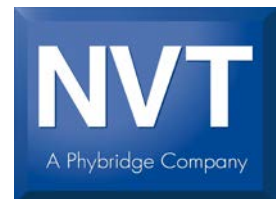




# PoLRE<sup>®</sup> Switch User Guide

Version 3.1.5



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# 1. Overview

## About this Guide

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This user guide provides instructions to manage, control and monitor the switch using the Simple Network Manager.

This guide is intended for operating personnel (sometimes called craft persons). Users must be familiar with the basic operations of a Layer 2 switch. Access to the hardware interface is by a computer with a telnet terminal.

## About the Simple Network Manager

---

The Simple Network Manager provides you with a simple and intuitive tool to manage, control and monitor the switch. Most operations can be performed with a click of the mouse. The Simple Network Manager also includes a command line interface for managing the switch.

The Simple Network Manager is divided into five main pages:

- System** Provides an overview of the system, key system statistics and control of downlink ports. See "About the System Page" on page 3.
- Ethernet** Provides switch configuration and management as well as uplink and downlink port management. See "About the Ethernet Page" on page 11.
- VLAN** Allows users to view, establish and assign VLANs. See "About the VLAN Page" on page 17.
- Admin** Allows users to setup, configure and manage the switch, enable services, view detailed log activities and configure the switch using a command line interface. See "About the Admin Page" on page 25.
- Help** Opens the online help system.

## Browser Requirements

---

The Simple Network Manager supports the following web browsers:

- Google Chrome™ version 21 and higher
- Mozilla Firefox® version 16 and higher

## Software Version

---

The current version of the switch software is 3.1.5.

## Logging into the Switch

---

Access to in-band management is through the gigabit uplink ports. All switches have the same default username and password of **admin**.

1. Open Google Chrome™ or Mozilla Firefox®.
2. Enter the IP address of the switch in the address bar. (The default IP address of the switch is 192.168.100.1.)
3. Enter **admin** as the username.
4. Enter the password (the default password is **admin**).

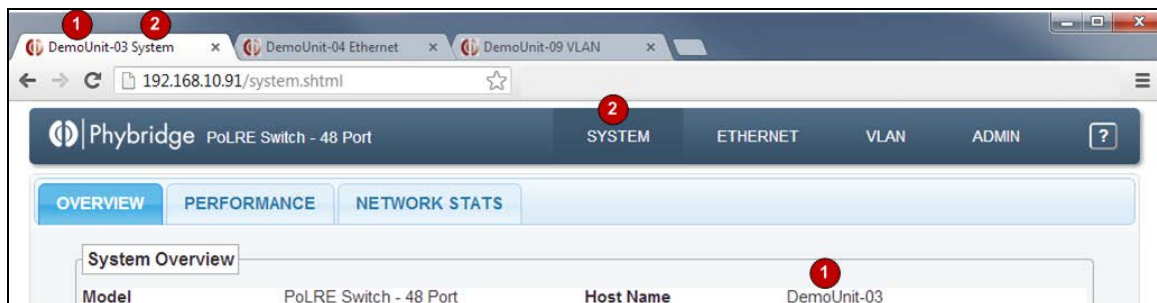
## Managing Multiple Switches

---

When managing multiple switches through the Simple Network Manager, each switch is shown as a separate browser window or tab. The window/tab title contains the switch hostname, allowing you to easily identify each switch.

Each tab title is composed of:

1. Hostname of the switch
2. Currently active page on the switch.



## 2. System Page

### About the System Page

The System page provides high-level switch details, allowing you to monitor and control the system.

The System page contains three tabs:

- Overview
- Performance
- Network Stats

### System > Overview

The screenshot displays the 'System Overview' page for a Phybridge PoLRE Switch. The browser address bar shows '192.168.10.91/system.shtml'. The page has a navigation bar with 'SYSTEM', 'ETHERNET', 'VLAN', and 'ADMIN' tabs, and sub-tabs for 'OVERVIEW', 'PERFORMANCE', and 'NETWORK STATS'. The 'System Overview' section contains the following data:

<b>Model</b>	PoLRE Switch - 48 Port	<b>Host Name</b>	DemoUnit-03
<b>Product Number</b>	PL-048	<b>IP Address</b>	192.168.10.91
<b>Serial Number</b>	2506950004	<b>MAC Address</b>	00:24:63:02:00:F7
<b>Up Time</b>	5 Days, 21H:47M:38S	<b>Subnet Mask</b>	255.255.255.0
<b>Current Time</b>	Wed Feb 13 2013 09:45:53	<b>Default Gateway</b>	192.168.10.1
<b>CPU Load</b>	0.56	<b>IP Address (mgmt)</b>	192.168.1.1
<b>Memory</b>	Used: 23.667MB Free: 31.281MB	<b>PSE Voltage</b>	54 Volts
<b>Temperature</b>	42 C	<b>PSE Power</b>	Used: 113.148W Free: 404.602W
<b>Contact</b>	<a href="http://www.phybridge.com/support/polre/">http://www.phybridge.com/support/polre/</a> Tel:1-888-901-3633 Mon-Fri 8am-6pm ET		

The 'Ethernet Port Status' section shows 'UPLINK' ports F1 G1 (M) and F2 G2. The 'DOWNLINK (24 PORTS UP)' section shows ports 1 through 48, with ports 1-24 in green and 25-48 in red.

The 'Thresholds and Exceptions' table is as follows:

Tue Feb 12 2013 09:13:50	Maximum CPU Load:1.44
Thu Feb 07 2013 11:59:01	Memory Low Watermark:27684.864KB
Wed Feb 13 2013 09:45:08	Maximum Power Consumed:113.19Watts
Thu Feb 07 2013 12:03:29	Maximum Temperature:45C

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## System Overview

Provides an overview of the switch statistics.

System Overview			
<b>Model</b>	PoLRE Switch - 48 Port	<b>Host Name</b>	PoLRE-Demo_03
<b>Product Number</b>	PL-048	<b>IP Address</b>	192.168.10.95
<b>Serial Number</b>	2156370028	<b>MAC Address</b>	00:24:63:02:19:F7
<b>Up Time</b>	0 Days , 1H:15M:25S	<b>Subnet Mask</b>	255.255.255.0
<b>Current Time</b>	Tue Feb 14 2012 01:25:53	<b>Default Gateway</b>	192.168.10.1
<b>CPU Load</b>	0.51	<b>IP Address (mgmt)</b>	192.168.1.1
<b>Memory</b>	Used: 19.599MB Free: 35.348MB	<b>PSE Voltage</b>	54 Volts
<b>Temperature</b>	46 C	<b>PSE Power</b>	Used: 113.274W Free: 404.476W
<b>Contact</b>	<a href="http://www.phybridge.com/support/polre/">http://www.phybridge.com/support/polre/</a> Tel:1-888-901-3633 Mon-Fri 8am-6pm ET		

<b>Model</b>	Model.
<b>Product Number</b>	Product number.
<b>Serial Number</b>	Serial number.
<b>Uptime</b>	System uptime. Updated in real-time.
<b>Current Time</b>	Current date and time according to the switch. Updated in real-time.
<b>CPU Load</b>	Current load on the CPU. Updated in real-time.
<b>Memory</b>	Current used and free memory. Updated in real-time.
<b>Temperature</b>	Current temperature. Updated in real-time.
<b>Host Name</b>	Current host name. This field can be configured in Admin > Setup (see page 25).
<b>IP Address</b>	Current IP address. This field can be configured in Ethernet > Uplink Ports (see page 11).
<b>MAC Address</b>	Current MAC address.
<b>Subnet Mask</b>	Current subnet mask. This field can be configured in Ethernet > Uplink Ports (see page 11).
<b>Default Gateway</b>	Current default gateway. This field can be configured in Ethernet > Uplink Ports (see page 11).
<b>IP Address (mgmt)</b>	Current management port IP address. This field can be configured in Ethernet > Uplink Ports (see page 11).
<b>PSE Voltage</b>	Current output voltage.
<b>PSE Power</b>	Current power usage. Updated in real-time.
<b>Contact</b>	Contact information. This field can be configured in Admin > Setup (see page 25).







### Ethernet Port Status

Provides the uplink and downlink port status; allows you to control power to the downlink ports.



### Viewing port status

- A downlink port summary is shown above the port boxes.
- Hover over a port to view port information (link details, MAC address of the main device and a historical link down count for the port).
- Port status can be easily identified by the colour of the port number and port box.

Colour	Port Status
 Black text, grey box	Port is available with power; nothing is attached to the port.
 Red text, grey box	Port power is disabled.
 Black text, blue box	Dongle is attached to the port; nothing is attached to the dongle.
 Black text, green box	Dongle is attached to the port; an IP device is connected to the dongle.
Number changes from <b>black to red</b>	To monitor the health of the port, the port number gradually changes from black to red.

### Controlling power to downlink ports

You can turn the power on or off for a port.

1. Double-click a port.
2. Click **OK** to confirm that you want to turn the port power on or off.

### Thresholds and Exceptions

Provides maximum or minimum thresholds for key indicators such as CPU load, memory, power consumption and temperature. The date and time is shown for each indicator and the information is updated in real-time.

Thresholds and Exceptions	
Wed Nov 07 2012 17:04:20	Maximum CPU Load:2.18
Wed Nov 07 2012 17:14:24	Memory Low Watermark:20414.464KB
Thu Nov 08 2012 14:46:53	Maximum Power Consumed:37.681watts
Wed Nov 07 2012 17:06:38	Maximum Temperature:45C

### System > Performance

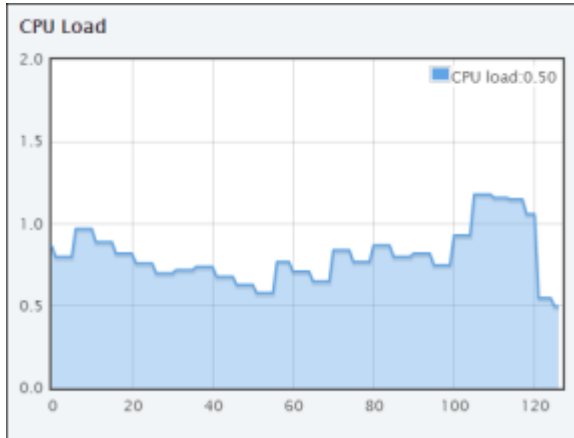
All panels provide current values and the last two minutes of historical data; values are updated in real-time. You can cross-check the historical data in Overview > Thresholds and Exceptions (page 3).



### CPU Load

**Legend** shows the current CPU load. This value represents the number of processes waiting in queue; in a healthy environment, CPU load should not be consistently above 1.0.

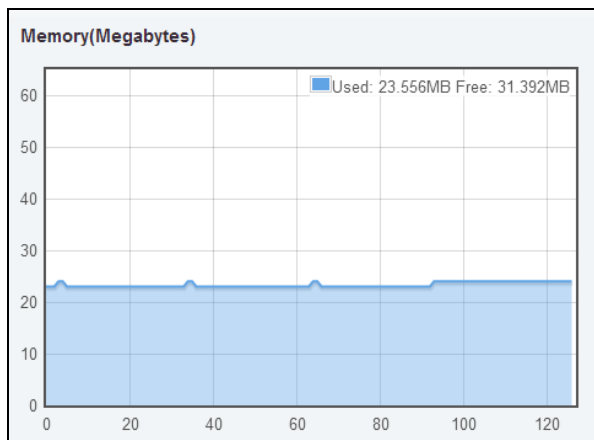
**Graph** provides an overview of the historical CPU load.



### Memory (Megabytes)

**Legend** shows the current memory usage, allowing you to visualize available memory.

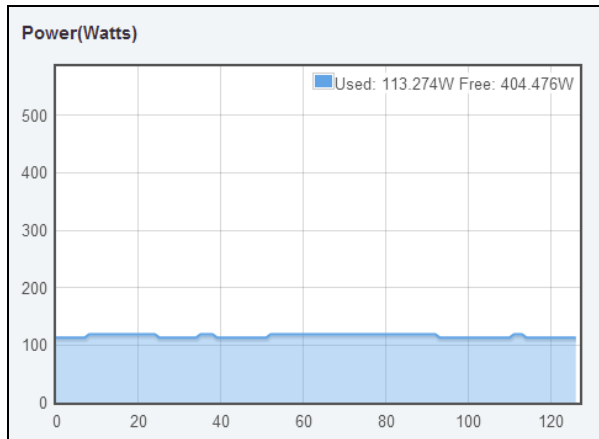
**Graph** provides an overview of historical memory usage. A flat line with few peaks and valleys is normal in a healthy system. If memory usage keeps increasing, this may cause system instability. If this occurs, note the used and free values in the legend and call system support.



### Power (Watts)

**Legend** shows the current total power consumption. Use the legend to identify the free power availability and manage it accordingly.

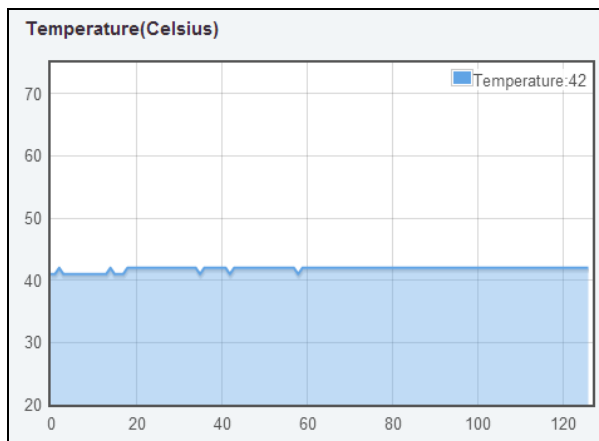
**Graph** provides an overview of the historical total power consumed by the switch and all devices connected to it. Expect variations as activities on the switch change. Peaks and valleys are normal as devices are added and removed.



### Temperature (Celsius)

**Legend** shows the current switch temperature.

**Graph** provides an overview of the historical switch temperature. A flatline with few peaks and valleys is normal in a healthy system as long as the temperature remains below 55. If the temperature remains above 55, observe the physical switch environment to ensure proper ventilation and cooling.



## System > Network Stats

Provides real-time activity of each of the uplink and downlink ports. GbE1 and ports 1 to 24 are shown on the left; GbE2 and ports 25 to 48 are shown on the right.

Port	Link	RX Packets	RX Errors	TX Packets	TX Errors	Port	Link	RX Packets	RX Errors	TX Packets	TX Errors
GbE1	↓	0	0	90693	0	GbE2	↑	584753	0	442646	0
1	↑	21632	1	361876	0	25	↓	0	0	5328	0
2	↑	31383	2	352119	0	26	↓	0	0	5328	0
3	↑	21145	0	362360	0	27	↓	0	0	5328	0
4	↑	21404	1	362101	0	28	↓	0	0	5328	0
5	↑	29161	1	354328	0	29	↓	0	0	5328	0
6	↑	21394	1	362113	0	30	↓	0	0	5328	0
7	↑	21424	1	362077	0	31	↓	0	0	5328	0
8	↑	28978	0	354521	0	32	↓	0	0	5328	0
9	↑	31047	0	352450	0	33	↓	0	0	5328	0
10	↑	21812	2	361690	0	34	↓	0	0	5328	0
11	↑	21559	0	361947	0	35	↓	0	0	5328	0
12	↑	21451	0	362055	0	36	↓	0	0	5328	0
13	↑	21140	0	362358	0	37	↓	0	0	5328	0
14	↑	21543	1	361953	0	38	↓	0	0	5328	0
15	↑	21245	0	362261	0	39	↓	0	0	5328	0
16	↑	29365	3	354131	0	40	↓	0	0	5328	0
17	↑	21143	1	362362	0	41	↓	0	0	5328	0
18	↑	21312	1	362194	0	42	↓	0	0	5328	0
19	↑	29875	2	353617	0	43	↓	0	0	5328	0
20	↑	29686	2	353807	0	44	↓	0	0	5328	0
21	↑	21814	1	361682	0	45	↓	0	0	5328	0
22	↑	30338	1	353155	0	46	↓	0	0	5328	0
23	↑	21229	0	362328	0	47	↓	0	0	5328	0
24	↑	21750	1	361744	0	48	↓	0	0	5328	0

The following information is shown for each port.

**Link** Port status is indicated by the arrow (up arrow = port is up; down arrow = port is down).

**RX Packets** Received packets traffic and errors. Captured in real-time and updated approximately every second. RX error counts should be low in comparison to the number of RX packets. Any negative values should be interpreted as zero.

**TX Packets** Transmitted packets traffic and errors. Captured in real-time and updated approximately every second. TX error counts should be low in comparison to the number of TX packets. Any negative values should be interpreted as zero.

**NOTE:** In order to clear the Network Stats, go to Admin – Setup – System Settings. The “Uplink Counters” will reset the GbE1 and GbE2 ports. The “Downlink Counters” will reset downlink ports 1 – 48.



## 3. Ethernet Page

### About the Ethernet Page

The Ethernet page allows you to configure the switch network interface and manage uplink and downlink ports.

The Ethernet page contains two tabs:

- Uplink Ports
- Downlink Ports

### Ethernet > Uplink Ports

#### IMPORTANT

If you do not click **SAVE CHANGES**, any changes made on this tab will be lost after a system reboot.

Phybridge PoLRE Switch - 24 Port

SYSTEM ETHERNET VLAN ADMIN

UPLINK PORTS DOWNLINK PORTS

**Configure GbE Interface**

IP Address: 192.168.100.4  
Net Mask: 255.255.255.0  
Broadcast: 192.168.100.255  
GbE1 Medium: Copper  
GbE2 Medium: Copper

APPLY

**Configure Management Port**

IP Address: 192.168.10.91  
Net Mask: 255.255.255.0  
Broadcast: 192.168.10.255  
Default PVID: 1001

APPLY

**Configure IP Route**

Default Gateway: 192.168.10.1 Interface: GbE

APPLY

SAVE CHANGES

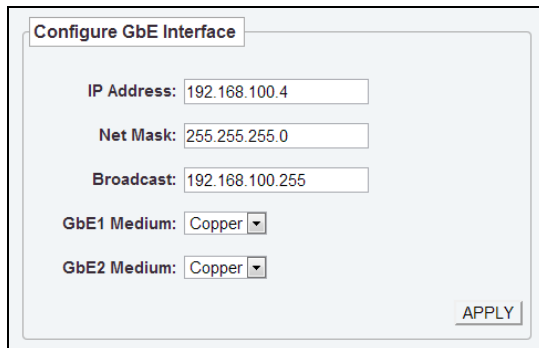
**Caution!**

- If the IP address is changed, the new IP address will be required to log back into the box.
- The management port IP address and the uplink port IP address must be not on the same subnet.
- You may have your gateway assigned to only one interface, either the GbE ports or the Management port.
- The **Default PVID** field for the Management port is **1001** and cannot be changed.
- If you switch the interface between **Copper** and **Fiber**, it may take several seconds to regain connectivity.
- If you switch from **Fiber** to **Copper**, you will need to restart your switch for the changes to take affect after saving.
- If you do not click **SAVE CHANGES**, some changes you have made on this tab may be lost after a system reboot.

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### Configure GbE Interface

Use to configure the switch network interface.



The screenshot shows a web form titled "Configure GbE Interface". It contains the following fields and values:

- IP Address: 192.168.100.4
- Net Mask: 255.255.255.0
- Broadcast: 192.168.100.255
- GbE1 Medium: Copper (dropdown menu)
- GbE2 Medium: Copper (dropdown menu)
- APPLY button

1. Modify any of the fields (**IP Address, Net Mask, Broadcast IP Address, GbE1 Medium, GbE2 Medium**).

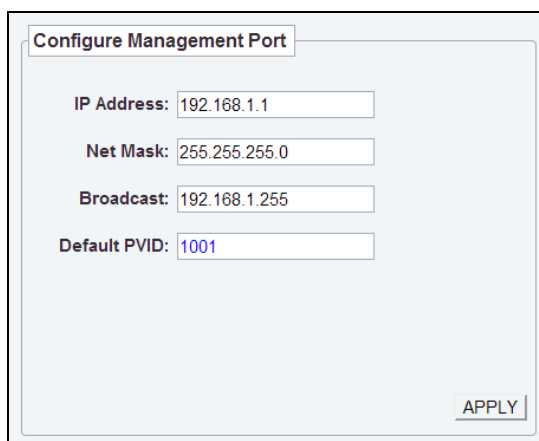
Notes:

- If the IP address is changed, the new IP address will be required to log back into the box.
- The management port IP address and the uplink port IP address should never be on the same subnet. This ensures the management port can still be reached if the data LAN experiences issues.

2. Click **APPLY**.

### Configure Management Port

Use to configure the management port IP address.



The screenshot shows a web form titled "Configure Management Port". It contains the following fields and values:

- IP Address: 192.168.1.1
- Net Mask: 255.255.255.0
- Broadcast: 192.168.1.255
- Default PVID: 1001
- APPLY button

1. Modify any of the fields (**IP Address, Net Mask, Broadcast, Default PVID**).

Notes:

- If the IP address is changed, the new IP address will be required to log back into the box via the management port.



- The management port IP address and the uplink port IP address should never be on the same subnet. This ensures the management port can still be reached if the data LAN experiences issues.
  - The default PVID (which is the default VLAN ID for the management port) can be changed using the command line interface in Admin > Terminal (see page 35).
3. Click **APPLY**.

### Configure IP Route

Use to configure the default gateway IP address and to select the interface to apply it to.



Configure IP Route

Default Gateway: 192.168.10.1      Interface: GbE ▾      APPLY

1. Modify any of the fields (**Default Gateway, Interface**).

Notes:

- The Default Gateway can be assigned to only one interface. The interface can be either GbE or Mgmt.
  - If the IP address is changed, the new IP address will be required to log back into the box via the management port.
  - The management port IP address and the uplink port IP address should never be on the same subnet. This ensures the management port can still be reached if the data LAN experiences issues.
2. Click **APPLY**.

## Ethernet > Downlink Ports

---

### IMPORTANT

If you do not click **SAVE CHANGES**, any changes made on this tab will be lost after a system reboot.

Phybridge PoLRE Switch - 24 Port

SYSTEM ETHERNET VLAN ADMIN

UPLINK PORTS DOWNLINK PORTS

Dongles: 24; Endpoints: 22; 113.148W; 44C

Port	MAC Address	Uptime Days HH:MM:SS	LD	Port	MAC Address	Uptime Days HH:MM:SS	LD
1	08:00:0F:42:86:5C	1 13:04:15	8	25			0
2	08:00:0F:62:DA:FE	0 12:49:03	11	26			0
3	08:00:0F:62:AA:8C	1 13:04:15	9	27			0
4	08:00:0F:5E:57:80	1 13:04:15	9	28			0
5	08:00:0F:42:85:EC	1 13:04:15	9	29			0
6	08:00:0F:2F:95:87	1 13:04:14	10	30			0
7	08:00:0F:42:D7:D1	1 00:28:04	8	31			0
8			18	32			0
9	08:00:0F:62:EE:25	1 13:04:15	9	33			0
10	08:00:0F:5E:5E:5F	0 10:16:23	14	34			0
11	08:00:0F:22:CD:25	1 06:40:16	12	35			0
12	08:00:0F:5F:74:F2	1 07:26:51	11	36			0
13	08:00:0F:5E:26:DC	1 13:04:14	9	37			0
14	08:00:0F:42:99:C9	0 16:38:35	11	38			0
15	08:00:0F:62:AC:26	1 02:13:03	15	39			0
16	08:00:0F:42:7F:4A	0 00:10:19	28	40			0
17	08:00:0F:61:B4:D4	1 10:12:09	10	41			0
18	08:00:0F:30:BD:8F	1 13:04:15	10	42			0
19			11	43			0
20	08:00:0F:36:62:22	1 13:04:15	8	44			0
21	08:00:0F:62:BE:A2	0 06:05:55	9	45			0
22	08:00:0F:61:B4:DC	1 13:04:15	8	46			0
23	08:00:0F:42:79:C5	1 13:04:15	9	47			0
24	08:00:0F:5E:5E:6D	0 04:04:29	11	48			0

TURN ON ALL | TURN OFF ALL | RESET ALL | LOCK ALL | UNLOCK ALL | MAC ADDR TABLE | SAVE CHANGES

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### Ports 1-24 and Ports 25-48

Used to manage the downlink ports.

### Viewing dongle information

Dongle summary information is shown above the port details table and includes the number of dongles connected, the number of endpoints connected to the dongles, the total power being consumed, and the temperature of the switch. This information is updated in real-time.

### Viewing port information

The following information is shown for each port.

Double click a port number to bring up link transition statistics for that specific port.

```
Stats - Port 5  
  
Feb 12 10:00:55 Link down  
Feb 12 10:01:00 Link up  
Feb 12 10:10:54 Link down  
Feb 12 10:10:57 Link up  
Feb 12 10:11:00 Link down  
Feb 12 15:26:24 Link up
```



Control power to the port. Click to turn the power on or off.  
or  
Click **TURN ON ALL PORTS** or **TURN OFF ALL PORTS** to turn all ports on or off.



Indicates the link status. Click to reset the port.  
or  
Click **RESET ALL PORTS** to reset all ports at once.



Indicates whether a read-only link exists between the dongle and the switch. Use this button to lock or unlock MAC address to a port.  
or  
Click **LOCK ALL** or **UNLOCK ALL** to lock/unlock all ports at once.

**MAC Address** MAC address of the IP device connected to the dongle associated with this port.

**UPTIME** Amount of time a device has been connected to the dongle.

**LD** Number of link-down events (these occur when the dongle goes through a link transition).

**MAC ADDR TABLE** You can download a CSV file containing the MAC address table for the switch.

1. Click **GET MAC ADDRESS TABLE**.  
The filename for the exported file uses the convention **<hostname>.csv** (example: switch.csv). This allows you to easily identify which switch the file was exported from.
2. When the file download is complete, the file should be shown in the bottom-left corner of your browser (Chrome) or in the Downloads window (Firefox). Double-click the file to open it.



## 4. VLAN Page

### About the VLAN Page

---

The VLAN page simplifies the management of VLANs, reducing the potential for error.

The VLAN page contains three tabs:

- VLAN TABLE
- VLAN to PORT
- ASSIGN PVID

### VLAN > VLAN Table

---

Use to add or delete a VLAN or to change the default VLAN. For each VLAN, the VLAN number, type and ports are shown.

**IMPORTANT**

Do not use VLAN 0. There is potential in the VLAN specification to interpret the standard for VLAN 0 in different ways, which can lead to incompatibility between different vendor units.

**IMPORTANT**

If you do not click **SAVE CHANGES**, any changes made on this tab will be lost after a system reboot.

Phybridge PoLRE Switch - 24 Port SYSTEM ETHERNET VLAN ADMIN

VLAN TABLE VLAN to PORT ASSIGN PVID

VLAN	TYPE	PORTS																								
		G1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Default	G2	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
		G1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
54	Static	G2	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
		G1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
63	Static	G2	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
		G1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
102	Static	G2	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
		G1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
123	Static	G2	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
		G1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
300	Static	G2	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
		G1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
369	Static	G2	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
		G1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
					</																					

4. To assign ports to the VLAN, click the VLAN and click **EDIT**.

The VLAN to PORT tab appears with the VLAN panel open. You can now assign ports to the VLAN (see "VLAN > VLAN To Port" on page 19).

### Editing a VLAN

1. Click a VLAN. The selected VLAN will now be enclosed in a black border.
2. Click **EDIT**.

The VLAN to PORT tab appears with the VLAN panel open. You can now assign ports to the VLAN (see "VLAN > VLAN To Port" on page 19).

### Setting the default VLAN

The default VLAN is used for ports not assigned to any other VLAN. VLAN 1 is the system default; however, you can select a different default VLAN if desired.

1. Click the VLAN you want to set as the default.
2. Click **DEFAULT**.
3. Click **SAVE CHANGES**.

### Deleting VLANs

You can delete a static VLAN; you cannot delete the default VLAN.

1. Click the VLAN you want to delete, then click **DELETE**.  
or  
Click **DELETE ALL** to delete all static VLANs.
2. Click **SAVE CHANGES**.

## VLAN > VLAN To Port

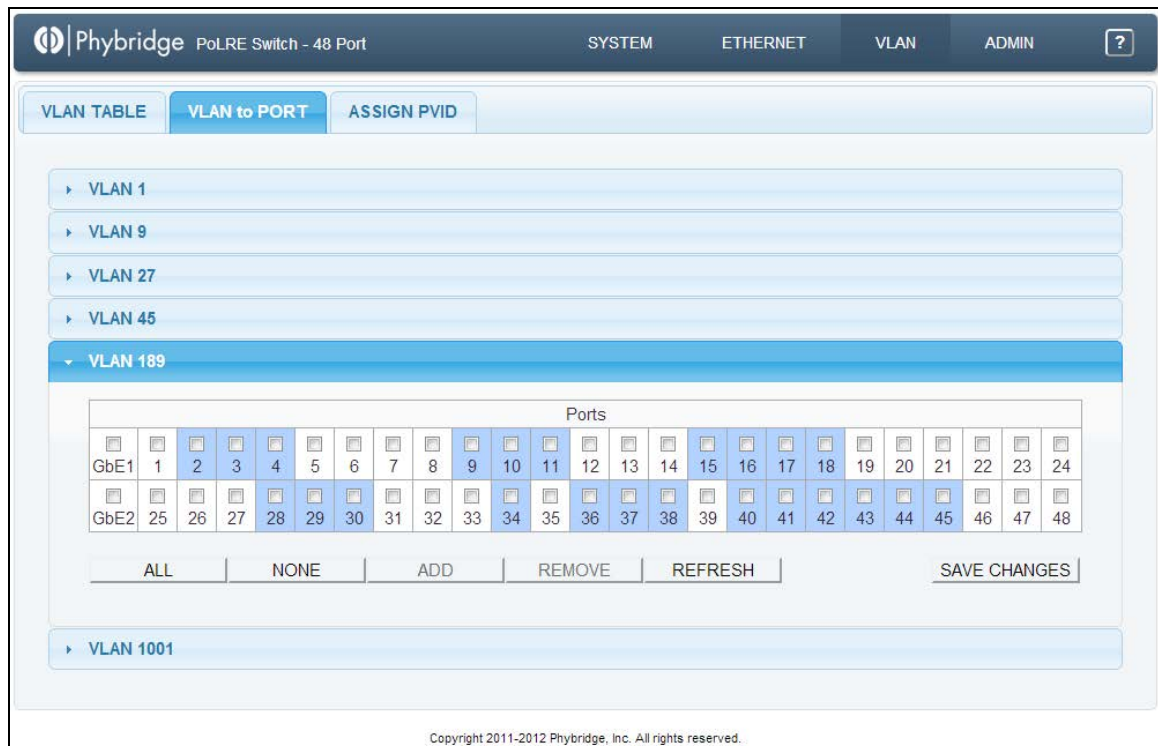
Use to assign ports to VLANs. You can add/remove individual ports from a VLAN or you can add/remove all ports at once.

### NOTE

Use the VLAN Table tab to create and remove VLANs (see page 16).

### IMPORTANT

If you do not click **SAVE CHANGES**, any changes made on this tab will be lost after a system reboot.



Phybridge PoLRE Switch - 48 Port

SYSTEM ETHERNET VLAN ADMIN

VLAN TABLE **VLAN to PORT** ASSIGN PVID

▶ VLAN 1

▶ VLAN 9

▶ VLAN 27

▶ VLAN 45

▼ VLAN 189

		Ports																																															
GbE1		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
GbE2		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48																								

ALL NONE ADD REMOVE REFRESH SAVE CHANGES

▶ VLAN 1001

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### Viewing VLAN port details

Each VLAN is shown as a separate panel.

1. Click the panel header (the VLAN number) to expand the panel.
2. A table with all ports is shown. The ports that are members of the VLAN have a shaded background. Ports that are not members have a white background.

### Assigning ports to a VLAN

1. Click one or more ports in the VLAN panel.  
or  
Click **ALL** to select all ports. (Click **NONE** to clear all ports.)  
A checkmark is shown on selected ports.



2. Click **ADD**. The added ports now have a shaded background.
3. Click **SAVE CHANGES**.

#### Removing ports from a VLAN

1. Click one or more ports in the VLAN panel.  
or  
Click **ALL** to select all ports. (Click **NONE** to clear all ports.)  
A checkmark is shown on selected ports.
2. Click **REMOVE**. The removed ports now have a white background.
3. Click **SAVE CHANGES**.

#### Refreshing VLAN Information

VLAN information on this tab is not updated in real-time. Click **REFRESH** to update the information (for example, to see any changes made by other users).



### PVID Table

Static panel showing each port's PVID. Each port has only one PVID. By default, every port is assigned the system default VLAN as the PVID. (The default VLAN is set on the VLAN Table tab; see page 17.)

### Viewing port PVID details for a VLAN

Each VLAN is shown as a separate panel.

1. Click the panel header (the VLAN number) to expand the panel.
2. A table with all ports is shown. The ports that belong to the PVID have a shaded background. Ports that do not belong to the PVID have a white background.

### Adding or modifying a port PVID

#### **IMPORTANT**

**The switch may lose connectivity if you change the PVID of the GbE ports.** Use caution when considering making changes to these ports.

1. Click one or more ports in the VLAN panel.  
or  
Click **ALL** to select all ports, with the exception of GbE1 and GbE2. (Click **NONE** to clear all ports.)  
A checkmark is shown on selected ports.
2. Click **ASSIGN**. The new PVID is established and the added ports now have a shaded background.
3. Click **SAVE CHANGES**.

### Refreshing VLAN information

VLAN information on this tab is not updated in real-time. Click **REFRESH** to update the information (for example, to see any changes made by other users).



## 5. Admin Page

### About the Admin Page

The Admin page allows you to configure switch settings, control services, configure servers, view the switch event log, and use the command line interface.

The Admin page contains four tabs:

- Setup
- Services
- Log
- Terminal

### Admin > Setup

The screenshot displays the 'Setup' tab of the Phybridge PoLRE Switch - 24 Port web interface. The top navigation bar includes 'SYSTEM', 'ETHERNET', 'VLAN', and 'ADMIN' tabs, with a help icon on the right. Below the navigation bar are four tabs: 'SETUP', 'SERVICES', 'LOG', and 'TERMINAL'. The 'System Settings' section contains fields for Host Name (PoLRE), Date (13-04-07), Time (02:39), PoE Voltage (54 V), Admin Password, Confirm Password, and Technical Support (http://www.phybridge.com/support/polre/ Tel:1-888-901-3633 Mon-Fri 8am-6pm ET). There are also buttons for 'APPLY' and 'RESET' for Diagnostic, Uplink, and Downlink Counters. The 'Import/Export Configuration' section has buttons for 'OPEN', 'EXPORT', and 'IMPORT', along with a 'SELECT FILE' button and a 'No File Selected' text. The 'Firmware Update' section shows the current firmware version (3.1.5) and fields for Server (http://192.168.9.8/pkg/mitel/3.1.5), User ID, Password, and a 'CONNECT' button. There is also a 'Select Package to install' dropdown and an 'INSTALL' button. A 'REBOOT SYSTEM' button is located at the bottom right of the main content area. The footer contains the copyright notice: 'Copyright 2011-2012 Phybridge, Inc. All rights reserved.'

## System Settings

Use to configure basic switch settings. After modifying a setting, click **APPLY**. The updates will be applied immediately to the switch.

**System Settings**

Host Name:

Date(YY-MM-DD):

Time(HH:MM):

PoE Voltage:

Admin Password:  Confirm Password:

Technical Support:

Diagnostic Counters:       Uplink Counters:       Downlink Counters:

---

**Host Name**      Switch host name.

---

**Date**      Switch date (YY-MM-DD) and time (HH:MM).  
**Time**

---

**PoE Voltage**      Defaults to 54V which is the recommended voltage for PoE. Range from 48 – 56V; use slider to adjust. Click **APPLY**.

---

**Admin Password**      Simple Network Manager password. To change the password, enter the new  
**Confirm**      password in both of these fields.  
**Password**

**NOTE**

You will be prompted to log back into the Simple Network Manager after changing the password.

---

**Contact**      Contact information (e.g. technical support).

---

**Diagnostic Counters**      Resets only the diagnostic counters.

**Uplink Counters**      Resets all counters for the gigabit ports (transmit/receive counts, errors, broadcasts, and multicasts).

**Downlink Counters**      Resets all downlink counters (transmit/receive counts and errors).

---

## Import/Export Configuration

You can import or export the current switch configuration. This allows you to download the existing configuration, make changes, and then upload the new configuration.

### IMPORTANT

When editing the configuration file, the existing syntax must be strictly followed or you may lose access to the switch. The file must be saved in Unix file format; using a program such as dos2unix/unix2dos or Notepad++ to edit the file is recommended.

The screenshot shows a web interface titled "Import/Export Configuration". It contains three rows of controls:

- Row 1: "Display Configuration in a New Window:" followed by an "OPEN" button.
- Row 2: "Download Configuration from the Switch:" followed by an "EXPORT" button.
- Row 3: "Upload Configuration File to the Switch:" followed by a "SELECT FILE" button, a text input field containing "No File Selected", and an "IMPORT" button.

1. Click **EXPORT** to save a copy of the current switch configuration.  
The filename for the exported file uses the convention **<hostname>.cfg** (example: switch.cfg). This allows you to easily identify which switch the file was exported from.
2. When the file download is complete, the file should be shown in the bottom-left corner of your browser (Chrome) or in the Downloads window (Firefox). Double-click the file to open it.
3. You can modify the following settings in the configuration file:
  - switch host name and IP address
  - information for the NTP Server, SNMP Service, Syslog Server, and VLAN, and Port Enable/Disable
4. To import or upload the modified configuration file to the switch, click **SELECT FILE** and select the configuration file to upload. Verify that you have selected the correct file.
5. Click **IMPORT**. When the upload is complete, the configuration changes are applied immediately to the switch.
6. To view the current switch configuration, click **DISPLAY CONFIGURATION IN A NEW WINDOW**. You can copy the text from this window to paste into another application or document.

## Firmware Update

Use to view current firmware or to update firmware packages. Firmware can be updated using HTTP or FTP.

The screenshot shows a web interface titled "Firmware Update". It displays the following information and controls:

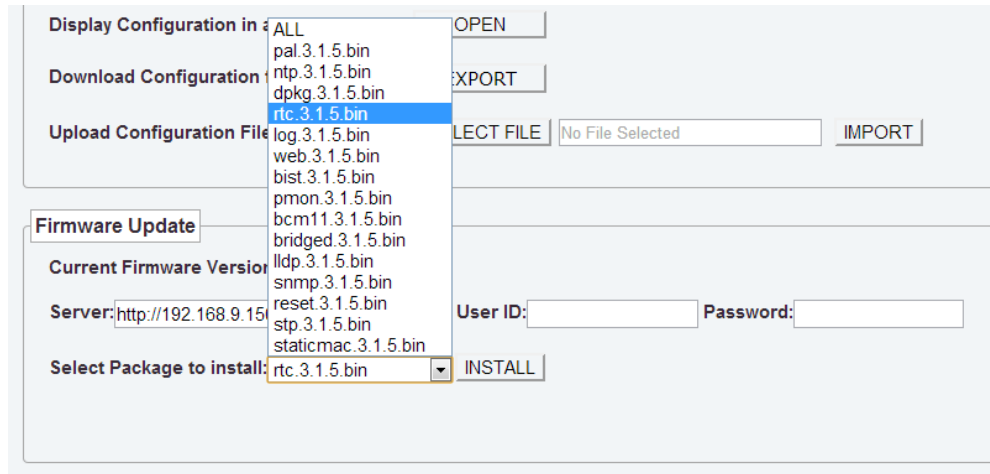
- "Current Firmware Version: 3.1.5"
- "Server:" followed by a text input field containing "http://192.168.9.8/pkg/mitel/3.1.5", "User ID:" followed by an empty text input field, "Password:" followed by an empty text input field, and a "CONNECT" button.
- "Select Package to install:" followed by a dropdown menu and an "INSTALL" button.

**Current Firmware Version** Displays currently installed version number.

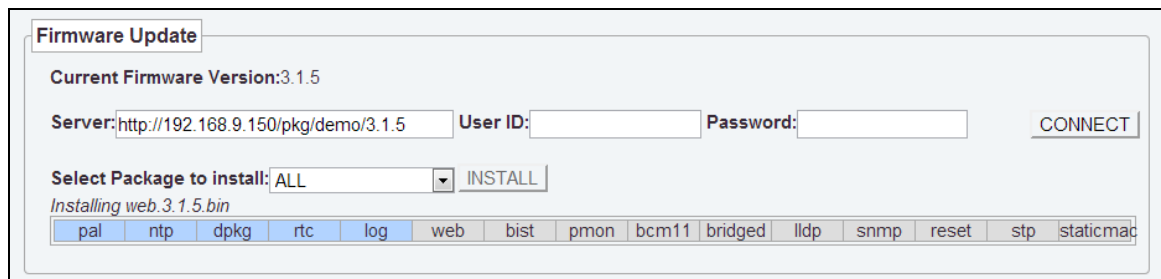
**Server** Displays most recent URL connection.

**User ID/Password** Enter only if required. (If User ID and Password had been set up). Click **CONNECT**.

**Select Package to Install** You can selectively install any package that is available. Click **INSTALL**.



**NOTE:** Progress of package installation will be shown by a blue bar at the bottom of the Firmware Update screen.



**Rebooting the system**

To reboot the system, click **REBOOT SYSTEM**. Click **OK** to confirm.



Admin > Services

Phybridge PoLRE Switch - 24 Port      SYSTEM    ETHERNET    VLAN    ADMIN    ?

SETUP    **SERVICES**    LOG    TERMINAL

Service:	TELNET	HTTP	LOG	LLDP	NTP	STP	SNMP	Description
Enable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Enable on System Startup
Run	<input type="button" value="STOP"/>	<input type="button" value="STOP"/>	<input type="button" value="STOP"/>	<input type="button" value="STOP"/>	<input type="button" value="STOP"/>	<input type="button" value="STOP"/>	<input type="button" value="STOP"/>	Start or Stop this Service

**Remote Log Server**

IP Address:        Port:

**Network Time Protocol**

IP Address:        NTP Servers:    
 216.235.14.36  
 96.44.157.90  
 96.44.142.5  
 66.178.0.74  
 208.87.120.127

**Spanning Tree Protocol**

Switch Protocol from       Bridge Priority:

**Simple Network Management Protocol**

Receiver IP Address:        Enable Receiver

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## Services

Use to control all the services for the switch including TELNET, HTTP, LOG, LLDP, NTP, STP and SNMP.

Service:	TELNET	HTTP	LOG	LLDP	NTP	STP	SNMP	Description
Enable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Enable on System Startup
Run	<input type="button" value="STOP"/>	<input type="button" value="STOP"/>	<input type="button" value="STOP"/>	<input type="button" value="STOP"/>	<input type="button" value="STOP"/>	<input type="button" value="STOP"/>	<input type="button" value="STOP"/>	Start or Stop this Service

**Enable** Click to enable/disable a service. This determines whether the service is enabled or disabled on system startup. The Log service is always enabled.

### IMPORTANT

If you disable the HTTP service, the Simple Network Manager will not function after a reboot. If you stop the HTTP service, you will instantly lose connectivity to the Simple Network Manager.

**Run** Click to start or stop a service. Note that the start or shutdown of services is not instantaneous and may take up to one minute.

## Remote Log Server

Use to set up a remote log server. Changes are applied immediately.

**Remote Log Server**

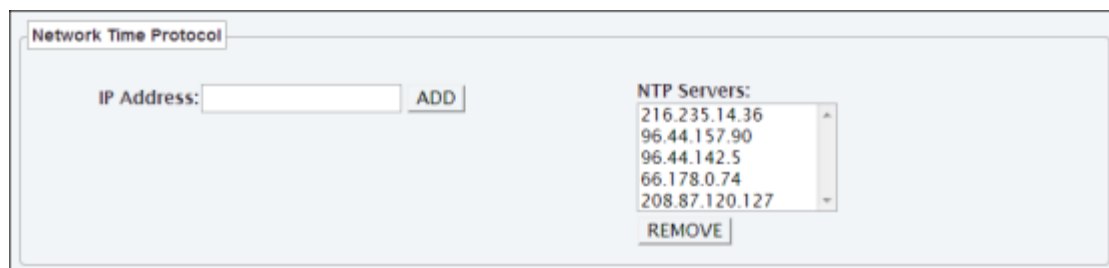
IP Address:

Port:

1. Enter the IP address of the remote log server and click **APPLY**.
2. (Optional) Change the port number and click **APPLY**. The default port number is 514.

### Network Time Protocol

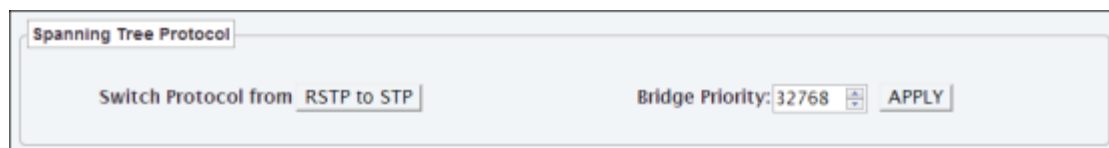
Use to configure multiple NTP servers.



1. To add a server, enter the IP address and click **ADD**.
2. To remove a server, select a server from the list and click **REMOVE**.

### Spanning Tree Protocol

Use to change the spanning tree protocol. The switch supports classic STP and RSTP (rapid spanning tree protocol); the default is RSTP.



1. To change the protocol, click the **Switch Protocol** button.  
The button name changes based on the currently selected protocol. For example, if the current protocol is RSTP, the option "Switch Protocol from RSTP to STP" will be shown.
2. To change the bridge priority, use the up and down arrows to increase/decrease the priority in increments of 4096, then click **APPLY**.

#### CAUTION

Enabling STP in a live network will cause service disruptions to end users while the network is converging. To avoid impacting users, enabling of STP should be conducted outside of core hours or during a scheduled maintenance period. Consult the MCD Resiliency Guidelines for information on how to optimally configure STP/RSTP.

## Simple Network Management Protocol

Use to modify the simple network management protocol.

Simple Network Management Protocol

Receiver IP Address:    Enable Receiver

1. To change the receiver IP address, enter the address and click **APPLY**.
2. To enable/disable the receiver, click the **Enable Receiver** checkbox.

## Admin > Log

Use to view the system log with real-time updates. You can also add markers to the log and download the log file.

Phybridge PoLRE Switch - 24 Port SYSTEM ETHERNET VLAN ADMIN ?

SETUP SERVICES **LOG** TERMINAL

```

Apr 12 00:50:32 ntpd[216]: adjusting local clock by 51769.412611s
Apr 12 00:50:32 ntpd[216]: adjtime failed: Invalid argument
Apr 12 00:53:33 ntpd[216]: adjusting local clock by 51768.843620s
Apr 12 00:53:33 ntpd[216]: adjtime failed: Invalid argument
Apr 12 00:57:16 ntpd[216]: adjusting local clock by 51768.505426s
Apr 12 00:57:16 ntpd[216]: adjtime failed: Invalid argument
Apr 12 00:59:39 ntpd[216]: adjusting local clock by 51767.958877s
Apr 12 00:59:39 ntpd[216]: adjtime failed: Invalid argument
Apr 12 01:02:44 ntpd[216]: adjusting local clock by 51767.475223s
Apr 12 01:02:44 ntpd[216]: adjtime failed: Invalid argument
Apr 12 01:05:53 ntpd[216]: adjusting local clock by 51767.007707s
Apr 12 01:05:53 ntpd[216]: adjtime failed: Invalid argument
Apr 12 01:09:03 ntpd[216]: adjusting local clock by 51766.684010s
Apr 12 01:09:03 ntpd[216]: adjtime failed: Invalid argument
Apr 12 01:11:13 ntpd[216]: adjusting local clock by 51766.150512s
Apr 12 01:11:13 ntpd[216]: adjtime failed: Invalid argument
Apr 12 01:14:59 ntpd[216]: adjusting local clock by 51765.675624s
Apr 12 01:14:59 ntpd[216]: adjtime failed: Invalid argument
Apr 12 01:17:56 ntpd[216]: adjusting local clock by 51765.428534s
Apr 12 01:17:56 ntpd[216]: adjtime failed: Invalid argument
Apr 12 01:22:54 ntpd[216]: adjusting local clock by 51764.621549s
Apr 12 01:22:54 ntpd[216]: adjtime failed: Invalid argument
Apr 12 01:25:05 ntpd[216]: adjusting local clock by 51764.297431s
Apr 12 01:25:05 ntpd[216]: adjtime failed: Invalid argument
Apr 12 01:28:09 ntpd[216]: adjusting local clock by 51763.565689s
Apr 12 01:28:09 ntpd[216]: adjtime failed: Invalid argument
Apr 12 01:31:50 ntpd[216]: adjusting local clock by 51763.039390s
Apr 12 01:31:50 ntpd[216]: adjtime failed: Invalid argument
Apr 12 01:36:03 ntpd[216]: adjusting local clock by 51762.680340s
Apr 12 01:36:03 ntpd[216]: adjtime failed: Invalid argument

```

Get last:   Log entries containing:  and

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### Selecting the number of events to display

1. In the **Get last** list, select the number of events to display on the Log tab. You can enter a value or use the arrows to increase/decrease the value in increments of 10.
2. Click **SUBMIT**. The Log tab is updated immediately.

### Searching Log entries

1. You can enter multiple search terms in the “**Log entries containing**” window. Search terms are case sensitive and spaces are significant.
2. Click **SEARCH**. The Log tab is updated immediately.
3. Search results are shown in green text and the log entries are in black.

The screenshot shows the Phybridge PoLRE Switch - 24 Port web interface. The top navigation bar includes SYSTEM, ETHERNET, VLAN, and ADMIN. The main menu has SETUP, SERVICES, LOG (selected), and TERMINAL. The LOG tab displays a list of log entries. The search filters are set to 'Get last: 60' and 'Log entries containing: admin and Apr 9'. The log entries are as follows:

```

Apr 9 21:19:53 dropbear[23033]: Password auth succeeded for 'admin' from 192.168.9.100:65455
Apr 9 21:19:53 sudo: admin: TTY=unknown ; PWD=/home ; USER=root ; COMMAND=/bin/su -
Apr 9 23:23:26 sudo: admin: TTY=pts/1 ; PWD=/home ; USER=root ; COMMAND=/bin/su -
Apr 10 14:40:19 dropbear[23033]: Exit (admin): Error reading: Connection timed out
Apr 10 20:47:50 dropbear[12341]: Password auth succeeded for 'admin' from 192.168.9.100:60476
Apr 10 20:47:50 sudo: admin: TTY=unknown ; PWD=/home ; USER=root ; COMMAND=/bin/su -
Apr 11 01:32:40 dropbear[19107]: Password auth succeeded for 'admin' from 192.168.9.100:55689
Apr 11 01:32:41 sudo: admin: TTY=unknown ; PWD=/home ; USER=root ; COMMAND=/bin/su -
Apr 11 01:48:16 dropbear[12341]: Exit (admin): Error reading: Connection timed out
Apr 11 14:52:07 dropbear[19107]: Exit (admin): Error reading: Connection timed out
Apr 11 21:32:55 dropbear[3182]: Password auth succeeded for 'admin' from 192.168.9.100:58833
Apr 11 21:32:55 sudo: admin: TTY=unknown ; PWD=/home ; USER=root ; COMMAND=/bin/su -

Apr 9 05:44:29 sudo: admin: TTY=pts/1 ; PWD=/home ; USER=root ; COMMAND=/bin/su -
Apr 9 15:33:08 dropbear[8593]: Exit (admin): Error reading: Connection timed out
Apr 9 21:19:53 dropbear[23033]: Password auth succeeded for 'admin' from 192.168.9.100:65455
Apr 9 21:19:53 sudo: admin: TTY=unknown ; PWD=/home ; USER=root ; COMMAND=/bin/su -
Apr 9 23:23:26 sudo: admin: TTY=pts/1 ; PWD=/home ; USER=root ; COMMAND=/bin/su -

Apr 12 01:41:50 ntpd[216]: adjusting local clock by 51761.523430s
Apr 12 01:41:50 ntpd[216]: adjtime failed: Invalid argument
Apr 12 01:46:03 ntpd[216]: adjusting local clock by 51761.184851s
Apr 12 01:46:03 ntpd[216]: adjtime failed: Invalid argument
Apr 12 01:49:44 ntpd[216]: adjusting local clock by 51760.698454s
Apr 12 01:49:44 ntpd[216]: adjtime failed: Invalid argument
Apr 12 01:51:28 ntpd[216]: adjusting local clock by 51760.442903s
Apr 12 01:51:28 ntpd[216]: adjtime failed: Invalid argument
  
```

At the bottom of the log view, there is a 'MARKER' input field and a 'DOWNLOAD LOG FILE' button. The footer of the interface reads: Copyright 2011-2012 Phybridge, Inc. All rights reserved.

### Adding markers to the log

You can add markers to mark particular points in the log. For example, you could use markers to mark the start and end points of certain events you would like to monitor. Markers are added to the log shown on the Log tab and also to the log stored on the remote log server.

1. Enter the marker text.
2. Click **MARKER**. The marker is added to the log.

### Downloading the log file

Click **DOWNLOAD LOG FILE** to save a copy of the log file shown on the Log tab. The filename for the exported file uses the convention **<hostname>.log** (example: switch.log). This allows you to easily identify which switch the file was exported from.

#### NOTE

You can continue using the Simple Network Manager while the file is downloading. When the file download is complete, the file should be shown in the bottom-left corner of your browser (Chrome) or in the Downloads window (Firefox). Double-click the file to open it.

## Admin > Terminal

The Terminal tab provides you with a command line interface you can use to configure the switch and diagnose switch issues. You can also use this tab to add notes to the switch.

Phybridge PoLRE Switch - 48 Port SYSTEM ETHERNET VLAN ADMIN

SETUP SERVICES LOG **TERMINAL**

Command: pal-show-gigaport

```
DemoUnit-03> show-bridged
Bridged Mode Disabled

DemoUnit-03> show-service-status
Usage: pal-show-service-status {all|telnet|http|log|lldp|ntp|stp|snmp}

DemoUnit-03> show-service-status all
telnet running
http running
log running
lldp running
ntp running
stp running
snmp running

DemoUnit-03> show-gigaport
port medium link speed scan autoneg stp
.....
mgmt copper down - HW Yes Forward
GbE1 copper up 1G SW Yes Forward
GbE2 copper down - SW Yes Forward
```

SAVE

Notes

Notes on the switch can be created here  
These notes are persistent and will survive a reset or power cycle.

SAVE

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### Using the Command Line Interface

1. Double-click in the **Command** field to see a list of available commands.
2. Click a command in the list to select it.
3. If necessary, enter any options for the command.

**NOTE**

See "Command Reference" on page 37 for a list of command options and syntax.

4. Press **ENTER** to run the command.

The results of the command appear in the area below the command. When a new command is run, the results are appended to the results from the previous command.

You can now do the following:

- Modify the text in the results area (make changes, delete text, add comments, copy and paste, etc.). Right-click in the results area to view editing options such as copy, paste and spell-check.
- Click **SAVE** to save the results in a text file. When the file download is complete, the file should be shown in the bottom-left corner of your browser (Chrome) or in the Downloads window (Firefox). Double-click the file to open it. The filename for the exported file uses the convention **hostname\_terminal\_date\_time.txt**. This allows you to easily identify which switch the file was exported from.

### Adding notes to the switch

You can save notes on the switch. These notes are seen by all operators with access to the Simple Network Manager.

1. Type a note in Notes area. You can modify the note the same way you can modify the command results (make changes, delete text, add comments, copy and paste, etc.). Right-click in the Notes area to view editing options such as copy, paste and spell-check.
2. Click **SAVE**.



## 6. Command Line Interface

### Command Reference

The following commands can be used in the command line interface in Admin > Terminal (see page 35).

#### Notes:

- Commands must be entered exactly as shown in the Usage column.
- <> denote single-value entries of a specific item, as explained within the brackets.
- { } denote a set or list or range of entries for a specific item.
- [ ] denote an optional entry.
- If you enter a command using incorrect syntax, the correct syntax will be shown.
- If you enter incorrect values for a command, you will receive a message stating that the values are not within the acceptable range.

Command	Purpose	Usage	Usage Notes
<b>pal</b>	Main interface for PAL.	pal help {cmd short long configure examine persistent}	
<b>pal-conf-edit</b>	Modify user persistent configuration.	pal-conf-edit {show clear} pal-conf-edit delete<LINENUMBER>	<LINENUMBER> is a single-value entry of the line number you wish to delete.
<b>pal-conf-export</b>	Export/import persistent user configuration into/from tmp/switch.cfg.	pal-conf-export {export import}	
<b>pal-conf-save</b>	Save the configuration of the switch.	pal-conf-save	
<b>pal-service-http</b>	Enable or disable HTTP service on the switch.	pal-service-http {start stop restart enable disable}	
<b>pal-service-lldp</b>	Enable or disable LLDP service on the switch.	pal-service-lldp {start stop restart show enable disable} pal-service-lldpshow {1-48 all}	

Command	Purpose	Usage	Usage Notes
<b>pal-service-log</b>	Configure, enable or disable LOG service on the switch.	<pre>pal-service-log {start stop restart} pal-service-log remote-syslog-show pal-service-log remote-syslog-ip &lt;IP&gt; pal-service-log remote-syslog-port &lt;PORT&gt;</pre>	<p>&lt;IP&gt; is a single-value entry of the IP address of the target syslog server.</p> <p>&lt;PORT&gt; is a single-value entry of the syslog port number on the remote syslog server. The default is port 514.</p>
<b>pal-service-ntp</b>	Enable or disable NTP service on the switch.	<pre>pal-service-ntp {start stop restart enable disable}</pre>	
<b>pal-service-snmp</b>	Enable or disable SNMP service on the switch.	<pre>pal-service-snmp {start stop restart enable disable} pal-service-snmp receiver {enable disable show} pal-service-snmp receiver-ip &lt;ADDRESS&gt;</pre>	
<b>pal-service-stp</b>	Enable or disable STP service on the switch.	<pre>pal-service-stp {GbE1 GbE2} {enable disable} pal-service-stp service {start stop enable disable} pal-service-stp proto {stp rstp} pal-service-stp port-priority &lt;VALUE&gt; pal-service-stp showbridge pal-service-stp showcfg {all bridge-priority protocol age forward-delay GbE1-cost GbE2-cost} pal-service-stp age &lt;6-40&gt; pal-service-stp forward-delay &lt;4-30&gt; pal-service-stp port-cost {GbE1 GbE2} &lt;0-65536&gt;</pre>	<p>&lt;VALUE&gt; is a single-value entry of the priority you wish to assign. This value ranges from 0-61440 and can be incremented by 4096. The default is 32768.</p>

**NOTE**

If you change the syslog remote IP, you are required to restart the log service.

Command	Purpose	Usage	Usage Notes
<b>pal-service-telnet</b>	Enable or disable telnet service on the switch.	pal-service-telnet {start stop restart enable disable}	
<b>pal-set-bridged</b>	Switch between managed and unmanaged modes.	pal-set-bridged {bridged/outband/disable}	<p>Bridged Mode: All network services disabled and no management via ethernet.</p> <p>Outband Mode: All network services on GbE disabled. Management available via MGMT port.</p> <p>Disabled: Normal operation.</p>
<b>pal-set-contact</b>	Update the point of contact for the switch.	pal-set-contact <CONTACT>	<CONTACT> is a single-value entry of the person's name that will be the point of contact for the switch.
<b>pal-set-gigaport</b>	Enable or disable uplink ports on the switch; switch between copper and fiber interfaces; add, remove, and set the default VLAN of the gigaports.	pal-set-gigaport {GbE1 GbE2 mgmt} {enable disable} pal-set-gigaport {GbE1 GbE2} {copper fiber} pal-set-gigaport GbE add-vlan <VLANID> {tagged untagged} pal-set-gigaport GbE remove-vlan <VLANID> pal-set-gigaport GbE default-vlan <VLANID>	<VLANID> is a single-value entry of the VLANID you wish to configure.
<b>pal-set-l2age</b>	Set the value for the L2 age timer.	pal-set-l2age <SECONDS>	

Command	Purpose	Usage	Usage Notes
<b>pal-set-port</b>	Enable or disable downlink ports 1-48.	pal-set-port <RANGE> {on off}	<RANGE> is a single-value entry of the port you wish to configure. This value ranges from 1-24 on a 24-Port switch and 1-48 on a 48-Port switch.
<b>pal-set-port-counters-clear</b>	Clear port counters.	pal-set-port-counters-clear	
<b>pal-set-snmp</b>	Set SNMP system values.	pal-set-snmp sysdescr <STRING> pal-set-snmp rdcommunity <STRING> pal-set-snmp wrcommunity <STRING> pal-set-snmp location <STRING> pal-set-snmp contact <STRING>	<STRING> can not contain special characters.
<b>pal-set-staticmac</b>	Lock MAC addresses to specific ports.	pal-set-staticmac unlock {<1-48> all} pal-set-staticmac lock {<1-48>} <MAC> [VLAN] pal-set-staticmac lock all	<MAC> must be specified with xx:xx:xx:xx:xx:xx notation. If VLAN is unspecified, pvid is used.
<b>pal-set-port-vlan</b>	Set and remove VLAN settings from a downlink port. Note that you must first use the command pal-set-vlan create 200.	pal-set-port-vlan <RANGE> add-vlan <VLANID> {tagged untagged} pal-set-port-vlan <RANGE> remove-vlan <VLANID> pal-set-port-vlan <RANGE> default-vlan <VLANID>	<RANGE> is a single-value entry of the port you wish to configure. This value ranges from 1-24 on a 24-Port switch and 1-48 on a 48-Port switch.  <VLANID> is a single-value entry of the VLAN ID you wish to configure.

Command	Purpose	Usage	Usage Notes
<b>pal-set-sys-date</b>	Set the date and time on the switch. The clock is a 24 hour clock.	pal-set-sys-date {YYYY-MM-DD}	{YYYY-MM-DD} is a range of dates, where YYYY represents the year (e.g. 1988), MM represents the month (e.g. 02 for February), and DD represents the day (e.g. 19).
<b>pal-set-sys-gateway</b>	Set the gateway IP of the switch.	pal-set-sys-gateway {GbE mgmt} <GATEWAY>	<GATEWAY> can only be assigned to 1 interface at a time.
<b>pal-set-sys-hostname</b>	Set the hostname of the switch. Note that the following special characters are not supported: &*()".	pal-set-sys-hostname <HOSTNAME>	<HOSTNAME> is a single-value entry of the hostname you wish to configure.
<b>pal-set-sys-ip</b>	Set the IP of the switch.	pal-set-sys-ip GbE <IPADDRESS> <NETMASK> <BROADCAST> pal-set-sys-ip mgmt <IPADDRESS> <NETMASK> <BROADCAST>	<IPADDRESS>, <NETMASK> and <BROADCAST> are all single-value entries for these addresses.
<b>pal-set-sys-passwd</b>	Change the user password.	pal-set-sys passwd<USERNAME><PASSWORD>	<USERNAME> is a single-value entry of the username of the switch. <PASSWORD> is a single-value entry of the new password of the switch.

Command	Purpose	Usage	Usage Notes
<b>pal-set-sys-time</b>	Set the system time of the switch.	pal-set-sys-time {HH:MM}	<b>{HH:MM}</b> is a range of times, where HH represents the hour (e.g. 15 is 3:xx pm), and MM represents the minutes (e.g. 45 is x:45).
<b>pal-set-sys-timezone</b>	Set the system timezone of the switch.	pal-set-sys-timezone list pal-set-sys-timezone timezone <TIMEZONE>	Using list will display timezone options, then set using appropriate choice.
<b>pal-set-vlan</b>	Create and delete VLANs on the switch.	pal-set-vlan create <VLANID> pal-set-vlan delete <VLANID> pal-set-vlan default<VLANID> pal-set-vlan clear	<VLANID> is a single-value entry of the VLAN ID you wish to configure.
<b>pal-set-voltage</b>	Set the voltage of the downlink ports.	pal-set-voltage <DECIVOLTS>	<DECIVOLTS> must be between 480 and 560.  Example: 495 Decivolts is 49.5 Volts.
<b>pal-show-bridged</b>	Display the current bridged mode.	pal-show-bridged	
<b>pal-show-contact</b>	Show the name of the person who is the point of contact for the switch.	pal-show-contact	
<b>pal-show-gigaport</b>	Show uplink port status.	pal-show-gigaport	
<b>pal-show-l2age</b>	Show the value of the L2 age timer in seconds.	pal-show-l2age	

Command	Purpose	Usage	Usage Notes
<b>pal-show-port</b>	Show downlink port status and statistics.	pal-show-port <RANGE>	<RANGE> is a single-value entry of a port you wish to configure. This value ranges from 1-24 on a 24-Port switch and 1-48 on a 48-Port switch.
<b>pal-show-port-counters</b>	Show port counters.	pal-show-port-counters <RANGE>	<RANGE> is a single-value entry of a port you wish to configure. This value ranges from 1-24 on a 24-Port switch and 1-48 on a 48-Port switch.
<b>pal-show-port-statistics</b>	Show port statistics.	pal-show-port-statistics <RANGE>	<RANGE> is a single-value entry of a port you wish to configure. This value ranges from 1-24 on a 24-Port switch and 1-48 on a 48-Port switch.
<b>pal-show-port-status</b>	Show port status.	pal-show-port-status <RANGE>	<RANGE> is a single-value entry of a port you wish to configure. This value ranges from 1-24 on a 24-Port switch and 1-48 on a 48-Port switch.
<b>pal-show-service-status</b>	Show the current state of a specified service (or all services) on the switch.	pal-show-service-status {all telnet http log lldp ntp stp snmp}	

Command	Purpose	Usage	Usage Notes
<b>pal-show-service-startup</b>	Show the state of a specified service (or all services) at start-up.	-show-service-startup {all telnet http lldp ntp stp snmp}	
<b>pal-show-snmp</b>	Display the set SNMP system values.	pal-show-snmp {sysdescr rdcommunity wrcommunity location contact}	
<b>pal-show-staticmac</b>	Show port MAC lock status.	pal-show-staticmac {<1-48> all}	
<b>pal-show-sys-date</b>	Show the system date and time.	pal-show-sys-date	
<b>pal-show-sys-gateway</b>	Get the gateway of the switch and which port it is bound to.	pal-show-sys-gateway	
<b>pal-show-sys-hostname</b>	Show the hostname of the switch.	pal-show-sys-hostname	
<b>pal-show-sys-ip</b>	Show the IP addressing information from the switch.	pal-show-sys-ip	
<b>pal-show-sys-temp</b>	Show the temperature of the switch.	pal-show-sys-temp	
<b>pal-show-sys-timezone</b>	Display the current timezone of the switch.	pal-show-sys-timezone	
<b>pal-show-vlan</b>	Show VLAN port configuration.	pal-show-vlan	



Command	Purpose	Usage	Usage Notes
<b>pal-show-vlan-default</b>	Show the default VLAN's configuration.	pal-show-vlan-default {<1-48> all system}	<1-48> and all are port defaults, where system is the system default.
<b>pal-show-voltage</b>	Show the downlink voltage in Decivolts.	pal-show-voltage	
<b>pal-version</b>	Show the version of the software on the switch.	pal-version	

## Upgrade Procedure

Use the command line interface in Admin > Terminal to upgrade, remove, and show the installed software packages on the switch (see page 35).

### NOTE

Full packages will be released with every major software release; these packages will not require a certain previous version to be installed. Incremental upgrade packages will constitute non-critical but recommended upgrades. When applying incremental upgrades, all upgrades must be done in order and no upgrades can be skipped.

### IMPORTANT

Exporting the switch configuration file is recommended before performing an upgrade. For details, see "Admin > Setup" on page 25.

Command	Purpose	Usage	Usage Notes
pal-pkg	Used to upgrade, remove, and show the installed software packages on the switch.	<pre>pal-pkg {show_remote show_installed  install_all remove_all} pal-pkginstall &lt;REMOTE_PACKAGE_NAME&gt; pal-pkgremove &lt;LOCAL_PACKAGE_NAME&gt; pal-pkg configure &lt;URI VERSION&gt;</pre>	<p>&lt;REMOTE_PACKAGE_NAME&gt; is a single-value entry of the remote package name you wish to install, residing on your HTTP or FTP server.</p> <p>&lt;LOCAL_PACKAGE_NAME&gt; is a single-value entry of the local package name you wish to remove, residing on your switch.</p> <p>&lt;URI VERSION&gt; is a single-value entry of the URL of the files, residing on the server.</p>

### Notes:

- Commands must be entered exactly as shown in the Usage column.
- <> denote single-value entries of a specific item, as explained within the brackets.
- { } denote a set or list or range of entries for a specific item.

### Displaying the current installed version

When performing an incremental upgrade, you will need to know the current installed version of firmware on the unit so the next upgrade can be installed. When applying incremental upgrades, all upgrades must be done in order and no upgrades can be skipped.

**Example usage:**

```
# pal-version  
X.X.X  
#
```

### Incremental upgrade

1. On the server, create a directory (using any name) and place the upgrade file into the directory. Supported servers are HTTP and FTP.

**Example usage:**

```
http://192.168.0.10/upgrade/switch.X.X.X.bin  
http://192.168.0.10/upgrade/sources
```

2. From the switch command line on the Admin > Terminal tab, configure the package upgrade utility to point it to the upgrade server and subfolder. This is done with the **pal-pkg** command with the configure option **pal-pkg configure <URL><SUBFOLDER>**. In the URL, you must specify the server type (FTP:// or HTTP://) and the IP address.

**Example usage:**

```
# pal-pkg configure http://192.168.0.10 upgrade  
#
```

3. To verify the upgrade server and switch are now configured properly for upgrade, issue the **pal-pkgshow\_remote** command (this will display the upgrade file on the server).

**Example usage:**

```
# pal-pkgshow_remote  
switch.X.X.X.bin  
#
```

4. Once the switch can access the server, use the **pal-pkg install all** command to perform the upgrade. You will be notified if a restart is required after installing and starting the upgrade. Upgrades in this fashion are done incrementally.

**Example usage:**

```
# pal-pkg install switch.X.X.X.bin  
Installing UPGRADE .....[OK]  
Starting UPGRADE .....[OK]  
#
```

### Upgrade recovery and full version install

It is recommended that all upgrades are done using the incremental method. In case of problems, the following instructions can be followed..

**NOTE**

Holding down the reset button during the bootup process will reset the unit to the default factory settings.

**Example usage:**

```
# pal-pkg show
switch.X.X.X.full.bin
# pal-pkg install switch.X.X.X.full.bin
Installing X.X.X.FULL .....[OK]
Starting X.X.X.FULL .....[OK]
Restart is needed
#
```