



ProSAFE 8-Port and 16-Port Gigabit Click Switch

Model GSS108E and GSS116E
User Manual



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350 East Plumeria Drive
San Jose, CA 95134
USA



ProSAFE 8-Port and 16-Port Gigabit Click Switch

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Hardware Setup

1

The innovative 1-2-3-4 mounting system for the ProSAFE 8-Port and 16-Port Gigabit Click Switches gives you the flexibility to place the switch in locations where other switches cannot go. Whether it's directly on a wall, strapped to a pole, under the meeting table in a conference room, or in a server closet, vertical or horizontal, the Click Switch;s unique mounting system allows you to control exactly how your ports and cables are deployed.

This chapter covers the following topics:

- *Package Contents*
- *8-Port Switch Hardware*
- *16-Port Switch Hardware*
- *Use the 1-2-3-4 Mounting System to Place the Switch*
- *Cable the Devices and Connect Power*
- *Check the Status*
- *Manage Cables*
- *Charge Phones or Tablets—GSS108E Only*

For more information about the topics covered in this manual, visit the support website at <http://support.netgear.com>.

Firmware updates with new features and bug fixes are made available from time to time on downloadcenter.netgear.com. Some products can regularly check the site and download new firmware, or you can check for and download new firmware manually. If the features or behavior of your product does not match what is described in this guide, you might need to update your firmware.

Package Contents

The package includes the items shown in the following illustration. Your switch might look different from the model that is shown.



Note: In the package the cable retention straps are connected. You must separate them before use.

Figure 1. GSS108E Switch package contents

8-Port Switch Hardware

The front panel includes USB ports, Ethernet ports with LEDs, and the power connector.

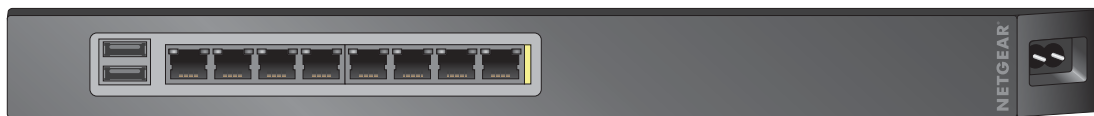


Figure 2. GSS108E Switch front panel

The rear panel includes a **Factory Reset** button.



Figure 3. GSS108 Switch rear panel

16-Port Switch Hardware

The front panel includes Ethernet ports with LEDs and the power connector.



Figure 4. GSS116E Switch front panel

The rear panel includes a **Factory Reset** button.



Figure 5. GSS116E Switch rear panel

Use the 1-2-3-4 Mounting System to Place the Switch

You can place the Click Switch directly on a wall, strapped to a pole, under a table, or in a server closet.

Wall Mount

➤ **To wall-mount the switch:**

1. Peel the plastic cover off the adhesive squares on the rear of the backplate.
The adhesive helps hold the backplate in place when you are mounting the switch.
2. Wall-mount the backplate.

Note: You must screw the backplate into a wall stud.



3. Use either a vertical rear mount or a vertical side mount for the switch.

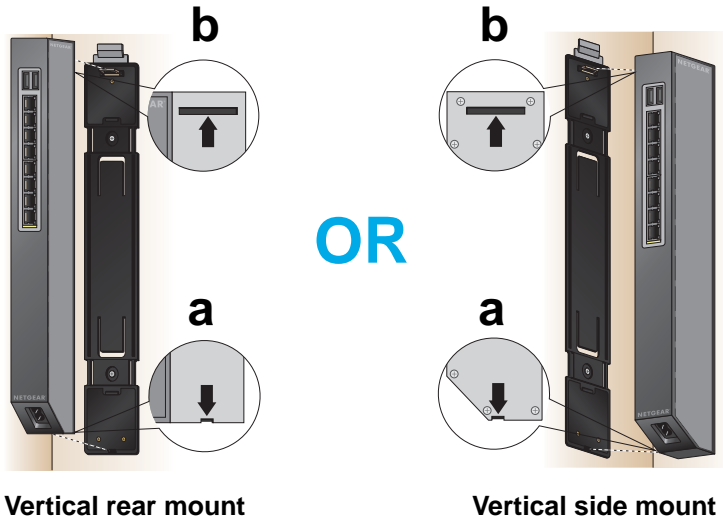
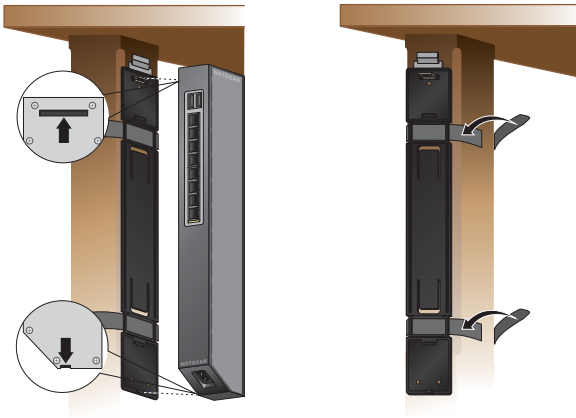


Table Leg Mount

➤ **To table-mount the switch:**

1. Peel the plastic cover off the adhesive squares on the rear of the backplate.
The adhesive helps hold the backplate in place when you are mounting the switch.
2. Mount the backplate on a table leg.
3. Use a horizontal side mount for the switch.



Cable the Devices and Connect Power

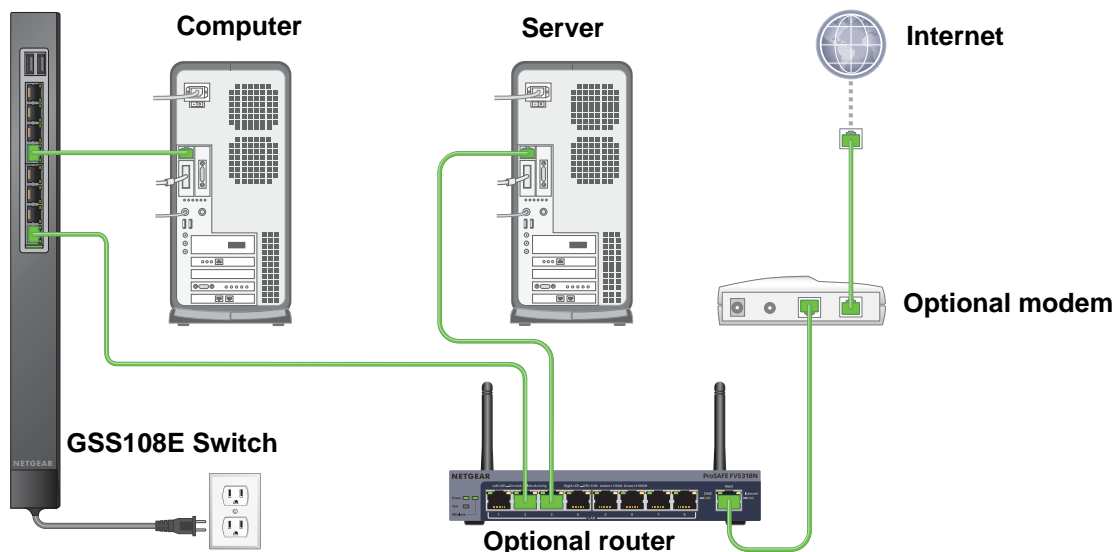


Figure 6. Switch connected to devices and power

Check the Status

Status LEDs are located on the front of the switch. When the switch is powered on, the Power LED lights solid green. The following table describes how the port LEDs work.

Table 1. Port LEDs

Left LED	Right LED	Status
Solid green	Off	1000 Mbps link
Off	Solid green	10/100 Mbps link
Blinking green	Off	1000 Mbps activity
Off	Blinking green	10/100 Mbps activity
Off	Off	No link (off)

Manage Cables

You can strap the cables to the bracket or to the wall.

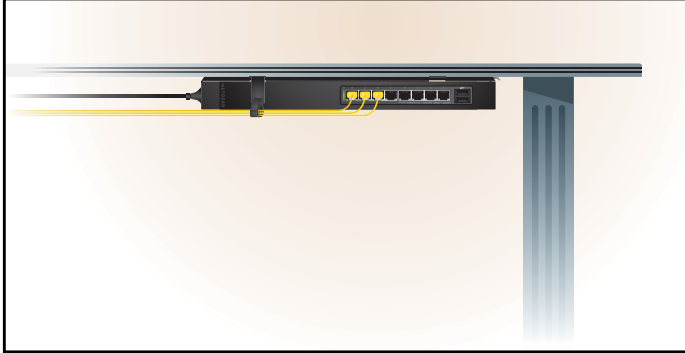


Figure 7. Strap the cables to the bracket

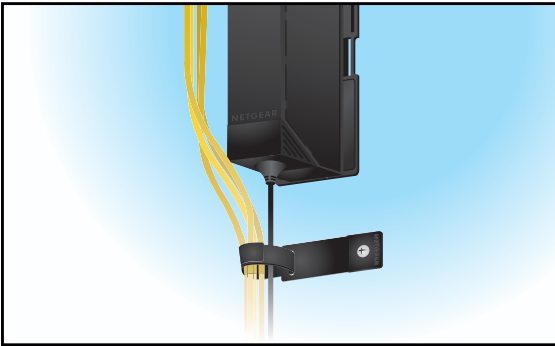


Figure 8. Strap the cables to the wall

Charge Phones or Tablets—GSS108E Only

The GSS108E 8-port switch includes two USB ports for charging phones or tablets.

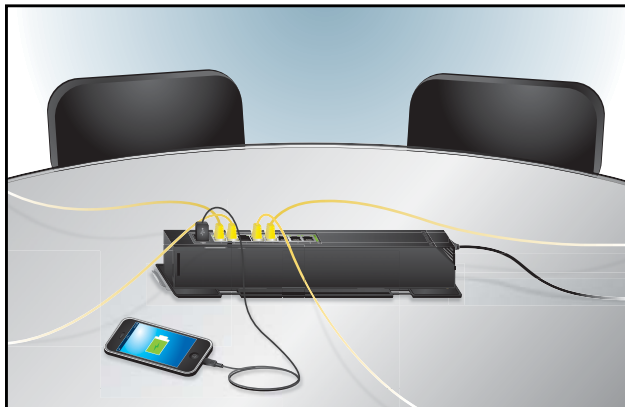


Figure 9. Use the USB ports to charge phones or tablets

➤ **To charge portable electronics:**

1. Make sure that the switch is plugged in and is receiving power.
The Power LED lights solid green.
2. Use a USB cable to connect your phone or tablet to a USB port on the switch.
The phone's or tablet's battery automatically begins charging.

2 Getting Started

2

This chapter covers the following topics:

- *Install the ProSAFE Plus Utility*
- *Access the Switch with the ProSAFE Plus Utility*
- *Access the Switch Using a Web Browser*
- *Change the Password*

Install the ProSAFE Plus Utility

ProSAFE Click switches are plug and play and offer the same features as ProSAFE Plus switches. You can install a configuration utility to select additional options to manage and customize the switch for your network. This utility is on the resource CD that was shipped with the switch.

The configuration utility is installed on your computer and is supported only on Windows.

➤ **To install the configuration utility:**

1. Insert the NETGEAR resource CD into a computer that is connected to the switch.

The Resource CD screen displays.

2. Click the **Install ProSAFE Plus Utility** link and follow the prompts to install the program.

The switch configuration utility is installed in the program directory of your computer and a ProSAFE Plus Utility icon is placed on your desktop.

Note: You can also access and configure the switch directly through its web-based user interface by entering the switch's IP address in the address bar of a browser. The switch uses its default IP address of 192.168.0.239 if a DHCP server does not assign an IP address to the switch.

Access the Switch with the ProSAFE Plus Utility

For easiest access, NETGEAR recommends that you cable the switch to a network with a router or DHCP server that assigns IP addresses, power on the switch, and then use a computer that is connected to the same network as the switch.

Note: You can also access and configure the switch directly through its web-based user interface by entering the switch's IP address in the address bar of a browser. The switch uses its default IP address of 192.168.0.239 if a DHCP server does not assign an IP address to the switch.

➤ **To access the switch:**

1. Cable the switch to a network with a router or DHCP server that manages IP address.
2. Power on the switch.

The DHCP server assigns the switch an IP address.

3. Connect your computer to the same network as the switch.
You can use a WiFi or wired connection.
4. Double-click the **ProSAFE Plus Utility** icon.
The configuration home screen displays a list of Plus switches that it discovers on the local network.
5. Select a switch.
If you do not see the switch, click the **REFRESH** button.
6. Click the **APPLY** button.
You are asked to enter the password for the switch.
7. Enter the switch's password in the **password** field.
The switch's default password is **password**.
The Switch Information screen displays.

Access the Switch Using a Web Browser

You can access and configure the switch directly through its web-based user interface by entering the switch's IP address in the address bar of a browser. The default IP address of the switch is 192.168.0.239. If you connect the switch to a network with a DHCP server, the DHCP server assigns a different IP address to the switch.

➤ To access the switch using a web browser:

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.
The switch's default password is **password**.
The Switch Information screen displays.

Change the Password

The default password to access the switch is password. NETGEAR recommends that you change this password to a more secure password. The ideal password contains no dictionary words from any language and contains uppercase and lowercase letters, numbers, and symbols. It can be up to 20 characters.

Use the ProSAFE Utility to Change the Password

➤ **To change the password:**

1. Connect your computer to the same network as the switch.
You can use a WiFi or wired connection.
2. Double-click the **ProSAFE Plus Utility** icon.
The configuration home screen displays a list of Plus switches that it discovers on the local network.
3. Select a switch.
If you do not see the switch, click the **REFRESH** button.
4. Click the **APPLY** button.
You are asked to enter the password for the switch.
5. Enter the switch's password in the **password** field.
The switch's default password is **password**.
The Switch Status screen displays.
6. Select **Maintenance > Change Password**.
The Change Password screen displays.
7. In the **Old Password** field, type the current password for the switch.
8. Type the new password in the **New Password** field and in the **Re-type New Password** field.
9. Click the **APPLY** button.
Your settings are saved. Save the new password in a secure location so that you can access the switch in the future.

Use Browser-Based Access to Change the Password

➤ **To change the password:**

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.

3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.
You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.
You are asked to enter the password for the switch.
5. Enter the switch's password in the **password** field.
The switch's default password is **password**.
The Switch Information screen displays.
6. Select **Maintenance > Change Password**.
The Change Password screen displays.
7. In the **Old Password** field, type the current password for the switch.
8. Type the new password in the **New Password** field and in the **Re-type New Password** field.
9. Click the **Apply** button.
Your settings are saved. Save the new password in a secure location so that you can access the switch in the future.

3. Network Settings

3

This chapter covers the following topics:

- *Specify IP Address Settings for the Switch*
- *Manage Multicast Traffic with IGMP Snooping*
- *Set Up Link Aggregation Groups*

Specify IP Address Settings for the Switch

By default, the switch IP address works as follows:

- If you cable the switch to a network with a DHCP server before you power on the switch, the DHCP server assigns an IP address to the switch when the switch is powered on.
- If you power on the switch when it is not connected to a network with a DHCP server, the switch uses its default IP address, which is 192.168.0.239.

You can disable the DHCP mode feature in the switch and enter IP address and subnet mask values for the switch as well as the address of the gateway device used by the switch.

Use the ProSAFE Utility to Specify the Switch IP Address

➤ To specify IP address settings for the switch:

1. Connect your computer to the same network as the switch.
You can use a WiFi or wired connection.

2. Double-click the **ProSAFE Plus Utility** icon.

The configuration home screen displays a list of Plus switches that it discovers on the local network.

3. Select a switch.

If you do not see the switch, click the **REFRESH** button.

4. Click the **IP SETTING** button.

The screenshot shows the 'IP Setting' utility window for a GSS108E switch. The window contains the following information and controls:

- Product Name: GSS108E
- Switch Name: (empty)
- MAC Address: 6C:B0:CE:2D:C6:91
- Firmware Version: V0.0.0.5
- DHCP Mode: Enable (dropdown menu)
- Refresh: (checkbox)
- IP Address: 192.168.1.76 (text input)
- Subnet Mask: 255.255.255.0 (text input)
- Gateway Address: 192.168.1.254 (text input)
- * Password: (password input)
- Buttons: CANCEL, APPLY

5. In the **DHCP Mode** menu, select **Disable**.

The **IP Address**, **Subnet Mask**, and **Gateway Address** fields are enabled.

6. Enter the IP address, subnet mask, and if available, the gateway address.
7. Click the **APPLY** button.

Your settings are saved.

Use Browser-Based Access to Specify the Switch IP Address

➤ To specify IP address settings for the switch:

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

Switch Information	
Product Name	GSS116E
Switch Name	<input type="text"/>
MAC Address	6C:B0:CE:2C:1A:76
Firmware Version	0.00.00.06
DHCP Mode	Enable <input type="checkbox"/> Refresh
IP Address	192.168.0.239
Subnet Mask	255.255.255.0
Gateway Address	192.168.0.254

6. In the **DHCP Mode** menu, select **Disable**.
The **IP Address**, **Subnet Mask**, and **Gateway Address** fields are enabled.
7. Enter the IP address, subnet mask, and if available, the gateway address.
8. Click the **Apply** button.
Your settings are saved.

Manage Multicast Traffic with IGMP Snooping

Internet Group Management Protocol (IGMP) snooping allows a switch to forward multicast traffic intelligently on the switch. Multicast IP traffic is traffic that is destined to a host group. Host groups are identified by class D IP addresses, which range from 224.0.0.0 to 239.255.255.255. Based on the IGMP query and report messages, the switch forwards traffic only to the ports that request the multicast traffic. This feature prevents the switch from broadcasting the traffic to all ports and possibly affecting network performance.

The switch maintains a map that shows which links need which IP multicast streams. The switch forwards multicast traffic only to the links that requested them and cuts multicast traffic

from links that do not contain a multicast listener. Essentially, IGMP snooping helps optimize multicast performance at Layer 2 and is especially useful for bandwidth-intensive IP multicast applications such as IPTV.

Use the ProSAFE Plus Utility to Customize IGMP Snooping

By default, IGMP snooping is enabled. You can customize the settings for your network.

➤ To customize IGMP snooping:

1. Connect your computer to the same network as the switch.

You can use a WiFi or wired connection.

2. Double-click the **ProSAFE Plus Utility** icon.

The configuration home screen displays a list of Plus switches that it discovers on the local network.

3. Select a switch.

If you do not see the switch, click the **REFRESH** button.

4. Click the **APPLY** button.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Status screen displays.

6. Select **System > Multicast**.

7. Select the IGMP Snooping Status **Enable** radio button.
8. (Optional) Select the Validate IGMPv3 IP header **Enable** radio button.

Some network devices might not conform to the IGMPv3 standard. When the Validate IGMPv3 IP header option is enabled, IGMP messages are required to include TTL = 1, ToS Byte = 0xC0 (Internetwork Control), and the router alert IP option (9404) must be set; otherwise, the packets are ignored.

9. (Optional) Select the Block Unknown MultiCast Address **Enable** radio button.

When this feature is enabled, multicast packets are forwarded only to the ports that are in the multicast group learned from IGMP snooping. All unknown multicast packets are dropped.

10. (Optional) Select any item in the **IGMP Snooping Static Router Port** menu.

You can select a port to be the dedicated IGMP snooping static router port if no IGMP query exists in the network for the switch to discover the router port dynamically. After a port is selected as the static router port, all IGMP Join and Leave reports are forwarded to it. Only some switch models support the any setting in this field.

11. Click the **APPLY** button.

Your settings are saved.

Use Browser-Based Access to Customize IGMP Snooping

By default, IGMP snooping is enabled. You can customize the settings for your network.

➤ To customize IGMP snooping:

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **System > Multicast**.

7. Select the IGMP Snooping Status **Enable** radio button.
8. (Optional) Select the Validate IGMPv3 IP header **Enable** radio button.

Some network devices might not conform to the IGMPv3 standard. When the Validate IGMPv3 IP header option is enabled, IGMP messages are required to include TTL = 1, ToS Byte = 0xC0 (Internet Control), and the router alert IP option (9404) must be set; otherwise, the packets are ignored.

9. (Optional) Select the Block Unknown MultiCast Address **Enable** radio button.

When this feature is enabled, multicast packets are forwarded only to the ports that are in the multicast group learned from IGMP snooping. All unknown multicast packets are dropped.

10. (Optional) Select any item in the **IGMP Snooping Static Router Port** menu.

You can select a port to be the dedicated IGMP snooping static router port if no IGMP query exists in the network for the switch to discover the router port dynamically. After a port is selected as the static router port, all IGMP Join and Leave reports are forwarded to it. Only some switch models support any setting in this field.

11. Click the **Apply** button.

Your settings are saved.

Use the ProSAFE Utility to Specify a VLAN for IGMP Snooping

➤ To specify a VLAN for IGMP snooping:

1. Connect your computer to the same network as the switch.

You can use a WiFi or wired connection.

2. Double-click the **ProSAFE Plus Utility** icon.

The configuration home screen displays a list of Plus switches that it discovers on the local network.

3. Select a switch.

If you do not see the switch, click the **REFRESH** button.

4. Click the **APPLY** button.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Status screen displays.

6. Select **System > Multicast**.

7. Make sure that the IGMP Snooping Status **Enable** radio button is selected.
8. In the **VLAN ID Enabled for IGMP Snooping** field, type the name of the VLAN.
9. Click the **APPLY** button.

Your settings are saved.

Use Browser-Based Access to Specify a VLAN for IGMP Snooping

➤ **To specify a VLAN for IGMP snooping:**

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **System > Multicast**.

7. Make sure that the IGMP Snooping Status **Enable** radio button is selected.
8. In the **VLAN ID Enabled for IGMP Snooping** field, type the name of the VLAN.
9. Click the **Apply** button.

Your settings are saved.

Set Up Link Aggregation Groups

Link aggregation groups (LAGs) allow you to combine multiple Ethernet links to a single logical link. Network devices treat the aggregation as if it were a single link, which increases fault tolerance and load sharing. Configure LAG membership before you enable the LAG.

Note: LAGs are supported in switch model GSS116E, but they are not supported in switch model GSS108E.

Use the ProSAFE Utility to Enable LAGs

You must set up LAG membership before you enable LAG.s

➤ **To enable LAGs:**

1. Connect your computer to the same network as the switch.

You can use a WiFi or wired connection.

2. Double-click the **ProSAFE Plus Utility** icon.

The configuration home screen displays a list of Plus switches that it discovers on the local network.

3. Select a switch.

If you do not see the switch, click the **REFRESH** button.

4. Click the **APPLY** button.

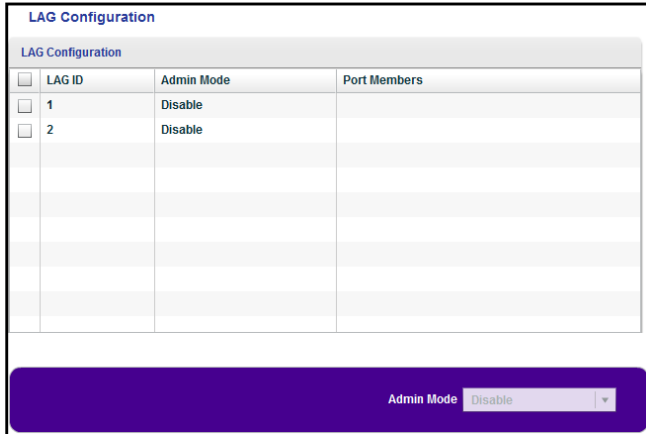
You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Status screen displays.

6. Select **System > LAG**.



7. In the **Admin Mode** list, select **Enable**.

8. Click the **APPLY** button.

Your settings are saved.

Use Browser-Based Access to Enable LAGs

➤ **To enable LAGs:**

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

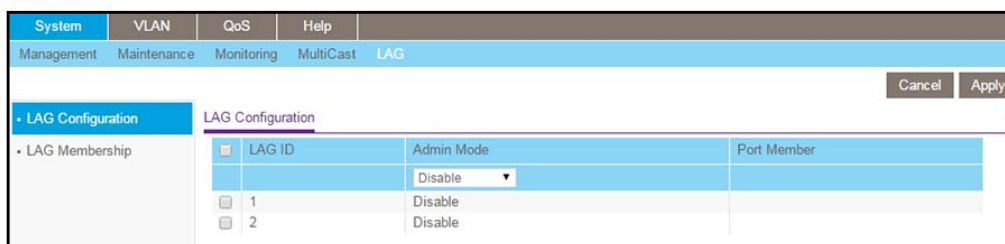
You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **System > LAG > LAG Configuration**.



7. Select the **LAG ID** check box.
8. In the **LAG ID** menu, select **Enable**.
9. Select check box **1**.
10. Enter the port numbers for LAG 1.
11. Click the **Apply** button.

Your settings are saved.

12. Select check box **2**.
13. Enter the port numbers for LAG 2.
14. Click the **Apply** button.

Your settings are saved.

Use the ProSAFE Utility to Specify LAG Membership

➤ To specify LAG membership:

1. Connect your computer to the same network as the switch.

You can use a WiFi or wired connection.

2. Double-click the **ProSAFE Plus Utility** icon.

The configuration home screen displays a list of Plus switches that it discovers on the local network.

3. Select a switch.

If you do not see the switch, click the **REFRESH** button.

4. Click the **APPLY** button.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Status screen displays.

6. Select **System > LAG > LAG Membership**.

LAG ID	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. In the **LAG ID** menu, select **1**.
8. Select the check box beneath each port for LAG ID 1.
9. Click the **APPLY** button.

Your settings are saved.

10. In the **LAG ID** menu, select **2**.
11. Select the check box beneath each port for LAG ID 2.
12. Click the **APPLY** button.

Your settings are saved.

Use Browser-Based Access to Specify LAG Membership

➤ To specify LAG membership:

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

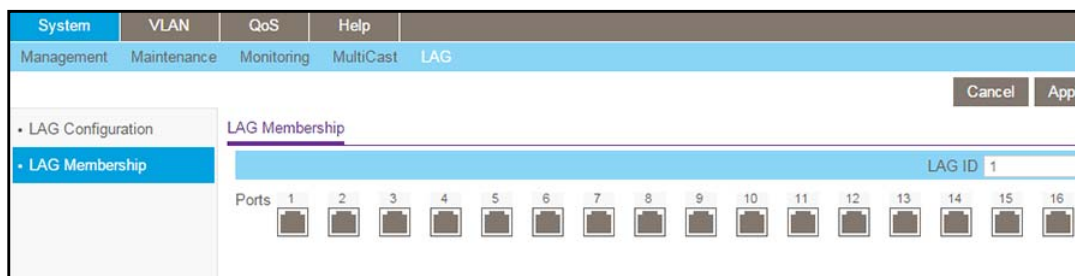
You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **System > LAG > LAG Membership**.



7. In the **LAG ID** menu, select the LAG ID.
8. Select the ports for the LAG.
9. Click the **Apply** button.

Your settings are saved.

4

4. Optimize Performance with Quality of Service

This chapter covers the following topics:

- *Enable 802.1p-Based Quality of Service*
- *Enable Port-Based Quality of Service*
- *Set Up Rate Limiting*
- *Set Up Broadcast Filtering*

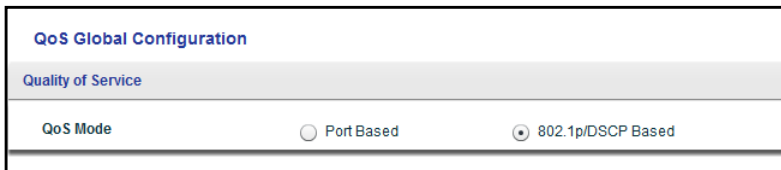
Enable 802.1p-Based Quality of Service

802.1p-based priority uses a header in the data packet that identifies the class of data in the packet (for example, voice or video). When 802.1p-based priority is used, the switch reads information in the packet header to determine the priority to assign to the packet. All ports on the switch check the packet header and transmit the packet with a priority determined by the packet content.

Use the ProSAFE Utility to Enable 802.1p-Based QoS

➤ **To enable 802.1p-based QoS:**

1. Connect your computer to the same network as the switch.
You can use a WiFi or wired connection.
2. Double-click the **ProSAFE Plus Utility** icon.
The configuration home screen displays a list of Plus switches that it discovers on the local network.
3. Select a switch.
If you do not see the switch, click the **REFRESH** button.
4. Click the **APPLY** button.
You are asked to enter the password for the switch.
5. Enter the switch's password in the **password** field.
The switch's default password is **password**.
The Switch Status screen displays.
6. Select **QoS > 802.1p Based**.



7. Select the **Enable** radio button.
A message displays warning you that previous QoS settings for the switch will be lost.
8. Click the **Yes** button.
9. Click the **APPLY** button.
Your settings are saved. Data is now processed based on 802.1p priority tags in the data.

Use Browser-Based Access to Enable 802.1p-Based QoS

This feature is enabled by default.

➤ To disable or enable 802.1p-based QoS:

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **QoS**.



7. Select or clear the **802.1p/DSCP Based** radio button.
8. Click the **Apply** button.

Your settings are saved.

Enable Port-Based Quality of Service

You can assign a priority to all data passing through a particular port. A higher priority transmits data faster. If packets arrive at several ports at the same time, the ports configured as higher priority transmit their packets first. You must determine which ports will carry delay-sensitive data.

Use the ProSAFE Utility to Enable Port-Based QoS

➤ **To enable port-based QoS:**

1. Connect your computer to the same network as the switch.
You can use a WiFi or wired connection.
2. Double-click the **ProSAFE Plus Utility** icon.
The configuration home screen displays a list of Plus switches that it discovers on the local network.
3. Select a switch.
If you do not see the switch, click the **REFRESH** button.
4. Click the **APPLY** button.
You are asked to enter the password for the switch.
5. Enter the switch's password in the **password** field.
The switch's default password is **password**.
The Switch Status screen displays.
6. Select **QoS**.
The QoS Global Configuration screen displays.
7. Select the QoS Mode **Port Based** radio button.
The screen adjusts.
8. Complete the fields to select ports and assign their priority.
9. Click the **APPLY** button.
Your settings are saved.

Use Browser-Based Access to Enable Port-Based QoS

➤ **To enable port-based QoS:**

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.
You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.
You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **QoS**.
7. The QoS Global Configuration screen displays.
8. Select the **Port Based** radio button.
9. Click the **Apply** button.

Your settings are saved.

Set Up Rate Limiting

You can limit the rate at which the switch accepts incoming data and the rate that it retransmits outgoing data. The rate choices vary depending on the switch model.

Rate limiting can be set for a port in addition to other QoS settings. If the port rate limit is set, the switch restricts the acceptance or retransmission of data to the values configured.

Use the ProSAFE Utility to Set Up Rate Limiting

➤ To set up rate limiting:

1. Connect your computer to the same network as the switch.

You can use a WiFi or wired connection.

2. Double-click the **ProSAFE Plus Utility** icon.

The configuration home screen displays a list of Plus switches that it discovers on the local network.

3. Select a switch.

If you do not see the switch, click the **REFRESH** button.

4. Click the **APPLY** button.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Status screen displays.

6. Select **QoS > Rate Limit**.

<input type="checkbox"/> Port	Ingress Rate	Egress Rate
<input type="checkbox"/> 01	No Limit	No Limit
<input type="checkbox"/> 02	No Limit	No Limit
<input type="checkbox"/> 03	No Limit	No Limit
<input type="checkbox"/> 04	No Limit	No Limit
<input type="checkbox"/> 05	No Limit	No Limit
<input type="checkbox"/> 06	No Limit	No Limit
<input type="checkbox"/> 07	No Limit	No Limit
<input type="checkbox"/> 08	No Limit	No Limit

Ingress Rate: No Limit
Egress Rate: No Limit

7. Select one or more ports.
8. In the **Ingress Rate** menu, select the maximum rate.
9. In the **Egress Rate** menu, select the maximum rate.
10. Click the **APPLY** button.

Your settings are saved.

Use Browser-Based Access to Set Up Rate Limiting

➤ **To set up rate limiting:**

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **QoS > Rate Limit**.

Port	Ingress Rate	Egress Rate
1	No Limit	No Limit
2	No Limit	No Limit
3	No Limit	No Limit
4	No Limit	No Limit
5	No Limit	No Limit
6	No Limit	No Limit
7	No Limit	No Limit
8	No Limit	No Limit
9	No Limit	No Limit
10	No Limit	No Limit
11	No Limit	No Limit
12	No Limit	No Limit
13	No Limit	No Limit
14	No Limit	No Limit
15	No Limit	No Limit
16	No Limit	No Limit

7. Select one or more ports.
8. In the **Ingress Rate** menu, select the maximum rate.
In the **Egress Rate** menu, select the maximum rate.
9. Click the **Apply** button.
Your settings are saved.

Set Up Broadcast Filtering

You can configure the switch to block broadcast storm protection (massive transmission of broadcast packets forwarded to every port on the same VLAN). If they are not blocked, broadcast storm packets can delay or halt the transmission of other data. Some switches allow you to select a storm control rate for each port; others assign a predetermined storm control rate for all ports on the switch.

Use the ProSAFE Utility to Set Up Broadcast Filtering

- **To set up broadcast filtering:**
 1. Connect your computer to the same network as the switch.
You can use a WiFi or wired connection.
 2. Double-click the **ProSAFE Plus Utility** icon.
The configuration home screen displays a list of Plus switches that it discovers on the local network.
 3. Select a switch.
If you do not see the switch, click the **REFRESH** button.
 4. Click the **APPLY** button.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Status screen displays.

6. Select **QoS > Broadcast Filtering**.

The Broadcast Filtering screen displays.

7. Select the **Enable** radio button.

If the selected switch supports configuring individual ports, a Storm Control Rate screen displays. If the selected switch does not support individual port configuration, all the ports are set to a predetermined storm control rate.

8. If the ports can be configured, complete the fields to specify the rate.

9. Click the **APPLY** button.

Your settings are saved.

Use Browser-Based Access to Set Up Broadcast Filtering

➤ To set up broadcast filtering:

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **QoS > Broadcast Filtering**.

The Broadcast Filtering screen displays.

7. Select the **Enable** radio button:

Broadcast Filtering

Broadcast Filtering Disable Enable

Storm control rate

Port	Storm control rate
1	No Limit
2	No Limit
3	No Limit
4	No Limit
5	No Limit
6	No Limit
7	No Limit
8	No Limit
9	No Limit
10	No Limit
11	No Limit
12	No Limit
13	No Limit
14	No Limit
15	No Limit
16	No Limit

If the switch supports configuring individual ports, a Storm Control Rate screen displays. If the selected switch does not support individual port configuration, all the ports are set to a predetermined storm control rate.

8. If the ports can be configured, complete the fields to specify the rate.
9. Click the **Apply** button.

Your settings are saved.

5 Use VLANs for Traffic Segmentation

This chapter covers the following topics:

- *VLAN Overview*
- *Create a Basic Port-Based VLAN*
- *Assign Ports to Multiple VLAN Groups*
- *Create a Basic 802.1Q-Based VLAN*
- *Add Advanced 802.1Q VLAN Groups*
- *Specify a Port PVID for an 802.1Q VLAN*
- *Set Up Port Tagging*

VLAN Overview

Virtual LANs (VLANs) are made up of networked devices that are grouped logically into separate networks. You can group ports on a switch to create a virtual network made up of the devices connected to the ports. VLANs can be grouped using port-based or 802.1Q criteria.

The VLAN tab includes the following options:

- **Port Based.** Assign ports to virtual networks. Data from a port that is a member of a VLAN group is restricted to other members of that VLAN group. This feature provides an easy way to partition a network into private subnetworks.
- **802.1Q.** Create virtual networks using 802.1Q criteria. You configure ports to be a part of a VLAN group. When a port receives data tagged for a VLAN group, the data is discarded unless the port is a member of the VLAN group. This technique is useful for communicating with devices outside of your local network as well as allowing you to receive data from other ports not in your VLAN group. You must know the VLAN group IDs used.

Create a Basic Port-Based VLAN

Port-based VLAN configuration assigns ports on the selected switch to a virtual LAN group. The number of VLANs that can be created is limited to the number of ports on the switch. In a basic port-based VLAN, ports with the same ID are grouped into the same VLAN group.

You can also assign ports to multiple VLAN groups (see [Assign Ports to Multiple VLAN Groups](#) on page 41).

Use the ProSAFE Utility to Create a Basic Port-Based VLAN

➤ To create a basic port-based VLAN:

1. Connect your computer to the same network as the switch.

You can use a WiFi or wired connection.

2. Double-click the **ProSAFE Plus Utility** icon.

The configuration home screen displays a list of Plus switches that it discovers on the local network.

3. Select a switch.

If you do not see the switch, click the **REFRESH** button.

4. Click the **APPLY** button.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Status screen displays.

6. Select **VLAN**.

The Basic Port-Based VLAN screen displays.

7. Select the **Enable** radio button.

A message displays asking if you want to delete previous VLAN settings.

8. Click the **Yes** button.

9. For each port to be added to the group, enter the ID of the VLAN group.

If all the VLAN groups share an uplink to the Internet or servers, enter all in the **VLAN Group** field for the port that you want to use for the uplink.

10. Click the **APPLY** button.

Your settings are saved.

11. To create more VLANs, repeat these steps with another VLAN ID.

Use Browser-Based Access to Create a Basic Port-Based VLAN

➤ **To create a basic port-based VLAN:**

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **VLAN**.

The Basic Port-based VLAN Status screen displays.

7. Select the **Enable** radio button.

Basic Port-based VLAN Status

Basic Port-based VLAN Status Disable Enable

Basic Port-based VLAN Group(1-16 or all)

port	1	2	3	4	5	6	7	8
VLAN ID	1	1	1	1	1	1	1	1

port	9	10	11	12	13	14	15	16
VLAN ID	1	1	1	1	1	1	1	1

A message displays asking if you want to delete previous VLAN settings.

8. Click the **Yes** button.
9. For each port to be added to the group, enter the ID of the VLAN group.
If all the VLAN groups share an uplink to the Internet or servers, enter all in the **VLAN Group** field for the port that you want to use for the uplink.
10. Click the **Apply** button.
Your settings are saved.
11. To create more VLANs, repeat these steps with another VLAN ID.

Assign Ports to Multiple VLAN Groups

Port-based virtual LAN configuration assigns ports on the selected switch to a virtual LAN group. The number of VLANs that can be created is limited to the number of ports on the switch.

You can also create a basic port-based VLAN in which ports with the same ID are grouped into the same VLAN group (see [Create a Basic Port-Based VLAN](#) on page 39).

Use the ProSAFE Utility to Assign Ports to Multiple VLAN Groups

- **To assign ports to multiple VLAN groups in a port-based VLAN:**
 1. Connect your computer to the same network as the switch.
You can use a WiFi or wired connection.
 2. Double-click the **ProSAFE Plus Utility** icon.
The configuration home screen displays a list of Plus switches that it discovers on the local network.
 3. Select a switch.

If you do not see the switch, click the **REFRESH** button.

4. Click the **APPLY** button.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Status screen displays.

6. Select **VLAN > Port Based > Advanced**.

The Advanced Port-Based VLAN screen displays.

7. Select the **Enable** radio button.

A message displays asking if you want to delete the previous VLAN settings.

8. Click the **Yes** button.

The Advanced Port-Based VLAN Configuration screen displays.

9. Select a VLAN ID from the **VLAN identifier** menu and select the ports that you want to add to the VLAN.

10. Click the **APPLY** button.

Your settings are saved.

To create more VLANs, repeat these steps with another VLAN ID.

Use Browser-Based Access to Assign Ports to Multiple VLAN Groups

➤ To assign ports to multiple VLAN groups in a port-based VLAN:

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **VLAN > Port Based > Advanced**.

The Advanced Port-based VLAN Status screen displays.

7. Select the **Enable** radio button.

A message displays asking if you want to delete previous VLAN settings.

8. Click the **Yes** button.

The screenshot shows the 'Advanced Port-based VLAN Status' configuration window. At the top right are 'Cancel' and 'Apply' buttons. The main title is 'Advanced Port-based VLAN Status'. Below the title, there are two radio buttons: 'Disable' (unselected) and 'Enable' (selected). The next section is 'VLAN Configuration', which includes a 'VLAN Identifier' dropdown menu set to '1' and a 'Group Operation' dropdown menu. Below this is a 'Ports' section with 16 checkboxes, all of which are checked. The final section is 'VLAN Membership', which contains a table with two columns: 'VLAN ID' and 'Port Members'. The table shows '1' in the 'VLAN ID' column and '1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16' in the 'Port Members' column.

9. In the **VLAN identifier** menu, select a VLAN.
10. Select the ports that you want to add to the VLAN.
11. Click the **Apply** button.

Your settings are saved.

Create a Basic 802.1Q-Based VLAN

You configure ports to a VLAN group ID (1–4093 or all). The advanced configuration feature allows you to create and update VLAN groups with more information (see [Add Advanced 802.1Q VLAN Groups](#) on page 45).

Use the ProSAFE Utility to Create a Basic 802.1Q-Based VLAN

➤ To create a basic 802.1Q-based VLAN:

1. Connect your computer to the same network as the switch.

You can use a WiFi or wired connection.

2. Double-click the **ProSAFE Plus Utility** icon.

The configuration home screen displays a list of Plus switches that it discovers on the local network.

3. Select a switch.

If you do not see the switch, click the **REFRESH** button.

4. Click the **APPLY** button.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.
The switch's default password is **password**.
The Switch Status screen displays.
6. Select **VLAN > 802.1Q**.
The Basic 802.1Q VLAN screen displays.
7. Select the **Enable** radio button.
A message displays asking if you want to delete the previous VLAN settings.
8. Click the **Yes** button.
The switch ports display.
9. For each port to be configured, enter the VLAN group ID (1–4093 or all) in the field below the port.
10. Click the **APPLY** button.
Your settings are saved.

Use Browser-Based Access to Create a Basic 802.1Q-Based VLAN

➤ **To create a basic 802.1Q-based VLAN:**

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

You are asked to enter the password for the switch.
5. Enter the switch's password in the **password** field.
The switch's default password is **password**.
The Switch Information screen displays.
6. Select **VLAN > 802.1Q**.
The Basic 802.1Q VLAN screen displays.
7. Select the **Enable** radio button.
A message displays asking if you want to delete the previous VLAN settings.
8. Click the **Yes** button.

9. For each port to be configured, enter the VLAN group ID (1–409344 or all).
10. Click the **Apply** button.

Your settings are saved.

Add Advanced 802.1Q VLAN Groups

You configure ports to a VLAN group ID (1–4093 or all). The advanced configuration feature allows you to create and update VLAN groups with more information.

Use the ProSAFE Plus Utility to Add Advanced 802.1Q VLAN Groups

➤ **To add advanced 802.1Q VLAN groups:**

1. Connect your computer to the same network as the switch.
You can use a WiFi or wired connection.
2. Double-click the **ProSAFE Plus Utility** icon.
The configuration home screen displays a list of Plus switches that it discovers on the local network.
3. Select a switch.
If you do not see the switch, click the **REFRESH** button.
4. Click the **APPLY** button.
You are asked to enter the password for the switch.
5. Enter the switch's password in the **password** field.
The switch's default password is **password**.
The Switch Status screen displays.
6. Select **VLAN > 802.1Q > Advanced**.
The Advanced 802.1Q VLAN screen displays a list of the currently defined VLANs and the ports assigned to each.
7. In the **VLAN ID** field, enter the VLAN ID (1-4093) for the VLAN you want to configure and click the **Add** button. The new VLAN group is displayed in the VLAN ID column.
8. Use VLAN membership to add ports to the group.

Note: To delete a VLAN group, select the check boxes for the VLAN and click the **Delete** button.

Use Browser-Based Access to Add Advanced 802.1Q VLAN Groups

➤ **To add advanced 802.1Q VLAN groups:**

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **VLAN > 802.1Q > Advanced > VLAN Configuration**.

The VLAN Configuration screen displays a list of the currently defined VLANs and the ports assigned to each.

7. In the **VLAN ID** field, enter the VLAN ID (1-4093).
8. Click the **Add** button.

The new VLAN group is displayed in the VLAN ID column.

After you create a new VLAN ID, use VLAN Membership to add ports to the group. (Select **VLAN > 802.1Q > Advanced > VLAN Membership**.)

Note: To delete a VLAN group, select the check boxes for the VLAN and click the **Delete** button.

Use the ProSAFE Plus Utility to Add Ports to an Advanced 802.1Q VLAN Group

➤ **To add ports to a VLAN group:**

1. Connect your computer to the same network as the switch.
You can use a WiFi or wired connection.
2. Double-click the **ProSAFE Plus Utility** icon.

The configuration home screen displays a list of Plus switches that it discovers on the local network.

3. Select a switch.

If you do not see the switch, click the **REFRESH** button.

4. Click the **APPLY** button.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Status screen displays.

6. Select **VLAN > 802.1Q > Advanced**.

7. Select **VLAN Membership**.

The VLAN Membership screen displays.

8. In the **VLAN Identifier** menu, select a VLAN group.

9. Select the check boxes for the ports you want to add to the VLAN group.

You can use the group operation commands to add all ports or clear the current selections.

10. Click the **APPLY** button.

Your settings are saved.

11. To verify your selections, select **VLAN > Advanced**.

The Advanced 802.1Q VLAN screen displays.

Use Browser-Based Access to Add Ports to an Advanced 802.1Q VLAN Group

➤ To add ports to an advanced 802.1Q VLAN group:

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

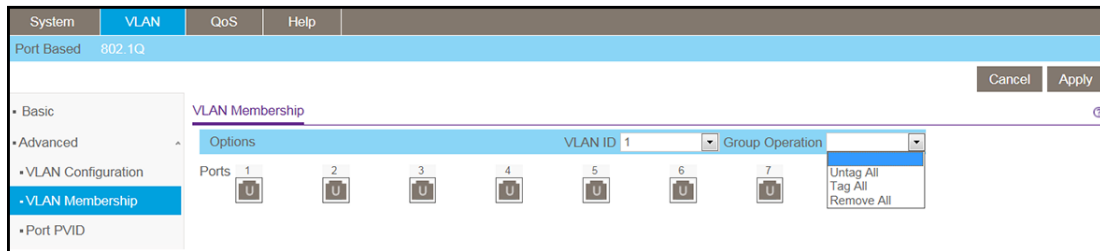
You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **VLAN > 802.1Q > VLAN Membership**.



7. In the **VLAN ID** menu, select a VLAN group.
8. Select the check boxes for the ports you want to add to the VLAN group.

You can use the group operation commands to add all ports or clear the current selections.

9. Click the **Apply** button.

Your settings are saved.

10. To verify your selections, select **VLAN > 802.1Q > Advanced**.

The Advanced 802.1Q VLAN screen displays.

Specify a Port PVID for an 802.1Q VLAN

A port default VLAN ID (PVID) is a VLAN ID tag that the switch assigns to data packets it receives that are not already addressed (tagged) for a particular VLAN group. If you connected a computer on port 6 and you want it to be a part of VLAN group 2, configure port 6 to automatically add a PVID of 2 to all data received from the computer. This step ensures that the data from the computer on port 6 can be seen only by other members of VLAN group 2.

You can assign only one PVID to a port.

Use the ProSAFE Plus Utility to Assign a PVID to a Port

- **To assign a PVID to a port:**

1. Connect your computer to the same network as the switch.

You can use a WiFi or wired connection.

2. Double-click the **ProSAFE Plus Utility** icon.

The configuration home screen displays a list of Plus switches that it discovers on the local network.

3. Select a switch.

If you do not see the switch, click the **REFRESH** button.

4. Click the **APPLY** button.
You are asked to enter the password for the switch.
5. Enter the switch's password in the **password** field.
The switch's default password is **password**.
The Switch Status screen displays.
6. Select **VLAN > 802.1Q > Advanced > PVID**.
The Port PVID screen displays.
7. Select a port.
8. Enter the PVID.
9. Click the **APPLY** button.
Your settings are saved.

Use Browser-Based Access to Assign a PVID to a Port

➤ To assign a PVID to a port:

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.
You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.
You are asked to enter the password for the switch.
5. Enter the switch's password in the **password** field.
The switch's default password is **password**.
The Switch Information screen displays.
6. Select **VLAN > 802.1Q > Advanced > Port PVID**.
The Port PVID screen displays.
7. Select a port.
8. Enter the PVID.
9. Click the **Apply** button.
Your settings are saved.

Set Up Port Tagging

Port tagging allows a port to add VLAN ID tags to data packets sent through the port. The tag identifies the VLAN to receive the data.

You can set up port tagging in the VLAN Membership screen. The port check boxes allow you to select U (un tagged) or T (tagged) in addition to adding the port to the VLAN group. This step causes the data for an individual port to be tagged (associated) with a VLAN group.

Use the ProSAFE Plus Utility to Apply or Remove Port Tagging

➤ **To apply or remove port tagging:**

1. Connect your computer to the same network as the switch.

You can use a WiFi or wired connection.

2. Double-click the **ProSAFE Plus Utility** icon.

The configuration home screen displays a list of Plus switches that it discovers on the local network.

3. Select a switch.

If you do not see the switch, click the **REFRESH** button.

4. Click the **APPLY** button.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Status screen displays.

6. Select **VLAN > 802.1Q > Advanced > Port Tagging**.

The Port Tagging screen displays.

7. Select the ports.

8. Select **Tagging Control** or **UnTag Tagging Control**.

9. Click the **Apply** button.

Your settings are saved.

Use Browser-Based Access to Apply or Remove Port Tagging

➤ **To apply port tagging:**

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.

2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

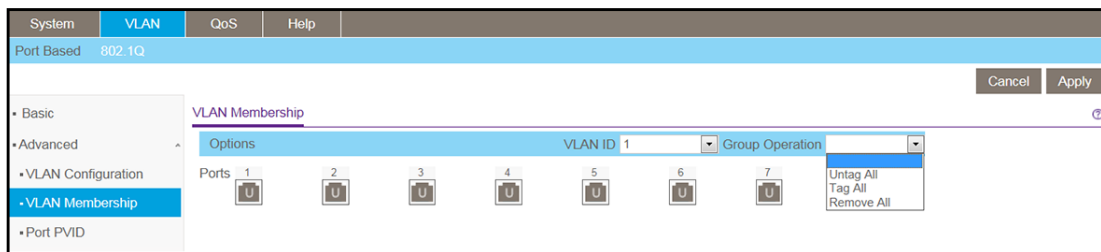
You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **VLAN > 802.1Q > Advanced > VLAN Membership**.



7. Select the ports.
8. Select **Tagging Control** or **UnTag Tagging Control**.
9. Click the **Apply** button

Your settings are saved.

6

6. Manage the Switch

This chapter covers the following topics:

- *Use the ProSAFE Utility to View Switch Status*
- *View Switch Information*
- *Enable Loop Detection*
- *Upgrade the Firmware*
- *Reboot the Switch*
- *Save the Switch Configuration*
- *Restore a Saved Switch Configuration*
- *Restore Factory Default Settings*
- *Enable Port Mirroring*

Use the ProSAFE Utility to View Switch Status

➤ To view the switch status:

1. Connect your computer to the same network as the switch.
You can use a WiFi or wired connection.
2. Double-click the **ProSAFE Plus Utility** icon.
The configuration home screen displays a list of Plus switches that it discovers on the local network.
3. Select a switch.
If you do not see the switch, click the **REFRESH** button.
4. Click the **APPLY** button.
You are asked to enter the password for the switch.
5. Enter the switch's password in the **password** field.
The switch's default password is **password**.

Selected Switch					
	Product	Switch Name	MAC Address	IP Address	Located on IP Network
<input type="radio"/>	GSS108E		6c:b0:ce:2d:c6:91	192.168.1.76	192.168.1.88

Port Status				
Port	Port Status	Speed	Linked Speed	Flow Control
01	Down	Auto	No Speed	Disable
02	Down	Auto	No Speed	Disable
03	Down	Auto	No Speed	Disable
04	Down	Auto	No Speed	Disable
05	Down	Auto	No Speed	Disable
06	Down	Auto	No Speed	Disable
07	Down	Auto	No Speed	Disable
08	Up	Auto	100M	Disable

REFRESH APPLY

View Switch Information

You can view the switch product name (model), MAC address, firmware level, DHCP mode, and other network information.

Use the ProSAFE Utility to View Switch Information

➤ To view information about the switch:

1. Connect your computer to the same network as the switch.
You can use a WiFi or wired connection.

2. Double-click the **ProSAFE Plus Utility** icon.

The configuration home screen displays a list of Plus switches that it discovers on the local network.

3. Select a switch.

If you do not see the switch, click the **REFRESH** button.

4. Click the **APPLY** button.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Status screen displays.

6. Select **Switch Information**.



The screenshot shows the 'Switch Information' configuration page. It contains the following fields and controls:

- Product Name: GSS108E
- Switch Name: (empty field)
- MAC Address: 6C:B0:CE:2D:C6:91
- Firmware Version: V0.0.0.5
- DHCP Mode: A dropdown menu set to 'Enable' and a checkbox for 'Refresh' (which is unchecked).
- IP Address: 192.168.1.76
- Subnet Mask: 255.255.255.0
- Gateway Address: 192.168.1.254

Use Browser-Based Access to View Switch Information

- **To view information about the switch:**

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

Switch Information	
Product Name	GSS116E
Switch Name	<input type="text"/>
MAC Address	6C:B0:CE:2C:1A:76
Firmware Version	0.00.00.06
DHCP Mode	Enable <input type="checkbox"/> Refresh
IP Address	<input type="text" value="192.168.0.239"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
Gateway Address	<input type="text" value="192.168.0.254"/>

The Switch Information screen automatically displays.

Note: To navigate to this screen, select **System > Management > Switch Information**.

Control the Switch LEDs

By default, the switch's Link Speed and Activity LEDs light when the port is in use. You can turn off the switch LEDs or you can turn on only the Link Speed LEDs.

Use the ProSafe Utility to Control the Switch LEDs

➤ **To control the switch LEDs:**

1. Connect your computer to the same network as the switch.

You can use a WiFi or wired connection.

2. Double-click the **ProSAFE Plus Utility** icon.

The configuration home screen displays a list of Plus switches that it discovers on the local network.

3. Select a switch.

If you do not see the switch, click the **REFRESH** button.

4. Click the **APPLY** button.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Status screen displays.

6. Select **System > Management > Port LED Control**.



7. Select a radio button.
8. Click the **APPLY** button.
Your settings are saved.

Use Browser-Based Access to Control the Switch LEDs

➤ To control the switch LEDs:

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **System > Management >Port LED Control**.



7. Select a radio button.
8. Click the **APPLY** button.
Your settings are saved.

Enable Loop Detection

Loop detection is indicated on the switch when both LEDs of a port blink at a constant speed.

Use the ProSafe Utility to Enable Loop Detection

➤ **To enable loop detection:**

1. Connect your computer to the same network as the switch.
You can use a WiFi or wired connection.
2. Double-click the **ProSAFE Plus Utility** icon.
The configuration home screen displays a list of Plus switches that it discovers on the local network.
3. Select a switch.
If you do not see the switch, click the **REFRESH** button.
4. Click the **APPLY** button.
You are asked to enter the password for the switch.
5. Enter the switch's password in the **password** field.
The switch's default password is **password**.
The Switch Status screen displays.
6. Select **System > Management > Loop Detection**.
The Loop Detection screen displays.
7. Select the **Enable** radio button.
8. Click the **APPLY** button.
Your settings are saved.

Use Browser-Based Access to Enable Loop Detection

➤ **To enable loop detection:**

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.
You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **System > Management > Loop Detection**.

The Loop Detection screen displays.

7. Select the **Enable** radio button.

8. Click the **Apply** button.

Your settings are saved.

Upgrade the Firmware

Read the new firmware release notes to find out if you need to reconfigure the switch after upgrading.

Use the ProSAFE Utility to Upgrade the Firmware

➤ **To upgrade the firmware:**

1. Download the new firmware from the NETGEAR support website.

2. Connect your computer to the same network as the switch.

You can use a WiFi or wired connection.

3. Double-click the **ProSAFE Plus Utility** icon.

The configuration home screen displays a list of Plus switches that it discovers on the local network.

4. Select a switch.

If you do not see the switch, click the **REFRESH** button.

5. Click the **APPLY** button.

You are asked to enter the password for the switch.

6. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Status screen displays.

7. If the firmware release notice specifies that you need to reconfigure the switch, save the switch configuration settings.

For more information about how to save the switch configuration, see [Save the Switch Configuration](#) on page 62.

8. Select **Maintenance > Firmware Upgrade**.

The Firmware Upgrade screen displays.

9. Click the **BROWSE** button and locate and select the firmware file.
10. Click the **APPLY** button.



WARNING:

To avoid the risk of corrupting the firmware, do not interrupt the upgrade. For example, do not turn off the switch or disconnect it.

When the upgrade is complete, your switch restarts. The upgrade process typically takes about two minutes.

Use Browser-Based Access to Upgrade the GSS116E Firmware

➤ **To upgrade the firmware:**

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **System > Maintenance > Firmware Upgrade**.

The Firmware Upgrade screen displays.

7. Click the **Enter Loader Mode** button.

The switch reboots and enters into the loader. The Firmware Upgrade screen adjusts.

8. Click the **Browse** button to select the image file.
9. Click the **Apply** button.

The switch gets the new firmware from the host and performs the upgrade.

10. After the upgrade completes, wait a few minutes and then reboot the switch.

Use Browser-Based Access to Upgrade the GSS108E Firmware

➤ **To upgrade the firmware:**

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **System > Maintenance > Firmware Upgrade**.

The Firmware Upgrade screen displays.

7. Click the **Enter Loader Mode** button.

The switch reboots and enters into the loader. The Firmware Upgrade screen adjusts.

8. Complete the **TFTP Server IP address** field.
9. Complete the Image **File Name** field.

Note: Make sure that the TFTP server launches the TFTP server application.

10. Click the **Apply** button.

The switch gets the new firmware from the TFTP server and performs the upgrade.

11. After the upgrade completes, wait a few minutes and then reboot the switch.

Reboot the Switch

You can reboot the switch remotely.

Use the ProSAFE Utility to Reboot the Switch

➤ **To reboot the switch:**

1. Connect your computer to the same network as the switch.

You can use a WiFi or wired connection.

2. Double-click the **ProSAFE Plus Utility** icon.
The configuration home screen displays a list of Plus switches that it discovers on the local network.
3. Select a switch.
If you do not see the switch, click the **REFRESH** button.
4. Click the **APPLY** button.
You are asked to enter the password for the switch.
5. Enter the switch's password in the **password** field.
The switch's default password is **password**.
The Switch Status screen displays.
6. Select **Maintenance > Device Reboot**.
The Device Reboot screen displays.
7. Select the check box.
8. Click the **APPLY** button.
The switch reboots.

Use Browser-Based Access to Reboot the Switch

➤ **To reboot the switch:**

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.
You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.
You are asked to enter the password for the switch.
5. Enter the switch's password in the **password** field.
The switch's default password is **password**.
The Switch Information screen displays.
6. Select **System > Maintenance > Device Reboot**.
The Device Reboot screen displays.
7. Select the check box.
8. Click the **Apply** button.

The switch reboots.

Save the Switch Configuration

You can save the switch configuration as a file. NETGEAR recommends that you save the configuration. Then you can quickly restore the switch configuration if you change the settings and then decide to return the switch to its previous settings.

Use the ProSAFE Utility to Save the Switch Configuration

➤ **To save the switch configuration:**

1. Connect your computer to the same network as the switch.

You can use a WiFi or wired connection.

2. Double-click the **ProSAFE Plus Utility** icon.

The configuration home screen displays a list of Plus switches that it discovers on the local network.

3. Select a switch.

If you do not see the switch, click the **REFRESH** button.

4. Click the **APPLY** button.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Status screen displays.

6. Select **Maintenance > Save Configuration**.

The Save Configuration screen displays.

7. Click the **BROWSE** button.

8. Select the location to save the configuration file.

9. Click the **APPLY** button.

The switch configuration is saved.

Use Browser-Based Access to Save the Switch Configuration

➤ **To save the switch configuration:**

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.

3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.
You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.
You are asked to enter the password for the switch.
5. Enter the switch's password in the **password** field.
The switch's default password is **password**.
The Switch Information screen displays.
6. Select **System > Maintenance > Save Configuration**.
The Save Configuration screen displays.
7. Click the **Save** button.
The switch configuration is saved.

Restore a Saved Switch Configuration

You can restore switch configuration that you saved.

Use the ProSAFE Utility to Restore a Saved Switch Configuration

- **To restore the switch configuration that you saved:**
 1. Connect your computer to the same network as the switch.
You can use a WiFi or wired connection.
 2. Double-click the **ProSAFE Plus Utility** icon.
The configuration home screen displays a list of Plus switches that it discovers on the local network.
 3. Select a switch.
If you do not see the switch, click the **REFRESH** button.
 4. Click the **APPLY** button.
You are asked to enter the password for the switch.
 5. Enter the switch's password in the **password** field.
The switch's default password is **password**.
The Switch Status screen displays.
 6. Select **Maintenance > Restore Configuration**.

The Restore Configuration screen displays.

7. Click the **BROWSE** button.
8. Find and select the configuration file.
9. Click the **APPLY** button.

The saved configuration is restored to the switch.

Use Browser-Based Access to Restore a Saved Switch Configuration

➤ To restore the switch configuration that you saved:

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **System > Maintenance > Restore Configuration**.

The Restore Configuration screen displays.

7. Click the **Browse** button.
8. Locate and select the saved configuration file.
9. Click the **Apply** button.

The saved configuration is restored to the switch.

Restore Factory Default Settings

You can return the switch to its factory settings.

Use the ProSAFE Utility to Restore Factory Settings

➤ **To restore factory settings:**

1. Connect your computer to the same network as the switch.
You can use a WiFi or wired connection.
2. Double-click the **ProSAFE Plus Utility** icon.
The configuration home screen displays a list of Plus switches that it discovers on the local network.
3. Select a switch.
If you do not see the switch, click the **REFRESH** button.
4. Click the **APPLY** button.
You are asked to enter the password for the switch.
5. Enter the switch's password in the **password** field.
The switch's default password is **password**.
The Switch Status screen displays.
6. Select **Maintenance > Factory Default**.
The Factory Default screen displays.
7. Select the check box.
8. Click the **APPLY** button.
The switch returns to its factory settings.

Use Browser-Based Access to Restore Factory Settings

➤ **To restore factory settings:**

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.
You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.
You are asked to enter the password for the switch.
5. Enter the switch's password in the **password** field.
The switch's default password is **password**.

The Switch Information screen displays.

6. Select **System > Maintenance > Factory Default**.

The Factory Default screen displays.

7. Select the check box.
8. Click the **Apply** button.
9. The switch returns to its factory settings.

Enable Port Mirroring

Port mirroring allows a switch port to see data on another port.

Use the ProSAFE Utility to Enable Port Mirroring

➤ To enable port mirroring:

1. Connect your computer to the same network as the switch.

You can use a WiFi or wired connection.

2. Double-click the **ProSAFE Plus Utility** icon.

The configuration home screen displays a list of Plus switches that it discovers on the local network.

3. Select a switch.

If you do not see the switch, click the **REFRESH** button.

4. Click the **APPLY** button.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Status screen displays.

6. Select **System > Monitoring > Mirroring**.

Port Mirroring Configuration								
Mirroring	Disable							
Source Port								
Port	01	02	03	04	05	06	07	08
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Destination Port	[Dropdown]							

7. In the **Mirroring** menu, select **Enable**.

8. In the Source Port table, select the check box for the source port.
9. In the **Destination Port** menu, select the destination port.
10. Click the **APPLY** button.

Your settings are saved.

Use Browser-Based Access to Enable Port Mirroring

➤ **To enable port mirroring:**

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

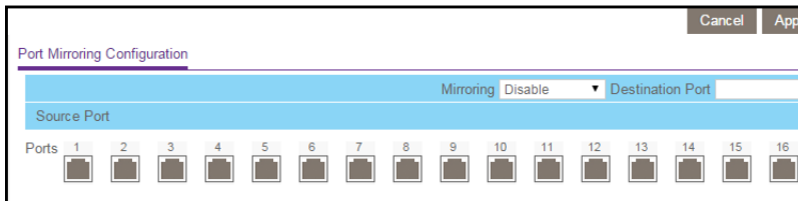
You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **System > Monitoring > Mirroring**.



7. In the **Mirroring** menu, select **Enable**.
8. In the Source Port section, select the source port.
9. In the **Destination Port** menu, select the destination port.
10. Click the **Apply** button.

Your settings are saved.

7. Diagnostics and Troubleshooting

7

This chapter covers the following topics:

- *Use Browser-Based Access to Register Your Product*
- *Test Cable Connections*
- *Use Browser-Based Access to Register Your Product*

Use Browser-Based Access to Register Your Product

Registering your product allows you to receive email alerts and streamlines the technical support process.

➤ **To register your product:**

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.

You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.

You are asked to enter the password for the switch.

5. Enter the switch's password in the **password** field.

The switch's default password is **password**.

The Switch Information screen displays.

6. Select **Help > Registration**.

The Product Registration screen displays.

7. Click the **Register** button.
8. Follow the onscreen process to register your product.

Test Cable Connections

You can use the cable diagnostic feature to easily find out the health status of network cables. If any problems exist, this feature helps quickly locate the point where the cabling fails, allowing connectivity issues to be fixed much faster, potentially saving technicians hours of troubleshooting.

Use the ProSAFE Utility to Test a Cable Connection

➤ **To test a cable connection:**

1. Connect your computer to the same network as the switch.

You can use a WiFi or wired connection.

2. Double-click the **ProSAFE Plus Utility** icon.

The configuration home screen displays a list of Plus switches that it discovers on the local network.

3. Select a switch.
If you do not see the switch, click the **REFRESH** button.
4. Click the **APPLY** button.
You are asked to enter the password for the switch.
5. Enter the switch's password in the **password** field.
The switch's default password is **password**.
The Switch Status screen displays.
6. Select **Monitoring > Cable Tester**.

Cable Tester			
Cable Tester			
<input type="checkbox"/>	Port	Test Results	Cable Fault Distance (meters)
<input type="checkbox"/>	01		
<input type="checkbox"/>	02		
<input type="checkbox"/>	03		
<input type="checkbox"/>	04		
<input type="checkbox"/>	05		
<input type="checkbox"/>	06		
<input type="checkbox"/>	07		
<input type="checkbox"/>	08		

7. Select one or more check boxes.
8. Click the **TEST SELECTED PORT** button.
The switch tests the cable connection for the selected port and displays the results.

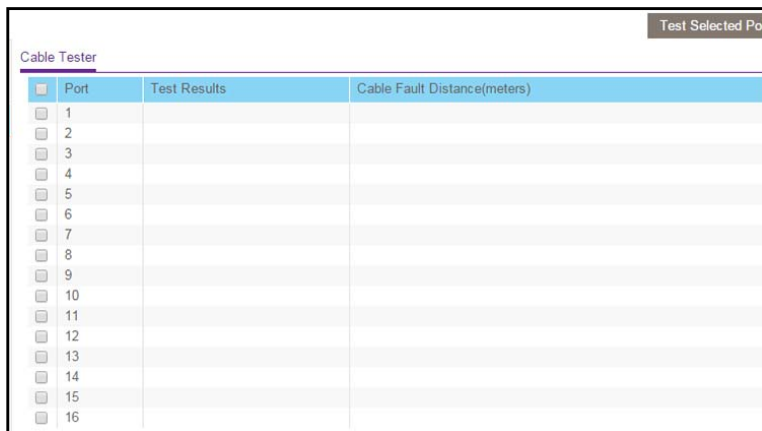
Use Browser-Based Access to Test a Cable Connection

➤ To test a cable connection:

1. Set up your computer to use an IP address in the same subnet as the IP address of the switch.
2. Use an Ethernet cable to connect your computer to an Ethernet port on the switch.
3. Launch a web browser.
4. In the address field of the browser, enter the IP address of the switch.
You can find the IP address of the switch by using the ProSAFE Plus utility or get it from the DHCP server. If the switch cannot get an IP address from a DHCP server, enter **192.168.0.239**.
You are asked to enter the password for the switch.
5. Enter the switch's password in the **password** field.
The switch's default password is **password**.

The Switch Information screen displays.

6. Select **System > Monitoring > Cable Tester**.



Port	Test Results	Cable Fault Distance(meters)
<input type="checkbox"/> 1		
<input type="checkbox"/> 2		
<input type="checkbox"/> 3		
<input type="checkbox"/> 4		
<input type="checkbox"/> 5		
<input type="checkbox"/> 6		
<input type="checkbox"/> 7		
<input type="checkbox"/> 8		
<input type="checkbox"/> 9		
<input type="checkbox"/> 10		
<input type="checkbox"/> 11		
<input type="checkbox"/> 12		
<input type="checkbox"/> 13		
<input type="checkbox"/> 14		
<input type="checkbox"/> 15		
<input type="checkbox"/> 16		

7. Select one or more check boxes.

8. Click the **Test Selected Port** button.

The switch tests the cable connection for the selected port and displays the results.

Resolve a Subnet Conflict to Access the Switch

If you power on the switch before you connect it to a network that includes a DHCP server, the switch uses its own default IP address of 192.168.0.239. This subnet might be different from the subnet used in your network. You might see the following message if you try to use the ProSAFE utility to access the switch:

```
The switch and manager IP address are not in the same subnet.
```

➤ **To fix this subnet conflict:**

1. Disconnect the Ethernet cable between the switch and your network.
2. Unplug the switch's power cord.
3. Reconnect the Ethernet cable between the switch and your network.
4. Plug the switch's power cord into an electrical outlet.

The switch powers on. The network DHCP server discovers the switch and assigns it an IP address that is in the correct subnet for the network.

A Supplemental Information

A

This appendix covers the following topics:

- *Factory Default Settings*
- *Technical Specifications*

Factory Default Settings

You can return the switch to its factory settings. Use the end of a paper clip or some other similar object to press and hold the **/Factory Defaults** button on the back panel of the switch for at least four seconds. The switch resets, and returns to the factory settings that are shown in the following table.

Table 2. Factory default settings

Factory Default Setting	GSS108E	GSS116E
Switch name	N/A (empty)	N/A (empty)
Switch password	password	password
IP address	192.168.0.239	192.168.0.239
Subnet mask	255.255.255.0	255.255.255.0
Gateway address	192.168.0.254	192.168.0.254
DHCP mode	Enabled	Enabled
Port mirroring	Disabled	Disabled
Loop detection	Disabled	Disabled
IGMP snooping	Enabled	Enabled
Port LED control	Link speed and activity	Link speed and activity
LAG	N/A	Disabled
VLAN	Disabled	Disabled
QoS	802.1p/DSCP based	802.1p/DSCP based
Rate limit	Disabled	Disabled
Broadcast filtering	Disabled	Disabled
Port mode	Auto negotiation	Auto negotiation
Flow control	Disabled	Disabled

Technical Specifications

Table 3. Technical specifications

Specification	GSS108E	GSS116E
Network interface	RJ-45 connector for 10BASE-T, 100BASE-TX, or 1000BASE-T	RJ-45 connector for 10BASE-T, 100BASE-TX, or 1000BASE-T
Network cable	Category 5e (Cat 5e) or better Ethernet cable	Category 5e (Cat 5e) or better Ethernet cable
Ethernet ports	8	16
USB ports (provides power only)	2	–
USB power	10W maximum per port 15 maximum total	–
Power	100–240 VAC 50/60Hz, 1.0A maximum	100–240 VAC 50/60Hz, 0.5A maximum
Power consumption	20.14W maximum	8.36W maximum
Weight	0.43 kg (0.94 lb)	1.3 kg (2.64 lb)
Dimensions (W X D x H)	305 mm x 65 mm x 36 mm 12 in. x 2.54 in. x 1.39 in.	407 mm x 70 mm x 36 mm 16.02 in. x 2.7 in. x 1.39 in.
Operating temperature	0–40°C (32–104°F)	0–40°C (32–104°F)
Operating humidity	0%–90% relative humidity, noncondensing	0%–90% relative humidity, noncondensing
Electromagnetic	CE Class B, FCC Class B, VCCI Class B, RCM Class B	CE Class B, FCC Class B, VCCI Class B, RCM Class B
Safety agency approvals	CE mark, CB	CE mark, CB