

Revised: July 7, 2025

Cisco Nexus Hyperfabric — Configure Fabrics

Fabrics

A fabric is a collection of switches specific to one organization, and each switch is specific to a single fabric. A fabric is the configuration and monitoring domain; users configure fabrics, not individual switches. A fabric is also a blueprint to which physical devices are bound and interconnected. The blueprint helps ensure the adherence to all physical and logical designs.

These are some of the things that you define in a fabric blueprint:

- Switch model
- Number of spine switches and leaf switches
- Through which port the switches are connected
- VRF instance, VNI, and VLAN configuration
- Routing configuration
- Target software release for the switches in the fabric

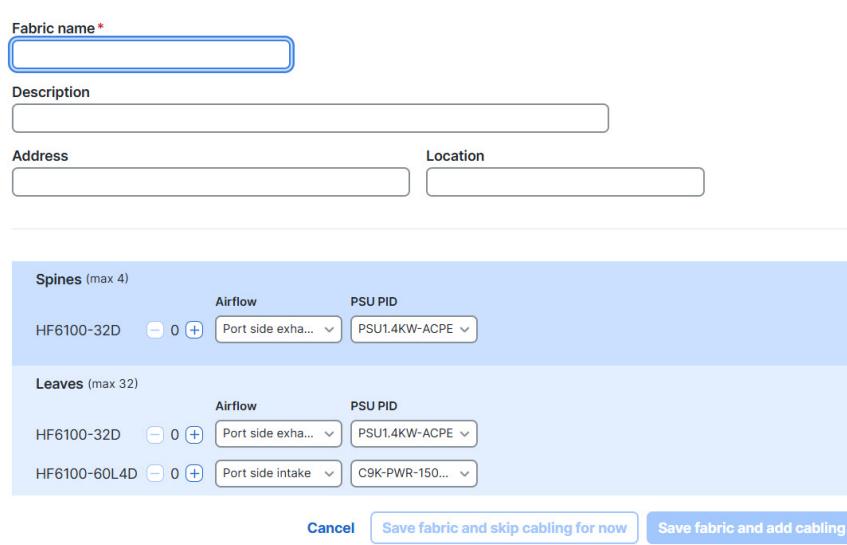
Create a new fabric

When you have created a new organization or need to add a fabric to an existing organization, you can use the Blueprint Designer in the Cisco Nexus Hyperfabric to create a blueprint for the new fabric.

Follow these steps to create a new fabric.

Step 1 Select Fabrics.

Step 2 Click + Add new fabric.



The screenshot shows the 'Add new fabric' dialog box. It includes fields for 'Fabric name*' (with a red asterisk indicating it's required), 'Description', 'Address', and 'Location'. Below this, there are sections for 'Spines (max 4)' and 'Leaves (max 32)'. Under Spines, an HF6100-32D switch is listed with 0 ports selected. Under Leaves, two switches are listed: an HF6100-32D with 0 ports selected and an HF6100-60L4D with 0 ports selected. For both, the Airflow dropdown is set to 'Port side exhaust...' and the PSU PID dropdown is set to 'PSU1.4KW-ACPE'. At the bottom of the dialog are 'Cancel', 'Save fabric and skip cabling for now' (disabled), and 'Save fabric and add cabling' buttons.

Step 3 Fill out the dialog box as necessary.

- a) For **Fabric name**, enter a unique name from 3 to 120 characters. The name can contain a hyphen (-), but no other special characters.
- b) For **Description**, enter a description of the fabric.
- c) For **Address**, enter the physical address where the fabric is located.
- d) For **Location**, enter additional location information about the fabric.
- e) For **Spines**, select the quantity of switches, the airflow, and the PSU PID. Cisco Nexus Hyperfabric selects the fan PID automatically based on what you select for the airflow.
- f) For **Leaves**, select the quantity of switches, the airflow, and the PSU PID. Cisco Nexus Hyperfabric selects the fan PID automatically based on what you select for the airflow.

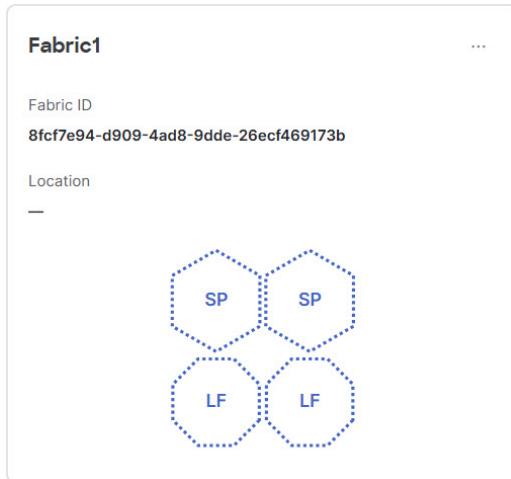
To design a single-switch fabric or a mesh fabric, select only leaf switches. If you select one or more spine switches, select two or more switches to create a spine-and-leaf topology.

As you make your switch choices, Cisco Nexus Hyperfabric updates the topology.

Step 4

Click either **Save fabric and skip cabling for now** or **Save fabric and add cabling**.

If you do not want to add the cabling at this time, click **Save fabric and skip cabling for now**. Cisco Nexus Hyperfabric adds a tile for the new fabric. This example shows a spine-and-leaf fabric with two spine switches and two leaf switches:



If you want to add the cabling now, click **Save fabric and add cabling**, which opens the **Auto Cabling** dialog box. Follow these substeps.

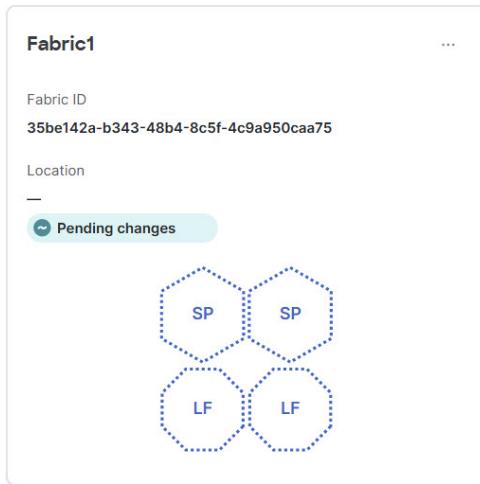
- a) For **Order**, enter the number of links that you want to have between each switch pair.

In most cases, you can use the default of 1.

- b) For **Pluggable**, enter the product ID of the optic. Optionally, select one of the optics from the table at the bottom of the dialog box to fill in the field based on what you chose. You can use the **Search** field and **Plug type**, **Speed**, and **Cable type** drop-down lists to filter the table.
- c) Click **Save** at the bottom of the dialog box.

The **Auto Cabling** dialog box closes and the **Fabric connects** table now shows how you should connect the switches.

Cisco Nexus Hyperfabric adds a tile for the new fabric. The tile shows "Pending changes" because you must review and push the cabling configuration change. For the procedure, see [Finish and commit the design, on page 5](#). This example shows a spine-and-leaf fabric with two spine switches and two leaf switches:



Modifying fabrics

If you have administrator or read-write access to the organization, you can modify the design of an existing fabric on the **Fabrics** page. You can make changes to the fabric blueprint at any stage: from an undeployed fabric design to an installed and running fabric.

The **Fabrics** blueprint page operates in one of two modes:

- **Edit mode**—This is the default mode for a user with administrator or read-write access. All fabric edit options are exposed.
- **Running mode**—This is the default mode for a user with read-only access. Settings and status are displayed, but no edit options are exposed. You can switch to edit mode only if you have administrator or read-write access.



Note

All configuration procedures in this document assume that you are logged in with administrator or read-write access, and that the menus are in edit mode.

Modify a fabric

This procedure provides the typical workflow for making fabric configuration changes.

Follow these steps to modify a fabric.

Step 1 Select **Fabrics**, then click the fabric that you want to configure.

Step 2 If the fabric is not in the edit mode, click **Switch to edit mode**.

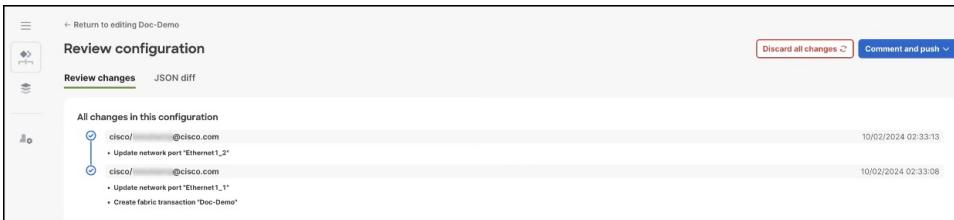
Step 3 Make your changes.



Your changes are not applied to the fabric until you review, commit, and push them.

Note

Step 4 When you're ready to apply your changes, click **Review configuration**.



In the **Review configuration** page, you can view:

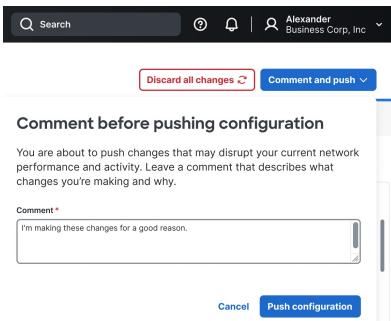
- a list of brief descriptions of the changes since the last push, including the author's ID and the date and time when the change was saved, and
- a 'diff' display of the fabric's JSON configuration file, showing the proposed changes in this commit.

Step 5

When you have reviewed the changes and are ready to apply them, click **Comment and push**.

Step 6

In the **Comment before pushing configuration** dialog box, enter the reason for the change.



Step 7

Click **Push configuration**.

Step 8

View the status of your changes.

On the **Fabrics** blueprint page, view the fabric card to see the status of the pushed changes. Your changes may take some time to apply or they might generate red assertions. For example, if you push changes to an installed and running fabric, and the changes conflict with the physical cabling of the fabric, an assertion is raised.

Modify a fabric topology

To add or remove switches, or to otherwise modify the topology of an existing fabric, navigate to the **Fabrics** page. In this menu, you can define the blueprint for the fabric. See the terminology section in the *Cisco Nexus Hyperfabric Getting Started* document. When you modify the fabric, the Nexus Hyperfabric creates a new blueprint.

Follow these steps to modify a fabric topology.

Step 1

Select **Fabrics**, then click the fabric that you want to modify.

Step 2

If the fabric is not in the edit mode, click **Switch to edit mode**.

Step 3

In the **Topology** area, click **Edit fabric**.

Step 4

In the **Edit fabric** dialog box, set the properties as desired.

- Enter the fabric name.
- (Optional) Enter a description, address, and location of the fabric.
- Select the number of spine switches and leaf switches.

For a single-switch fabric or a mesh fabric, select only leaf switches. If you select one or more spine switches, select two or more leaf switches to create a spine and leaf topology. As you make your switch selections, the topology diagram changes to display the resulting fabric.

Step 5 Click Save.

Considerations for modifying a fabric topology

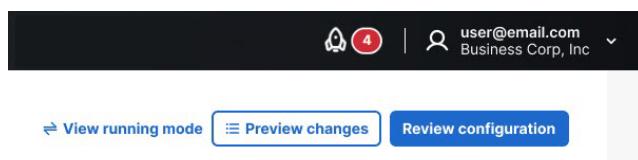
Removing a switch or a cable from a fabric topology impacts traffic going through the interface that you removed from the fabric. Adding a switch or a cable does not impact traffic.

Finish and commit the design

Your changes are not applied to the fabric until you review, commit, and push them.

Follow these steps to finish and commit the design.

Step 1 Click Review configuration.



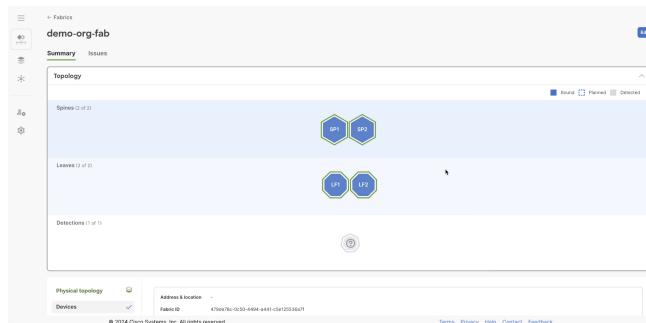
Step 2 Verify your changes in the review list.

Step 3 Click Comment and push.

Step 4 In the **Comment before pushing configuration** dialog box, enter the reason for the change.

Step 5 Click Push configuration.

If you bound any switches as part of this push, all switch icons should have a green outline.



A red outline indicates a red assertion and you should investigate the issue.

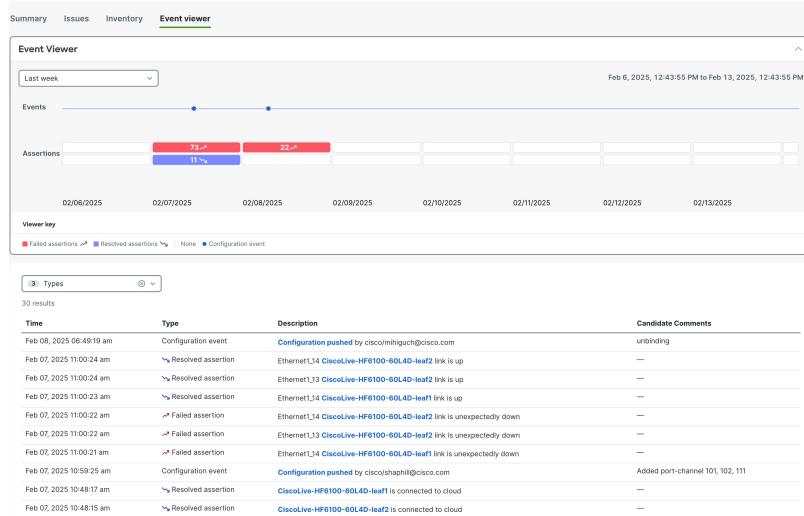
View Event viewer

Event viewer displays the time series for events such as failed assertions, resolved assertions, and configuration events for a device.

Step 1 Select **Fabrics**, then select **Fabric > Event viewer**.

Step 2

The Event Viewer area displays the time series for failed assertions, resolved or cleared assertions, and configuration events. Configuration events are displayed separately as a line graph. From the drop-down list, select the time period. By default, **Last hour** is chosen.



Step 3

Use the **Types** drop-down list, to filter the event types.



Candidate comments displays comments you enter when you push a configuration and are only applicable for configuration events.

Note

Step 4

In the Description column, click **Configuration pushed** to view additional details.

The figure is a screenshot of a detailed configuration log. It shows a list of five entries, each with a timestamp and a list of actions. The entries are as follows:

- 02/07/2025 10:59:25: cisco/[REDACTED]@cisco.com
 - Commit fabric transaction "TME-fab1"
- 02/07/2025 10:57:34: cisco/[REDACTED]@cisco.com
 - Update port channel "PortChannel111"
- 02/07/2025 10:57:21: cisco/[REDACTED]@cisco.com
 - Update port channel "PortChannel101"
- 02/07/2025 10:56:42: cisco/[REDACTED]@cisco.com
 - Update port channel "PortChannel102"
- 02/07/2025 10:56:28: cisco/[REDACTED]@cisco.com
 - Update port channel "PortChannel101"
 - Create fabric transaction "TME-fab1"