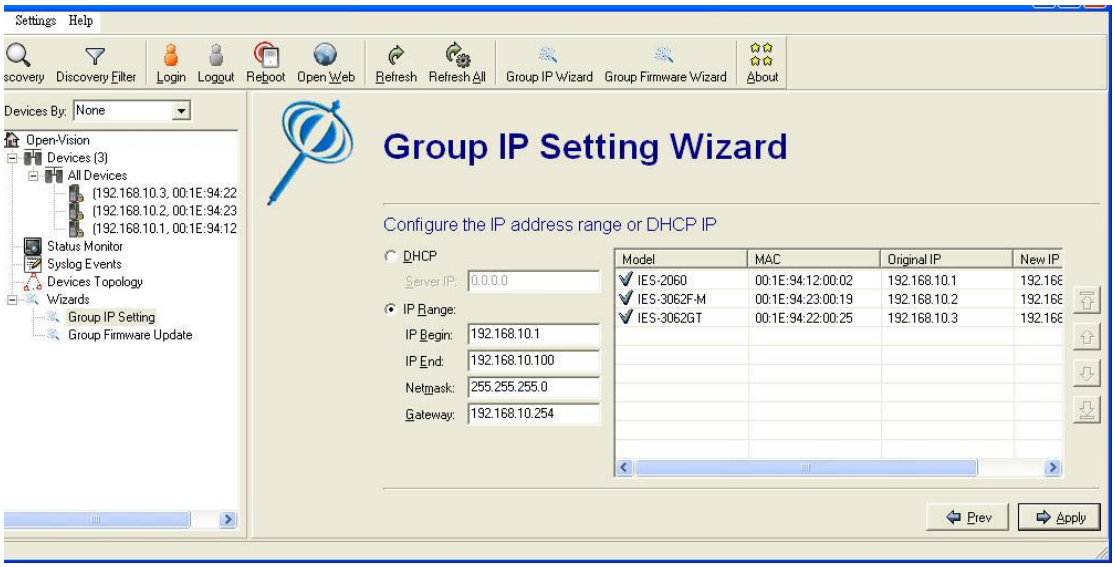
Group IP Setting Wizard Interface

STEP: 1. Select one or more devices to be configured.

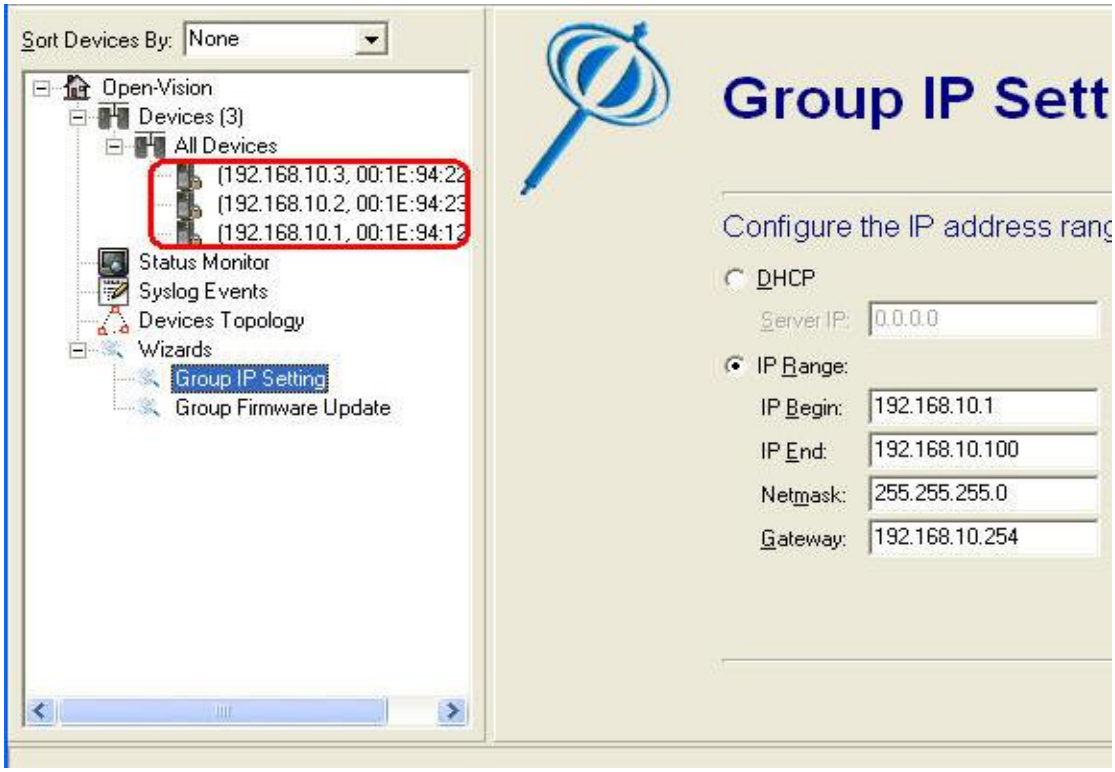
STEP: 2. Configure the IP address range or DHCP IP address



STEP: 3. Apply settings




STEP: 4. Verify the IP Setting by wizard.

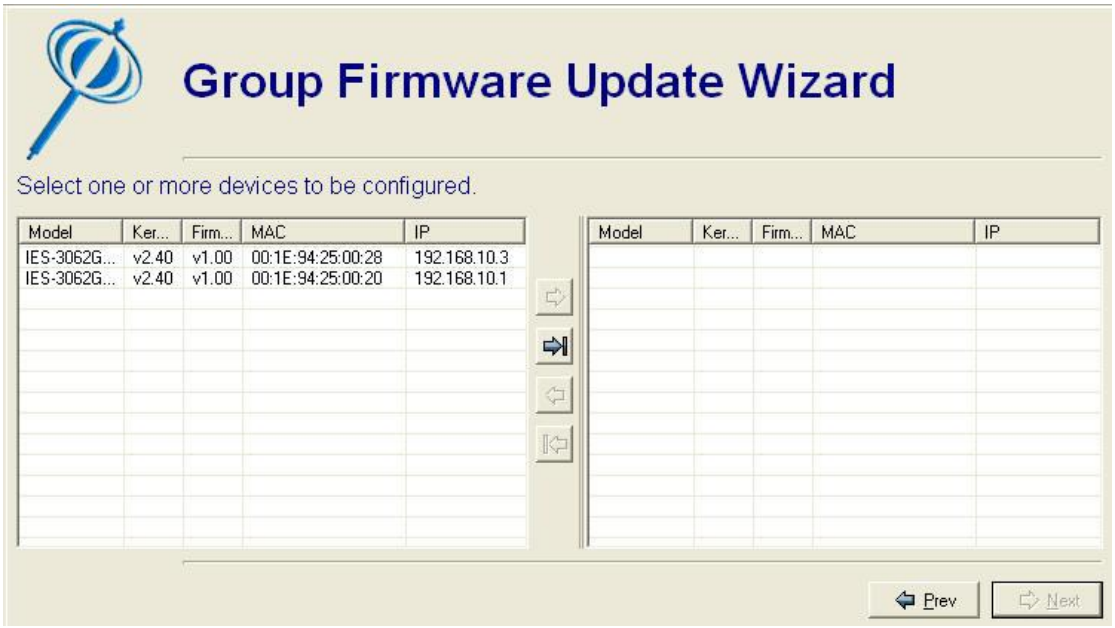


## 5.7 Group Firmware Update Wizard

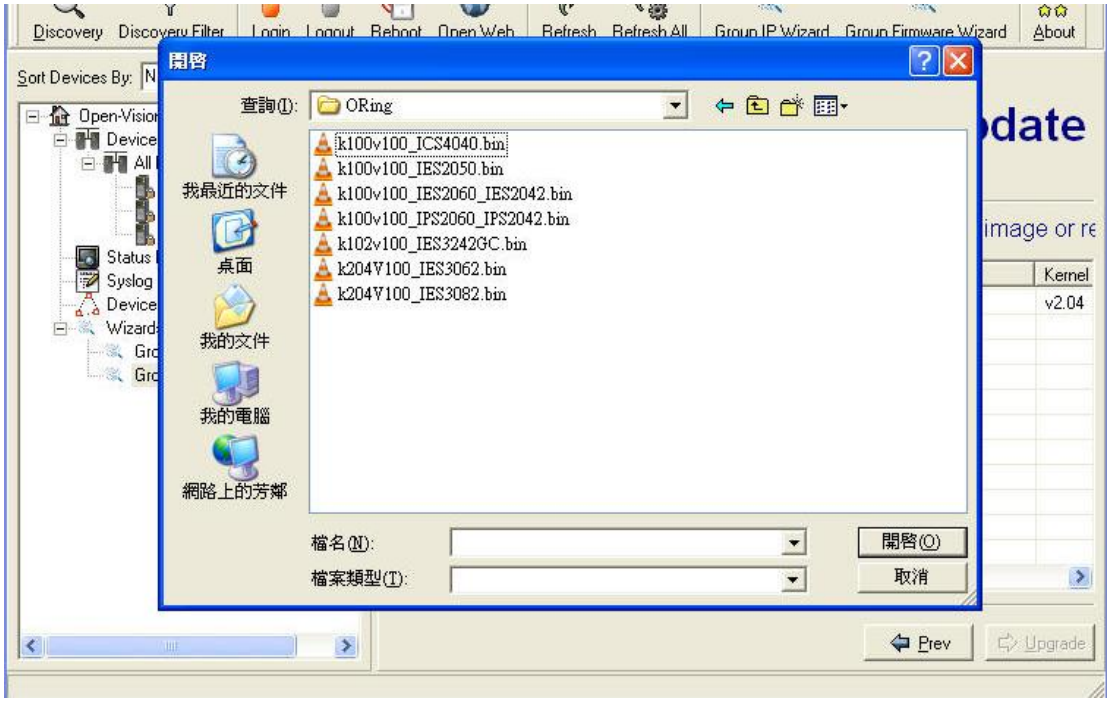
This wizard helps you to update firmware for a group of devices.

Group Firmware Update Wizard Interface

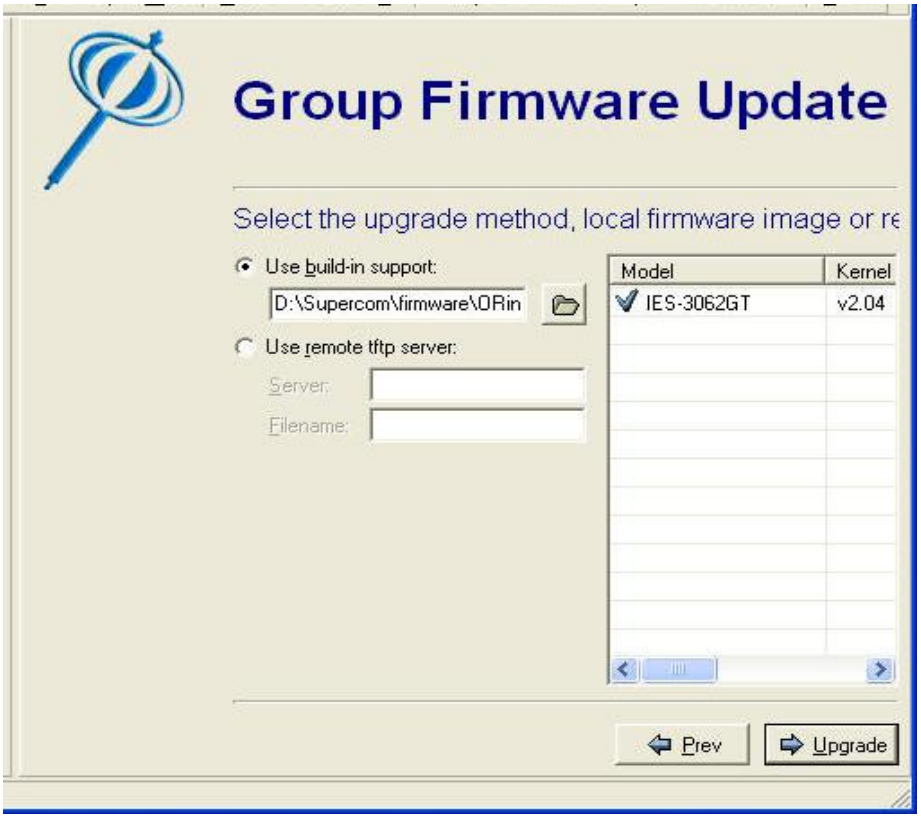
STEP: 1. Select one or more devices to be configured.



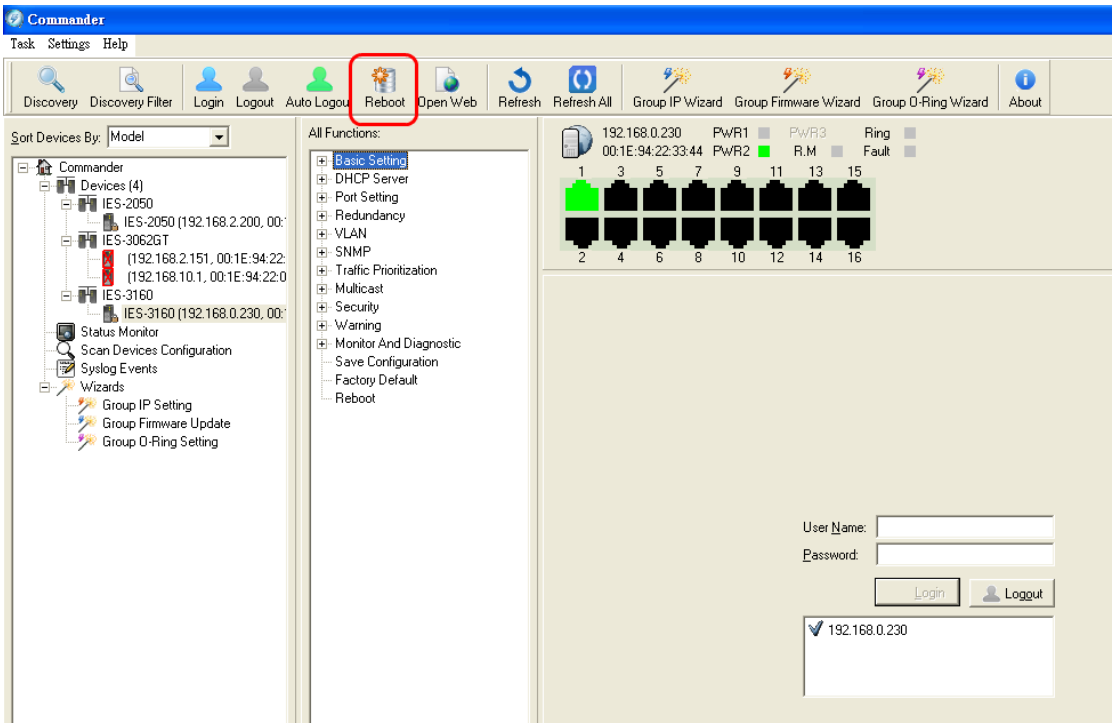
STEP: 2. Select the upgrade method, local firmware image or remote tftp server.




STEP: 3. Apply to upgrade selected firmware



STEP: 4. Reboot the switch that was upgraded firmware.

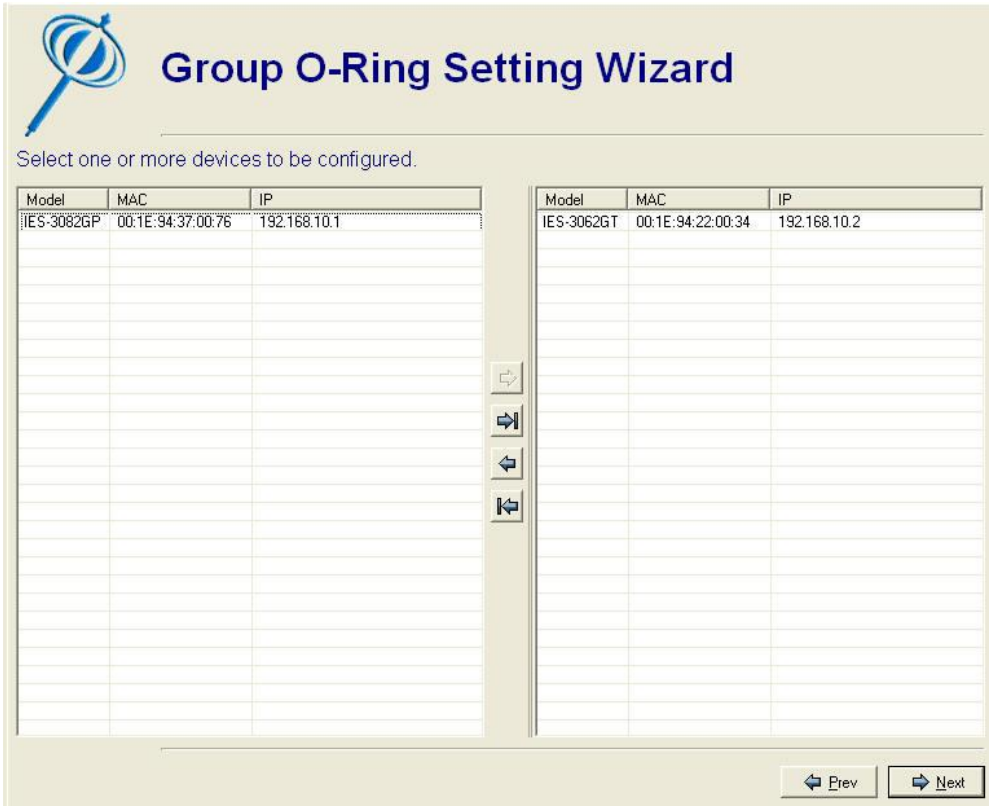



## 5.8 Group O-Ring Setting Wizard

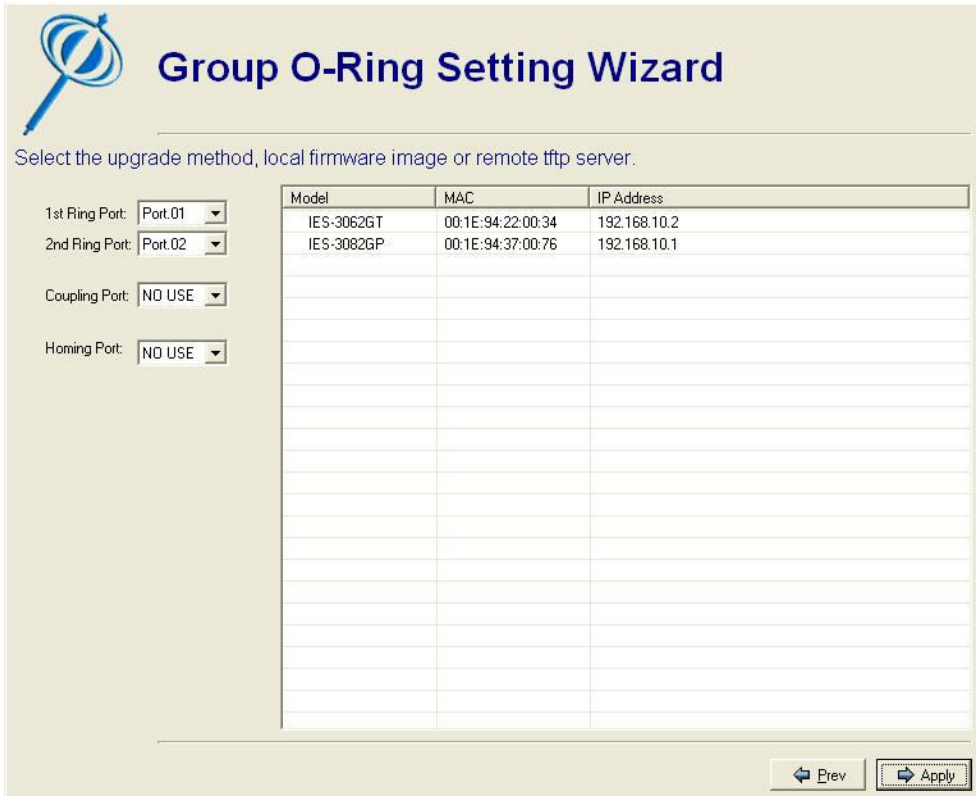
This wizard helps you to most easy setting O-Ring for a group of devices.

Group O-Ring Setting Wizard Interface

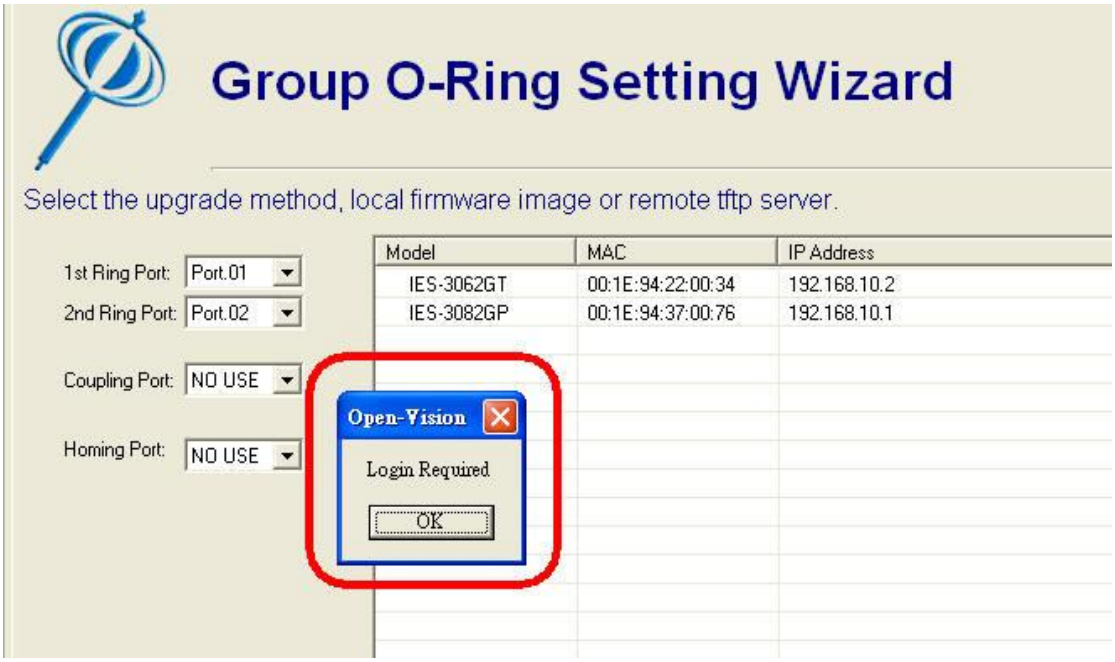
STEP: 1. Select one or more devices to be configured.




STEP: 2. Select want to carry out Ring Function to port number

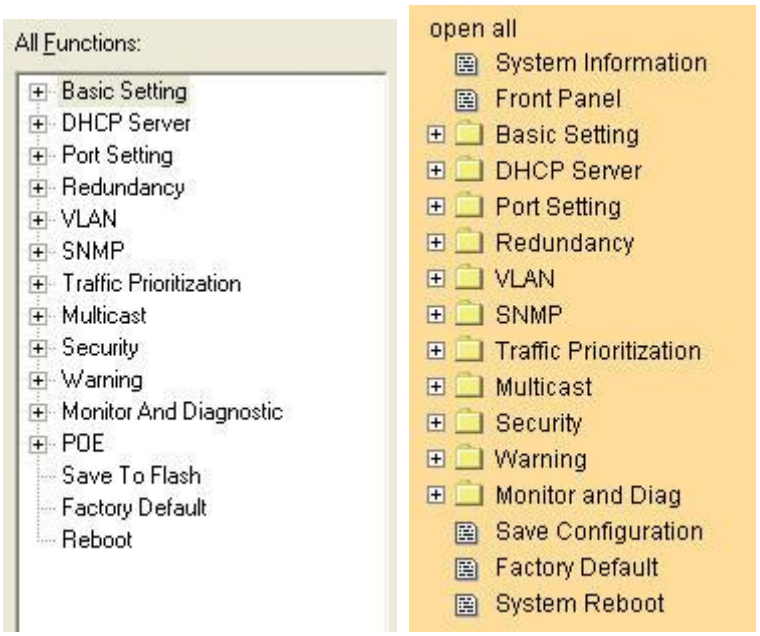


STEP: 3. O-Ring Function sets up successfully



# Switch Function Interface

The function interface is the same with function tree on web UI. That means: all functions can be configure on web; they can also configured by Open-Vision.



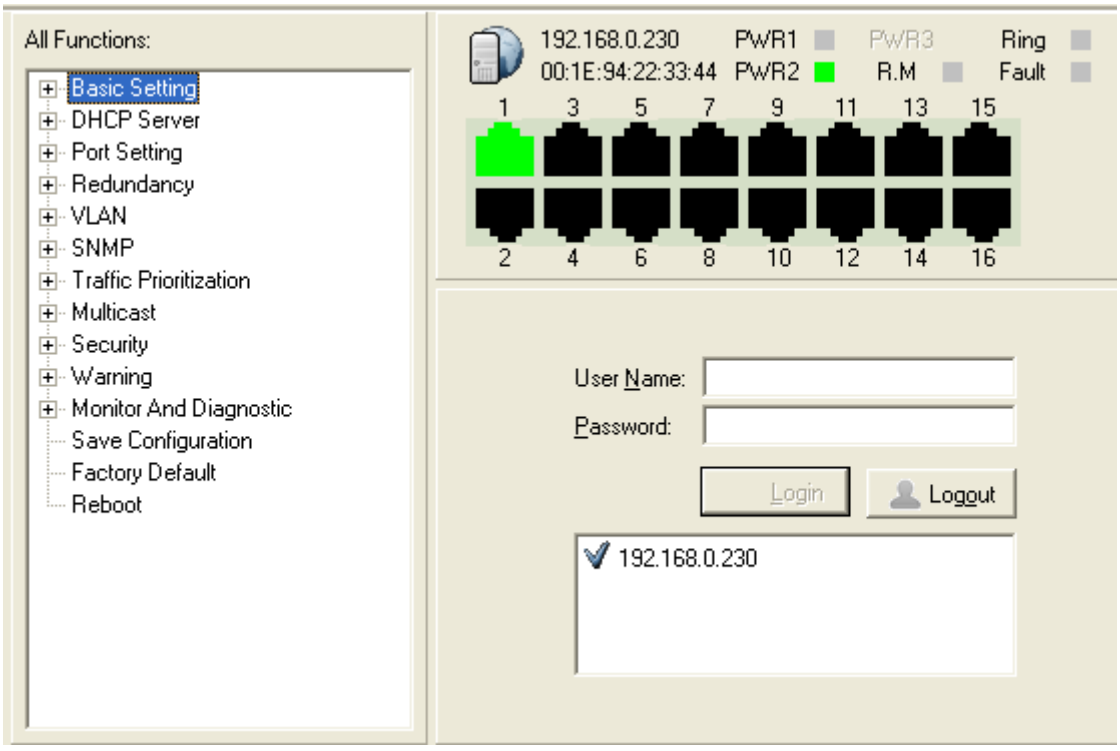

Functions Interface and Tree on Open-Vision and WEB

# 6.1 Basic Setting

## 6.1.1 System login

**System Login**

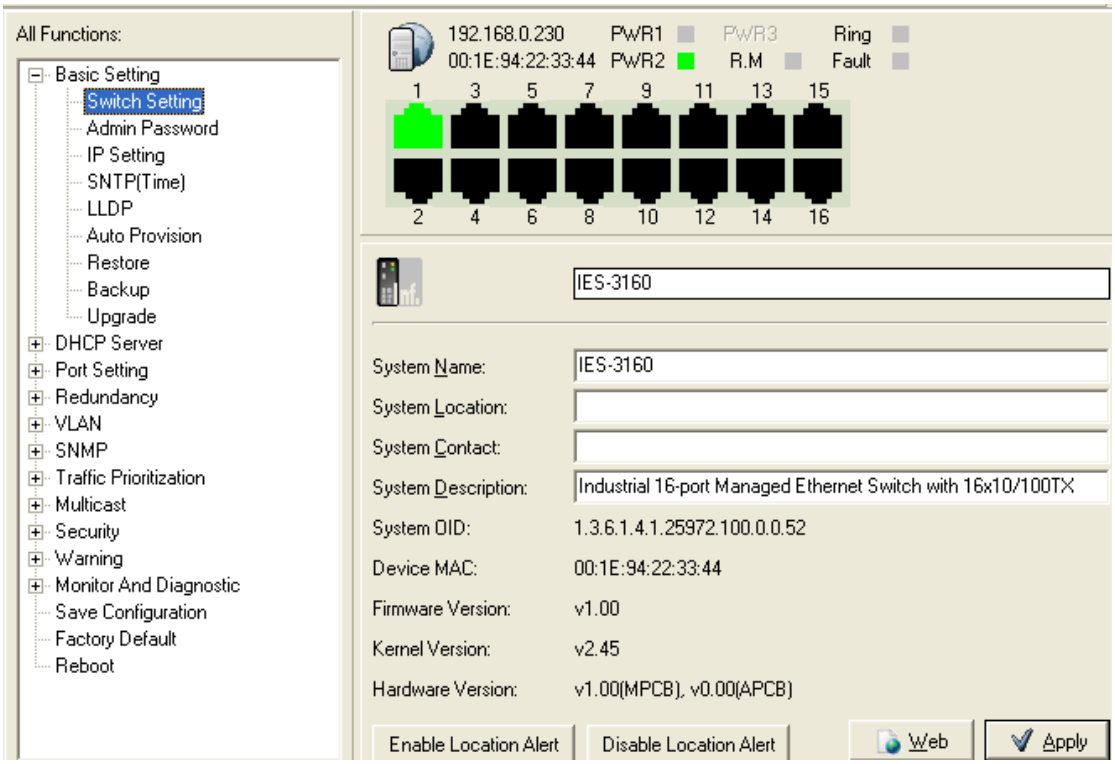
1. Launch the Open-Vision
2. To get into Basics
3. The login screen appears.
4. Key in the username and password. The default username and password is "**admin**".
5. Click "**Enter**" or "**Login**" button, then the main interface of the Web-based management appears.




WEB Login screen

# 6.2 Basics & Port Configuration

## 6.2.1 Switch setting




Switch setting interface

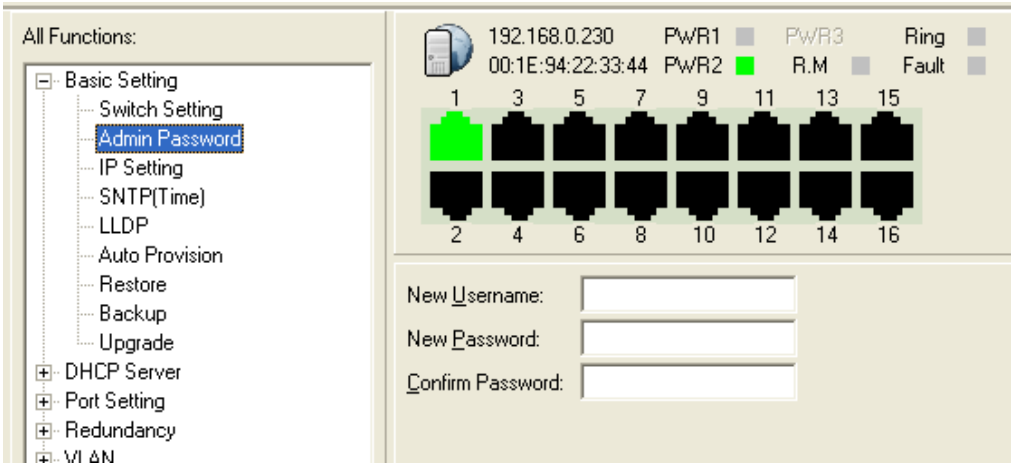
The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **System Name** | Assign the name of switch. The maximum length is 64 bytes |
| **System Description** | Display the description of switch. |
| **System Location** | Assign the switch physical location. The maximum length is 64 bytes |
| **System Contact** | Enter the name of contact person or organization |
| **Firmware Version** | Display the switch's firmware version |
| **Kernel Version** | Display the kernel software version |

| | |
|---|---|
| **MAC Address** | Display the unique hardware address assigned by manufacturer (default) |
| **Enable Location Alert** | Click Enable Location Alert, PWR1, PWR2 and PWR3 LEDs of the switch will start to flash together |
| **disable Location Alert** | Click Disable Location Alert, the LEDs will stop flashing |

## 6.2.2 Admin Password

Change Open-Vision management login username and password for the management security issue



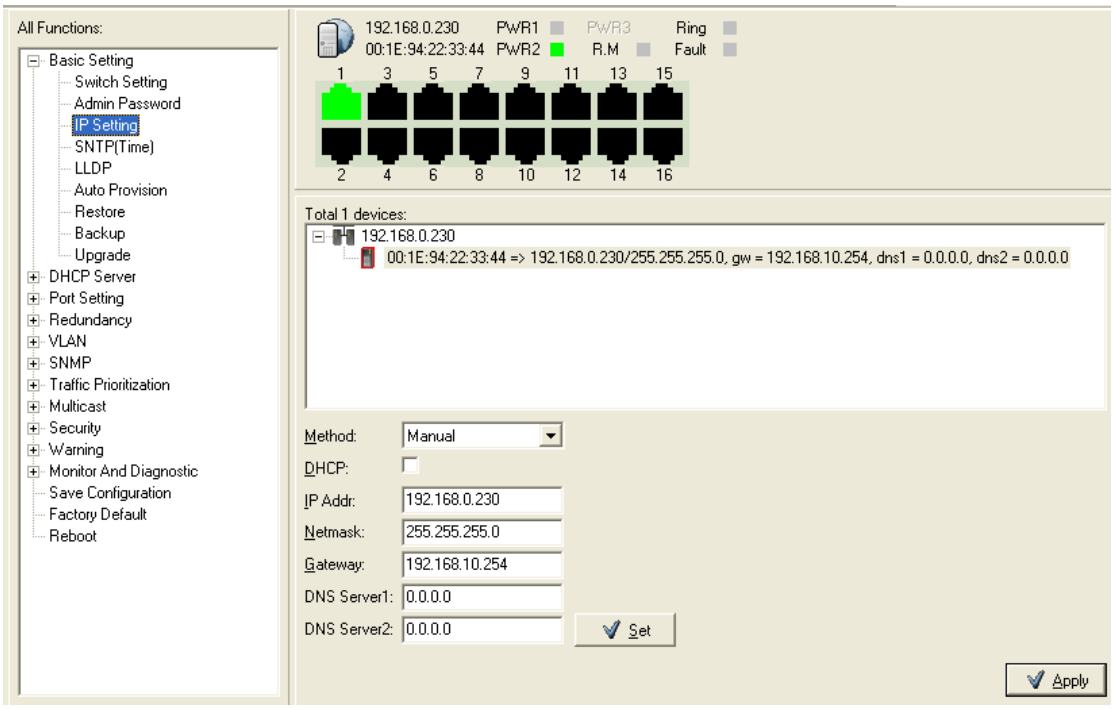

Admin Password interface

The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **User name** | Key in the new username(The default is "**admin**") |
| **New Password** | Key in the new password(The default is "**admin**") |
| **Confirm password** | Re-type the new password. |
| **Apply** | Click "**Apply**" to set the configurations. |

# IP configuration

You can configure the IP Settings and DHCP client function through IP configuration.




IP Configuration interface

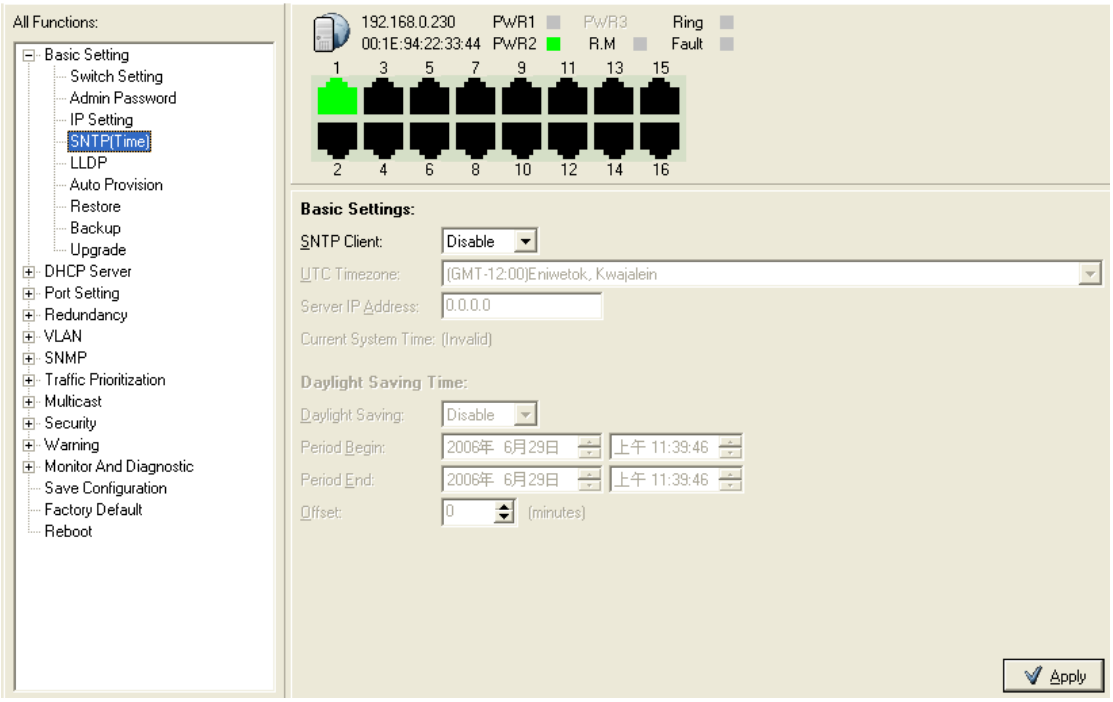
The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **DHCP Client** | To enable or disable the DHCP client function. When DHCP client function is enabling, the switch will be assigned the IP address from the network DHCP server. The default IP address will be replaced by the IP address which the DHCP server has assigned. After clicking "**Apply**" button, a popup dialog show up to inform the you when the DHCP client is enabling. The current IP will lose and you should find a new IP on the DHCP server. |
| **IP Address** | Assign the IP address that the network is using. If DHCP client function is enabling, you do not need to assign the IP address. The network DHCP server will assign the IP address for the switch and it will be display in this column. The default IP is 192.168.10.1 |

| | |
|---|---|
| **Subnet Mask** | Assign the subnet mask of the IP address. If DHCP client function is enabling, you do not need to assign the subnet mask |
| **Gateway** | Assign the network gateway for the switch. The default gateway is 192.168.10.254 |
| **DNS1** | Assign the primary DNS IP address |
| **DNS2** | Assign the secondary DNS IP address |
| **Apply** | Click "**Apply**" to set the configurations. |

## SNTP Configuration

The SNTP (Simple Network Time Protocol) settings allow you to synchronize switch clocks in the Internet.




SNTP Configuration interface

The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **SNTP Client** | Enable or disable SNTP function to get the time from the SNTP server. |

| | |
|---|---|
| **Daylight Saving Time** | Enable or disable daylight saving time function. When daylight saving time is enabling, you need to configure the daylight saving time period. |
| **UTC Time zone** | Set the switch location time zone. The following table lists the different location time zone for your reference. |

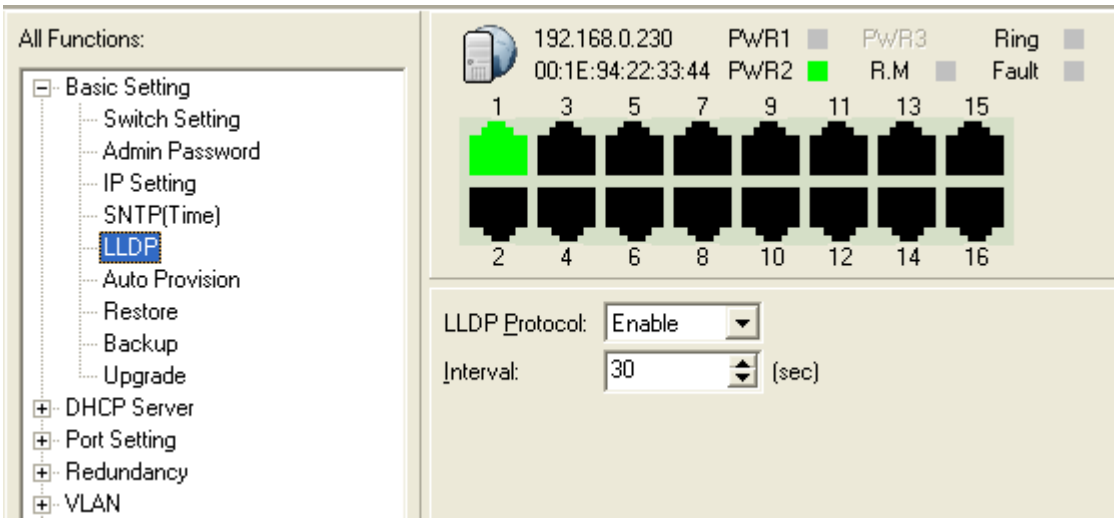
| Local Time Zone | Conversion from UTC | Time at 12:00 UTC |
|---|---|---|
| November Time Zone | - 1 hour | 11 am |
| Oscar Time Zone | -2 hours | 10 am |
| ADT - Atlantic Daylight | -3 hours | 9 am |
| AST - Atlantic Standard<br>EDT - Eastern Daylight | -4 hours | 8 am |
| EST - Eastern Standard<br>CDT - Central Daylight | -5 hours | 7 am |
| CST - Central Standard<br>MDT - Mountain Daylight | -6 hours | 6 am |
| MST - Mountain Standard<br>PDT - Pacific Daylight | -7 hours | 5 am |
| PST - Pacific Standard<br>ADT - Alaskan Daylight | -8 hours | 4 am |
| ALA - Alaskan Standard | -9 hours | 3 am |
| HAW - Hawaiian Standard | -10 hours | 2 am |
| Nome, Alaska | -11 hours | 1 am |

| | | |
|---|---|---|
| CET - Central European<br>FWT - French Winter<br>MET - Middle European<br>MEWT - Middle European Winter<br>SWT - Swedish Winter | +1 hour | 1 pm |
| EET - Eastern European, USSR Zone 1 | +2 hours | 2 pm |
| BT - Baghdad, USSR Zone 2 | +3 hours | 3 pm |
| ZP4 - USSR Zone 3 | +4 hours | 4 pm |
| ZP5 - USSR Zone 4 | +5 hours | 5 pm |
| **Local Time Zone** | **Conversion from UTC** | **Time at 12:00 UTC** |
| ZP6 - USSR Zone 5 | +6 hours | 6 pm |
| WAST - West Australian Standard | +7 hours | 7 pm |
| CCT - China Coast, USSR Zone 7 | +8 hours | 8 pm |
| JST - Japan Standard, USSR Zone 8 | +9 hours | 9 pm |
| EAST - East Australian Standard<br>GST<br>Guam Standard, USSR Zone 9 | +10 hours | 10 pm |
| IDLE - International Date Line<br>NZST - New Zealand Standard<br>NZT - New Zealand | +12 hours | Midnight |

| Label | Description |
|---|---|
| **SNTP Sever IP Address** | Set the SNTP server IP address. |
| **Daylight Saving Period** | Set up the Daylight Saving beginning time and Daylight Saving ending time. Both will be different each year. |
| **Daylight Saving Offset** | Set up the offset time. |
| **Switch Timer** | Display the switch current time. |
| **Apply** | Click "**Apply**" to set the configurations. |

## LLDP

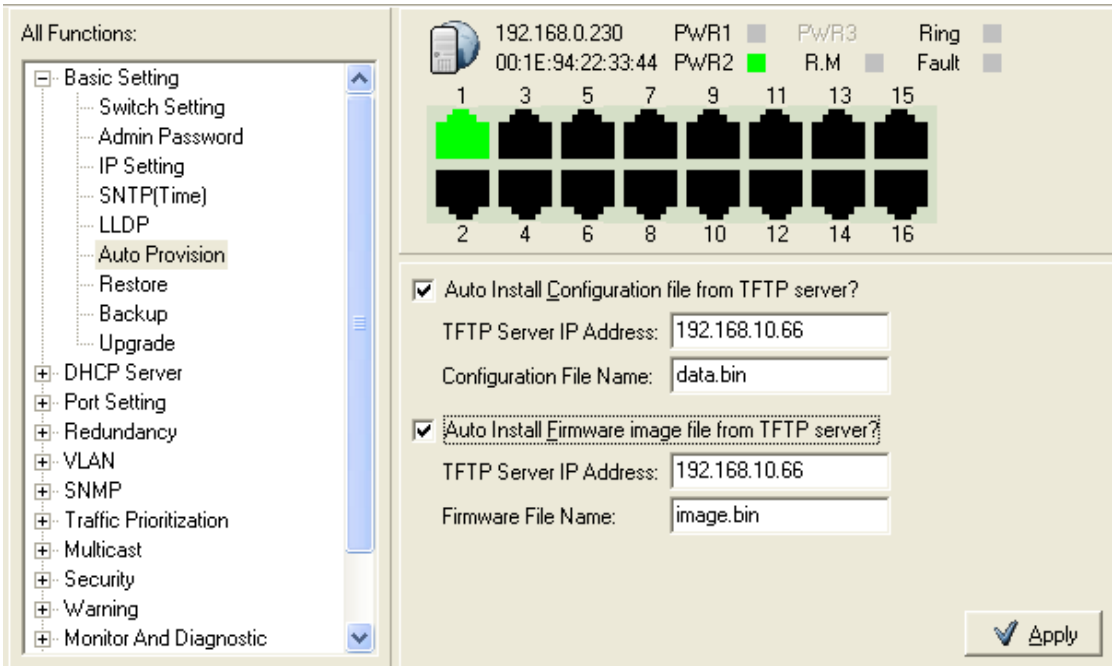
LLDP (Link Layer Discovery Protocol) function allows the switch to advertise its information to other nodes on the network and store the information it discovers




LLDP Configuration Interface

# Auto Provision

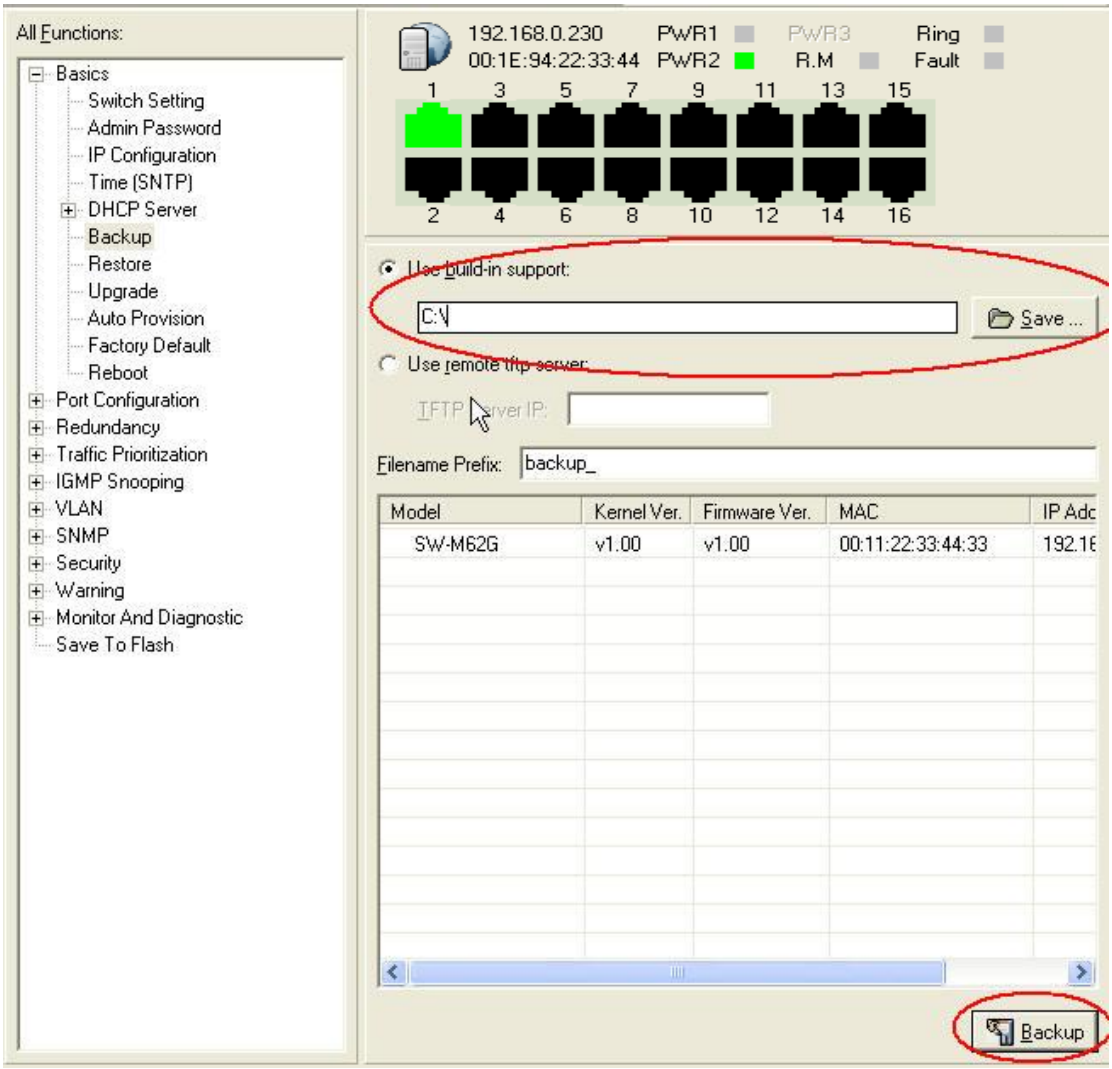
Auto Provision allows you to update the switch firmware automatically. You can put firmware or configuration file on TFTP server. When you reboot the switch, it will upgrade automatically. Before updating, make sure you have your TFTP server ready and the firmware image and configuration file is on the TFTP server.



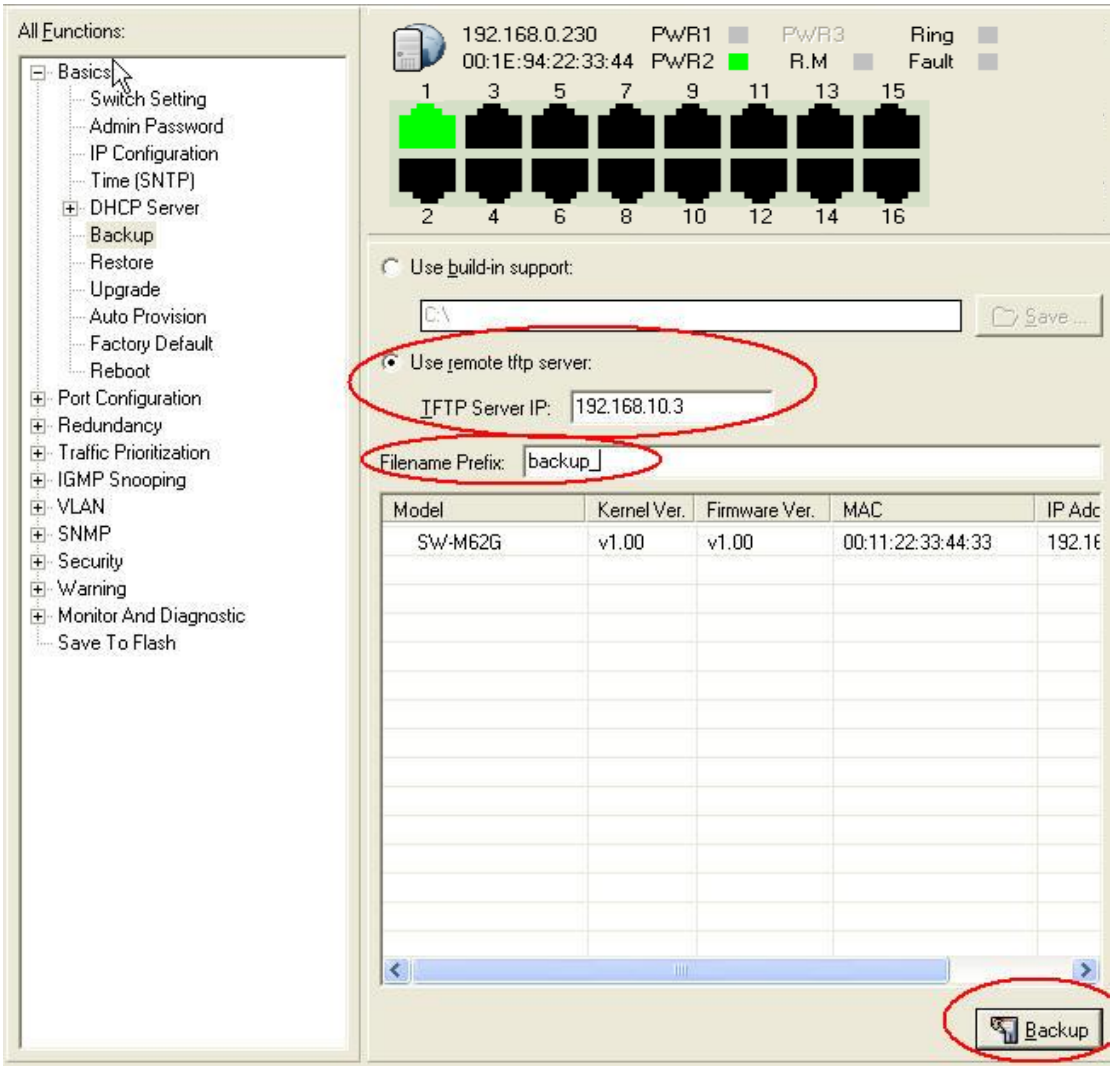

Auto Provision interface

## Backup & Restore

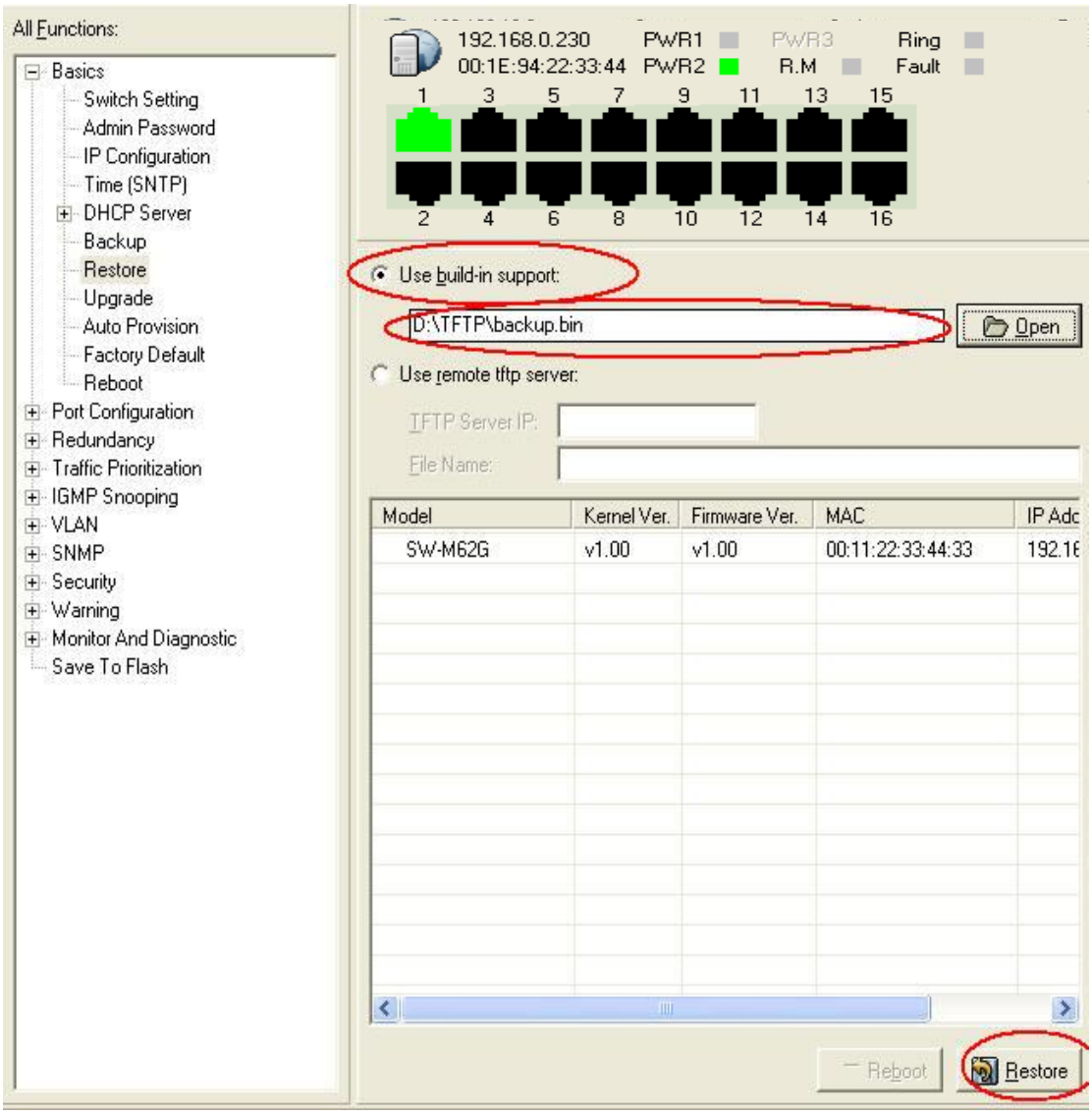
You can save current EEPROM value from the switch to TFTP server, then go to the TFTP restore configuration page to restore the EEPROM value.



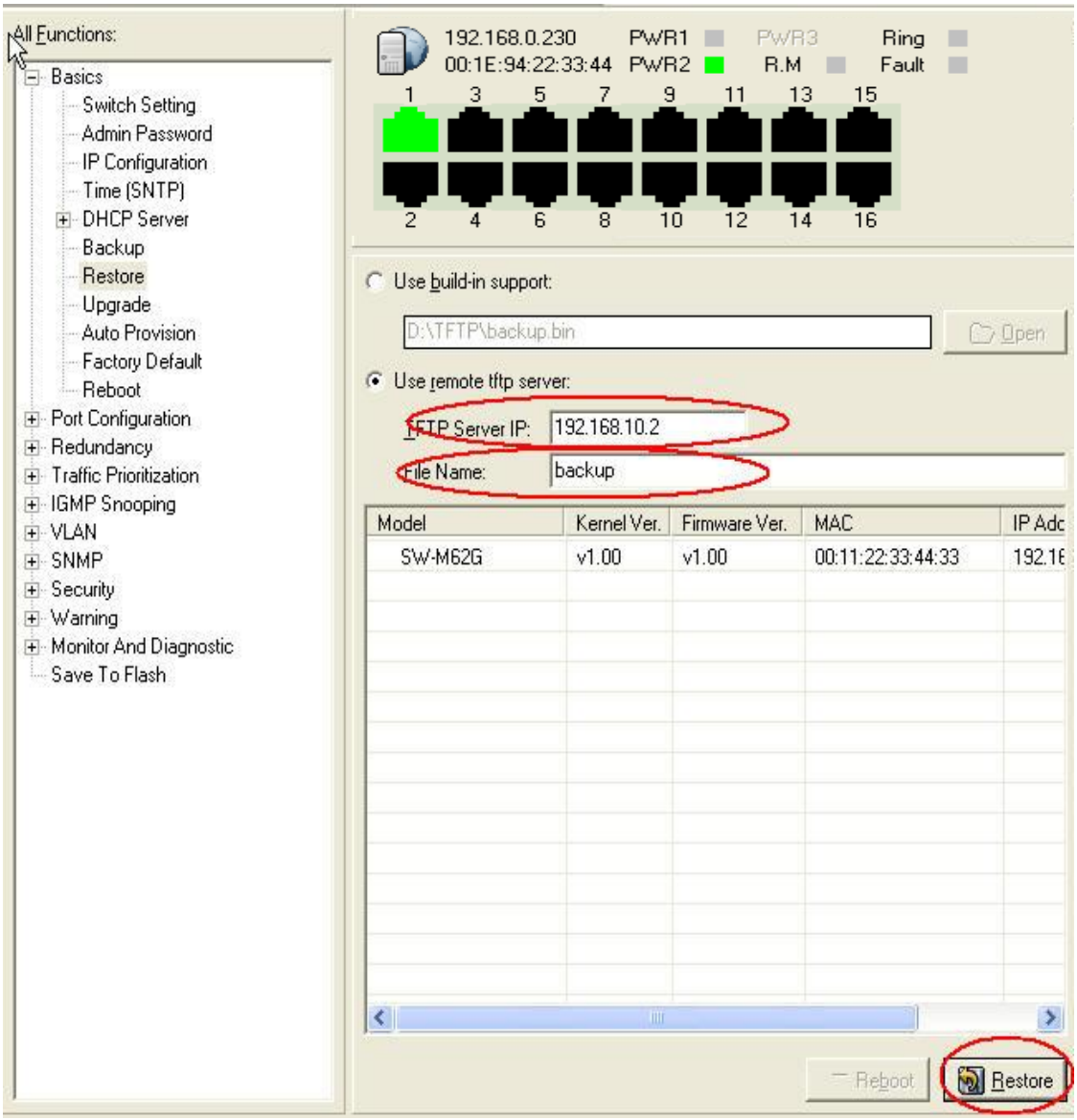

Use build-in support Backup




Use remote tftp server Backup




Use build-in support Restore




Use remote tftp server Restore

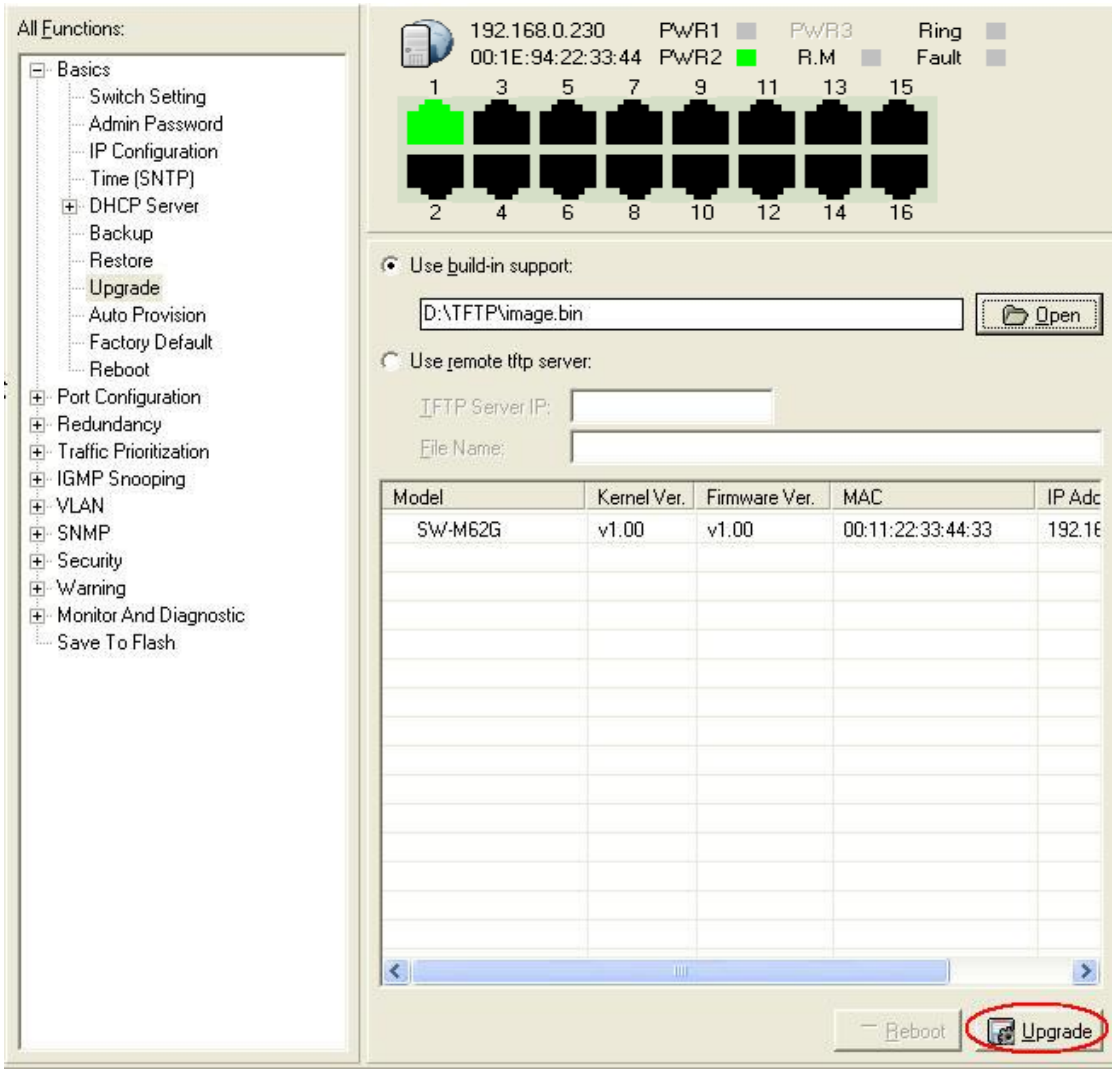
The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **TFTP Server IP Address** | Fill in the TFTP server IP |
| **Restore File Name** | Fill the file name. |
| **Restore** | Click "**restore**" to restore the configurations. |
| **Restore File Name** | Fill the file name. |

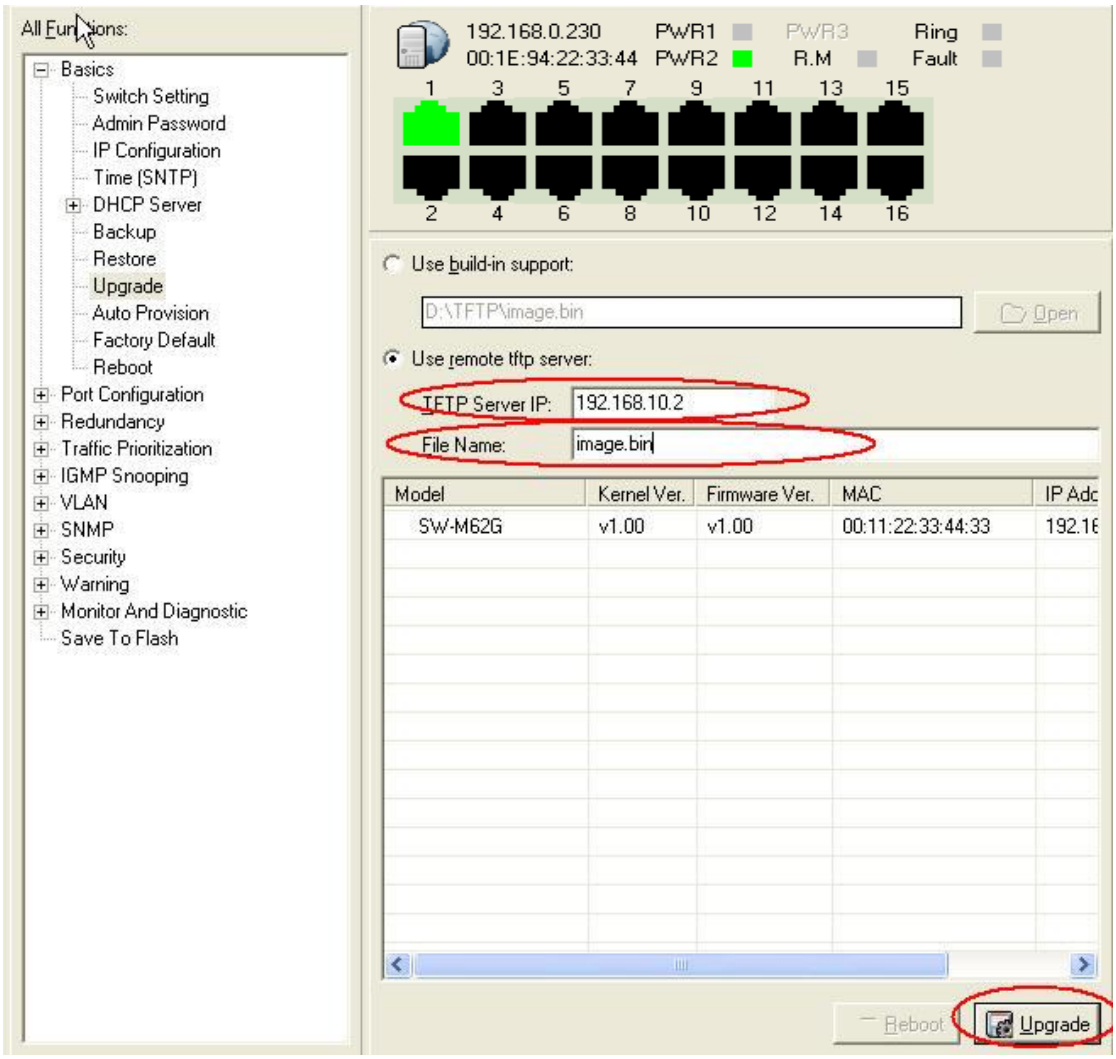
| | |
|---|---|
| **Restore** | Click "**restore**" to restore the configurations. |
| **Backup** | Click "**backup**" to backup the configurations. |

## Upgrade Firmware

Upgrade Firmware allows you to update the switch firmware. Before updating, make sure you have your TFTP server ready and the firmware image is on the TFTP server.




Use build-in support Upgrade

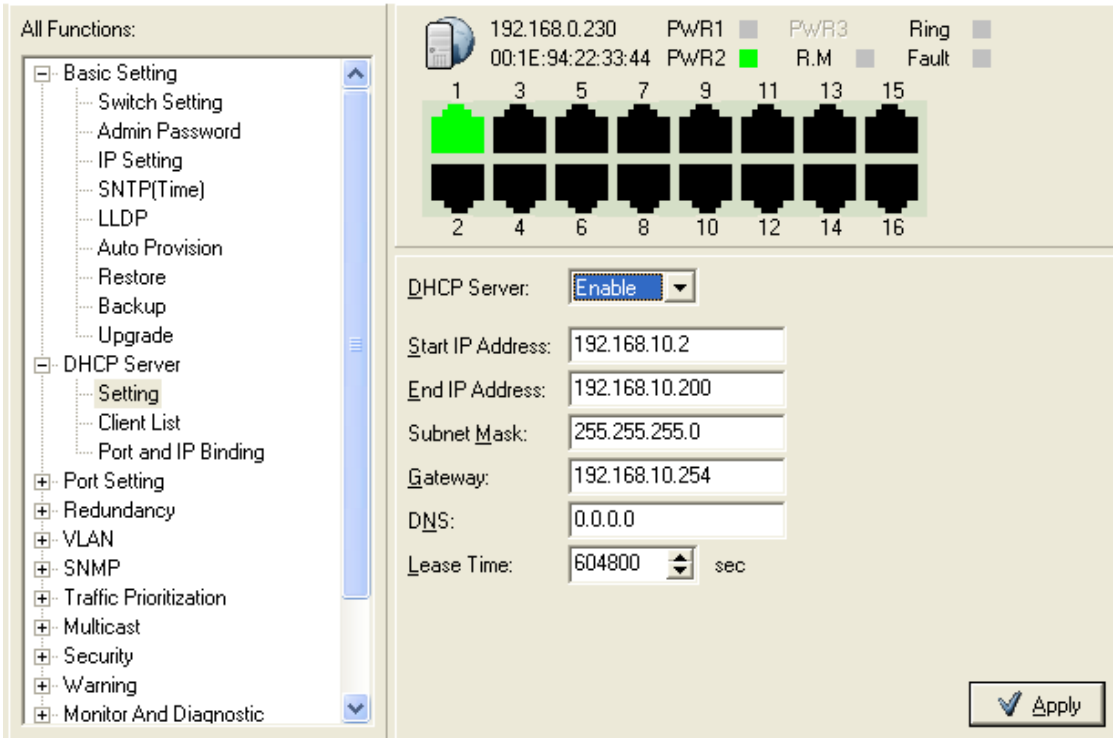



Use remote tftp server Upgrade

# DHCP Server

## DHCP Server – Configuration

The system provides with DHCP server function. Enable the DHCP server function, the switch system will be a DHCP server.




DHCP Server Configuration interface

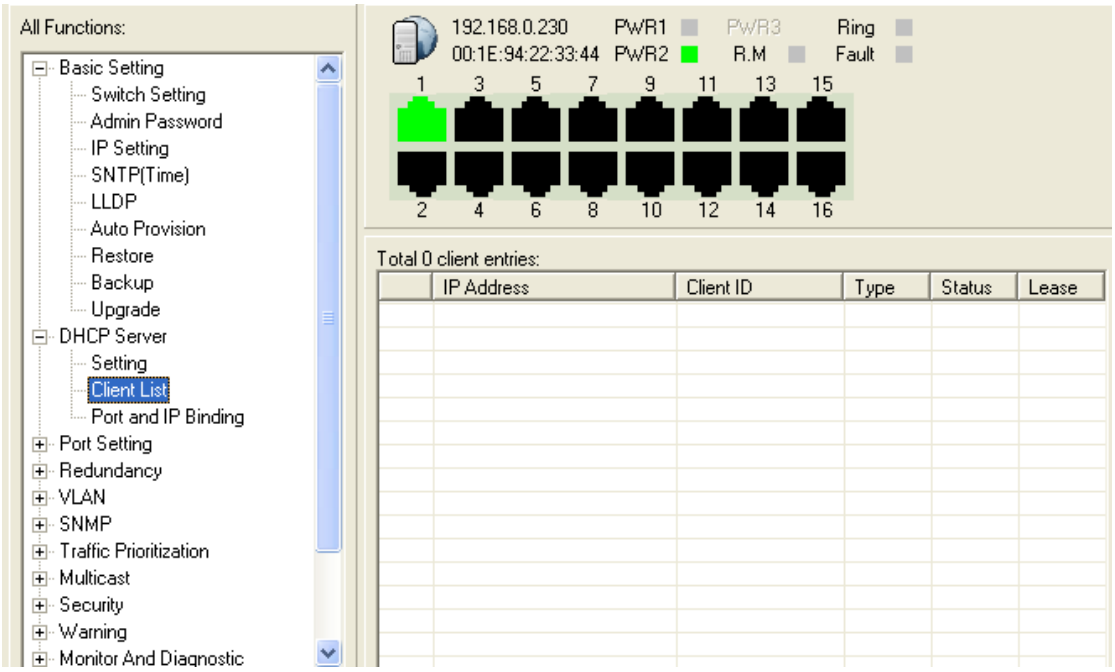
The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **DHCP Server** | Enable or Disable the DHCP Server function. Enable – the switch will be the DHCP server on your local network |
| **Start IP Address** | The dynamic IP assign range. Low IP address is the beginning of the dynamic IP assigns range. For example: dynamic IP assign range is from 192.168.1.100 to 192.168.1.200. 192.168.1.100 will be the Start IP address. |
| **End IP Address** | The dynamic IP assign range. High IP address is the end of the dynamic IP assigns range. For example: dynamic IP assign range is from 192.168.1.100 to 192.168.1.200. 192.168.1.200 will be the End IP address |

| | |
|---|---|
| **Subnet Mask** | The dynamic IP assign range subnet mask |
| **Gateway** | The gateway in your network. |
| **DNS** | Domain Name Server IP Address in your network. |
| **Lease Time (Hour)** | It is the period that system will reset the assigned dynamic IP to ensure the IP address is in used. |
| **Apply** | Click "**Apply**" to set the configurations. |

### DHCP Server – Client Entries

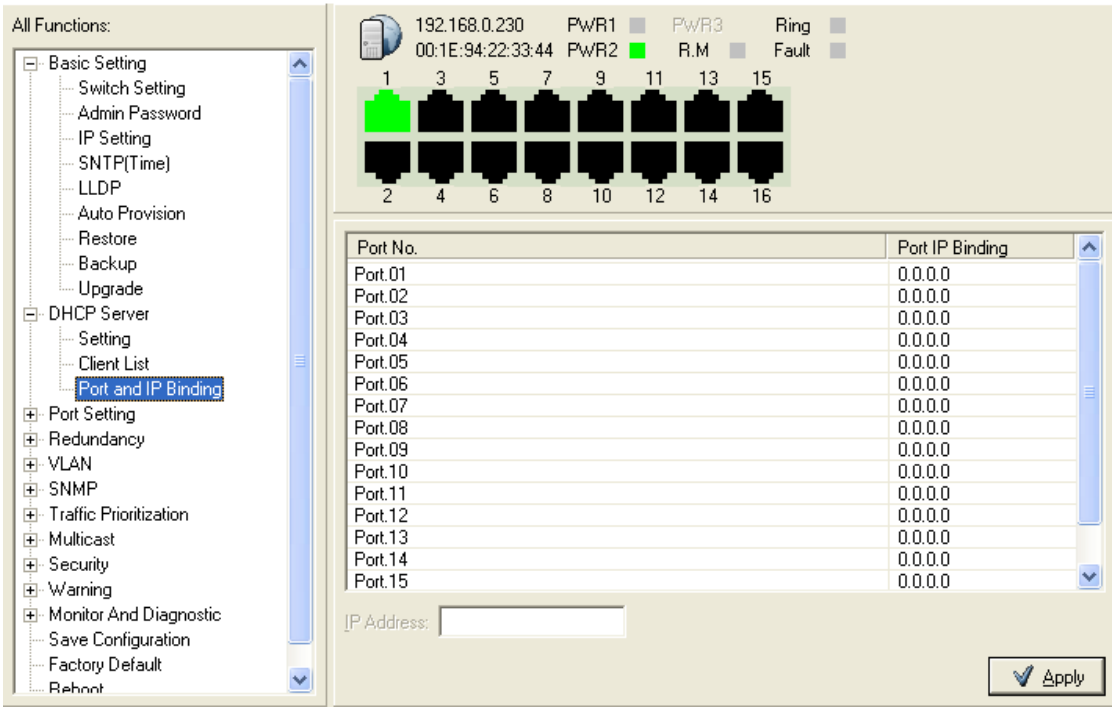
When the DHCP server function is activated, the system will collect the DHCP client information and display in here.




DHCP Server Client Entries interface

**DHCP Server – Port and IP bindings**

You can assign the specific IP address which is in the assigned dynamic IP range to the specific port. When the device is connecting to the port and asks for dynamic IP assigning, the system will assign the IP address that has been assigned before in the connected device.

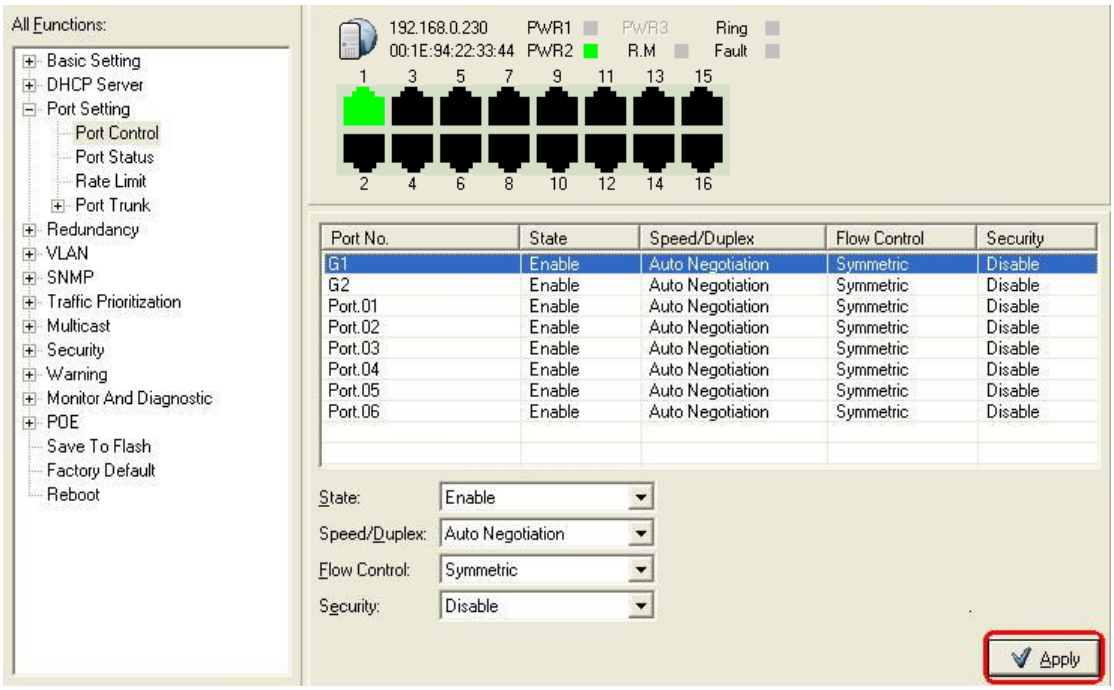



DHCP Server Port and IP Binding interface

# 6.3 Port Configuration

## 6.3.1 Port Control

By this function, you can set the state, speed/duplex, flow control, and security of the port.




**Port Control interface**

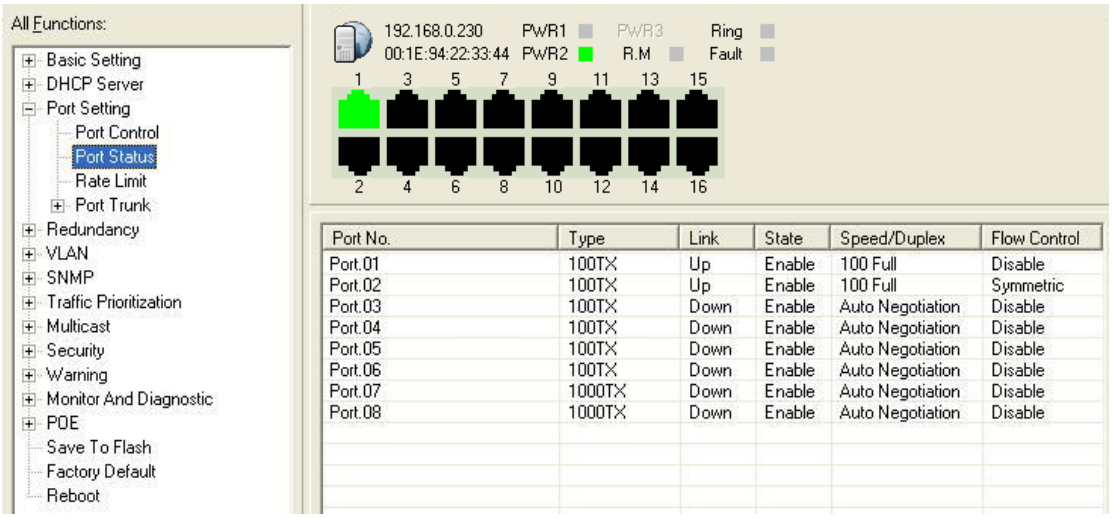
The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **Port NO.** | Port number for setting. |
| **State** | Enable or Disable Port Control function |
| **Speed/Duplex** | You can set Autonigotiation,100 full ,100 half,10 full,10 half mode. |
| **Flow Control** | Support symmetric and asymmetric mode to avoid packet loss when congestion occurred. |

| | |
|---|---|
| **Security** | Support port security function. When enable the function, the port will STOP learning MAC address dynamically. |
| **Apply** | Click "**Apply**" to set the configurations. |

## 6.3.2 Port Status

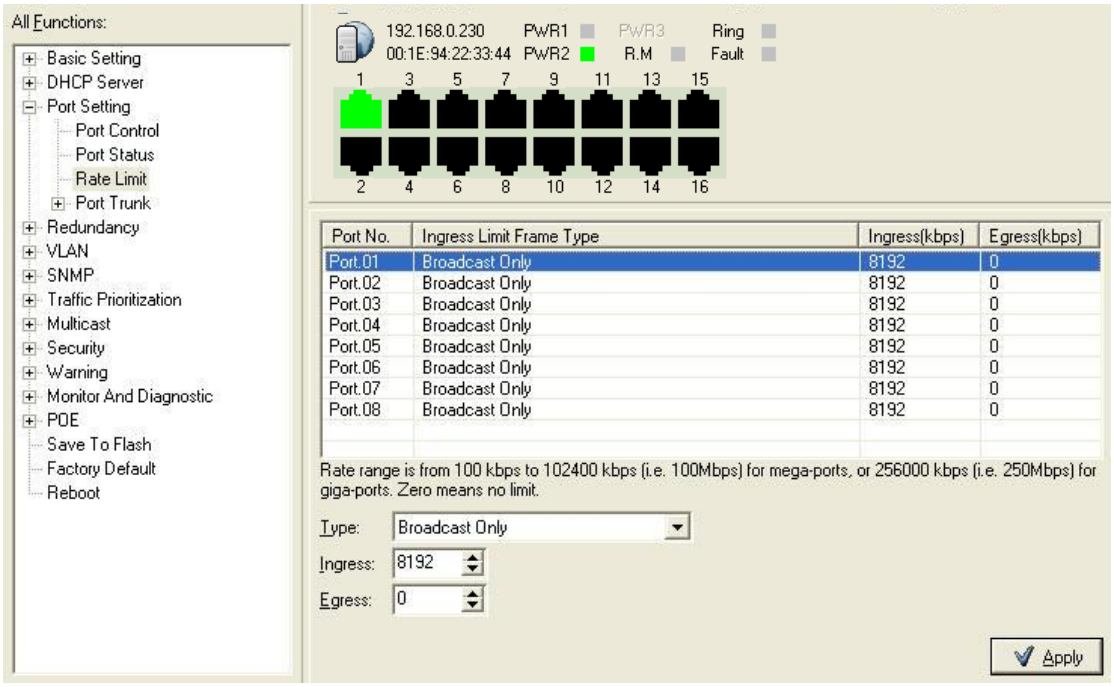
The following information provides the current port status information




Port Status interface

## 6.3.3 Rate Limit

By this function, You can limit traffic of all ports, including broadcast, multicast and flooded unicast. You can also set "Ingress" or "Egress" to limit traffic received or transmitted bandwidth.




Rate Limit interface

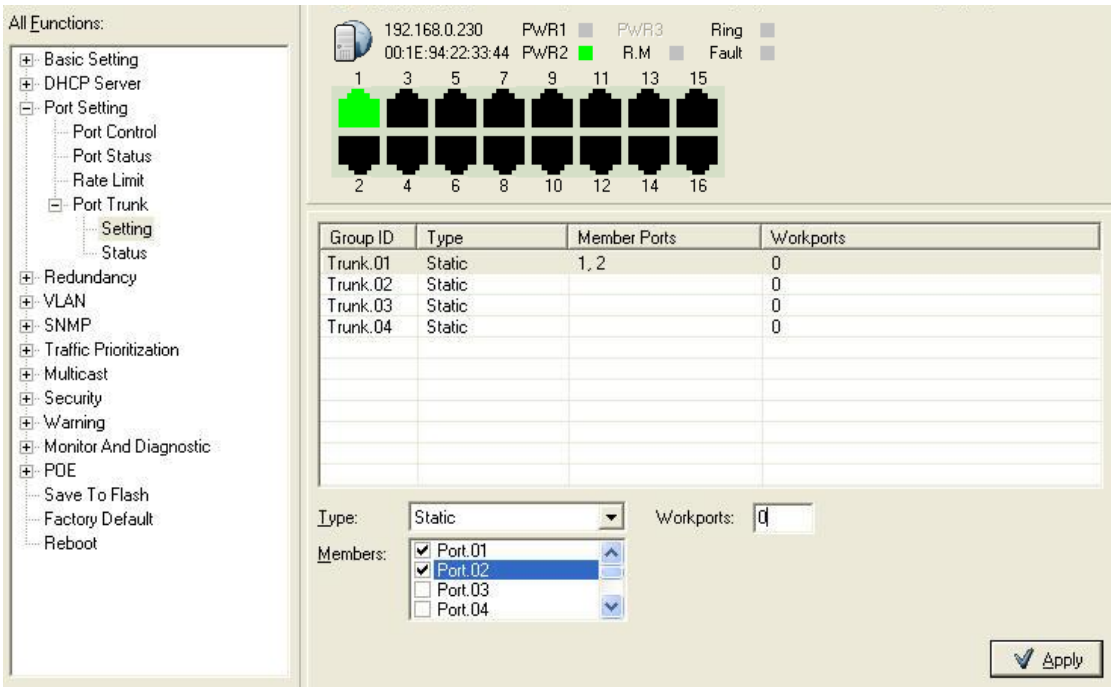
The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **Ingress Limit Frame Type** | You can set "all", "Broadcast only", "Broadcast/Multicast" or "Broadcast/Multicast/Flooded Unicast" mode. |
| **Ingress** | The switch port received traffic. |
| **Egress** | The switch port transmitted traffic. |
| **Apply** | Click "**Apply**" to set the configurations. |

# Port Trunk

## Port Trunk – Setting

You can select static trunk or 802.3ad LACP to combine several physical link with a logical link to increase the bandwidth

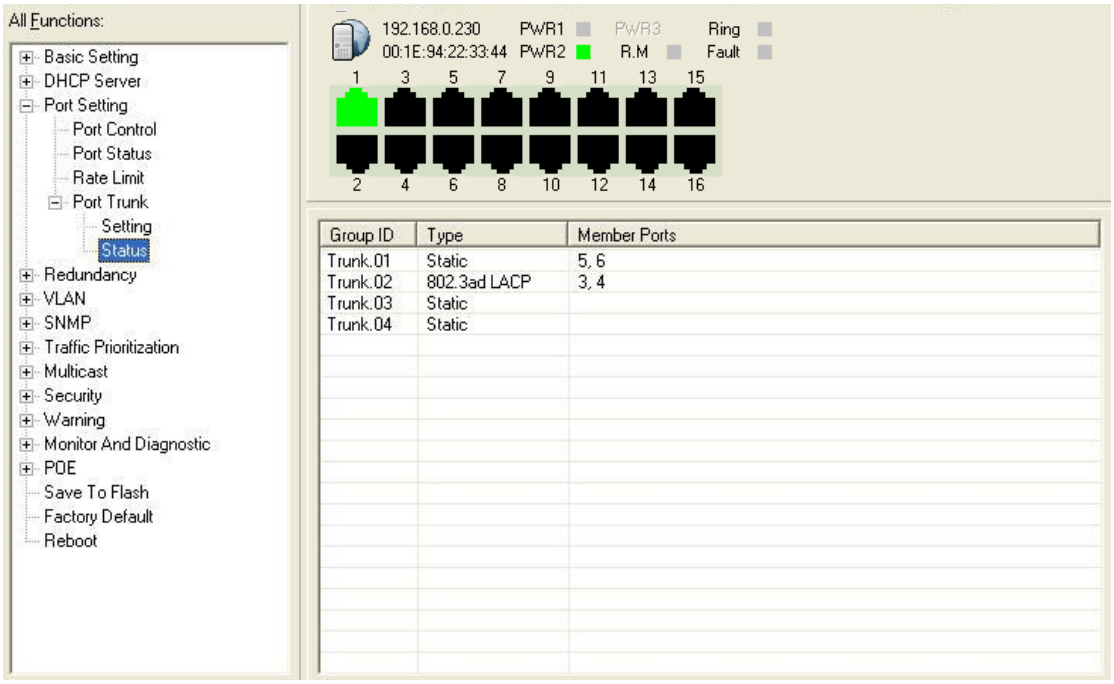



Port Trunk - Setting interface

The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **Group ID** | Select port to join a trunk group. |
| **Type** | Support static trunk and 802.3ad LACP |
| **Apply** | Click "**Apply**" to set the configurations. |

## Port Trunk – Status

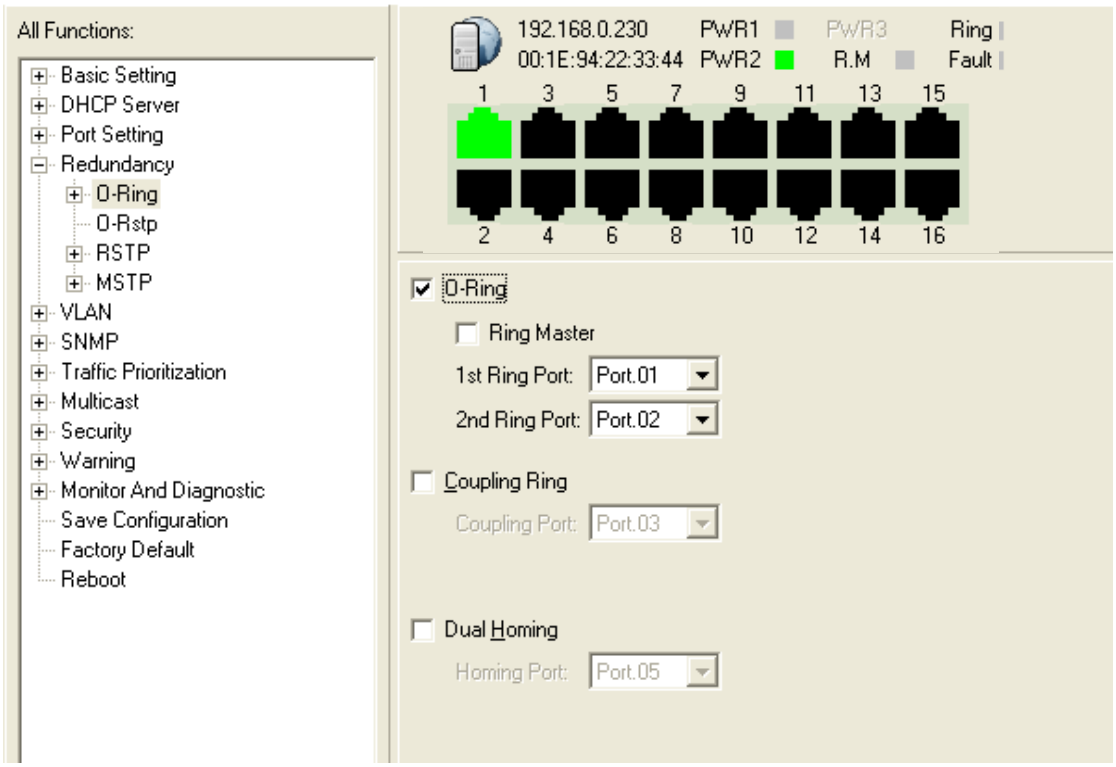



Port Trunk - Status interface

# 6.4 Redundancy

## 6.4.1 O-Ring

O-Ring is the most powerful Ring in the world. The recovery time of O-Ring is less than 10 mS. It can reduce unexpected damage caused by network topology change. O-Ring Supports 3 Ring topology: O-Ring, Coupling Ring and Dual Homing.




O-Ring interface

The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **O-Ring** | Mark to enable Ring. |
| **Ring Master** | There should be one and only one Ring Master in a ring. However if there are two or more switches which set Ring Master to enable, the switch with the lowest MAC address will be the actual Ring Master and others will be Backup Masters. |
| **1st Ring Port** | The primary port, when this switch is Ring Master. |

| | |
|---|---|
| **2nd Ring Port** | The backup port, when this switch is Ring Master. |
| **Coupling Ring** | Mark to enable Coupling Ring. Coupling Ring can be used to divide a big ring into two smaller rings to avoid effecting all switches when network topology change. It is a good application for connecting two Rings. |
| Label | Description |
| **Coupling Port** | Link to Coupling Port of the switch in another ring. Coupling Ring need four switch to build an active and a backup link.<br>Set a port as coupling port. The coupled four ports of four switches will be run at active/backup mode. |
| **Control Port** | Link to Control Port of the switch in the same ring. Control Port used to transmit control signals. |
| **Dual Homing** | Mark to enable Dual Homing. By selecting Dual Homing mode, O-Ring will be connected to normal switches through two RSTP links (ex: backbone Switch). The two links work as active/backup mode, and connect each O-Ring to the normal switches in RSTP mode. |
| **Apply** | Click "**Apply**" to set the configurations. |

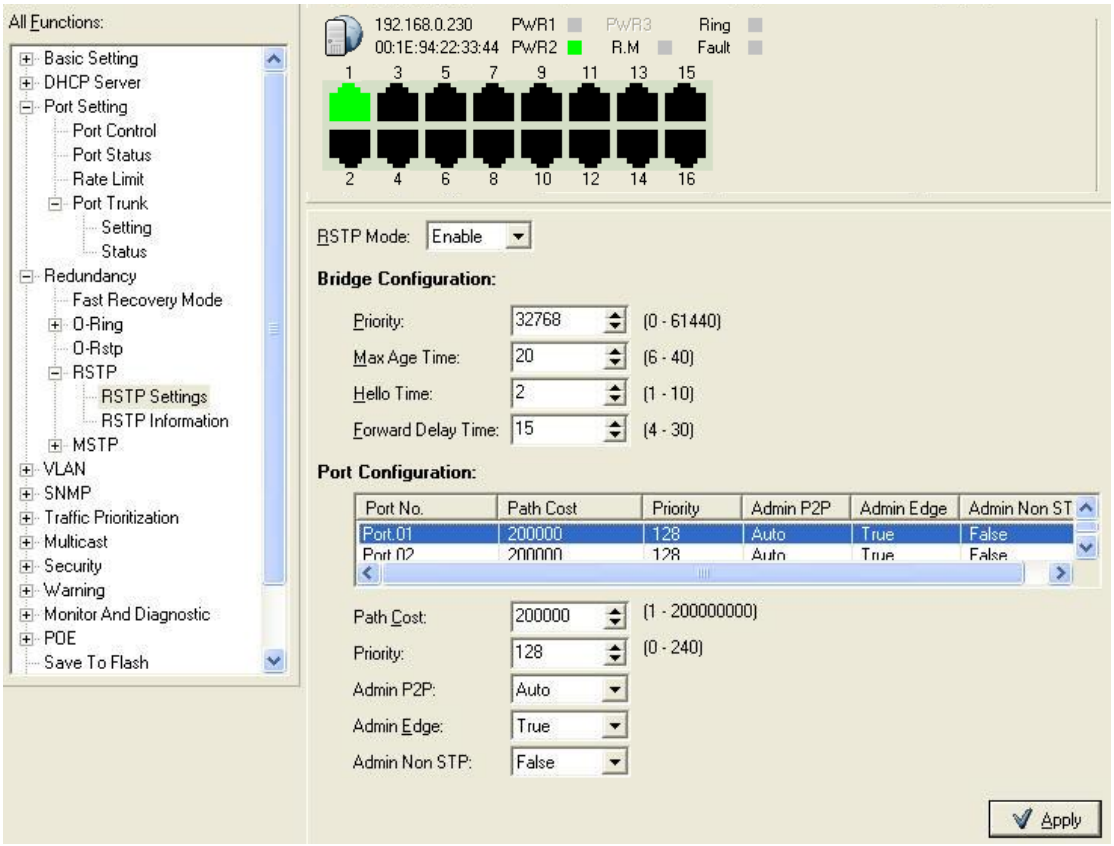
**Note:** We don't suggest you to set one switch as a Ring Master and a Coupling Ring at the same time due to heavy load.

## 6.4.2 RSTP

The Rapid Spanning Tree Protocol (RSTP) is an evolution of the Spanning Tree Protocol. It provides faster spanning tree convergence after a topology change. The system also supports STP and the system will auto detect the connected device that is running STP or RSTP protocol.

### RSTP setting

You can enable/disable RSTP function, and set parameters for each port.




**RSTP Setting interface**

The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **RSTP mode** | You must enable or disable RSTP function before configuring the related parameters. |
| **Priority (0-61440)** | A value used to identify the root bridge. The bridge |

| | |
|---|---|
| | with the lowest value has the highest priority and is selected as the root. If the value changes, You must reboot the switch. The value must be multiple of 4096 according to the protocol standard rule. |
| **Max Age (6-40)** | The number of seconds a bridge waits without receiving Spanning-tree Protocol configuration messages before attempting a reconfiguration. Enter a value between 6 through 40. |
| **Hello Time (1-10)** | The time that controls switch sends out the BPDU packet to check RSTP current status. Enter a value between 1 through 10. |
| **Forwarding Delay Time (4-30)** | The number of seconds a port waits before changing from its Rapid Spanning-Tree Protocol learning and listening states to the forwarding state. Enter a value between 4 through 30. |
| **Path Cost (1-200000000)** | The cost of the path to the other bridge from this transmitting bridge at the specified port. Enter a number 1 through 200000000. |
| **Priority (0-240)** | Decide which port should be blocked by priority in LAN. Enter a number 0 through 240. The value of priority must be the multiple of 16 |
| **Admin P2P** | Some of the rapid state transactions that are possible within RSTP are dependent upon whether the port concerned can only be connected to exactly one other bridge (i.e. It is served by a point-to-point LAN segment), or it can be connected to two or more bridges (i.e. It is served by a shared medium LAN segment). This function allows the P2P status of the link to be manipulated administratively. True means P2P enabling. False means P2P disabling. |

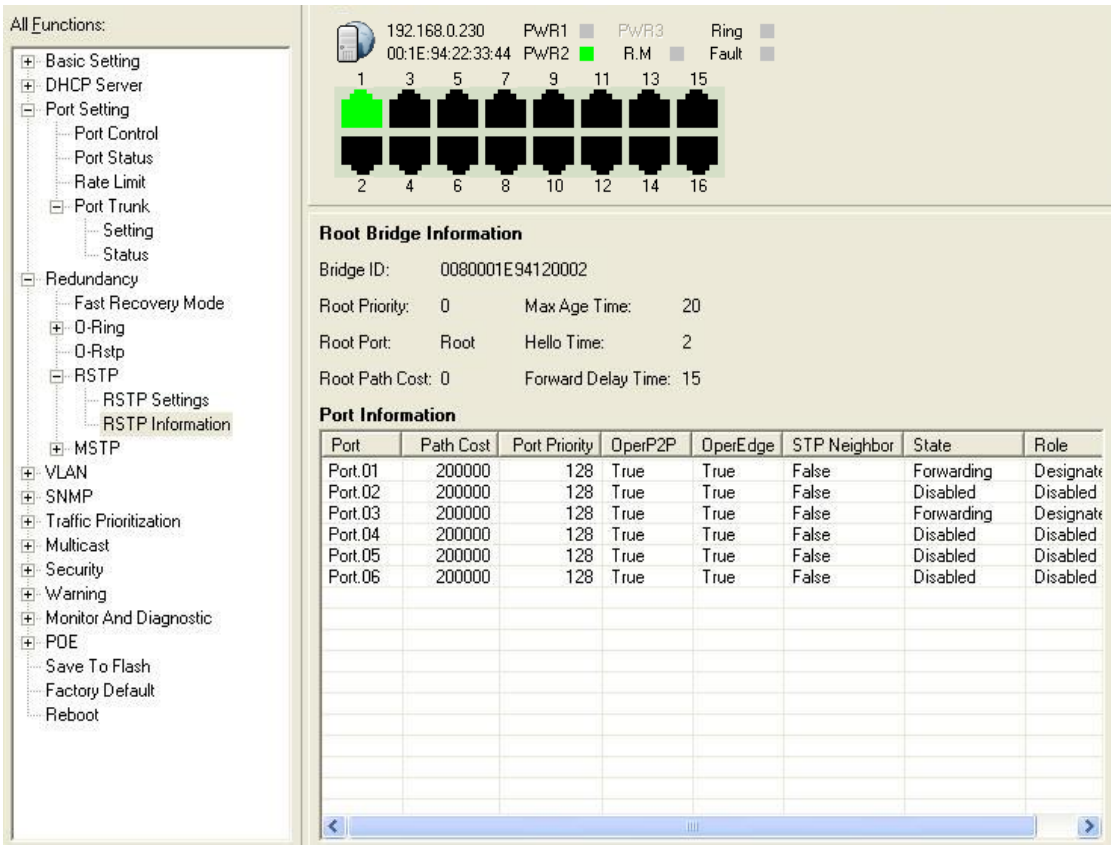
| | |
|---|---|
| **Admin Edge** | The port directly connected to end stations, and it cannot create bridging loop in the network. To configure the port as an edge port, set the port to "**True**". |
| **Admin Non STP** | The port includes the STP mathematic calculation. **True** is not including STP mathematic calculation. **False** is including the STP mathematic calculation. |
| **Apply** | Click "**Apply**" to set the configurations. |

**NOTE:** Follow the rule to configure the MAX Age, Hello Time, and Forward Delay Time.

2 x (Forward Delay Time value –1) > = Max Age value >= 2 x (Hello Time value +1)

## RSTP Information

Show RSTP algorithm result at this table.




RSTP Information interface

# 6.5 VLAN

A Virtual LAN (VLAN) is a logical network grouping that limits the broadcast domain, which allows you to isolate network traffic. Only the members of the VLAN will receive traffic from the same members of VLAN. Basically, creating a VLAN from a switch is logically equivalent of reconnecting a group of network devices to another Layer 2 switch. However, all the network devices are still plugged into the same switch physically.

The switch supports port-based and 802.1Q (tagged-based) VLAN. The default configuration of VLAN operation mode is at "**802.1Q**".

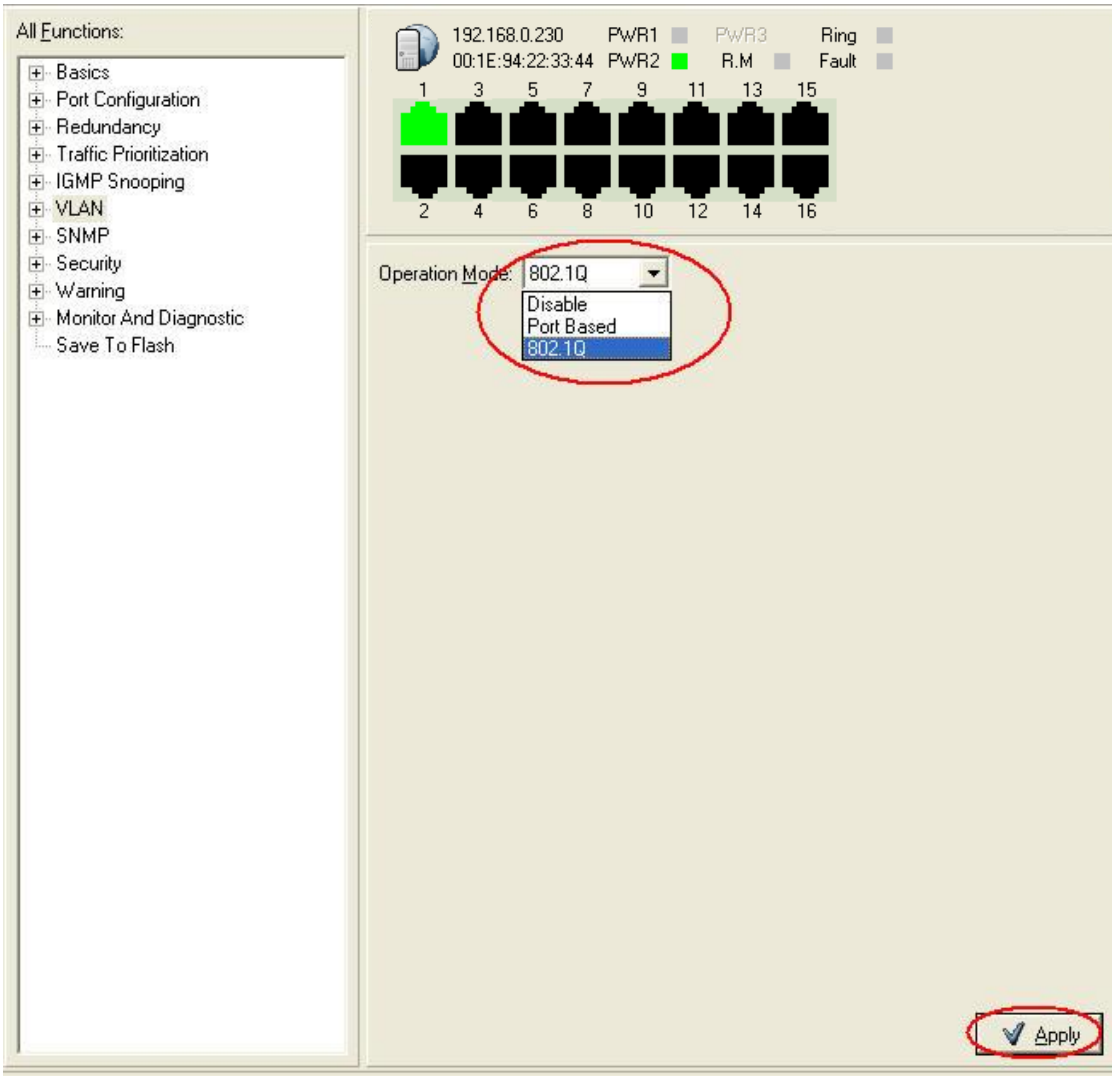
## VLAN Configuration – 802.1Q

Tagged-based VLAN is an IEEE 802.1Q specification standard, and t is possible to create a VLAN across devices from different switch venders. IEEE 802.1Q VLAN uses a technique to insert a "tag" into the Ethernet frames. Tag contains a VLAN Identifier (VID) that indicates the VLAN numbers.

You can create Tag-based VLAN, and enable or disable GVRP protocol. There are 256 VLAN groups to provide configure. Enable 802.1Q VLAN, the all ports on the switch belong to default VLAN, VID is 1. The default VLAN cannot be deleted.

GVRP allows automatic VLAN configuration between the switch and nodes. If the switch is connected to a device with GVRP enabled, you can send a GVRP request by using the VID of a VLAN defined on the switch; the switch will automatically add that device to the existing VLAN.

## VLAN Configuration




**VLAN Configuration – 802.1Q interface**

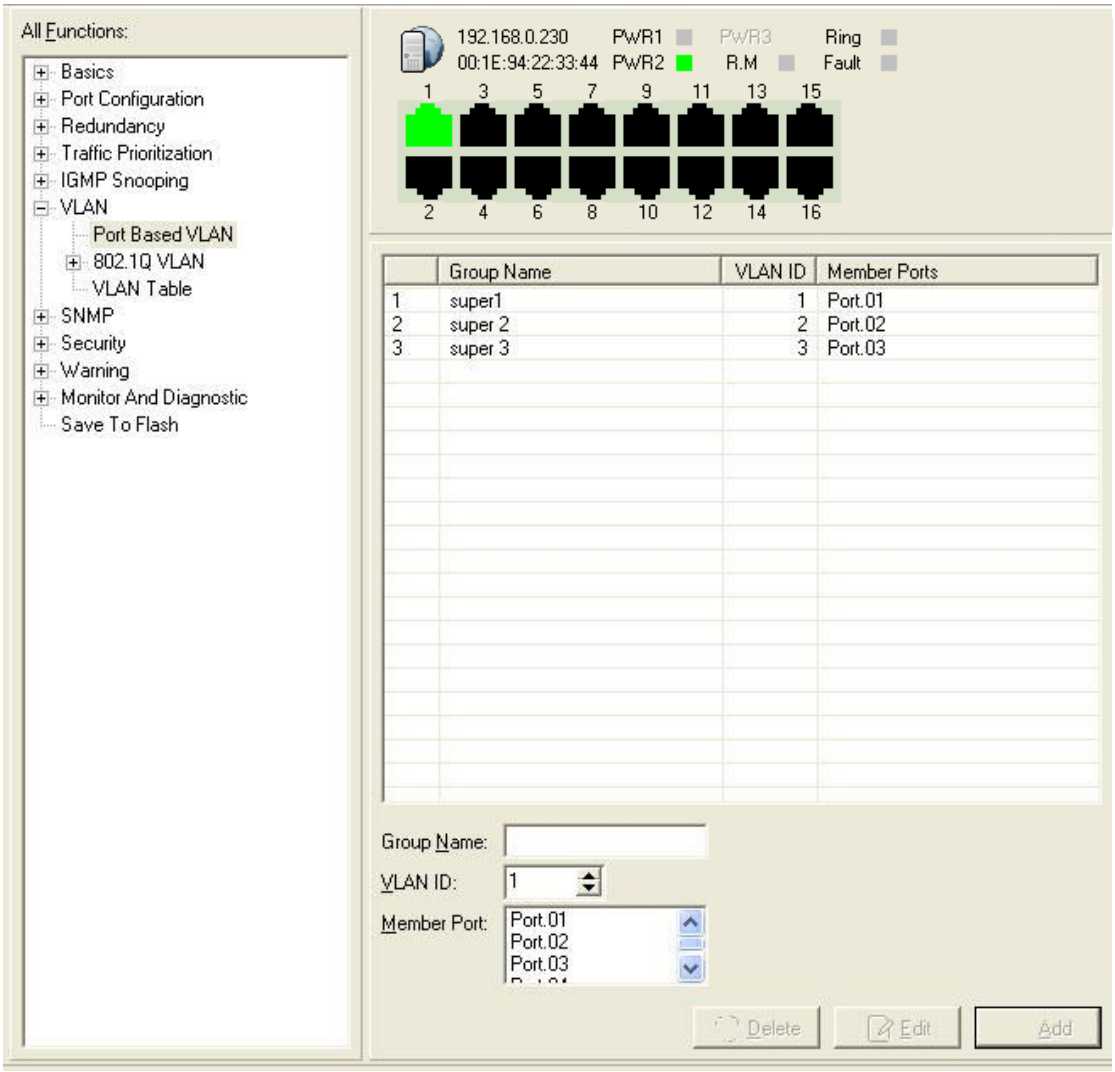
The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **VLAN Operation Mode** | Configure VLAN Operation Mode: disable, Port Base,802.1Q |
| **GVRP Mode** | Enable/Disable GVRP function. |
| **Management VLAN ID** | Management VLAN can provide network administrator a secure VLAN to management Switch. Only the devices in the management |

| | |
|---|---|
| | VLAN can access the switch. |
| **Link type** | There are 3 types of link type:<br>**Access Link:** single switch only, allows you to group ports by setting the same VID.<br>**Trunk Link:** extended application of **Access Link**, allows you to group ports by setting the same VID with 2 or more switches.<br>**Hybrid Link:** Both **Access Link** and **Trunk Link** are available. |
| **Untagged VID** | Set the port default VLAN ID for untagged devices that connect to the port. The range is 1 to 4094. |
| **Tagged VIDs** | Set the tagged VIDs to carry different VLAN frames to other switch. |
| **Apply** | Click "**Apply**" to set the configurations. |

**VLAN Configuration – Port Based**

Packets can go among only members of the same VLAN group. Note all unselected ports are treated as belonging to another single VLAN. If the port-based VLAN enabled, the VLAN-tagging is ignored.




VLAN Configuration – Port Base interface

The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **Add** | Click "**add**" to enter VLAN add interface. |
| **Edit** | Edit exist VLAN |

| | |
|---|---|
| **Delete** | Delete exist VLAN |
| **Help** | Show help file. |

The following table describes the labels in this screen.

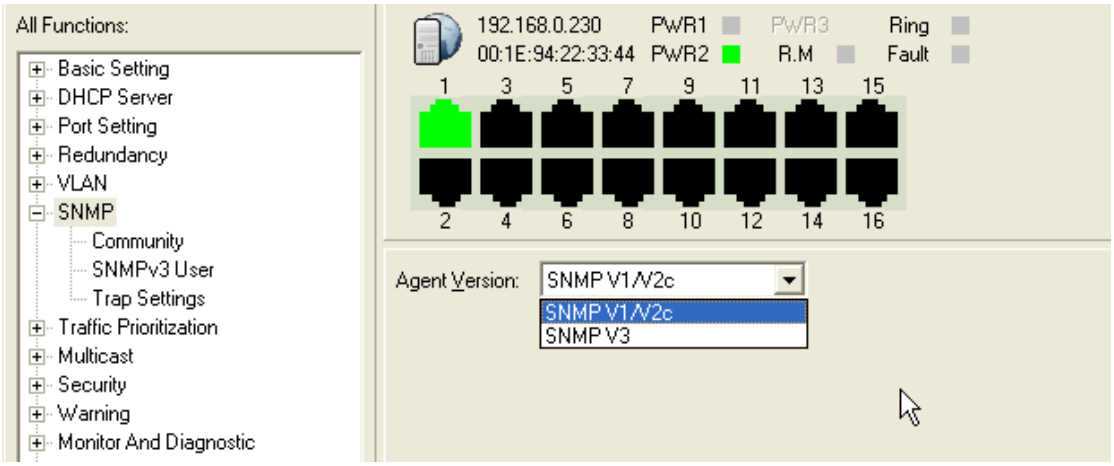
| Label | Description |
|---|---|
| **Group Name** | VLAN name. |
| **VLAN ID** | Specify the VLAN ID |
| **Add** | Select port to join the VLAN group. |
| **Remove** | Remove port of the VLAN group |
| **Apply** | Click "**Apply**" to set the configurations. |
| **Help** | Show help file. |

# 6.6 SNMP Configuration

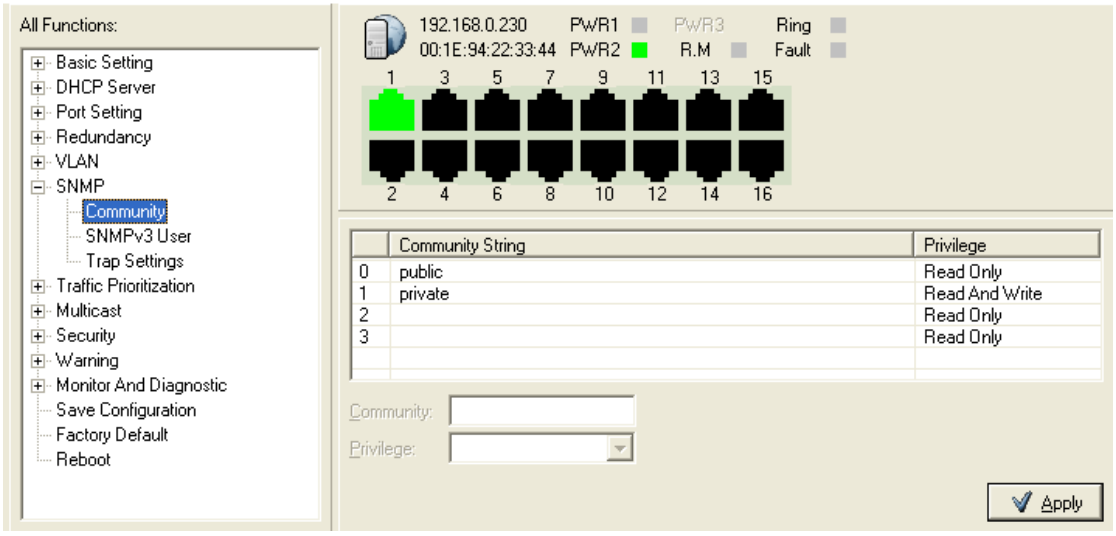
Simple Network Management Protocol (SNMP) is the protocol developed to manage nodes (servers, workstations, routers, switches and hubs etc.) on an IP network. SNMP enables network administrators to manage network performance, find and solve network problems, and plan for network growth. Network management systems learn of problems by receiving traps or change notices from network devices implementing SNMP.

## SNMP –Agent Setting

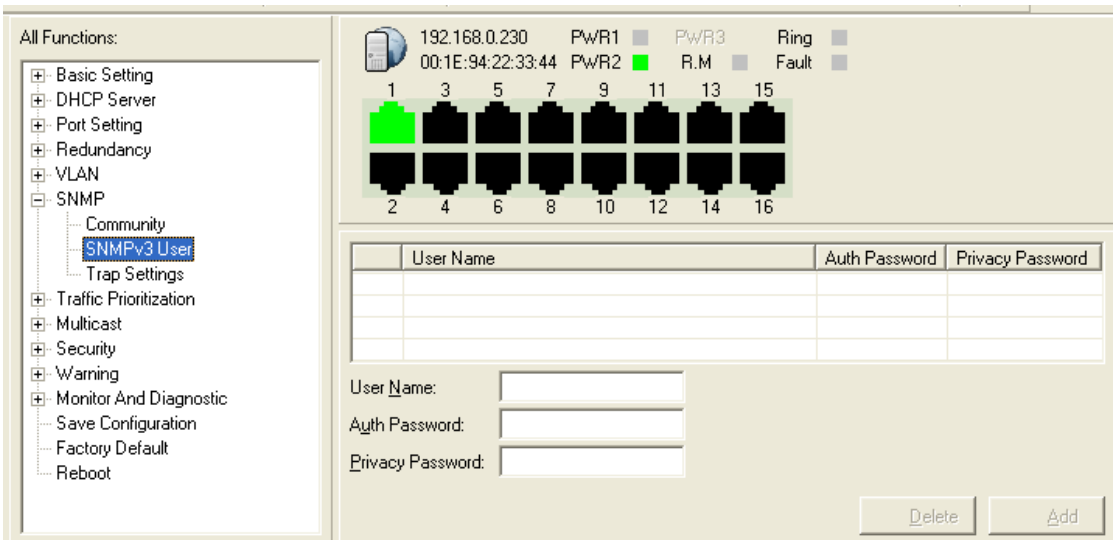
You can set SNMP agent related information by Agent Setting Function.




SNMP Agent Setting interface




SNMP Community Interface




SNMP v3 User Interface

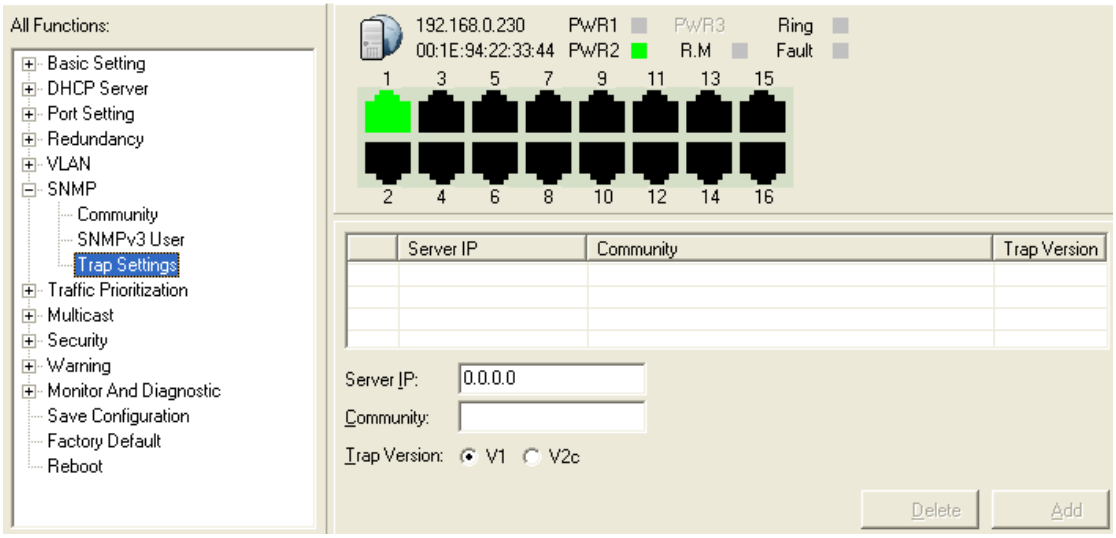
The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **SNMP agent Version** | Three SNMP versions are supported such as SNMP V1/SNMP V2c, and SNMP V3. SNMP V1/SNMP V2c agent use a community string match for authentication, that means SNMP servers access objects with read-only or read/write permissions with the community default string public/private. SNMP V3 requires an authentication level of MD5 or DES to encrypt data to enhance data security. |
| **SNMP V1/V2c Community** | SNMP Community should be set for SNMP V1/V2c. Four sets of "Community String/Privilege" are supported. Each Community String is maximum 32 characters. Keep empty to remove this Community string. |
| **SNMPv3User** | If SNMP V3 agent is selected, the SNMPv3 you profiled should be set for authentication. The Username is necessary. The Auth Password is encrypted by MD5 and the Privacy Password which is encrypted by DES. There are maximum 8 sets of SNMPv3 User and maximum 16 characters in |

| | |
|---|---|
| | username, and password.<br><br>When SNMP V3 agent is selected, you can:<br><br>1. Input SNMPv3 username only.<br>2. Input SNMPv3 username and Auth Password.<br>3. Input SNMPv3 username, Auth Password and Privacy Password, which can be different with Auth Password.<br><br>To remove a current user profile:<br><br>1. Input SNMPv3 user name you want to remove.<br>2. Click "**Remove**" button |
| **Current SNMPv3 User Profile** | Show all SNMPv3 user profiles. |
| **Apply** | Click "**Apply**" to set the configurations. |
| **Help** | Show help file. |

## SNMP –Trap Setting

A trap manager is a management station that receives traps, the system alerts generated by the switch. If no trap manager is defined, no traps will issue. Create a trap manager by entering the IP address of the station and a community string. To define management stations as trap manager and enter SNMP community strings and selects the SNMP version.



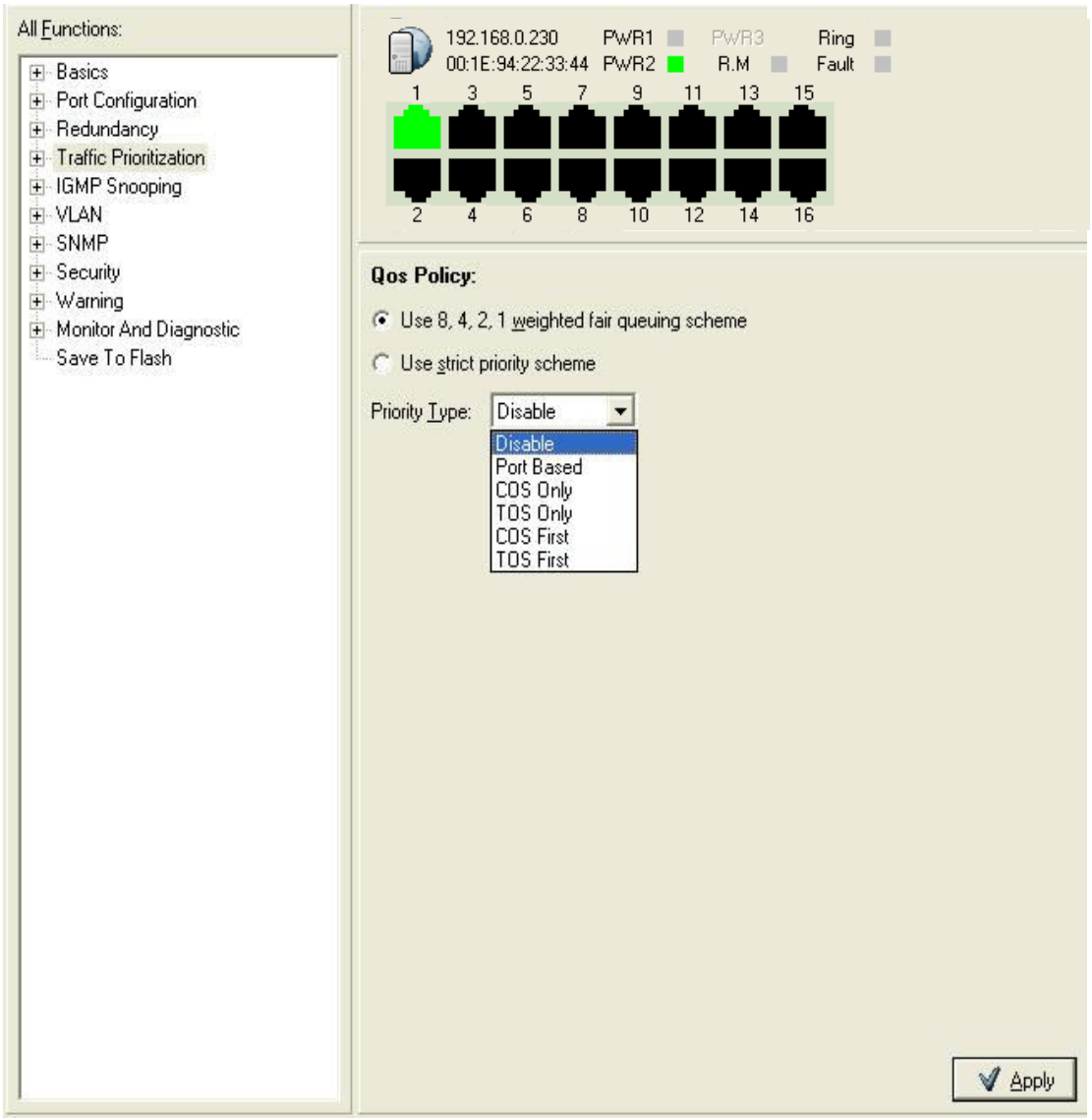

SNMP Trap Setting Interface

The following table describes the labels in this screen.

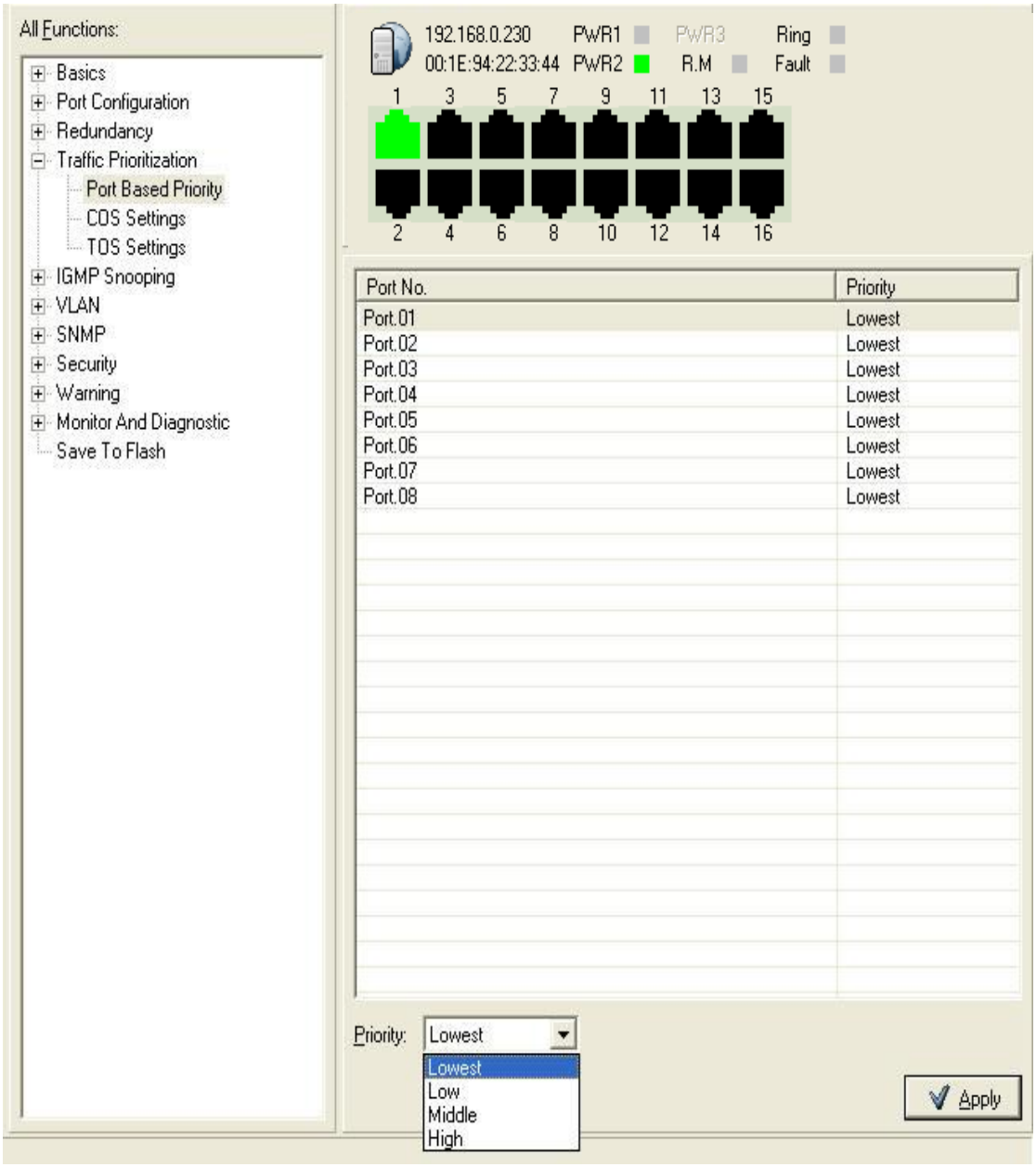
| Label | Description |
|---|---|
| **Server IP** | The server IP address to receive Trap |
| **Community** | Community for authentication |
| **Trap Version** | Trap Version supports V1 and V2c. |
| **Add** | Add trap server profile. |
| **Remove** | Remove trap server profile. |
| **Help** | Show help file. |

# 6.7 Traffic Prioritization

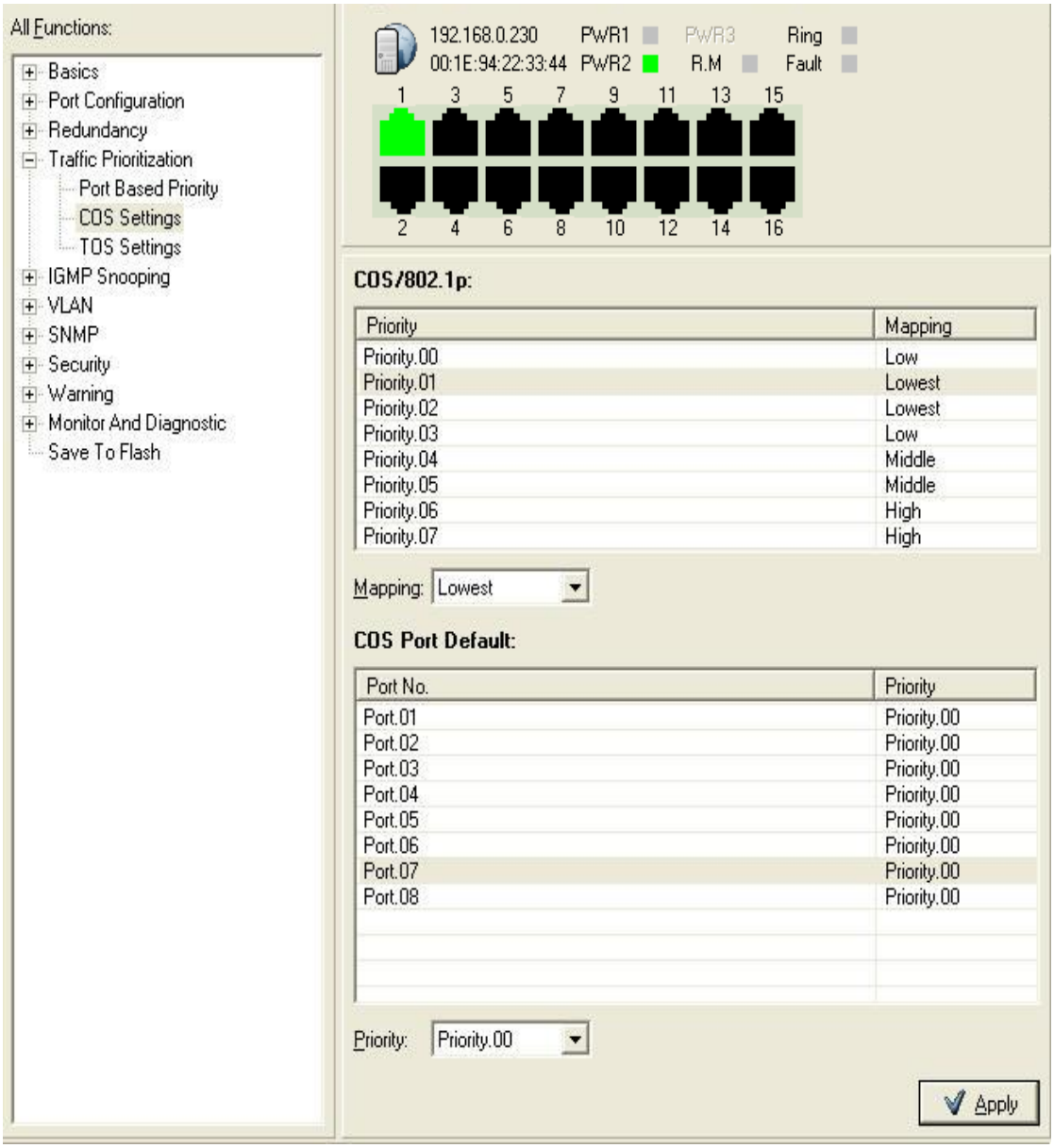
Traffic Prioritization includes 3 modes: port base, 802.1p/COS, and TOS/DSCP. By traffic prioritization function, you can classify the traffic into four classes for differential network application. SW-M series support 4 priority queues.



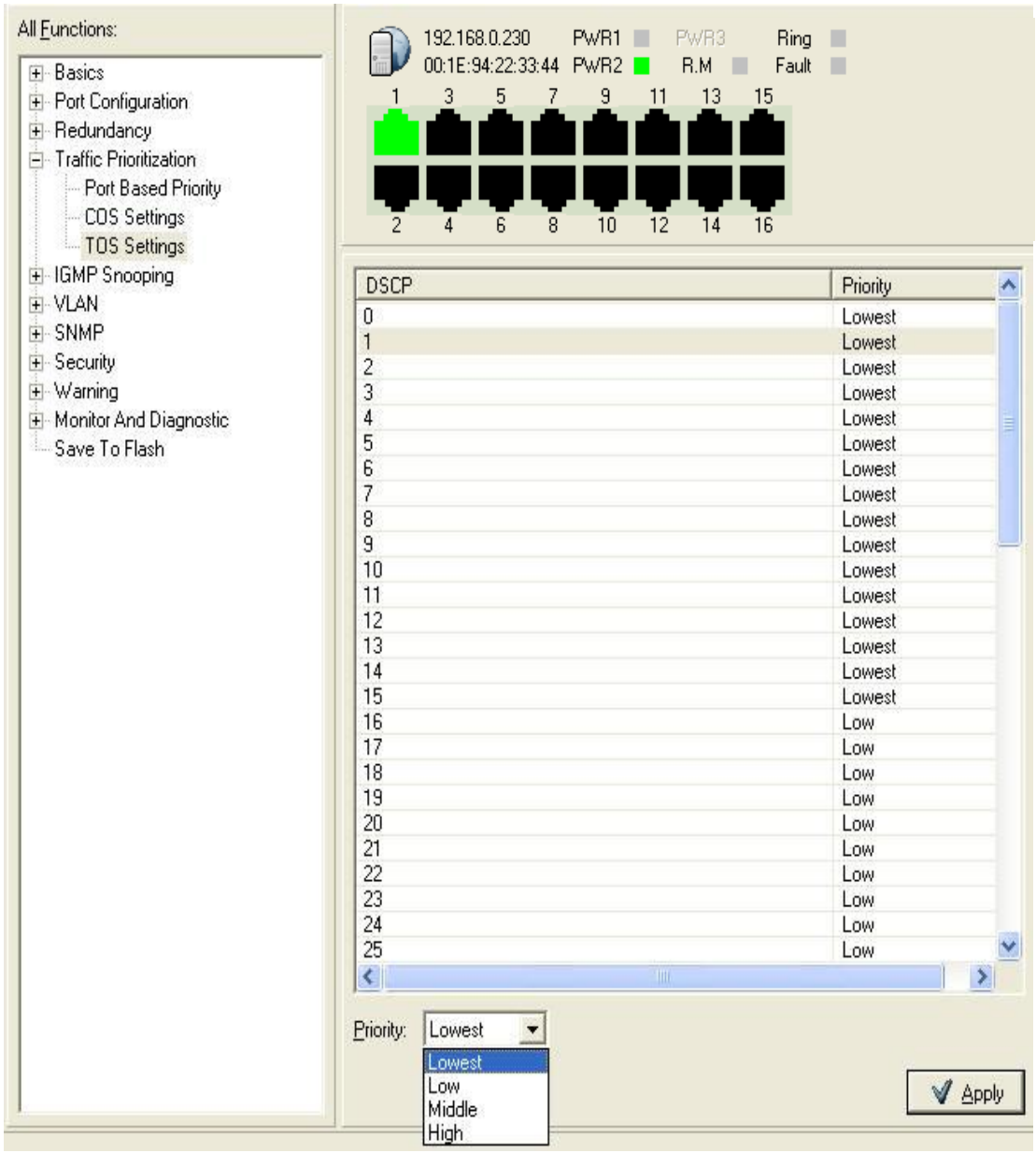

Qos Policy Interface




Port Based Priority Interface




COS Setting Interface




TOS Setting Interface

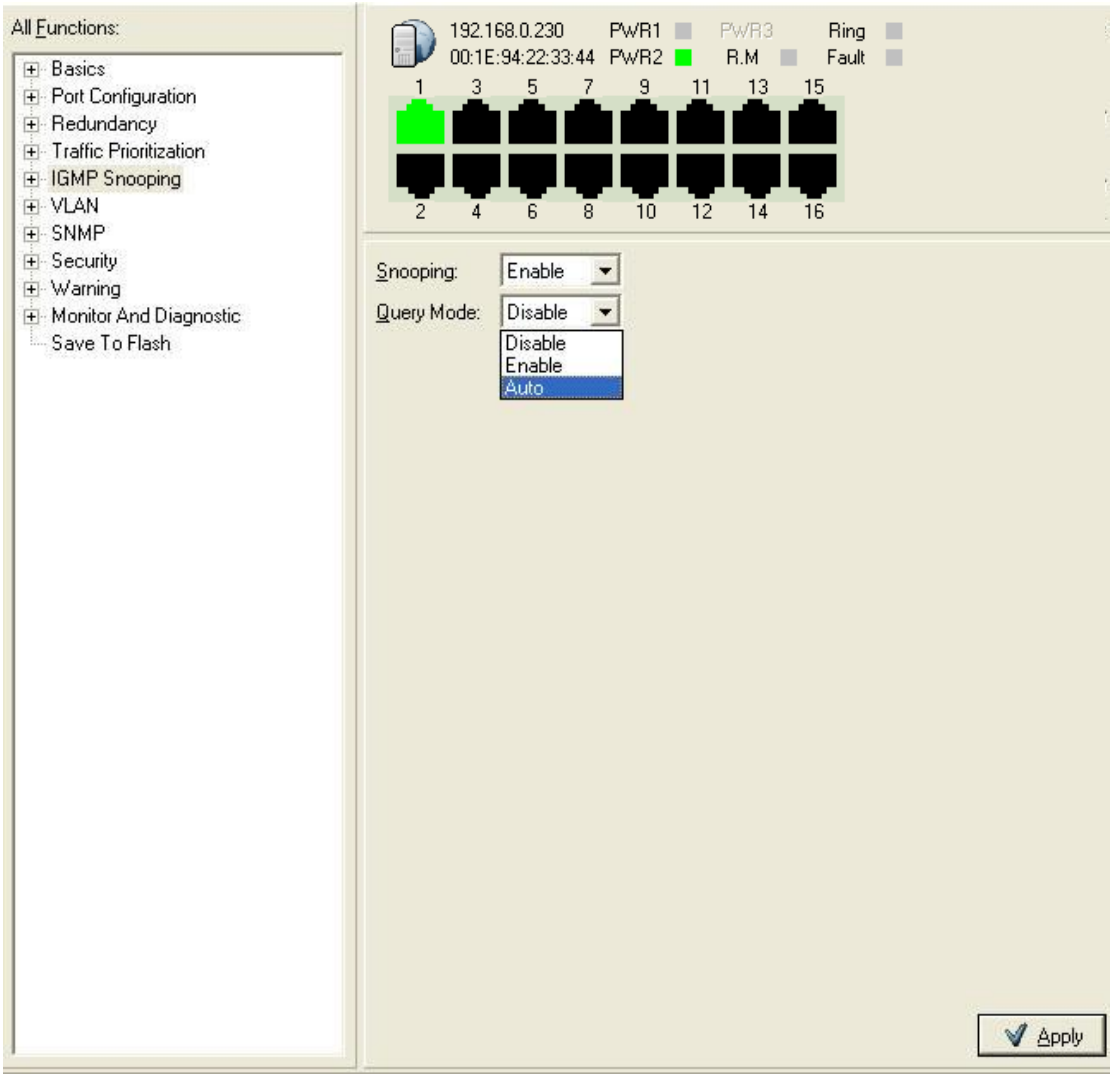
The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **QOS policy** | ■ **Using the 8,4,2,1 weight fair queue scheme:** the output queues will follow 8:4:2:1 ratio to transmit packets from the highest to lowest queue. For example: 8 high queue packets, 4 middle queue packets, 2 low queue packets, and the one lowest queue packets are transmitted in one turn. |

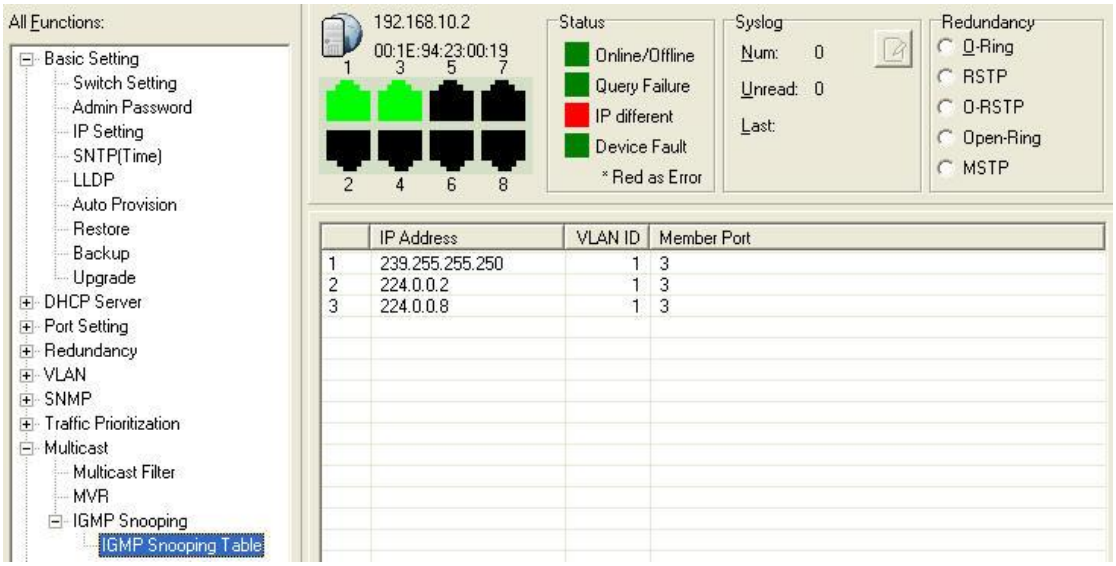
| | |
|---|---|
| | ■ **Use the strict priority scheme:** always the packets in higher queue will be transmitted first until higher queue is empty. |
| **Priority Type** | ■ **Port-base:** the output priority is determined by ingress port.<br>■ **COS only:** the output priority is determined by COS only.<br>■ **TOS only:** the output priority is determined by TOS only.<br>■ **COS first:** the output priority is determined by COS and TOS, but COS first.<br>■ **TOS first:** the output priority is determined by COS and TOS, but TOS first. |
| **Port base Priority** | Assign Port with a priority queue. 4 priority queues can be assigned: High, Middle, Low, and Lowest. |
| **COS/802.1p** | COS (Class Of Service) is well known as 802.1p. It describes that the output priority of a packet is determined by user priority field in 802.1Q VLAN tag. The priority value is supported 0to7.COS value map to 4 priority queues: High, Middle, Low, and Lowest. |
| **COS Port Default** | When an ingress packet has not VLAN tag, a default priority value is considered and determined by ingress port. |
| **TOS/DSCP** | TOS (Type of Service) is a field in IP header of a packet. This TOS field is also used by Differentiated Services and is called the Differentiated Services Code Point (DSCP). The output priority of a packet can be determined by this field and the priority value is supported 0to63. DSCP value map to 4 priority queues: High, Middle, Low, and Lowest. |
| **Apply** | Click "**Apply**" to set the configurations. |
| **Help** | Show help file. |

# 6.8 IGMP Snooping

Internet Group Management Protocol (IGMP) is used by IP hosts to register their dynamic multicast group membership. IGMP has 3 versions, IGMP v1, v2 and v3. Please refer to RFC 1112, 2236 and 3376. IGMP Snooping improves the performance of networks that carry multicast traffic. It provides the ability to prune multicast traffic so that it travels only to those end destinations that require that traffic and reduces the amount of traffic on the Ethernet LAN.




IGMP Snooping interface




IGMP Snooping Table Interface

The following table describes the labels in this screen.

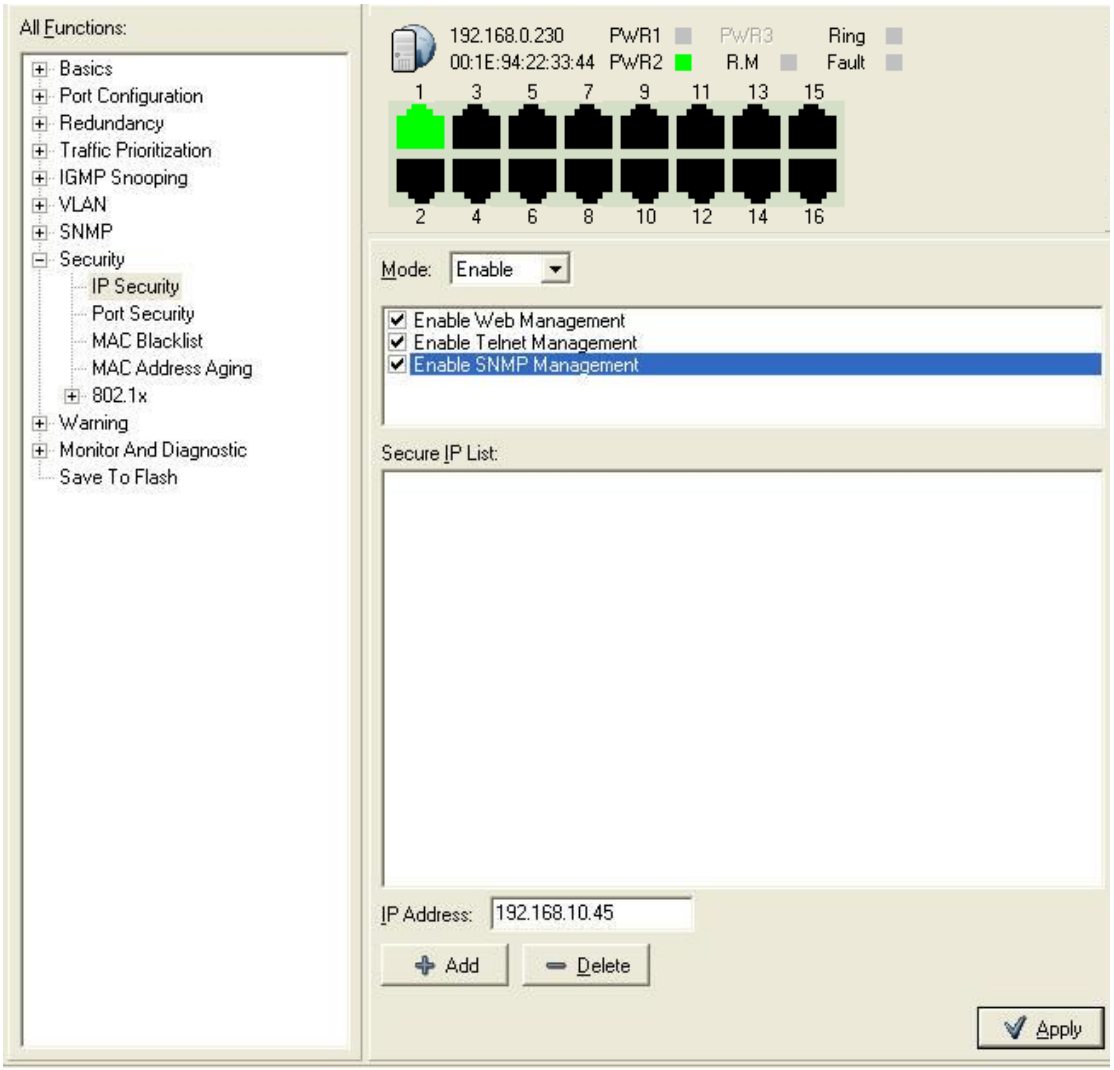
| Label | Description |
|---|---|
| **IGMP Snooping** | Enable/Disable IGMP snooping. |
| **IGMP Query Mode** | Switch will be IGMP querier or not. There should exist one and only one IGMP querier in an IGMP application. The "Auto" mode means that the querier is the one with lower IP address. |
| **IGMP Snooping Table** | Show current IP multicast list |
| **Apply** | Click "**Apply**" to set the configurations. |
| **Help** | Show help file. |

# 6.9 Security

Five useful functions can enhance security of switch: IP Security, Port Security, MAC Blacklist, and MAC address Aging and 802.1x protocol.

## IP Security

Only IP in the Secure IP List can manage the switch through your defined management mode. ( WEB, Telnet, SNMP)



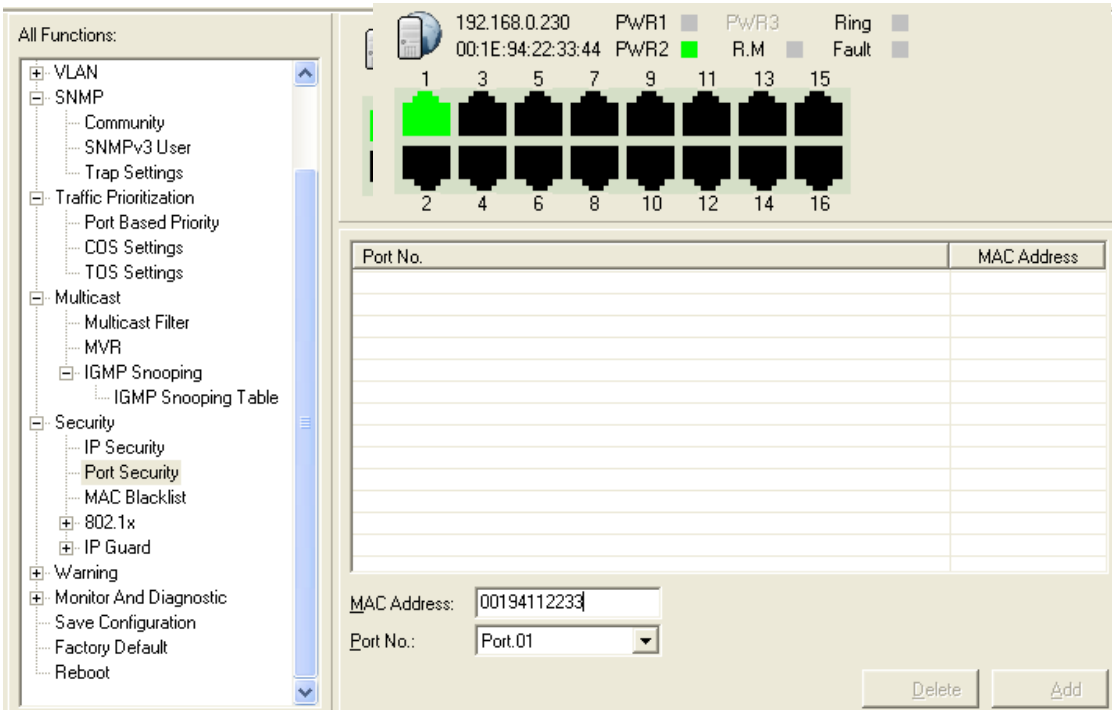

IP Security interface

The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **IP security MODE** | Enable/Disable the IP security function. |
| **Enable WEB Management** | Mark the blank to enable WEB Management. |
| **Enable Telnet Management** | Mark the blank to enable Telnet Management. |
| **Enable SNMP Management** | Mark the blank to enable MPSN Management. |
| **Apply** | Click "**Apply**" to set the configurations. |
| **Help** | Show help file. |

## Port Security

Port security is to add static MAC addresses to hardware forwarding database. If port security is enabled at **Port Control** page, only the frames with MAC addresses in this list will be forwarded, otherwise will be discarded.



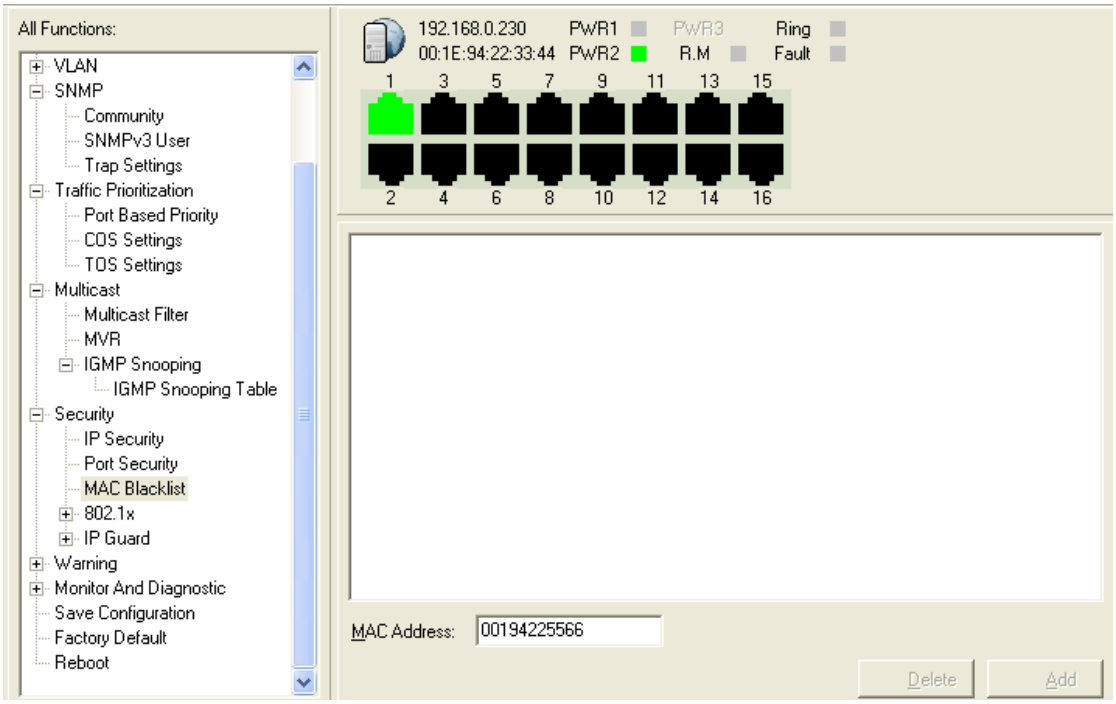

**Port Security interface**

The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **MAC Address** | Input MAC Address to a specific port. |
| **Port NO.** | Select port of switch. |
| **Add** | Add an entry of MAC and port information. |
| **Delete** | Delete the entry. |
| **Help** | Show help file. |

# MAC Blacklist

MAC Blacklist can eliminate the traffic forwarding to specific MAC addresses in list. Any frames forwarding to MAC addresses in this list will be discarded. Thus the target device will never receive any frame.




MAC Blacklist interface

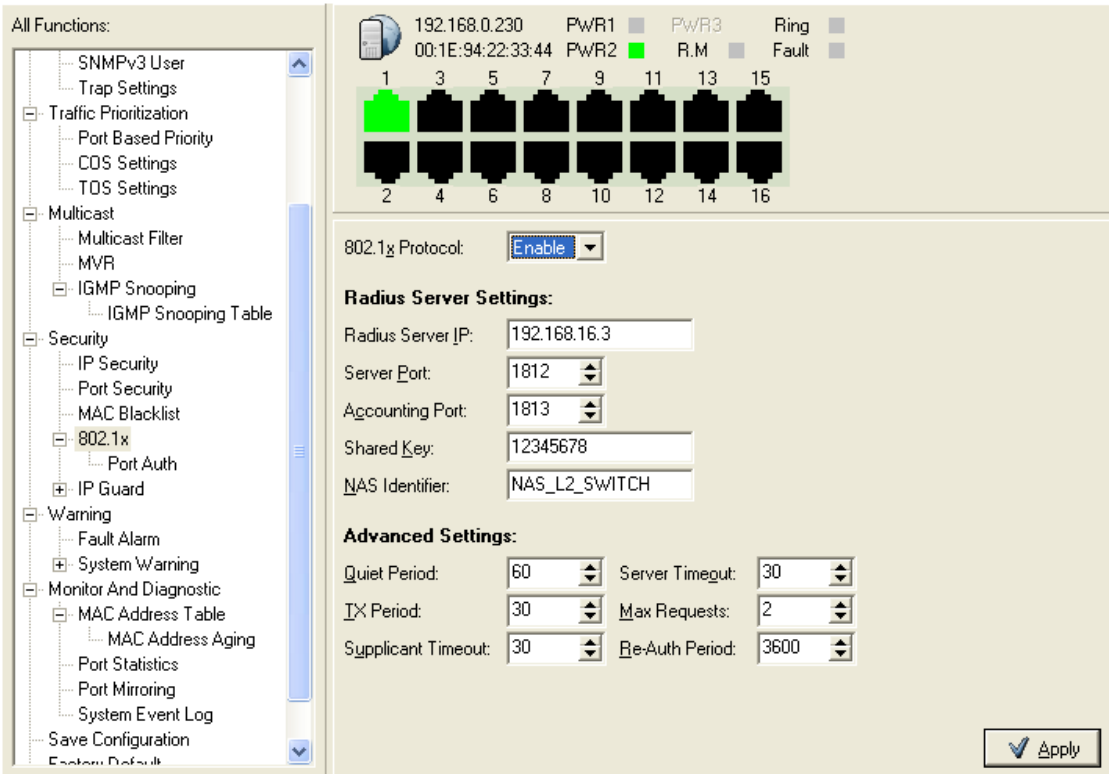
The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **MAC Address** | Input MAC Address to add to MAC Blacklist. |
| **Port NO.** | Select port of switch. |
| **Add** | Add an entry to Blacklist table. |
| **Delete** | Delete the entry. |
| **Help** | Show help file. |

# 802.1x

### 802.1x - Radius Server

802.1x makes the use of the physical access characteristics of IEEE802 LAN infrastructures in order to provide a authenticated and authorized devices attached to a LAN port. Please refer to IEEE 802.1X - Port Based Network Access Control.




802.1x Radius Server interface

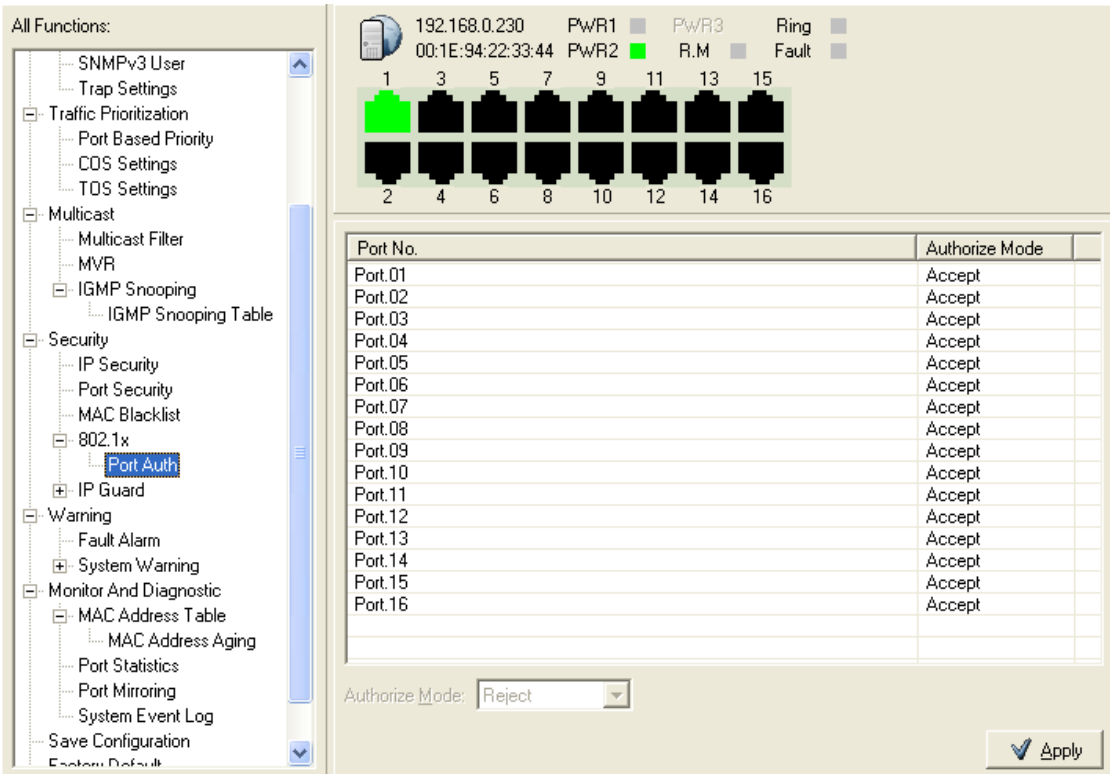
The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **Radius Server Setting** | |
| **Radius Server IP** | The IP address of the authentication server. |
| **Server port** | Set the UDP port number used by the authentication server to authenticate. |
| **Account port** | Set the UDP destination port for accounting requests to the specified Radius Server. |

| | |
|---|---|
| **Shared Key** | A key shared between this switch and authentication server. |
| **NAS, Identifier** | A string used to identify this switch. |
| **Advanced Setting** | |
| **Quiet Period** | Set the time interval between authentication failure and the start of a new authentication attempt. |
| **Tx Period** | Set the time that the switch can wait for response to an EAP request/identity frame from the client before resending the request. |
| **Supplicant Timeout** | Set the period of time the switch waits for a supplicant response to an EAP request. |
| **Server Timeout** | Set the period of time the switch waits for a Radius server response to an authentication request. |
| **Max Requests** | Set the maximum number of times to retry sending packets to the supplicant. |
| **Re-Auth Period** | Set the period of time after which clients connected must be re-authenticated. |
| **Apply** | Click "**Apply**" to set the configurations. |
| **Help** | Show help file. |

### 802.1x-Port Authorized Mode

Set the 802.1x authorized mode of each port.



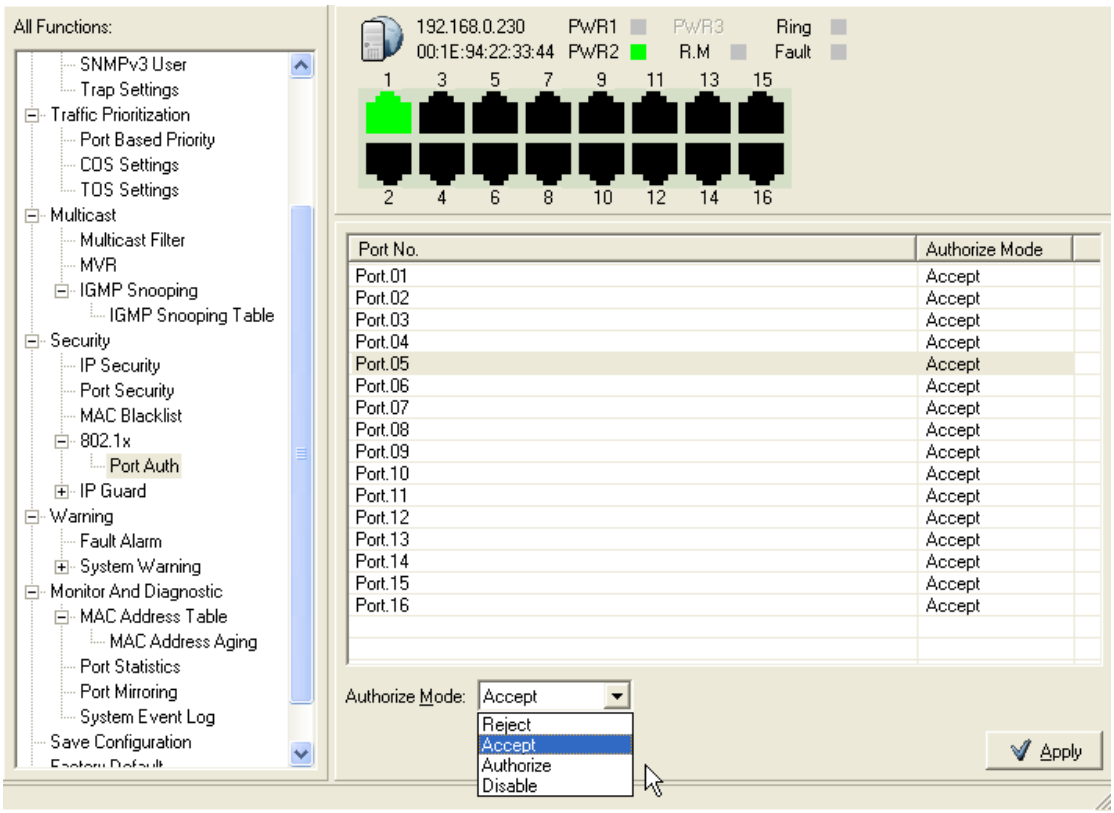

802.1x Port Authorize interface

The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **Port Authorized Mode** | ■ **Reject:** force this port to be unauthorized.<br>■ **Accept:** force this port to be authorized.<br>■ **Authorize:** the state of this port was determined by the outcome of the 802.1x authentication.<br>■ **Disable:** this port will not participate in 802.1x. |
| **Apply** | Click "**Apply**" to set the configurations. |
| **Help** | Show help file. |

### 802.1x-Port Authorized Mode

Show 802.1x port authorized state.



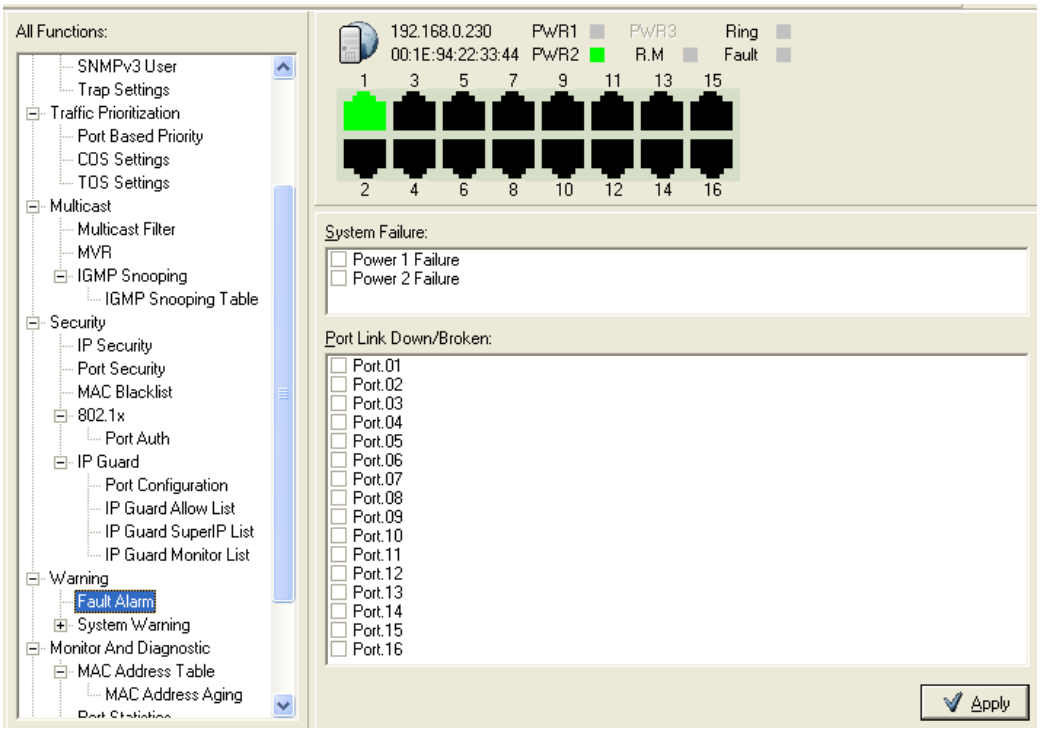

802.1x Port Authorize State interface

# 6.10 Warning

Warning function is very important for managing switch. You can manage switch by SYSLOG, E-MAIL, and Fault Relay. It helps you to monitor the switch status on remote site. When events occurred, the warning message will send to your appointed server, E-MAIL, or relay fault to switch panel.

## Fault Alarm

When any selected fault event is happened, the Fault LED in switch panel will light up and the electric relay will signal at the same time.




**Fault Alarm interface**

The following table describes the labels in this screen.

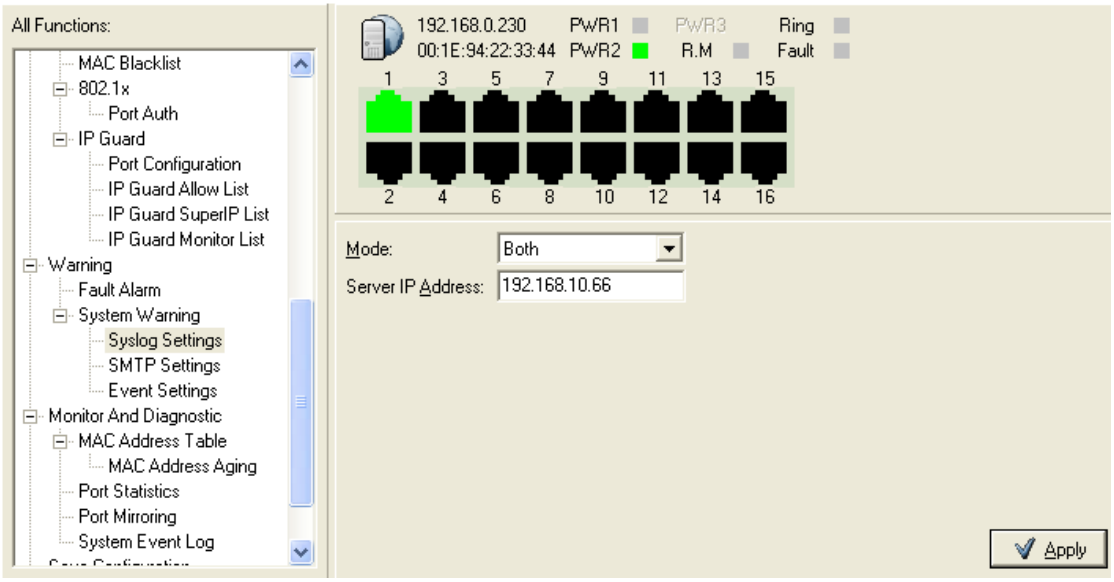
| Label | Description |
|---|---|
| **Power Failure** | Mark the blank of PWR 1 or PWR 2 to monitor. |
| **Port Link Down/Broken** | Mark the blank of port 1 to port 8 to monitor. |
| **Apply** | Click "**Apply**" to set the configurations. |
| **Help** | Show help file. |

# System Warning

System alarm support two warning mode: 1. SYSLOG. 2. E-MAIL. You can monitor switch through selected system events.

**System Warning – SYSLOG Setting**

The SYSLOG is a protocol to transmit event notification messages across networks. Please refer to RFC 3164 - The BSD SYSLOG Protocol



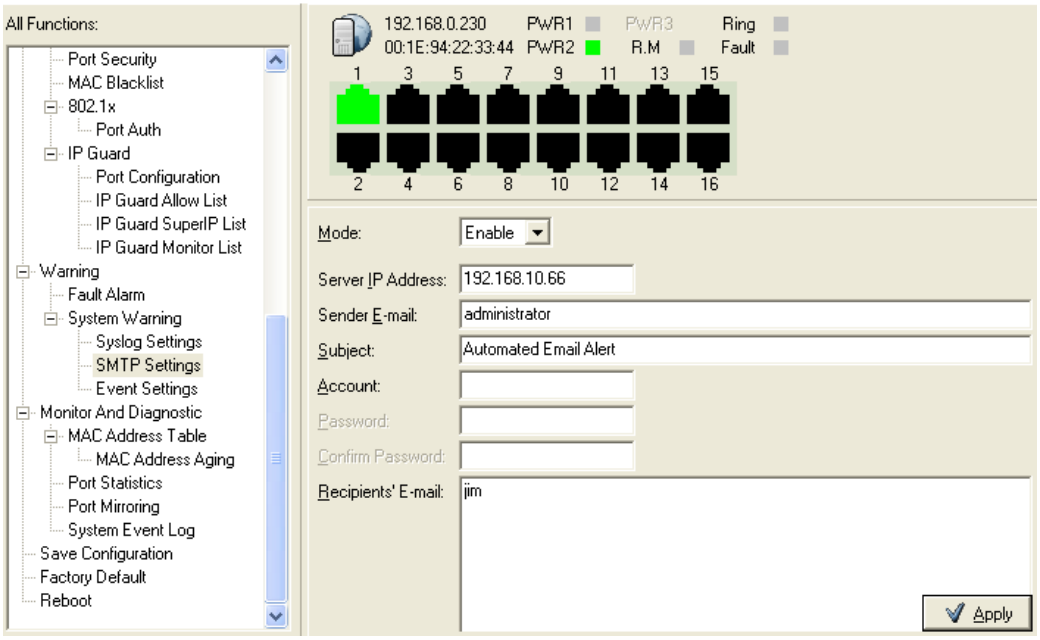

System Warning – SYSLOG Setting interface

The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **SYSLOG Mode** | ■ **Disable:** disable SYSLOG.<br>■ **Client Only:** log to local system.<br>■ **Server Only:** log to a remote SYSLOG server.<br>■ **Both:** log to both of local and remote server. |
| **SYSLOG Server IP Address** | The remote SYSLOG Server IP address. |
| **Apply** | Click "**Apply**" to set the configurations. |
| **Help** | Show help file. |

**System Warning – SMTP Setting.**

The SMTP is Short for Simple Mail Transfer Protocol. It is a protocol for e-mail transmission across the Internet. Please refer to RFC 821 - Simple Mail Transfer Protocol.



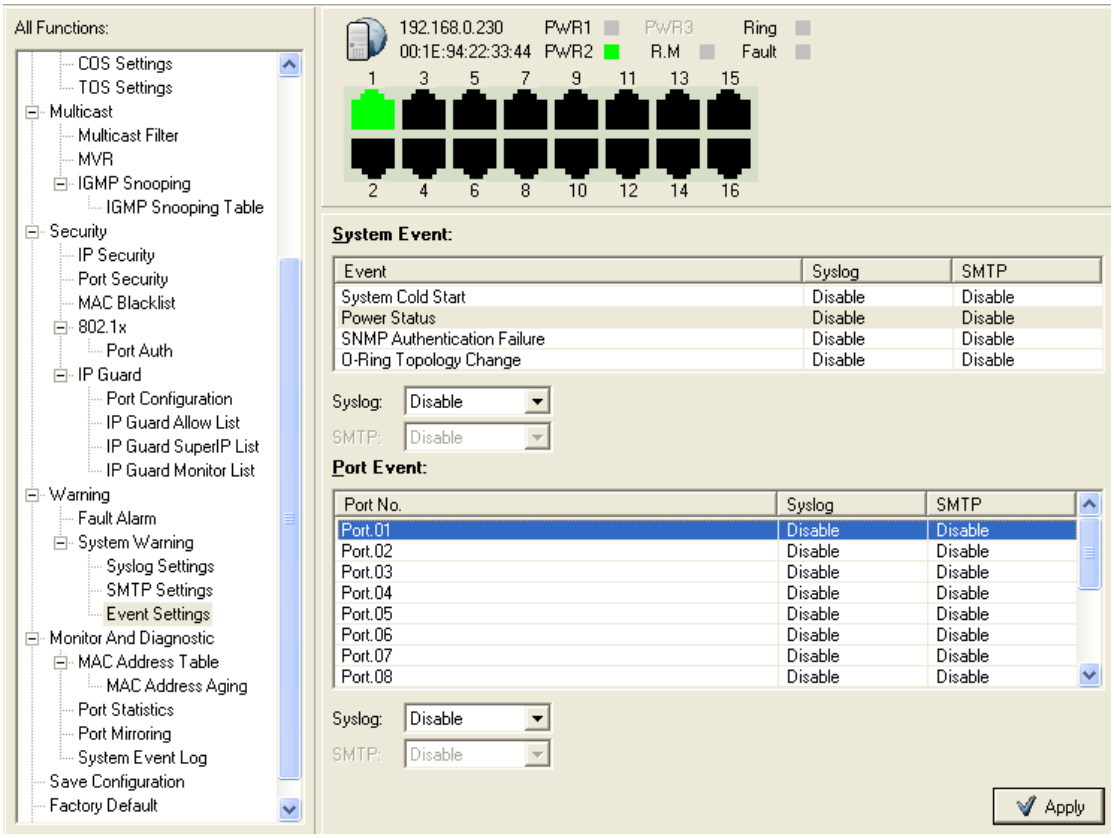

System Warning – SMTP Setting interface

The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **E-mail Alarm** | Enable/Disable transmission system warning events by e-mail. |
| **Sender E-mail Address** | The SMTP server IP address |
| **Mail Subject** | The Subject of the mail |
| **Authentication** | ■ **Username:** the authentication username.<br>■ **Password:** the authentication password.<br>■ **Confirm Password:** re-enter password. |
| **Recipient E-mail Address** | The recipient's E-mail address. It supports 6 recipients for a mail. |
| **Apply** | Click "**Apply**" to set the configurations. |
| **Help** | Show help file. |

**System Warning – Event Selection**

SYSLOG and SMTP are the two warning methods that supported by the system. Check the corresponding box to enable system event warning method you wish to choose. Please note that the checkbox can not be checked when SYSLOG or SMTP is disabled.




System Warning – Event Selection interface

The following table describes the labels in this screen.

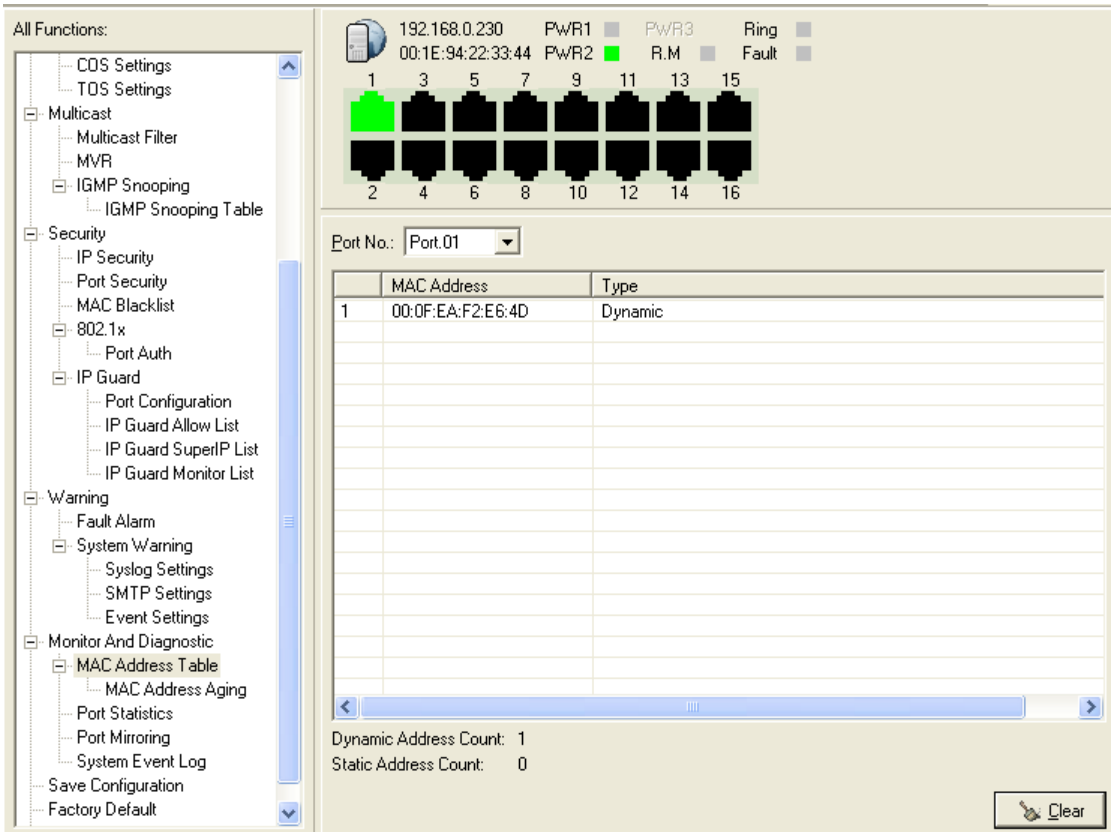
| Label | Description |
|---|---|
| **System Event** | |
| **System Cold Start** | Alert when system restart |
| **Power Status** | Alert when a power up or down |
| **SNMP Authentication Failure** | Alert when SNMP authentication failure. |
| **O-Ring Topology Change** | Alert when O-Ring topology changes. |
| **Port Event** | ■ **Disable** |

| | |
|---|---|
| | ■ **Link Up**<br>■ **Link Down**<br>■ **Link Up & Link Down** |
| **Apply** | Click "**Apply**" to set the configurations. |
| **Help** | Show help file. |

# 6.11 Monitor and Diag

## MAC Address Table

Refer to IEEE 802.1 D Sections 7.9. The MAC Address Table, that is Filtering Database, supports queries by the Forwarding Process, as to whether a frame received by a given port with a given destination MAC address is to be forwarded through a given potential transmission port.



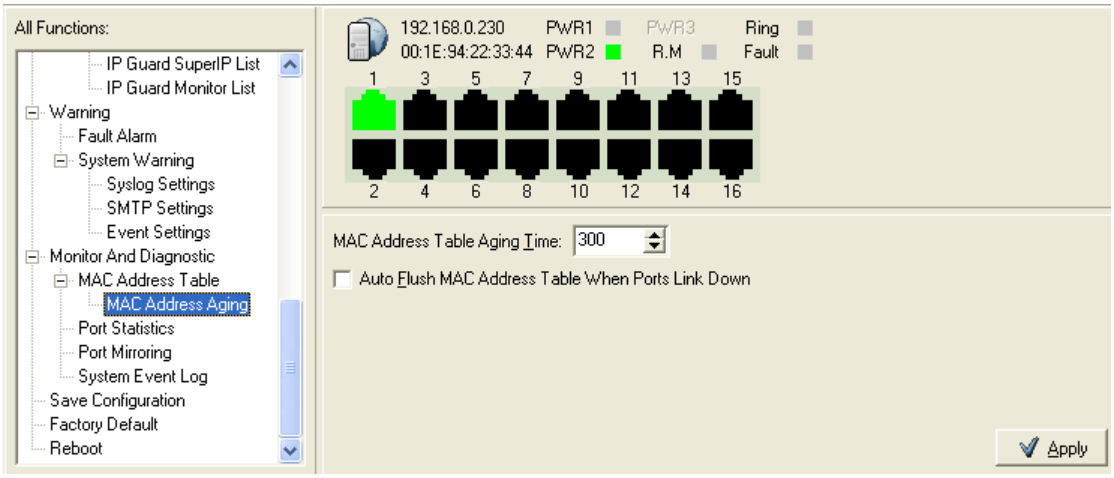

MAC Address Table interface

The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **Port NO. :** | Show all MAC addresses mapping to a selected port in table. |
| **Clear MAC Table** | Clear all MAC addresses in table |
| **Help** | Show help file. |

# MAC Address Aging

You can set MAC Address aging timer, as time expired, the unused MAC will be cleared from MAC table. SW-M series also support Auto Flush MAC Address Table When ports Link Down.



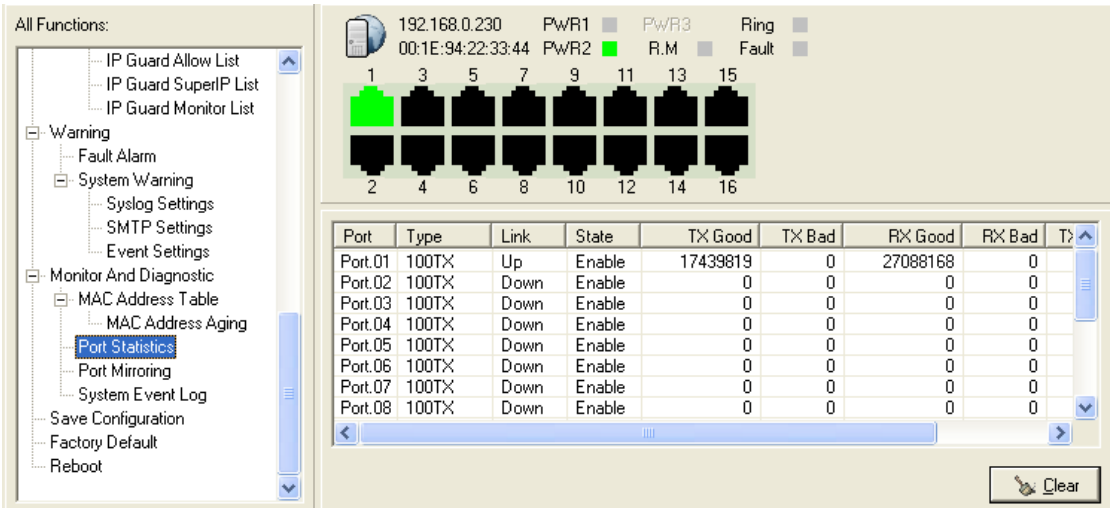

MAC Address Aging interface

The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **MAC Address Table Aging Time: (0to3825)** | Set the timer. |
| **Auto Flush MAC Address Table When ports Link Down.** | Mark the blank to enable the function, |
| **Apply** | Click "**Apply**" to set the configurations. |
| **Help** | Show help file. |

# Port Statistics

Port statistics show several statistics counters for all ports



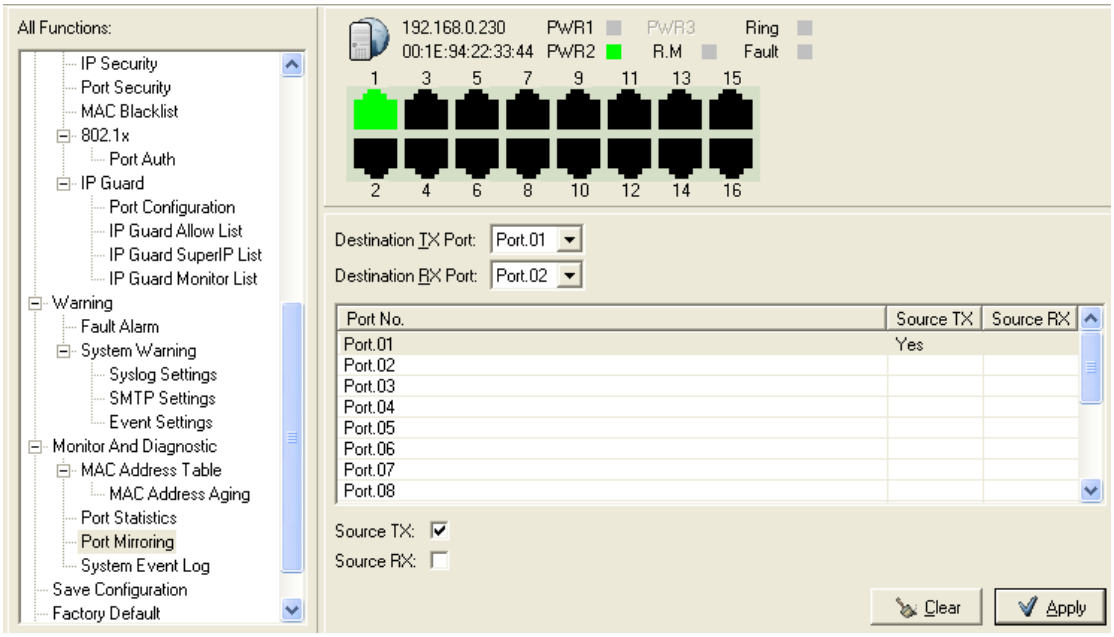

Port Statistics interface

The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **Type** | Show port speed and media type. |
| **Link** | Show port link status. |
| **State** | Show ports enable or disable. |
| **TX GOOD Packet** | The number of good packets sent by this port. |
| **TX Bad Packet** | The number of bad packets sent by this port. |
| **RX GOOD Packet** | The number of good packets received by this port. |
| **RX Bad Packet** | The number of bad packets received by this port. |
| **TX Abort Packet** | The number of packets aborted by this port. |
| **Packet Collision** | The number of times a collision detected by this port. |
| **Clear** | Clear all counters. |
| **Help** | Show help file. |

# Port Monitoring

Port monitoring supports TX (egress) only, RX (ingress) only, and TX/RX monitoring. TX monitoring sends any data that egress out checked TX source ports to a selected TX destination port as well. RX monitoring sends any data that ingress in checked RX source ports out to a selected RX destination port as well as sending the frame where it normally would have gone. Note that keep all source ports unchecked in order to disable port monitoring.



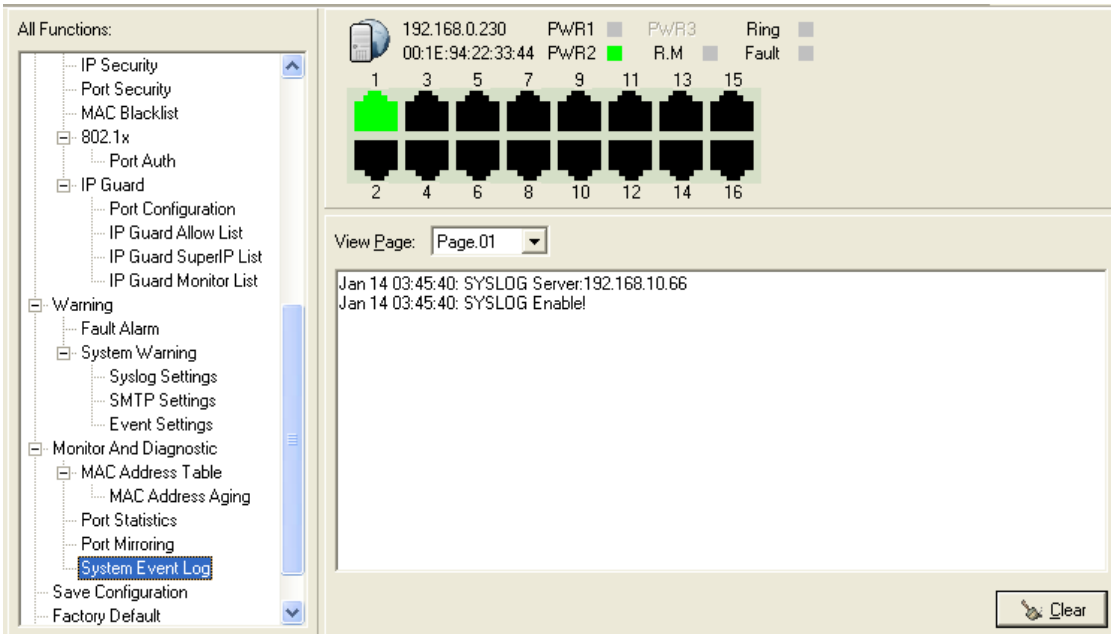

**Port monitoring interface**

The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **Destination Port** | The port will receive a copied frame from source port for monitoring purpose. |
| **Source Port** | The port will be monitored. Mark the blank of TX or RX to be monitored. |
| **TX** | The frames come into switch port. |
| **RX** | The frames receive by switch port. |
| **Apply** | Click "**Apply**" to set the configurations. |
| **Clear** | Clear all marked blank.(disable the function) |
| **Help** | Show help file. |

# System Event Log

If system log client is enabled, the system event logs will show in this table.



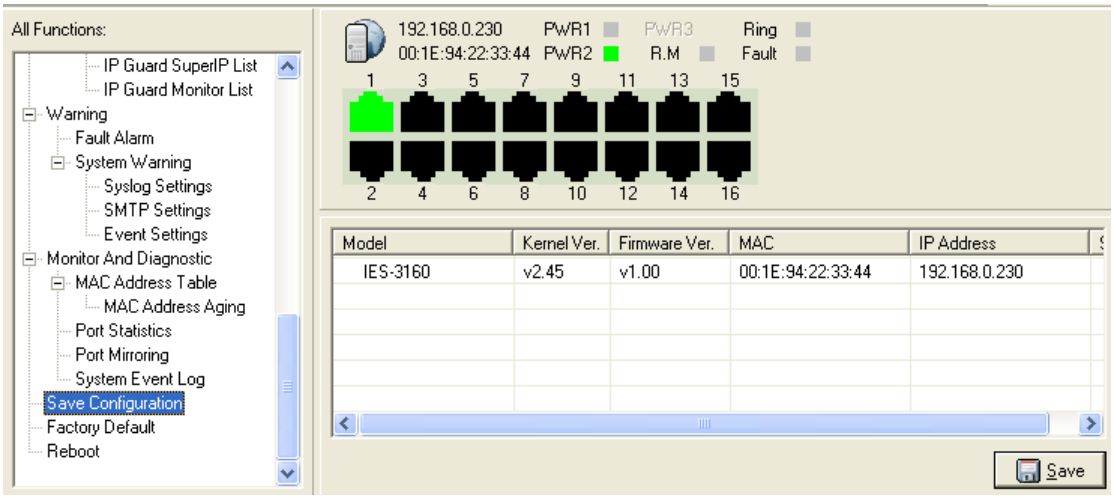

System event log interface

The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **Page** | Select LOG page. |
| **Reload** | To get the newest event logs and refresh this page. |
| **Clear** | Clear log. |
| **Help** | Show help file. |

# 6.12 Save Configuration

If any configuration changed, "**Save Configuration**" should be clicked to save current configuration data to the permanent flash memory. Otherwise, the current configuration will be lost when power off or system reset.

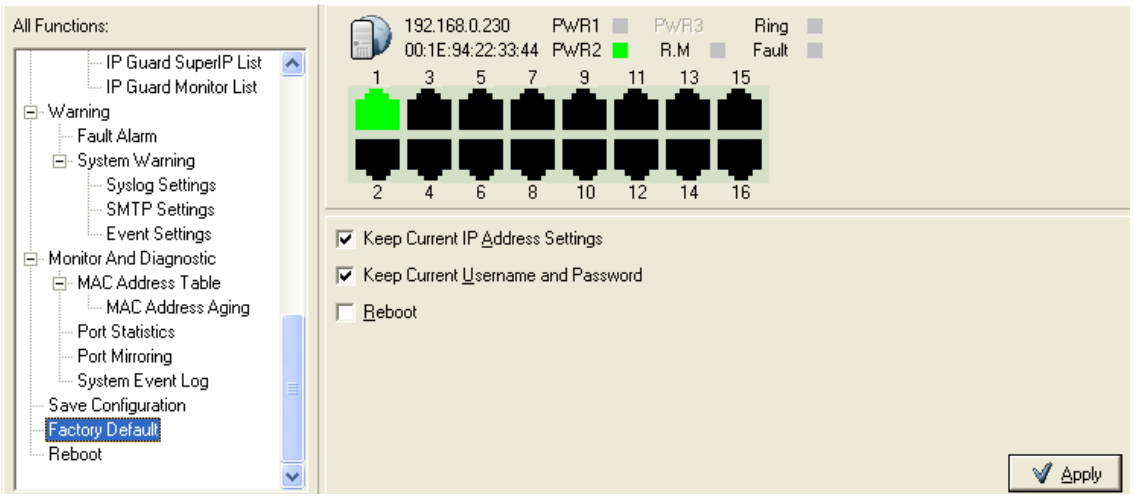



System Configuration interface

The following table describes the labels in this screen.

| Label | Description |
|---|---|
| **Save** | Save all configurations. |
| **Help** | Show help file. |

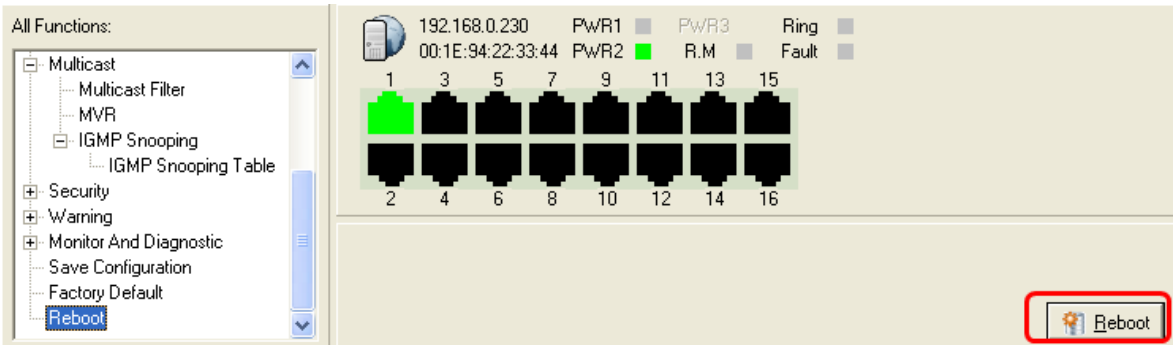
## 6.13 Factory Default




**Factory Default interface**

Reset switch to default configuration. Click "Apply" to reset all configurations to the default value. You can select "Keep current IP address setting" and "Keep current username & password" to prevent IP and username and password form default.

## 6.14 System Reboot

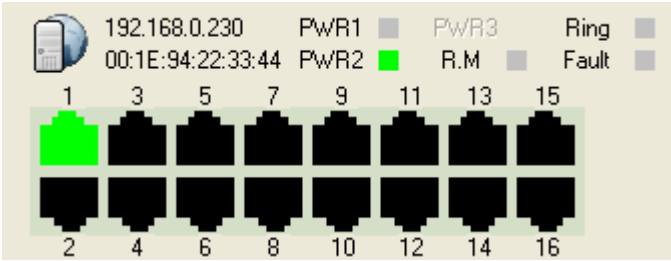


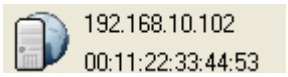
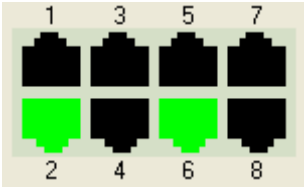

System Reboot interface

# Switch Status Interface

## 7.1 The GUI for users to get switch status

Users are able to get switches information by the simple interface.

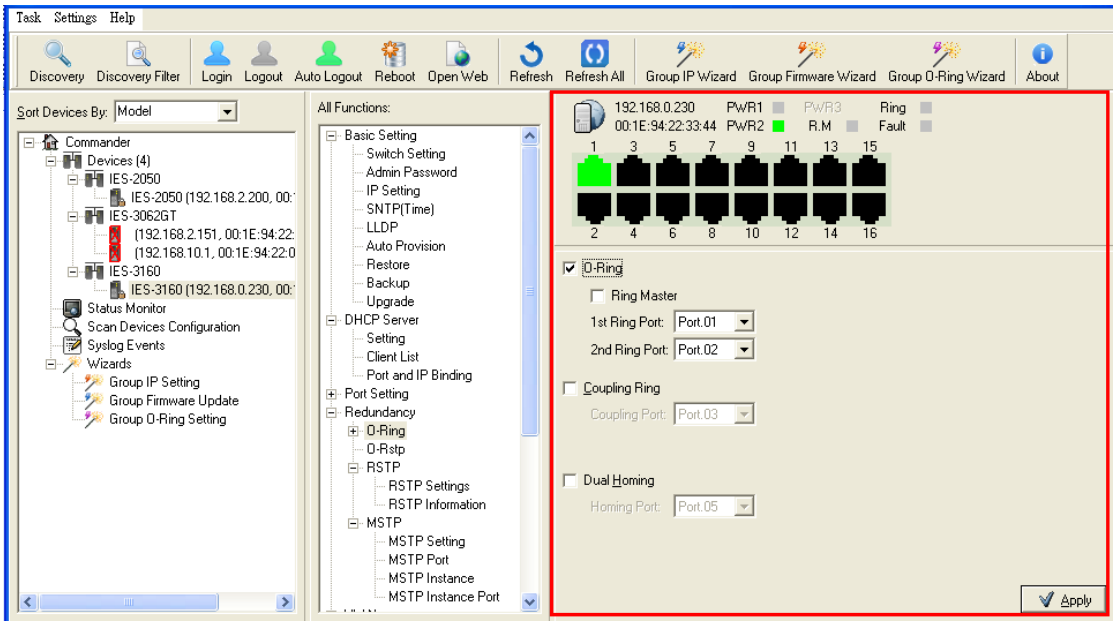



| Icon | Description |
|---|---|
|   | Show the IP and MAC Address of the switch. |
|   | Show the port link status of the switch. |
| | Switch Status LED . |

# Switch Configuration Interface

## 8.1 The relationship of function interface and the configuration interfaces

When user selects the function to configure, the related parameters will be displayed on configuration interface for user to set detail configurations. An example as below:



# Topology View

## 9.1 About the Topology View

Topology View is a useful and powerful network topology utility. It is able to display the network topology automatically. The network administrators are able to monitor the network devices and links status via Topology View immediately.

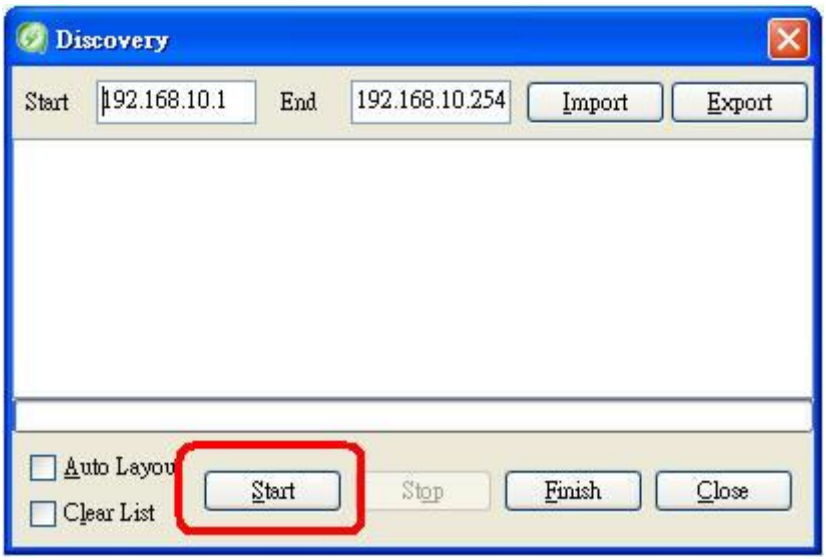
## 9.2 Start to use Topology View

Select [Devices Topology] and click [Devices Topology]

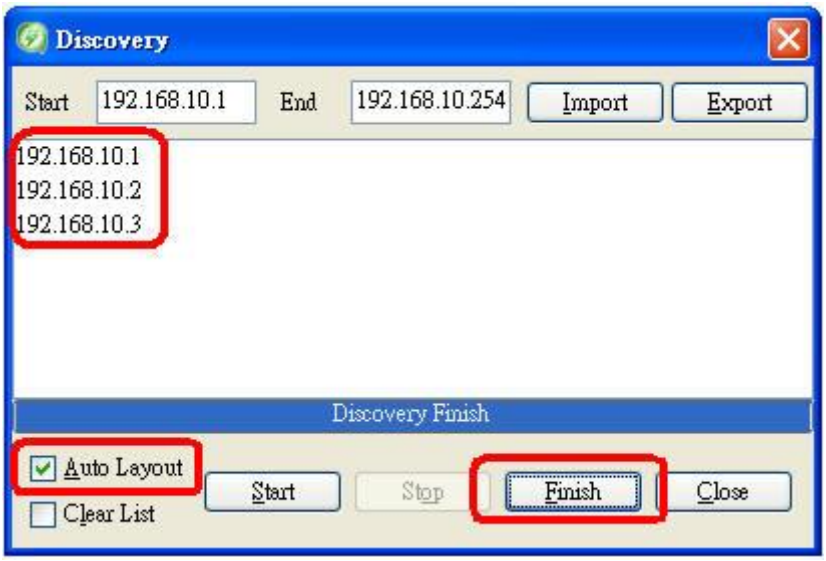
# 9.3 Topology View Main Interface

First use, needs user's input devices IP range , after pushes "Star", topology view begins scan devices , scan finishes, push "finish", finishes topology to plan.

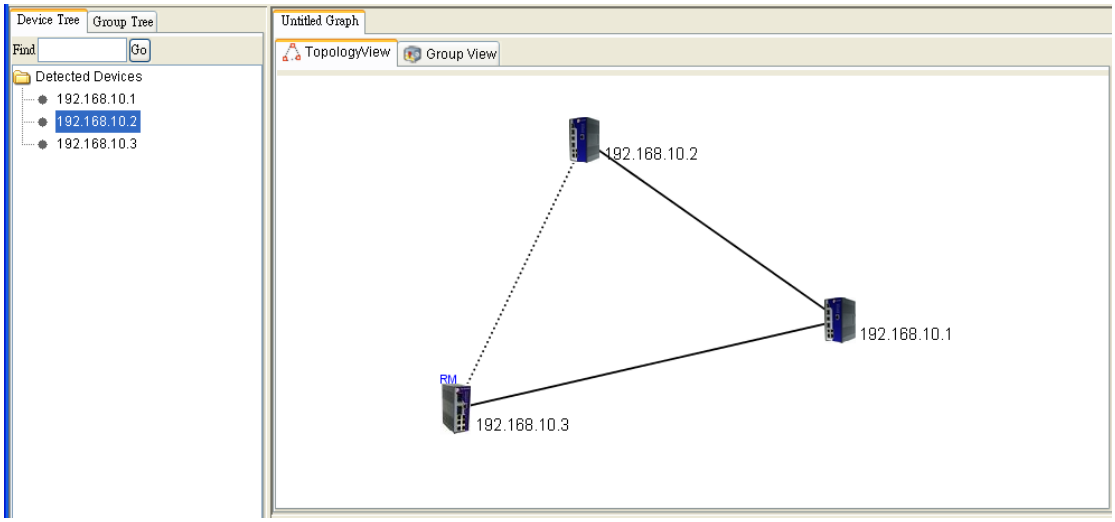
**1、Click Star Scan device**



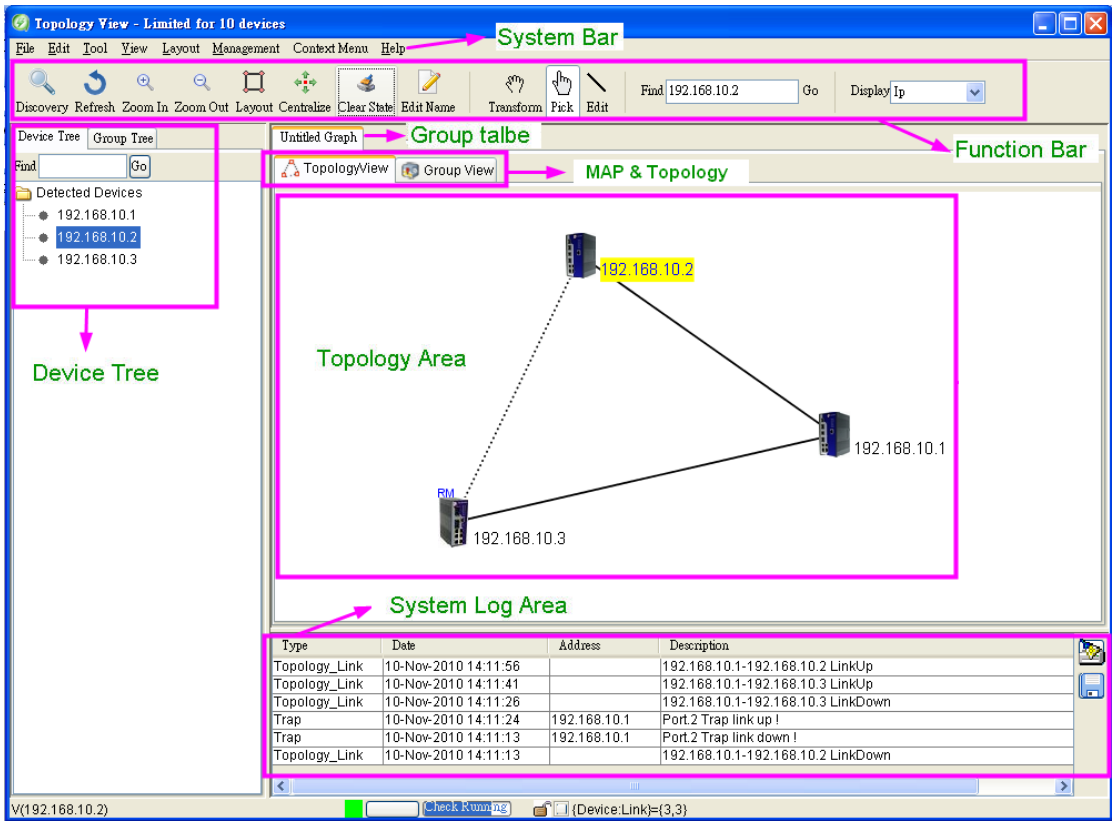

2、**Scan succeeds, click finish, finishes planning**



## 3、**Auto Finish topology plan**



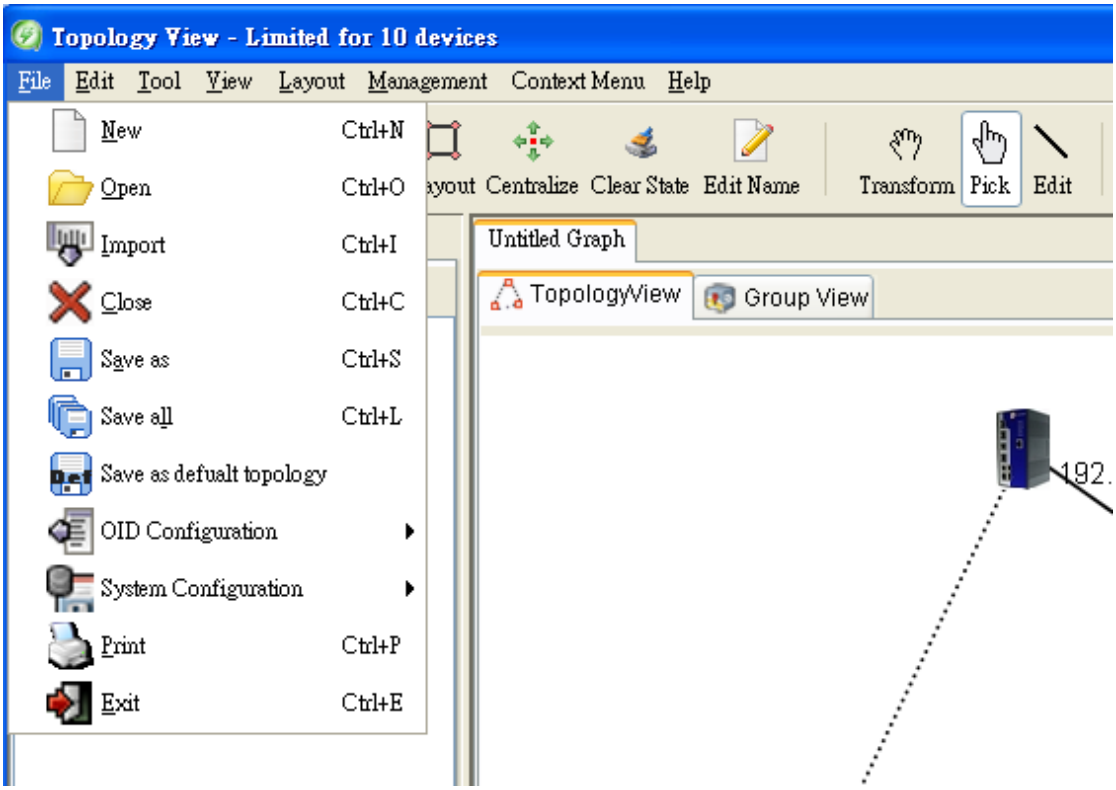

Topology interface can be divided into 6 parts, it is " System Bar ", " Function Bar ", " Device Tree ", " Topology Area " respectively, " System Log Area ", Group Table



# 9.4 System Bar

## File

Select File to show the File menu.

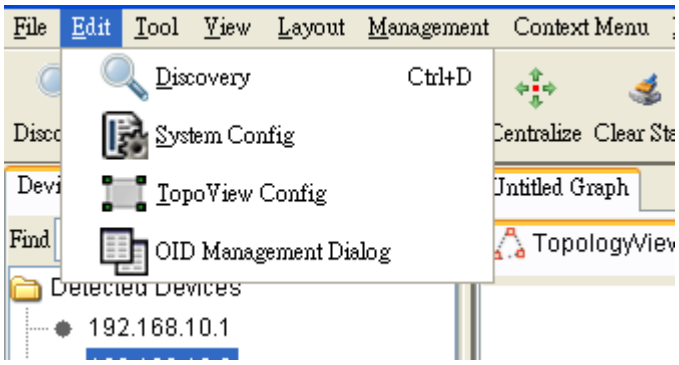



| Label | Hotkey | Description |
|---|---|---|
| New | Ctrl + N | Reopen a new Topology View program. |
| Open | Ctrl + O | Load the configuration that you saved before. |
| Import | Ctrl + I | Loaded different Topology save config, amalgamate in the same Group Table |
| Close | Ctrl + C | Close Topology Group Table |
| Save as | Ctrl + S | Save the current configuration as a *.GML file. |
| Save all | Ctrl + L | Save the ALL configuration as a *.GML file. |

| | | |
|---|---|---|
| Save as defualt topology | N/A | Save device topology info to Default value, If you restart the "Topology view", will directly show our save devices topology |
| Load OID Config File | N/A | Load OID Config File(Need to set up OIDMandialog first) |
| Save OID Config File | N/A | SAVE OID Config File(Need to set up OIDMandialog first) |
| Save Current Setting | N/A | Save topology view utility "system config" configuration, If does not save, after restarting the software, " system config" will turn into the default value. |
| Default System Configuration | N/A | Topology view config estore to factory defaults |
| Print | Ctril + P | Print Topology |
| Exit | Ctrl + E | Terminate Topology View program |

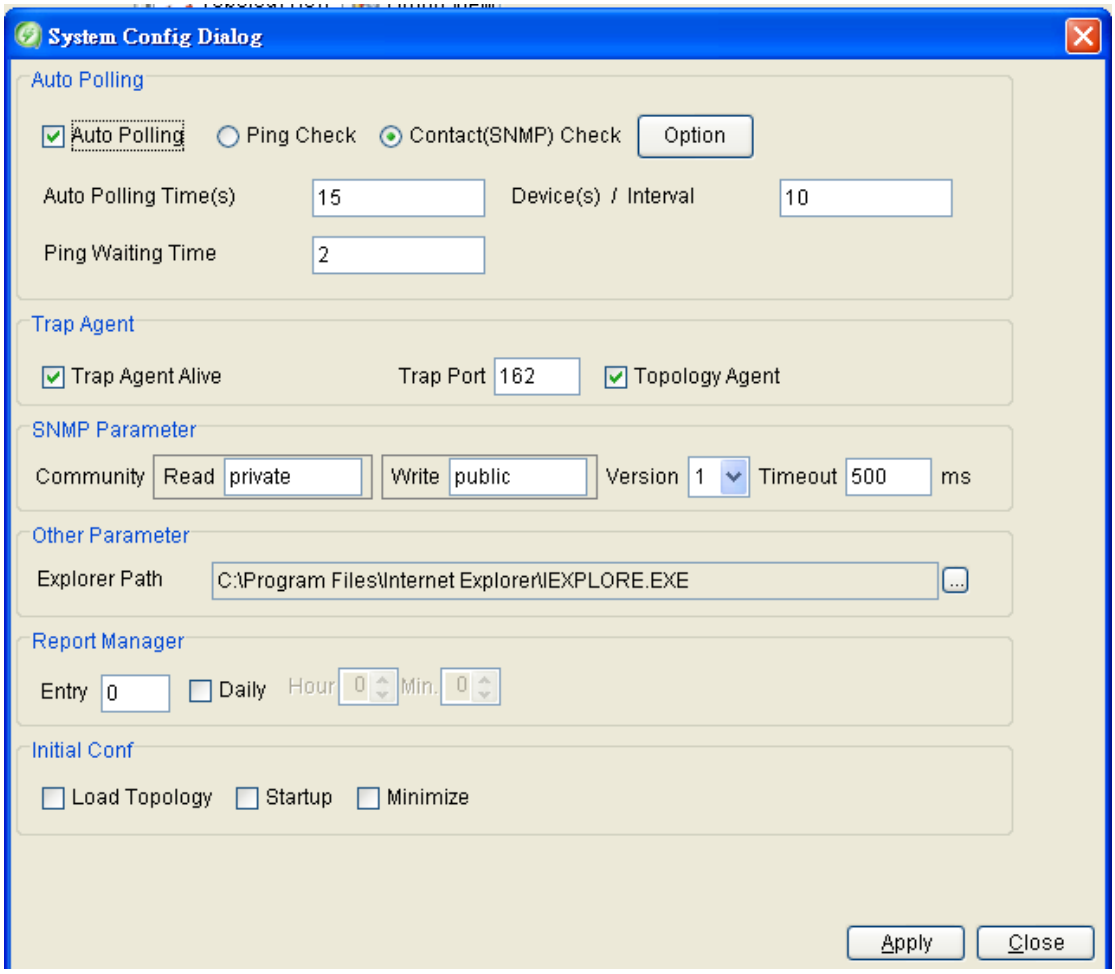
## Edit

Select Edit to show Task menu.




| Label | Hotkey | Description |
|---|---|---|
| Discovery | Ctrl + D | Discover the switches on the same subnet. Topology View will display all discovered switches on the device list, and display the whole network topology |

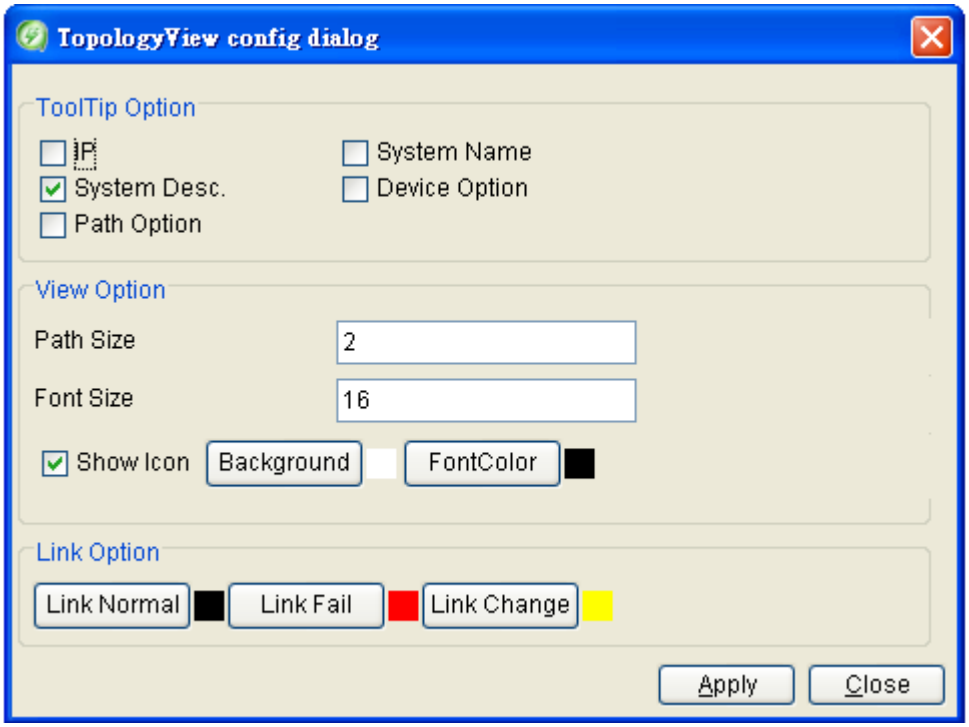
| | | |
|---|---|---|
| | | automatically on the topology area. Topology View discovers switches depend on LLDP and SNMP (Read community is public). |



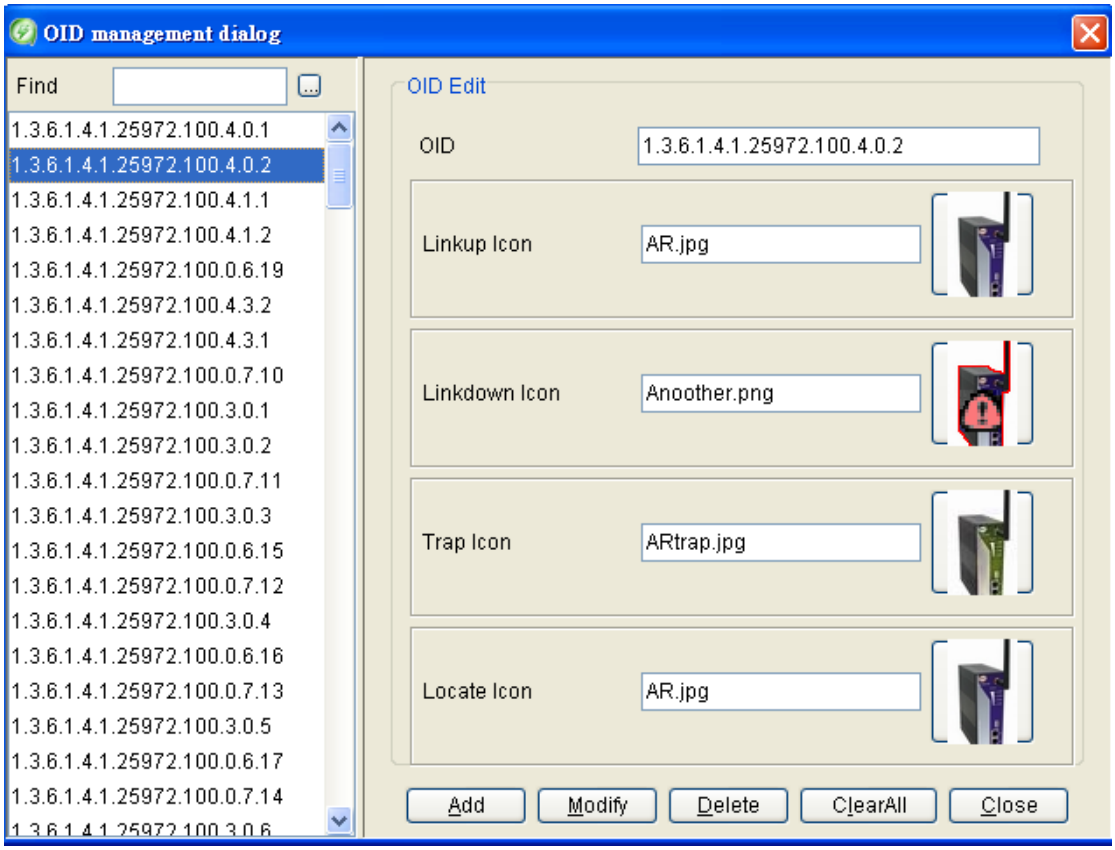

| Label | Hotkey | Description |
|---|---|---|
| System Config | N/A | **Auto Polling**：Enable or disable Auto Polling function.<br><br>**Ping Check**：Use ping to auto polling.<br><br>**Contact(SNMP) Check**：Use Snmp packet to auto polling. |

| | | |
|---|---|---|
| | | **Auto Polling Time**：The auto polling timer configuration.<br><br>**Device(s)/Interval**：Topology view system each time enforce auto polling quantity , set zero as, each time polling all devices.<br><br>**Ping Waiting Time**：When use ping to auto polling, this parameter is the timer that wait for ICMP reply packets.<br><br>**Trap Agent Alive**：Enable trap agent can receive SNMP trap.<br><br>**Trap Port :** Specifies the port used by the Trap<br><br>**Topology agent :** Enable / Disable topology agent function<br><br>**SNMP Community**：Configure SNMP's Community and Version. Topology View will use these parameters to discover the devices in the same network.<br><br>**Version :** select SNMP version(V1, V2)<br><br>**Time out :** SNMP wait time, if the device does not respond than to determine the lost contact (For SNMP check)<br><br>**Explorer Path**：Specify the Internet Explorer path in the OS.<br><br>**Report Manage**：Auto save system log area info to excel file.<br><br>Entry : System log reaches the designated |

| | | |
|---|---|---|
| | | quantity, auto save to Excel file.<br> <br><br>Daily：Reach designated o'clock, auto save to Excel file.<br> <br><br>**Load Topology :** Start reading the default topology information (to be with the Save as default topology)<br><br>**Startup :** Start the "WINDOWS" at the same time automatically start TOPOLOGY VIEW<br><br>**Minimize :** Start TOPOLOGY VIEW, automatically minimized to the lower right tool cases |




| Label | Hotkey | Description |
|---|---|---|
| TopoView Config | N/A | **ToolTip Option :** Enable or disable to display the switches certain information.<br><br>**View Option:** Setting path size & font size and Icon color..<br><br>**Link Option :** Setting Link status color. |

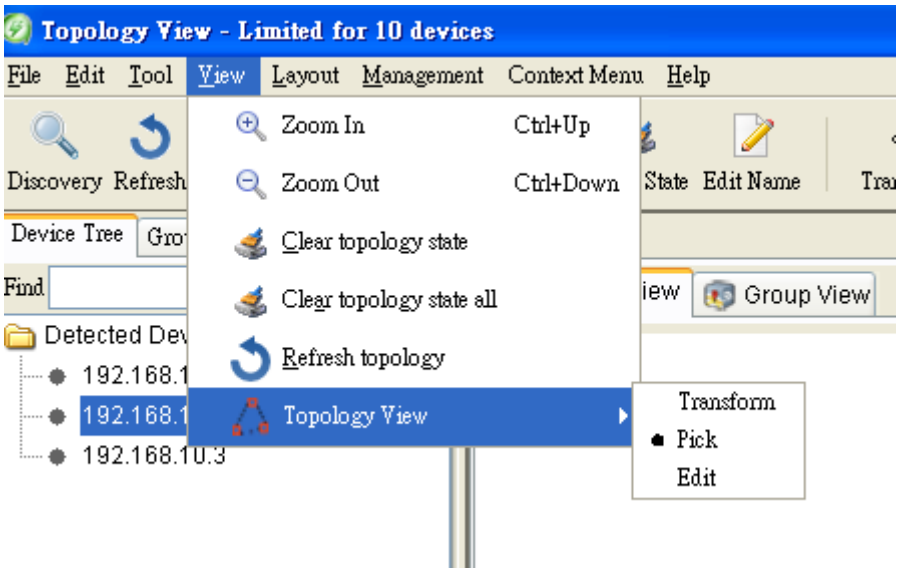



| Label | Hotkey | Description |
|---|---|---|
| OIDManDialog | N/A | This function, can let us oneself define device Icon. Only need to put the designated picture to c: \Program Files\Open-Vision \rec\device, Appoint the corresponding file name, can finish the ICON configuration.<br><br>**Select Left interface OID :** Select to want oneself to define Icon device the OID.<br><br>**OID:** Input want oneself to define Icon device the OID.<br><br>**Linkup Icon :** Appoint corresponding "Linkup Icon" icon name.<br><br>**Linkdown Icon :** Appoint corresponding "Linkdown Icon" icon name. |

| | | |
|---|---|---|
| | | **Trap Icon :** Appoint corresponding "Trap Icon" icon name.<br><br>**Locate Icon :** Appoint corresponding "Locate Icon" icon name. |

## View

Can define the project that Function Bar reveals by oneself.

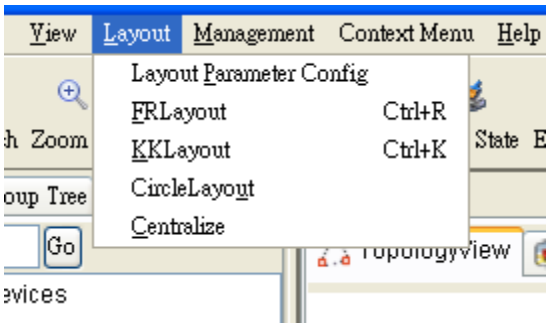



| Icon | Hotkey | Description |
|---|---|---|
| Zoom In | Ctril + up | Zoom in the topology. |
| Zoom Out | Ctril + down | Zoom out the topology. |
| Clear topology state | N/A | User can clear Topology Area status |
| Clear topology state all | N/A | User can clear Topology Area status by all group. |
| Refresh topology | N/A | Refresh the topology |
| Topology View | N/A | Select control mode |

## Layout

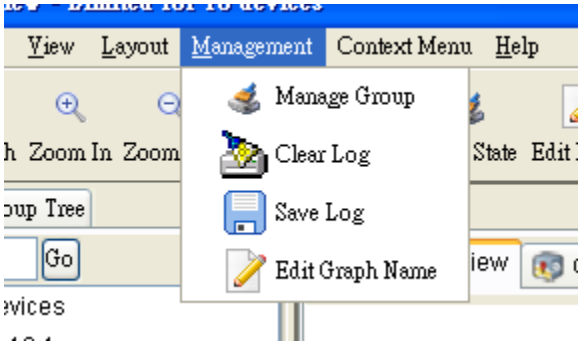
Topology view has provide three Layout algorithms,He can help users, faster automatic planning topology.

(About the information of various Layout, can consult http://jung.sourceforge.net/site/apidocs/index.html)

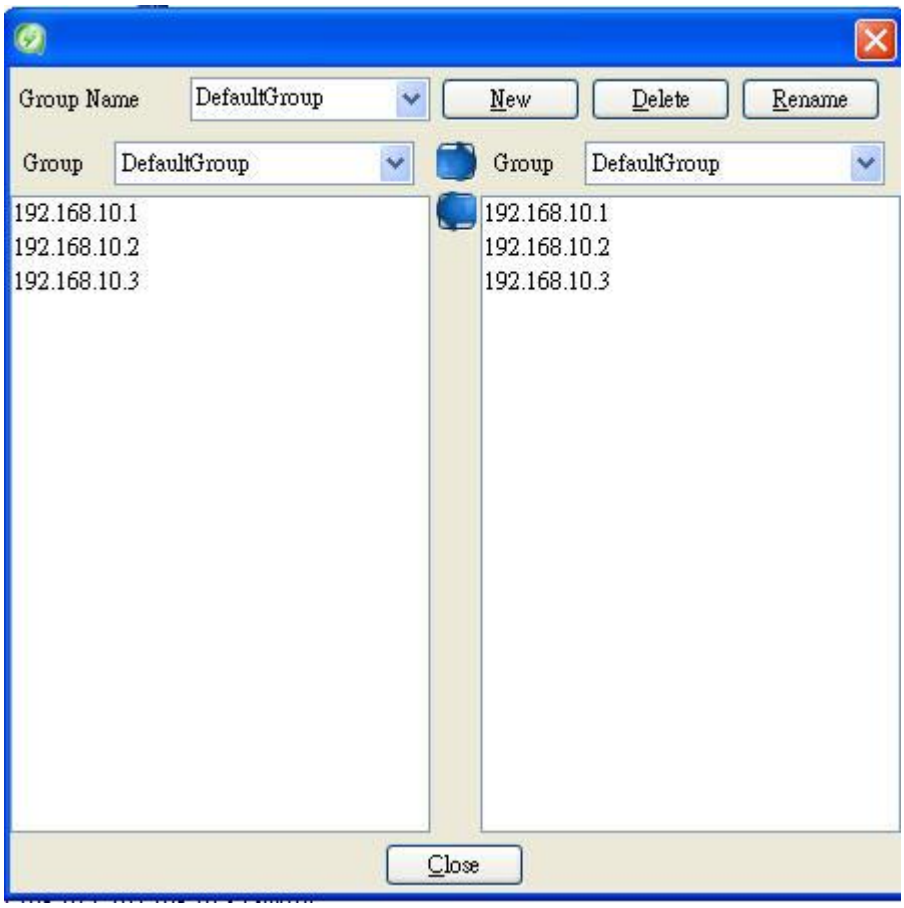



## Management

Select Management to show Management menu.



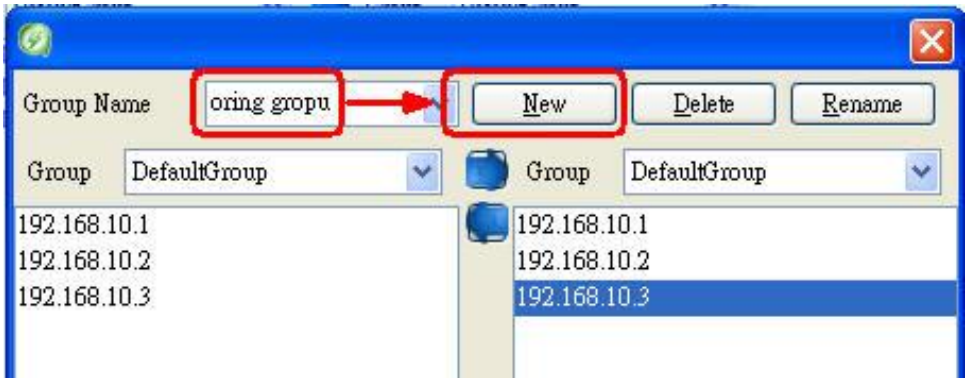

| Label | Hotkey | Description |
|---|---|---|
| Manage Group | N/A | Manage topology group.<br>**Group Name :** Define group name<br>**New :** Add new group.<br>**Delete :** Delete group.<br>**Rename :** Group Rename.<br>**Group :** show select group device ip list |


Group Name
DefaultGroup
New
Delete
Rename
Group
DefaultGroup
Group
DefaultGroup
192.168.10.1
192.168.10.2
192.168.10.3
192.168.10.1
192.168.10.2
192.168.10.3
Close

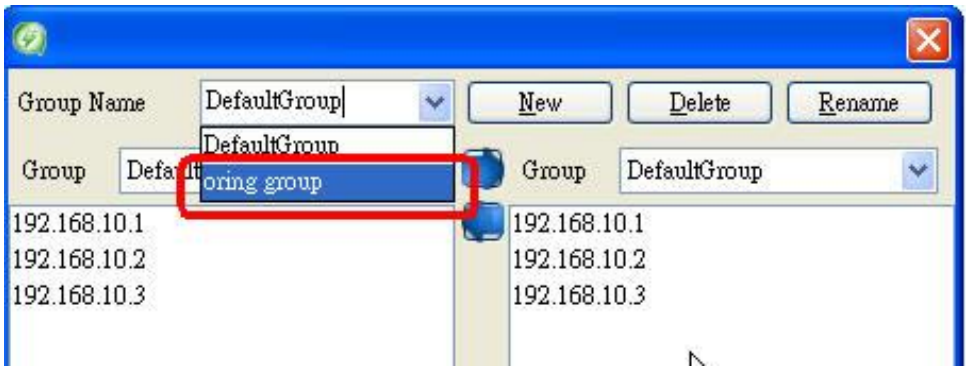
## Group setting method

### 1、 Add new group

Input Group name, then click "New"



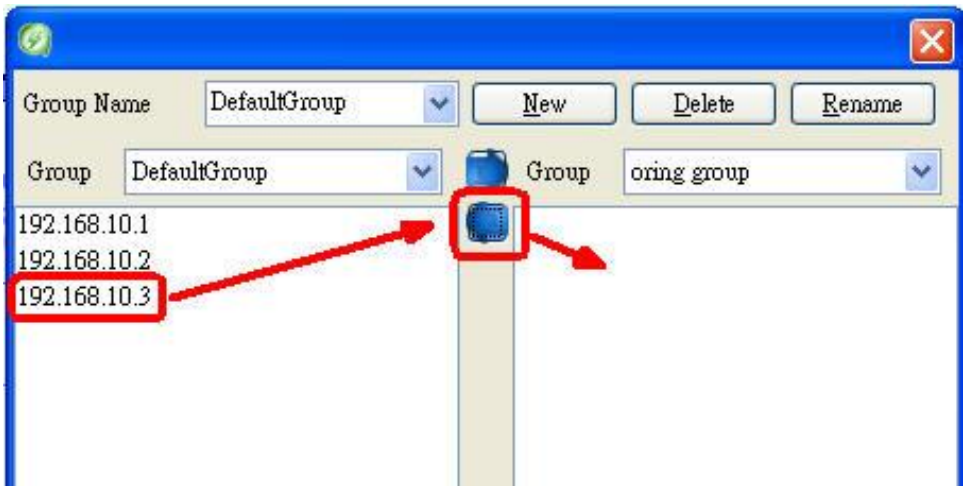

We can find that here " Group Name" Project among,increase **oring group**

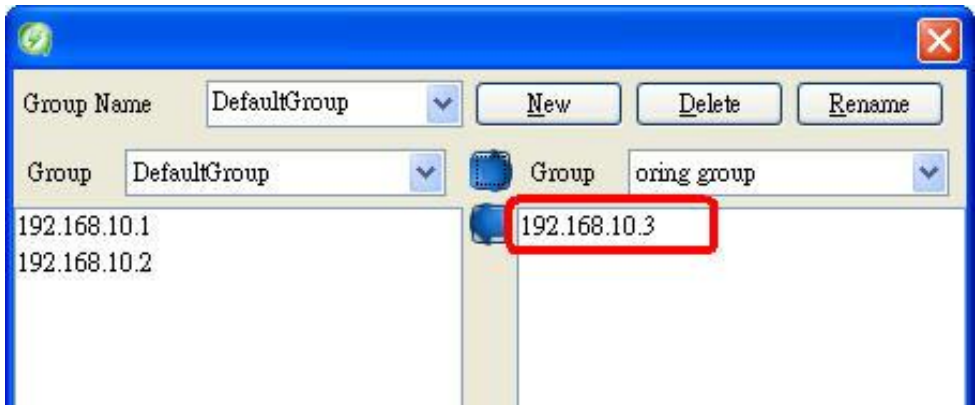


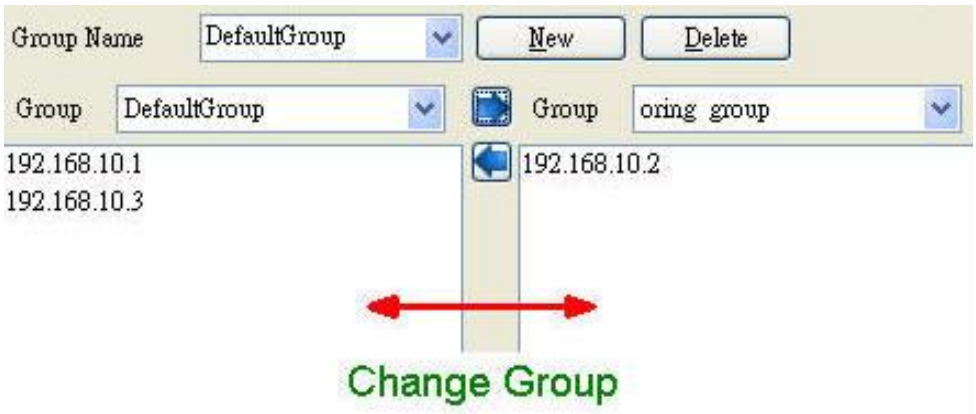

### 2、 Appoint device

Select group project to defaultGroup and oring group

Utilize and to move device ip to designated group

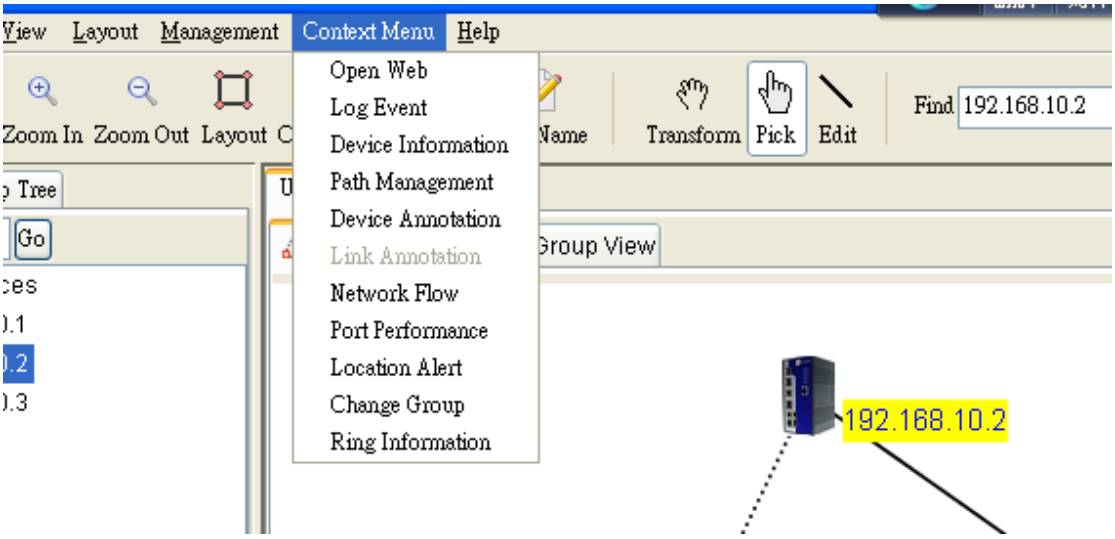


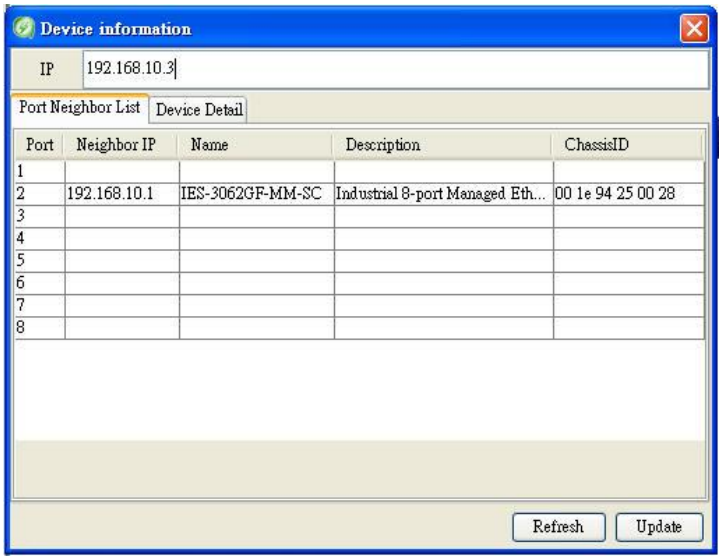
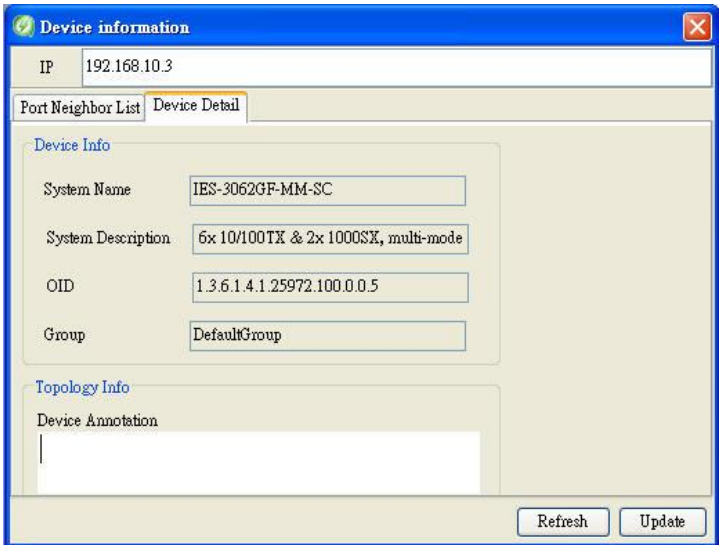



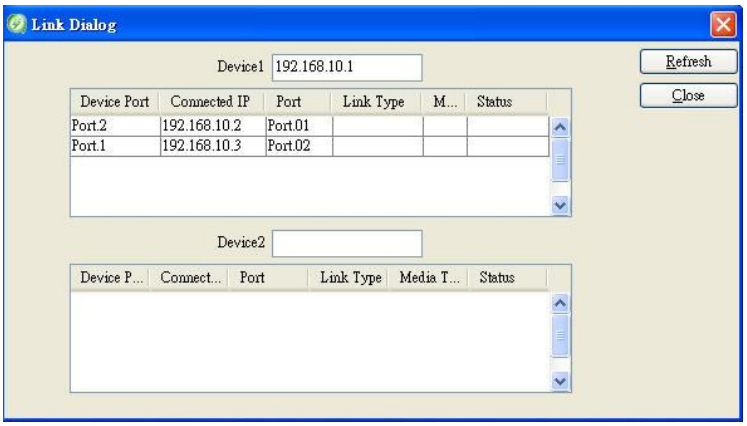
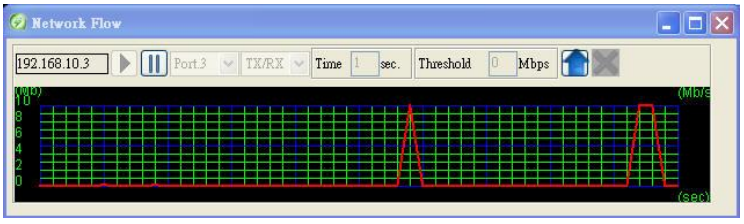
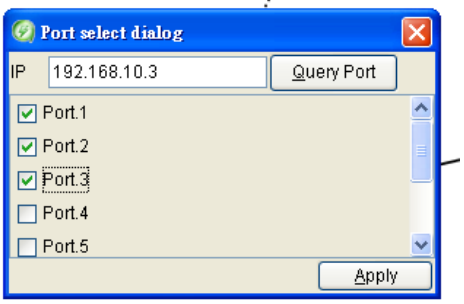
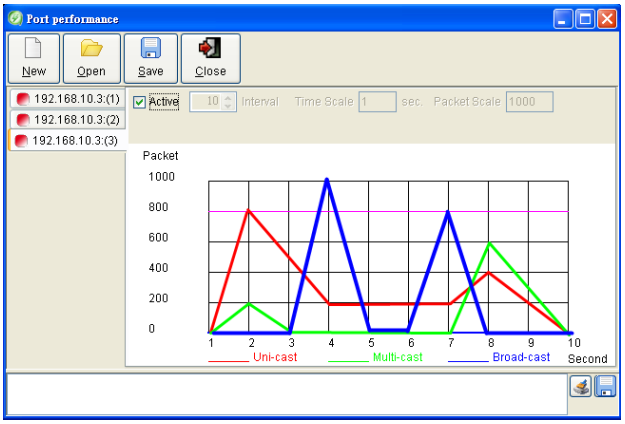
| Label | Hotkey | Description |
|---|---|---|
| Clear Log | N/A | User can clear trap log area |
| Save Log | N/A | Save system log area info to Excel file. |
| Edit Graph Name | N/A | User can define Group table the name by oneself. |

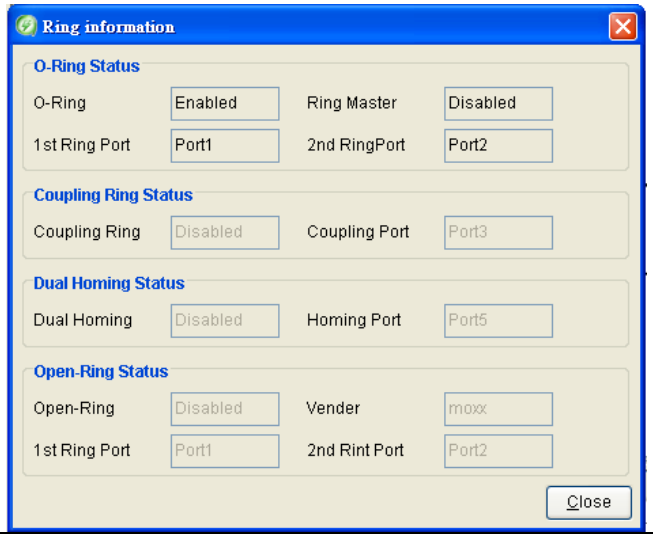
## Context Menu




| Task | Hotkey | Description |
|---|---|---|
| **Open Web** | N/A | Open Switch Web Page |
| **Log Event** | N/A | Open Switch Log Event Table. |
| **Device Information** | N/A | Show Device Information<br>1、Port Neighbor List |

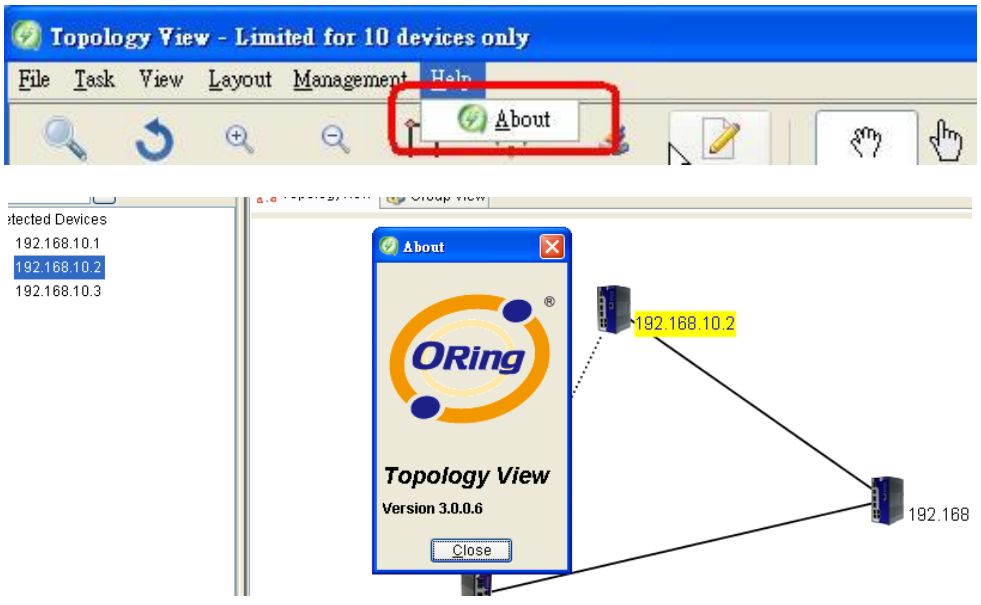
| | | |
|---|---|---|
| | |  <br>Neighbor IP：Show Neighbor Device IP.<br>Name：Show Switch model name.<br>Description：Show device Description.<br>ChassisID：Show device MAC.<br>2、Device Detail<br>  <br>Device Annotation：Can accord with user's demand, increase notes |
| **Path Management** | N/A | Can reveal the information of the adjoint devices. |

| | | |
|---|---|---|
| | |  |
| **Device Annotation** | N/A | Can accord with user's demand, increase switch notes. |
| **Network Flow** | N/A | Start " Network Flow" Function, the user can control Network Flow which appoints port.<br>  |
| **Port Performance** | N/A | User can select want to monitor port<br>  <br>User can monitor uni-cast multicast & broadcast packet.<br>  |

| | | |
|---|---|---|
| **Location alert** | N/A | "Enable" or "Disable" location alert. |
| **Change Group** | N/A | The user can choose designated device, changes him group disposes |
| **Ring Infomation** | N/A | User can check Ring port and master information.<br>  |

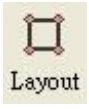
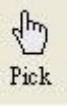
## Help

Select **Help** to show Help menu.




| Label | Hotkey | Description |
|---|---|---|
| About | N/A | Show the version information of Topology View. |

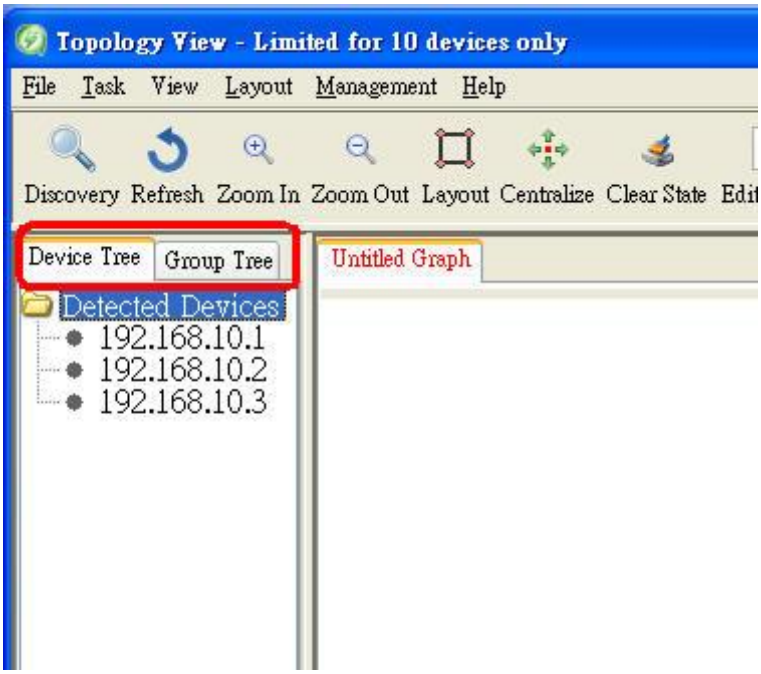
# 9.5 Function Bar

| Icon | Description |
|---|---|
| | The same with task "Discovery". |
| | Refresh the host |
| | Zoom in the topology. |
| | Zoom out the topology. |
|   | Auto Layout |
| | Centralize |
| | User can clear Topology Area status |
| | User can oneself define group name |
| | Transforming：Move all switches at the same time. |
|   | Picking：Pick one switch to move. |
| | Editing：When Topology Area into editing mode, users are able to add or delete switches and links. |

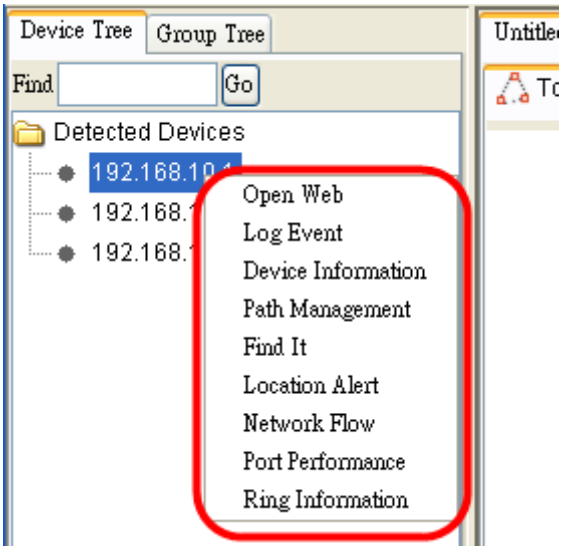
| | |
|---|---|
| Find Go | Find the specific host in the topology. |
| Device Label Ip | Show Designated Device info |

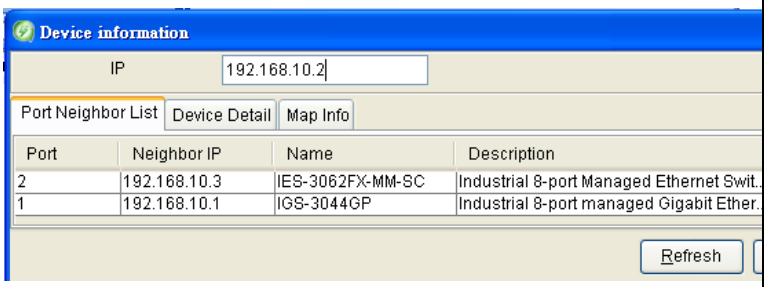
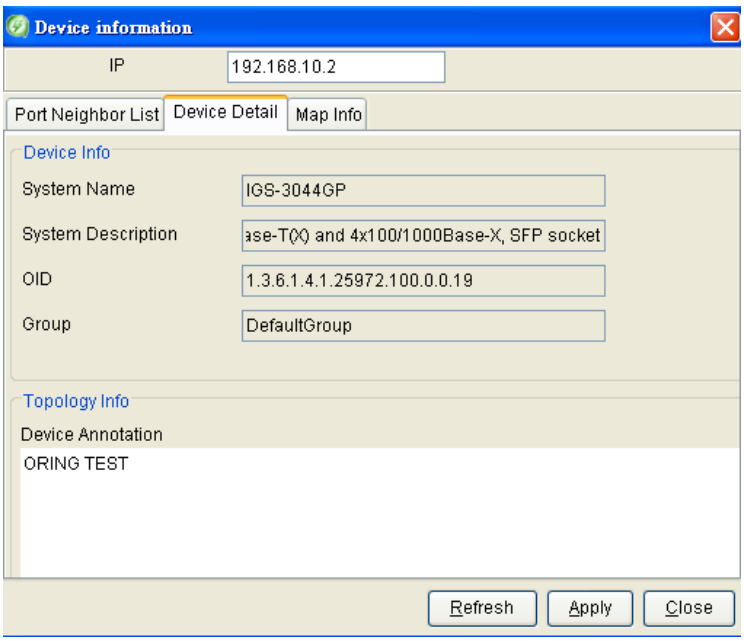
## 9.6 Device Tree

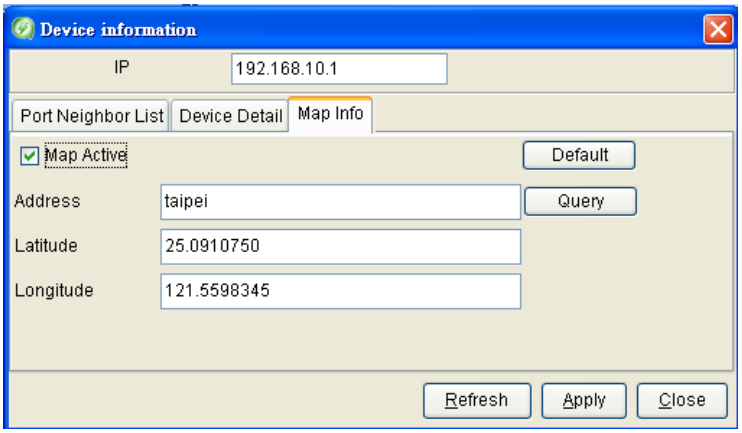
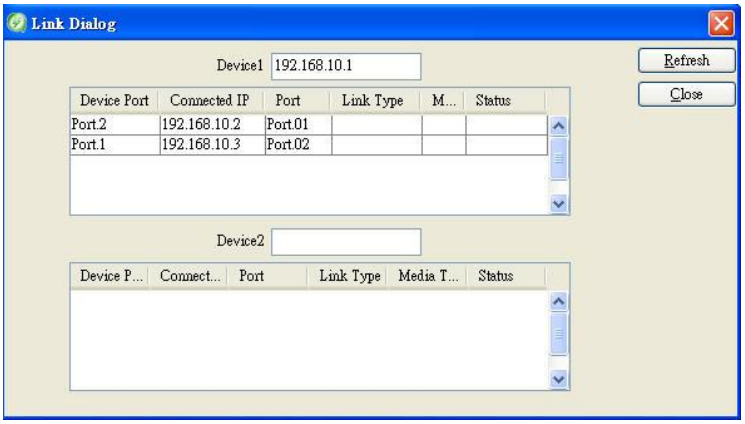
After execute Discovery, Topology View will list the discovered devices on the Device Tree.

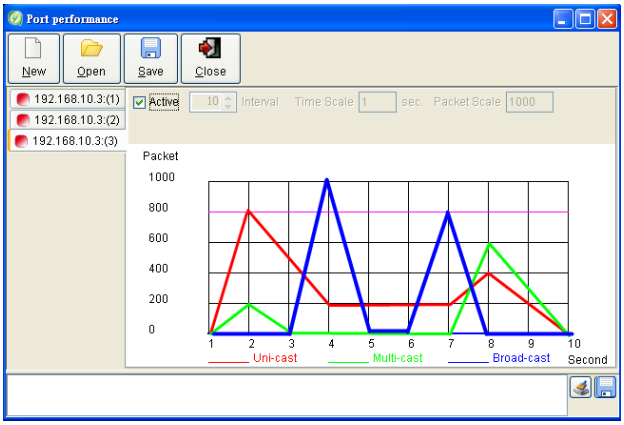
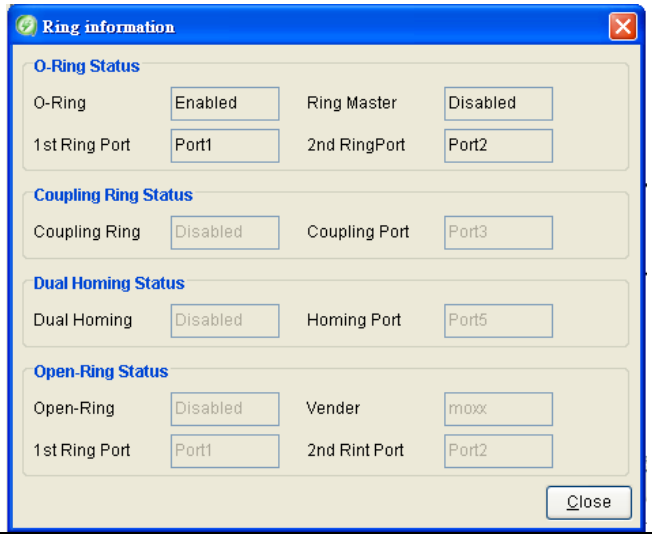



Select certain note, and right-click the mouse, will show the menu.



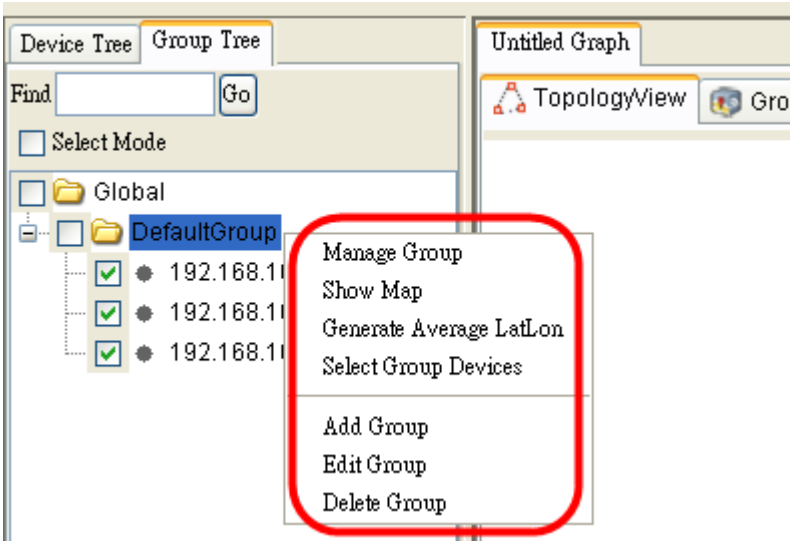
| Task | Hotkey | Description |
|---|---|---|
| **Open Web** | N/A | Open Switch Web Page |
| **Log Event** | N/A | Open Switch Log Event Table. |
| **Device Information** | N/A | Show Device Information<br><br>1、Port Neighbor List<br>  <br><br>Neighbor IP：Show Neighbor Device IP.<br>Name：Show Switch model name.<br>Description：Show device Description.<br>ChassisID：Show device MAC.<br>2、Device Detail<br>  <br><br>Device Annotation：Can accord with user's demand, increase notes<br>3、Map Info<br>This feature is to use google map, users can "Map |

| | | |
|---|---|---|
| | | info" page, enter the address, topology view will follow the address, calculate the coordinates and follow the coordinates, the device will be shown on the google map. (Use this feature, it is necessary to connect internet.)<br>  <br><br>Map Active : enable check box , device will show to google map. Disable this check box , device will not show .<br>Default : Clear address info.<br>Address : user can input any address.<br>Query : auto scan address coordinate.<br>Latitude : input Latitude<br>Longitude : input Longitude |
| **Path management** | N/A | Can reveal the information of the adjoint devices.<br>  <br> |
| **Find It** | N/A | Look for the position that appoints the device. |
| **Location Alert** | N/A | "Enable" or "Disable" location alert. |

| | | |
|---|---|---|
| **Port Performance** | N/A | User can select want to monitor port<br> <br><br>User can monitor uni-cast multicast & broadcast packet.<br>  <br> |
| **Ring Information** | N/A | User can check Ring port and master information.<br>  <br> |

# 9.7 Group Tree

"Group View" function of the settings page, users can set the device as a Group, to google map in the Group's display device.



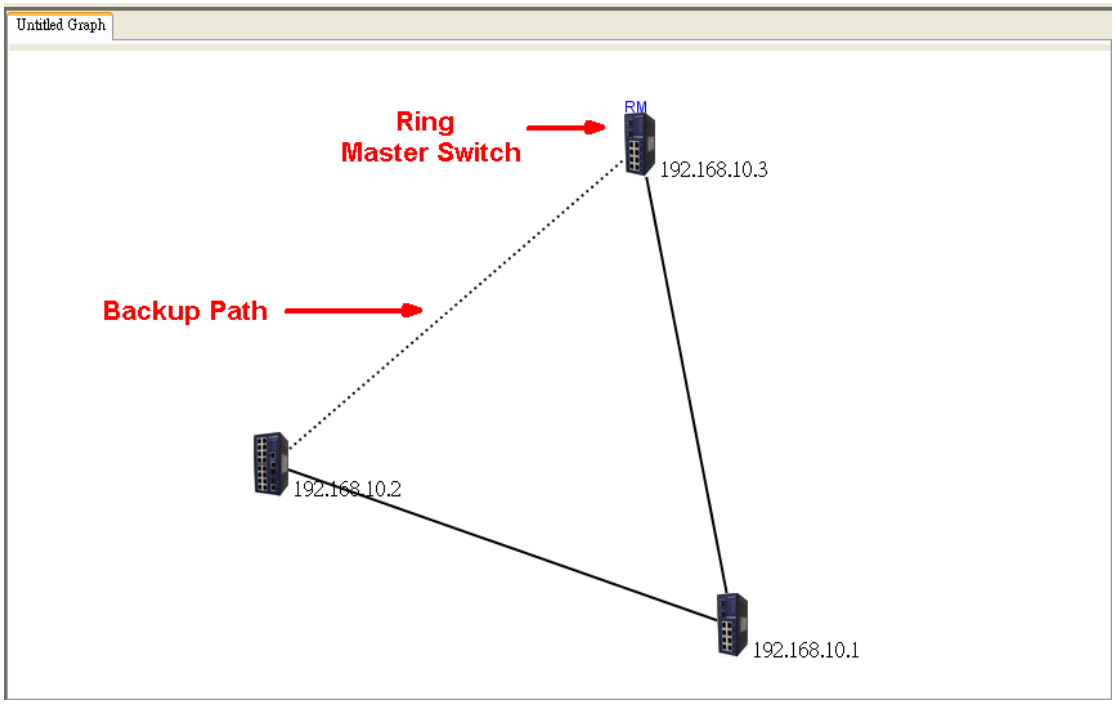

| Task | Hotkey | Description |
|---|---|---|
| **Manage Group** | N/A | Group setting, (Same Page 121) |
| **Show Map** | N/A | Show device in google map.<br> |
| **Generate Average Latlon** | N/A | Calculate the center coordinates of all devices. |
| **Add Group** | N/A | Increase a new group. |

| | | |
|---|---|---|
| **Edit Group** | N/A | Edit Group info. |
| **Delete Group** | N/A | Delete you select group. |

## 9.8 Topology Area

**Topology View**

After execute "Discovery", Topology View will display the network topology automatically on the topology area.



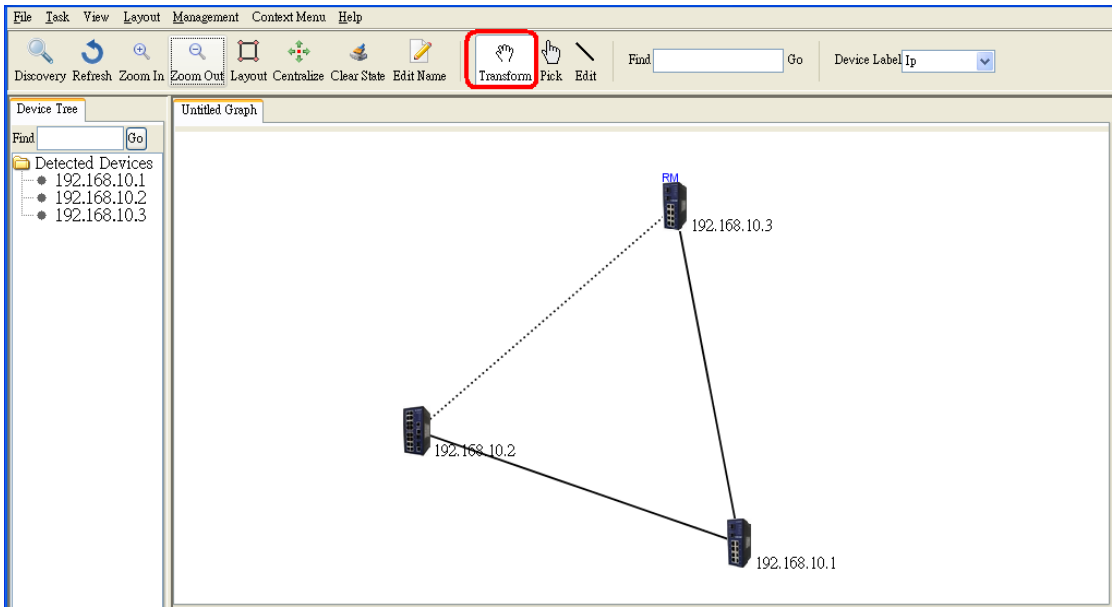

Note:

Topology View is able to discover the device when set SNMP Read Community to 'public'.

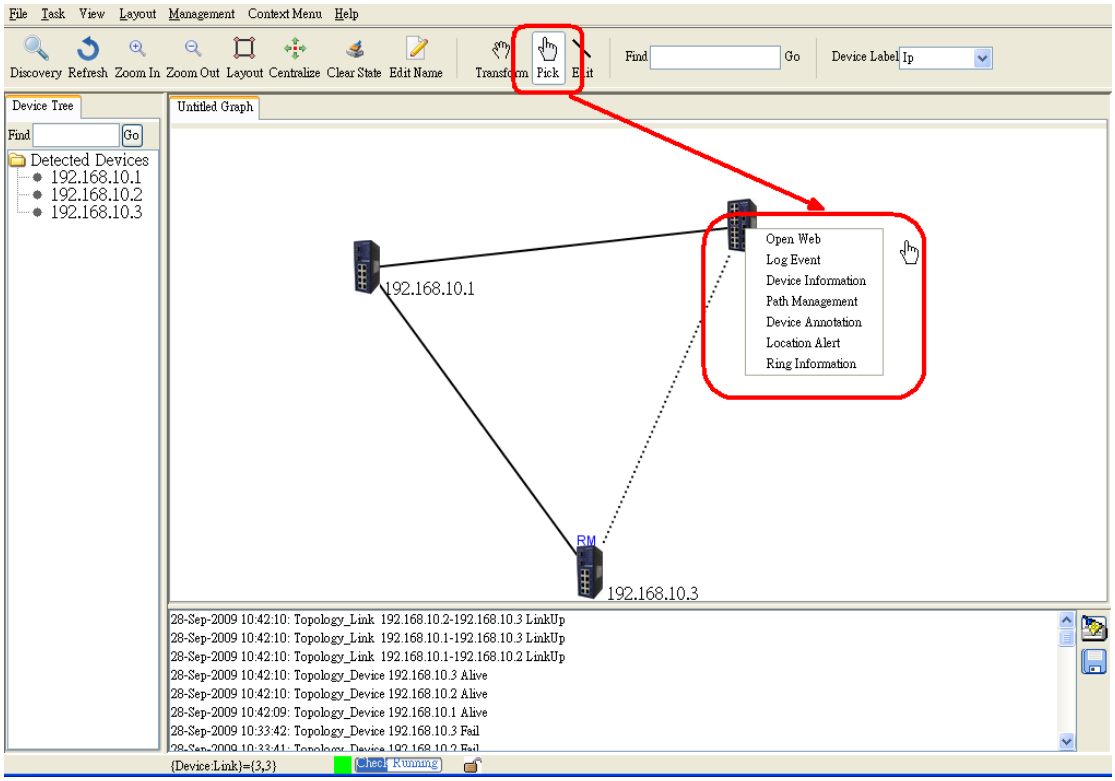
Topology View is able to show the connection of link through LLDP Packets from device.

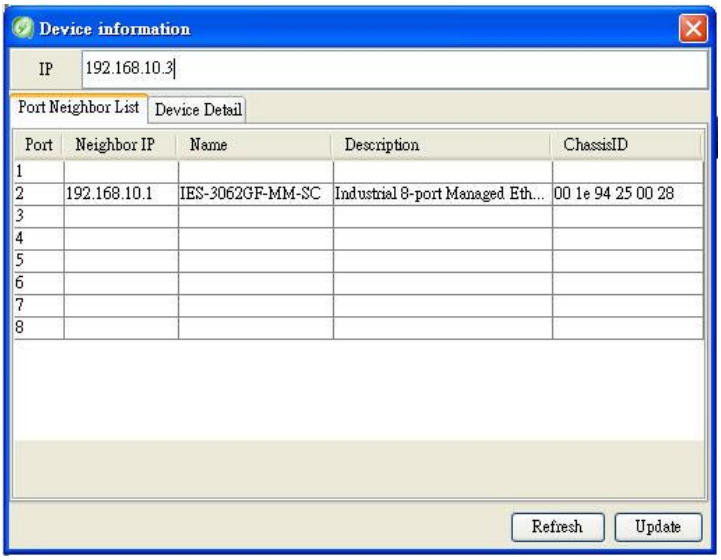
| Label | Hotkey | Description |
|---|---|---|
| | N/A | O-Ring Ring Master |
| ..... | N/A | O-Ring Backup Path |

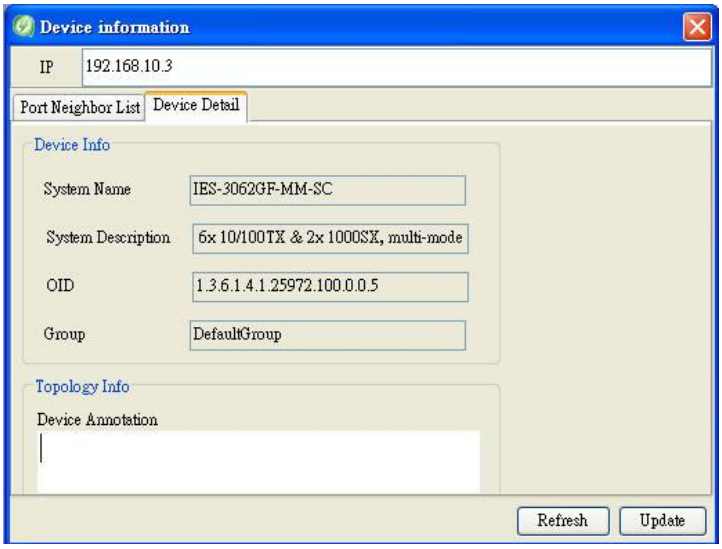
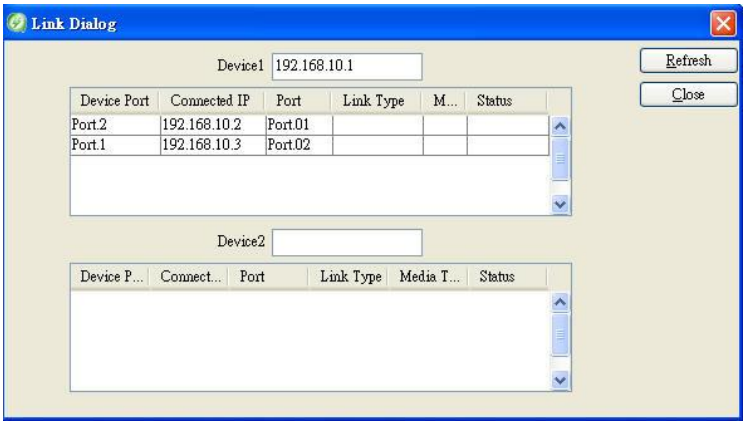
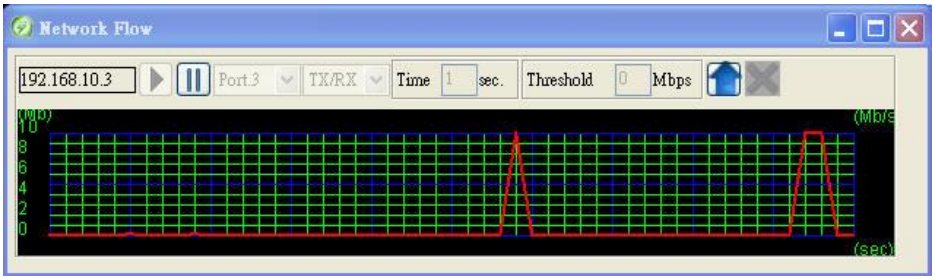
When choose "**Transforming**", users are able to move all devices on the topology area at the same time.




When choose "**Picking**", users are able to move the specific switch or right-click the mouse to show the menu.

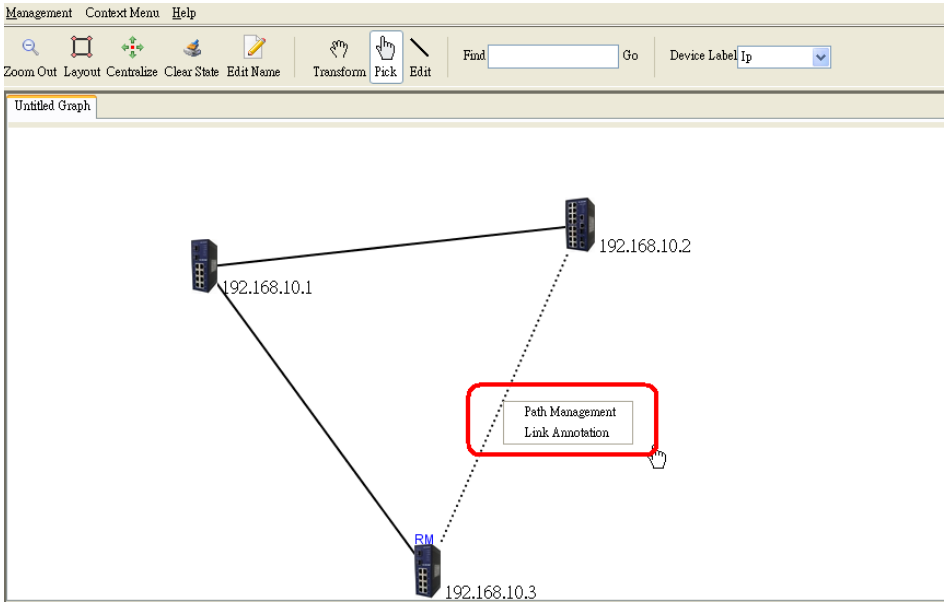


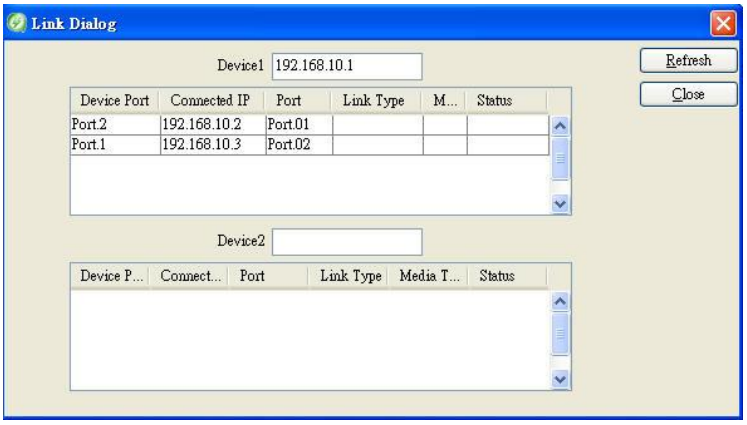
| Task | Hotkey | Description |
|---|---|---|
| **Open Web** | N/A | Open Switch Web Page |
| **Log Event** | N/A | Open Switch Log Event Table. |
| **Device Information** | N/A | Show Device Information<br>1、Port Neighbor List<br>  <br>Neighbor IP：Show Neighbor Device IP.<br>Name：Show Switch model name.<br>Description：Show device Description.<br>ChassisID：Show device MAC.<br>2、Device Detail |

| | | |
|---|---|---|
| | |  <br>Device Annotation：Can accord with user's demand, increase notes |
| **Path Management** | N/A | Can reveal the information of the adjoint devices.<br>  |
| **Topology Management** | N/A | |
| **Device Annotation** | N/A | Can accord with user's demand, increase switch notes. |
| **Network Flow** | N/A | Start " Network Flow" Function, the user can control Network Flow which appoints port.<br>  |

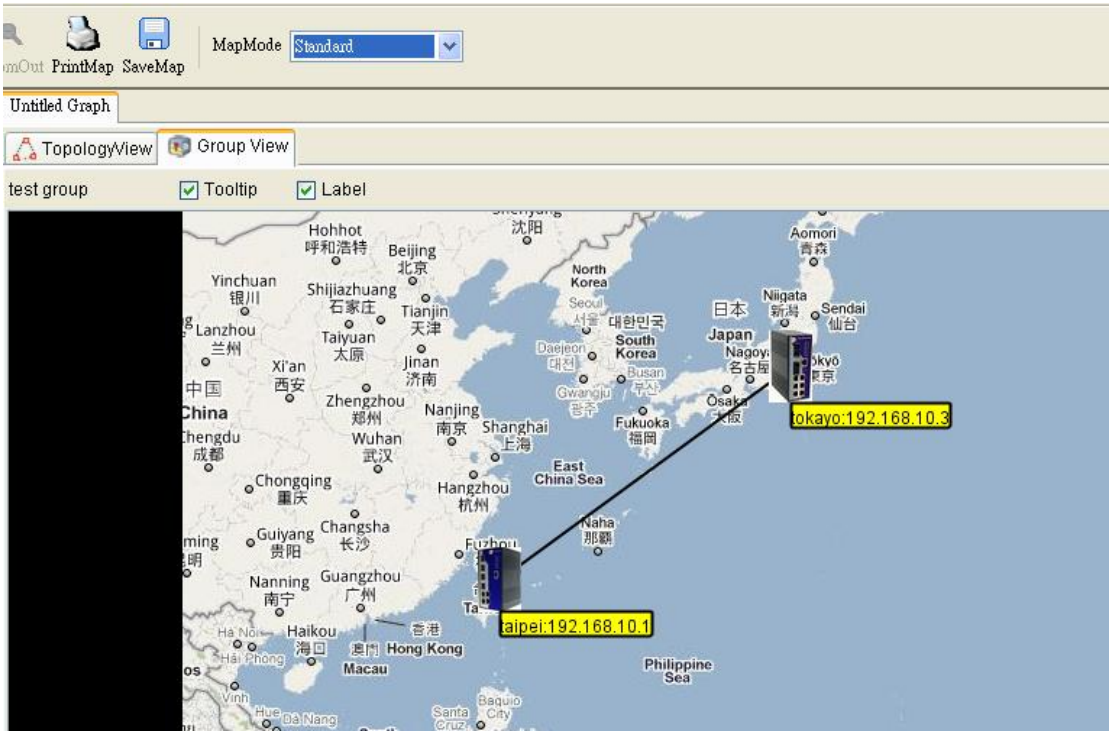
| | | |
|---|---|---|
| **Enable Location alert** | N/A | "Enable" or "Disable" location alert. |
| **Change Group** | N/A | The user can choose designated device, changes him group disposes |

When the cursor points to the link you want to select. Right click the mouse to show the menu.

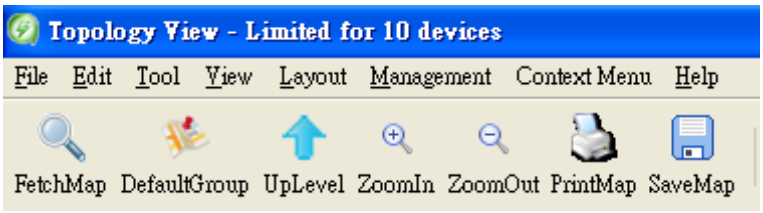
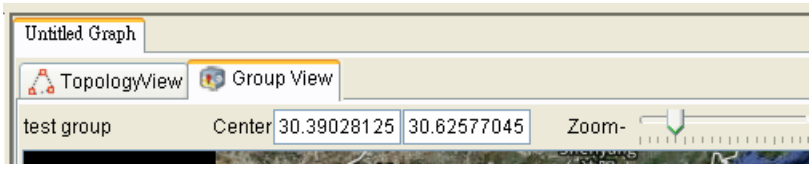
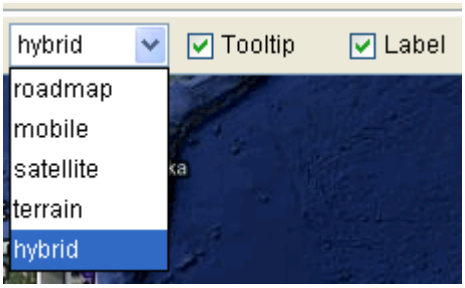



| Task | Hotkey | Description |
|---|---|---|
| **Path Management** | N/A | Can reveal the information of the adjoint devices.  |
| **Link Annotation** | N/A | Can accord with user's demand, increase Link notes. |

## Group View

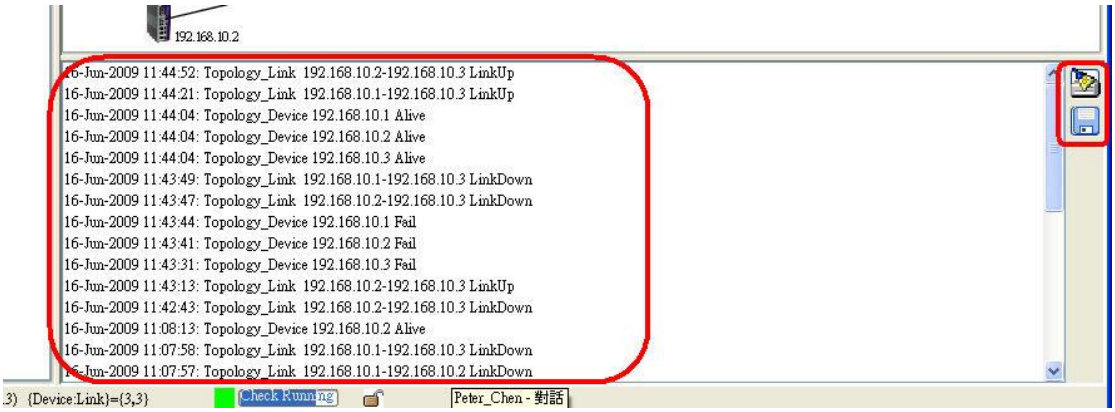



| Task | Hotkey | Description |
|---|---|---|
| **Print Map** | N/A | Print this Map. |
| **Save Map** | N/A | Save this Map to JPEG/GIF File. |
| **Map Mode** | N/A | Standard Mode :<br>User only can control Tooltip & Label<br> <br>Tooltip : Checked, move the mouse on the device will display IP information.<br><br>Label : Checked, the location name and IP directly displayed in the MAP. |

| | | |
|---|---|---|
| | | Control Mode :<br>User can control FetchMap、DefaultMap、UpLevel、Map Zoom+ / Zoom- and Choose the type of map display(have five type).<br>  <br>  <br>  <br>FetchMap : Refresh the MAP page.<br>DefaultMap : MAP page will return to the default location planning.<br>UPLevel : Return to the previous group. |

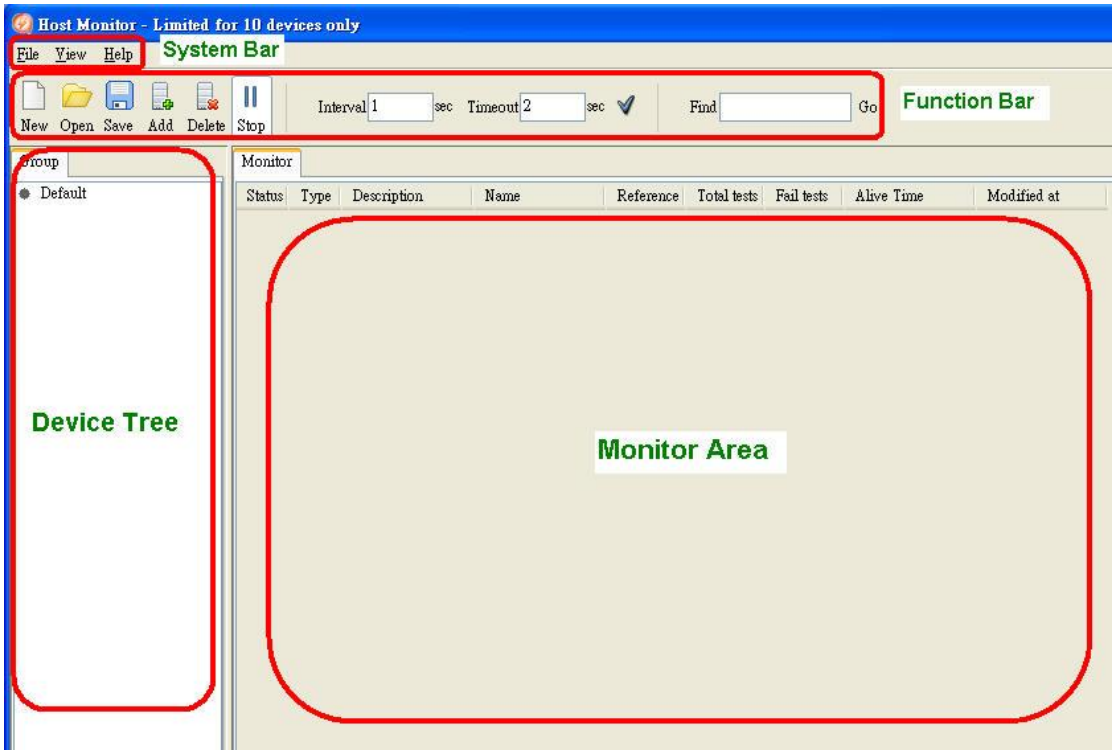
# 9.9 System Log Area

Reveal port, power, topology change.various states. And can save for excel file. Help users carry on the mistake to manage.



# Host Monitor

"Host monitor" It is a Device control software, He can be via group or device IP range control any contains IP a device, Do not restrict the brand or device kind, enable users to control all device on the network, reach omni-directional control.




## 10.1 System Bar

### File

Select File to show the File menu.

| Label | Hotkey | Description |
|---|---|---|
| New | Ctrl + N | Stat new host monitor work |
| Open | Ctrl + O | Load the configuration that you saved before. |
| Save | Ctrl + S | Save the current configuration as a *.mnt file. |
| Exit | Ctrl + E | Terminate Host monitor program |

## View

Show / Hide Various system bar

| Label | Hotkey | Description |
|---|---|---|
| **ToolBar** | N/A | Show / Hide ToolBar |
| **Agent Interval** | N/A | Show / Hide Agent Interval |
| **Agent SNMP** | N/A | Show / Hide Agent SNMP |
| **Find** | N/A | Show / Hide Find |

## About

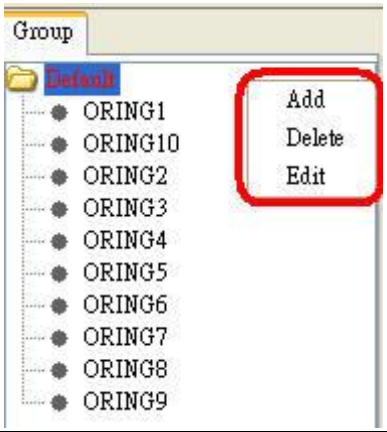
Show Host monitor version.

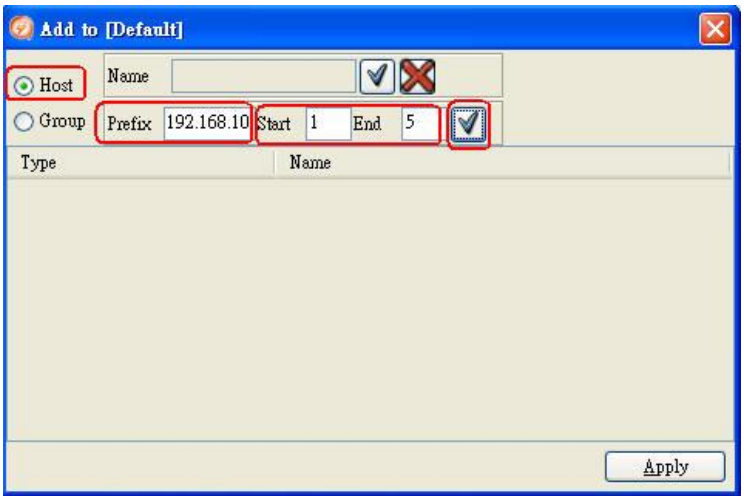
# 10.2 Function Bar

| Label | Hotkey | Description |
|---|---|---|
| | Ctrl + N | Stat new host monitor work |
| | Ctrl + O | Load the configuration that you saved before. |
| | Ctrl + S | Save the current configuration as a *.mnt file. |
| | N/A | Increase a host monitor job. |
| | N/A | Delete a host monitor job. |
| | N/A | Start or Stop monitor |
| Interval | N/A | Monitor devices Interval |
| Timeout | N/A | " Timeout" : " Host monitor" Check the number of times of devices, if exceed, does not connect to the devices yet, judge for link down |
| Community | N/A | SNMP Community String |
| Ver | N/A | SNMP Agent Version |
| Find | N/A | Look for designated device |

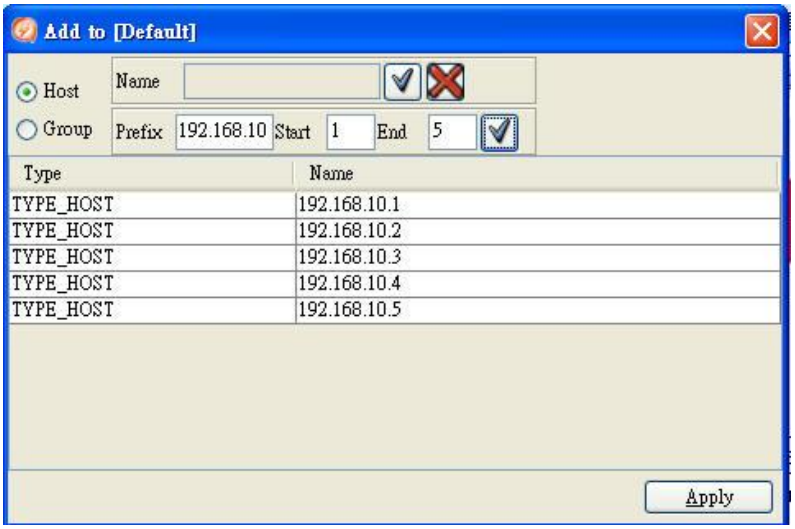
# 10.3 Devices Tree

Show host monitor group.Tree.

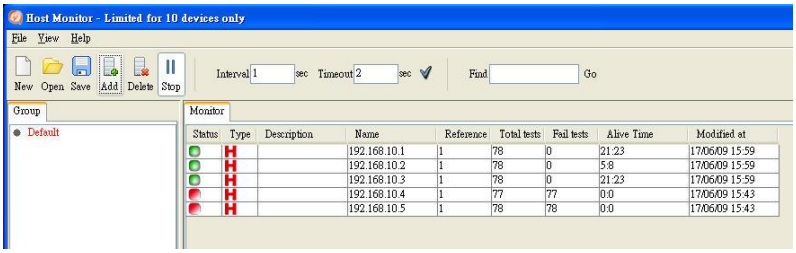



| Label | Hotkey | Description |
|---|---|---|
| Add | N/A | Increase a host monitor job.<br><br>**Add Host**：<br>1、config monitor Rang<br>  <br>Host：add single device<br>Prefix：IP Prefix<br>Start：IP Rang start value<br>End：IP Rang end value.<br><br>：Confirm buttons |

2、confirm rang and apply

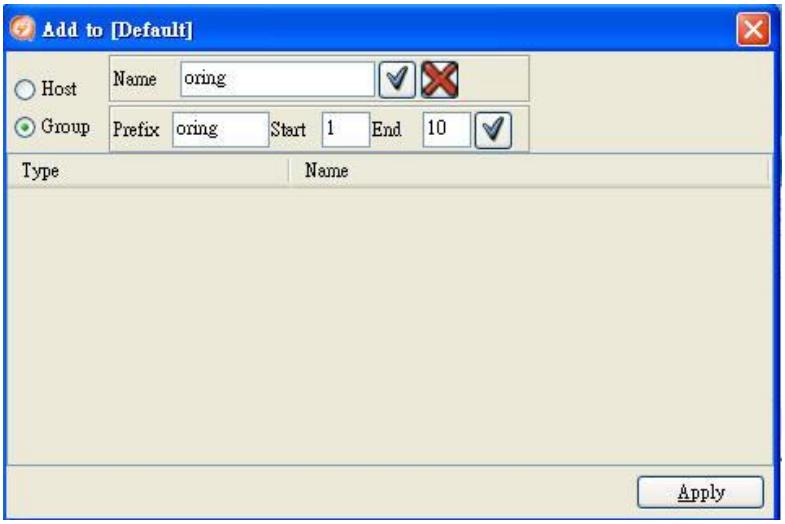



3、Start monitor



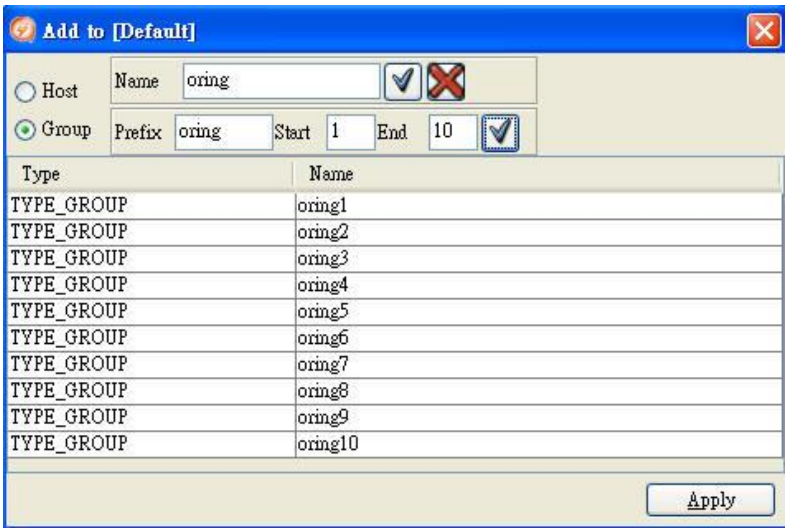
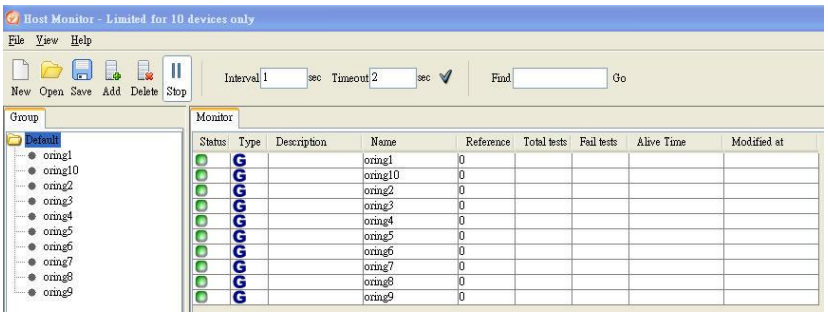

**Add Group**：

1、config monitor group Rang(single or a lot of)



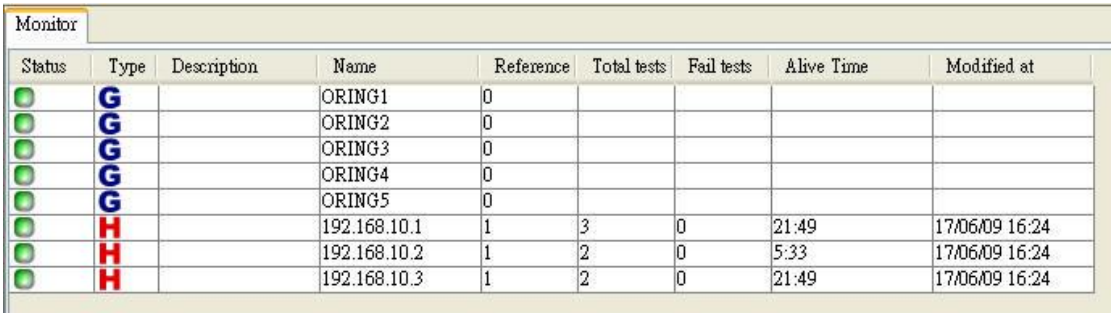

Group：add single or a lot of device

Prefix：IP Prefix

| | | |
|---|---|---|
| | | Start：IP Rang start value<br>End：IP Rang end value.<br><br>：Confirm buttons<br><br>2、confirm rang and apply<br>  <br><br><br>3、Start monitor<br>  <br> |
| Delete | N/A | Delete a host monitor job. |
| Edit | N/A | Edit group info.<br> <br><br><br>Name：Define group name<br>Description：Define Description |

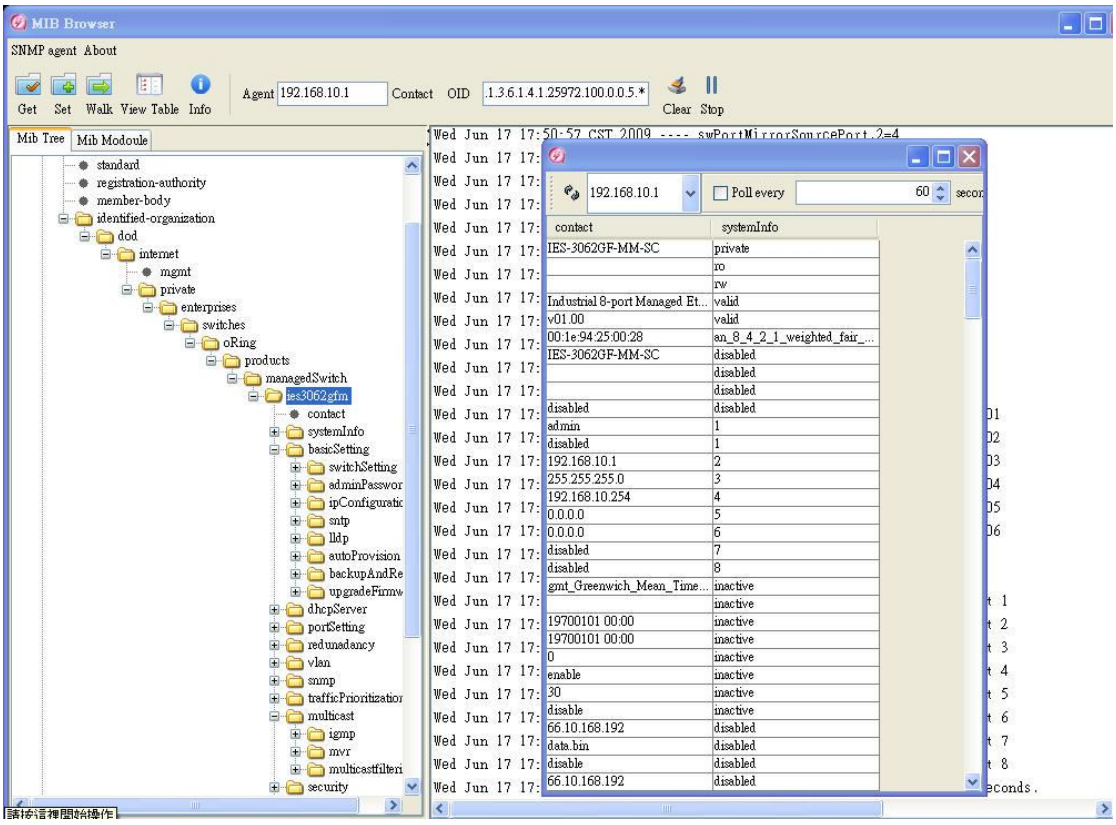
## 10.4 Monitor Area

User can by " HOST Monitor" Informnation intact control in network state of apparatus.




# MIB Brower

It is a Standard SNMP MIB Brower, the user does not need to buy MIB Brower in addition, OPEN-VISION V3.0 offers intact MIB Brower, users can to utilize SNMP MIB File, manage the apparatus of different brands at the same time,reach omni-directional management.



# TroubleShooting

## 11.1 Why Topology View can not run in our computer?

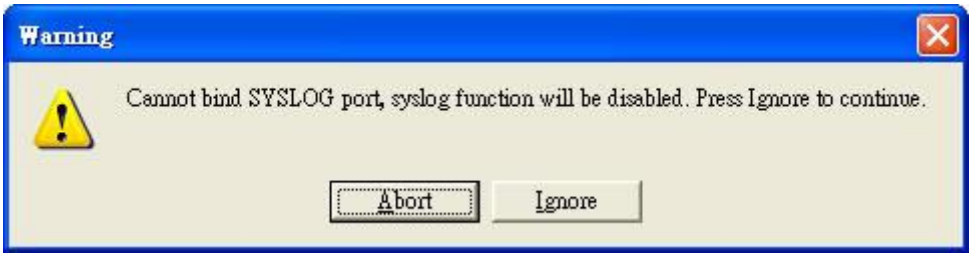
Please make sure your computer has installed JRE, if not, please install Java Runtime Environment (JRE) 6 Update 3 from SUN's website.
http://java.sun.com/javase/downloads/index.jsp

## 11.2 License key warning message

When implement Open-Vision, the computer pop-up the warning message as below. It's meaning that the computer didn't insert the USB license key. Please insert license key to enter license mode and then press ok or press cancel to limit the operations to 10 devices.

## 11.3 SYSLOG warning message

When implement Open-Vision, the computer pop-up the warning message as below. You can check is there any third party **System Log Server** (ex：tftpd or ORing's DS-Tool) running on the computer. If you do not care about the system log function, press 「Ignore」to continue.



## 11.4 Why Topology View can not receive SNMP trap?

When open Topology VIEW, if the computer pop-up the warning message as below. You can check is there any running third party **SNMP software** (ex：MG-Soft or SNMPc) on the computer. Please stop these applications, because these applications will occupy SNMP port.