

 NVT PHYBRIDGE

PoLRE[®] Switch User Guide

Version 3.5.2



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1. Overview

About this Guide

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 10. |
| VLAN | Allows users to view, establish and assign VLANs. See "About the VLAN Page" on page 15. |
| 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 22. |
| 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

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)

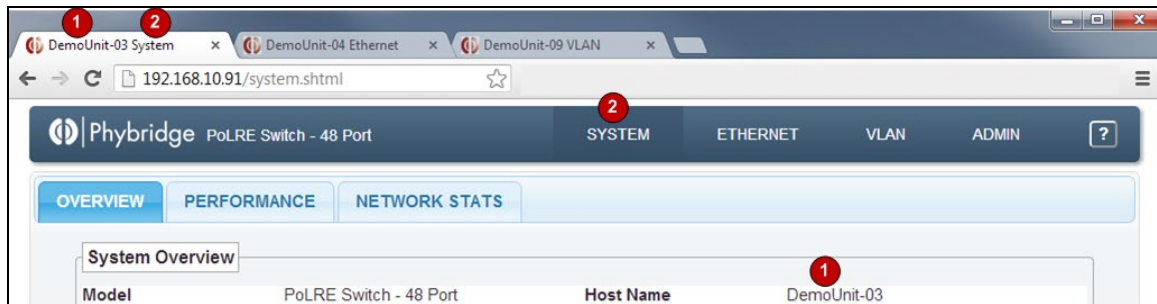
3. Enter **admin** as the username.
4. Enter the password (the default password is **admin**).

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

System Overview

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

Ethernet Port Status

UPLINK			DOWNLINK (24 PORTS UP)																							
F1	G1	M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
F2	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

Threshholds and Exceptions

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

Model	Model.
Product Number	Product number.
Serial Number	Serial number.
Uptime	System uptime. Updated in real-time.
Current Time	Current date and time according to the switch. Updated in real-time.
CPU Load	Current load on the CPU. Updated in real-time.
Memory	Current used and free memory. Updated in real-time.
Temperature	Current temperature. Updated in real-time.
Host Name	Current host name. This field can be configured in Admin > Setup (see page 22).
IP Address	Current IP address. This field can be configured in Ethernet > Uplink Ports (see page 10).
MAC Address	Current MAC address.
Subnet Mask	Current subnet mask. This field can be configured in Ethernet > Uplink Ports (see page 10).
Default Gateway	Current Default Gateway. This field can be configured in Ethernet > Uplink Ports (see page 10).
IP Address (mgmt)	Current management port IP address. This field can be configured in Ethernet > Uplink Ports (see page 10).
PSE Voltage	Current output voltage.
PSE Power	Current power usage. Updated in real-time.
Contact	Contact information. This field can be configured in Admin > Setup (see page 22).





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 black to red	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.

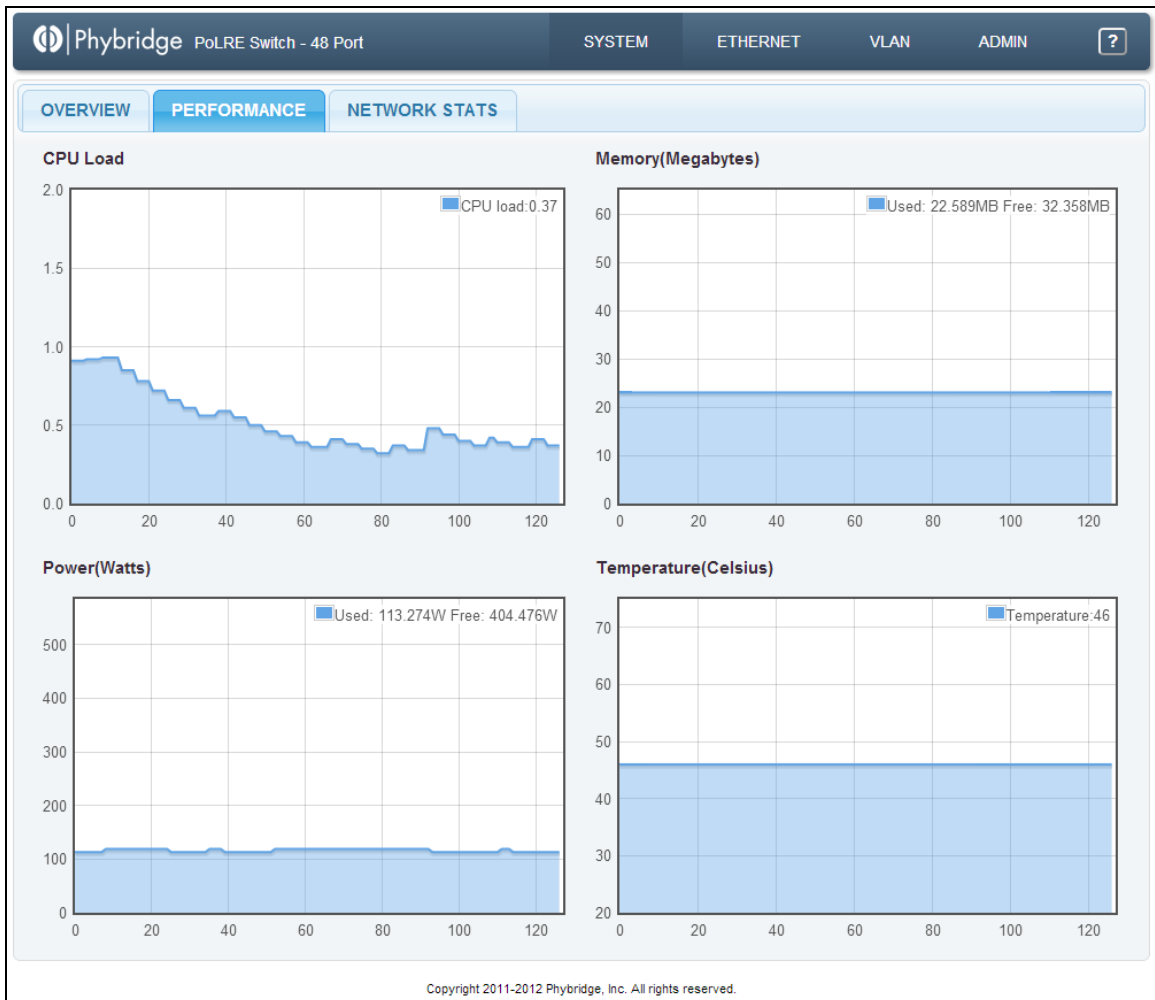
Thresholds and Exceptions

Provides maximum or minimum thresholds for key indicators such as CPU load, memory, power consumption and temperature. The date and time are 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

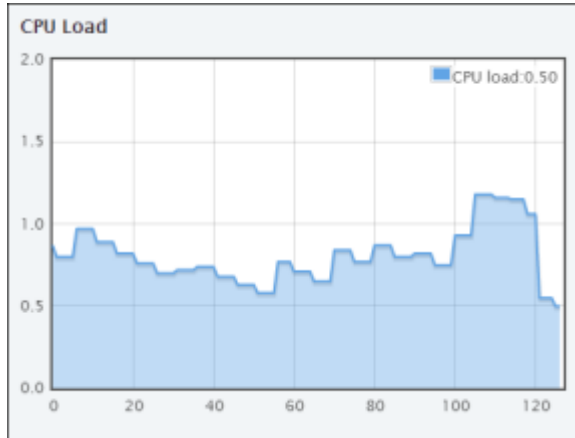
All panels provide current values and the last two minutes of historical data; values are updated in real-time. You can cross-check the historical data in Overview > Thresholds and Exceptions (page 3).



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.

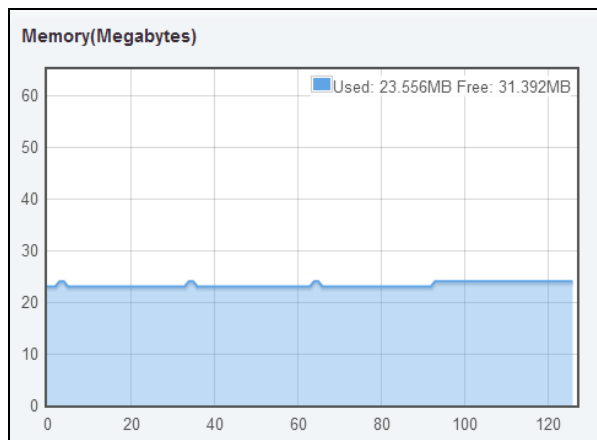
Graph provides an overview of the historical CPU load.



Memory (Megabytes)

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

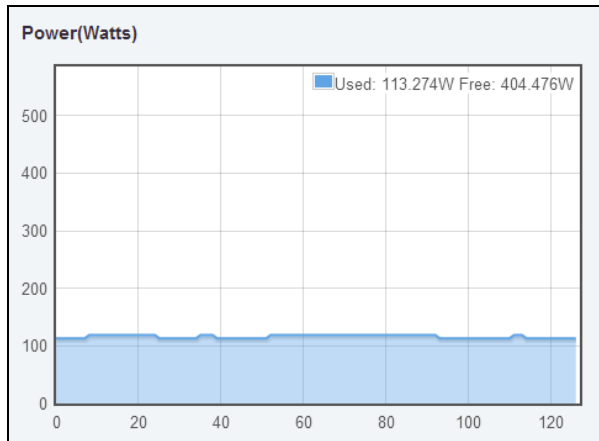
Graph provides an overview of historical memory usage. A flat line with few peaks and valleys is normal in a healthy system. If memory usage keeps increasing, this may cause system instability. If this occurs, note the used and free values in the legend and call system support.



Power (Watts)

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

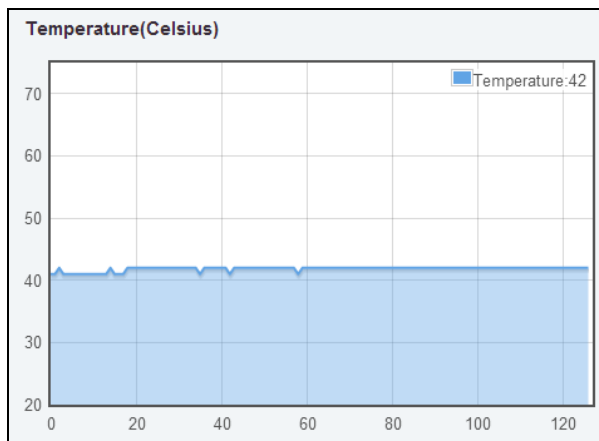
Graph provides an overview of the historical total power consumed by the switch and all devices connected to it. Expect variations as activities on the switch change. Peaks and valleys are normal as devices are added and removed.



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.

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

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.

Configure Management Port

IP Address: 192.168.1.1

Net Mask: 255.255.255.0

Broadcast: 192.168.1.255

Default PVID: 1001

APPLY

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.
2. 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.



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

TABLE

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.

VLAN	TYPE	PORTS																								
1	Default	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
		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
54	Static	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
		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
63	Static	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
		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
102	Static	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
		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
123	Static	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
		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
300	Static	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
		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
369	Static	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
		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

NOTE:

-
- WHITE BACKGROUND** Port is not a member.
-
- BLUE BACKGROUND** Port is a member.
-
- BLACK TEXT** Port is a PVID.
-
- GREY TEXT** Port is only a member of the VLAN.
-

Adding a VLAN

You can add a new static VLAN.

1. Click **ADD**.
2. Enter the VLAN number and click **OK**.
3. Click **SAVE CHANGES**.

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.

The screenshot shows the 'VLAN to PORT' configuration page for a Phybridge PoLRE Switch. The interface includes a navigation bar with 'SYSTEM', 'ETHERNET', 'VLAN', and 'ADMIN' tabs. Below the navigation bar are three tabs: 'VLAN TABLE', 'VLAN to PORT' (which is active), and 'ASSIGN PVID'. A list of VLANs is displayed, with 'VLAN 189' expanded to show a table of ports. The table has two rows: 'GbE1' (ports 1-24) and 'GbE2' (ports 25-48). Ports 2 through 45 are shaded blue, indicating they are assigned to the VLAN. Below the table are buttons for 'ALL', 'NONE', 'ADD', 'REMOVE', 'REFRESH', and 'SAVE CHANGES'. At the bottom of the page, there is a copyright notice: 'Copyright 2011-2012 Phybridge, Inc. All rights reserved.'

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).

VLAN > Assign PVID

Use to assign the primary VLAN ID to ports. VLANs created in the VLAN Table tab can be used for PVID tagging. For details on adding and removing VLANs, see "VLAN > VLAN Table" on page 15.

IMPORTANT

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

The screenshot shows the 'Assign PVID' configuration page for a PoLRE Switch. At the top, there are navigation tabs: 'VLAN TABLE', 'VLAN to PORT', and 'ASSIGN PVID'. Below these is the 'PVID Table' section, which contains a table with columns for 'PORT', 'GbE1', and 'GbE2'. The table is divided into sections for different port ranges: 1-12, 13-24, 25-36, and 37-48. The 'PVID' column shows the assigned VLAN ID for each port. For example, ports 1-36 have PVID 1, ports 37-45 have PVID 1, and ports 46-48 have PVID 189.

Below the 'PVID Table' is the 'VLAN 1' section, which shows a grid of ports. The 'Ports' section includes a grid for GbE1 (ports 1-24) and GbE2 (ports 25-48). Each port has a checkbox to indicate its assignment to VLAN 1. Below the grid are buttons for 'ALL', 'NONE', 'ASSIGN', and 'REFRESH'. A 'SAVE CHANGES' button is located at the bottom right of the 'VLAN 1' section.

At the bottom of the page, there are expandable sections for other VLANs: 'VLAN 9', 'VLAN 27', 'VLAN 45', and 'VLAN 189'.

PVID Panel

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 15.)

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. Note that the switch must be configured with VLAN 1 as PVID for management.

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 shows the Admin page for the NVT Phybridge PoLRE Switch, specifically the Setup tab. The interface includes a top navigation bar with the Phybridge logo and tabs for SYSTEM, ETHERNET, VLAN, and ADMIN. Below this is a sub-navigation bar with tabs for SETUP, SERVICES, LOG, and TERMINAL. The main content area is divided into two sections: System Settings and Import/Export Configuration. The System Settings section contains fields for Host Name (PoLRE), Date (20-09-29), Time (11:39), PoE Voltage (54 V), Admin Password, Confirm Password, and Technical Support. The Import/Export Configuration section contains buttons for Display Configuration in a New Window, Download Configuration from the Switch, and a file upload section. A REBOOT SYSTEM button is located at the bottom right of the page.

Phybridge SYSTEM ETHERNET VLAN ADMIN ?

SETUP SERVICES LOG TERMINAL

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:

Import/Export Configuration

Display Configuration in a New Window:

Download Configuration from the Switch:

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:	<input type="text" value="PoLRE"/>	<input type="button" value="APPLY"/>	
Date(YY-MM-DD):	<input type="text" value="20-09-29"/>	<input type="button" value="APPLY"/>	
Time(HH:MM):	<input type="text" value="11:39"/>	<input type="button" value="APPLY"/>	
PoE Voltage:	<input type="range" value="54 V"/>	<input type="button" value="APPLY"/>	
Admin Password:	<input type="password"/>	Confirm Password:	<input type="password"/>
			<input type="button" value="APPLY"/>
Technical Support:	<input type="text" value="http://www.nvtphybridge.com/support-ticket/ Tel:1-888-901-3633 Mon-Fri 4am-7pm EST"/>		<input type="button" value="APPLY"/>
Diagnostic Counters:	<input type="button" value="RESET"/>	Uplink Counters:	<input type="button" value="RESET"/>
		Downlink Counters:	<input type="button" value="RESET"/>

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 – 58V; use slider to adjust. Click **APPLY**.

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

NOTE

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

Diagnostic Counters Clears only the diagnostic counters.

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

Downlink Counters Clears 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.

Import/Export Configuration

Display Configuration in a New Window:

Download Configuration from the Switch:

To view the current switch configuration, click OPEN. The configuration is shown in a new window. You can copy the text from this window to paste into another application or document.

Exporting and modifying a configuration file

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. 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

Importing a configuration file

You can modify the switch configuration by uploading a modified configuration file.

1. Click SELECT FILE and select the configuration file to upload.
2. Verify that you have selected the correct file and click IMPORT. The configuration changes are applied immediately to the switch.

Rebooting the system

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

Admin > Services

The screenshot shows the 'Services' configuration page for a Phybridge PoLRE Switch. The interface includes a navigation bar with 'SYSTEM', 'ETHERNET', 'VLAN', and 'ADMIN' tabs, and a sub-navigation bar with 'SETUP', 'SERVICES', 'LOG', and 'TERMINAL' tabs. The 'SERVICES' tab is active.

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

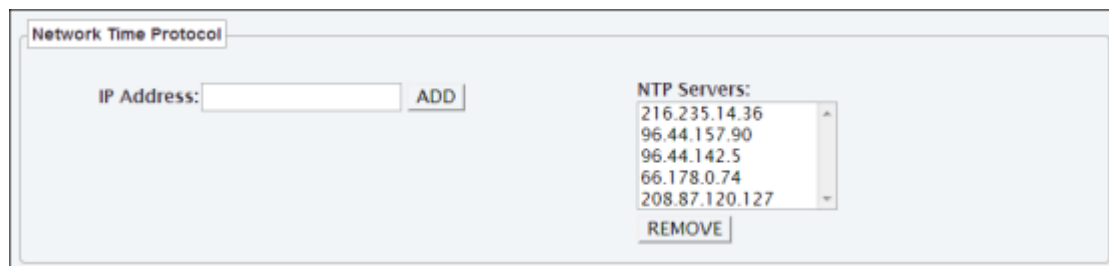
IP Address:

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.



Network Time Protocol

IP Address:

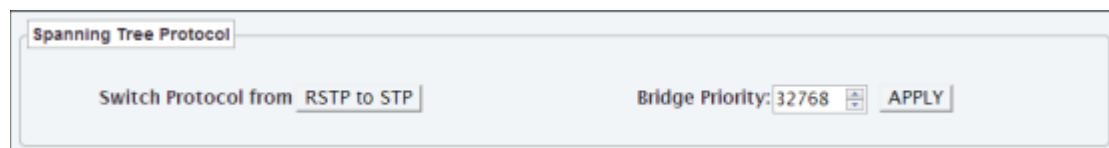
NTP Servers:

- 216.235.14.36
- 96.44.157.90
- 96.44.142.5
- 66.178.0.74
- 208.87.120.127

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.



Spanning Tree Protocol

Switch Protocol from RSTP to STP

Bridge Priority: 32768

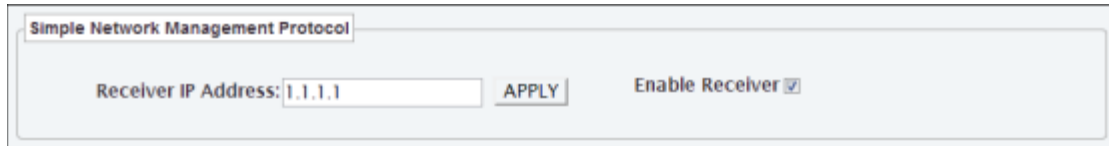
1. To change the protocol, click the **Switch Protocol** button.
The button name changes based on the currently selected protocol. For example, if the current protocol is RSTP, the option "Switch Protocol from RSTP to STP" will be shown.
2. To change the bridge priority, use the up and down arrows to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

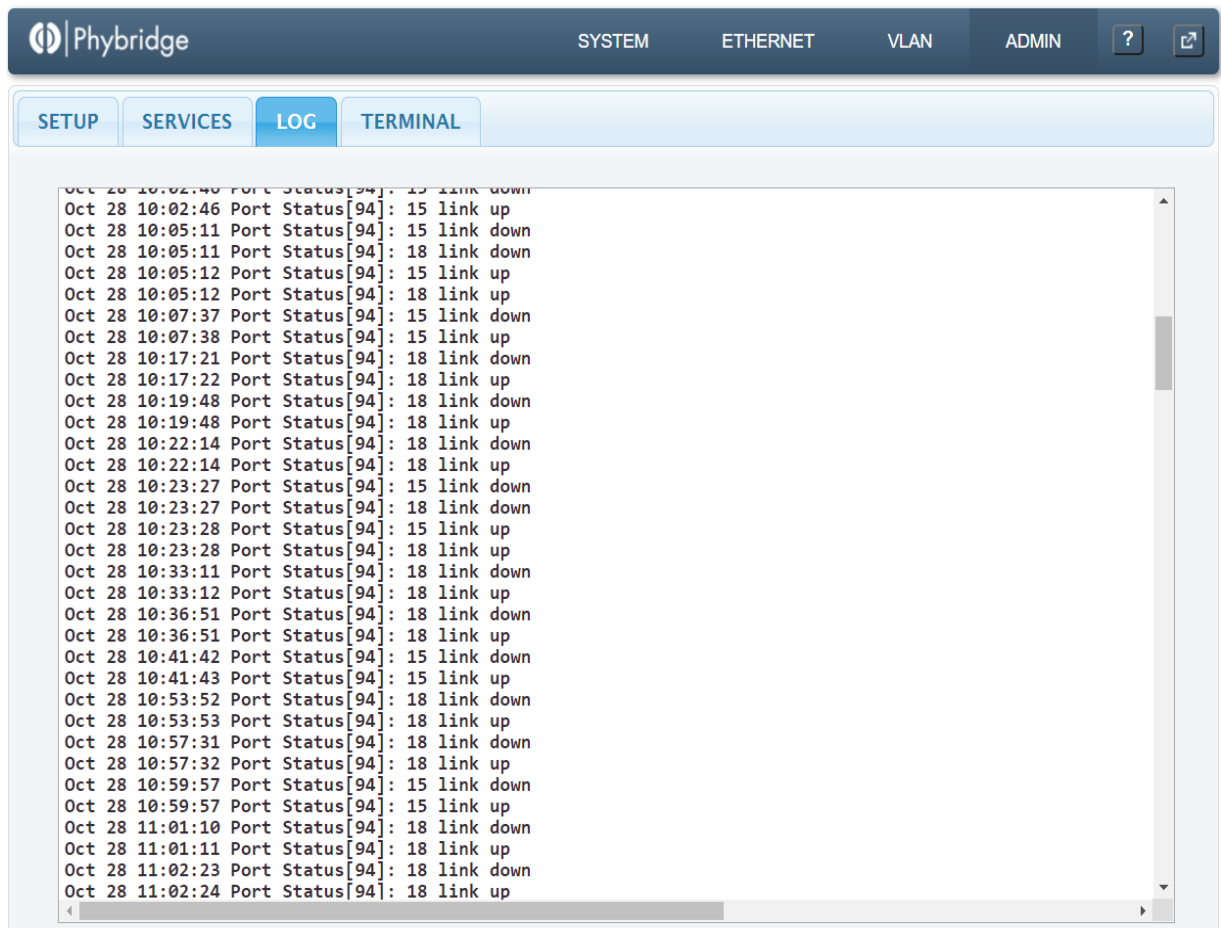


The image shows a configuration window titled "Simple Network Management Protocol". It contains a text input field for "Receiver IP Address" with the value "1.1.1.1". To the right of the input field is an "APPLY" button. Further right is a checkbox labeled "Enable Receiver" which is currently checked.

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.



The image shows the "Admin > Log" interface. At the top, there is a navigation bar with the Phybridge logo and tabs for "SYSTEM", "ETHERNET", "VLAN", and "ADMIN". Below this is a sub-navigation bar with tabs for "SETUP", "SERVICES", "LOG" (which is selected), and "TERMINAL". The main area displays a log of system events. The log entries are as follows:

```
Oct 28 10:02:40 Port Status[94]: 15 link down
Oct 28 10:02:46 Port Status[94]: 15 link up
Oct 28 10:05:11 Port Status[94]: 15 link down
Oct 28 10:05:11 Port Status[94]: 18 link down
Oct 28 10:05:12 Port Status[94]: 15 link up
Oct 28 10:05:12 Port Status[94]: 18 link up
Oct 28 10:07:37 Port Status[94]: 15 link down
Oct 28 10:07:38 Port Status[94]: 15 link up
Oct 28 10:17:21 Port Status[94]: 18 link down
Oct 28 10:17:22 Port Status[94]: 18 link up
Oct 28 10:19:48 Port Status[94]: 18 link down
Oct 28 10:19:48 Port Status[94]: 18 link up
Oct 28 10:22:14 Port Status[94]: 18 link down
Oct 28 10:22:14 Port Status[94]: 18 link up
Oct 28 10:23:27 Port Status[94]: 15 link down
Oct 28 10:23:27 Port Status[94]: 18 link down
Oct 28 10:23:28 Port Status[94]: 15 link up
Oct 28 10:23:28 Port Status[94]: 18 link up
Oct 28 10:33:11 Port Status[94]: 18 link down
Oct 28 10:33:12 Port Status[94]: 18 link up
Oct 28 10:36:51 Port Status[94]: 18 link down
Oct 28 10:36:51 Port Status[94]: 18 link up
Oct 28 10:41:42 Port Status[94]: 15 link down
Oct 28 10:41:43 Port Status[94]: 15 link up
Oct 28 10:53:52 Port Status[94]: 18 link down
Oct 28 10:53:53 Port Status[94]: 18 link up
Oct 28 10:57:31 Port Status[94]: 18 link down
Oct 28 10:57:32 Port Status[94]: 18 link up
Oct 28 10:59:57 Port Status[94]: 15 link down
Oct 28 10:59:57 Port Status[94]: 15 link up
Oct 28 11:01:10 Port Status[94]: 18 link down
Oct 28 11:01:11 Port Status[94]: 18 link up
Oct 28 11:02:23 Port Status[94]: 18 link down
Oct 28 11:02:24 Port Status[94]: 18 link up
```


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

You can search the log file using one or two of the search fields. Using the second field will search for lines containing both (AND) field values.

Fields are not cleared after a search, so search fields will need set accordingly for subsequent searches.

1. Enter one or two search values.
2. Click **SEARCH**.

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 Admin GUI 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-

```
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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Executing terminal commands

1. In the Command text box, you can enter the rest of the PAL command you wish to execute. Double clicking the box will cause a pull down to appear with all available PAL commands to choose. View the [command reference](#) for a list of commands and syntax.
2. Hitting enter after the appropriate command is entered will execute it. The output will display in the box below.
3. Clicking the SAVE button will download all commands executed in the output window. The file name will save as a text file and consist of the hostname and date information

Adding notes to the switch

You can add user notes to the system that are persistent.

1. Enter notes in the text box.
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 30).

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
pal	Main interface for PAL.	pal help {cmd short long configure examine persistent}	
pal-conf-save	Save the configuration of the switch.	pal-conf-save	
pal-conf-show	Show the configuration of the switch	pal-conf-show	
pal-conf-tftp	Import or Export the configuration via TFTP	pal-conf-tftp {export import} <IP> <FILENAME>	
pal-service-http	Enable or disable HTTP service on the switch.	pal-service-http {start stop restart enable disable http https both}	
pal-service-lldp	Enable or disable LLDP service on the switch.	pal-service-lldp {start stop restart show enable disable} pal-service-lldp show {1-48 all} pal-service-lldp med <1-48> {tagged untagged} <VLANID> [APPLICATION] [PRIORITY] pal-service-lldp config show {1-24 all} pal-service-lldp config delete {1-24 all}	

Command	Purpose	Usage	Usage Notes
pal-pkg	Upgrade the switch.	<pre>pal-pkg {show_remote show_installed install_all remove_all} pal-pkg install <REMOTE_PACKAGE_NAME> pal-pkg remove <LOCAL_PACKAGE_NAME> pal-pkg configure <URI> <VERSION></pre>	
pal-service-log	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 <IP> pal-service-log remote-syslog-port <PORT></pre>	<p><IP> is a single-value entry of the IP address of the target syslog server.</p> <p><PORT> is a single-value entry of the syslog port number on the remote syslog server. The default is port 514.</p> <p>NOTE If you change the syslog remote IP, you are required to restart the log service.</p>
pal-service-ntp	Enable or disable NTP service on the switch.	<pre>pal-service-ntp {start stop restart enable disable}</pre>	
pal-service-snmp	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 <ADDRESS></pre>	
pal-service-stp	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 <VALUE> pal-service-stp showbridge pal-service-stp showcfg {all bridge-priority protocol age forward-delay GbE1-cost GbE2-cost} pal-service-stp age <6-40> pal-service-stp forward-delay <4-30> pal-service-stp port-cost {GbE1 GbE2} <0-65536></pre>	<p><VALUE> 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>

Command	Purpose	Usage	Usage Notes
pal-service-ssh	Enable or disable SSH service on the switch.	pal-service-ssh {start stop restart enable disable}	
pal-service-security	Set TACACS security option	pal-service-security {show tacacs} pal-service-security tacacs {show enable disable} pal-service-security server1 <IP_ADDR IP_ADDR:PORT HOSTNAME HOSTNAME:PORT> pal-service-security secret1 <STRING> pal-service-security server2 <IP_ADDR IP_ADDR:PORT HOSTNAME HOSTNAME:PORT> pal-service-security secret2 <STRING> pal-service-security server3 <IP_ADDR IP_ADDR:PORT HOSTNAME HOSTNAME:PORT> pal-service-security secret3 <STRING> pal-service-security server4 <IP_ADDR IP_ADDR:PORT HOSTNAME HOSTNAME:PORT> pal-service-security secret5 <STRING> pal-service-security timeout <SECONDS> pal-service-security accounting {on off}	These commands will change if RADIUS is installed. Issue the command in the CLI for help.
pal-service-telnet	Enable or disable telnet service on the switch.	pal-service-telnet {start stop restart enable disable}	

Command	Purpose	Usage	Usage Notes
pal-set-bridged	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>
pal-set-igmp	Configure IGMP	pal-set-igmp enable [vlan] {noflood} pal-set-igmp disable pal-set-igmp timeout <0-3600 SECONDS> pal-set-igmp poll <0-120 SECONDS> pal-set-igmp fastleave {enable disable}	<p>When enabling IGMP, the Vlan used for multicast must be set. 'noflood' disables flooding of unknown multicast packets if required. Timeout is the value which a group membership times out. If timeout = 0, then memberships do not expire. Poll value is used to set how often the memberships are checked for expired timeouts. Fastleave when enabled will remove the multicast stream from a group once it is expired. When disabled, fastleave will attempt a query to renew the port to the group before removing it.</p>

Command	Purpose	Usage	Usage Notes
pal-set-contact	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.
pal-set-gigaport	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 GbE mgmt} {enable disable} pal-set-gigaport {GbE1 GbE2 GbE} {copper fiber} pal-set-gigaport {GbE1 GbE2 GbE} add-vlan <VLANID> {tagged untagged} pal-set-gigaport {GbE1 GbE2 GbE} remove-vlan <VLANID> pal-set-gigaport {GbE1 GbE2 GbE} default-vlan <VLANID>	<VLANID> is a single-value entry of the VLANID you wish to configure.
pal-set-l2age	Set the value for the L2 age timer.	pal-set-l2age <SECONDS>	
pal-set-linkagg	Configure link aggregation	pal-set-linkagg {enable disable}	
pal-set-motd	Configure CLI message of the day	pal-set-motd <STRING>	
pal-set-port	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.
pal-set-port-counters-clear	Clear port counters.	pal-set-port-counters-clear	
pal-set-port-speed	Set port connection speed	pal-set-port-speed <RANGE> {10 100}	<RANGE> is a single-value entry of the port you wish to configure. This value ranges from 1-48.

Command	Purpose	Usage	Usage Notes
pal-set-powersave	Enable or disable powersave functionality. This will disable down ports 12 hours after boot.	pal-set-powersave {enable disable}	
pal-set-snmp	Set SNMP system values.	pal-set-snmp sysdescr <STRING> pal-set-snmp readcommunity <STRING> pal-set-snmp writecommunity <STRING> pal-set-snmp location <STRING> pal-set-snmp contact <STRING>	<STRING> cannot contain special characters.
pal-set-snmppv3user	Manage SNMPV3 users.	pal-set-snmppv3user create [-ro] [-A authpass] [-X privpass] [-a MD5 SHA] [-x DES AES] <USERNAME> pal-set-snmppv3user delete <STRING>	<USERNAME> cannot contain special characters. Passwords must use BASH style escape sequences for special characters.
pal-set-staticmac	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.
pal-set-port-vlan	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.
pal-set-sys-date	Set the date and time on the switch.	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).

Command	Purpose	Usage	Usage Notes
<code>pal-set-sys-gateway</code>	Set the gateway IP of the switch.	<code>pal-set-sys-gateway {GbE mgmt} <GATEWAY></code>	<GATEWAY> can only be assigned to 1 interface at a time.
<code>pal-set-sys-factorydefault</code>	Factory reset the switch.	<code>pal-set-sys-factorydefault</code>	
<code>pal-set-sys-hardreset</code> <code>pal-set-sys-reboot</code>	Reboot switch	<code>pal-set-sys-hardreset</code> or <code>pal-set-sys-reboot</code>	
<code>pal-set-sys-hostname</code>	Set the hostname of the switch. Note that the following special characters are not supported: <code>&*()</code> .	<code>pal-set-sys-hostname <HOSTNAME></code>	<HOSTNAME> is a single-value entry of the hostname you wish to configure.
<code>pal-set-sys-ip</code>	Set the IP of the switch.	<code>pal-set-sys-ip GbE <IPADDRESS> <NETMASK> <BROADCAST></code> <code>pal-set-sys-ip mgmt <IPADDRESS> <NETMASK> <BROADCAST></code>	<IPADDRESS> , <NETMASK> and <BROADCAST> are all single-value entries for these addresses.
<code>pal-set-sys-jumboframes</code>	Set the maximum size of accepted packets	<code>pal-set-sys-jumboframes <disable 2k 3k 4k></code>	
<code>pal-set-sys-passwd</code>	Change the user password.	<code>pal-set-sys passwd admin <PASSWORD></code>	<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.
<code>pal-set-sys-ping</code>	Send ICMP ECHO_REQUEST packets to network hosts to verify IP-level connectivity.	<code>pal-set-sys-ping <IP HOST></code>	
<code>pal-set-sys-stimeout</code>	Set the console session timeout.	<code>pal-set-sys-stimeout <SECONDS></code>	

Command	Purpose	Usage	Usage Notes
<code>pal-set-sys-time</code>	Set the system time of the switch. The clock is a 24 hour clock.	<code>pal-set-sys-time {HH:MM}</code>	{HH:MM} 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).
<code>pal-set-vlan</code>	Create and delete VLANs on the switch.	<code>pal-set-vlan create <VLANID></code> <code>pal-set-vlan delete <VLANID></code> <code>pal-set-vlan default<VLANID></code> <code>pal-set-vlan clear</code>	<VLANID> is a single-value entry of the VLAN ID you wish to configure.
<code>pal-set-voltage</code>	Set the voltage of the downlink ports.	<code>pal-set-voltage <DECIVOLTS></code>	<DECIVOLTS> must be between 480 and 560. Example: 495 Decivolts is 49.5 Volts.
<code>pal-show-bridged</code>	Display the current bridged mode.	<code>pal-show-bridged</code>	
<code>pal-show-contact</code>	Show the name of the person who is the point of contact for the switch.	<code>pal-show-contact</code>	
<code>pal-show-gigaport</code>	Show uplink port status.	<code>pal-show-gigaport</code>	
<code>pal-show-l2age</code>	Show the value of the L2 age timer in seconds.	<code>pal-show-l2age</code>	
<code>pal-show-l2table</code>	Show the L2 table of the downlink ports	<code>pal-show-l2table</code>	
<code>pal-show-linkagg</code>	Show the current link aggregation settings.	<code>pal-show-linkagg</code>	
<code>pal-show-linkdown</code>	Display port linkdowns.	<code>pal-show-linkdown {<1-48> all}</code>	
<code>pal-show-motd</code>	Display CLI message of the day.	<code>pal-show-motd</code>	

Command	Purpose	Usage	Usage Notes
<code>pal-show-port</code>	Show downlink port status and statistics.	<code>pal-show-port <RANGE></code>	<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.
<code>pal-show-port-bandwidth</code>	Show port bandwidth	<code>pal-show-port-bandwidth {<1-48> all}</code>	Displays Byte counters of ports. If port counters are not displayed, it has not changed since last counter read.
<code>pal-show-port-counters</code>	Show port counters.	<code>pal-show-port-counters <RANGE></code>	<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.
<code>pal-show-port-speed</code>	Show port speed	<code>pal-show-port-speed {<1-48> all}</code>	
<code>pal-show-port-statistics</code>	Show port statistics.	<code>pal-show-port-statistics <RANGE></code>	<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.
<code>pal-show-port-status</code>	Show port status.	<code>pal-show-port-status <RANGE></code>	<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.
<code>pal-show-powersave</code>	Show if powersave is running or not.	<code>pal-show-powersave</code>	
<code>pal-show-psu-capacity</code>	Show the maximum Wattage deliverable from the power supply	<code>pal-show-psu-capacity</code>	

Command	Purpose	Usage	Usage Notes
<code>pal-show-service-status</code>	Show the current state of a specified service (or all services) on the switch.	<code>pal-show-service-status {all telnet http log lldp ntp stp snmp ssh security}</code>	
<code>pal-show-service-startup</code>	Show the state of a specified service (or all services) at start-up.	<code>-show-service-startup {all telnet http lldp ntp stp snmp ssh security}</code>	
<code>pal-show-snmp</code>	Display the set SNMP system values.	<code>pal-show-snmp {sysdescr rdcommunity wrcommunity location contact}</code>	
<code>pal-show-snmpv3user</code>	Displays the configured SNMPV3 users.	<code>pal-show-snmpv3user {users}</code>	
<code>pal-show-staticmac</code>	Show port MAC lock status.	<code>pal-show-staticmac {<1-48> all}</code>	
<code>pal-show-sys-date</code>	Show the system date and time.	<code>pal-show-sys-date</code>	
<code>pal-show-sys-gateway</code>	Get the gateway of the switch and which port it is bound to.	<code>pal-show-sys-gateway</code>	
<code>pal-show-sys-log</code>	Display a detailed system log.	<code>pal-show-sys-log</code>	
<code>pal-show-sys-hostname</code>	Show the hostname of the switch.	<code>pal-show-sys-hostname</code>	
<code>pal-show-sys-ip</code>	Show the IP addressing information from the switch.	<code>pal-show-sys-ip</code>	
<code>pal-show-sys-jumboframes</code>	Show the maximum accepted packets size in bytes.	<code>pal-show-sys-jumboframes</code>	
<code>pal-show-sys-timeout</code>	Show the CLI session timeout in seconds	<code>pal-show-sys-timeout</code>	

Command	Purpose	Usage	Usage Notes
pal-show-sys-temp	Show the temperature of the switch.	pal-show-sys-temp	
pal-show-vlan	Show VLAN port configuration.	pal-show-vlan	
pal-show-vlan-default	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.
pal-show-voltage	Show the downlink voltage in Decivolts.	pal-show-voltage	
pal-version	Show the version of the software on the switch.	pal-version	

Upgrade Procedure

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 <REMOTE_PACKAGE_NAME> pal-pkgremove <LOCAL_PACKAGE_NAME> pal-pkg configure <URI VERSION></pre>	<p><REMOTE_PACKAGE_NAME > is a single-value entry of the remote package name you wish to install, residing on your HTTP or FTP server.</p> <p><LOCAL_PACKAGE_NAME> is a single-value entry of the local package name you wish to remove, residing on your switch.</p> <p><URI VERSION> 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.

Type '**pal-pkg**', this will give you an overview of all the upgrade commands.

Type '**pal-pkg configure ftp://username:password@IPAddress**'

o Example using FTP:

o Example using HTTP:

- **pal-pkg** configure ftp://Phybridge:PoLRE@192.168.1.2'
- **'pal-pkg** configure http://192.168.1.2 PKG'
- Type in **'pal-pkg show_remote'** the switch should return a list of all the packages on your server. Should the switch not connect it will continue to try until you break it out of this behavior using CTRL+C in the terminal window.

Installing the new packages.

- Type **'pal-pkg install_all'**.

Note: When the last package is installed you will be returned to the command prompt.

Verify the upgrade

- Type **'pal-version'** this should read version 3.5.2