Install and setup

ONTAP Systems

NetApp
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Install and setup

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You can choose from different content formats to guide you through installing and setting up your new storage system.

- 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.

Quick steps - AFF C190

This section gives graphic instructions for a typical installation of your system from racking and cabling, through initial system bring-up. Use the AFF C190 Systems Installation and Setup Instructions if you are familiar with installing NetApp systems.

Videos - AFF C190

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 an AFF C190

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 - AFF C190

This section gives detailed step-by-step instructions for installing a AFF C190 system.

Step 1: Prepare for installation

To install your AFF C190 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
- A laptop or console with an RJ-45 connection and access to a Web browser

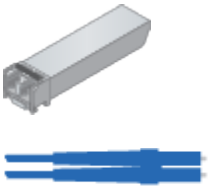
Steps

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…
10 GbE cable (order dependent)	X6566B-05-R6 (112-00297), 0.5m X6566B-2-R6 (112-00299), 2m		Cluster interconnect network
	X6566B-2-R6 (112-00299), 2m X6566B-3-R6 (112-00300), 3m X6566B-5-R6 (112-00301), 5m		Data

Type of cable…	Part number and length	Connector type	For…
Optical network cables (order dependent)	X6553-R6 (112-00188), 2m X6536-R6 (112-00090), 5m X6554-R6(112-00189), 15m		SFP + FC host network
Cat 6, RJ-45 (order dependent)	X6585-R6 (112-00291), 3m X6562-R6 (112-00196), 5m		Ethernet host and management network
Micro-USB console cable	Not applicable		Console connection during software setup on non-Windows or Mac laptop/console
Power cables	Not applicable		Powering up the system

6. Download and complete the Cluster Configuration Worksheet.

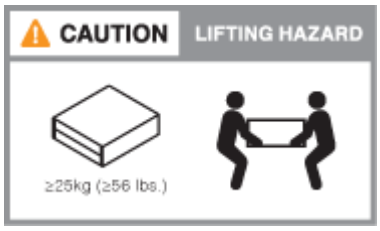
Step 2: Install the hardware

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

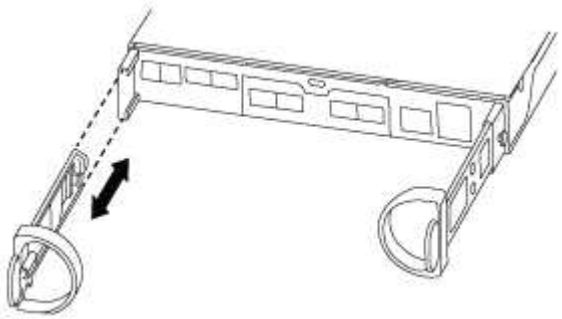
Steps

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. Attach cable management devices (as shown).



4. Place the bezel on the front of the system.

Step 3: Cable controllers to your network

You can cable the controllers to your network by using the two-node switchless cluster method or by using the cluster interconnect network.

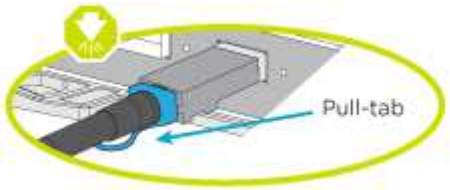
Option 1: Cable a two-node switchless cluster, unified configuration

UTA2 ports and management 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.

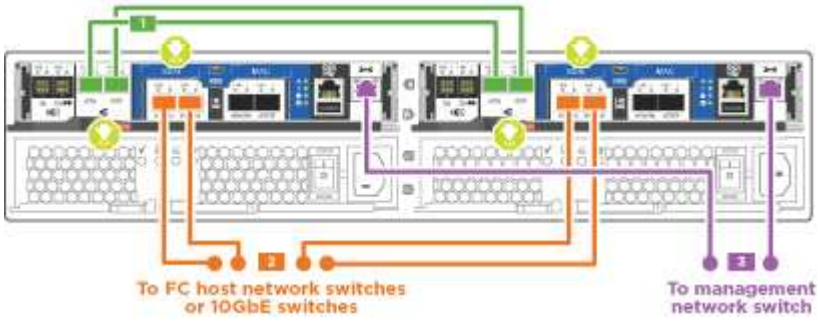


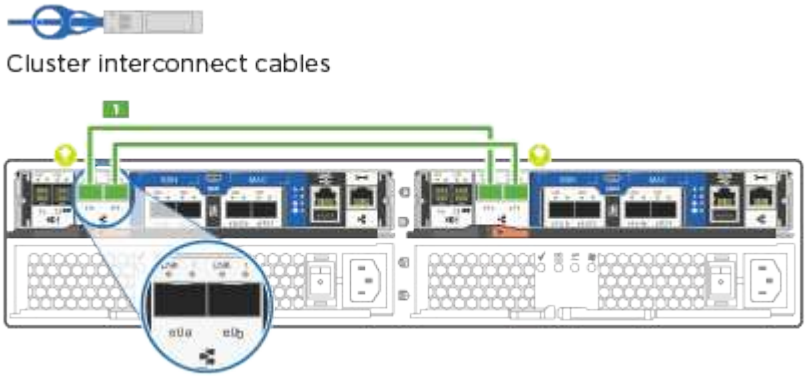
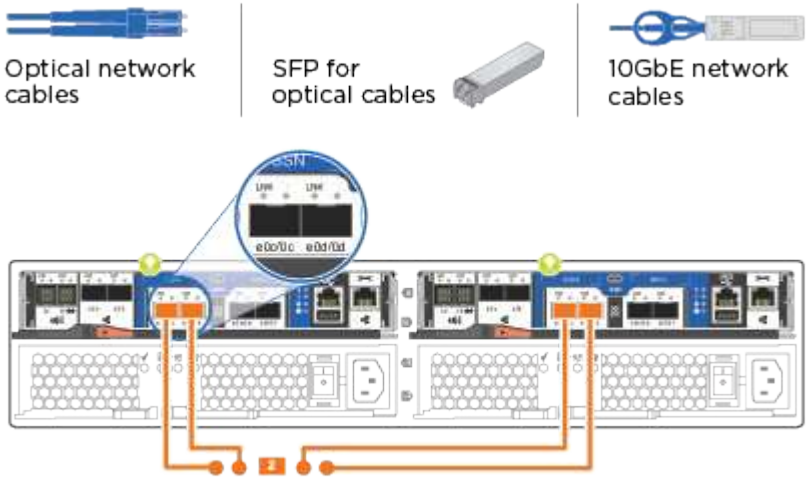
As you insert the connector, you should feel it click into place; if you do not feel it click, remove it, turn it around and try again.

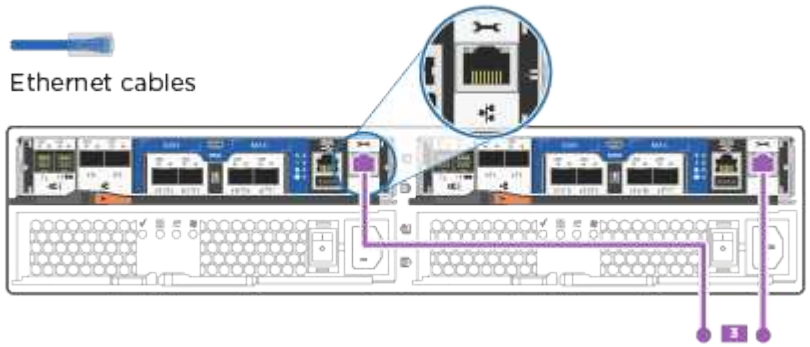
If connecting to an optical switch, insert the SFP into the controller port before cabling to the port.

Steps

1. Use the illustration 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 cluster interconnect cable: • e0a to e0a • e0b to e0b 
2	Use one of the following cable types to cable the e0c/0c and e0d/0d **or** e0e/0e and e0f/0f data ports to your host network: 

Step	Perform on each controller
3	Cable the e0M 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.

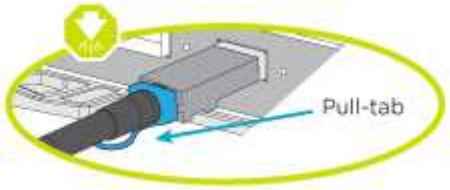
Option 2: Cable switched cluster, unified configuration

UTA2 ports and management ports on the controller modules are connected to switches. The cluster interconnect ports are cabled to the cluster interconnect 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.

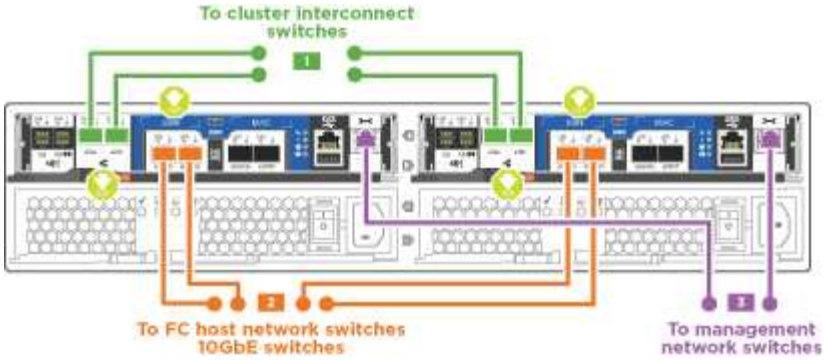


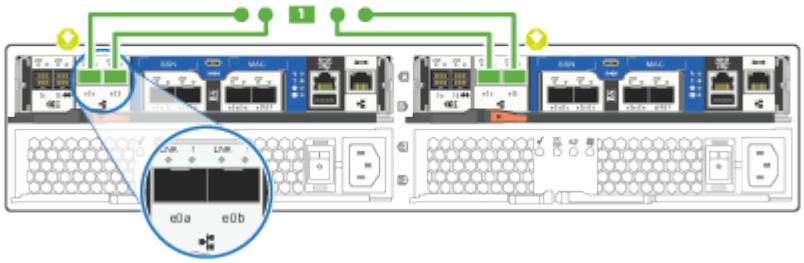
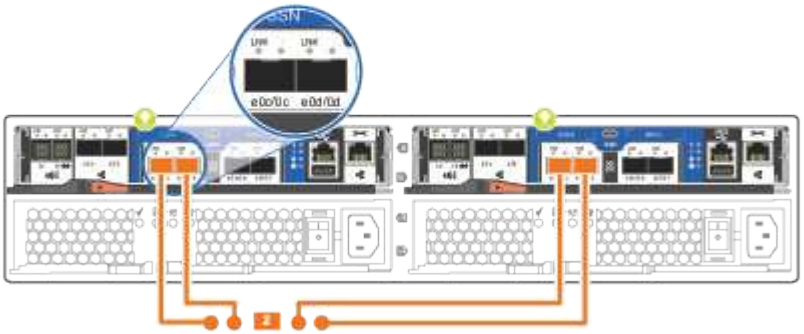
As you insert the connector, you should feel it click into place; if you do not feel it click, remove it, turn it around and try again.

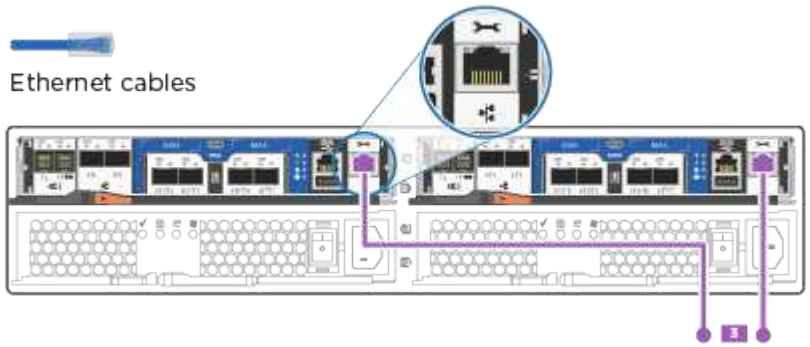
If connecting to an optical switch, insert the SFP into the controller port before cabling to the port.

Steps

1. Use the illustration or the step-by-step instructions to complete the cabling between the controllers and the switches:



Step	Perform on each controller module
1	Cable e0a and e0b to the cluster interconnect switches with the cluster interconnect cable:  Cluster interconnect cables 
2	Use one of the following cable types to cable the e0c/0c and e0d/0d **or** e0e/0e and e0f/0f data ports to your host network:  Optical network cables SFP for optical cables   10GbE network cables 

Step	Perform on each controller module
3	Cable the e0M 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.

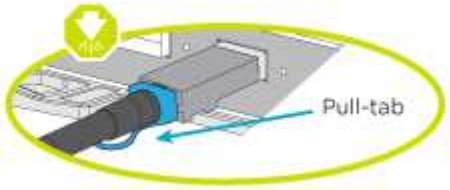
Option 3: Cable a two node switchless cluster, Ethernet configuration

RJ45 ports and management 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.

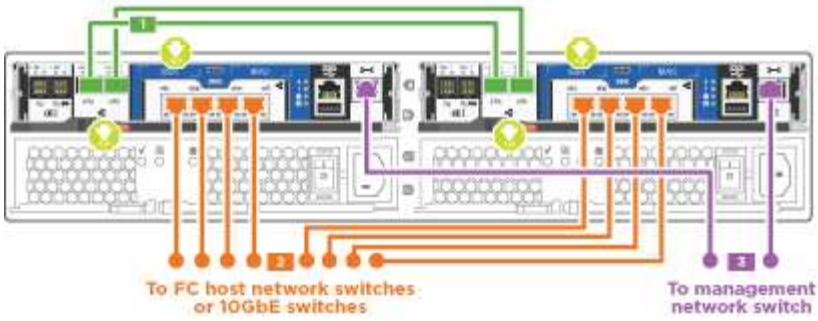
Be sure to check the illustration arrow for the proper cable connector pull-tab orientation.

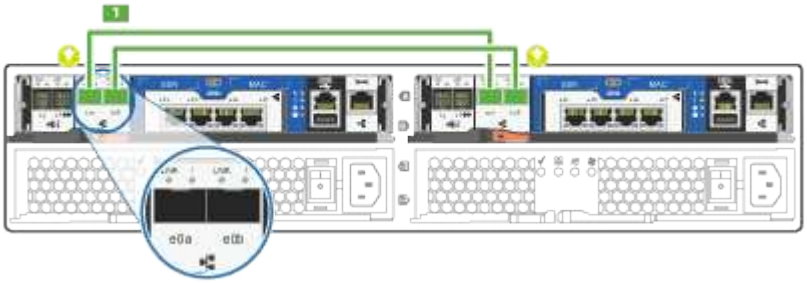


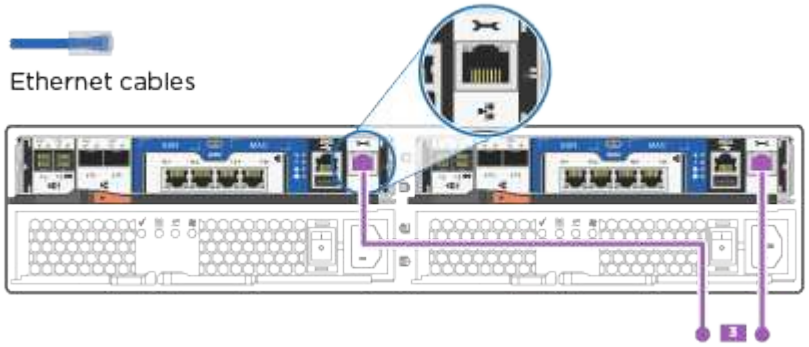
As you insert the connector, you should feel it click into place; if you do not feel it click, remove it, turn it around and try again.

Steps

1. Use the illustration 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 cluster interconnect cable  : • e0a to e0a • e0b to e0b  Cluster interconnect cables 
2	Use the Cat 6 RJ45 cable to cable the e0c through e0f ports to your host network:  CAT6 RJ-45 cables

Step	Perform on each controller
3	Cable the e0M 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 4: Cable a switched cluster, Ethernet configuration

RJ45 ports and management ports on the controller modules are connected to switches. The cluster interconnect ports are cabled to the cluster interconnect switches.

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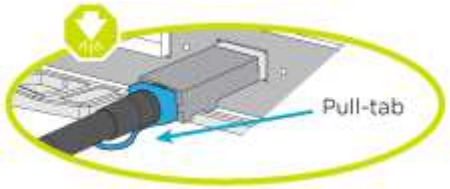
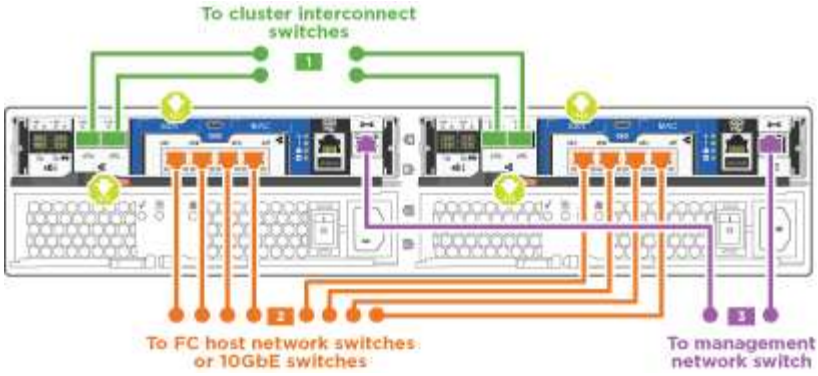
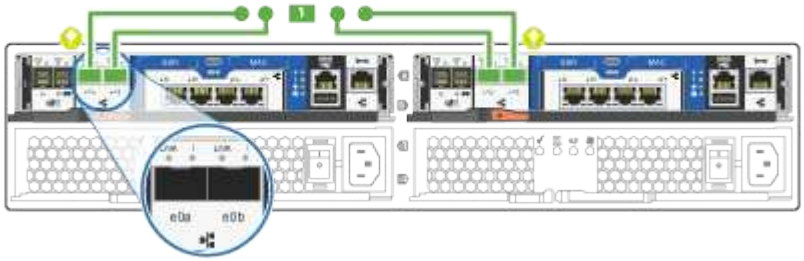


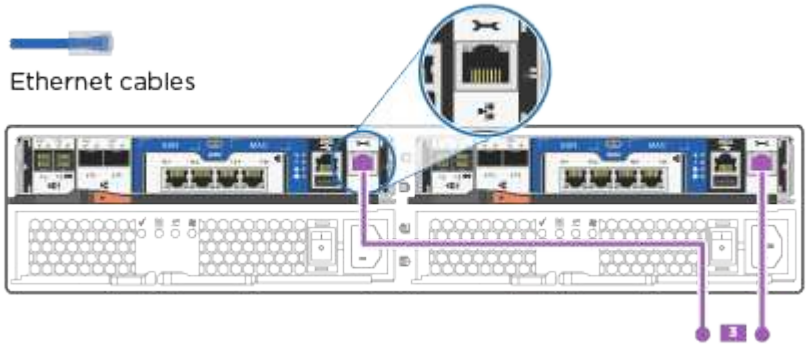
As you insert the connector, you should feel it click into place; if you do not feel it click, remove it, turn it around and try again.

Steps

1. Use the illustration or the step-by-step instructions to complete the cabling between the controllers and the switches:



Step	Perform on each controller module
1	Cable e0a and e0b to the cluster interconnect switches with the cluster interconnect cable:  Cluster interconnect cables 
2	Use the Cat 6 RJ45 cable to cable the e0c through e0f ports to your host network:  CAT6 RJ-45 cables

Step	Perform on each controller module
3	Cable the e0M 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.

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

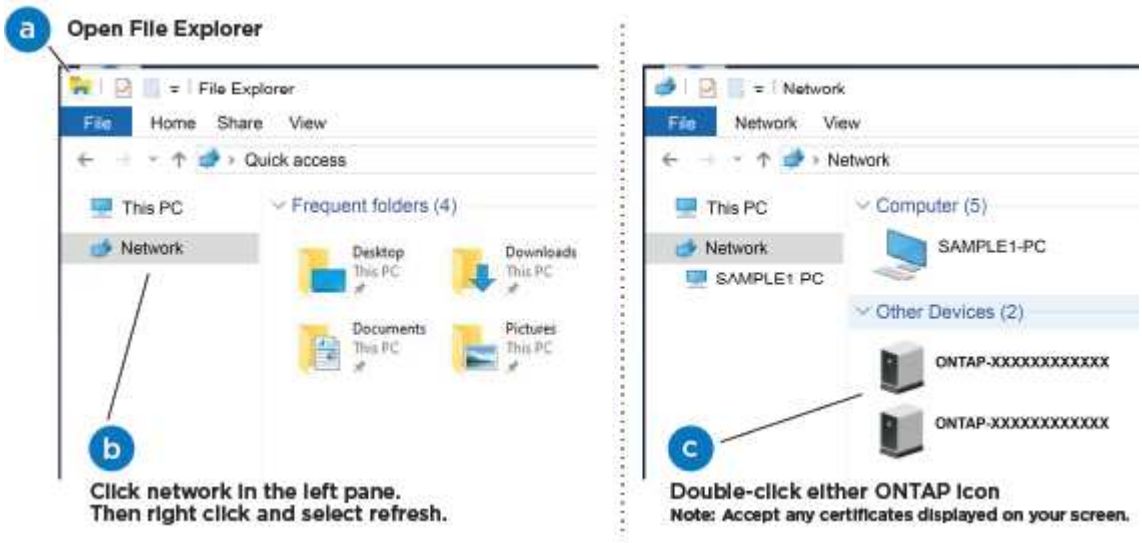
1. Plug the power cords into the controller power supplies, and then connect them to power sources on different circuits.
2. Turn on the power switches to both nodes.

Initial booting may take up to eight minutes..

3. Make sure that your laptop has network discovery enabled.

   See your laptop's online help for more information.

4. Use the animation (Connecting your laptop to the Management switch) to connect your laptop to the Management switch.
5. 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.

6. Use System Manager guided setup to configure your system using the data you collected in the ONTAP Configuration Guide.
7. Verify the health of your system by running Config Advisor.
8. 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.

The default port configuration for Unified configuration systems is CNA mode; if connecting to an FC host network, you have to modify the ports for FC mode.

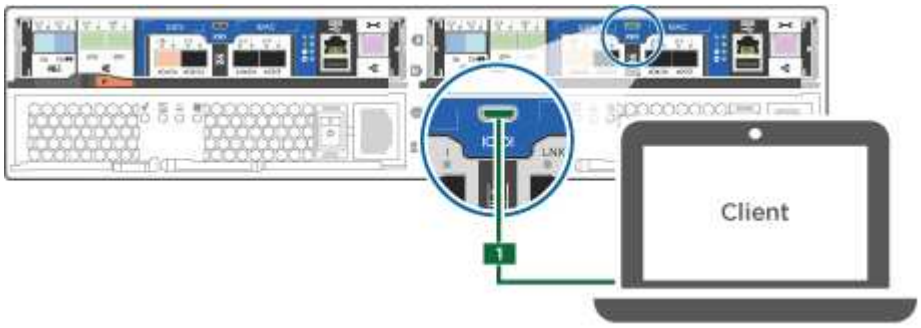
Option 2: Complete system setup and configuration if network discovery is not enabled

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

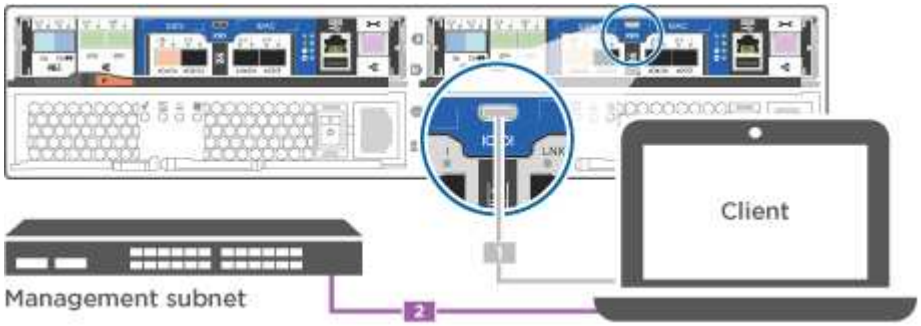
1. Cable and configure your laptop or console:
   a. Set the console port on the laptop or console to 115,200 baud with N-8-1.

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

b. Connect the console cable to the laptop or console, and connect the console port on the controller using the console cable that came with your system.



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



d. 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. Turn on the power switches to both nodes.

Initial booting may take up to eight minutes..

4. 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.

If the management network has DHCP…	Then…
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.

5. 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.
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.

The default port configuration for Unified configuration systems is CNA mode; if connecting to an FC host network, you have to modify the ports for FC mode.