

How to Stack NETGEAR M4300 Switches

Modular. Scalable. Unique.

NETGEAR



M4300 Series Switches

Application Notes

How to stack NETGEAR M4300 switches

NETGEAR[®]
BUSINESS



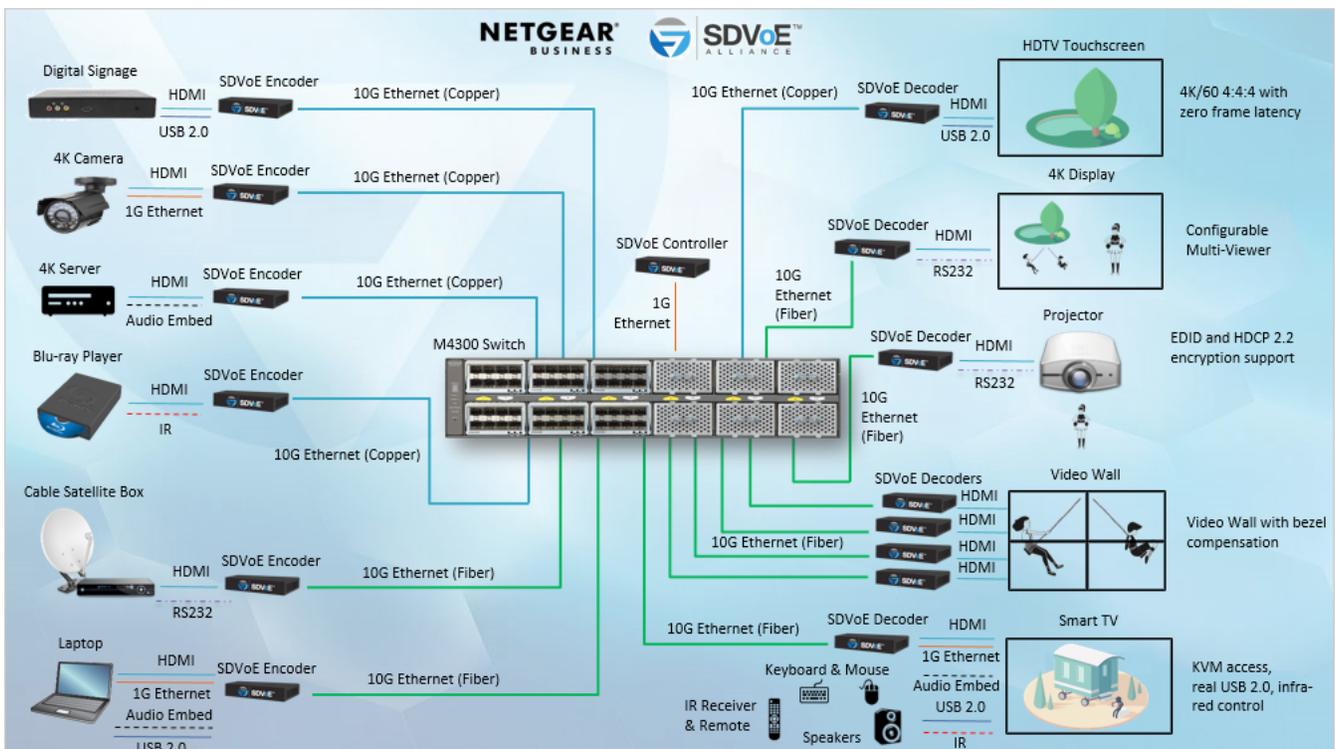


M4300 Series Switches

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.

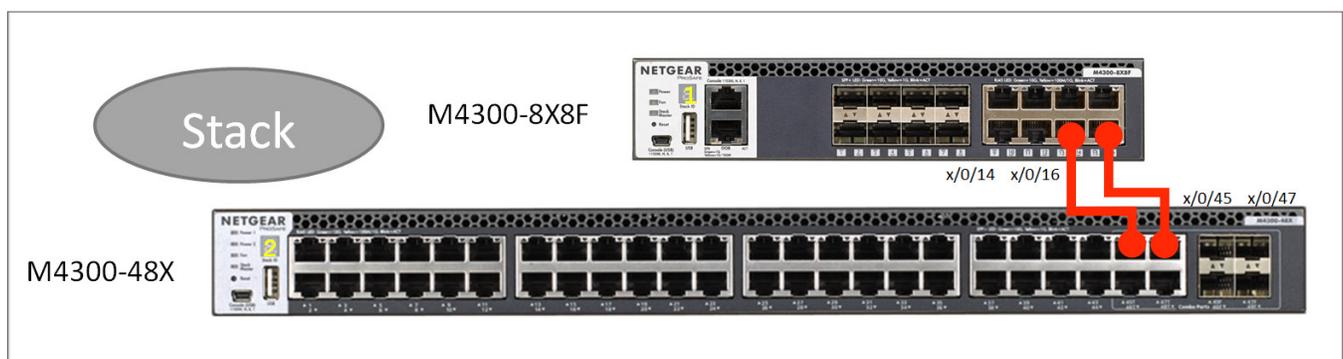
But what if the total number of SDVoE endpoints exceeds 96 devices? The NETGEAR M4300 series implements sophisticated stacking capability that makes it very simple to interconnect up to eight M4300 switches.

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) #save
```

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

```
User:admin
Password:
(M4300-48X) >enable
(M4300-48X) #config
(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) #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 Switch	Standby Status	Preconfig Model ID	Plugged-in Model ID	Switch Status	Code Version
1	Mgmt Sw		M4300-8X8F	M4300-8X8F	OK	12.x.x.x
2	Stack Mbr	Oper Stby	M4300-48X	M4300-48X	OK	12.x.x.x

Create a stack using GUI

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

NETGEAR M4300-8X8F ProSAFE 8-port 10GBASE-T and 8-port 10G SFP+

Management Unit Selection

Management Unit Selected: 1

Stack Configuration

Unit ID	Change Switch ID to	Switch Type	Hardware Management Preference	Switch Priority	Management Status	Standby Status	Switch Status
1		M4300-8X8F	Unassigned	15	Management	None	OK

Basic Stack Status

Unit ID	Switch Description	Serial Number	Uptime	Preconfigured Model Identifier	Plugged-in Model Identifier	Detected Code Version	Detected Code in
1	M4300-8X8F	4G347A718000F	0 days, 0 hours, 17 minutes, 5 secs	M4300-8X8F	M4300-8X8F	N.5.8.0	N.5.8.0

NETGEAR M4300-8X8F ProSAFE 8-port 10GBASE-T and 8-port 10G SFP+

Stack-port Configuration

Unit ID	Port	Type	Product name	Configured Stack Mode	Running Stack Mode	Link Status	Link Speed (Gbps)	Transmit Data Rate (Mbps)	Transmit Error Rate (Errors/s)	Total
1	0/1	Ethernet	Ethernet	Stack	Ethernet	Down	10	0	0	0
1	0/2	Ethernet	Ethernet	Ethernet	Ethernet	Down	10	0	0	0
1	0/3	Ethernet	Ethernet	Ethernet	Ethernet	Down	10	0	0	0
1	0/4	Ethernet	Ethernet	Ethernet	Ethernet	Down	10	0	0	0
1	0/5	Ethernet	Ethernet	Ethernet	Ethernet	Down	10	0	0	0
1	0/6	Ethernet	Ethernet	Ethernet	Ethernet	Down	10	0	0	0
1	0/7	Ethernet	Ethernet	Ethernet	Ethernet	Down	10	0	0	0
1	0/8	Ethernet	Ethernet	Ethernet	Ethernet	Down	10	0	0	0
1	0/9	Ethernet	Ethernet	Ethernet	Ethernet	Down	10	0	0	0
1	0/10	Ethernet	Ethernet	Ethernet	Ethernet	Down	10	0	0	0
1	0/11	Ethernet	Ethernet	Ethernet	Ethernet	Down	10	0	0	0
1	0/12	Ethernet	Ethernet	Ethernet	Ethernet	Down	10	0	0	0
1	0/13	Ethernet	Ethernet	Ethernet	Ethernet	Down	10	0	0	0
1	0/14	Stack	Ethernet	Stack	Ethernet	Up	10	0	0	0
1	0/15	Ethernet	Ethernet	Ethernet	Ethernet	Down	10	0	0	0
1	0/16	Stack	Ethernet	Stack	Ethernet	Up	10	0	0	0

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

NETGEAR M4300-48X ProSAFE 44-port 10GBASE-T and 4-port 10G combo

Welcome admin

System Switching Routing QoS Security Monitoring Maintenance Help Index

Management Device View Services Stacking SNMP LLDP Link Dependency ISDP Timer Schedule

Stacking Management Unit Selection

Management Unit Selected: 1

Stack Sample Mode

Sample Mode: Cumulative

Max samples:

Unit ID	Change Switch ID to	Switch Type	Hardware Management Preference	Switch Priority	Management Status	Standby Status	Switch Status
1		M4300-48X	Unassigned	10	Management	None	OK
<input checked="" type="checkbox"/>	1	M4300-48X	Unassigned	10	Management	None	OK

Basic Stack Status

Unit ID	Switch Description	Serial Number	Uptime	Preconfigured Model Identifier	Plugged-in Model Identifier	Detected Code Version	Detected Code
1	M4300-48X	4NM1667E80021	0 days, 0 hours, 27 minutes, 24 secs	M4300-48X	M4300-48X	N.5.8.0	N.5.8.0

NETGEAR M4300-48X ProSAFE 44-port 10GBASE-T and 4-port 10G combo

Welcome admin

System Switching Routing QoS Security Monitoring Maintenance Help Index

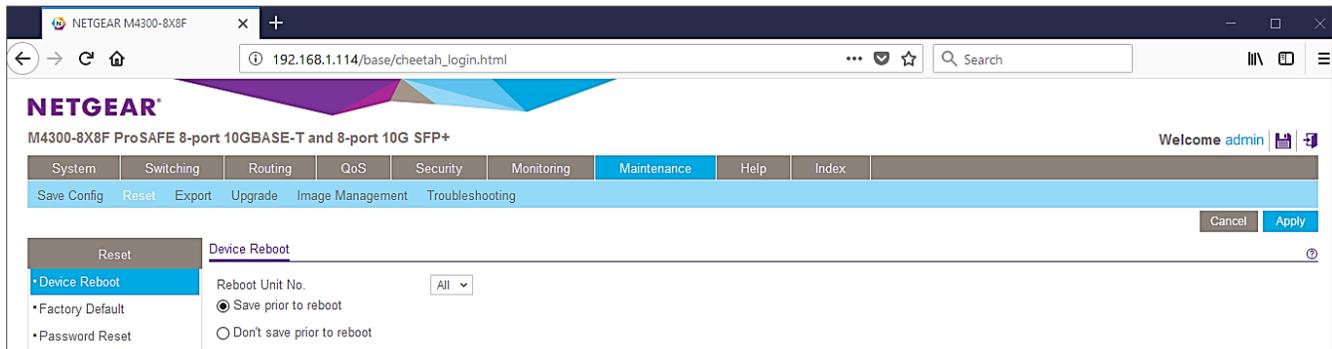
Management Device View Services Stacking SNMP LLDP Link Dependency ISDP Timer Schedule

Stacking

<input type="checkbox"/>	1	0/27	Ethernet	Ethernet	Down	10	0	0	0
<input type="checkbox"/>	1	0/28	Ethernet	Ethernet	Down	10	0	0	0
<input type="checkbox"/>	1	0/29	Ethernet	Ethernet	Down	10	0	0	0
<input type="checkbox"/>	1	0/30	Ethernet	Ethernet	Down	10	0	0	0
<input type="checkbox"/>	1	0/31	Ethernet	Ethernet	Down	10	0	0	0
<input type="checkbox"/>	1	0/32	Ethernet	Ethernet	Down	10	0	0	0
<input type="checkbox"/>	1	0/33	Ethernet	Ethernet	Down	10	0	0	0
<input type="checkbox"/>	1	0/34	Ethernet	Ethernet	Down	10	0	0	0
<input type="checkbox"/>	1	0/35	Ethernet	Ethernet	Up	10	0	0	0
<input type="checkbox"/>	1	0/36	Ethernet	Ethernet	Down	10	0	0	0
<input type="checkbox"/>	1	0/37	Ethernet	Ethernet	Down	10	0	0	0
<input type="checkbox"/>	1	0/38	Ethernet	Ethernet	Down	10	0	0	0
<input type="checkbox"/>	1	0/39	Ethernet	Ethernet	Down	10	0	0	0
<input type="checkbox"/>	1	0/40	Ethernet	Ethernet	Down	10	0	0	0
<input type="checkbox"/>	1	0/41	Ethernet	Ethernet	Down	10	0	0	0
<input type="checkbox"/>	1	0/42	Ethernet	Ethernet	Down	10	0	0	0
<input type="checkbox"/>	1	0/43	Ethernet	Ethernet	Down	10	0	0	0
<input type="checkbox"/>	1	0/44	Ethernet	Ethernet	Down	10	0	0	0
<input checked="" type="checkbox"/>	1	0/45	Stack	Ethernet	Down	10	0	0	0
<input type="checkbox"/>	1	0/46	Ethernet	Ethernet	Down	10	0	0	0
<input checked="" type="checkbox"/>	1	0/47	Stack	Ethernet	Down	10	0	0	0
<input type="checkbox"/>	1	0/48	Ethernet	Ethernet	Down	10	0	0	0

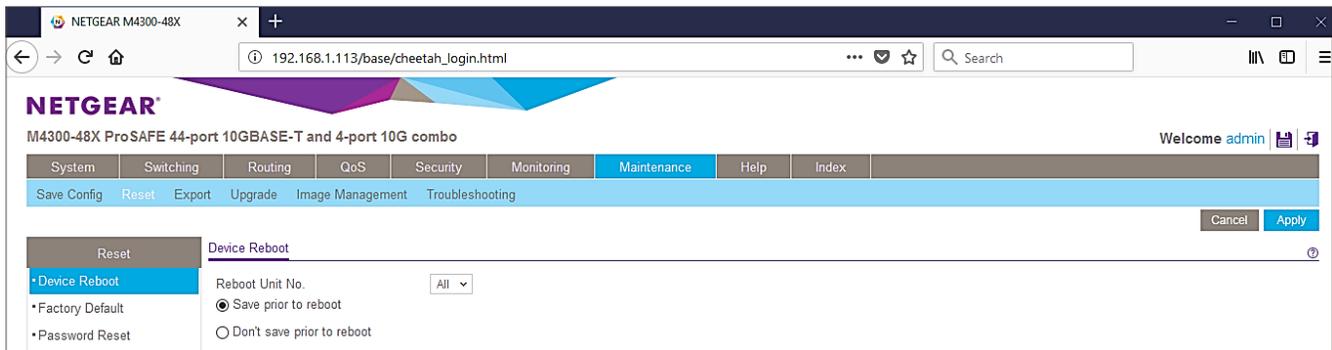
1 All

Step 3: Reload (reboot) the first switch



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



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

