IBM System Storage N series

IBM

OnCommand System Manager 2.2 Quick Start Guide

Contents

Preface

Supported features

IBM System Storage N series storage systems are driven by NetApp Data ONTAP software. Some features described in the product software documentation are neither offered nor supported by IBM. Please contact your local IBM representative or reseller for further details.

Information about supported features can also be found on the N series support website (accessed and navigated as described in *Websites* on page 4).

Websites

IBM maintains pages on the World Wide Web where you can get the latest technical information and download device drivers and updates. The following web pages provide N series information:

*   A listing of currently available N series products and features can be found at the following web page:
    www.ibm.com/storage/nas/
*   The IBM System Storage N series support website requires users to register in order to obtain access to N series support content on the web. To understand how the N series support web content is organized and navigated, and to access the N series support website, refer to the following publicly accessible web page:
    www.ibm.com/storage/support/nseries/
    This web page also provides links to AutoSupport information as well as other important N series product resources.
*   IBM System Storage N series products attach to a variety of servers and operating systems. To determine the latest supported attachments, go to the IBM N series interoperability matrix at the following web page:
    www.ibm.com/systems/storage/network/interophome.html
*   For the latest N series hardware product documentation, including planning, installation and setup, and hardware monitoring, service and diagnostics, see the IBM N series Information Center at the following web page:
    publib.boulder.ibm.com/infocenter/nasinfo/nseries/index.jsp

Getting information, help, and service

If you need help, service, or technical assistance or just want more information about IBM products, you will find a wide variety of sources available from IBM to assist you. This section contains

information about where to go for additional information about IBM and IBM products, what to do if you experience a problem with your IBM N series product, and whom to call for service, if it is necessary.

Before you call

Before you call, make sure you have taken these steps to try to solve the problem yourself:

- Check all cables to make sure they are connected.
- Check the power switches to make sure the system is turned on.
- Use the troubleshooting information in your system documentation and use the diagnostic tools that come with your system.
- Refer to the N series support website (accessed and navigated as described in *Websites* on page 4) for information on known problems and limitations.

Using the documentation

The latest versions of N series software documentation, including Data ONTAP and other software products, are available on the N series support website (accessed and navigated as described in *Websites* on page 4).

Current N series hardware product documentation is shipped with your hardware product in printed documents or as PDF files on a documentation CD. For the latest N series hardware product documentation PDFs, go to the N series support website.

Hardware documentation, including planning, installation and setup, and hardware monitoring, service, and diagnostics, is also provided in an IBM N series Information Center at the following web page:

publib.boulder.ibm.com/infocenter/nasinfo/nseries/index.jsp

Hardware service and support

You can receive hardware service through IBM Integrated Technology Services. Visit the following web page for support telephone numbers:

www.ibm.com/planetwide/

Firmware updates

IBM N series product firmware is embedded in Data ONTAP. As with all devices, ensure that you run the latest level of firmware. Any firmware updates are posted to the N series support website (accessed and navigated as described in *Websites* on page 4).

Note: If you do not see new firmware updates on the N series support website, you are running the latest level of firmware.

Verify that the latest level of firmware is installed on your machine before contacting IBM for technical support.

How to send your comments

Your feedback helps us to provide the most accurate and high-quality information. If you have comments or suggestions for improving this document, please send them by email to *starpubs@us.ibm.com*.

Be sure to include the following:

- Exact publication title
- Publication form number (for example, GC26-1234-02)
- Page, table, or illustration numbers
- A detailed description of any information that should be changed

Understanding System Manager

System Manager is a graphical management interface that enables you to manage storage systems and storage objects (such as disks, volumes, and aggregates) and perform common management tasks related to storage systems from a Web browser. As a cluster administrator, you can use System Manager to administer the entire cluster and its resources.

You can use System Manager to manage storage systems running the following versions of Data ONTAP:

*   Data ONTAP 7.3.x (starting from 7.3.7)
*   Data ONTAP 8.0.4 and 8.0.5 operating in 7-Mode
*   Data ONTAP 8.1.2
*   Data ONTAP 8.2

You can also use System Manager to manage gateways.

System Manager enables you to perform many common tasks such as the following:

*   Configure and manage storage objects, such as disks, aggregates, volumes, qtrees, and quotas.
*   Configure protocols, such as CIFS and NFS, and provision file sharing.
*   Configure protocols such as FC and iSCSI for block access.
*   Verify and configure network configuration settings in the storage systems.
*   Create and manage vFiler units.
*   Set up and manage SnapMirror relationships and SnapVault relationships.
*   Manage High Availability (HA) configurations and perform takeover and giveback operations.
*   Perform cluster management, storage node management, and Vserver management operations in a cluster environment.
*   Create and configure Vservers, manage storage objects associated with a Vserver, and manage Vserver services.

    Note: System Manager replaces FilerView as the tool to manage storage systems running Data ONTAP 8.1 or later.

Where to find additional 7-Mode information

System Manager Help provides basic Data ONTAP operating in 7-Mode conceptual information to help you perform tasks using System Manager. For in-depth conceptual information to help you configure, monitor, and manage storage objects and storage systems, you can see the Data ONTAP documentation available on the N series support website (accessed and navigated as described in *Websites* on page 4).

You might find the following Data ONTAP documentation useful:

Data ONTAP Storage Management Guide for 7-Mode	Describes how to configure, operate, and manage the storage resources for storage systems running Data ONTAP operating in 7-Mode, using disks, RAID groups, aggregates, volumes, FlexClone volumes, files and LUNs, FlexCache volumes, deduplication, compression, qtrees, and quotas.
Data ONTAP System Administration Guide for 7-Mode	Describes general system administration for storage systems that run Data ONTAP software.
Data ONTAP High Availability and MetroCluster Configuration Guide for 7-Mode	Describes how to install and manage high-availability configurations.
Data ONTAP MultiStore Management Guide for 7-Mode	Describes how to administer vFiler units (virtual storage systems) with the MultiStore software available by license with Data ONTAP operating in 7-Mode.
Data ONTAP Network Management Guide for 7-Mode	Describes how to configure and manage networks associated with storage systems running Data ONTAP operating in 7-Mode.
Data ONTAP Storage Efficiency Management Guide for 7-Mode	Describes the features and functionalities that help to significantly improve storage utilization.
Data ONTAP SAN Administration Guide for 7-Mode	Describes how to configure and manage the iSCSI and FC protocols for SAN environments.
Data ONTAP File Access and Protocols Management Guide for 7-Mode	Describes how to manage file access on storage systems with Data ONTAP operating in 7-Mode for NFS, CIFS, HTTP, FTP, and WebDAV protocols.
Data ONTAP Data Protection Online Backup and Recovery Guide for 7-Mode	Describes how to back up and recover data using Data ONTAP operating in 7-Mode online backup and recovery features.
Data ONTAP Archive and Compliance Management Guide for 7-Mode	Describes how to archive and protect data for compliance purposes.

Related information

[IBM N series support website: www.ibm.com/storage/support/nseries](www.ibm.com/storage/support/nseries)

Where to find additional clustered Data ONTAP information

System Manager Help provides basic clustered Data ONTAP conceptual information to help you perform tasks using System Manager. For in-depth conceptual information to help you configure, monitor, and manage storage objects and storage systems, you can see the Data ONTAP

documentation available on the N series support website (accessed and navigated as described in *Websites* on page 4).

> **Note:** The terms *Data ONTAP operating in Cluster-Mode* and *clustered Data ONTAP* are used interchangeably in this document.

You might find the following Data ONTAP documentation useful:

Clustered Data ONTAP Physical Storage Management Guide	Describes how to configure, operate, and manage the physical storage resources for storage systems running clustered Data ONTAP. It provides information about disks, RAID groups, plexes, and aggregates.
Clustered Data ONTAP Logical Storage Management Guide	Describes how to configure, operate, and manage the storage resources for storage systems running clustered Data ONTAP. It provides information about volumes, FlexClone volumes, files and LUNs, deduplication, compression, qtrees, and quotas.
Clustered Data ONTAP System Administration Guide for Cluster Administrators	Describes general system administration for storage systems that run Data ONTAP software.
Clustered Data ONTAP High-Availability Configuration Guide	Describes installation and management of high-availability configurations.
Clustered Data ONTAP System Administration Guide for Vserver Administrators	Describes the capabilities of a Vserver administrator to administer Vservers (virtual storage systems) in clustered Data ONTAP.
Clustered Data ONTAP Network Management Guide	Describes how to configure and manage networks associated with storage systems running clustered Data ONTAP and how to manage file access with NFS and CIFS protocols.
Clustered Data ONTAP SAN Administration Guide	Describes how to configure and manage the iSCSI and FC protocols for SAN environments.
Data ONTAP File Access and Protocols Management Guide for Cluster-Mode	Describes how to configure and manage networks and how to manage file access with NFS and CIFS protocols.
Clustered Data ONTAP Data Protection Guide	Describes how to back up and recover data using clustered Data ONTAP online backup and recovery features.

Related information

IBM N series support website: www.ibm.com/storage/support/nseries

Installing, upgrading, or uninstalling System Manager

You can download and install System Manager on a desktop or laptop that is running a Windows or a Linux operating system. You can upgrade to System Manager 2.2 from the earlier versions of the product. You can uninstall System Manager at any time.

On Windows, you can install System Manager by using the standard wizard-based installer. On Linux, you can use Red Hat Package Manager (RPM).

System requirements for System Manager

You must ensure that you have the required host system configuration, operating system, and browser to run the System Manager software. You must also have the necessary administrative privileges to access the software.

Your host system must meet the following minimum requirements:

- Pentium x86 processor
- 1 GB RAM
- 1 GB video display RAM
- 1 GB free disk space
  If you are upgrading from an earlier version, you might require additional disk space for the existing log files.
- Wireless or Ethernet connection to the network
- A 32-bit or 64-bit Windows or Linux operating system
- Adobe Flash Player 11.0 or later
- 32-bit or 64-bit Oracle Java Runtime Environment (JRE) 7

  - Installing 32-bit or 64-bit JRE depends on the operating system. If you have a 32-bit Windows or Linux operating system, 32-bit JRE must be installed. Similarly, if you have a 64-bit Windows or Linux operating system, 64-bit JRE must be installed.
  - You can install 32-bit or 64-bit Oracle Java Runtime Environment (JRE) 7 from the *Java Downloads* website.

Your Windows system must be running one of the following:

- Windows XP
- Windows Server 2003
- Windows Server 2008
- Windows Server 2012
- Windows Vista
- Windows 7

- Windows 8

Your Linux system must be running one of the following:

- Red Hat Enterprise Linux 5 or 6
- SUSE Linux Enterprise Server 11

Your Linux system must have a graphical desktop environment, such as GNOME or KDE, installed.

Your web browser must be one of the following:

- Internet Explorer 8.0 and 9.0 (for Windows)
- Internet Explorer 10.0 in compatibility mode (for Windows)
- Mozilla Firefox 15, 16, 17, and 18 (for both Windows and Linux)
- Google Chrome 23 and 24 (for Windows)

   Note: You can run either a 32-bit browser or a 64-bit browser on a 64-bit operating system.

You should be aware of the following information:

- You should use a resolution of 1280 x 1024 pixels for optimal viewing.

     Note: You must ensure that the screen width does not exceed 2000 pixels.

- You must ensure that the web browser is not in offline mode.

Your storage systems must be running any of the following versions of Data ONTAP:

- Data ONTAP 7.3.x (starting from 7.3.7)
- Data ONTAP 8.0.4 and 8.0.5 operating in 7-Mode
- Data ONTAP 8.1.2
- Data ONTAP 8.2

   Note: For storage systems running Data ONTAP 8.2 operating in 7-Mode, you must enable HTTP by using `httpd.admin.ssl.enable`.

For the latest information about currently supported systems, see the N series interoperability matrix website (accessed and navigated as described in *Websites* on page 4).

Related information

   IBM N series interoperability   matrix: www.ibm.com/systems/storage/network/interophome.html

Downloading the System Manager software

Before you install System Manager, you must download the software from the N series support website (accessed and navigated as described in *Websites* on page 4). The software is available to all registered users for free download.

Before you begin

You must have access to the N series support website (accessed and navigated as described in *Websites* on page 4).

About this task

You can install the product software from software updates available for download. Downloads are available only to entitled IBM N series customers who have completed the registration process on the N series support website (accessed and navigated as described in *Websites* on page 4).

Check the publication matrix page at the N series interoperability matrix website (accessed and navigated as described in *Websites* on page 4) for important alerts, news, interoperability details, and other information about the product before beginning the installation.

Related information

   IBM N series support website: www.ibm.com/storage/support/nseries

Installing System Manager on Windows

You can install System Manager on your Windows system by using the wizard-based installer.

Before you begin

- Your Windows host system must be running the supported software versions.
- The System Manager software must be downloaded from the N series support website (accessed and navigated as described in *Websites* on page 4).
- You must have the necessary administrator privileges to install the application.
- If you manually specify the port for the Jetty Web server that System Manager installs, the selected port must not already be used by another application when the System Manager application is launched.

   Note: The System Manager installation is completed even if the configured port is used by another application. However, you cannot launch System Manager and you must reinstall it on a different port or ensure the port to be used is free.

- Oracle Java Runtime Environment (JRE) 7 must be installed.

Steps

1. Run the System Manager setup (`.exe`) file from the directory where you downloaded and saved the software.

2. Follow the on-screen prompts to complete your installation.

   By default, the installation path is `C:\Program Files\IBM\OnCommand System Manager`.

   By default, System Manager configuration details and logs are stored in the following user preference directories:

   • For systems running Windows Vista or later, the location is: `C:\users\<user>\IBM\SystemManager`.
   • For systems running Windows XP, the location is: `C:\Documents and Settings\<User>\IBM\SystemManager`.

After you finish

You can launch System Manager and start managing your storage systems and objects.

Related tasks

Downloading the System Manager software on page 12
Launching System Manager on page 17

Related references

System requirements for System Manager on page 10

Related information

IBM N series support website: www.ibm.com/storage/support/nseries

Installing System Manager on Linux

You can install System Manager on your Linux system through the command-line interface by using Red Hat Package Manager (RPM). You must perform this task if you are installing System Manager for the first time.

Before you begin

• Your Linux host system must be running the supported software versions.
• The System Manager software must be downloaded from the N series support website (accessed and navigated as described in *Websites* on page 4).
• You must have the necessary privileges to install the application.
• Oracle Java Runtime Environment (JRE) 7 must be installed.

Steps

1. Install System Manager using the following command:

   `rpm -i downloaded_rpm_file_name`

2. Check the progress of the installation by using the following command:

   `rpm -ivv downloaded_rpm_file_name`

   By default, the System Manager configuration details and logs are stored in the following user preference directory: `/root/IBM`.

After you finish

You can launch System Manager and start managing your storage systems and objects.

Related tasks

Downloading the System Manager software on page 12
Launching System Manager on page 17

Related references

System requirements for System Manager on page 10

Related information

IBM N series support website: www.ibm.com/storage/support/nseries

Upgrading to System Manager on Windows

You can upgrade to the latest version of System Manager from the earlier versions. After the upgrade, you can continue to manage the storage systems that you were managing with the earlier versions.

Before you begin

- Your host system must be running the supported software versions.
- The latest version of System Manager software must be downloaded from the N series support website (accessed and navigated as described in *Websites* on page 4).
- Any earlier version of System Manager that is running on your system must be closed.
- Oracle Java Runtime Environment (JRE) 7 must be installed.

About this task

If you are upgrading from System Manager 1.x, you do not have to uninstall the earlier version.

Steps

1. Run the downloaded System Manager software file.

2. Follow the on-screen instructions to complete the upgrade.

   After the upgrade, the IP addresses of all the storage systems that you managed using the earlier version of System Manager are migrated.

After you finish

You can launch System Manager and start managing your storage systems.

When you upgrade from System Manager 1.x to 2.x, the storage system credentials are not migrated. Therefore, you must provide the credentials before you use System Manager to manage your storage systems.

When you upgrade from System Manager 2.0 to 2.x, the storage system credentials are migrated; therefore, you need not provide the credentials.

Related tasks

Related references

Related information

IBM N series support website: www.ibm.com/storage/support/nseries

Upgrading to System Manager on Linux

You can upgrade to the latest version of System Manager through the command-line interface by using Red Hat Package Manager (RPM). After the upgrade, you can continue to manage the storage systems that you were managing with the earlier versions.

Before you begin

- Your host system and the storage systems must be running the supported software versions.
- The latest version of System Manager software must be downloaded from the N series support website (accessed and navigated as described in *Websites* on page 4).
- Any earlier version of System Manager that is running on your system must be closed.
- Oracle Java Runtime Environment (JRE) 7 must be installed.
- If you are upgrading from System Manager 2.0R1, the earlier version must be uninstalled.

Step

1. From the command-line interface, enter the following command:

   rpm -U *download_file_name*

Related information

   IBM N series support website: www.ibm.com/storage/support/nseries

Uninstalling System Manager on Windows

You can uninstall System Manager by using the Windows Add or Remove Programs utility.

Before you begin

If the System Manager application is running, it must be closed.

About this task

You cannot uninstall System Manager from the control panel if you have renamed the directory in which it is installed. However, you can uninstall System Manager by running uninst.exe from the directory.

Steps

1. Click **Start > Control Panel**.
2. Open the utility to add or remove programs and uninstall System Manager *version_number*.

Uninstalling System Manager on Linux

You can uninstall System Manager through the desktop or through the command-line interface by using the Red Hat Package Manager (RPM).

Before you begin

If the System Manager application is running, it must be closed.

Step

1. From the command-line interface, enter the command:

   rpm -e *system_manager_package_name*

Launching System Manager

After installing System Manager, you must launch the application to configure and manage your storage systems from a Web browser.

Before you begin

- If you are using a Windows Server operating system and Internet Explorer, the URL http://127.0.0.1 must be added as a trusted site in Internet Explorer.
- If you are using a proxy server, it must be disabled.
- If you are using a Linux system, Oracle Java Runtime Environment (JRE) 7 must be installed and it must be set as the default JRE.
  You can use the `java -d32 -version` command and the `java -d64 -version` command to verify that you are using the correct JRE version and the associated platform.
- If you are running Windows or Linux guest OS on Mac OS by using VMware Fusion, you must ensure the following:

  - The Shared folders feature must be disabled.
  - The desktop option of the Mirrored folders feature must be disabled.
- If you want to access System Manager through a VPN connection on a machine running Windows 7 and Windows Server 2008, you must have installed the hotfix from the *Microsoft website*.

Step

1. Launch System Manager in one of the following ways:

   - Double-click the IBM N series OnCommand System Manager icon on your desktop.
   - For Windows, click **Start > All Programs > IBM > N series OnCommand System Manager** *version_number*.
   - For Red Hat Enterprise Linux 5, click **Applications > System Tools > IBM N series OnCommand System Manager** *version_number*.
   - For SUSE Linux Enterprise Server 11, click **Computer > Applications > IBM N series OnCommand System Manager** *version_number*.

Getting started with System Manager

The System Manager user interface enables you to configure your storage systems and manage storage objects such as disks, aggregates, volumes, quotas, qtrees, and LUNs; protocols such as CIFS, NFS, iSCSI, and FC; vFiler units; Vservers; HA configurations; gateways; SnapVault relationships and SnapMirror relationships.

For more information about how to configure and manage your storage systems from System Manager, see the *System Manager Help* provided with the System Manager software.

Before you can start managing a storage system from System Manager, you have to add the system to System Manager.

Related information

[IBM N series support website: www.ibm.com/storage/support/nseries](www.ibm.com/storage/support/nseries)

Ports used by System Manager

System Manager uses specific ports when it accesses the storage system by using management protocols such as HTTPS, HTTP, and SNMP.

System Manager uses the following ports to communicate with the storage systems:

*   Port TCP/443 for HTTPS
*   Port TCP/80 for HTTP
*   Port UDP/161 for SNMP

It is best to use HTTPS for secure communication with the storage system. You must enable SSL on your storage system to allow administrative requests over HTTPS to succeed. For storage systems running Data ONTAP 8.1 operating in Cluster-Mode, if SSL is not enabled, you have to enable SSL from the command-line interface (CLI).

System Manager does not allow you to specify a port range to start the Jetty Web server. System Manager either allows you to select a specific port or automatically selects the port. If you manually specify the port, you can start only one instance of System Manager. Running a single instance does not allow multiple users to access the application simultaneously. For example, in a multiuser environment with a terminal server, if System Manager does not start with a predefined port range, multiple users cannot access the application simultaneously.

Adding storage systems or clusters

Before you use System Manager to manage your storage systems and clusters, you have to add them to the application. You can also add storage systems that are in an HA configuration.

Before you begin

- Your storage systems must be running a supported version of Data ONTAP.
- SSL must be enabled on the storage system.
- All the nodes in the cluster must be running Data ONTAP 8.1 or later.

About this task

If you are adding one of the storage systems from an HA pair, the partner node is automatically added to the list of managed systems. If the partner node in an HA pair is down, you can add the working storage node.

Steps

1. From the **Home** tab, click **Add**.

2. Type the fully qualified DNS hostname or the IPv4 address of the storage system or cluster.

   You can specify the IPv6 address of the storage system if you are adding a system that is running a supported version of Data ONTAP operating in 7-Mode.

   If you are adding a cluster, you must enter the IP address of the cluster management interface.

3. Click the **More** arrow.

4. Select the method for discovering and adding the storage system or cluster:

   - SNMP
     You must specify the SNMP community and SNMP version (SNMPv1 or SNMPv2).

     Note: Although you can use SNMP to communicate with the nodes, you must provide the controller credentials to manage these nodes.

   - Credentials
     You must specify the Data ONTAP credentials (username and password) of the storage object you are adding to System Manager.
     You can use SNMP to communicate with the nodes. However, controller credentials are required for managing the nodes.

5. Click **Add**.

Discovering storage systems

You can use the Discover Storage Systems dialog box to discover storage systems, clusters, or storage systems in an HA pair on a network subnet and add them to the list of managed systems.

Before you begin

- Your storage systems must be running a supported version of Data ONTAP.
- All the nodes in the cluster must be running Data ONTAP 8.1 or later.

About this task

If you are adding one of the storage controllers from an HA pair, the partner system is automatically added to the list of managed systems.

You can only discover storage systems and clusters running SNMPv1 and SNMPv2.

Steps

1. From the **Home** tab, click **Discover**.

2. In the **Discover Storage Systems** dialog box, type the subnet IP address and click **Discover**.

3. Select one or more storage systems from the list of discovered systems and click **Add Selected Systems**.

4. Verify that the storage system or the HA pair that you added is included in the list of managed systems in the System Manager application window.

Configuring storage systems

You can use the Storage Configuration wizard to configure your storage system or an HA configuration. You must separately configure each storage system when you configure an HA configuration.

Before you begin

Your storage systems must be running one of the following versions of Data ONTAP:

- Data ONTAP 7.3.x (starting from 7.3.7)
- Data ONTAP 8.0.4 and 8.0.5 operating in 7-Mode
- Data ONTAP 8.1.2
- Data ONTAP 8.2

You must have enabled HTTP by using the `httpd.admin.ssl.enable` command for storage systems running Data ONTAP 8.2 operating in 7-Mode.

Steps

1. From the **Home** tab, double-click the appropriate storage system.
2. In the navigation pane, click **Storage**.
3. Click the **Storage Configuration** wizard.
4. Type or select information as prompted by the wizard.
5. Confirm the details and click **Finish** to complete the wizard.

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