

M4300 Series Switches

Application Notes How to stack NETGEAR M4300 switches







M4300 Series Switches

NETGEAR® M4300 switches are configured for true AV-over-IP right out of the box, enabling cost-effective integration and Zero-Touch install of SDVoE systems:

- IGMP Snooping is Enabled on default VLAN-1
- IGMP Querier is Enabled on default VLAN-1
- IGMP Fast Leave is Enabled on default VLAN-1
- Drop Unregistered Multicast Traffic is default behavior

This means that the stand alone NETGEAR M4300 switch can be used out of the box as is with SDVoE devices, with no further configuration:





Interconnecting M4300 series switches

The largest NETGEAR M4300 switch is the modular M4300-96X that can have up to 96-port 10G Ethernet copper and/or fiber, with PoE options.

But what if the total number of SDVoE endpoints exceeds 96 devices? The NETGEAR M4300 series implements sophisticated stacking capability that makes it very simple to interconnect up to eight M4300 switches.

If you deploy several interconnected switches, the links between switches must transport your video streams without a bottleneck. When you do the math, usually several 10Gbps or 40Gbps links are required for the interconnect.

Stacking main benefit: the stack truly "operates" as a single switch. Preset standalone IGMP Snooping, Querier, and Fast Leave can be sufficient, no further Multicast configuration is needed across the M4300 stack in most instances.

Example: Create a stack of 2 switches

Let's stack one 16-port M4300-8X8F switch with one 48-port M4300-48X switch:



A few things need to be considered:

- 1. How many network ports (links) are going to be used to connect the two switches? It can be 1 or any number up to a maximum of 16 ports per switch. This example uses 2 ports.
- 2. Note the actual ports used on both switches. In this case it's ports 14 and 16 on the 8X8F switch, and ports 45 and 47 on the 48X switch.
- 3. In a stack, one switch is the master (management unit). In this case, we want it to be the 16-port switch (M4300-8X8F). Therefore, plan for assigning higher priority to this switch, and remember to boot this switch before the other(s) when forming the stack.

Switches can be configured for stacking either using the switch command line interface (CLI), or through the switch Web GUI. To access the CLI or to access the Web GUI, please follow the Installation Guide directions from here: https://www.netgear.com/support/product/M4300-8X8F.aspx#docs



Create a stack using CLI

Step 1: Login to first switch, assign priority and configure stack ports

User:admin Password: (M4300-8X8F) >enable (M4300-8X8F) #config (M4300-8X8F) (Config)#switch 1 priority 15 (M4300-8X8F) (Config)#stack (M4300-8X8F) (Config-stack)#stack-port 1/0/14 stack (M4300-8X8F) (Config-stack)#stack-port 1/0/16 stack (M4300-8X8F) (Config-stack)#exit (M4300-8X8F) (Config)#exit (M4300-8X8F) (Config)#exit (M4300-8X8F) #save

Step 2: Login to second switch, assign priority and configure stack ports

```
User:admin

Password:

(M4300-48X) >enable

(M4300-48X) (Config) #switch 1 priority 10

(M4300-48X) (Config) #stack

(M4300-48X) (Config-stack) #stack-port 1/0/45 stack

(M4300-48X) (Config-stack) #stack-port 1/0/47 stack

(M4300-48X) (Config-stack) #exit

(M4300-48X) (Config) #exit

(M4300-48X) (Config) #exit

(M4300-48X) #save
```

Step 3: Reload (reboot) the first switch

User:admin Password: (M4300-8X8F) >enable (M4300-8X8F) #reload

Step 4: While the first switch is booting, connect the stacking cables (in this case copper CAT-6A cables)

Step 5: While the first switch is still booting, reload (reboot) the second switch

User:admin Password: (M4300-48X) >enable (M4300-48X) #reload

Step 6: Check the stack, after second switch has started:

```
User:admin
Password:
(M4300-8X8F) >enable
(M4300-8X8F) #show switch
```

SW	Management	Standby	Preconfig	Plugged-in	Switch	Code
	Switch	Status	Model ID	Model ID	Status	Version
1	<mark>Mgmt Sw</mark>	Oper Stby	M4300-8X8F	M4300-8X8F	ок	12.x.x.x
2	Stack Mbr		M4300-48X	M4300-48X	ок	12.x.x.x

Create a stack using GUI

Step 1: Login to first switch, assign priority and configure stack ports

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• Stack Stat	uo.		1	0/1			Ethernet	Ethernet	Down	10	0	0	0
Slack Stat	us		1	0/2			Ethernet	Ethernet	Down	10	0	0	0
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 Stack-port 	Diagnostics		1	0/4			Ethernet	Ethernet	Down	10	0	0	0
Stack Firm	nware		1	0/5			Ethernet	Ethernet	Down	10	0	0	0
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			1	0/10			Ethernet	Ethernet	Down	10	0	0	0
			1	0/11			Ethernet	Ethernet	Down	10	0	0	0
			1	0/12			Ethernet	Ethernet	Down	10	0	0	0
			1	0/13			Ethernet	Ethernet	Down	10	0	0	0
			1	0/14			Stack	Ethernet	Up	10	0	0	0
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			1	0/16			Stack	Ethernet	Up	10	0	0	0
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Step 2: Login to second switch, assign priority and configure stack ports

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asic	~	1	0/29		Ethernet	Ethernet	Down	10	0	0	C
dvanced	^	1	0/30		Ethernet	Ethernet	Down	10	0	0	C
Stook Config	uration	1	0/31		Ethernet	Ethernet	Down	10	0	0	C
Stack Conlig	juration	1	0/32		Ethernet	Ethernet	Down	10	0	0	C
Stack Status	6	1	0/33		Ethernet	Ethernet	Down	10	0	0	C
Stack-port C	onfiguration	1	0/34		Ethernet	Ethernet	Down	10	0	0	C
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Stack-port D	agnostics	1	0/36		Ethernet	Ethernet	Down	10	0	0	C
Stack Firmw Synchroniza	tion	1	0/37		Ethernet	Ethernet	Down	10	0	0	C
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		1	0/41		Ethernet	Ethernet	Down	10	0	0	C
		1	0/42		Ethernet	Ethernet	Down	10	0	0	C
		1	0/43		Ethernet	Ethernet	Down	10	0	0	C
		1	0/44		Ethernet	Ethernet	Down	10	0	0	C
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		1	0/46		Ethernet	Ethernet	Down	10	0	0	C
		☑ 1	0/47		Stack	Ethernet	Down	10	0	0	C
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Step 3: Reload (reboot) the first switch

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Step 4: While the first switch is booting, connect the stacking cables (in this case copper CAT-6A cables)

Step 5: While the first switch is still booting, reload (reboot) the second switch

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Step 6: Check the stack, after second switch has started

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