

Configure Time-Based Port Management in the 220 Series Smart Plus Switches

Objective

The Time-Based Port Management feature on the Cisco 220 Series Smart Plus Switches allows you to configure and manage the behavior of the ports on your switch depending on the scheduled time you have set. This includes the flow of Jumbo Frames, the behavior of the port LEDs, and the port operations.

Note: The Disable Port LEDs feature saves power consumed by device LEDs. Because the devices are often in an unoccupied room, having these LEDs lit is a waste of energy. The feature enables you to disable the port LEDs for link, speed, and PoE when they are not required, and to enable the LEDs if they are needed in debugging, connecting additional devices, and so on. On the System Summary page, the LEDs that are displayed on the device board pictures are not affected by disabling the LEDs.

This article aims to show you how to configure time-based port settings on your 220 Series Smart Plus Switch.

Applicable Devices

- Sx220 Series

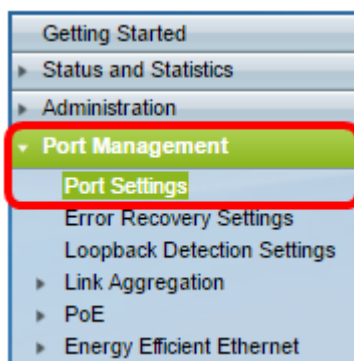
Software Version

- 1.1.0.14

Configure Time-Based Port Management

Port Settings

Step 1. Log in to the switch web-based utility and choose **Port Management > Port Settings**.



Step 2. (Optional) Under the Port Settings area, check the **Enable** check box for Jumbo Frames. This would allow the ports to support packets of up to 10,000 bytes in size, much bigger compared to the default packet size of 1,522 bytes.

Port Settings

Jumbo Frames: Enable

Port LEDs: Enable

Apply Cancel

Step 3. (Optional) Check the **Enable** check box for Port LEDs in order to save power consumed by device LEDs. This feature allows you to disable the LEDs when they are not required, and to enable them if they are needed such as in situations like debugging and connecting devices. This feature is enabled by default.

Note: When port LEDs are disabled, they do not display the link status, activity, and so on.

Port Settings

Jumbo Frames: Enable

Port LEDs: Enable

Apply Cancel


Step 4. Click **Apply**.

Port Settings

Jumbo Frames: Enable

Port LEDs: Enable

Apply Cancel

Step 5. To save the configuration permanently, go to the Copy/Save Configuration page or click the  **Save** icon at the upper portion of the page.

Step 6. Under the Port Setting Table, click the radio button of the specific port you want to modify then click **Edit**. In this example, Port GE12 is chosen.

<input type="radio"/>	10	GE10	1000M-Copper	Down
<input type="radio"/>	11	GE11	1000M-Copper	Down
<input checked="" type="radio"/>	12	GE12	1000M-Copper	Down
<input type="radio"/>	13	GE13	1000M-Copper	Down
<input type="radio"/>	14	GE14	1000M-Copper	Down
<input type="radio"/>	15	GE15	1000M-Copper	Down
<input type="radio"/>	16	GE16	1000M-Copper	Down
<input type="radio"/>	17	GE17	1000M-Copper	Down
<input type="radio"/>	18	GE18	1000M-Copper	Down
<input type="radio"/>	19	GE19	1000M-Copper	Down
<input type="radio"/>	20	GE20	1000M-Copper	Down
<input type="radio"/>	21	GE21	1000M-Copper	Down
<input type="radio"/>	22	GE22	1000M-Copper	Down
<input type="radio"/>	23	GE23	1000M-Copper	Down
<input type="radio"/>	24	GE24	1000M-Copper	Down
<input type="radio"/>	25	GE25	1000M-ComboC	Up
<input type="radio"/>	26	GE26	1000M-ComboC	Down

Copy Settings... Edit...

Step 7. The Edit Port Settings window will then appear. From the Interface drop-down list, make sure the specified port is the one you chose in Step 6. Otherwise, click the drop-down arrow and choose the right port.

Edit Port Settings - Google Chrome

192.168.1.254/html/port_settingsEdit.html?port=GE12

Interface: Port **GE12** Port Type: 1000M-Copper

Port Description: (0/32 Characters Used)

Step 8. Enter any port name you prefer in the *Port Description* field. In this example, 1stPort is used.

Edit Port Settings - Google Chrome

192.168.1.254/html/port_settingsEdit.html?port=GE12

Interface: Port **GE12** Port Type: 1000M-Copper

Port Description: **1stPort** (7/32 Characters Used)

Step 9. Click on a radio button to choose whether the port should be operational (Up) or non-operational (Down) when the switch is rebooted. The *Operational Status* area displays whether the port is currently operational or shut down. In this example, Up is chosen.

Administrative Status: **Up** Down Operational Status: Down

Time Range: Enable

Time Range Name: Edit Operational Time-Range State: N/A

Step 10. Check the **Enable** check box in Time Range to set the time for the port to be in the Up state. If a time range is configured, it is effective only when the port is administratively

Up.

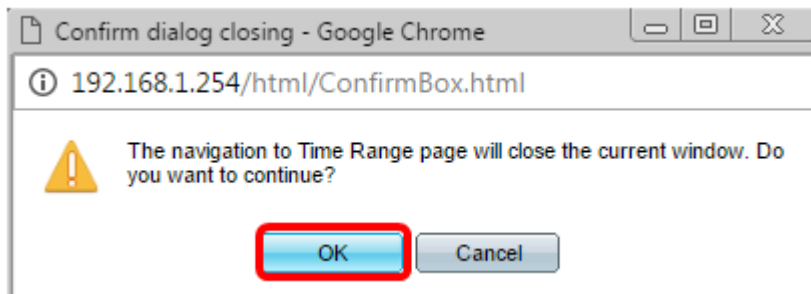
Administrative Status:	<input checked="" type="radio"/> Up <input type="radio"/> Down	Operational Status:	Down
Time Range:	<input checked="" type="checkbox"/> Enable		
Time Range Name:	<input type="text"/> Edit	Operational Time-Range State:	N/A

Step 11. Click the **Edit** link to go to the *Time Range* page in order to define a Time Range profile that will apply to the port.

Administrative Status:	<input checked="" type="radio"/> Up <input type="radio"/> Down	Operational Status:	Down
Time Range:	<input checked="" type="checkbox"/> Enable		
Time Range Name:	<input type="text"/> Edit	Operational Time-Range State:	N/A

Note: The *Operational Time-Range State* area displays whether the time range is currently active or inactive.

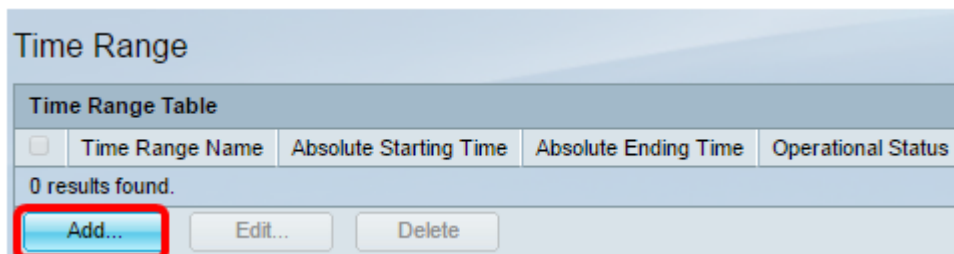
Step 12. A pop-up window will appear informing you that the navigation to the Time Range page will close the current window. Click **OK**.



You will then be directed to the Time Range Page.

Time Range

Step 13. Under the Time Range Table, click the **Add** button.



The Add Time Range window will appear.

Step 14. Enter a name in the *Time Range Name* field. This will help you easily identify the Time Range you have set. In this example, PortUp is used.

Add Time Range - Google Chrome
192.168.1.254/html/admin_time_rangeAdd.html

Time Range Name: (6/32 Characters Used)

Absolute Starting Time: Immediate
 Date 2000 Jan 01 Time 00 00 HH:MM

Step 15. Click on a radio button for the Absolute Starting Time. The options are:

- Immediate — This option will apply the time range set right away.
- Date — This option allows you to set a specific time for the time range to start by choosing the year, month, and day as well as the exact hour and minute.

Add Time Range - Google Chrome
192.168.1.254/html/admin_time_rangeAdd.html

Time Range Name: (6/32 Characters Used)

Absolute Starting Time: Immediate
 Date 2000 Jan 01 Time 00 00 HH:MM

Note: In this example, Immediate is chosen. This is the default setting.

Step 16. Click on a radio button for the Absolute Ending Time. The options are:

- Infinite — This option will set the time range to apply at all times.
- Date — This option allows you to set a specific time for the time range to end by choosing the year, month, and day as well as the exact hour and minute.

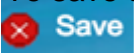
Time Range Name: (6/32 Characters Used)

Absolute Starting Time: Immediate
 Date 2000 Jan 01 Time 00 00 HH:MM

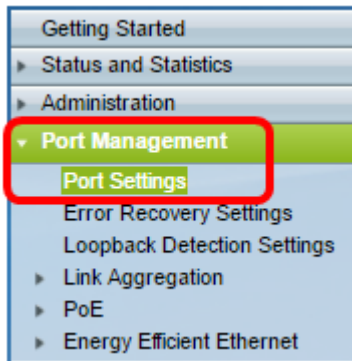
Absolute Ending Time: Infinite
 Date 2000 Jan 01 Time 00 00 HH:MM

Note: In this example, Infinite is chosen. This is the default setting.

Step 17. Click **Apply**.

Step 18. To save the configuration permanently, go to the Copy/Save Configuration page or click the  icon at the upper portion of the page.

Step 19. Go back to the Port Settings window under Port Management.



Step 20. Click on the port that you have chosen previously and click the **Edit** button to go back to the Edit Port Settings window.

<input type="radio"/>	10	GE10	1000M-Copper	Down
<input type="radio"/>	11	GE11	1000M-Copper	Down
<input checked="" type="radio"/>	12	GE12	1000M-Copper	Down
<input type="radio"/>	13	GE13	1000M-Copper	Down
<input type="radio"/>	14	GE14	1000M-Copper	Down
<input type="radio"/>	15	GE15	1000M-Copper	Down
<input type="radio"/>	16	GE16	1000M-Copper	Down
<input type="radio"/>	17	GE17	1000M-Copper	Down
<input type="radio"/>	18	GE18	1000M-Copper	Down
<input type="radio"/>	19	GE19	1000M-Copper	Down
<input type="radio"/>	20	GE20	1000M-Copper	Down
<input type="radio"/>	21	GE21	1000M-Copper	Down
<input type="radio"/>	22	GE22	1000M-Copper	Down
<input type="radio"/>	23	GE23	1000M-Copper	Down
<input type="radio"/>	24	GE24	1000M-Copper	Down
<input type="radio"/>	25	GE25	1000M-ComboC	Up
<input type="radio"/>	26	GE26	1000M-ComboC	Down

Copy Settings... Edit...

Step 21. (Optional) Check the **Enable** check box for the Auto Negotiation. This would enable the port to advertise its transmission rate, duplex mode, and flow control abilities to other devices.

Auto Negotiation:	<input checked="" type="checkbox"/> Enable	Operational Auto Negotiation:
Administrative Port Speed:	<input checked="" type="radio"/> 10M <input type="radio"/> 100M <input type="radio"/> 1000M	Operational Port Speed:
Administrative Duplex Mode:	<input checked="" type="radio"/> Half <input type="radio"/> Full	Operational Duplex Mode:

Note: The Operational Auto Negotiation area displays the current auto negotiation status on the port.

Step 22. (Optional) Click on a radio button for the Administrative Port Speed to choose the speed setting of the port based on the port type. The options are:

- 10M
- 100M
- 1000M

Note: The Administrative Port Speed can only be configured when Auto Negotiation is not enabled. In this example, 100M is chosen.

Auto Negotiation:	<input type="checkbox"/> Enable	Operational Auto Negotiation:
Administrative Port Speed:	<input type="radio"/> 10M <input checked="" type="radio"/> 100M <input type="radio"/> 1000M	Operational Port Speed:
Administrative Duplex Mode:	<input checked="" type="radio"/> Half <input type="radio"/> Full	Operational Duplex Mode:

Note: The Operational Port Speed area displays the current port speed that is the result of the negotiation.

Step 23. Click on a radio button for the Administrative Duplex Mode. The options are:

- Full — This will enable the interface to support transmission between the switch and the client in both directions at the same time.
- Half — This will enable the interface to support transmission between the switch and the client in one direction at a time.

Note: The Administrative Port Speed can only be configured when Auto Negotiation is not enabled. In this example, Full is chosen.

Auto Negotiation:	<input type="checkbox"/> Enable	Operational Auto Negotiation:
Administrative Port Speed:	<input type="radio"/> 10M <input checked="" type="radio"/> 100M <input type="radio"/> 1000M	Operational Port Speed:
Administrative Duplex Mode:	<input type="radio"/> Half <input checked="" type="radio"/> Full	Operational Duplex Mode:

Note: The Operational Duplex Mode area displays the current duplex mode that is the result of the negotiation.

Step 24. Click on a radio button for the Auto Advertisement speed to choose the advertisement capability to be advertised by the port. The options are:

- All Speed
- 10M
- 100M
- 10M/100M
- 1000M

Auto Advertisement Speed:	<input checked="" type="radio"/> All Speed <input type="radio"/> 10M <input type="radio"/> 100M <input type="radio"/> 10M/100M <input type="radio"/> 1000M	Operational Advertisement:
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Note: In this example, All Speed is chosen. This is the default setting.

Step 25. Click on a radio button for the Auto Advertisement Duplex to choose the duplex mode to be advertised by the port. The options are:

- All Duplex — All Duplex mode can be accepted.
- Full — This will enable the interface to support transmission between the switch and the client

in both directions at the same time.

- Half — This will enable the interface to support transmission between the switch and the client in one direction at a time.

Note: In this example, Full is chosen.

The screenshot shows a configuration window with two sections. The first section is 'Auto Advertisement Speed' with radio buttons for 'All Speed', '10M', '100M', '10M/100M', and '1000M'. The second section is 'Auto Advertisement Duplex' with radio buttons for 'All Duplex', 'Half', and 'Full'. The 'Full' option is selected and highlighted with a red box. To the right, there is a label 'Operational Advertisement:'.

Note: The Operational Advertisement area displays the capabilities currently published to neighbor of the port to start the negotiation process.

Step 26. (Optional) Click either the **Enable** or **Disable** radio button for Back Pressure. Enabling Back Pressure mode allows the port to slow down the packet reception speed when the switch is congested. It disables the remote port, preventing it from sending packets by jamming the signal. This mode is used together with Half Duplex mode.

The screenshot shows a configuration window with two sections. The first section is 'Back Pressure' with radio buttons for 'Enable' and 'Disable'. The 'Disable' option is selected and highlighted with a red box. The second section is 'Flow Control' with radio buttons for 'Enable', 'Disable', and 'Auto-Negotiation'. To the right, there is a label 'Current Flow Control:'. Below these sections is a label 'Member in LAG:'. At the bottom, there are 'Apply' and 'Close' buttons.

Note: In this example, Disable is chosen.

Step 27. (Optional) Click on a radio button for the Flow Control on the port. The options are:

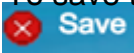
- Enable — This would enable the flow control on 802.3X.
- Disable — This would disable the flow control on 802.3X.
- Auto-Negotiation — This would enable the auto-negotiation of flow control on the port (only when in Full Duplex mode).

Note: The Current Flow Control area displays the current status of 802.3X flow control.

The screenshot shows a configuration window with two sections. The first section is 'Back Pressure' with radio buttons for 'Enable' and 'Disable'. The 'Disable' option is selected. The second section is 'Flow Control' with radio buttons for 'Enable', 'Disable', and 'Auto-Negotiation'. The 'Auto-Negotiation' option is selected and highlighted with a red box. To the right, there is a label 'Current Flow Control:'. Below these sections is a label 'Member in LAG:'. At the bottom, there are 'Apply' and 'Close' buttons.

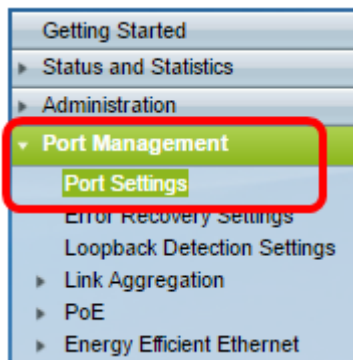
Note: In this example, Auto Negotiation is chosen.

Step 28. Click **Apply**.

Step 29. To save the configuration permanently, go to the Copy/Save Configuration page or click the  icon at the upper portion of the page.

Verify the settings

Step 1. Go to **Port Management > Port Settings**.



Step 2. Under the Port Setting Table, check the configuration on the port you have modified to verify your settings.

Entry No.	Port	Description	Port Type	Operational Status	Working Time Range		Port Speed	Duplex Mode
					Name	Operational Status		
<input type="radio"/>	1	GE1	1000M-Copper	Down				
<input type="radio"/>	2	GE2	1000M-Copper	Down				
<input type="radio"/>	3	GE3	1000M-Copper	Down				
<input type="radio"/>	4	GE4	1000M-Copper	Down				
<input type="radio"/>	5	GE5	1000M-Copper	Down				
<input type="radio"/>	6	GE6	1000M-Copper	Down				
<input type="radio"/>	7	GE7	1000M-Copper	Down				
<input type="radio"/>	8	GE8	1000M-Copper	Down				
<input type="radio"/>	9	GE9	1000M-Copper	Down				
<input type="radio"/>	10	GE10	1000M-Copper	Down				
<input type="radio"/>	11	GE11	1000M-Copper	Down				
<input checked="" type="radio"/>	12	GE12 1stPort	1000M-Copper	Up	PortUp	Active	1000M	Full
<input type="radio"/>	13	GE13	1000M-Copper	Down				
<input type="radio"/>	14	GE14	1000M-Copper	Down				
<input type="radio"/>	15	GE15	1000M-Copper	Down				

You should now have successfully configured Time-Based Port Management on your switch.