



# **Install and set up 12 and 24-drives E-Series Systems**

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# Install and set up 12 and 24-drives

## Prepare for installation



Learn how to prepare to install your E5724, EF570, EF280, E2812, E2824, DE212C, or DE224C series storage system.



### Steps

- 1. Create an account and register your hardware at [mysupport.netapp.com](https://mysupport.netapp.com).
- 2. Ensure that the following items are in the box that you received.

	Shelf with drives installed (bezel packaged separately)
	Rack-mount hardware

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

Connector type	Cable type	Use
	Ethernet cables  (if ordered)	Management connection
	I/O cables  (if ordered)	Cabling the data hosts

Connector type	Cable type	Use
	Power cables  (if ordered)	Powering up the storage system
	SAS cables included only with the drive shelves	SAS cables

3. Ensure that you provide the following items.

	Phillips #2 screwdriver
	Flashlight
	ESD strap

	<p>2U rack space: A standard 19 in. (48.30 cm) rack to fit 2U shelves of the following dimensions.</p> <p><b>Depth:</b> 19.0 in. (48.3 cm)</p> <p><b>Width:</b> 17.6 in. (44.7 cm)</p> <p><b>Height:</b> 3.34 in. (8.48 cm)</p> <p><b>Shelf:</b> 24-drive</p> <p><b>Max Weight:</b> 60.5 lb (27.4 kg)</p>
	<p>A supported browser for the management software:</p> <ul style="list-style-type: none"> <li>• Google Chrome (version 78 and later)</li> <li>• Microsoft Internet Explorer (version 11 and later)</li> <li>• Microsoft Edge (88 and later)</li> <li>• Mozilla Firefox (version 70 and later)</li> <li>• Safari (version 12 and later)</li> </ul>

## Install the hardware

Learn how to install a E5724, EF570, EF280, E2812, E2824, DE212C, or DE224C storage system in a two-post rack or a NetApp system cabinet.

### Before you begin

Before you install the hardware, make sure you do the following:

- Register your hardware at [mysupport.netapp.com](https://mysupport.netapp.com).
- Prepare a flat, static-free work area.
- Obtain an ESD wristband and take anti-static precautions.

Read through all the instructions before proceeding with the steps below.

### Steps

1. Unpack the hardware contents, and then inventory the contained hardware against the packing slip.
2. Install the rails.

If instructions were included with your rack-mounting hardware, refer to them for detailed information on how to install the rails. For additional rack-mounting instructions, see [Rack-mount hardware](#).



Install hardware from the bottom of the rack or cabinet up to the top to prevent the equipment from toppling over.



### 3. Install the shelf.



When fully loaded with drives, each shelf weighs approximately 64 lb (29 kg). Two persons or mechanical lift are required to safely move the shelf.

- a. Starting with the shelf you want at the bottom of the cabinet, place the back of the shelf (the end with the connectors) on the rails.
- b. Supporting the shelf from the bottom, slide it into the cabinet.



#### 4. Secure the shelf.

Secure the shelf to the rack as directed in [Rack-mount hardware](#).

- a. Insert screws into the first and third holes from the top of the shelf on both sides to secure it to the front of the cabinet.
- b. Place two back brackets on each side of the upper rear section of the shelf. Insert screws into the first and third holes of each bracket to secure the back of the cabinet.



5. Install the bezel or end caps.

- a. Position the front bezel in front of the controller shelf so that the holes at each end align with the fasteners on the controller shelf.
- b. Snap the bezel into place.
- c. If you have optional drive shelves, position the left end cap in front of the drive shelf so that the holes in the end cap align with the fasteners on the left side of the shelf.
- d. Snap the end cap into place.
- e. Repeat the above steps for the right end cap.



## Connect the cables

Learn how to attach the power cables and power on the drive shelves.

**Before you begin**

- Install your hardware.
- Take anti-static precautions.

This procedure applies to IOM12 and IOM12B drive shelves.





IOM12B modules are only supported on SANtricity OS 11.70.2 onward. Ensure your controller's firmware has been updated before installing or upgrading to an IOM12B.




This procedure is for like-for-like shelf IOM hot-swaps or replacements. This means you can only replace an IOM12 module with another IOM12 module or replace an IOM12B module with another IOM12B module. (Your shelf can have two IOM12 modules or have two IOM12B modules.)

## Steps

### 1. Cable the shelves.

Cable the system according to your configuration. If you need more cabling options than the examples shown, see [Cabling](#).

For the examples shown, you need the following cables:

	<b>SAS cables</b>
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**Example A: E5700 controller shelf with three DE212C/DE224 disk shelves in a standard SAS configuration.**



- Cable controller A to IOM A of the first drive shelf.
- Cable IOM A of the first drive shelf to IOM A of the second drive shelf.
- Cable IOM A of the second drive shelf to IOM A of the third drive shelf.
- Cable controller B to IOM B of the third drive shelf.
- Cable IOM B of the second drive shelf to IOM B of the third drive shelf.
- Cable IOM B of the first drive shelf to IOM B of the second drive shelf.

**Example B: An E5700 controller shelf with one DE212C/DE224 disk shelf in a standard SAS configuration.**



- a. Cable controller A to IOM A.
- b. Cable controller B to IOM B.

## 2. Power the drive shelves.

You need the following cables:

	<b>Power cables</b>
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Confirm the drive shelf power switches are off.

- a. Connect the two power cables for each shelf to different power distribution units (PDUs) in the cabinet or rack.
- b. If you have drive shelves, turn on their two power switches first. Wait 2 minutes before applying power to the controller shelf.
- c. Turn on the two power switches on the controller shelf.
- d. Check the LEDs and seven-segment display on each controller.

During boot, the seven-segment display shows the repeating sequence of OS, Sd, blank to indicate the controller is performing start-of-day processing. After the controller has booted up, the shelf ID is displayed.

**Example: Power connections are on the rear of the shelf.**



## Complete storage system setup and configuration

Learn how to cable the controllers to your network and complete storage system setup and configuration.

### Step 1: Cable the data hosts

Cable the system according to your network topology.



If you are using AIX®, you must install the E-Series multipath driver on the host before connecting it to the array.

#### Option 1: Direct-attach topology

The following example shows cabling to the data hosts using a direct-attach topology.

**Table 1. Example A: Direct-attach topology**

<div data-bbox="142 1413 228 1465">1</div>  A diagram illustrating a direct-attach topology. At the top, there are four host adapter ports arranged in two pairs. Below them are two server units, each with two host ports. Green curved lines show the connections: the leftmost host adapter port connects to the leftmost host port of the left server; the second host adapter port connects to the rightmost host port of the left server; the third host adapter port connects to the leftmost host port of the right server; and the rightmost host adapter port connects to the rightmost host port of the right server.	<p>1. Connect each host adapter directly to the host ports on the controllers.</p>
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#### Option 2: Fabric topology

The following example shows cabling to the data hosts using a fabric topology.

**Table 2. Example B: Fabric topology**



## Step 2: Connect and configure the management connection

You can configure the controller management ports using one of two options: using a DHCP server or using a static IP address.

### Option 1: DHCP server

Learn how to configure the management ports with a DHCP server.

#### Before you begin

- Configure your DHCP server to associate an IP address, subnet mask, and gateway address as a permanent lease for each controller.
- Obtain the assigned IP addresses you will use to connect to the storage system from your network administrator.

#### Steps

1. Connect an Ethernet cable to each controller's management port, and connect the other end to your network.

	Ethernet cables (if ordered)
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The following figures show examples of the controller's management port location:



2. Open a browser and connect to the storage system using one of the controller IP addresses provided to you by your network administrator.

## Option 2: Static IP address

Learn how to configure the management ports manually by entering the IP address and the subnet mask.

### Before you begin

- Obtain the controllers' IP address, subnet mask, gateway address, and DNS and NTP server information from your network administrator.
- Make sure the laptop you are using is not receiving network configuration from a DHCP server.

### Steps

1. Using an Ethernet cable, connect controller A's management port to the Ethernet port on a laptop.



The following figures show examples of the controller's management port location:



2. Open a browser and use the default IP address (169.254.128.101) to establish a connection to the controller. The controller sends back a self-signed certificate. The browser informs you that the connection is not secure.
3. Follow the browser's instructions to proceed and launch SANtricity System Manager.



If you are unable to establish a connection, verify that you are not receiving network configuration from a DHCP server.

4. Set the storage system's password to login.
5. Use the network settings provided by your network administrator in the **Configure Network Settings** wizard to configure controller A's network settings, and then select **Finish**.



Because you reset the IP address, System Manager loses connection to the controller.

6. Disconnect your laptop from the storage system, and connect the management port on controller A to your network.
7. Open a browser on a computer connected to your network, and enter controller A's newly configured IP address.



If you lose the connection to controller A, you can connect an ethernet cable to controller B to reestablish connection to controller A through controller B (169.254.128.102).

8. Log in using the password you set previously.

The Configure Network Settings wizard will appear.

9. Use the network settings provided by your network administrator in the **Configure Network Settings** wizard to configure controller B's network settings, and then select **Finish**.
10. Connect controller B to your network.

11. Validate controller B's network settings by entering controller B's newly configured IP address in a browser.



If you lose the connection to controller B, you can use your previously validated connection to controller A to reestablish connection to controller B through controller A.

### Step 3: Configure storage system

After you have installed your hardware, use the SANtricity software to configure and manage your storage system.

#### Before you begin

- Configure your management ports.
- Verify and record your password and IP addresses.

#### Steps

1. Use the SANtricity software to configure and manage your storage arrays.
2. In the simplest network configuration, connect your controller to a web browser and use SANtricity System Manager for managing a single E2800 or E5700 series storage array.



For accessing System Manager, use the same IP addresses that you used to configure your management ports.

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