NEXSAN Unity
Setup Guide

This document provides basic steps to create a storage pool, file system, and LUN, and to provide file system and LUN access. For more information, click the help icon on each wizard step. Use this document after you have completed the initial Unity System setup with the Unity System Configuration wizard (please see the *Unity Quick Start Guide* included with your Unity Storage System).

Adding an authentication service

1. **On the Unity navigation bar, click System > Unity Systems**.
2. **Click the link to the Unity System**.
3. **Click Summary to open the Unity System panel drop-down menu and select User Authentication**.

The following authentication modes are available:

- Unity authentication (default)
- Microsoft Active Directory Domain
- LDAP Directory Service

Refer to the *Unity Software User Guide* or Online Help (on the **Unity navigation bar**, click **Help**) for detailed instructions.

Adding a storage pool

1. **Select volumes and create the storage pool:**
   a. On the **Unity navigation bar**, click **Storage > Storage Pools**. See the *Nexsan Unity Software User Guide* or Unity Online Help.
   b. In the **Storage Pools** panel, click **Add Storage Pool**. The **Create a Storage Pool** wizard opens.
   c. In the **Available** listing, select a storage system or volume and click **Allocate**.
   d. Optionally, change the **Storage Pool name** and **Resource Group** that you want to assign the storage pool to.
   e. Assign FASTier devices in the pool for read or write:
      - For the UNITY4400 and UNITY6900, assign FASTIER devices as read-only cache for the pool. The two systems come with NVDIMM for write cache and SSD drives for read cache. NVDIMM cache is assigned automatically to the pools.
      - For the UNITY2200, assign FASTIER devices as read or write cache. The UNITY2200 uses SSD drives as both read and write cache.
   f. Click the **Next** button.
2. **Verify your settings and click the Create button.**
3. **View configuration results.**

When the storage pool is successfully created, you are prompted to create a file system or a LUN.

Creating a file system

1. **Set the file system name and assign a pool:**
   In the wizard step 1 Properties panel, you can accept or change the:
   - File System Name
   - Storage Pool assignment. The pool you created in the previous step is selected by default.
   Click the **Next** button.
2. **Configure space usage:**
   - Reserve a set amount of disk space in the storage pool for the exclusive use of this file system, if desired.
   - **Quota:** Optionally, you can set a usage quota using the slider. This quota allows Unity to dynamically expand file system storage capacity if it runs out of space.
   NOTE: The quota cannot be less than the reserved space.
   - **Record Size**: Optionally, reduce file system Record Size if necessary for your application.

Record size is dynamic and can write in smaller blocks for applications requiring a different record size. It is not recommended to change the default file system record size except where the application is database-driven and the database record size is precisely known.

File systems have a default record size of 128 KB, which is the maximum size.

   - **Data Compression**: You can enable or disable compression at the file system level. Compression allows for better performance of File Systems or LUNs, since the files to read and write are much smaller. This setting takes precedence over the settings defined at the storage pool level.
   Click the **Next** button.
3. **Configure the Access Protocol:**
   a. Select the file sharing method the Unity Storage System will use to expose this file system over the network:
      - **CIFS Access** for Windows-based systems.
      - **NFS Access** for UNIX-based systems.
      - **FTP** protocol for Windows-based systems and UNIX-based systems (Unity authentication only).
   NOTE: The **FTP** option must be enabled at the Unity System level.
   b. Click the **Next** button.
4. **Configure Data Protection:**
   a. If required, disable **Snapshot scheduling**. It is enabled by default. Optionally, do the following:
      - Modify the frequency, period (hours, days, or weeks) and time of day when snapshots will be taken.
      - Disable or modify the number of snapshots to be kept.
      - Enable auto-deletion settings for the file system.
   b. Click the **Next** button.
5. **Verify settings:**
   a. Verify the configuration settings. To change a setting, click the **Previous** button or click directly on the step number at the top of the wizard panel.
   b. Click **Create**.
6. **View configuration results:**
   When the file system is successfully created, click **Add File System** or click **No, I'm finished** to close the wizard.

▶ **What's next**

For a CIFS file system, map the CIFS file system to a drive letter on a Windows client computer; see .

Creating a LUN

To start the Create a LUN wizard:
   a. On the **Unity navigation bar**, click **Storage > LUNs**.
   b. Click the **Add LUN** button. The **Create a LUN wizard** opens.
1. **Set the LUN name, block size, and read caching:**
   a. In the wizard step 1 Properties panel, you can accept or change the:
      - **LUN Name**
      - **Storage Pool** assignment. If more than one storage pool exists, select which one you want to assign to the file system.
      Click the **Next** button.
   b. Set the **LUN Block Size**. To ensure optimal I/O performance, set the LUN block size to the same value as the typical I/O block size of the host application.

c Optionally, disable **LUN Read Caching**. If this LUN will be integrated as part of an online transaction processing (OTP) workload, we recommend that you disable read caching.

d Click the **Next** button.

2 Configure space usage settings for the LUN:

   a You can create either of the following types of LUN:

- **Thin-provisioned**: The virtual volume size is greater than the corresponding storage pool physical capacity.
- **Thick-provisioned**: This option uses the specified amount of physical disk space.

   b Perform one of these actions:

     For Thin-provisioning:

- Set a LUN Size for the virtual volume. The virtual volume size cannot be less than the disk space reservation.
- Set the amount of disk space reservation.

     For Thick-provisioning, set the LUN size.

   c Optionally, disable **Data Compression**. Data Compression is enabled by default. See details under Create a File System on the previous page and click the **Next** button.

3 Configure Data Protection:

- If required, disable **Snapshot scheduling**. It is enabled by default. Click the **Next** button.

4 Select a LUN Mask:

   a Select a Mask. The options are:

- **Use pre-defined LUN Mask**: The available type will be either Fibre Channel or iSCSI, depending on your cabling.
- Create a new LUN Mask: This step adds a step to the wizard for defining a new LUN Mask. See the next step.
- Select **None** to create a LUN Mask later.

   b Click the **Next** button.

5 Create a LUN Mask and an Initiator Group:

   a Enter **Mask Name**.

   b Select the **Transport Type**: **iSCSI** or **Fibre Channel**. The **Target** selection is determined by the existing target associated with the storage pool.

   c Select an **Initiator Group**: **All Hosts** or **Select Hosts**.

   d For **Target**, Unity assigns a Storage Pool created on Unity.

   e Enter or accept the selected LUN ID. Unity assigns the next available number. The range is from 0 to 254.

   f Click the **Next** button.

6 Verify settings:

   a Verify the configuration settings. To change a setting, click the **Previous** button or click a step number at the top of the panel.

   b Click **Create**.

7 View configuration results.

When the LUN is successfully created, click **Yes, I want to start a new wizard** to create another LUN, or click **No, I'm finished** to close the wizard.

▶ **What's Next**

Mount the LUN on a Windows client.

Mounting an iSCSI LUN on a Windows client

1 Connect the iSCSI LUN:

   a On the Windows client, select **Start** > **Search**, and type **iSCSI**.

   b In **Programs**, click **iSCSI Initiator**.

c If this is the first time you are launching the Microsoft iSCSI Initiator, a prompt displays to inform you that the Microsoft iSCSI service is not running. Click **Yes** to start the service.

d The Microsoft iSCSI Initiator Properties dialog box opens, and the **Targets** tab displays. Click the **Discovery** tab.

e To add Unity as a target portal, click **Discover Portal**.

f In the **Discover Portal dialog box,** type the virtual IP address of the Pool Resource Group where the LUN exists.

g Select the discovered targets (LUNs) that you want to connect to and click **Connect**. The initiator adds the iSCSI LUN to Windows.

h Click **Done** and then **OK** to close the **iSCSI Initiator Properties**.

2 Initialize the LUN in Windows Disk Management:

   a In Windows, select **Start** > **Search**, and type **Disk Management.**

   b In **Programs**, click **Disk Management**. *Disk Management* displays the new disk appears as *Offline* and *Unallocated*.

   c Right-click the disk on the left-hand side and select **Online**. The status changes to *Not Initialized* and *Online*.

   d Right-click that same disk on the left-hand side and select **Initialize Disk**.

- For disks bigger than 2 TB, select **GPT (GUID Partition Table)**.
- For disks smaller than 2 TB, leave the default option set to **MBR (Master Boot Record)**.

   The disk status changes to *Basic*.

3 **Right-click the initialized disk on the right-hand side.**

4 **Select New Simple Volume**.

5 **Follow these steps in the New Simple Volume wizard**:

   a Assign a volume size.

   b Assign a drive letter or mount the volume in an empty NTFS folder.

   c Format the volume as NTFS.

   d Give it a meaningful name.

   e Perform a quick format.

The disk appears as *Healthy* and displays your configuration settings. You can access the new volume as you would a hard disk attached locally to the Windows systems.

Mapping a CIFS file system to a Windows client

1 In the Windows Explorer address bar, enter the virtual IP address of the **Pool Resource Group** where the CIFS file system is located. The virtual IP address must be entered using this format:

\ \ XXX.XX.XXX.XXX

2 Right-click the file system that you want to access and select the **Map network drive** option.

3 If prompted, enter your Windows **Domain user name** and **password**, and click the **OK** button.

4 Windows prompts you to select the drive letter to map to. From the Drive drop-down list, select the **drive letter** that you want to map the file system to.

5 Click the **Finish** button.

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