Install and setup

ONTAP Systems

NetApp
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Install and setup

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For most configurations, you can choose from different content formats.

- Quick steps

  A printable PDF of step-by-step instructions with live links to additional content.

- Video steps

  Video step-by-step instructions.

- Detailed steps

  Online step-by-step instructions with live links to additional content.

If your system is in a MetroCluster IP configuration, see the Install MetroCluster IP Configuration instructions.

Quick steps - FAS500f

This section gives graphic instructions for a typical installation of your system from racking and cabling, through initial system bring-up. Use this guide if you are familiar with installing NetApp systems.

Access the *Installation and Setup Instructions* PDF poster:

- English: FAS500f Installation and Setup Instructions
- Japanese: FAS500f Systems Installation and Setup Instructions
- Chinese: FAS500f Systems Installation and Setup Instructions

Videos - FAS500f

There are two videos - one showing how to rack and cable your system and one showing an example of using the System Manager Guided Setup to perform initial system configuration.

Video one of two: Hardware installation and cabling

The following video shows how to install and cable your new system.

Installation and Setup of a FAS500f

Video two of two: Performing end-to-end software configuration

The following video shows end-to-end software configuration for systems running ONTAP 9.2 and later.

NetApp video: Software configuration for vSphere NAS datastores for FAS/AFF systems running ONTAP 9.2

Detailed steps - FAS500f

This section gives detailed step-by-step instructions for installing a FAS500f system.

Step 1: Prepare for installation

To install your FAS500f system, you need to create an account and register the system. You also need to inventory the appropriate number and type of cables for your system and collect specific network information.

You need to have access to the NetApp Hardware Universe (HWU) for information about site requirements as well as additional information on your configured system. You might also want to have access to the Release Notes for your version of ONTAP for more information about this system.

What you need

You need to provide the following at your site:

- Rack space for the storage system
- Phillips #2 screwdriver
- Additional networking cables to connect your system to your network switch and laptop or console with a Web browser

Steps

1. Unpack the contents of all boxes.
2. Record the system serial number from the controllers.

3. Set up your account:
   a. Log in to your existing account or create an account.
   b. Register (NetApp Product Registration) your system.
4. Download and install NetApp Downloads: Config Advisor on your laptop.
5. Inventory and make a note of the number and types of cables you received.

   The following table identifies the types of cables you might receive. If you receive a cable not listed in the table, see the NetApp Hardware Universe to locate the cable and identify its use.

Type of cable…	Part number and length	Connector type	For…

25 GbE cable	X66240A-05 (112-00595), 0.5m; X66240-2 (112-00573), 2m		Cluster interconnect network
	X66240A-2 (112-00598), 2m; X66240A-5 (112-00600), 5m		Data
100 GbE cable	X66211-2 (112-00574), 2m; X66211-5 (112-00576), 5m		Storage
RJ-45 (order dependent)	Not applicable		Management network (BMC and wrench port) and Ethernet data (e0a and e0b)
Fibre Channel	X66250-2 (112-00342) 2m; X66250-5 (112-00344) 5m; X66250-15 (112-00346) 15m; X66250-30 (112-00347) 30m		
Micro-USB console cable	Not applicable		Console connection during software setup
Power cables	Not applicable		Powering up the system

1. Review the ONTAP Configuration Guide and collect the required information listed in that guide.

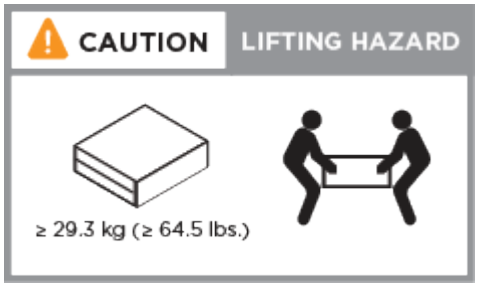
Step 2: Install the hardware

You need to install your system in a 4-post rack or NetApp system cabinet, as applicable.

Steps

1. Install the rail kits, as needed.
2. Install and secure your system using the instructions included with the rail kit.

You need to be aware of the safety concerns associated with the weight of the system.



3. Identify and manage cables because this system does not have a cable management device.
4. Place the bezel on the front of the system.

Step 3: Cable controllers

There is required cabling for your platform's cluster using the two-node switchless cluster method or the cluster interconnect network method. There is optional cabling to the Fibre Channel or iSCSI host networks or direct-attached storage. This cabling is not exclusive; you can have cable to a host network and storage.

Required cabling: Cable controllers to a cluster

Cable the controllers to a cluster by using the two-node switchless cluster method or by using the cluster interconnect network.

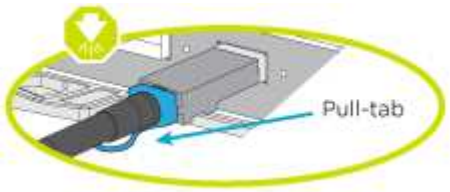
Option 1: Cable a two-node switchless cluster

The management, Fibre Channel, and data or host network ports on the controller modules are connected to switches. The cluster interconnect ports are cabled on both controller modules.

Before you begin

Contact your network administrator for information about connecting the system to the switches.

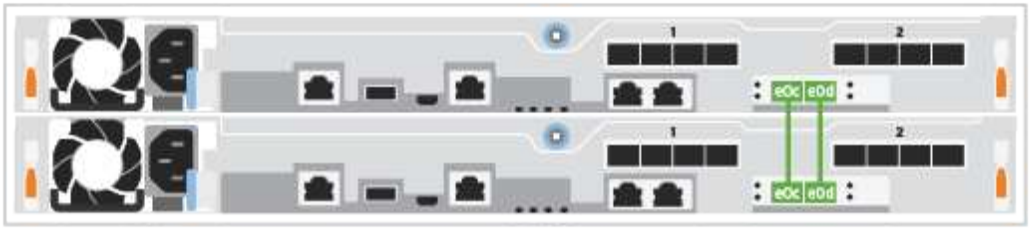
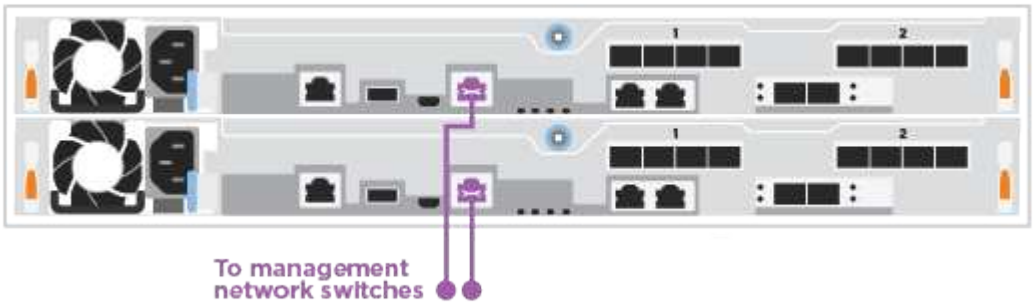
Be sure to check the illustration arrow for the proper cable connector pull-tab orientation.



As you insert the connector, you should feel it click into place; if you do not feel it click, remove it, turn it around and try again.

Steps

1. Use the animation (Cable a two-node switchless cluster) or the step-by-step instructions to complete the cabling between the controllers and to the switches:

Step	Perform on each controller
1	Cable the cluster interconnect ports to each other with the 25GbE cluster interconnect cable  : • e0c to e0c • e0d to e0d 
2	Cable the wrench ports to the management network switches with the RJ45 cables. 
!	DO NOT plug in the power cords at this point.

2. To complete setting up your system, see Step 4: Complete system setup and configuration.

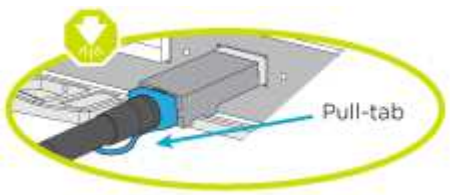
Option 2: Cable a switched cluster

All ports on the controllers are connected to switches; cluster interconnect, management, Fibre Channel, and data or host network switches.

Before you begin

Contact your network administrator for information about connecting the system to the switches.

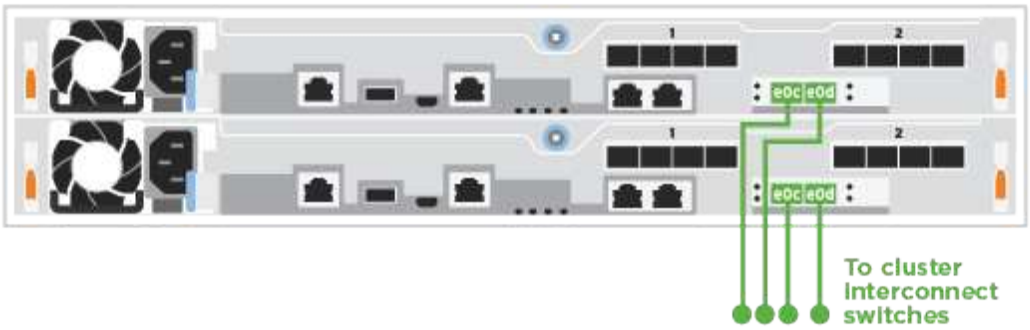
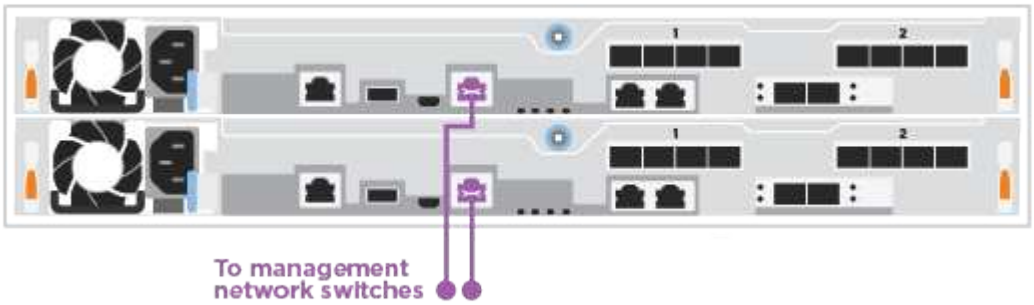
Be sure to check the illustration arrow for the proper cable connector pull-tab orientation.



As you insert the connector, you should feel it click into place; if you do not feel it click, remove it, turn it around and try again.

Steps

1. Use the animation (Cabling a switched cluster) or the step-by-step instructions to complete the cabling between the controllers and to the switches:

Step	Perform on each controller
1	Cable the cluster interconnect ports to the 25 GbE cluster interconnect switches. • e0c • e0d 
2	Cable the wrench ports to the management network switches with the RJ45 cables. 
	DO NOT plug in the power cords at this point.

2. To complete setting up your system, see Step 4: Complete system setup and configuration.

Optional cabling: Cable configuration-dependent options

You have configuration-dependent optional cabling to the Fibre Channel or iSCSI host networks or direct-attached storage. This cabling is not exclusive; you can have cabling to a host network and storage.

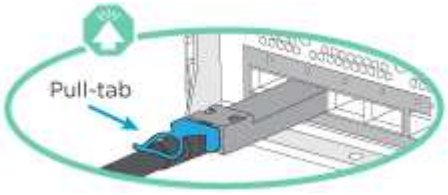
Option 1: Cable to a Fibre Channel host network

Fibre Channel ports on the controllers are connected to Fibre Channel host network switches.

Before you begin

Contact your network administrator for information about connecting the system to the switches.

Be sure to check the illustration arrow for the proper cable connector pull-tab orientation.



As you insert the connector, you should feel it click into place; if you do not feel it click, remove it, turn it around and try again.

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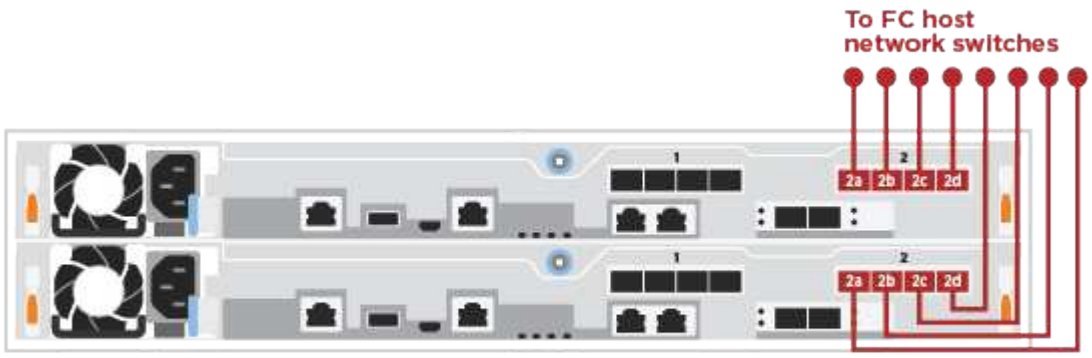
Step	Perform on each controller module
1	Cable ports 2a through 2d to the FC host switches. 
2	To perform other optional cabling, choose from: • Option 2: Cable to a 25GbE data or host network • Option 3: Cable the controllers to a single drive shelf
3	To complete setting up your system, see Step 4: Complete system setup and configuration.

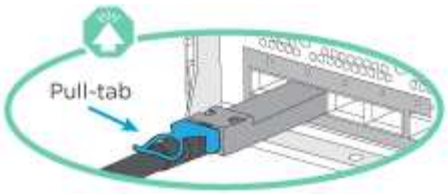
Option 2: Cable to a 25GbE data or host network

25GbE ports on the controllers are connected to 25GbE data or host network switches.

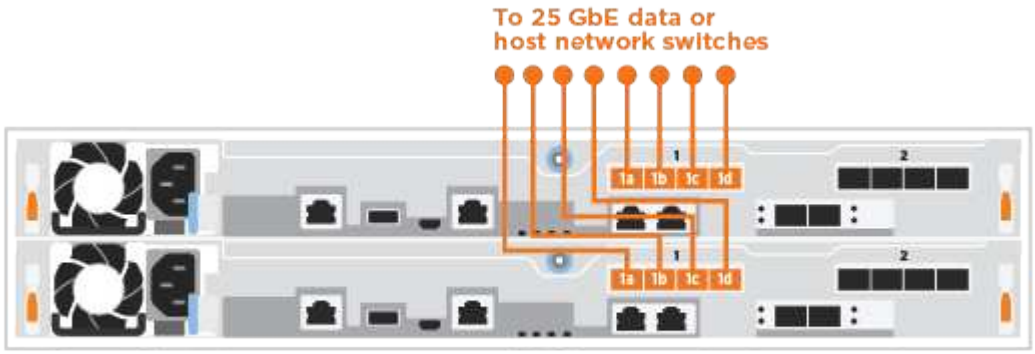
Before you begin

Contact your network administrator for information about connecting the system to the switches.

Be sure to check the illustration arrow for the proper cable connector pull-tab orientation.



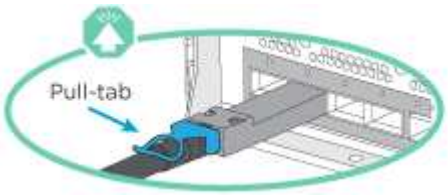
As you insert the connector, you should feel it click into place; if you do not feel it click, remove it, turn it around and try again.

Step	Perform on each controller module
1	Cable ports e4a through e4d to the 10GbE host network switches. 
2	To perform other optional cabling, choose from: • Option 1: Cable to a Fibre Channel host network • Option 3: Cable the controllers to a single drive shelf
3	To complete setting up your system, see Step 4: Complete system setup and configuration.

Option 3: Cable the controllers to a single drive shelf

You must cable each controller to the NSM modules on the NS224 drive shelf.

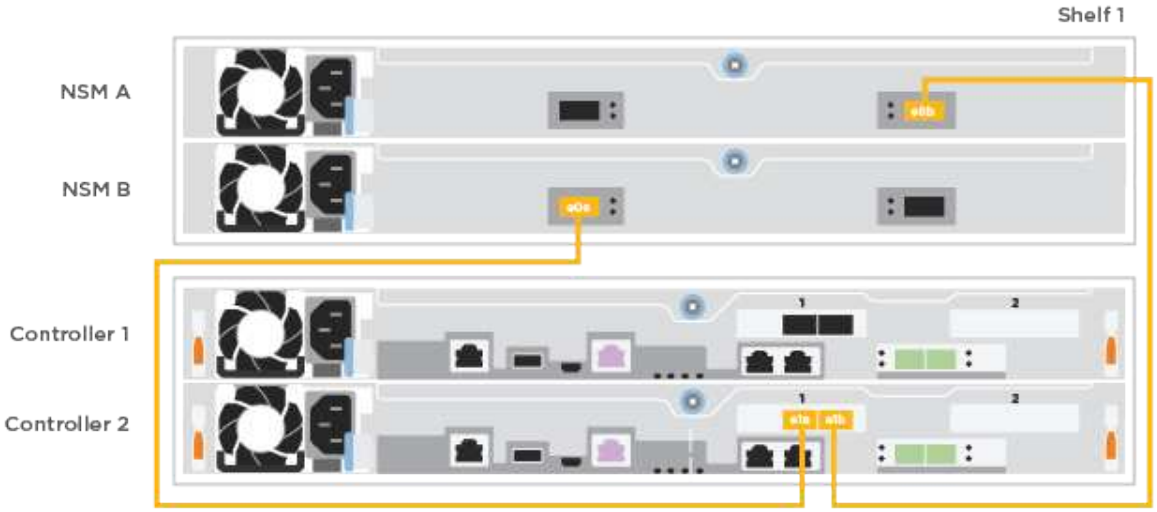
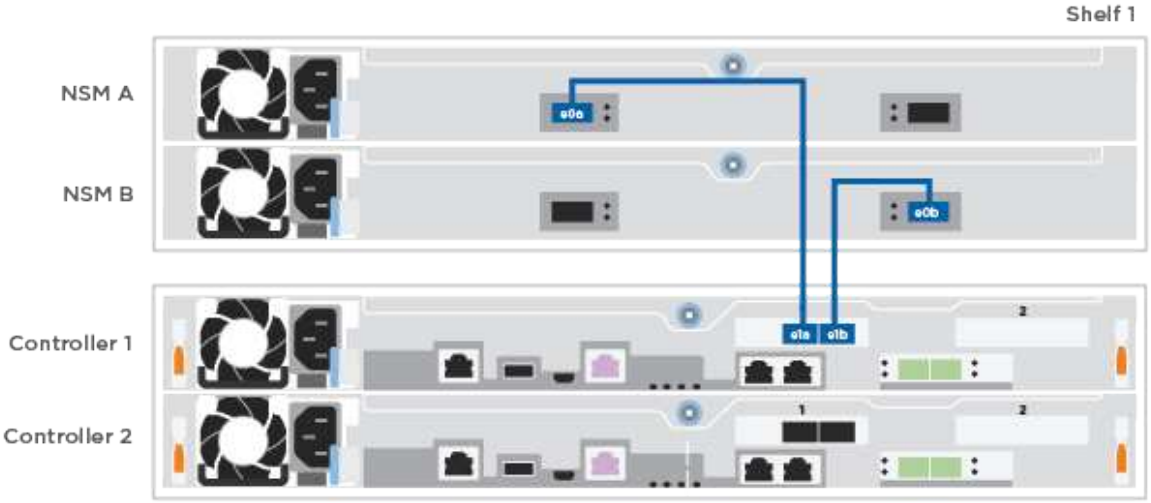
Be sure to check the illustration arrow for the proper cable connector pull-tab orientation.



As you insert the connector, you should feel it click into place; if you do not feel it click, remove it, turn it around and try again.

Steps

1. Use the animation (Cabling the controllers to a single NS224) or the step-by-step instructions to cable your controller modules to a single shelf.

Step	Perform on each controller module
1	Cable controller A to the shelf: 
2	Cable controller B to the shelf: 

2. To complete setting up your system, see Step 4: Complete system setup and configuration.

Step 4: Complete system setup and configuration

Complete the system setup and configuration using cluster discovery with only a connection to the switch and laptop, or by connecting directly to a controller in the system and then connecting to the management switch.

Option 1: Complete system setup and configuration if network discovery is enabled

If you have network discovery enabled on your laptop, you can complete system setup and configuration using

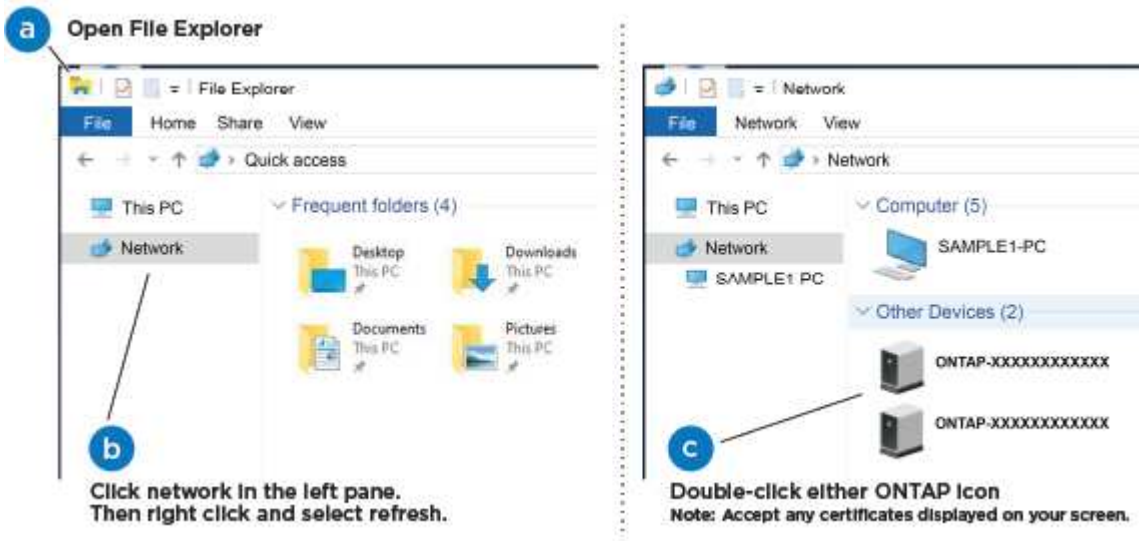
automatic cluster discovery.

Steps

1. Plug the power cords into the controller power supplies, and then connect them to power sources on different circuits.
2. Make sure that your laptop has network discovery enabled.

   See your laptop's online help for more information.

3. Use the animation (Connecting your laptop to the Management switch) to connect your laptop to the Management switch.
4. Select an ONTAP icon listed to discover:



   a. Open File Explorer.
   b. Click **Network** in the left pane.
   c. Right-click and select **refresh**.
   d. Double-click either ONTAP icon and accept any certificates displayed on your screen.

      XXXXX is the system serial number for the target node.

      System Manager opens.

5. Use System Manager guided setup to configure your system using the data you collected in the ONTAP Configuration Guide.
6. Verify the health of your system by running Config Advisor.
7. After you have completed the initial configuration, go to the ONTAP & ONTAP System Manager Documentation Resources page for information about configuring additional features in ONTAP.

Option 2: Complete system setup and configuration if network discovery is not enabled

If network discovery is not enabled on your laptop, you must complete the configuration and setup using this task.

Steps

1. Cable and configure your laptop or console:
   a. Set the console port on the laptop or console to 115,200 baud with N-8-1.

      See your laptop or console's online help for how to configure the console port.

   b. Connect the laptop or console to the switch on the management subnet.

   c. Assign a TCP/IP address to the laptop or console, using one that is on the management subnet.
2. Plug the power cords into the controller power supplies, and then connect them to power sources on different circuits.
3. Assign an initial node management IP address to one of the nodes.

If the management network has DHCP…	Then…
Configured	Record the IP address assigned to the new controllers.
Not configured	a. Open a console session using PuTTY, a terminal server, or the equivalent for your environment. Check your laptop or console's online help if you do not know how to configure PuTTY. b. Enter the management IP address when prompted by the script.

4. Using System Manager on your laptop or console, configure your cluster:
   a. Point your browser to the node management IP address.

      The format for the address is https://x.x.x.x.

   b. Configure the system using the data you collected in the ONTAP Configuration Guide.
5. Verify the health of your system by running Config Advisor.
6. After you have completed the initial configuration, go to the ONTAP & ONTAP System Manager Documentation Resources page for information about configuring additional features in ONTAP.