NEW STORAGE VOLUME WIZARD

Build one or more volumes using the New storage volume wizard. You can select:

- **Quick setup**: Skip multiple configuration steps with LaCie SimplyRAID, LaCie's smart RAID configuration agent. SimplyRAID will review the amount of disks in the enclosure and the total storage to optimize data capacity and protect your data. To provide the most disk space for your data, *Quick setup* configures a SimplyRAID volume with single-disk security. Use Custom for SimplyRAID with double-disk security.
- **Custom:** Configure a volume using LaCie SimplyRAID or standard RAID models. *Custom* offers a wide range of RAID configurations:
 - SimplyRAID with double-disk security (minimum of four disks)
 - JBOD
 - RAID 0 (two disks minimum)
 - RAID 1 (two disks minimum for data protection)
 - RAID 1+Spare (three disks minimum). Additional steps required to add the spare.
 - RAID 5 (three disks minimum)
 - RAID 5+Spare (four disks minimum) Additional steps required to add the spare.
 - RAID 6 (four disks minimum)
 - RAID 6+Spare (five disks minimum). Additional steps required to add the spare.

SimplyRAID and spare disks: Since LaCie SimplyRAID optimizes storage capacity using all disks in a volume, it is not possible to add a spare disk to a SimplyRAID volume.

Important note on SimplyRAID with double-disk security:

- You must use **Custom** to configure five disks as SimplyRAID with double-disk security.
- The *New storage volume wizard* does not offer a migration path from SimplyRAID single-disk security to SimplyRAID double-disk security.

Important info on creating a single-disk volume: Single-disk volumes can be created with expansion in mind. For example, you can launch the *New storage volume wizard* to create a single-disk volume using SimplyRAID, JBOD, or RAID 1. Though the volume will not provide data protection in a single-disk configuration, it is prepared for expansion when you add one or more disks to the enclosure. If you intend to expand the volume to four or more disks, it is recommended that you create the volume using SimplyRAID since RAID 1 cannot reach beyond three disks.

Important info: Backing up data stored on your LaCie NAS to desktop storage and/or another NAS will help keep critical files safe from hard drive or hardware failure. This is especially true for volumes that are not configured for RAID protection. Therefore, it is highly recommended that you perform frequent backups. See <u>Backup Jobs</u> for detailed instructions on how to back up your LaCie NAS.

NEW STORAGE VOLUME WIZARD STEPS

The default names for newly created volumes are *Volume 1*, *Volume 2*, etc. For instructions on how to change the name of the volume, see <u>Volume Tools</u>.

Quick setup

Insert disks into the enclosure before following the directions below. For instructions, see <u>Remove/Insert a Hard</u> <u>Disk or Connect to the Network: Diskless LaCie 5big NAS Pro</u>.

1. Select the new disk(s) on the top of the left-hand column.

LACIE 5big	NAS Pro
🚍 Storage	Add storage
a new disks	3 new disks detected
Volume 1	You can use a new disk to create a new network volume, to increase the capacity or security of an existing volume, or to repair a degraded volume.

2. Choose the **Add storage** button to launch the *New storage volume* wizard.

LACIE 5big	NAS Pro
🚍 Storage	Add storage
3 new disks	3 new disks detected You can use a new disk to create a new network volume, to increase the capacity or security of an existing volume, or to repair a degraded volume.

3. Select **Network volume**, then choose **Next**.

	1. Type	2. Settings	3. Finish	
ect	one of the following:			
۲	Network volume Access via your network and share	among multiple users. Optimal for	sharing data.	
С	ISCSI Block-level protocol for a single use	r, a SAN, or a cluster environment		

4. The Select disks window lists all the disks in the enclosure. Grey disks are being used by one or more existing volumes and cannot be selected. White disks are available for the new volume. Select the box under each disk that you want to use for the new volume then choose **Next**. All data on the disks will be deleted to create the RAID configuration.





5. Select **Quick setup** to create a SimplyRAID volume to optimize your storage for data and protection. With two or more disks, SimplyRAID will create a RAID volume using single-disk security. If you choose *Custom*, refer to the instructions below. Choose **Next** to continue.

ew	storage volume		
	1. Type	2. Settings	3. Finish
elect	one of the following:		
۲	Quick setup Protect your data and optimize ava A minimum of 2 disks is required to	ailable capacity with LaCie SimplyR/ o ensure data protection.	AID.
0	Custom Select your RAID configuration.		
			Cancel Back

6. Review the summary window then choose **Finish**. A popup window cautions you that all data on the selected disks will be deleted to create the volume. Select **Yes** to build the SimplyRAID volume.

Finish to confirm your selection Drive 3, Drive 4, Drive 5 ID mode SimplyRAID - Single security Intection Protected if one disk fails ailable for data 4 TB ed for protection 2 TB served for expansion 0 B Iata on the selected disks (Drive 3, Drive 4, Drive 5) will be erased.				
lected driveDrive 3, Drive 4, Drive 5ID modeSimplyRAID - Single securityotectionProtected if one disk failsailable for data4 TBed for protection2 TBserved for expansion0 Blata on the selected disks (Drive 3, Drive 4, Drive 5) will be erased.	k Finish to confirm your sel	ection.		
ID mode SimplyRAID - Single security otection Protected if one disk fails ailable for data 4 TB ed for protection 2 TB served for expansion 0 B tata on the selected disks (Drive 3, Drive 4, Drive 5) will be erased.	Selected drive	Drive 3, Drive 4, Drive 5		
DetectionProtected if one disk failsailable for data4 TBed for protection2 TBserved for expansion0 Bdata on the selected disks (Drive 3, Drive 4, Drive 5) will be erased.	RAID mode	SimplyRAID - Single security		
ailable for data 4 TB ed for protection 2 TB served for expansion 0 B tata on the selected disks (Drive 3, Drive 4, Drive 5) will be erased.	Protection	Protected if one disk fails		
ed for protection 2 TB served for expansion 0 B Jata on the selected disks (Drive 3, Drive 4, Drive 5) will be erased.	vailable for data	4 TB		
served for expansion 0 B tata on the selected disks (Drive 3, Drive 4, Drive 5) will be erased.	Jsed for protection	2 TB		
tata on the selected disks (Drive 3, Drive 4, Drive 5) will be erased.	Reserved for expansion	0 B		
	served for expansion	0 B s (Drive 3, Drive 4, Drive 5) will be erased	I.	

7. The amount of time to synchronize the volume depends upon the total capacity of your disks. However, you can start using the volume immediately. See <u>Shares</u> for instructions on how to create new shares on the volume to store and share data.



Custom

Your options to select the level of RAID are predicated upon the number of disks in your array. For example, a three-disk configuration allows you to select from LaCie SimplyRAID, JBOD, RAID 0, RAID 1, or RAID 5. A four- or five-disk configuration offers LaCie SimplyRAID, JBOD, RAID 0, RAID 5, or RAID 6.

Adding a spare: If you intend to create a volume with a spare drive, you must leave at least one hard drive free. For example, a four-disk RAID 6 array with spare would require that you create the RAID 6 with the first four disks (from left to right) before moving to the next section to add the fifth hard disk as the spare.

Install disks into the enclosure before following the directions below. For instructions, see <u>Connect to the</u> <u>Network: Diskless LaCie 5big NAS Pro</u>.

1. Select the new disks at the top of the left-hand column.



2. Choose the **Add storage** button to launch the *New storage volume* wizard.



3. Select Network volume, then choose Next.

	1. Type	2. Settings	3. Finish	
ect or	ne of the following:			
Ne Ac	etwork volume ccess via your network and sh	are among multiple users. Optimal for	r sharing data.	
IS BI	CSI ock-level protocol for a single	user, a SAN, or a cluster environmen	t.	

4. The Select disks window lists all the disks in the enclosure. Grey disks are being used by one or more existing volumes and cannot be selected. White disks are available for the new volume. Select the box under each disk that you want to use for the new volume then choose **Next**. All data on the disks will be deleted to create the RAID configuration.





5. Select **Custom** then choose **Next**.

ew	storage volume			
	1. Type	2. Settings	3. Finish	_
Select	one of the following:			
0	Quick setup Protect your data and optimize ava A minimum of 2 disks is required to	llable capacity with LaCle SimplyF ensure data protection.	RAID.	
۲	Custom Select your RAID configuration.			
				1

- 6. The RAID selection window helps you to select the optimal configuration for your environment:
 - Select a RAID mode's radio button to view an explanation of its strengths and weaknesses.

1. Type		2. Settings	3. Finish
Select your choice :	RAID 0		
SimplyRAID Single security	Simultaneous F	Read/Write across all str	riped disks for optimal
SimplyRAID Double security	No data protect	lion	
JBOD			
RAID 0	Capacity	100%	
RAID 1	Protection	A	
RAID 5	Performance	*****	
RAID 6	Scalability	습습습습	
	Available for d	ata Used for protec	tion Reserved for expansion
	(9 TB)	(0 B)	

SimplyRAID Double security

New storage volume

Selected drive	Drive 1, Drive 2, Drive 3, Drive 4, L	Drive 5
Protection	No data protection	
Available for data	9 TB	
Used for protection	0 B	
Reserved for expansion	0 B	
Il data on the selected disk	s (Drive 1, Drive 2, Drive 3, Drive 4, Dri	ive 5) will be erased.

×

RAID 0

1. Type	2. Settings		3. Finish
Select your choice : SimplyRAID Single security	RAID 5 Using parity blocks ensure	s that data is safe	in case of a disk failure.
 SimplyRAID Double security JBOD 	Data is protected if one dis	sk fails.	
RAID 0	Capacity 44%		
RAID 1	Protection 🔶 🚖 🏫	公公	
RAID 5	Performance 🛧	★☆	
RAID 6	Scalability 📩 🚖 🏠 😭	公公	
	Available for data	ed for protection (5.4 GB)	Reserved for expansion (4 TB)

RAID 5

1. Type		2. Settings	3. Finish
Select your choice : SimplyRAID Single security SimplyRAID Double security IBOD	RAID 6 Using dual part failure. Data is protecte	ty blocks ensures that data ed if two disks fail at the sa	a is safe in case of a disk me time.
 RAID 0 RAID 1 RAID 5 RAID 6 	Capacity Protection Performance Scalability	33% ★★★★★ ★★☆☆☆ ★★☆☆☆	Reserved for expansion (4 TB)

RAID 6

• Use the cursor to choose the grey *i* tooltip to see a graphic summary of the strengths and weaknesses of each level of RAID.

RAID mode	Performance	Protection	Scalability	Capacity
SimplyRAID - Single security	****	**☆☆☆☆	*****	
SimplyRAID - Double security	***	*****	****	
JBOD	습습습습습	A	*****	
RAID 0	*****	A	습습습습	
RAID 5	*****	****	******	
RAID 6	****	*****	***	

- 7. Select the level of RAID that you want then choose **Next**. Note, if you are reconfiguring an existing RAID, the new mode will erase files on the shares but your Dashboard configuration will not be affected.
- 8. Review the summary window then choose **Finish**. A popup window cautions you that all data on the selected disks will be deleted to create the volume. Select **Yes** to build the volume.

New storage volume

Selected drive	Drive 1, Drive 2, Drive 3, Drive 4	, Drive 5
RAID mode	RAID 0	
Protection	No data protection	
Available for data	9 TB	
Used for protection	0 B	
Reserved for expansion	0 B	
Il data on the selected disk	s (Drive 1, Drive 2, Drive 3, Drive 4, I	Drive 5) will be erased.

×

Custom+Spare

Before adding a spare hard drive, you must follow the instructions above (**Custom**) to create the RAID volume. When creating the volume, leave a minimum of one hard drive free for the spare. For example, a four-disk RAID 6 volume with spare would require that you create the RAID 6 with the first four disks (from left to right) before reviewing this section to add the fifth hard disk as the spare. You can follow the directions below with RAID 1, RAID 5, or RAID 6 volumes.

 Insert the spare hard drive(s) into the LaCie 5big NAS Pro (see <u>Remove/Insert a Hard Disk</u> for instructions). The **Dashboard > Storage** should display at least one *New* hard drive.



2. Choose Manage.

3. Select Add drive and choose Next.



4. Check the box under the *New* hard drive(s) and choose **Next**.

1. Action	2. Settings		3. Finish
a disks that you want to add	to the volume:		
Drive 1 Drive 2	2 Drive 3	Drive 4	Drive 5
OK OK 2 TB 2 TB	New 2 TB	Empty	Empty

5. Select **Custom** and choose **Next**.

	1. Action	2. Settings	3. Finish	
elect	t one of the following:			
0	Expand storage capacity Add 2 TB			
0	Increase security Protect against data loss if two o	lisks fail at the same time.		
	Custom Select RAID level or add a spar	e drive.		
			Cancel Back	

6. Select **Add spare drives** and choose **Next**.



7. Review the summary and choose **Finish**. A popup window cautions you that all data on the selected disks will be deleted to create the volume. Select **Yes** to build the volume.

1. Action	2. Settings	3. Finis	sh
ck Finish to confirm your selection	ion.		
Add 1 drive as a spare drive to t	the RAID configuration.		
All data on the selected disks (D	Drive 3) will be erased.		

8. The *Spare* is now available.

CAID I	RA	ND 1 🖉	N	fanage Format Delete
0%				
	Cap	Dacity 21B of 21	8	
	Mo	de RAID 1 🗊		
	Sta	tus OK 🕜		
	Driv	/es		
	Drive d	letails		×
	Drive	Status	Capacity	
	1	OK	2 TB	
	2	OK	2 TB	

Single-disk volume

NAS OS allows you to create a volume with only one disk, then expand as you add disks to the enclosure. A volume with a single disk can be configured for SimplyRAID, JBOD, or RAID 1. Each level of RAID has its own advantages, as described in <u>5big NAS Pro: About RAID Modes</u>.

If you have not inserted the hard drive into the LaCie 5big NAS Pro, please see <u>Remove/Insert a Hard Disk</u> for basic instructions. For a full explanation of adding disks to the enclosure, see <u>Connect to the Network: Diskless</u> <u>LaCie 5big NAS Pro</u>. Once the disk has been installed, the **Dashboard > Storage** page should display at least one new hard drive.

SimplyRAID

1. Select **One new disk** at the top of the left-hand column, then choose **Add storage**.



2. Select Network volume then choose Next.



3. Select the check box under the new disk then choose **Next**.

1. Type	2. Settings	3. Finish
disk(s):		
Q	्	QQ
Drive 1 D	rive 2 Drive 3	Drive 4 Drive 5
ОК 2 ТВ 2	OK New 2 TB	Empty Empty

4. Select **Quick setup** then choose **Next**.

ew	storage volume			
	1. Type	2. Settings	3. Finis	h
elect	one of the following:			
	Quick setup Protect your data and optimize ava A minimum of 2 disks is required to	llable capacity with LaCie SimplyR ensure data protection.	RAID.	
0	Custom Select your RAID configuration.			
			Cancel	Back No

5. Review the summary window then choose **Finish**. A popup window cautions you that all data on the selected disks will be deleted to create the volume. Select **Yes** to build the SimplyRAID volume.

tion.	
Drive 3	
SimplyRAID - Single security	
No data protection	
2 TB	
0 B	
0 B	
	Drive 3 SimplyRAID - Single security No data protection 2 TB 0 B 0 B

Though it is a SimplyRAID volume, data is not protected with a single disk.

RAID 1 or JBOD

1. Select **One new disk** at the top of the left-hand column, then choose **Add storage**.



2. Select **Network volume** then choose **Next**.

W	storage volume			
	1. Type	2. Settings	3. Finish	
lect	one of the following:			
•	Network volume	are among multiple users. Optimal fo	r sharing data	
~		no among maniple abora, opamario	or o	
0	Block-level protocol for a single	user, a SAN, or a cluster environmen	ıt.	

3. Select the check box under the new disk then choose **Next**.

1. Type		2. Settings		3. Finish
disk(s):				
Drive 1	Drive 2	Drive 3	Drive 4	Drive 5
2 TB	2 TB	2 TB	Empty	Empty

- 4. Select **Custom** then choose **Next**.
- 5. Select JBOD or RAID 1, then choose **Next**.

1. Type	2. Se	ettings	3. Finish
Select your choice :	JBOD		
SimplyRAID Single security	Writes data to a singl	le disk until it is full and	then continues on the ne
SimplyRAID Double security	disk. No data protection		
 JBOD 			
RAID 0	Capacity 100	%	
RAID 1	Protection		
RAID 5	Performance	ት ት ት ት	
RAID 6	Scalability 📩	****	
	Available for data (2 TB)	Used for protection (0 B)	Reserved for expansion (0 B)

1. Type		2. Settings	3. Finish
Select your choice : 🚯	RAID 1		
 SimplyRAID Single security SimplyRAID Double security 	Writes the same A minimum of 2	e data on each disk (mirror). disks is required to ensure of	data protection.
 JBOD RAID 0 RAID 1 RAID 5 RAID 6 	Capacity Protection Performance Scalability	100% ☆☆☆☆☆ ☆☆☆☆☆ ★★☆☆☆	
	Available for d (2 TB)	ata Used for protection (0 B)	Reserved for expansion (0 B)

6. Review the summary window then choose **Finish**. A popup window cautions you that all data on the selected disks will be deleted to create the volume. Select **Yes** to build the volume.

1. Type	2. Settings	3. Finish	
k Finish to confirm your sel	ection.		
Selected drive	Drive 3		
RAID mode	RAID 1		
Protection	No data protection		
Available for data	2 TB		
Used for protection	0 B		
Reserved for expansion	0 B		
Il data on the selected disk	s (Drive 3) will be erased.		

7. Though it is a RAID 1 volume, data is not protected with a single disk.



To expand a single-disk volume, see <u>Hard Disk Expansion: Single-Disk and Unprotected Volumes</u>.

Multiple Volumes

There are many combinations of volumes and RAID configurations available on your LaCie NAS. While this manual cannot list every single option, you can use the steps below as a guide when you set up multiple volumes on your pool of storage.

This example will demonstrate the creation of two volumes using RAID 0 (performance) and SimplyRAID (protection). To add greater performance to this configuration, the administrator can bond the two Ethernet ports and create an iSCSI target on the RAID 0 volume. See <u>Network</u> and <u>iSCSI Target</u> for additional instructions. A router that supports port aggregation is required for Ethernet bonding.

Create the first volume:

- 1. If you have not inserted the hard drives into the LaCie 5big NAS Pro, please see <u>Remove/Insert a Hard Disk</u> for basic instructions. For a full explanation of adding disks to the enclosure, see <u>Connect to the Network</u>: <u>Diskless LaCie 5big NAS Pro</u>.
- 2. Choose Add storage.



3. Select Network volume and choose Next.

W	storage volume			
	1. Type	2. Settings	3. Finish	
lect	one of the following:			
۲	Network volume Access via your network and shar	e among multiple users. Optimal for	sharing data.	
0	ISCSI Block-level protocol for a single us	er, a SAN, or a cluster environment	t	

4. For this first volume, all disks are grey. A disk will turn blue once the box is checked.



5. Select the check box under the new disks and choose **Next**. In this example, we will create a RAID 0 volume using the first two disks.

orage volun				
1. Type		2. Settings		3. Finish
isk(s):				
ĊQ.	Î QÎ	Q		
Drive 1	Drive 2	Drive 3	Drive 4	Drive 5
2 TB	2 TB	2 TB	2 TB	2 TB
\checkmark	\checkmark			

6. Choose **Custom** to select the RAID level. Choose **Next**.

	1. Type	2. Settings	3. Finish	
lect	one of the following:			
0	Quick setup Protect your data and optimize a A minimum of 2 disks is required	available capacity with LaCie SimplyRJ I to ensure data protection.	AID.	
۲	Custom Select your RAID configuration.			

7. Select the RAID level and choose **Next**. This example shows RAID 0.

1	1. Type		2. Settings		3. Finish
Sele	ect your choice : 🕜	RAID 0			
0	SimplyRAID Single security	Simultaneous R	Read/Write across all	striped disk	s for optimal
0	SimplyRAID Double security	performance. No data protect	ion		
0	JBOD				
۲	RAID 0	Capacity	100%		
0	RAID 1	Protection	A		
0	RAID 5	Performance	***		
0	RAID 6	Scalability	ሰሰሰሰ		
		Available for d	ata Used for pro	tection	Reserved for expansion (0 B)

8. Review the summary window then choose **Finish**. A popup window cautions you that all data on the selected disks will be deleted to create the volume. Select **Yes** to build the volume.

Selected drive	Drive 1, Drive 2	
RAID mode	RAID 0	
Protection	No data protection	
Available for data	4 TB	
Used for protection	0 B	
Reserved for expansion	0 B	
	s (Drive 1, Drive 2) will be erased.	

9. A RAID 0 volume takes less than five minutes to build. Note that the first volume has been created using the two hard drives. There are now three new disks on the top left.

Storage		Aud storage
3 new disks	Volume 1 🖋	Format Delet
Volume 1	Capacity 3.9 TB of 3.9 TB	
0%	Mode RAID 0 🛕	
	Status OK	
	Drives	

Create the second volume:

1. Choose **Add storage**. Important: Do not select an existing volume with **Add storage**. Doing so could risk deleting the existing volume and its data.

Storage			Add storage	6
3 new disks	3 new dis	ks detected new disk to create a new network vo curity of an existing volume, or to rep	olume, to increase the air a degraded volume	3.
			O _c Details	

- 2. Select **Network volume** and choose **Next**.
- Note that the disks in the first volume are not available. Select the check box under the disks you want to use for the volume then choose Next. In this example, we will use the remaining three disks to create a SimplyRAID volume.

1. Type disk(s):		2. Settings		3. Finish
Drive 1 OK 2 TB	Drive 2 OK 2 TB	Drive 3 New 2 TB	Drive 4 New 2 TB	Drive 5 New 2 TB

4. Select **Quick setup** for SimplyRAID and choose **Next**.

VV :	storage volume			
	1. Type	2. Settings	3. Finish	
lect	t one of the following:			
۲	Quick setup Protect your data and optimize a A minimum of 2 disks is required	available capacity with LaCie SimplyRA d to ensure data protection.	AID.	
0	Custom Select your RAID configuration.			

5. Review the summary window then choose **Finish**. A popup window cautions you that all data on the selected disks will be deleted to create the volume. Select **Yes** to build the volume.

1. Type	2. Settings	3. Finish	
k Finish to confirm your sel	ection.		
Selected drive	Drive 3, Drive 4, Drive 5		
RAID mode	SimplyRAID - Single security		
Protection	Protected if one disk fails		
Available for data	4 TB		
Used for protection	2 TB		
Reserved for expansion	0 B		
II data on the selected disk:	s (Drive 3, Drive 4, Drive 5) will be erased	d.	

6. A protected volume will take time to synchronize. Note that both volumes have been created and are ready for use.

Storage				Add store	age
Volume 1	Volume Capacity Mode Status Drives	2 3.9 TB of 3.9 TB SimplyRAID Synchronizing (0.1%) ()	Manage	Format	Delete

Synchronizing Times

Synchronizing a volume can take five minutes to many hours, depending on the level of RAID, the capacity of the hard disks in the volume, and your LaCie NAS's available resources (concurrent tasks such as backups or torrent downloads will slow synchronizing). For example, creating an unprotected RAID volume takes less than five minutes while RAID 6 with large capacity disks can run for one or more days. Note that you can access the volume while it is synchronizing.