Stack Settings on Cisco Business 350 Series Switches

Objective

This article provides instructions on how to configure stack settings on your Cisco Business 350 series switch.

Introduction

Stacking allows you to expand your network capacity without the hassle of managing multiple devices. Stacked switches are then collectively managed as a single logical device. In some cases, stack ports can become members in a stack of Link Aggregation Groups (LAGs) increasing the bandwidth of the stack interfaces.

If you are unfamiliar with the terms used below, check out **Cisco Business: Glossary of New Terms** .

For further details on stacking, **click here to view the article - What is Stacking?**

Applicable Devices | Software Version

- CBS350 **(Data Sheet)** | 3.0.0.69 **(Download latest)**
- CBS350-2X **(Data Sheet)** | 3.0.0.69 **(Download latest)**
- CBS350-4X **(Data Sheet)** | 3.0.0.69 **(Download latest)**

For specific models that can be stacked in this series, check the **CBS350 Model Comparison.**

The Stack Topology displays whether the topology of the stack is chain or ring. In this example, the topology is Chain.

The Stack Active switch displays the unit ID of the Active unit of the stack. In this example, the switch being configured (Unit 1) is the Active of the stack.

Step 3. Click at least two ports to configure as stacking ports. Include the port that is connected to the other switch.
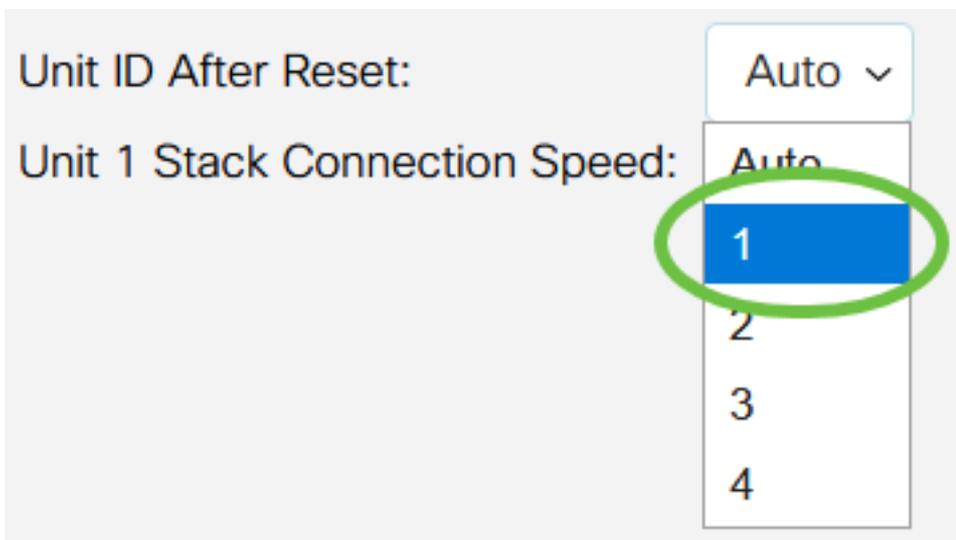
Unit View and Stack Port Configuration

Unit 1 (Active) - CBS350-24FP-4X

🟨 Stacking port 🖥 Network port ⟐ Active stack connection
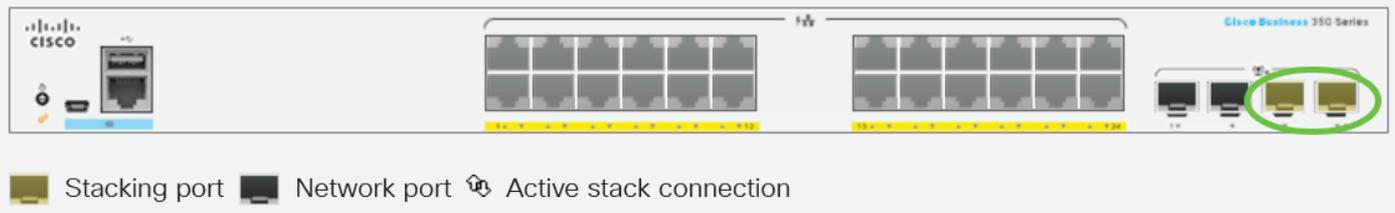
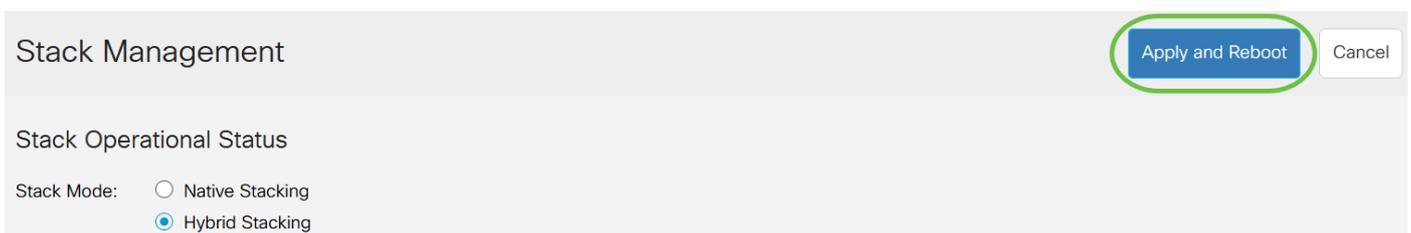In this example, XG3 and XG4 are chosen.

Step 4. Choose a unit ID from the drop-down list or choose Auto to have the unit ID be assigned by the system.

In this example, 1 is chosen.

The Unit x Stack Connection Speed displays the speed of the stack connection.

Step 5. Click **Apply and Reboot**.

Step 6. Once prompted by the pop-up message, click **OK**. The settings are copied to the running configuration file and the stack is rebooted.

Confirm Change Stack Settings   X

For the new stack configuration to be applied, an automatic reboot of the unit(s) must be performed.

⚠️ Would you like to continue?

OK   Cancel

Step 7. Log in to the web-based utility of your switch.

You will be required to configure new password for better protection of your network.

Step 8. Choose **Administration > Stack Management**. The switch should display the configured settings on the Active switch.

Stack Management

Stack Operational Status

Stack Mode: ○ Native Stacking
             ● Hybrid Stacking

Stack Topology: Chain
Stack Active: Unit 1

Unit View and Stack Port Configuration

Unit 1 (Active) - CBS350-24FP-4X

🟩 Stacking port ⬛ Network port 🔗 Active stack connection
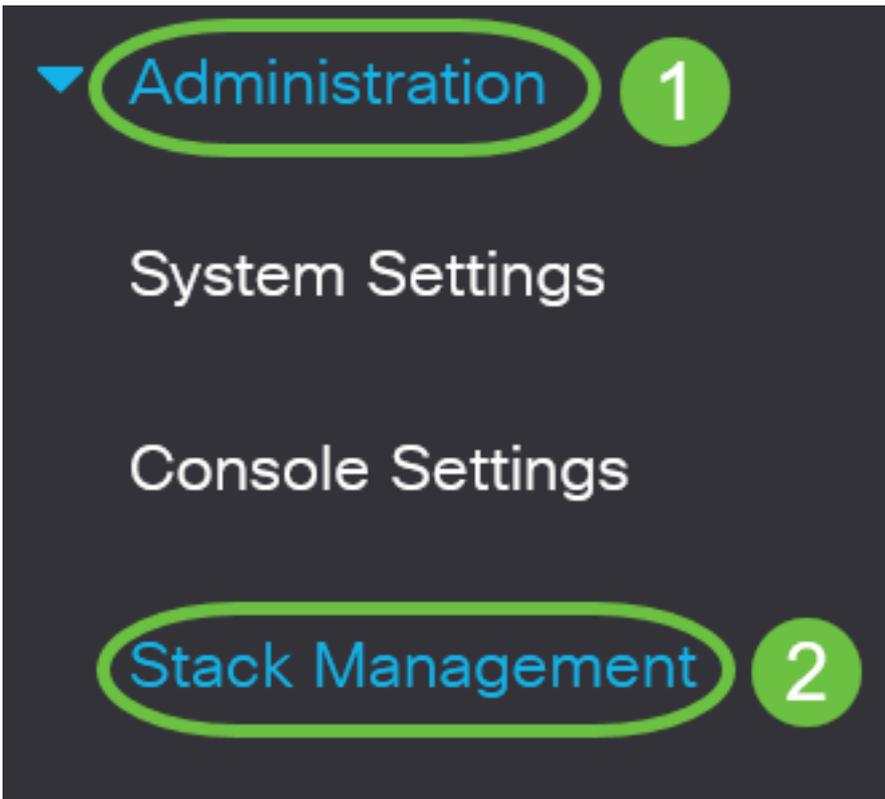
Unit ID After Reset: 1 ▾

Unit 1 Stack Connection Speed: Auto

You have now configured the stack settings of your Active unit.

Configure Stack Settings on the Standby or Member Switch

Step 1. Log in to the web-based utility of your switch then choose **Administration > Stack Management**.

Alternatively, you can click the **Manage Stack** option under Initial Setup in the Getting Started page.

Step 2. Click an option for the Stack Mode. The options are:

- Native Stacking - The switch is part of a stack in which all of the units are of the same type.
- Hybrid Stacking - The switch is part of a stack that can consist of mixed type of CBS 350 devices.

Not sure which mode you should pick? You can use the **Stacking Mode Selector Tool** to find out.

Stack Management

Stack Operational Status

Stack Mode: ○ Native Stacking
                 ◉ Hybrid Stacking

Stack Topology: Chain
Stack Active: Unit 1

In this example, Hybrid Stacking is chosen.

The Stack Topology displays whether the topology of the stack is chain or ring.

The Stack Active displays the unit ID of the Active unit of the stack.

Step 3. Click at least two ports to configure as stacking ports. Include the port that is connected to the other switch.
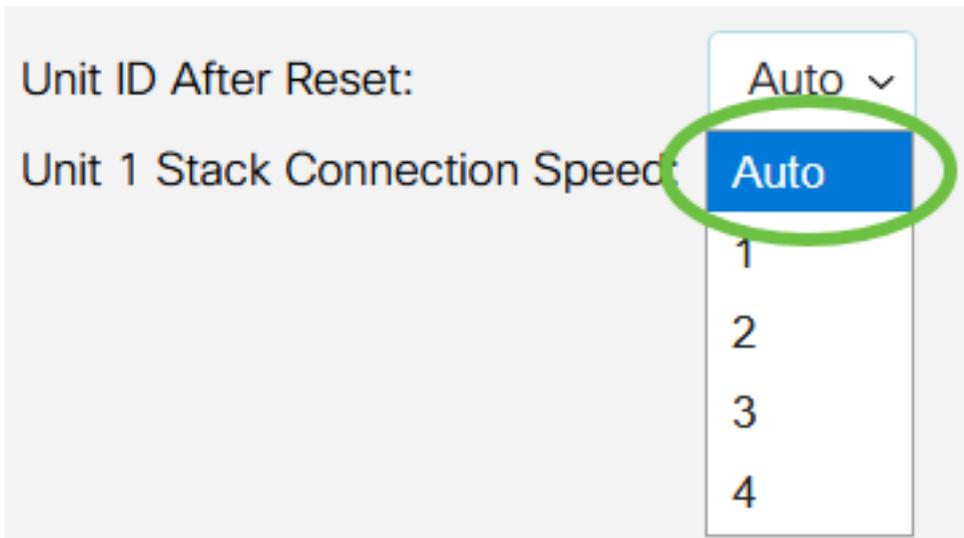
Unit View and Stack Port Configuration

Unit 1 (Active) - CBS350-24FP-4X

▮ Stacking port ▮ Network port 🔗 Active stack connection

In this example, XG3 and XG4 are chosen.

Step 4. Choose a unit ID from the drop-down list or choose Auto to have the unit ID be
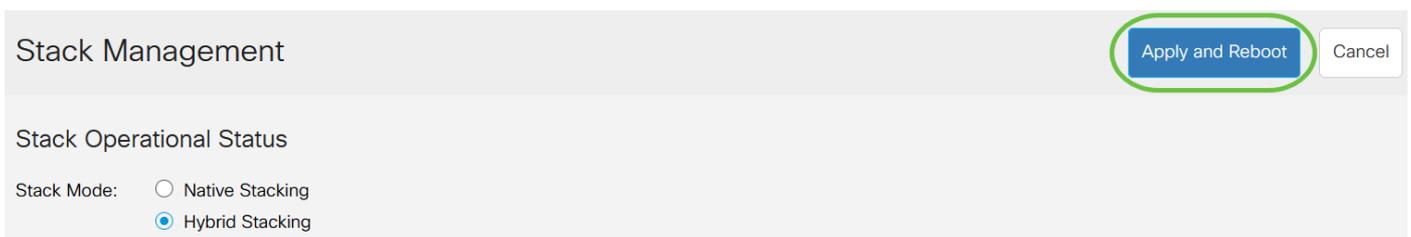
assigned by the system.

In this example, Auto is chosen.

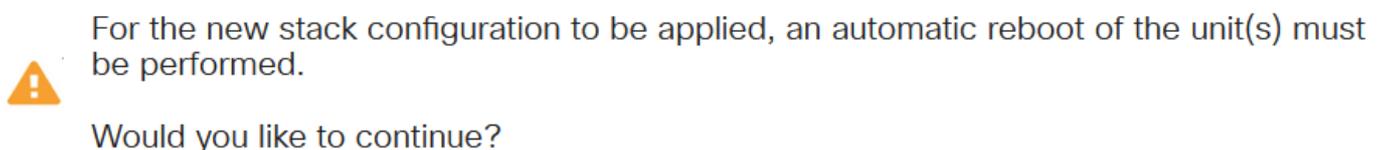The Unit x Stack Connection Speed displays the speed of the stack connection.

Step 5. Click **Apply and Reboot**.

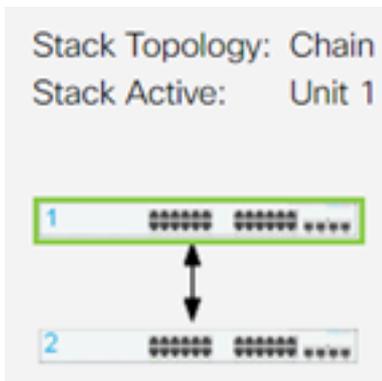Step 6. Once prompted by the pop-up message, click **OK**.

The switch will reboot and apply the configuration settings.

Step 7. Log in to the web-based utility of your Active switch then choose **Administration > Stack Management**.

The Stack Management page should display the settings of the Active and Standy switch.

Stack Topology: Chain
Stack Active: Unit 1

Step 8. Repeat Steps 1 to 8 to configure the Member units.

You have now configured the stack settings on your Cisco Business 350 series switches.

Looking for more articles on your CBS350 switch? Check out any of the links below for more information.

[IP Address Settings](#) [Stacking Mode Selector](#) [Stacking Guidelines](#) [SSH User Authentication](#) [SSH Server Authentication](#) [Password Recovery](#) [Access CLI with PuTTY](#) [Create VLANs](#) [Reset Switch](#)

Article Skeleton w/ Content

Objective

This article provides instructions on how to configure stack settings through the Command Line Interface (CLI) of your Cisco Business 350 series switch.

Introduction

Stacking allows you to expand your network capacity without the hassle of managing multiple devices. Stackable switches can be added or removed from a stack as needed without affecting the overall performance of the stack. Depending on its topology, a stack can continue to transfer data even if a link or unit within the stack fails. This makes stacking an effective, flexible, and scalable solution to expand network capacity.

By default, a switch is always stackable, but has no port configured as a stack port. All the ports in the devices are configured as network ports by default. A device without any stack port can be thought of as the active device in a stack of only itself or as a standalone device. To stack two or more switches, you can reconfigure the desired network ports as stack ports in the switches and connect them with the resulting stack ports in a ring or chain topology.

The units or switches in a stack are connected through stack ports. Stacked switches are then collectively managed as a single logical device. In some cases, stack ports can become members in a stack of Link Aggregation Groups (LAGs) increasing the

bandwidth of the stack interfaces.

Some of these stacking terms may be unfamiliar to you. For further explanation, check out **Cisco Business: Glossary of New Terms**.

A stack provides the following benefits:

- Network capacity can be expanded or reduced dynamically. By adding a unit, the administrator can dynamically increase the number of ports in the stack while maintaining a single point of management. Similarly, units can be removed to decrease network capacity.
- The stacked system supports redundancy in the following ways:

- The Standby unit becomes the active of the stack if the original active fails.

- The stack system supports two types of topologies: Chain and Ring. Ring topology is more reliable than a chain topology. The failure of one link in a ring does not affect the function of the stack, whereas the failure of one link in a chain connection might cause the stack to be split.

Applicable Devices | Software Version

- CBS350 **(Data Sheet)** | 3.0.0.69 **(Download latest)**
- CBS350-2X **(Data Sheet)** | 3.0.0.69 **(Download latest)**
- CBS350-4X **(Data Sheet)** | 3.0.0.69 **(Download latest)**

Configure Stack Settings on a Switch

Connect the Switches

Step 1

Determine the stack mode that you would want to configure. The options are:

- Chain - Each unit is connected to the neighboring unit, but there is no cable connection between the first and last unit. This is the default stack mode.

- Ring - Each unit is connected to the neighboring unit. The last unit is connected to the first unit. The image below shows a ring topology of a four-unit stack:
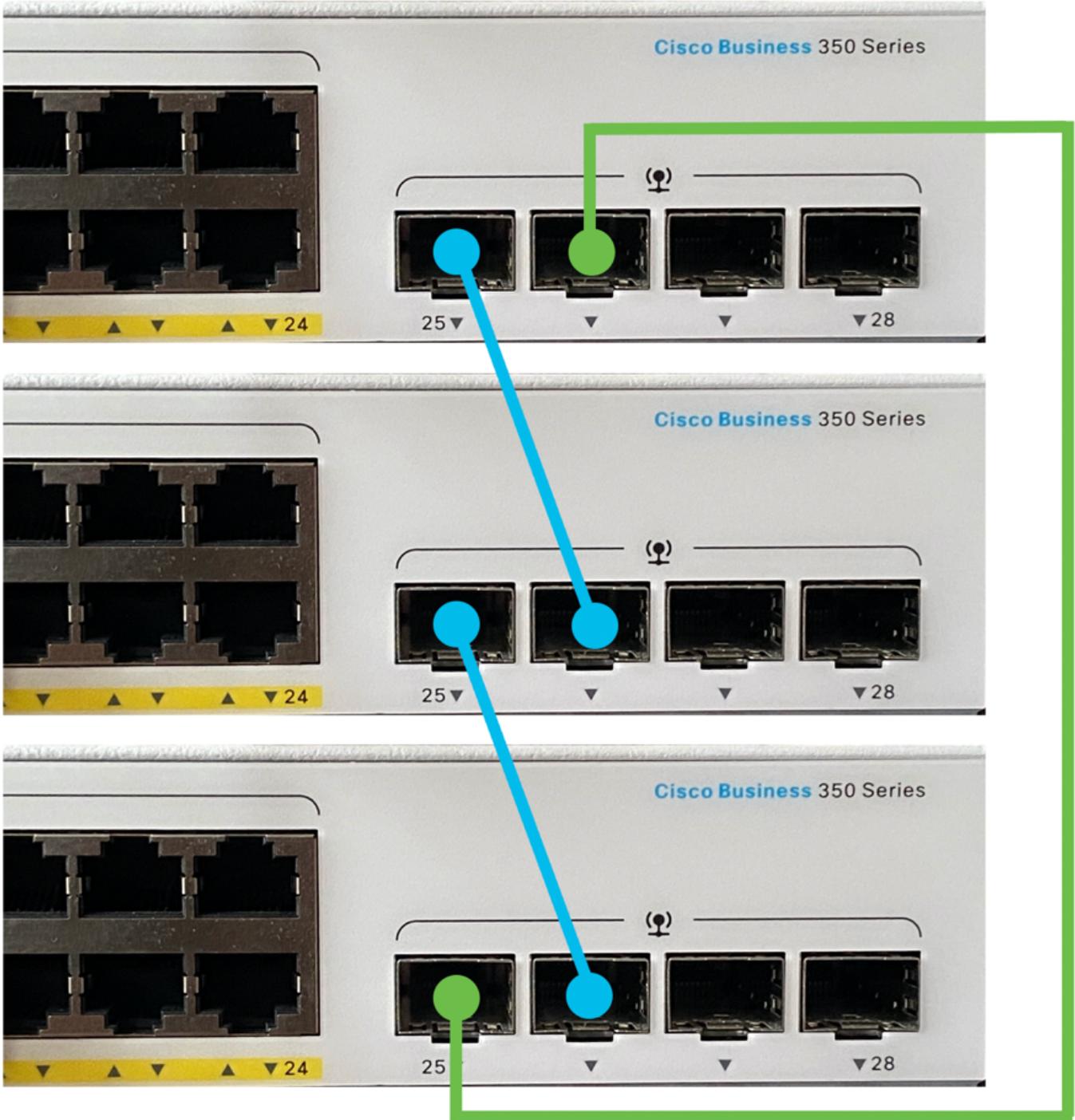
- Dual Ring - This configuration can be used to double the bandwidth of your network:
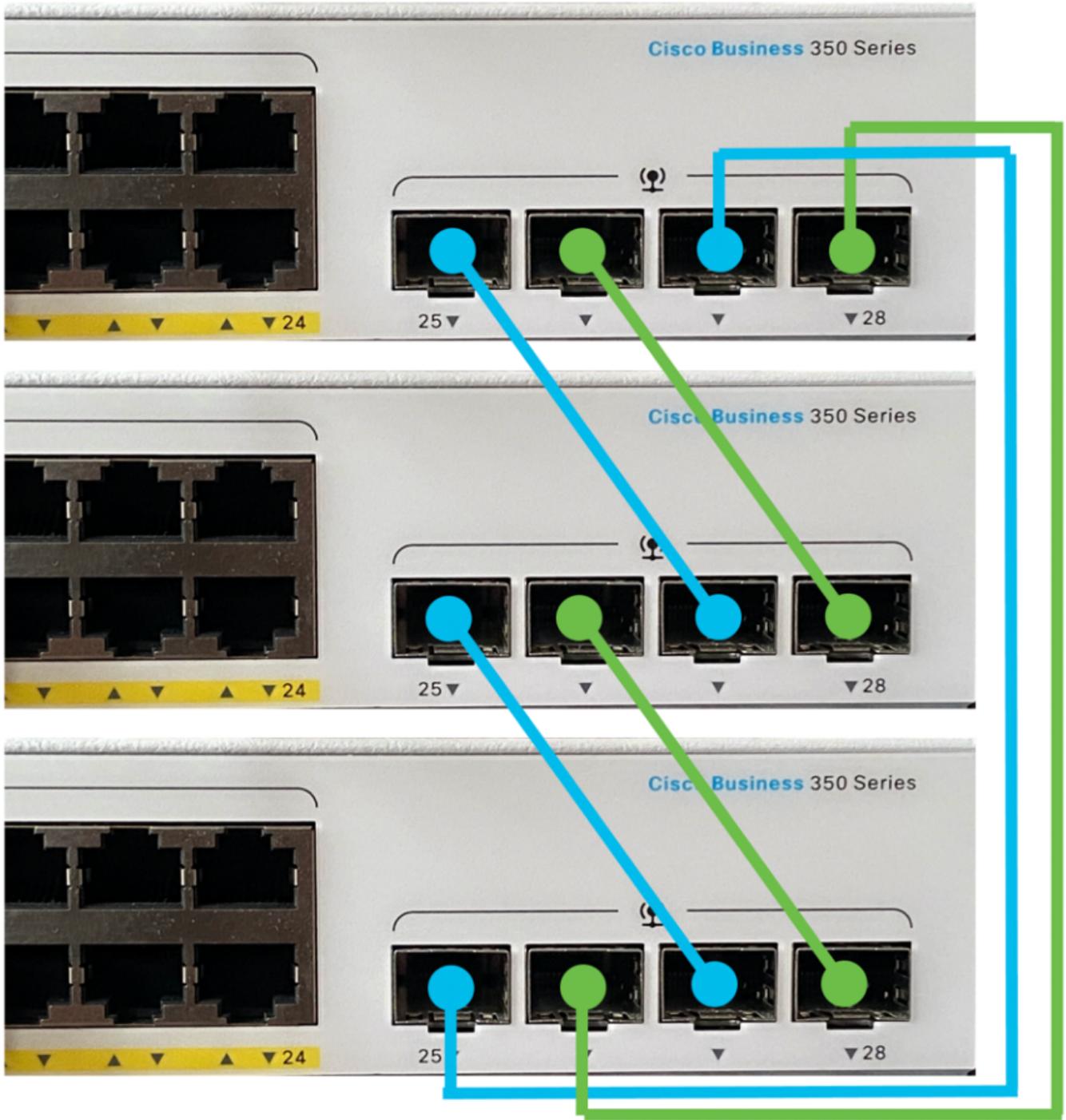
Step 2

Connect one end of the Small Form-Factor Pluggable (SFP) cable that came with your device into the SFP+, XG3, or XG4 port of your switch.

Step 3

Connect the other end of the SFP+ cable into the SFP+, XG3 or XG4 port of your switch.

Step 4

Repeat Steps 2 to 3 to the remaining switches.

In this scenario, two switches are being configured for stacking and the SFP cables are connected to ports 3 and 4 on both switches.
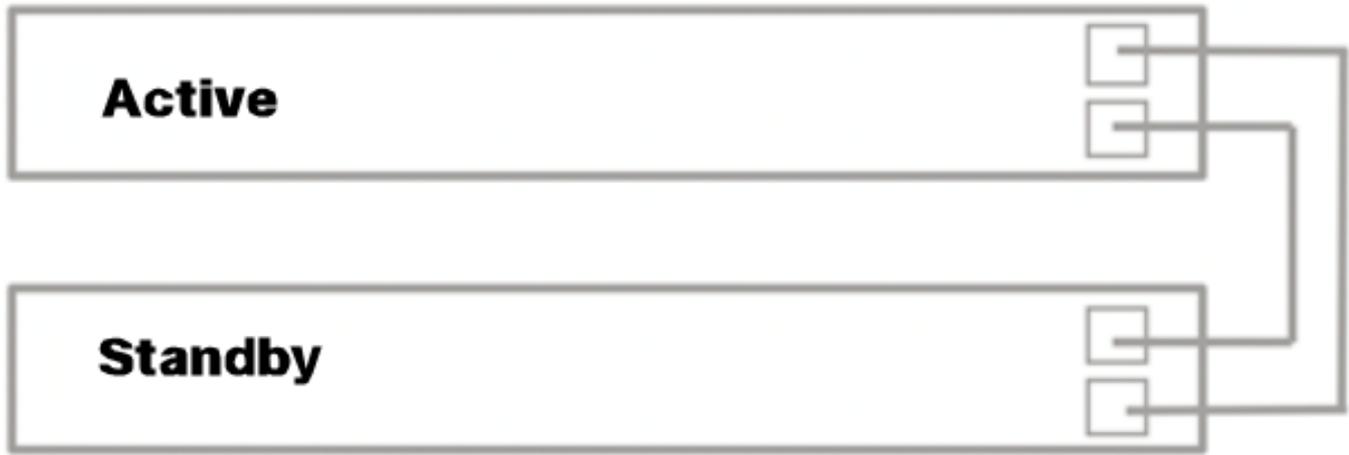
You have now connected your switches according to your desired topology.

Configure Stack Settings on the Active Switch

Active Switch Selection Process

The active unit is selected from the active-enabled units (1 or 2). The factors in selecting the active unit are taken into account in the following priority:

- System Up Time - The active-enabled units exchange up-time, which is measured in segments of 10 minutes. The unit with the higher number of segments is selected. If both units have the same number of time segments, and the unit ID of one of the units was set manually while the unit ID of the other was set automatically, the unit with the manually-defined unit ID is selected; otherwise the unit with the lowest unit ID is selected. If both units IDs are the same, the unit with the lowest Media Access Control (MAC) address is chosen.

The up time of the Standby unit is retained when it is selected as active in the switch failover process.

- Unit ID - If both units have the same number of time segments, the unit with the lowest unit ID is selected.
- MAC Address - If both units IDs are the same, the unit with the lowest MAC address is chosen.

For a stack to operate, it must have an active unit. An active unit is defined as the Active unit that assumes the active role. The stack must contain a Unit 1 and/or Unit 2 after the active selection process. Otherwise, the stack and all its units are partially shut down, not as a complete power-off, but with traffic-passing capabilities halted.

Follow these steps to configure stack settings on the Active switch:

Step 1

Log in to the console of the first switch. The default username and password is cisco/cisco. If you have configured a new username or password, enter the credentials instead.

```
[User Name:cisco
[Password:**********
```

The available commands may vary depending on the exact model of your device. In this example, CBS350-48MP switch is used. The hostname of the Standby switch is CBS350-2.

Step 2

Enter the Global Configuration mode of the switch by entering the following:

CBS350-1#configure

Step 3

To enter the context of the specified stack unit or all stack units, enter the stack unit command in the Global Configuration mode by entering the following:

CBS350-1(config)#stack unit [unit-id | all]

Step 4

Enter the stack configuration command to configure the stack ports and unit ID after reboot by entering the following:

CBS350-1(unit)#stack configuration {[links ports-list] [unit-id | auto]}

The options are:

- ports-list - a list of one or more stack ports separated by comma, or a range of sequential ports marked by dash.
- links - Choose port list to be used as stack links after reload.
- unit-id - Choose the unit ID to be used after reload. The range is 1 to 4. You can use auto to enable stack auto numbering feature.

Step 5 (Optional)

To remove stack configuration settings on the switch, use the no stack configuration command by entering the following:

CBS350-1(unit)#no stack configuration

Step 6

Enter the **end** command to go back to the Privileged EXEC mode of the switch.

```
CBS350-1(unit)#end
```

Step 7 (Optional)

To display the stack configuration settings, enter the following:

```
CBS350-1#show stack configuration
```

In this example, the Active (Unit 1) switch now uses te3-4 as stack links. These settings will take effect after the switch reboots.

Step 8 (Optional)

In the Privileged EXEC mode of the switch, save the configured settings to the startup configuration file, by entering the following:

```
CBS350-1#copy running-config startup-config
```

Step 9 (Optional)

Press **Y** for Yes or **N** for No on your keyboard once the Overwrite file [startup-config]… prompt appears.

Step 10

Reload the switch to apply the configured stack settings by entering the following:

```
CBS350-1#reload
```

Important: When a switch is reloaded, the running configuration file is deleted. Before proceeding with the reload instructions, make sure to save all the running configuration settings to avoid data loss.

Step 11

Press **Y** for Yes or **N** for No on your keyboard once the Do you want to continue prompt appears.

The Active unit will now reboot. You should now have configured the stack settings of your active unit.

Configure Stack Settings on the Standby or Member Switch

Step 1

Log in to the console of the second switch. The default username and password is cisco/cisco. If you have configured a new username or password, enter the credentials instead.

```
[User Name:cisco
[Password:*****
```

The available commands may vary depending on the exact model of your device. In this
example, CBS350-48MP switch is used.The hostname of the Standby switch is CBS350-2.

Step 2

Enter the Global Configuration mode of the switch by entering the following:

`CBS350-2#`configure
Step 3

To enter the context of the specified stack unit or all stack units, enter the stack unit
command in the Global Configuration mode by entering the following:

`CBS350-2(config)#`stack unit [unit-id | all]

In this example, stack unit 1 is used.

Step 4

Enter the stack configuration command to configure the stack ports and unit ID after
reboot by entering the following:

`CBS350-2(unit)#`stack configuration {[links ports-list] [unit-id
| auto]}

The options are:

- ports-list - a list of one or more stack ports separated by comma, or a range of
  sequential ports marked by dash.
- Links - Choose port list to be used as stack links after reload.
- unit-id - Choose the unit ID to be used after reload. The range is 1 to 4. You can use
  auto to enable stack auto numbering feature.

Step 5 (Optional)

To remove stack configuration settings on the switch, use the no stack configuration
command by entering the following:

`CBS350-2(unit)#`no stack configuration
Step 6

Enter the **end** command to go back to the Privileged EXEC mode of the switch.

`CBS350-2(unit)#`end

Step 7 (Optional)

To display the stack configuration settings, enter the following:

`CBS350-2#`show stack configuration

In this example, the Unit 2 switch now uses te3-4 as stack links. These settings will take effect after the switch reboots.

Step 8 (Optional)

In the Privileged EXEC mode of the switch, save the configured settings to the startup configuration file, by entering the following:

`CBS350-2#`copy running-config startup-config

Step 9 (Optional)

Press **Y** for Yes or **N** for No on your keyboard once the Overwrite file [startup-config]… prompt appears.

Step 10

Reload the switch to apply the configured stack settings by entering the following:

`CBS350-2#`reload

Important: When a switch is reloaded, the running configuration file is deleted. Before proceeding with the reload instructions, make sure to save all the running configuration settings to avoid data loss.

Step 11

Press **Y** for Yes or **N** for No on your keyboard once the Do you want to continue prompt appears.

After the switch reboots, the Standby switch will no longer be a standalone device and will only be accessible through the active switch.

Step 12

Repeat steps 1 to 11 for the configuration of the member switch or switches.

You should now have configured the stack settings on your Standby and/or member switches.

Show Stack Configuration Settings on the Switch

Step 1

Log back in to the console of the Active unit.

```
[User Name:cisco
[Password:**********
```

Quick Tip: Access the Active unit while configuring the Standby and/or Member switches to monitor the progress. Once the Standby or Member switch reboots, the active switch will be notified with the stacking activities.

```
21-Apr-2017 01:19:23 %STP-W-PORTSTATUS: gi1/0/2: STP status Forwarding
21-Apr-2017 01:19:28 %LINK-W-Down:  gi1/0/2
21-Apr-2017 01:19:31 %LINK-I-Up:  gi1/0/2
21-Apr-2017 01:19:35 %STP-W-PORTSTATUS: gi1/0/2: STP status Forwarding
21-Apr-2017 01:19:54 %CSCDLAG-I-UP: Stack port te4 operational status is UP
21-Apr-2017 01:19:54 %CSCDLAG-I-ACTIVE: Stack port te4 is active in stack LAG 1
21-Apr-2017 01:20:00 %LINK-W-Down:  gi1/0/2
21-Apr-2017 01:20:00 %MLDP-I-CONNECT: Connection to Unit 2 is established.
21-Apr-2017 01:20:00 %STCK SYSL-I-UNITMSG: UNIT ID 2,Msg:%INIT-I-InitCompleted:
 Initialization task is completed

21-Apr-2017 01:20:00 %STCK SYSL-I-UNITMSG: UNIT ID 2,Msg:%CSCDLAG-I-UP: Stack p
ort te4 operational status is UP

21-Apr-2017 01:20:00 %STCK SYSL-I-UNITMSG: UNIT ID 2,Msg:%CSCDLAG-I-ACTIVE: Sta
ck port te4 is active in stack LAG 1

21-Apr-2017 01:20:00 %STCK SYSL-I-UNITMSG: UNIT ID 2,Msg:%MLDP-I-SLAVE: Switchi
ng to the Slave Mode.

21-Apr-2017 01:20:00 %STCK SYSL-I-UNITMSG: UNIT ID 2,Msg:%MLDP-I-CONNECT: Conne
ction to Unit 1 is established.

21-Apr-2017 01:20:18 %Entity-I-SEND-ENT-CONF-CHANGE-TRAP: entity configuration
change trap.
21-Apr-2017 01:20:20 %LINK-W-Down:  gi2/0/1
21-Apr-2017 01:20:21 %NT_poe-I-PoEPowerSourceChange: Active power source set to
 PS for unit 2
21-Apr-2017 01:20:21 %LINK-W-Down:  gi2/0/2
21-Apr-2017 01:20:22 %LINK-W-Down:  gi2/0/3
21-Apr-2017 01:20:23 %LINK-W-Down:  gi2/0/4
21-Apr-2017 01:20:24 %DFS-I-SYNC-START: Synchronizing file system to unit 2
21-Apr-2017 01:20:24 %DFS-I-SYNC-OK: File system synchronization to unit 2 succ
eeded
21-Apr-2017 01:20:24 %DSYNCH-I-SYNCH_SUCCEEDED: Synchronization with unit 2 is
finished successfully
21-Apr-2017 01:20:24 %LINK-W-Down:  gi2/0/5
```

Step 2

In the Privileged EXEC mode of the switch, use the show stack command to show the stack settings on the switch by entering the following:

`CBS350-1#show stack`

In this example, the configured unit 2 is now known as the Standby switch of the stack.

Step 3

Enter the show stack links command to show the stack links on the switch by entering the following:

CBS350-1#show stack links [details]

The options are:

- stack links - Displays the stack links information for an entire stack.

- stack links details - Displays the stack links information for an entire stack with details.

```
          #show stack links details

Topology is Chain

UNIT ID   Link      Status   Speed Neighbor Neighbor    Neighbor
                                   Unit ID  Link        MAC Address
-------  --------  ---------  ----- -------- --------  ------------------
   1       te3       Down      NA      NA       NA            NA
   1       te4      Active    10G      2       te4      40:a6:e8:e6:fa:9f
   2       te3       Down      NA      NA       NA            NA
   2       te4      Active    10G      1       te4      40:a6:e8:e6:f4:d3
```

Step 4 (Optional)

To access the Standby switch, enter the stack unit ID of the switch in the Global Configuration context by entering the following:

```
-1#configure
-1(config)#stack unit 2
-1(unit)#
```

In this example, the configured Standby switch is now accessible as unit 2.

Nice work! You have configured the stack settings on your switches.

Looking for more articles on your CBS350 switch? Check out any of the links below for more information.

IP Address Settings Stacking Mode Selector Stacking Guidelines SSH User Authentication SSH Server Authentication Password Recovery Access CLI with PuTTY Create VLANs Reset Switch