

How to Configure LAG

This document describes how to configure Link Aggregation (LAG) between two NETGEAR managed switches. LAG is sometimes referred to as a port channel or a trunk (please note that a trunk in the Link Aggregation sense is not to be confused with a trunk in terms of passing multiple VLAN traffic over a single link).

LAG allows a switch to treat multiple physical links between two end-points as a single logical link. All of the physical links in a LAG **must** operate in full-duplex mode at the same speed.

LAG improves the bandwidth between two end-points and adds redundancy.

In this example we will configure a LAG between the following switches:

- FSM7328PS (Switch 1)
- FSM7328S (Switch 2)

We will use 2 gigabit ports - ports 25 and 26 on each switch.

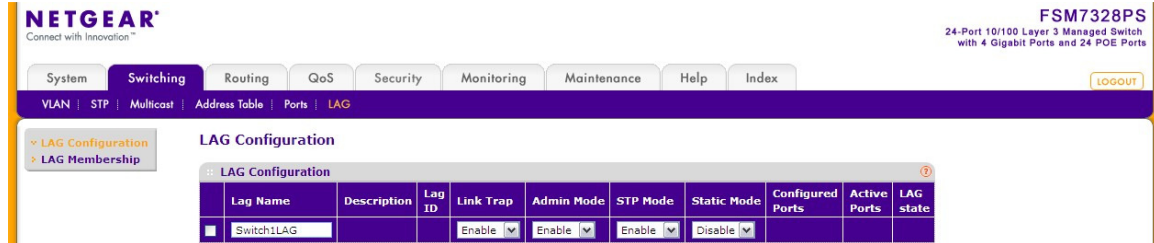


It is best not to connect the links between the LAG ports on each switch until the configuration has been applied on each switch. This is to prevent a loop (unless of course spanning tree protocol is being used).

1. Create the LAG on Switch 1

All of the below configuration is done under Switching -> LAG.

1.1



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FSM7328PS
24-Port 10/100 Layer 3 Managed Switch
with 4 Gigabit Ports and 24 POE Ports

System Switching Routing QoS Security Monitoring Maintenance Help Index

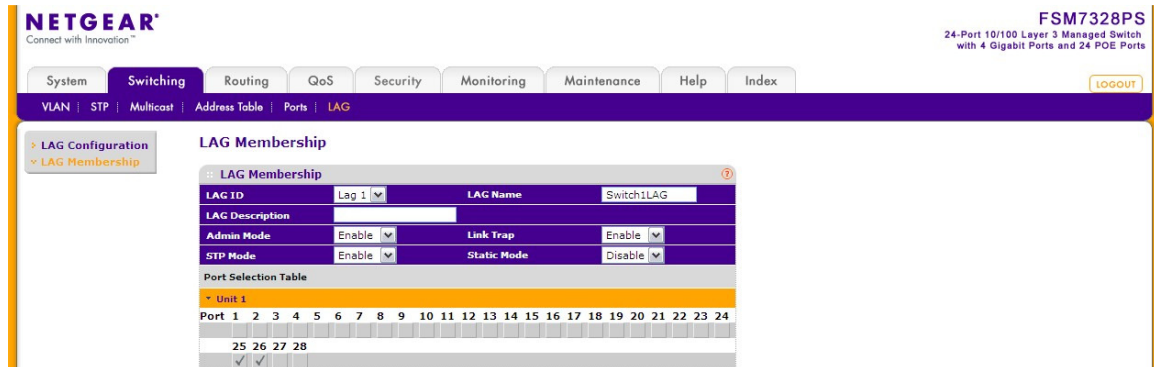
VLAN STP Multicast Address Table Ports LAG

LAG Configuration

Lag Name	Description	Lag ID	Link Trap	Admin Mode	STP Mode	Static Mode	Configured Ports	Active Ports	LAG state
Switch1LAG			Enable	Enable	Enable	Disable			

- Under LAG Configuration, add a LAG as shown above.
- Set Link Trap, STP Mode and Static Mode to Enable or Disable as required.
- If Link Trap is set to Enable, then a trap will be sent if the LAG link state changes.
- STP Mode indicates whether or not spanning tree is enabled on the LAG or not.
- Static Mode indicates whether or not LACP is used, i.e. Static Mode set to Disable means LACP is used.
- Press Add.

1.2



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VLAN STP Multicast Address Table Ports LAG

LAG Membership

LAG ID	LAG Name
Lag 1	Switch1LAG

LAG Description	Admin Mode	Link Trap	STP Mode	Static Mode
	Enable	Enable	Enable	Disable

Port Selection Table

Unit 1

Port	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28																					
	✓	✓																						

- Under LAG Membership, add the ports that are to be included in the LAG (maximum of eight).
- Expand the ports in the switch by clicking on Unit 1
- Check ports 25 and 26
- Press Apply

1.3

The screenshot shows the Netgear FSM7328PS web interface. The top navigation bar includes System, Switching, Routing, QoS, Security, Monitoring, Maintenance, Help, and Index. The left sidebar shows LAG Configuration and LAG Membership. The main content area is titled "LAG Configuration" and contains a table with the following data:

Lag Name	Description	Lag ID	Link Trap	Admin Mode	STP Mode	Static Mode	Configured Ports	Active Ports	LAG state
Switch1LAG		1	Enable	Enable	Enable	Disable	1/0/25 1/0/26		Link Down

- Click back to LAG Configuration to see a summary of the LAG on Switch 1.

2. Create the LAG on Switch 2

All of the below configuration is done under Switching -> LAG.

2.1

The screenshot shows the Netgear FSM7328PS web interface. The top navigation bar includes System, Switching, Routing, QoS, Security, Monitoring, Maintenance, Help, and Index. The left sidebar shows LAG Configuration and LAG Membership. The main content area is titled "LAG Configuration" and contains a table with the following data:

Lag Name	Description	Lag ID	Link Trap	Admin Mode	STP Mode	Static Mode	Configured Ports	Active Ports	LAG state
Switch2LAG			Enable	Enable	Enable	Disable			

- Under LAG Configuration, add a LAG as shown above.

2.2

The screenshot shows the Netgear FSM7328PS web interface. The top navigation bar includes System, Switching, Routing, QoS, Security, Monitoring, Maintenance, Help, and Index. The left sidebar shows LAG Configuration and LAG Membership. The main content area is titled "LAG Membership" and contains the following configuration details:

LAG ID: Lag 1 | LAG Name: Switch2LAG

LAG Description: [Empty]

Admin Mode: Enable | Link Trap: Enable

STP Mode: Enable | Static Mode: Disable

Port Selection Table:

Unit	Port	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Unit 1	25	26	27	28																					
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																							

- Under LAG Membership, add the ports that are to be included in the LAG (maximum of eight).
- Expand the ports in the switch by clicking on Unit 1
- Check ports 25 and 26
- Press Apply

2.3

The screenshot shows the Netgear FSM7328S web interface. The top navigation bar includes System, Switching, Routing, QoS, Security, Monitoring, Maintenance, Help, and Index. The main menu includes VLAN, STP, Multicast, Address Table, Ports, and LAG. The LAG Configuration page is active, showing a table with the following data:

Lag Name	Description	Lag ID	Link Trap	Admin Mode	STP Mode	Static Mode	Configured Ports	Active Ports	LAG state
Switch2LAG		1	Enable	Enable	Enable	Disable	1/0/25 1/0/26		Link Down

- Click back to LAG Configuration to see a summary of the LAG on Switch 2.
- Next, remember to save your configuration by going to Maintenance -> Save Config.

3. Connect the LAG links between the switches

Connect ports 25 and 26 on switch 1 to ports 25 and 26 on switch 2.

3.1

The screenshot shows the Netgear FSM7328PS web interface. The top navigation bar includes System, Switching, Routing, QoS, Security, Monitoring, Maintenance, Help, and Index. The main menu includes VLAN, STP, Multicast, Address Table, Ports, and LAG. The LAG Configuration page is active, showing a table with the following data:

Lag Name	Description	Lag ID	Link Trap	Admin Mode	STP Mode	Static Mode	Configured Ports	Active Ports	LAG state
Switch1LAG		1	Enable	Enable	Enable	Disable	1/0/25 1/0/26	1/0/26 1/0/25	Link Up

- Once the links between the LAGs on each switch are connected, LAG State will be defined as Link Up under LAG Configuration.

3.2

The screenshot shows the Netgear FSM7328S web interface. The top navigation bar includes System, Switching, Routing, QoS, Security, Monitoring, Maintenance, Help, and Index. The main menu includes VLAN, STP, Multicast, Address Table, Ports, and LAG. The LAG Configuration page is active, showing a table with the following data:

Lag Name	Description	Lag ID	Link Trap	Admin Mode	STP Mode	Static Mode	Configured Ports	Active Ports	LAG state
Switch2LAG		1	Enable	Enable	Enable	Disable	1/0/25 1/0/26	1/0/26 1/0/25	Link Up

- LAG State showing as Link Up on Switch 2.

4. Note with regard to LAG and VLANs

When you need to use VLANs together with LAGs, it is important to note that the member ports of a LAG should be removed from the VLAN(s) and then the LAG *itself* added to the VLAN(s) as required.