

Setting Up a PS Series Storage Array



PS Series Storage Arrays PS4000 Hardware Installation

Before You Begin

Environmental Requirements

Make sure the installation location meets the power, cooling, and ventilation requirements in the PS4000 *Rack Mount Instructions* document, located in the array shipping box.

Networking Requirements

- Standard Ethernet and TCP/IP networking rules apply to a PS Series SAN.

- Gigabit Ethernet is recommended for optimal performance.

Required Hardware (Not Supplied)

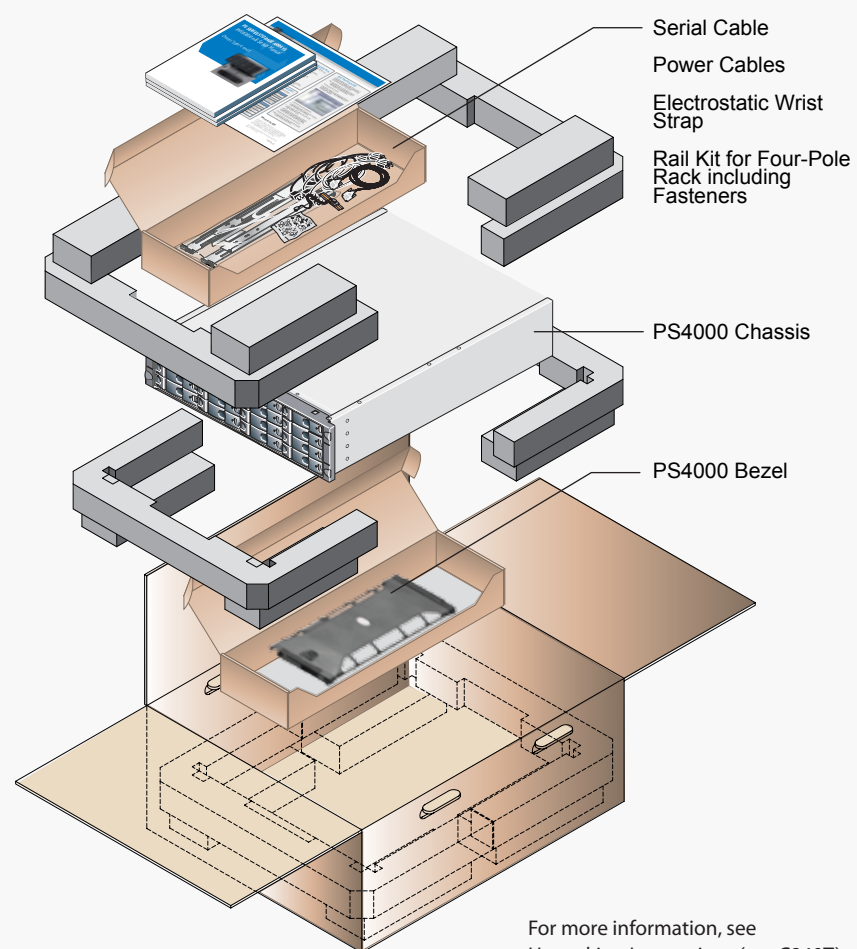
- Standard 19-inch four-pole rack.
- One to four network cables. Supported cables include Category 5E and Category 6 cables with RJ45 connectors. Use Category 5 cables only if they meet the TIA/EIA TSB95 standard.

Read the Release Notes. The PS Series Release Notes contain the latest product information.

Step 1: Unpack the Shipping Box

See the PS4000 *Unpacking Instructions* document, located in the array shipping box. Make sure you have all the required hardware, including the rack and network cables, which are not supplied.

Protect sensitive hardware. Make sure you use an electrostatic wrist strap or a similar form of protection when handling hardware.



For more information, see *Unpacking Instructions* (pn: C840T)

Step 2: Install the Array in a Rack

Mount the array in a four-pole 19-inch rack. See the PS4000 *Rack Mount Instructions* document, located in the array shipping box.



Read the PS4000 Rack Mount Instructions.

The array is heavy. Do not attempt to lift the array without assistance.

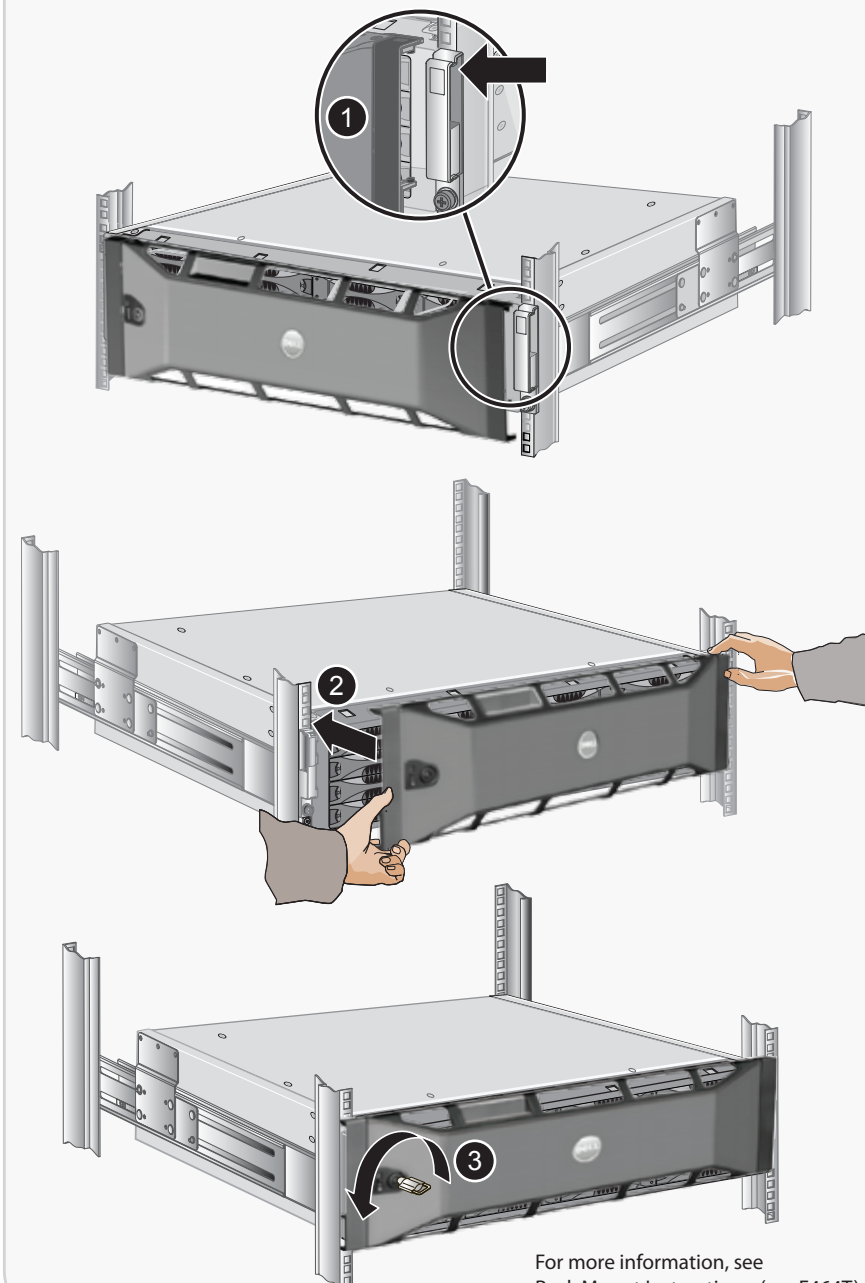
Stabilize the rack. Dell recommends that you attach the rack to the floor for added stability.

For more information, see *Rack Mount Instructions* (pn: F464T)

Step 3: Install the Bezel

To install the bezel:

- Facing the front of the rack, fit the right side of the bezel into the right side of the chassis.
- Push the bezel toward the chassis until the left side of the bezel engages with the chassis.
- Insert the bezel key and turn it counter-clockwise to lock the bezel to the chassis. Make sure you store the key in a safe location.



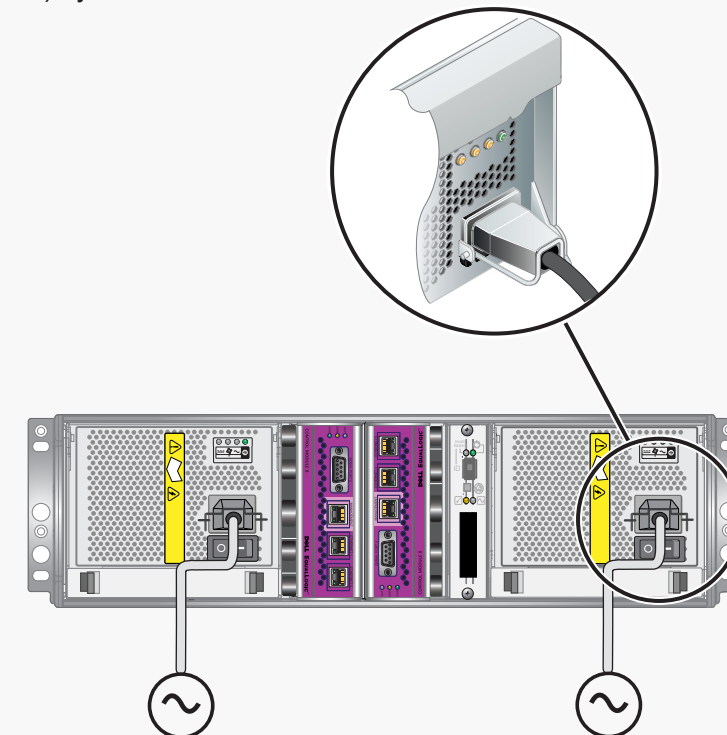
For more information, see *Rack Mount Instructions* (pn: F464T)

Step 4: Connect the Array to Power

Minimum configuration. Use the power cables shipped with the array to connect each power supply and cooling module to separate sources of power if possible. Use the cable strain relief to secure each power plug to the array. See the PS Series *Installation and Setup* manual for information.

A PS4000 requires at least one power supply connected to a source of power to operate.

Recommended configuration. For high availability, connect the power supplies to different sources of power on separate circuits. If possible, use uninterruptible power supply (UPS) systems.

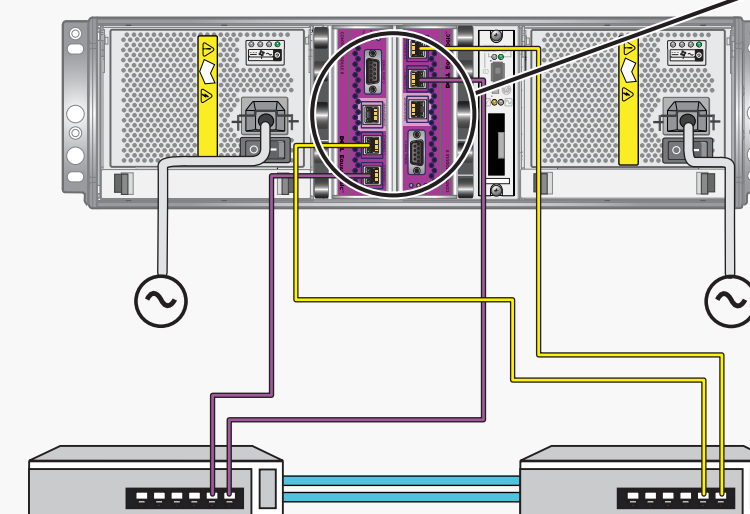


For more information, see *Installation and Setup Manual* (pn: F465T)

Step 5: Connect the Array to the Network

Recommended configuration. For high performance and availability, connect network cables to Ethernet 0 (minimum) and Ethernet 1 on both control modules and distribute the connections across multiple network switches.

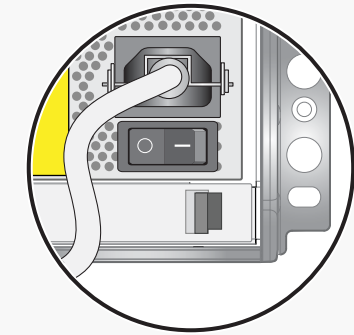
The switches must be connected with interswitch links that have sufficient bandwidth.



Step 6: Turn on Power to the Array

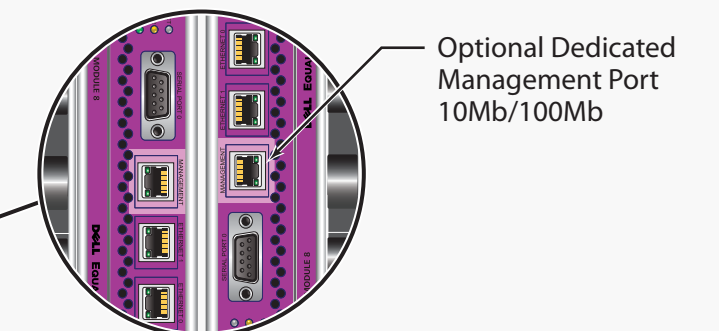
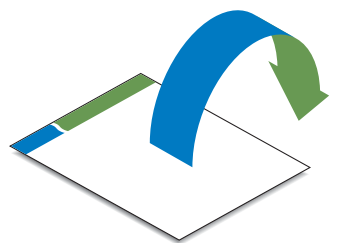
A power switch is located below the power plug on each power supply and cooling module. Turn on both.

Once you turn on full power to an array, batteries may start to charge and hardware components may start to synchronize. Array LEDs will indicate these normal activities.

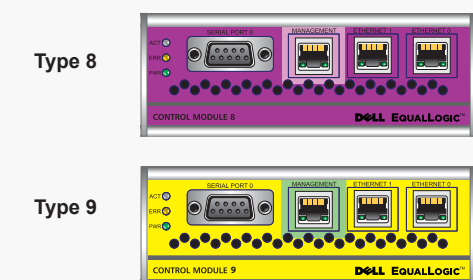


For more information, see *Installation and Setup Manual* (pn: F465T)

Hardware installation is complete.
Turn the page for software configuration instructions.



PS4000 Supported Control Modules



For more information, see *Installation and Setup Manual* (pn: F465T)

PS Series Storage Arrays Software Configuration

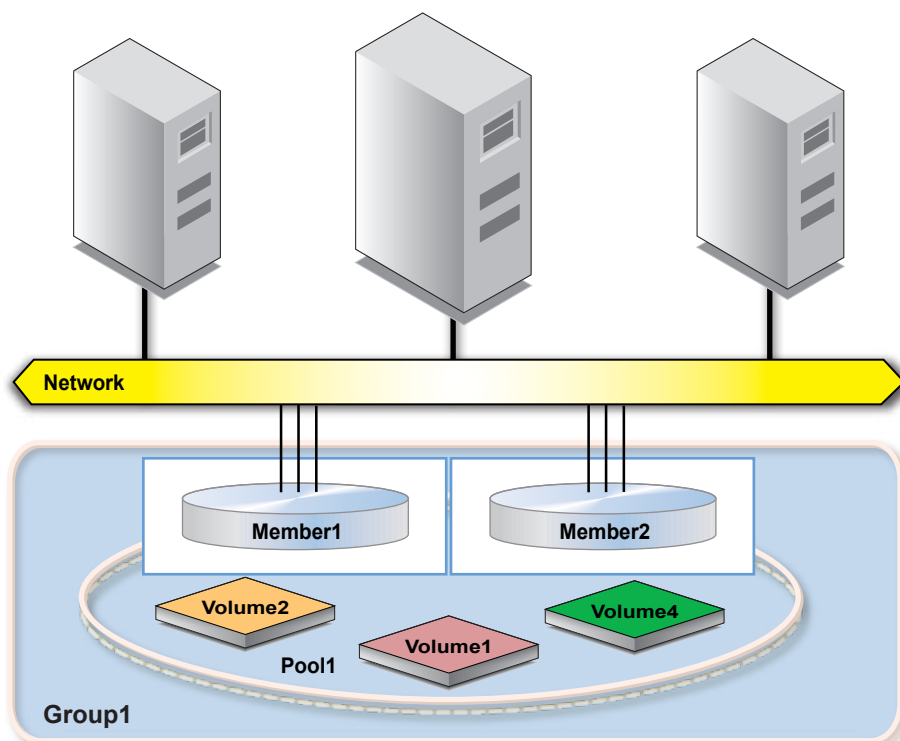
PS Series Groups

A PS Series group is an easy-to-use, highly-scalable storage area network (SAN).

After you install the array hardware, you must initialize the array. Then, create a group with the array as the first member or add the array to an existing group. When you expand a group, capacity and performance increase, with no disruption to users.

For the latest documentation, including the PS Series *Release Notes*, see the support website: www.support.dell.com/equallogic.

Multi-Member PS Series Group



Software Configuration Methods

The Remote Setup Wizard facilitates server access to group storage space and is the recommended method of configuring the PS Series software.

Requirements include:

- A computer running Microsoft® Windows XP®, Windows Vista®, Windows Server® 2003 SP1, Windows Server® 2003 R2, or Windows Server® 2008.
- The computer must have one of these configurations:
 - Connected to the same Ethernet segment as the array. Do not block Layer 2 multicasting between the devices.
 - Connected to Ethernet 0 on the array using an RJ45 cable.

If you do not meet the Remote Setup Wizard requirements, use the `setup` utility to configure the PS Series software. See the PS Series *Installation and Setup* manual for information.

Step 1: Install the Host Integration Tools

The Host Integration Tools CD-ROM is shipped with the array.

1. Insert the CD-ROM in a Windows computer.
2. In the dialog boxes, follow the installation instructions.
3. Accept the installation defaults.

The Host Integration Tools documentation provides detailed information about using the tools.

Step 2: Collect Configuration Information

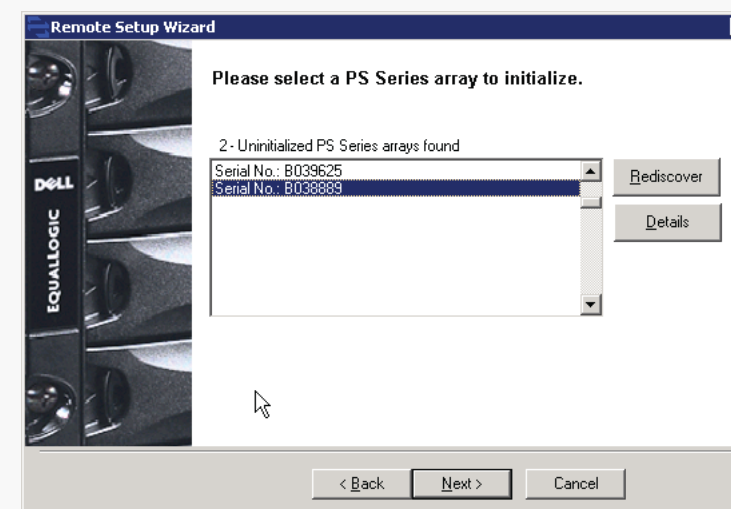
To configure the PS Series software, you need the information in the following tables.

Array Configuration	
Member name	One to 63 letters, numbers, or hyphens. The first character must be a letter or number.
Array IP address	Must be in the same subnet as the group IP address.
Subnet mask	Address that combines with the IP address to identify the subnet on which the array network interface resides (default is 255.255.255.0).
Default gateway	Must be in the same subnet as the group IP address.
RAID policy	RAID level and spare disk drive configuration for the array. The actual number of RAID sets and spare drives depends on the number of drives in the array: <ul style="list-style-type: none"> • RAID 10 - Striping on top of multiple RAID 1 (mirrored) sets. • RAID 50 - Striping on top of multiple RAID 5 (distributed-parity) sets. Each RAID 5 set has one parity drive. • RAID 5 - Distributed-parity sets. • RAID 6 - Multiple dual distributed-parity sets.

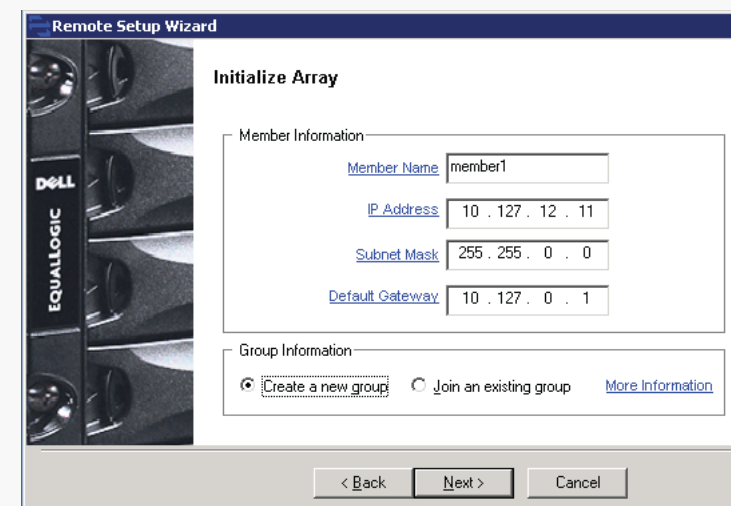
Group Configuration	
Group name	One to 63 letters, numbers, or hyphens. The first character must be a letter.
Group IP address	An IP address used by iSCSI storage and management and by group administrators to access a group.
Administration password	Three to 16 letters or numbers, case-sensitive. Overrides the default <code>grpadmin</code> account password.
Membership password	Three to 16 letters or numbers, case-sensitive. Used when expanding an existing group.
CHAP user name	Three to 63 letters or numbers. Used by Microsoft services for group access.
CHAP password	Twelve to 16 letters or numbers. Used by Microsoft services for group access.

Step 3: Run the Remote Setup Wizard

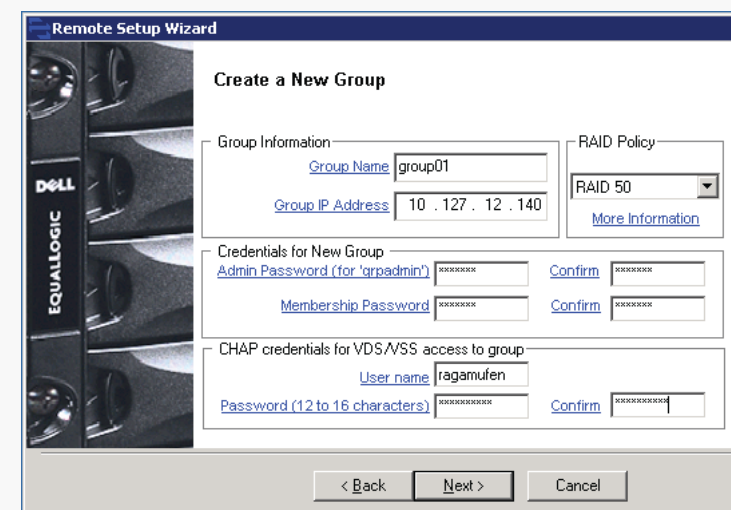
1. Click Start > Programs > EqualLogic > Remote Setup Wizard
2. Choose to initialize an array and click Next.
3. Select the array that you want to initialize and click Next.



4. Enter the array information, and then click either Create a New Group or Join an existing group.



5. If creating a new group, specify the group configuration and click Next.



6. Click Finish to exit the Remote Setup Wizard.

The array initialization and group configuration are now complete.

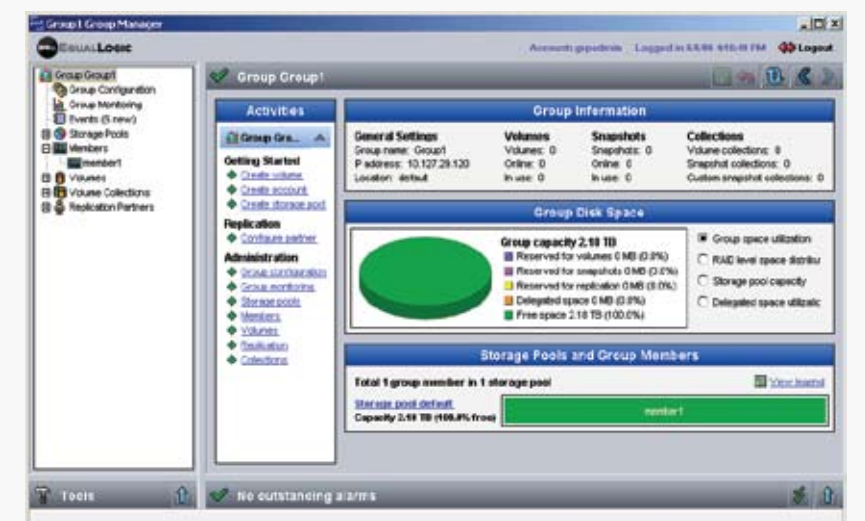
Step 4: Start Using the SAN

To allocate SAN storage space to users, create a volume. To connect to a volume, a computer must have an iSCSI initiator and must match the volume's access controls.

Note: If you added the array to an existing group, the array's storage space will not be available until you use the Group Manager GUI to set the RAID policy.

To create and connect to a volume:

1. Start the Group Manager GUI by entering the group IP address in a web browser. See the PS Series *Release Notes* for the latest browser requirements.



2. Click Create Volume in the Activities panel.
3. In the dialog boxes, enter the volume name, size, and access controls (iSCSI initiator name or IP address).
4. Use the computer's iSCSI initiator to discover the iSCSI targets (volumes) in the group.

If the computer is not the one from which you configured the software, enter the group IP address as the target discovery address in order to discover the group volumes.
5. Select the target associated with the volume and log in.

Note: If you cannot log in to a volume, make sure the computer matches the volume's access controls.

Where to Go Next

See the PS Series Online Help to customize the group and use all its features. If your computer has an Internet connection, you can access the online help from the Group Manager GUI. Start the GUI, expand Tools in the lower-left corner and select Online Help.

For support, visit www.support.dell.com/equallogic or call 1-800-945-3355.

Information in this document is subject to change without notice. © 2009 Dell EqualLogic. All rights reserved.

Reproduction in any manner whatsoever without the written permission of Dell EqualLogic, is strictly forbidden.