



## Overview

### Cluster and storage switches

NetApp  
April 19, 2024

# Table of Contents

- Overview ..... 1
  - Overview of installation and configuration for NVIDIA SN2100 switches ..... 1
  - Configuration requirements for NVIDIA SN2100 switches ..... 2
  - Components and part numbers for NVIDIA SN2100 switches ..... 2
  - Documentation requirements for NVIDIA SN2100 switches ..... 3

# Overview

## Overview of installation and configuration for NVIDIA SN2100 switches

The NVIDIA SN2100 is a cluster switch that allows you to build ONTAP clusters with more than two nodes.

### Initial configuration overview

To configure a NVIDIA SN2100 switch on systems running ONTAP, follow these steps:

1. [Install the hardware for the NVIDIA SN2100 switch.](#)

Instructions are available in the *NVIDIA Switch Installation Guide*.

2. [Configure the switch.](#)

Instructions are available in NVIDIA's documentation.

3. [Review cabling and configuration considerations.](#)

Review requirements for optical connections, the QSA adapter, and the switchport speed.

4. [Cable the NS224 shelves as switch-attached storage.](#)

Follow the cabling procedures if you have a system in which the NS224 drive shelves need to be cabled as switch-attached storage (not direct-attached storage).

5. [Install Cumulus Linux in Cumulus mode](#) or [install Cumulus Linux in ONIE mode](#).

You can install Cumulus Linux (CL) OS when the switch is running either Cumulus Linux or ONIE.

6. [Install the Reference Configuration File \(RCF\) script.](#)

There are two RCF scripts available for Clustering and Storage applications. The procedure for each is the same.

7. [Configure SNMPv3 for switch log collection.](#)

This release includes support for SNMPv3 for switch log collection and for Switch Health Monitoring (SHM).

The procedures use Network Command Line Utility (NCLU), which is a command line interface that ensures Cumulus Linux is fully accessible to all. The net command is the wrapper utility you use to execute actions from a terminal.

### Additional information

Before you begin installation or maintenance, be sure to review the following:

- [Configuration requirements](#)

- [Components and part numbers](#)
- [Required documentation](#)
- [Hardware Universe](#) for all supported ONTAP versions.

## Configuration requirements for NVIDIA SN2100 switches

For NVIDIA SN2100 switch installation and maintenance, be sure to review all configuration requirements.

### Installation requirements

If you want to build ONTAP clusters with more than two nodes, you need two supported cluster network switches. You can use additional management switches, which are optional.

You install the NVIDIA SN2100 switch (X190006) in the NVIDIA dual/single switch cabinet with the standard brackets that are included with the switch.

For cabling guidelines, see [Review cabling and configuration considerations](#).

### ONTAP and Linux support

The NVIDIA SN2100 switch is a 10/25/40/100GbE switch running Cumulus Linux. The switch supports the following:

- ONTAP 9.10.1P3.

The SN2100 switch serves Cluster and Storage applications in ONTAP 9.10.1P3 over different switch-pairs.

- Cumulus Linux (CL) OS version.

In order to download the SN2100 Cumulus software from NVIDIA, you must have login credentials to access NVIDIA's Enterprise Support Portal. See the Knowledge Base article [How to register with NVIDIA for Enterprise Support Portal Access](#). For current compatibility information, see the [NVIDIA Ethernet Switches](#) information page.

- You can install Cumulus Linux when the switch is running Cumulus Linux or ONIE.

## Components and part numbers for NVIDIA SN2100 switches

For NVIDIA SN2100 switch installation and maintenance, be sure to review the list of components and part numbers for the cabinet and rail kit.

### Cabinet details

You install the NVIDIA SN2100 switch (X190006) in the NVIDIA dual/single switch cabinet with the standard brackets that are included with the switch.

## Rail kit details

The following table lists the part number and description for the SN2100 switches and rail kits:

Part number	Description
X190006-PE	Cluster Switch, NVIDIA SN2100, 16PT 100GbE, PTSX
X190006-PI	Cluster Switch, NVIDIA SN2100, 16PT 100GbE, PSIN
X-MTEF-KIT-D	Rail Kit, NVIDIA Dual switch side by side
X-MTEF-KIT-E	Rail Kit, NVIDIA Single switch short depth



See NVIDIA documentation for details on [installing your SN2100 switch and rail kit](#).

## Documentation requirements for NVIDIA SN2100 switches

For NVIDIA SN2100 switch installation and maintenance, be sure to review all the recommended documentation.

Title	Description
<a href="#">NVIDIA Switch Installation Guide</a>	Describes how to install your NVIDIA SN2100 switches.
<a href="#">NS224 NVMe Drive Shelf Cabling Guide</a>	Overview and illustrations showing how to configure cabling for drive shelves.
<a href="#">NetApp Hardware Universe</a>	Allows you to confirm supported hardware, such as storage switches and cables, for your platform model.

## Copyright information

Copyright © 2024 NetApp, Inc. All Rights Reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system—without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP “AS IS” AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

LIMITED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (b)(3) of the Rights in Technical Data -Noncommercial Items at DFARS 252.227-7013 (FEB 2014) and FAR 52.227-19 (DEC 2007).

Data contained herein pertains to a commercial product and/or commercial service (as defined in FAR 2.101) and is proprietary to NetApp, Inc. All NetApp technical data and computer software provided under this Agreement is commercial in nature and developed solely at private expense. The U.S. Government has a non-exclusive, non-transferrable, nonsublicensable, worldwide, limited irrevocable license to use the Data only in connection with and in support of the U.S. Government contract under which the Data was delivered. Except as provided herein, the Data may not be used, disclosed, reproduced, modified, performed, or displayed without the prior written approval of NetApp, Inc. United States Government license rights for the Department of Defense are limited to those rights identified in DFARS clause 252.227-7015(b) (FEB 2014).

## Trademark information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.