

CREATING AND RECREATING RAID ARRAYS

Nexsan

Technical Manual

Technical Services
Nexsan Technologies

Email: Support@nexsan.com

URL: www.nexsan.com

Considering the large amount of possibilities, one of the most essential factors in creating or recreating a RAID ARRAY is proper planning. Make sure you have your requirements defined before moving ahead.

Keep in mind that all of the Nexsan units will come preconfigured, which may require additional steps of deleting existing volumes and ARRAYS.

If you're recreating an existing ARRAY you will need to BACKUP up all your data before proceeding.

This document will cover the creation of a RAID5 ARRAY which may be used to as a example in creating any other RAID set.

Deleting The Volume(s)

Once the data is backed up you can delete all volumes one by one.

1. CONFIGURE VOLUMES2. DELETE VOLUME3. CHECK RADIO BUTTON4. DELETE VOLUME TAB

> > > MAIN MENU

HOME

RAID INFORMATION

SYSTEM INFORMATION

CONFIGURE RAID

CONFIGURE VOLUMES

CONFIG HOST ACCESS

SYSTEM ADMIN.

CONFIGURE NETWORK

QUICK START

LOG OFF

ADD VOLUME EXPAND VOLUME **DELETE VOLUME** RENAME VOLUME MAP VOLUME

Configure Volumes

Delete a Logical Volume

Free space areas on 'array1'

Array 1, Controller 1

Total capacity 3.2 TB (2.9 TiB)

Free Area	Size in MB	Size in GB
There are no free space areas, all of the array capacity is used		

Volume ID (3) on 'array1' (Array 1)

Volume name	vol1
Volume capacity	1600085 MB, 1600.0 GB (1490.1 GiB)
% of total array used	50%
Number of bad blocks	0
LUN mapping	Click to view
Volume serial number	6D45443E
Volume created	Thursday 02 Nov 2006 16:59:10

Delete Volume

Existing on array 1, controller 1

1600085 MB, 1600.0 GB

(1490.1 GiB)

Below bar represents the size and position of the above volume

0%100%

Free space after this volume - 0 MB, 0.0 GB

Deleting The Volume(s) cont.

Continue deleting the volumes one by one, until all volumes have been deleted.

1. CHECK RADIO BUTON

CONFIRM DELETE COMMAND

The screenshot shows a web interface with a left-hand navigation menu and a main content area. The navigation menu includes: > > > MAIN MENU, HOME, RAID INFORMATION, SYSTEM INFORMATION, CONFIGURE RAID, CONFIGURE VOLUMES, CONFIG HOST ACCESS, SYSTEM ADMIN., CONFIGURE NETWORK, QUICK START, and LOG OFF. The main content area has a red background and contains the following text: **Confirm that you wish to DELETE the below Volume**, 3: 'vol1', Array: 'array1', Controller 1, Capacity: 1.6 TB (1490.1 GiB), Controller 0 Ports ---, Controller 1 Ports Fibre - Host 0, LUN 0. Below this is a confirmation instruction: "Confirm by clicking the checkbox and then clicking the 'Confirm Delete Command' or Cancel by clicking the 'CANCEL Delete' button." At the bottom are two buttons: "Confirm Delete Command" and "CANCEL Delete". A checkbox with a checkmark is positioned above the "Confirm Delete Command" button. Two blue arrows point from the text boxes above to the checkbox and the "Confirm Delete Command" button.

After each volume have been deleted you will get confirmation screen.

Deleting The Array(s)

Once the volumes have been deleted from an ARRAY, you can delete the ARRAY.

1. CONFIGURE RAID 2. DELETE ARRAY 3. CHECK RADIO BUTON 4. DELETE RAID ARRAY

>>> MAIN MENU	ADD ARRAY	RENAME ARRAY	DELETE ARRAY	ARRAY OWNER	ADD SPARE	DELETE SPARE	SPARE MODE	LOST DATA	REBUILD ACK		
HOME	Delete a RAID array		Configure RAID Delete a RAID Array								
RAID INFORMATION	Array name : 'array1'		Array number : 1, Controller 1		RAID level : RAID 6 (rotating dual parity)		Number of members : 10		Fault tolerant 3.2 TB (2.9 TiB)		
SYSTEM INFORMATION	Array name : 'array4'		Array number : 2, Controller 1		RAID level : RAID 6 (rotating dual parity)		Number of members : 10		Fault tolerant 3.2 TB (2.9 TiB)		
CONFIGURE RAID	Array name : 'array2'		Array number : 3, Controller 0		RAID level : RAID 6 (rotating dual parity)		Number of members : 10		Fault tolerant 3.2 TB (2.9 TiB)		
CONFIGURE VOLUMES	Array name : 'array3'		Array number : 4, Controller 1		RAID level : RAID 6 (rotating dual parity)		Number of members : 10		Fault tolerant 3.2 TB (2.9 TiB)		
CONFIG HOST ACCESS	Delete RAID Array										
SYSTEM ADMIN.											
CONFIGURE NETWORK											
QUICK START											
LOG OFF											

Deleting The Array(s) Cont.

Continue with deleting the ARRAY.

1. CHECK RADIO BUTTON

2. CONFIRM DELETE COMMAND

Confirm that you wish to DELETE the below array

Array name : array1
Array number : 1

RAID level : RAID 6 (rotating dual parity)
Number of members : 10
Array capacity : 3.2 TB (2.9 TiB)
Stripe size : 128 Kbytes
Created : Thursday 02-Nov-2006 16:54:13

Confirm by clicking the checkbox and then clicking the 'Confirm Delete Command' or Cancel by clicking the 'CANCEL Delete' button.

Confirm Delete Command

CANCEL Delete

After each array have been deleted you will get confirmation screen.

Create Volume(s)

When you create an ARRAY one volume will be created automatically. However if you like to have more than one volume in the ARRAY you should go through the procedure of deleting the default volume and creating multiple volumes.

1. SELECT CONFIGURE RAID

2. SELECT ADD VOLUME

3. SELECT APPROPRIATE OPTIONS

4. CREATE VOLUME

ADD VOLUMEEXPAND VOLUMEDELETE VOLUMERENAME VOLUMEMAP VOLUME

Configure Volumes

Create a Logical Volume

**Array has been successfully configured
Volumes will not be accessible until initialisation is completed**

Array# 1 selected, Controller 0, RAID5, 3.6 TB (3.2 TiB)

Enter the name for the new volume	ARRAY #1
Enter the size of the new volume in % of array capacity	100 %
Reserve an optional free space area at beginning of the new volume for future expansion of a previous volume	%
Limit volume size to less than 2TB	<input type="checkbox"/>

Create Volume Reset

MB GB % MiB GiB Change Units

NOTE: Any time a different unit is selected acknowledge it by clicking on "Change Units"

Mapping The Volumes

Once volumes are created you will need to map them to the appropriate port(s), this depends on your unit's configuration settings.

1. CONFIGURE VOLUMES

2. MAP VOLUME TO THE APROPRIATE PORT

ADD VOLUME

EXPAND VOLUME

DELETE VOLUME

RENAME VOLUME

MAP VOLUME

LUN MASK

>>> MAIN MENU

HOME

RAID INFORMATION

SYSTEM INFORMATION

CONFIGURE RAID

CONFIGURE VOLUMES

SYSTEM ADMIN.

CONFIGURE NETWORK

QUICK START

LOG OFF

Configure Volumes

Map Logical Volumes

Volumes on Controller 1	Fibre		iSCSI	
	Host 0	Host 1	Net 0	Net 1
<div style="margin-left: 5px;"> <p>1: 'vol1'</p> <p>Array: 'speed', Controller 1</p> <p>Capacity: 640.0 GB (596.0 GiB)</p> </div>	LUN 0	LUN 0	-	-
<div style="margin-left: 5px;"> <p>2: 'iscsi'</p> <p>Array: 'array3', Controller 1</p> <p>Capacity: 672.0 GB (625.8 GiB)</p> </div>	LUN 1	LUN 1	-	-

Save settings

Reset

3. SELECT THE SAVE SETTINGS TAB

WARNING: Mapping the same volume to 2 different servers without file locking or clustering software will result in data corruption !

Checking RAID Array progress

1. SELECT RAID INFORMATION TAB

2. SELECT THE PROGRESS TAB

The screenshot shows the RAID Array Utility Progress screen. The left sidebar contains a menu with options: >>> MAIN MENU, HOME, RAID INFORMATION, SYSTEM INFORMATION, CONFIGURE RAID, CONFIGURE VOLUMES, CONFIG HOST ACCESS, SYSTEM ADMIN., CONFIGURE NETWORK, QUICK START, and LOG OFF. The main area has a tabbed interface with tabs: RAID ARRAY, PROGRESS, VOLUMES, DISK DRIVES, DISK STATS., FIBRE INFO, iSCSI INFO, HOST STATS., and SYSTEM NAV. The PROGRESS tab is selected. The screen title is 'RAID Information RAID Array Utility Progress'. A table shows the progress for 'ARRAY #1' (Array number : 1, Controller 0):

'ARRAY #1'	
Array number : 1, Controller 0	
Utility	Array construct
Progress %	39%

Below the table is a progress bar labeled 'PROGRESS BAR' with '0%' on the left and '100%' on the right. The bar is filled with blue to represent 39% progress.

Note: The array creation varies depending on the size of the drives and the amount of drives added to the array.

**If you are still having issues feel free to contact
Technical Support**

866.2.NEXSAN - 866.263.9726 (Toll free)

+1.760.690.1111 (Outside of North America)

+44.01332.291600 (Europe)

support@nexsan.com

Thank you