

Table of contents

| 1. | Install JovianDSS on physical server | 2 |
|----|--|----|
| | 1.1. Booting Open-E JovianDSS Installer | 2 |
| | 1.2. Initialize hardware | 3 |
| 2. | Install JovianDSS as virtual machine | 4 |
| 3. | Storage Configuration | 8 |
| | 3.1. Preparing for the WebGUI administration | 8 |
| | 3.2. Entering the product key and logging into Open-E JovianDSS | 8 |
| | 3.3. Create zpools | 8 |
| | 3.4. Creating iSCSI targets | 16 |
| | 3.5. Exploring targets | 20 |
| | 3.6. Creating Fibre Channel targets | 21 |
| | 3.7. Creating SMB shares | 28 |
| | 3.8. Using local Users and Groups with build-in Lightweight Directory Access Protocol (LDAP) | 34 |
| | 3.9. Auto-Snapshots and Access to Previous versions | 41 |
| | 3.10. Creating NFS shares | 49 |

1. Install JovianDSS on physical server

Download and extract the ISO file with your favorite uncompressing/extracting software (for example: 7zip or WinZip[®] programs) to an empty USB Flash Drive. The ISO can be obtained from here: https://www.open-e.com/download/open-e-jovian-data-storage-software/

After extracting the ISO file on your USB Flash Drive, the root directory must contain ONLY the following directories: bxxxx, boot, and file mmenu_upd.sh where the xxxx is the software build number.

- To make your USB Flash Drive bootable, enter the "boot" directory and run the "bootinst.exe" (For Windows) or "bootinst.sh" (For Linux). Follow the prompt then remove the USB Flash Drive.
- You can now boot your storage server installer with USB Flash Drive.

NOTE The prepared USB Flash Drive will run the software installer by default. If you desire to test or for nonmission critical or non-production usage, the USB Flash Drive can boot Open-E JovianDSS instead of running the software installer. To make this default change, run the "config.exe" from the boot directory and select "r" to remove the default boot of the software installer.

1.1. Booting Open-E JovianDSS Installer

General Hardware requirements

- The minimum size for the JovianDSS boot medium is 16GB. Since software version 1.0 up28, the installer creates up to 128GB boot medium partition size if bigger than16GB boot disk is present. A recommended JovianDSS boot medium uses an HDD or SSD device. The USB Flash Drive can be used as a JovianDSS boot medium for testing purposes or non-mission critical applications.
- Single node supports SATA hard disk drives, but SAS disks are recommended for performance.
- HA shared-storage cluster setup requires SAS-hard disks.
- Minimum of 8GB RAM plus 1GB per 1TB of pool space.
- Mirrored "Write Log" is recommended.
- Uninterruptible Power Supply (UPS) is strongly recommended.

Plug your installer media (USB Flash Drive) into the storage appliance.

The first boot menu will show the software version. You can press enter or it will skip and continue automatically within 5 seconds.

The second menu allows you to select to boot Open-E JovianDSS or to install the software on a writable boot media in your system using the interactive installer utility. Select "Run software installer" to install Open-E JovianDSS on a writable boot media in your system.

Please follow the instructions while running the installer. The installer optionally can install the system on a single disk or on mirrored disks (RAID1). If single disk is selected, it is still creating



degraded RAID1 on the single disk but system will not create error events about degraded RAID1. It will be possible to add a second disk and get redundant RAID1 anytime in the future. Once the boot media become redundant RAID1 the system will generate errors events if any disk of the mirror is failed.

| Welcome to the software installer |
|--|
| |
| |
| |
| |
| |
| |
| |
| Installation options |
| Please select system volume configuration |
| Single disk Mirrored disks (RAID-1) - recommended |
| HIPOPEd alsks (http=1) - reconnended |
| < Back > < Next > |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| Navigate: UP / DOWN / LEFT / RIGHT Confirm choice: ENTER |

Finally, reboot your storage server from the new boot media (set your BIOS boot options back from USB to the medium where you installed the software).

NOTES: Open-E JovianDSS can be used for evaluation up to 60 days with the trial product key. The Trial Key can be downloaded after registration from:

https://www.open-e.com/partner-portal/partner-area/warehouse/jovian/

When you decide to purchase the full version, you can continue to use the software and all your data and settings will remain intact.

In order to convert the trial version to the full version, please enter your Open-E JovianDSS product key and storage capacity key in the WebGUI menu "about" section.

During boot-up, you have an option to run a memory test on the system by choosing "Run Memtest utility" in the first menu.

1.2. Initialize hardware

Before using Open-E JovianDSS you should have the hard disk drives connected to the SATA and SAS ports on the motherboard or SAS HBA, and the LAN Card and other NICs already in your server.

Connect the keyboard and monitor (they will be needed for setup only). Later you can run the server in "headless mode" (without keyboard and monitor).

NOTE: Please check the motherboard BIOS if the "headless mode" is enabled. In some cases, systems will not boot if the keyboard is not connected. You'll find more about the headless mode in the motherboard's BIOS manual.



2. Install JovianDSS as virtual machine

- In ESX host menu, select: New Virtual Machine and in the wizard click on "Next" button.
- Enter the VM name. In this example we have: JovianDSS TEST

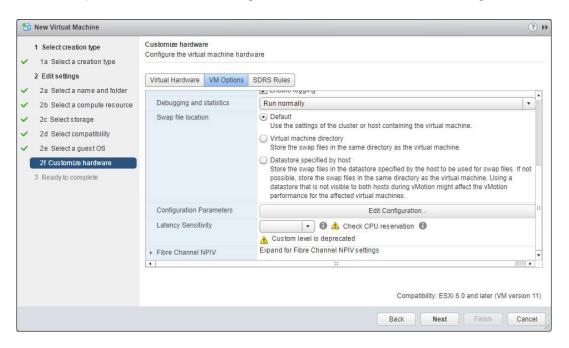
| 御 | New Virtual Machine | | |
|---|---|---|-------|
| ~ | 1 Select creation type 1a Select a creation type | Select a name and folder Specify a unique name and target location | |
| | 2 Edit settings | Enter a name for the virtual machine. | |
| ~ | 2a Select a name and folder | JovianDSS TEST | |
| ~ | 2b Select a compute resource | Virtual machine names can contain up to 80 characters and they must be unique within each vCenter Server VM folder. | |
| | 2c Select storage | Select a location for the virtual machine. | |
| | 2d Select compatibility | Q Search | |
| | 2e Select a guest OS | v 😰 vcenter-it. Ian | |
| | 2f Customize hardware | D 📓 JB OECE | |
| | 3 Ready to complete | Select a datacenter or VM folder to create the new virtual machine in. | |
| | | Back Next Finish C | ancel |

- Next, select destination host and next select the datastore for the VM.
- Next, confirm the compatibility with ESXi 6.0 or later.
- In guest OS step, please select Linux and Debian 7 (64bit)
- In the customize step (screenshot below), please use 2 CPU, enter 12 GB or more for Memory and 16GB or more for New Hard disk.

| New Virtual Machine | | | | | | (?) |
|---|---|---|--------|----------|---|---|
| 1 Select creation type 1a Select a creation type 2 Edit settings | Customize hardware Configure the virtual machin Virtual Hardware VM Op | | | | | |
| 2a Select a name and folder 2b Select a compute resource 2c Select storage 2d Select compatibility | CPU CPU Memory Memory Mew Hard disk | 2 12 16 | • • | GB GB | • | |
| 2e Select a guest OS 2f Customize hardware 3 Ready to complete | Guessian Controller General State State General State Sta | VMware Paravirtual VM Network Client Device Client Device Specify custom settin | gs | | | Connect |
| | Other Devices New device: | Select | | | • | Add Compatibility: ESXI 6.0 and later (VM version 11) Back Next Finish Cancel |



In VM Options -> Advanced -> Configuration Parameters, click on Edit Configuration



• Add Name: disk.EnableUUID and Value: TRUE

| 🔁 New | v Virtual Mach | Configura | ation Parameters | | | | | | (X | (4 ® |
|-------|----------------|-----------|---|---|------|---------------------|-----------------|-------------------|---------------|-----------------------|
| | elect creation | | y or add configuratic s will be removed (s | | | rimental features o | or as instructe | d by technical st | upport. Empty | |
| 2 E | dit settings | Name | | | | Value | | | | |
| ✓ 2a | Select a nam | | | | | | | | | |
| ✓ 2b | Select a com | | | | | | | | | • |
| ✓ 2c | Select storag | | | | | | | | | |
| ✓ 2d | i Select comp | | | | | | | | | |
| ✓ 2e | e Select a gue | | | | | | | | | |
| 2f | Customize ha | | | | | | | | | r swap files. If not |
| 3 R | eady to compl | Name: | disk.EnableUUID | | Valu | TRUE | | | Add | vMotion |
| | Į | | | _ | | 3 | _ | OK | Cancel | later (VM version 11) |

Click on Add. Next click OK and click on the Next button. Next it move to: Ready to complete section.



• Click on the Finish button.

| all second and second second | | |
|------------------------------|-----------------------|--|
| 1 Select creation type | Provisioning type: | Create a new virtual machine |
| 1a Select a creation type | Virtual machine name: | JovianDSS TEST |
| 2 Edit settings | Folder: | JB OECE |
| 2a Select a name and folder | Host: | 192.168.0.30 |
| 2b Select a compute resource | Datastore: | WEBINAR-00 |
| 2c Select storage | Guest OS name: | Debian GNU/Linux 7 (64-bit) |
| 2d Select compatibility | CPUs: | 2 |
| 2e Select a guest OS | Memory: | 12 GB |
| 2f Customize hardware | NICs: | 1 |
| 3 Ready to complete | NIC 1 network: | NO CONNECTION |
| | NIC 1 type: | VMXNET 3 |
| | SCSI controller 1: | VMware Paravirtual |
| | Create hard disk 1: | New virtual disk |
| | Capacity: | 16.00 GB |
| | Datastore: | WEBINAR-00 |
| | Virtual device node: | SCSI(0:0) |
| | Mode: | Dependent |
| | | Compatibility: ESXi 6.0 and later (VM version 11 |

- Next, select Edit Settings at just created JovianDSS TEST Virtual Machine.
- Browse and select JovianDSS ISO image downloaded from the WEB.
- Next, enable the check-box "Connect At Power On" and click on OK button.

| Virtual Hardware VM O | ptions SDRS Rules vApp Options | |
|-----------------------|------------------------------------|--|
| CPU | 2 • • | |
| Memory | 12288 • MB • | |
| Ard disk 1 | 16 GB 👻 | |
| SCSI controller 0 | VMware Paravirtual | |
| Network adapter 1 | NO CONNECTION | |
| · loo *CD/DVD drive 1 | Datastore ISO File | |
| Status | Connect At Power On | |
| CD/DVD Media | [local.boot]/jdss1.0up28_b. Browse | |
| Device Mode | Passthrough CD-ROM | |
| Virtual Device Node | IDE 1 ▼ IDE(1:0) ▼ | |
| Floppy drive 1 | Client Device | |
| Video card | Specify custom settings | |
| WMCI device | | |
| Other Devices | | |

• Next, power on the JovianDSS TEST VM and please follow the instructions while running the installer.



- Next steps are exactly the same as described in the <u>Booting Open-E JovianDSS installer</u> section.
- Once the JovianDSS TEST VM is up and running, you need to add drives for data storage as during the virtual machine creation only single boot-disk was configured.
- In Virtual machine Edit Settings, click on New device -> Select, select New Hard Disk and click on Add button.
- Here 4 disks are inserted. To confirm it, click on OK button.

| Virtual Hardware VM C | ptions | SDRS Rules | ٧A | pp Options | | | |
|-----------------------|---------------|------------------|------|------------|---|-----------|--|
| CPU | 2 | | - | 0 | | | |
| Memory | 12288 | | * | MB | * | | |
| 🛄 Hard disk 1 | 16 | | * | GB | - |) | |
| SCSI controller 0 | VMwar | e Paravirtual | | | | | |
| Network adapter 1 | NO CO | ONNECTION | | | - | Connected | |
| CD/DVD drive 1 | Datast | Connected | | | | | |
| Floppy drive 1 | Client Device | | | | | Connected | |
| Video card | Specif | y custom setting | IS | | - | | |
| 🚓 VMCI device | | | | | | | |
| Other Devices | | | | | | | |
| 🔄 New Hard disk | 16 | | * | GB | - |) | |
| 🛄 New Hard disk | 16 | | * | GB | - |) | |
| 🛄 New Hard disk | 16 | | * | GB | - | | |
| 🚐 New Hard disk | 16 | | * | GB | - | | |
| | (| | | | | | |
| New device: | | A New Har | d Di | sk | - | Add | |

• Now the JovianDSS TEST must be ready for pool create.

3. Storage Configuration

3.1. Preparing for the WebGUI administration

After the boot process has finished, Open-E JovianDSS will show you information about all its network settings. The standard IP Address setting for Open-E JovianDSS is: IP address 192.168.0.220 and Netmask 255.255.255.0. This setting can be changed manually by entering the following key sequence: left "**Ctrl**" + left "**Alt**" + "**N**".

3.2. Entering the product key and logging into Open-E JovianDSS

Connect to Open-E JovianDSS via the network using any standard browser, and type the IP address to the URL entry line:

https://192.168.0.220

Next, a window for entering the product key will appear. If you already have one, please enter it and click the apply button. Log into Open-E JovianDSS by using the default password: "*admin*". Now you will be able to set all server parameters to get started.

NOTE: Be aware that the password is case-sensitive.

3.3. Create zpools

• To create a new zpool, please go to the "Storage" menu then Click the "Add zpool" button in the upper right corner to run the "Zpool wizard".

| JovianDSS | | | | | (i) About | () Help | 🖃 Logout |
|----------------------|----------------------|----------------------------|---|-------------------------------|---------------------------|---------------------|------------|
| Storage | itorage | | | | | () Rescan | + Add zpoo |
| User Management | No imported zpools | have been found in the | system. Import a zpool (if there are zpools a | vailable for import) or creat | e a new zpool by clicking | g "Add zpool" butto | n.:: |
| Failover Settings | pools availab | le for import | | | | | |
| Storage Settings |) No external zpools | available for the import h | ave been found. | | | | |
| Backup & Recovery | Unassigned | disks | | | | | |
| System Settings | Local disks | Remote disks | | | | | |
| Diagnostics | Search | | | | | | |
| - | Name | | Serial number | Size | Model | | Blink |
| | 1 sdb | | 8300A001FS44 | 136.98 GiB | MK1401GRRB | | • |
| | 2 sdc | | 2320A037FTR6 | 838.36 GiB | AL13SEB900 | | • |
| | 3 sdd | | 13R0A0X9FTR6 | 838.36 GiB | AL13SEB900 | | • |
| | 4 sde | | 2320A035FTR6 | 838.36 GiB | AL13SEB900 | | • |
| | 5 sdf | | 2320A04JFTR6 | 838.36 GiB | AL13SEB900 | | • |
| | 6 sdg | | 43G0A063TVL6 | 186.31 GiB | PX02SMF020 | | • |
| | 7 sdh | | 84S0A00ETZQ1 | 186.31 GiB | PX03SNF020 | | • |
| | 8 sdi | | BTTV33120CVC100FGN | 93.16 GiB | INTEL SSDSC2BA10 | | • |
| | 9 sdj | | BTTV2514044D100FGN | 93.16 GiB | INTEL SSDSC2BA10 | | • |
| | 10 sdk | | 83S0A01HFS44 | 136.98 GiB | MK1401GRRB | | • |
| | 11 sdl | | 9350A003FS44 | 136.98 GiB | MK1401GRRB | | • |
| | 10 adm | | 0270400//EC44 | 120.00 0:0 | MILLANCODR | | |



- open-e 🦰 JovianDSS ? 🗙 Available disks please select disks on the list left, select redundancy type C Show only unused disks Rescan disks Data groups Size Name Id Size Blink wwn-0x50000394f82b7660 136.98 GiB 🌒 sdb wwn-0x500003949800ae90 sdc 838.36 GiB sdd wwn-0x5000039488303270 838.36 GiB 🛛 🌒 838.36 GiB . sde wwn-0x500003949800ae88 838.36 GiB wwn-0x500003949800af60 sdf sdg wwn-0x50000394bc888608 186.31 GiB sdh wwn-0x50000395bc8b3f74 186.31 GiB 🌒 Zpool storage capacity: 0.00 B Used licensed storage capacity: 0.00 B sdi wwn-0x55cd2e404b41a4a2 93.16 GiB 🌒 . sdj wwn-0x50015178f35a8666 93.16 GiB 🌒 Other groups Size . sdk wwn-0x50000394f838713c 136.98 GiB 🌑 0 sdl wwn-0x5000039508086c2c 136.98 GiB 🛛 ● 0 136 98 GiB sdm wwn-0x500003950809e87c . sdn wwn-0x50000395080a232c 136.98 GiB 🛛 🌒 • • . + Add group 0 X Cancel Next > • . Notifications 🔕 0 🔺 0 0 0
- After starting the "Zpool wizard" all available disks will be listed.

Next, select the disks and redundancy level and click on the "Add group" button.

| Zpool wizard | | | | | | | | | + Add zp |
|---|------|--------------------|-----------|-----------------------|------------|-------|--------------------------|--|----------|
| 1. Add data group | Avai | lable disks | | | | | please select dis | Group to your zpool ks on the list on the dancy type and click | |
| 2. Add write log | C) S | how only unuse | ed disks | | 🕑 Rescan | disks | "Add group" butto | | |
| a second state | | Name | Id | | Size | Blink | Data groups | Size | |
| 3. Add read cache | | sdb | wwn-0x500 | 000394f82b7660 | 136.98 GiB | ٠ | | | |
| 4. Add spare disks | | sdc | wwn-0x500 | 1003949800ae90 | 838.36 GiB | ٠ | | | |
| | | sdd | wwn-0x500 | 00039488303270 | 838.36 GiB | • | | | |
| 5. Zpool properties | | sde | wwn-0x500 | 0003949800ae88 | 838.36 GiB | ٠ | | | |
| 6. Summary | | sdf | wwn-0x500 | 0003949800af60 | 838.36 GiB | ٠ | | | |
| The second se | | sdg | wwn-0x500 | 000394bc888608 | 186.31 GiB | • | | | |
| | | sdh | wwn-0x500 | 000395bc8b3f74 | 186.31 GiB | • | Zpool storage capacity: | 0.00 B | |
| | | sdi | wwn-0x550 | :d2e404b41a4a2 | 93.16 GiB | • | Used licensed storage of | | |
| | | sdj | wwn-0x500 | 015178f35a8666 | 93.16 GiB | • | Other groups | Size | |
| | | sdk | wwn-0x500 | 000394f838713c | 136.98 GiB | • | | | |
| | | sdl | wwn-0x500 | 00039508086c2c | 136.98 GiB | • | | | |
| | | sdm | wwn-0x500 | 0003950809e87c | 136.98 GiB | • | | | |
| | | sdn | wwn-0x500 | 000395080a232c | 136.98 GiB | • | | | |
| | | | | | | | | | |
| | Se | elect redundancy f | or group: | Mirror (single group) | + Add g | roup | | | |
| | | | | | | | × Cance | Next > | |
| 11 sdl | | | | | | | | | |
| | | | | | | | | | |



• The created group will be displayed in the "Configuration preview" window on the right side.

| Zpool wizard | | | | | Add |
|-----------------------------------|----------------------|------------------------|---------------|--------------------------------|--------------|
| r Manager 1. Add data group | Available disks | | | Data groups | Size |
| over Sertin 2. Add write log | C Show only unused | d disks | C Rescan dist | ig suc | × .36 GiB |
| 3. Add read cache | Name | ld | Size B | link S38 | .36 GiB |
| 3. Add read cache | sdb | wwn-0x50000394f82b7660 | 136.98 GiB | • | |
| 4. Add spare disks | sde . | wwn-0x500003949800ae88 | 838.36 GiB | • | |
| every | 🔲 sdf | wwn-0x500003949800af60 | 838.36 GiB | • | |
| 5. Zpool properties tem Settin | sdg | wwn-0x50000394bc888608 | 186.31 GiB | • | |
| 6. Summary | sdh | wwn-0x50000395bc8b3f74 | 186.31 GiB | • | |
| prositios | 🗌 sdi | wwn-0x55cd2e404b41a4a2 | 93.16 GiB | Zpool storage capacity: 838.36 | GiB |
| | 🗌 sdj | wwn-0x50015178f35a8666 | 93.16 GiB | Used licensed storage capacity | 838.36 GiB |
| | sdk | wwn-0x50000394f838713c | 136.98 GiB | Other groups | Size |
| | 🗌 sdl 👘 | wwn-0x5000039508086c2c | 136.98 GiB | • | |
| | sdm | wwn-0x500003950809e87c | 136.98 GiB | • | |
| | sdn | wwn-0x50000395080a232c | 136.98 GiB | • | |
| | | | | | |
| | | | | | |
| | | | | | |
| | Select redundancy fo | | Add group | p | |
| | | | | × Cancel | Next > |
| 11. sti | | 9350A003FS44 | | 136.98 GiB MK1401GRRB | _ |

- In this example we have 2 mirror groups added.
- The created 2 mirror groups will be displayed in the "Configuration preview" on the right side. After adding all groups click the "Next" button.

| | | | | | | | | | | | | Add: |
|----------------------|-------------------|-----|-------------|--------------|-----------------|---|------------|-------|------|------------------|------------------------|-------|
| User Manage | 1. Add data group | Ava | ailable dis | sks | | | | | Data | a groups | Size | |
| Failover Settin | 2. Add write log | 0 | Show only u | unused disks | | | C Rescan | disks | • | Mirror | 838.36 GiB | × |
| | | | Name | Id | | | Size | Blink | | i sdd | 838.36 GiB | |
| Storage Settin | | | sdb | wwn-0x50 | 000394f82b7660 | | 136.98 GiB | ٠ | ₽ | Mirror | | × |
| Barleys & | | | sdg | wwn-0x50 | 1000394bc888608 | | 186.31 GiB | • | | - 🗑 sde | 838.36 GiB | |
| Backup & Recovery | | | sdh | wwn-0x50 | 000395bc8b3f74 | | 186.31 GiB | ٠ | | - 🗑 sdf | 838.36 GiB | |
| System Settin | | | sdi | wwn-0x55 | cd2e404b41a4a2 | | 93.16 GiB | • | | | | _ |
| | | | sdj | wwn-0x50 | 015178f35a8666 | | 93.16 GiB | ٠ | | | | |
| Diagnostics | | | sdk | wwn-0x50 | 1000394f838713c | | 136.98 GiB | • | Zpo | ol storage capa | city: 1.64 TiB | |
| | | | sdl | wwn-0x50 | 00039508086c2c | | 136.98 GiB | • | Use | ed licensed stor | age capacity: 1.64 Til | Blink |
| | | | sdm | wwn-0x50 | 0003950809e87c | | 136.98 GiB | • | Othe | er groups | Size | |
| | | | sdn | wwn-0x50 | 000395080a232c | | 136.98 GiB | • | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | ~ | + Add g | roup | | | | |
| | | _ | | | | | 1 100 9 | Toop | | | | |
| | | | | | | | | | | × Ca | ancel Next | > |

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In the next step you can create a write log (ZIL on SLOG).
 NOTE: Mirrored and fast SSD disks are strongly recommended for the random writes IOPS.

| Zpool wizard | | | | | ■ × + A | |
|---------------------|--------------|------------------------|----------------|---------------------|-----------------------|---|
| 1. Add data group | Available d | isks | | Data groups | Size | |
| 2. Add write log | C Show only | unused disks | O Rescan disks | Mirror Sdc | 838.36 GiB | |
| 3. Add read cache | Name | ld | Size Blink | - 🗑 sdd | 838.36 GiB | |
| 5. Add fead cache | sdb | wwn-0x50000394f82b7660 | 136.98 GiB 🛛 ● | 🖻 — Mirror | × | |
| 4. Add spare disks | sdg | wwn-0x50000394bc888608 | 186.31 GiB 🌒 | - 🗑 sde | 838.36 GiB | |
| | sdh | wwn-0x50000395bc8b3f74 | 186.31 GiB | - 🗑 sdf | 838.36 GiB | |
| 5. Zpool properties | 🗌 sdi | wwn-0x55cd2e404b41a4a2 | 93.16 GiB 🌑 | | | |
| 6. Summary | 🗌 sdj | wwn-0x50015178f35a8666 | 93.16 GiB 🛛 ● | | | |
| | sdk | wwn-0x50000394f838713c | 136.98 GiB 🌒 | Zpool storage capac | ity: 1.64 TiB | |
| | 🔲 sdl | wwn-0x5000039508086c2c | 136.98 GiB 🛛 ● | | ge capacity: 1.64 TiB | |
| | sdm | wwn-0x500003950809e87c | 136.98 GiB | Other groups | Size | |
| | 🗌 sdn | wwn-0x50000395080a232c | 136.98 GiB 🌑 | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | Select redur | | ✓ + Add group | | | 0 |
| | | | | 🗙 Cancel 🧹 Ba | | 0 |
| | | | | | | 8 |
| | | | | | | 0 |

• Select the fastest disks from the list on the left and create a mirror set for the redundancy level, then click the "Add group", and then the "Next" button.

| Zpool wizard | | | | | | | | | | × + Add |
|---------------------|--------|--------------------------|------------------|---|------------|-------|-------|-----------------|------------------------|---------|
| 1. Add data group | Availa | ble disks | | | | | | groups | Size | |
| 2. Add write log | C) Sho | ow only unused disks | nused disks | | Rescan | disks | 0 | Mirror | 838.36 GiB | × |
| | Na | ame Id | | | Size | Blink | | i sdd | 838.36 GiB | |
| 3. Add read cache | 🗌 sd | ib wwn-0x | 50000394f82b7660 | | 136.98 GiB | ٠ | • | Mirror | | × |
| 4. Add spare disks | sd | lg wwn-0x | 50000394bc888608 | | 186.31 GiB | • | | 🗑 sde | 838.36 GiB | |
| | sd | ih wwn-0x | 50000395bc8b3f74 | | 186.31 GiB | • | | i sdf | 838.36 GiB | |
| 5. Zpool properties | 🗹 sd | di wwn-0x: | 55cd2e404b41a4a2 | | 93.16 GiB | • | | | | _ |
| 6. Summary | 🗹 sd | dj wwn-0x: | 50015178f35a8666 | | 93.16 GiB | • | | | | |
| | 🗌 sd | ik wwn-0x | 50000394f838713c | | 136.98 GiB | • | Zpod | l storage capa | city: 1.64 TiB | |
| | 🗌 sd | di wwn-0xd | 5000039508086c2c | | 136.98 GiB | • | Use | d licensed stor | agé capacity: 1.64 TiE | Blink |
| | Sd | im wwn-0x | 500003950809e87c | | 136.98 GiB | • | Othe | r groups | Size | |
| | 🗌 sd | In wwn-0x | 50000395080a232c | | 136.98 GiB | • | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | Sele | ct redundancy for group: | Mirror | ~ | + Add g | roup | | | | |
| | | | | | | × | Cance | el < E | Back Next | > |



• The created "write log" will be displayed in the "Configuration preview" on the right side.

| rage | Zpool wizard | | | | | | | | + Add |
|------------------|-------------------|-----|-------------|------------------------|------------|-------|-------------------|--|-------|
| er Manager | 1. Add data group | Ava | ailable dis | sks | | | Data groups | Size | |
| lover Settic | 2. Add write log | D | Show only u | unused disks | C Rescan | disks | B- Mirror | × 838.36 GiB | |
| | 3. Add read cache | | Name | Id | Size | Blink | - 🗑 sdd | 838.36 GiB | |
| rage Settin | | | sdb | wwn-0x50000394f82b7660 | 136,98 GiB | • | Mirror | × | |
| kup & | | | sdg | wwn-0x50000394bc888608 | 186.31 GiB | • | - 🗑 sde | 838.36 GiB | |
| ikup & covery | | | sdh | wwn-0x50000395bc8b3f74 | 186.31 GiB | • | - 🗑 sdf | 838.36 GiB | |
| tem Settin | | | sdk | wwn-0x50000394f838713c | 136.98 GiB | • | | | - |
| | | | sdl | wwn-0x5000039508086c2c | 136.98 GiB | • | | | |
| gnostics | | | sdm | wwn-0x500003950809e87c | 136.98 GiB | • | Zpool storage cap | acity: 1.64 TiB rage capacity: 1.64 TiB | |
| | | | sdn | wwn-0x50000395080a232c | 136.98 GiB | • | | | Blink |
| | | | | | | | Other groups | Size | |
| | | | | | | | Mirrored write | 93.16 GiB | |
| | | | | | | | - (i) sdj | 93.16 GIB | |
| | | | | | | | saj | 55.16 GID | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | V + Add gr | oup | | | |
| | | | | | | | | | |
| | | | | | | × | Cancel | Back Next > | |
| | 11 sd. | | | | | | | | |

• In the next step you will want to create the read cache. Select the disks from the list on the left and select redundancy "Read Cache", type and click "Add group", and then the "Next" button.

NOTE: For fast random read IOPS it is recommended to use SSD disks.

| Zpool wizard | | | | | | | | | | | + Add 2 |
|---------------------|----|----------------|-----------------|----------------|---|------------|-------|---------|--------------------|--------------------|----------|
| 1. Add data group | Av | ailable dis | sks | | | | | Data g | | Size | |
| 2. Add write log | C | Show only u | inused disks | | | C Rescan | disks | | lirror | × 838.36 GiB | |
| | | Name | Id | | | Size | Blink | -6 | ii sdd | 838.36 GiB | |
| 3. Add read cache | | sdb | wwn-0x50 | 000394f82b7660 | | 136.98 GiB | ٠ | B M | lirror | × | |
| 4. Add spare disks | | sdg | wwn-0x50 | 000394bc888608 | | 186.31 GiB | • | -6 | sde | 838.36 GiB | |
| - 15 | 2 | sdh | wwn-0x50 | 000395bc8b3f74 | | 186.31 GiB | • | -6 |)) sdf | 838.36 GiB | |
| 5. Zpool properties | | sdk | wwn-0x50 | 000394f838713c | | 136.98 GiB | • | | | | |
| 6. Summary | | sdl | wwn-0x50 | 00039508086c2c | | 136.98 GiB | ٠ | | | | |
| 5. Summary | | sdm | wwn-0x50 | 0003950809e87c | | 136.98 GiB | • | Zpool s | storage capacity: | 1.64 TiB | |
| | | sdn | wwn-0x50 | 000395080a232c | | 136.98 GiB | • | Used li | icensed storage of | capacity: 1.64 TiB | Blink |
| | | | | | | | | Other g | | Size | |
| | | | | | | | | | lirrored write log | | |
| | | | | | | | | |) sdi | 93.16 GiB | |
| | | | | | | | | -6 | i) sdj | 93.16 GiB | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | Select redund: | ancy for group: | Single | ~ | + Add g | roup | | | | |
| | | | | | | | | < | 1 | | ` |
| | | | | | | | × | Cancel | < Back | Next > | |
| 11 sdl | | | | 9350A003F844 | | | 164 | 98 GIB | MK1401GRRB | | |



• The created "read cache" will be displayed in the "Configuration preview" on the right side.

| ge Zpool wi | rd | | | | • × |
|-------------------------|------------------|--|----------------|--|---|
| Manager 1. Add data | oup Available di | sks | | Data groups | Size |
| ver Settin 2. Add write | g C Show only | unused disks | O Rescan disks | Mirror sdc | × 838.36 GiB |
| ge Settir 3. Add read | Name | Id | Size Blink | | 838.36 GiB |
| | sdb | wwn-0x50000394f82b7660 | 136.98 GiB | Mirror sde | 838.36 GiB |
| 4. Add spare | | wwn-0x50000394f838713c | 136.98 GiB | - 🗑 sdf | 838.36 GiB |
| 5. Zpool pro | rties sdm | wwn-0x5000039508086c2c wwn-0x500003950809e87c | 136.98 GiB • | | |
| m Settin 6. Summary | sdn | wwn-0x50000395080a232c | 136.98 GiB | | |
| | Stiedredun | | ✓ + Add group | Cose incluses solutions Other groups Mirrored write Solid Solid Read cache Solid | agé capacity: 1.64 T/B Size log 93.16 G/B 93.16 G/B 186.31 G/B 186.31 G/B |
| | | | | X Cancel < E | Back Next > |
| | | | | | |

• In the "Add spare disks" please select the disk from the available disks" list, click "Add group", and the "Next" button.

NOTE: "Spare disks" are optional. If no disks are tagged as spare disk, it is still possible to replace a faulty disk with any unassigned disk. You can skip this step clicking "Next".

| Zpool wizard | | | | | | | | | | 1 | × | - Add 2 |
|---------------------|-----|---------------|-----------------|----------------------------------|--------------|--------------------------|-------|------------------------|----------------------------------|--|---|-----------|
| 1. Add data group | Ava | ailable dis | sks | | | | | Data grou | ıps | Size | | |
| 2. Add write log | C | Show only u | inused disks | | | O Rescan | disks | 8 Mirri - 🗑 s | | 838.36 GiB | × | |
| 3. Add read cache | | Name sdb | Id | 000394f82b7660 | | Size 136.98 GiB | Blink | - 🗐 s 🖂 — Mirri | | 838.36 GiB | × | |
| 4. Add spare disks | | sdk | wwn-0x50 | 000394f838713c | | 136.98 GiB | • | - 10 s | | 838.36 GiB 838.36 GiB | | |
| 5. Zpool properties | | sdl sdm | | 00039508086c2c 0003950809e87c | | 136.98 GiB 136.98 GiB | • | | u | 030.36 GIB | 1 | |
| 6. Summary | | sdn | wwn-0x50 | 000395080a232c | | 136.98 GiB | • | Zpool sto Used lice | rage capacity: nsed storage c | 1.64 TiB apacity: 1.64 TiE | | |
| | | | | | | | | Other gro | ups | Size | | |
| | | | | | | | | - 🗑 s | idj d cache idg | 93.16 GiB 93.16 GiB 186.31 GiB 186.31 GiB | × | • • • • • |
| | | Select redund | ancy for group: | Single | \checkmark | + Add g | roup | | | | | • |
| | | | | | | | × | Cancel | < Back | Next | > | |



• The created "spare disks" will be displayed in the "Configuration preview" on the right side. Now click the "Next" button.

| Zpool wizard | | | • • | |
|---|---|--|--|-------|
| 1. Add data group | Available disks | | Data groups Size | |
| 2. Add write log | C Show only unused disks | O Rescan disks | - 🗑 sdc 838.36 GiB | |
| 3. Add read cache 4. Add spare disks | Name Id sdk wwn-0x50000394f838713c sdl wwn-0x5000039508086c2c | Size Blink 136.98 GiB • 136.98 GiB • | sdd 838.36 GiB Mirror X sde 838.36 GiB | |
| 5. Zpool properties | sdm wwn-0x500003950809e87c sdn wwn-0x50000395080a232c | 136.98 GiB ● 136.98 GiB ● | - 🗑 sdf 838.36 GiB | |
| | Seléd redundancy for group: Single | Add group | Zpool storage capacity: 1.64 TiB Used licensed storage capacity: 1.64 TiB Other groups Size Minrored write lo × sid 93.16 GB Read cache × sidg 186.31 GB sh 186.31 GB Spare × sob 136.98 GB × | Blink |
| 11 sdi | 9350A003F644 | | Cancel Ca | • |

• In the next step, enter the zpool name and click the "Next" button.

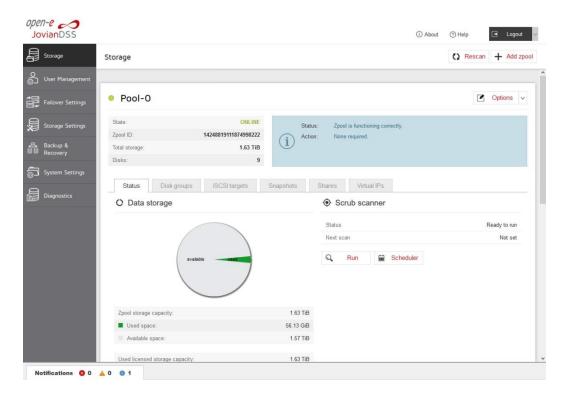
| n-e 📣 ivianDSS | | | | | 🖻 Logout |
|-------------------|---------------------|-----------------------|---|-----------------------|-------------|
| | Zpool wizard | | | 01 | × + Add zpo |
| | 1. Add data group | Please set properties | for zpool: | | |
| | 2. Add write log | Zpool name: | Pool-0 | | |
| | 3. Add read cache | | Zpool name: Defines name of the zpool in the system | n. | |
| | 4. Add spare disks | | | | |
| | 5. Zpool properties | | | | |
| | 6. Summary | | | | |
| | | | | | |
| | | | | | Blink |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | X Cancel K Back Next | |
| | tt sdl | - | 9350A003FS44 | 135.98 G/B MK1401GRRB | |
| | | | | | |



 In "Summary" you are able to see an overview of the zpool configuration. If the settings need to be modified, click the "Back" button and make the required changes. If it is correct click the "Add zpool".

| -e 📈 ianDSS | | | | | | 🖻 Logout |
|----------------|---------------------|-----------------------------------|--------|----------------|---|----------|
| | Zpool wizard | | | | | Add zy |
| | 1. Add data group | Zpool configuration | | | | ^ |
| | 2. Add write log | Data groups | | Redundancy | Size | |
| | 3. Add read cache | Mirror | | Mirror | | |
| | 4. Add spare disks | ⊞— Mirror | | Mirror Data | group total capacity: 2 TiB storage capacity: 1.64 TiB | - |
| | 5. Zpool properties | Other groups | | Redundancy | Size | |
| | 6. Summary | Mirrored write log Read cache | | Mirror | 2 2 | - |
| | | ⊞— Spare | | | | Blink |
| | | Zpool properties | | | | |
| | | Zpool name: | Pool-0 | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | X Cancel < | Back 🗸 Add zpool | |
| | 11 . sd | | | | | |
| | | | | | | |

• At this point you have configured a new zpool (you can add more zpools if required).

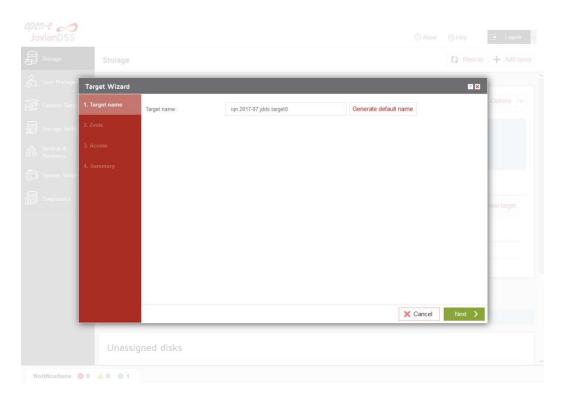


3.4. Creating iSCSI targets

- After creating a zpool, the GUI shows pool status of just created zpool. In order to access pool **setup menu**, click on down arrow button in the middle bottom of the pool status section.
- Next, select "iSCSI targets" and click the "Add new target" button.

| JovianDSS | | (i) About | (?) Help | 🕒 Logout 🗸 |
|----------------------|--|-----------|-----------|-------------|
| Storage | Storage | | () Rescan | + Add zpool |
| O User Management | | | | |
| Failover Settings | Pool-O | | | Options v |
| Storage Settings | State: OHLINE Status: Zpool is functioning correctly. Zpool ID: 14248819111874998222 Iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii | | | |
| Backup & Recovery | Total storage: 1.63 TiB Disks: 9 | | | |
| System Settings | Status Disk groups ISCSI targets Snapshots Shares Virtual IPs | | | |
| Diagnostics | C iSCSI targets No targets found. | | + Add | new target |
| | ✓ Zvois not attached to targets — zvois. 0 | | | |
| | Zpools available for import | | | |
| | ① No external zpools available for the import have been found. | | | |
| | Unassigned disks | | | |
| Notifications 🔕 0 | <u>▲ 0 0 1</u> | | | |

In the "Target Wizard", you can enter a new "Target name". If the default target name is OK, click the "Next" button only.

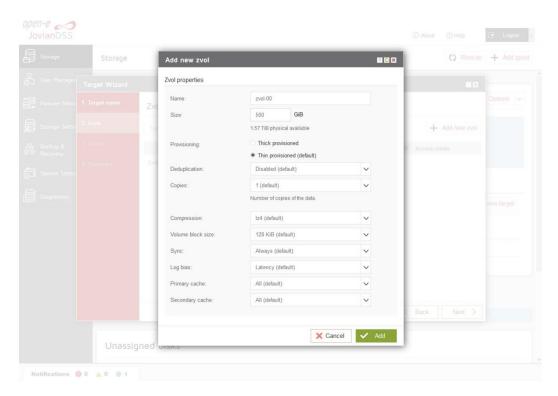




• In the Zvols step, click "Add new zvol". iSCSI Volumes are called zvols.

| Storage | | | | | |
|--------------|----------------------------|---|---|---|--|
| | | | | Q Reso | can + Add zpool |
| arget Wizard | | | | | × |
| Target name | Zvols available for target | | | | Options 🖂 |
| Zvols | Search | | | + Add new zv | ol |
| Access | Name | Type Logical size | e SCSLID I | LUN Access mode | |
| Summary | Zvols available for target | | | | |
| | | | | | |
| | | | | | new target |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | × Cancel | K Back Next | > |
| | | | | | |
| Unassign | ed disks | | | | |
| 1 | Zvois Access Summary | Zvois available for target Zvois Search Access Name | Zvois available for target Zvois Search Access Name Type Logical size | Zvois available for target Search Access Name Zvois available for target Zvois available for target | Zvois Search Add new zw Access Name Type Logical size SCSI ID LUN Access mode Zvois available for target Xvois available for target X Cancel X Back Next X X Cancel X Back Next X X Cancel X Back X Explored X Explo |

 In "Zvol properties" enter the name of a new Zvol and the appropriate size and click "Add" button.

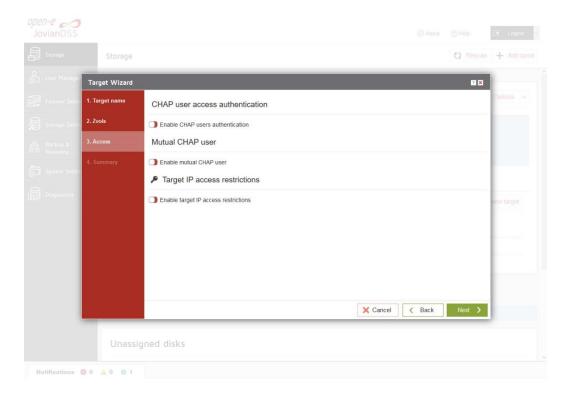




• After creating the new Zvols, click the "Next" button.

| Storage | | | | | | | () Rescan | + Add zpoo |
|----------------|----------------------------|------|--------------|-------------|-----|------------|--------------|------------|
| Target Wizard | | | | | | | | - |
| 1. Target name | Zvols available for target | | | | | | | Options 🗸 |
| 2. Zvols | Search | | | | | + | Add new zvol | |
| 3. Access | Name | Туре | Logical size | SC SI ID | LUN | Access me | ode | |
| 4. Summary | ✓ zvol-00 | zvol | 500.00 GiB | HsMPNw6KzBn | 0 | Read-write | (default) | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | new target |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | 🗙 Cancel | < | Back | Next > | |
| | | | | | | | | |
| Unassio | gned disks | | | | | | | |
| | | | | | | | | |

• In the "Access" step, you can change the security options of the targets. After making these changes click the "Next" button.





• In "Summary" you are able to see an overview of the configuration of the target. If the settings need to be modified, click the "Back" button and make the required changes. If it is correct, click "Add".

| Patienti Sets 1. Target name Target name Policies Storage Sets 2. Zvols Name: ign 2017/07 jdds target0 Image: Ign 2017/07 jdds target0 <th>Target Wizard</th> <th>_</th> <th>_</th> <th>_</th> <th></th> <th>_</th> <th>P ×</th> <th></th> | Target Wizard | _ | _ | _ | | _ | P × | |
|---|---------------|-------------------|--------------------------------|------------------|----------|----------------------|-------|------------|
| Storage Support 2. Zvols Storage Support 3. Access Storage Support 3. Access A. Summary Zvols attached to target. Name SCS1 ID LUN Access mode zol-00 HsMPNw6KzBnWVGi4 0. Read-write (default) CHAP users CHAP user access authentication is disabled. Mutual CHAP user is disabled. Target IP access restrictions | | Target name | | | | | ^ | Options 🗸 |
| Bactory A. Summary Image: Signal state st | 2. Zvols | Name: | iqn.2017-07:jdds.target0 | | | | 2 | |
| 4. Summary Name SCS1 ID LUN Access mode Zol-00 HsMPNw6K2BiWVGI4 0 Read-write (default) CHAP users CHAP user access authentication is disabled. Image: CHAP user is disabled. Mutual CHAP user is disabled. Image: CHAP user is disabled. Image: CHAP user is disabled. | 3. Access | Zvols attached to | target | | | | | |
| Zxol-00 HsMPRw6K2BnWVG4 0 Read-write (default) CHAP users CHAP user access authentication is disabled. Image: CHAP user access authentication is disabled. Mutual CHAP user is disabled. Image: CHAP user is disabled. Target IP access restrictions | 4. Summary | Name | | SCSI ID | LUN | Access mode | | |
| CHAP user access authentication is disabled. CHAP user Mutual CHAP user Mutual CHAP user is disabled. Target IP access restrictions | | zvol-00 | | HsMPNw6KzBnWVGi4 | 0 | Read-write (default) | | |
| CHAP user access authentication is disabled. Mutual CHAP user Mutual CHAP user is disabled. Target IP access restrictions | | CHAP users | | | | | | new target |
| Mutual CHAP user is disabled. Target IP access restrictions | | CHAP user acce | ss authentication is disabled. | | | | | |
| Mutual CHAP user is disabled. Target IP access restrictions | | Mutual CHAP use | er | | | | | |
| | | Mutual CHAP us | er is disabled. | | | | | - |
| | | Target IP access | restrictions | | | | | - |
| | | | | | | | 2 | |
| Cancel Cancel Add | | | | | 🗙 Cancel | K Back | / Add | |

• After completion of the "Target wizard" return to the "Storage". Below you will see the "iSCSI targets" you are able to see and overview of the configuration targets.

| JovianDSS | | | | (i) About | (?) Help | 🕒 Logout |
|----------------------|---|--|--|-----------------------|-----------|-------------|
| Storage | Storage | | | | () Rescan | + Add zpool |
| O User Management | | | | | | |
| Failover Settings | Pool-0 | | | | | Options v |
| Storage Settings | State: Zpool ID: Total storage: | ONLINE 14248819111874998222 1.63 TIB | Status: Zpool is functi Action: None required | oning correctly. | | |
| E Recovery | Disks: | 9 | | | | |
| System Settings | Status Disk groups | iSCSI targets Snapshots | Shares Virt | ual IPs | | |
| Diagnostics | O iSCSI targets | - Status: Active - Zvols: 1 | | | + Add | new target |
| | Search | | | | | Options v |
| | Name | Type SCSI ID | LUN Logical size | Physical size Compres | | - |
| | 1 zvol-00 | zvol HsMPNw6KzBnW | 0 500.00 GiB | 64.00 KiB | 1.00 thin | |
| | Zvols not attached to targe | ets — Zvois: 0 ———— | | | | |
| | | | ^ | | | |
| | | | | | | |
| | Zpools available for im | port | | | | |

3.5. Exploring targets

It is now time for you to connect with your iSCSI initiator and use your targets.

Example (Microsoft Windows environment).

Run the Microsoft iSCSI Initiator and follow the instructions:

- Start the software, add the targets in the "Discovery" menu and enter the IP Address of Open-E JovianDSS and Port (default 3260).
- From the "Targets" menu "Log on" to a target.
- Now access the Windows "Computer Management" feature and start the Disk Manager function, where you will be able to partition and format the new iSCSI drives for your operating system.

open-e

3.6. Creating Fibre Channel targets

Fibre Channel HA Cluster uses Asymmetric Logical Unit Access (ALUA) to configure the paired targets. LUNs are visible on both configured targets by the initiator that has access to those LUNs by paths. Depending on the path status, the initiator knows which path should be used to access LUNs. The initiator accesses LUNs by using an active path, while standby path is used for a target that does not have access to LUNs. An active path is set for a target when the pool is present on the same node where the target is. A standby path is used for a target when a pool is present on the other node.

It is required to register SCST devices with VMW_SATP_DEFAULT_AP plugin in ESX root console.

• Login to ESX console and add new rules for SCST file I/O and block I/O devices:

esxcli storage nmp satp rule add -s VMW_SATP_DEFAULT_AP -V "SCST_FIO" -M "Storage" -c tpgs_on -P VMW_PSP_MRU -e "SCST_FIO Storage Device" -o enable_action_OnRetryErrors

esxcli storage nmp satp rule add -s VMW_SATP_DEFAULT_AP -V "SCST_BIO" -M "Storage" -c tpgs_on -P VMW_PSP_MRU -e "SCST_BIO Storage Device" -o enable_action_OnRetryErrors

- execute:
 esxcli storage core claimrule load
- check if new rule is listed in: esxcli storage nmp satp rule list
- reboot the VMware server
- check if correct plugin is used for SCST devices: esxcli storage nmp satp rule list | grep SCST The Storage Array Type should be set to VMW_SATP_DEFAULT_AP

Setting Fibre Channel target as single node for ESX:

 Go to menu Storage Settings. In the Options drop-down menu select Properties and enter Alias name. In this example aliases are dd-40 and dd-41.

| Storage | Storage Settings | | | | | |
|------------------------|-----------------------------|----------------------|---------------|----------|--------|-----------|
| ₽ Failover Settings | Access protocols Discove | ery CHAP user access | Fibre Channel | | | |
| Storage Settings | ^ Fibre Channel ports ─── | | | | | ? 🖒 |
| 3 Storage Settings | WWN | Alias | Mode | Туре | Status | Options |
| Backup & Recovery | - 🗑 21:00:00:0e:1e:2c:dd:40 | dd-40 | Target | Physical | OK | Options 🗸 |
| Recovery | 21:00:00:0e:1e:2c:dd:41 | dd-41 | Target | Physical | OK | Options 🗸 |
| System Settings | | | | | | |
| | | | | | | |



• From Storage Adapters in VMware please select the text, and then use the pop-up menu to copy the selected text to the clipboard.

| ▼ Storage ▲ | Storage Ada | oters | | | | | | |
|--|---------------------------------------|--------------------|-------------------|------------------------------------|-------------------|-----------------|--------------|--------------|
| Storage Adapters Storage Devices | + Add Software Adap | | n Rescan Storage | e 🗟 Rescan Adapter | | | | |
| Host Cache Configur. | Adapter 🔫 | Туре 🔻 | Status 🔻 | Identifier | τ | Targets 👻 | Devic 🔻 | Paths 🔻 |
| Protocol Endpoints | A Model: 2600 Serie | s 16Gb Fibre Chann | el to PCI Express | HBA | | | | - |
| I/O Filters | 🚱 vmhba3 | Fibre Channel | Online | 20:00:00:0e:1e:2a:81:e0 21:00:00:0 | :1e:2a:81:e0 | 0 | 0 | 0 |
| Networking Virtual switches | S vmhba4 | Fibre Channel | Online | 20:00:00:0e:1e:2a:81:e1 21:00:00: | Сору | | | Ctrl+C |
| VMkernel adapters | A Model: Fusion-MP | T 12GSAS SAS3008 | PCI-Express | | Search Google for | r "21:00:00:0e: | 1e:2a:81:e0" | |
| Physical adapters | 🚱 vmhba2 | SAS | Unknown | - | Print | | | Ctrl+F |
| TCP/IP configuration Virtual Machines | Model: Patsburg 6 | Port SATA AHCI Cor | ntroller | | Inspect | | | Ctrl+Shift+I |

• In Add Initiator please paste the previously saved text from the clipboard into the Initiator WWN field, and enter the Alias initiator. Next, click the Apply button.

| Storage | | | 0.6 | Rescan 🕂 Add zpool |
|---------|------------------|-------------------------|------------------|--------------------|
| | Add initiator | | 1 11 E | a |
| | Add new initiato | r | | _ |
| | Initiator WWN: | 21:00:00:0e:1e:2a:81:e0 | | |
| | Alias: | vmhba3 | | |
| O Fibre | | | 🗙 Cancel 🗸 Apply | + Add group |
| | proup Targets 0 | Zvols 0 Status Active | | |
| | | | | |

• Initiators have been added.

| Storage | | Storage | | | | | () Rescan | + Add zpor |
|------------|---------------|--|------------------------------------|----------------|---------------------------------|-------------|-----------|--------------|
| 🖉 User Mai | nagement | State: | ONLINE | Status: | Zpool is functioning correctly. | | | |
| Failover | Settings | Zpool ID: Total storage: | 12199181236699342582 544.00 GiB | (i) Action: | None required. | | | |
| Storage | Settings | Disks: | 10 | | | | | |
| Backup & | & V | Status Disk group | is iSCSI targets | Fibre Channel | Shares Snapshots | Virtual IPs | | |
| System S | - Settings | C Fibre Channel gr | | Status: Active | | | + | Add group |
| Diagnost | tics | Zvols available to be aO Targets and initia | | | | | | 10 |
| | | Fibre Channel targets | | | | | | 10 |
| | | Fibre Channel initiator | s | | | | | ?0 |
| | | Search | | | | | + 4 | dd initiator |
| | | Alias | | WWN | | | Op | itions |
| | | vmhba3 | | 21:00:00: | 0e:1e:2a:81:e0 | | C | ptions 🗸 |
| | | vmhba4 | | 21:00:00: | 0e:1e:2a:81:e1 | | C | ptions 🗸 |
| | | | | ~ | | | | |



• In Add Fibre Channel group wizard, in Properties step, please enter the name of Group alias. To confirm this name, click the Next button.

| Add Fibre Chann | el group | | | | 1.29 |
|-------------------|--------------|--------|----------|---------|------|
| 1. Properties | Group allas: | Group1 | | | 1 |
| 2. Targets | | | | | |
| 3. Initiators WWN | | | | | |
| 4. Zvols | | | | | |
| 5. Summary | | | | | p. |
| | | | | | 2 |
| | | | | | 10 |
| | | | | | |
| | | | | | 0 |
| | | | | | |
| | | | | | 0 |
| | | | 🗙 Cancel | Next > | Dr. |
| Allan | | 924/N | | Options | |
| | | | | | |
| | | | | | |

• In the Targets step please Select proper WWNs and click the Next button.

| Add Fibre Chann | nel group | | | | | ei zpo |
|-------------------|-------------------------|-------|--------|------------|-----------|--------|
| 1. Properties | Select targets | | | | | |
| 2. Targets | WWN | Alias | Mode | Туре | Status | |
| 3. Initiators WWN | 21:00:00:0e:1e:2c:dd:40 | dd-40 | Target | Physical | ок | |
| 1000 | 21:00:00:0e:1e:2c:dd:41 | dd-41 | Target | Physical | ок | |
| 4. Zvols | | | | | | Ι. |
| 5. Summary | | | | | | |
| | | | | | | |
| | | | | | | 0 |
| | | | | | | 10 |
| | | | | | | |
| | | | | | | |
| | | | | | | 0 |
| | | | | | | |
| | | | | | | |
| | | | × Ca | ancel < Ba | ck Next > | 1 |
| Anas | | WWW | | | Options | |
| | | | | | | |
| | | | | | | |



• In the Initiators WWN step please select proper Aliases and click the Next button.

| Add Fibre Cha | nnel group | | ? 🗙 |
|------------------------------|-----------------------|-------------------------|-----------------|
| agement 1. Properties | Select WWN initiators | | |
| 2. Targets | Search | | + Add initiator |
| 3. Initiators WWN ettings | Alias | WWN | Options |
| 4. Zvols | vmhba3 | 21:00:00:0e:1e:2a:81:e0 | Options 🗸 |
| 5. Summary | vmhba4 | 21:00:00:0e:1e:2a:81:e1 | Options 🗸 |
| ettings | | | |
| ettings | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | × Cancel < | Back Next > |
| Attas | | WWN | Options |
| | | | |
| | | | |

• In Zvols step please click the Add zvol button.

| Add Fibre Chan | nel group | | | | | | |
|---------------------|----------------|------|--------------|---------|----------|-------------|------------|
| ement 1. Properties | Select Zvo | ols | | | | | |
| 2. Targets | Search | | | | | - | - Add zvol |
| 3. Initiators WWN | Name | Туре | Logical size | SCSI ID | LUN | Access mode | |
| 4. Zvols | No zvols found | | | | | | |
| 5. Summary | | | | | | | |
| ings | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | 🗙 Cancel | < Back | Next 💙 |
| Allas | | | | WWN | | | Options |
| | | | | | | | |
| | | | | | | | |



• In Add new zvol, enter the name of a new Zvol and the appropriate size and click Add button.

| | Add Fibre Chann | | | | | | |
|--|-------------------|---|--|--------------|--------|------------------|--|
| | 1. Properties | Add new zvol Zvol properties | | | 7 C X | | |
| | 2. Targets | Name: | zvol00 | | | + Add.zvol | |
| | 3. Initiators WWN | Size: | 1024 | GiB | | Access mode | |
| | .4. Zvols | | 522.87 GiB physi | | | | |
| | S. Somoory | Provisioning: | Thick provisi Thin provisio | | | | |
| | | Deduplication: | Disabled (defa | sult) | \sim | | |
| | | Number of the data copies: | 1 (default) | | ~ | | |
| | | Compression: | Iz4 (default) | | ~ | | |
| | | Volume block size: | 128 KiB (defa | | ~ | | |
| | | Write cache logging (Sync): | Always (defau | | ~ | | |
| | | Write cache logging (Log bias): Primary cache: | Write log devi All (default) | ce (Latency) | ~ | | |
| | | Secondary cache: | All (default) | | ~ | ef < Back Next 🗦 | |
| | Allas | | | | | Options | |
| | vmhba3 | | | | | Options | |
| | vmhba4 | | | X Cancel | 🖌 Add | Options | |
| | | | | | | | |

• After creating new Zvols click the Next button.

| Add Fibre Chann | iel group | | | | | | ? × |
|------------------|------------|------|--------------|-----------------|--------|---------------------------------|------------|
| 1. Properties | Select Zve | ols | | | | | |
| 2. Targets | Search | | | | | | - Add zvol |
| 2 Initiatore WMA | | - | | 00010 | | | Add 2voi |
| 4. Zvols | Name | Type | Logical size | SCSI ID Auto | LUN | Access mode Write-through (c | lofault) |
| 4. 20015 | 21000 | 2101 | 1.00 110 | 1000 | Auto | vinte-anough (c | leiduit) |
| 5. Summary | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | X Cano | cel < Back | Next > |
| Allas | | | | WWN | | | Options |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |



• In Summary you are able to see an overview of the configuration of the Fibre Channel Group. If the settings need to be modified, click the Back button and make the required changes. If it is correct, click Add.

| Add Fibre Chan | nel group | | | | | | | 1 | × |
|-------------------|------------|---------------|--------------|----------|--------|----------|---------------|-------------|---|
| 1. Properties | WWN | | Alias | 1 : | Mod | е Туре | 9 5 | Status | ^ |
| | 21:00:00: | 0e:1e:2c:dd:4 | 0 dd-4 | 0 | Targ | et Phys | sical (| ЭК | |
| 2. Targets | 21:00:00: | 0e:1e:2c:dd:4 | 1 dd-4 | 1 | Targ | et Phys | sical (| Ж | |
| 3. Initiators WWN | WWN Initia | ators | | | | | | | |
| 4. Zvols | | | | | | | | | 1 |
| 5. Summary | WWN | | | | Alias | | | | |
| | 21:00:00: | 0e:1e:2a:81:e | 0 | | vmhba3 | | | | |
| | 21:00:00: | 0e:1e:2a:81:e | 1 | | vmhba4 | | | | |
| | Zvols | | | | | | | | |
| | | | | | | | | | |
| | Name | Туре | Logical size | SC SI ID | LUN | | Access mod | le | |
| | zvol00 | zvol | 1.00 TiB | Auto | Auto | | Write-through | n (default) | |
| | | | | | | X Cancel | < Back | 🗸 Add | |
| Aflas | | | | WWN | | | | Option | s |
| | | | | | | | | | |
| | | | | | | | | | |

• In Storage Adapters, you can check the connection of both remote ports for rescan.

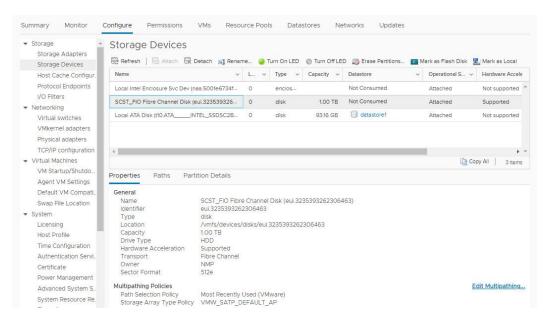
| Storage | Storage Adap | ters | | | | | |
|--|-----------------------|-------------------|----------------|--|---------------|-----------------|-----------------|
| Storage Adapters | J 1 | | | | | | |
| Storage Devices | + Add Software Adapte | r Ed Refresh | Rescan Storag | e 🛛 🔍 Rescan Adapter | | | |
| Host Cache Configur. | Adapter 🔻 | Туре 👻 | Status 1 | Rescans all storage adapters on the host to discover new | ly added stor | age devices and | d/or VMFS volun |
| Protocol Endpoints | A Model: 2600 Series | 16Gb Fibre Channe | to PCI Express | НВА | | | |
| I/O Filters | 🚱 vmhba3 | Fibre Channel | Online | 20:00:00:0e:1e:2a:81:e0 21:00:00:0e:1e:2a:81:e0 | 4 | 1 | 4 |
| Networking Virtual switches | Vmhba4 | Fibre Channel | Online | 20:00:00:0e:1e:2a:81:e1 21:00:00:0e:1e:2a:81:e1 | 4 | 1 | 4 |
| VMkernel adapters | A Model: Fusion-MPT | 12GSAS SAS3008 P | CI-Express | | | | |
| Physical adapters | 🚱 vmhba2 | SAS | Unknown | | | | 16 |

• After the rescan, the new device (SCST_FIO) is listed below.

| Storage Adapters Storage Devices | Storage Adap + Add Software Adapte | | Rescan Store | ige | 🖉 Rescan Ada | apter | | | | |
|--|---|---------------------|---------------|----------|-----------------|-----------------------|----------------|---------------|--------------|----------------------------|
| Host Cache Configur. | Adapter 👻 | Туре у | Status y | Ident | ifier | | т | Targets 👻 | Devic 🔻 | Paths 👻 |
| Protocol Endpoints | A Model: 2600 Series | 16Gb Fibre Channel | to PCI Expres | s HBA | | | | | | |
| I/O Filters | 🚱 vmhba3 | Fibre Channel | Online | 20:0 | 0:00:0e:1e:2a:8 | II:e0 21:00:00:0e:1e | :2a:81:e0 | 4 | 1 | 4 |
| Networking Virtual switches | 🔄 vmhba4 | Fibre Channel | Online | 20:0 | 0:00:0e:1e:2a:8 | 11:e1 21:00:00:0e:1e: | 2a:81:e1 | 4 | 1 | 4 |
| VMkernel adapters | Model: Fusion-MPT | 12GSAS SAS3008 P | CI-Express | | | | | | | |
| Physical adapters | 🚱 vmhba2 | SAS | Unknown | - | | | | 1 | 1 | 1 |
| TCP/IP configuration Virtual Machines | Model: Patsburg 6 F | Port SATA AHCI Cont | roller | | | | | | | |
| VM Startup/Shutdo | | | | | | | | | Copy A | All 5 Items |
| Agent VM Settings | Properties Device | s Paths | | | | | | | | |
| Default VM Compati Swap File Location | Refresh 🗟 Attac | h 民 Detach 📷 | Rename 🧯 |) Turn O | n LED 🔘 Turr | n Off LED 🛛 🖉 Eras | e Partitions 📭 | Mark as Flash | n Disk 🛛 🔜 N | Mark <mark>as</mark> Local |
| System | Name | ~ | LUN 🗸 | Type 🗸 | Capacity 🗸 | Datastore 🗸 | Hardware Accel | era 🗸 Dri | ve T 🗸 | Transport |
| Licensing Host Profile | SCST_FIO Fibre Channe | el Disk (eui.32353 | 0 | disk | 1.00 TB | Not Consumed | Supported | HC | D | Fibre Channel |



• Next, go to Storage Devices and please click Edit Multipath.



• In Edit Multipathing Policies select Round Robin (VMware) and click the OK button.

| Host Cache Configur. | Name | Attach <table-cell> Detach 📷 Rename</table-cell> | Type Capacity | | | Operational S | |
|------------------------------------|-----------------------------|--|--|--------------------|----------|---------------|--------------|
| Protocol Endpoints | Local Intel Enci | osure Svc Dev (naa.5001e6734f 0 | enclos | Not Consumed | | Attached | Not suppo |
| | ing all moders the st | | | | | Attached | Supported |
| Edit Multipa | thing Polic | eui.3235393262306463 | | | \times | Attached | Not suppo |
| Path selection policy: | | | | | | | |
| Most Recently Used | | | | | ~ | | |
| Most Recently Used | | | | | | | |
| Round Robin (VMw | | | | | | | Copy All 3 |
| Fixed (VMware) | Charles | - Yeard | 100 | | | | |
| Runtime Name 🗸 | Status ~ | Target | LUN - Preferre | | | | |
| vmhba4:C0:T0:L0 | Standby | 20:00:00:0e:1e:28:c4:e0 21:00:00: | 0 | | A. | | |
| vmhba3:C0:T1:L0 | o Active | 20:00:00:0e:1e:2c:dd:40 21:00:00: | 0 | | | | |
| | O Standby | 20:00:00:0e:1e:28:c4:e0 21:00:00: | (O)) | | | | |
| vmhba3:C0:T0:L0 | | 20:00:00:0e1e:28:c4:e1:21:00:00: | | | | | |
| vmhba3:C0:T0:L0 vmhba4:C0:T3:L0 | Standby | 20:00:00:0ene:28:c4:e1 21:00:00: | | | | | |
| | O Standby | 20:00:00:0ene:28:64:e1 21:00:00: | | 🗅 Copy All 📔 8 ite | * | | |

Now, the FC target configuration is completed.

3.7. Creating SMB shares

• In the Pool menu select the "Shares" tab. Click on the "Add dataset" button in order to create a new NAS-volume. NAS-volumes are called "datasets".

| open-e JovianDSS | | (i) About | () Help | 🕒 Logout 🗸 |
|----------------------|---|-----------|-----------|-------------|
| Storage | Storage | | () Rescan | + Add zpool |
| OUser Management | | | | |
| Failover Settings | • Pool-O | | | Options v |
| Storage Settings | State: ONLINE Status: Zpool is functioning correctly. | | | |
| 🚑 Backup & | Zpool ID: 14248819111874998222 (i) Action: None required. | | | |
| Backup & Recovery | Total storage: 1.63 TiB | | | |
| 👼 System Settings | Diaks: 9 | | | |
| a | Status Disk groups iSCSI targets Snapshots Shares Virtual IPs | | | |
| Diagnostics | O Shares | | + / | Add dataset |
| | No datasets found. | | | |
| | | | | |
| | Zpools available for import | | | |
| | () No external zpools available for the import have been found. | | | |
| | | | | |
| | Unassigned disks | | | |
| | Local disks Remote disks | | | |
| | Search | | | |
| Notifications 😣 0 | ▲ 0 0 1 | | | |

• In the "Add new dataset" window, enter the dataset (volume) name and click on "Apply" button.

| | | | | 🗇 Help 📄 E Logout |
|--|--------------------|-------------------------------|--------------|---------------------|
| Storage | Add new dataset | | 11 C 🛛 | Q Rescan + Add zpod |
| | Dataset properties | | | |
| Pool-0 | Name: | vol00 | | Coptions v |
| State: | Deduplication: | Disabled (default) | ~ | |
| Zpool ID | Copies: | 1 (default) | ~ | |
| Total storage. | | Number of copies of the data. | | |
| Dinks: | Compression: | Iz4 (default) | ~ | |
| Status | Sync: | Always | ~ | |
| O Shares | Log bias: | Latency (default) | ~ | + Add dataset |
| No datasets found | Primary cache: | All (default) | ~ | |
| | Secondary cache: | All (default) | ~ | |
| | Access time: | Disabled (default) | ~ | |
| Zpools availat | | | | |
| No external zpool: | Enable quota | | | |
| | Enable reservation | | | |
| Unassigned | | | | |
| Local disks | | 🗙 Ca | ncel 🗸 Apply | |
| | | | | |
| | | | | |



• Next select the created dataset. Next click on "Option" button and from drop-down menu click on the "Add share" button.

| JovianDSS | | (i) About | Help | 🕒 Logout |
|----------------------|--|-----------|--|---------------------------------------|
| Storage | Storage | | () Rescan | + Add zpool |
| O User Management | | | | |
| Failover Settings | Pool-0 | | | Options v |
| Storage Settings | State: ONLINE Status: Zpool is functioning correctly. Zpool ID: 14248819111874998222 Action: None required. | | | |
| Backup & Recovery | Total storage: 1.63 TiB Disks: 9 | | | |
| System Settings | | | | |
| Diagnostics | Status Disk groups iSCSI targets Snapshots Shares Virtual IPs O Shares ^ vol00 — Shares: 0 — All active | | + / | udd dataset |
| | Share name Path Access protocr Comments No shares found. Image: Comment State Stat | 2 | Add share Edit dataset Delete datase | Dptions v |
| | Zpools available for import | ≅ ≠ | | retention-interval p&Recovery task |
| | ① No external zpools available for the import have been found. | | | |
| | Unassigned disks | | | |
| Notifications 🔕 0 | <u>▲</u> 0 0 1 | | | |

• In the "Share wizard" as a first step, enter the share name. Optionally you can enter the subdirectory name in the dataset. If the subdirectory is not entered, the share will be pointed directly to the dataset. The comment field is also optional. Continue with "Next".

| open-e JovianDSS | | | | | | 🕑 Logout 🗸 | |
|---------------------|--------------------------------------|------------------|------------------|--------|-----------|-------------|--|
| | Storage | | | | () Rescan | + Add zpool | |
| Sur Manager | Share wizard | | | | | - | |
| Fallover Settin | 1. Share properties | Share properties | | | | Options 🐱 | |
| Storage Settin | 2. Access protocols 3. User/group | Name: | share-smb | | | | |
| Backup & Recovery | access | Path: | vol00/ share-smb | | | | |
| Diagnostics | 4. Summary | Comment: | | | | | |
| 1129 | | | | | | dd dataset | |
| | | | | | | ptions 🐱 | |
| | | | | | | ons | |
| | | | | | | | |
| | | | × | Cancel | Next 📏 | | |
| | | | | | | | |
| | Unassigr | ned disks | | | | | |
| Notifications | 0 40 01 | | | | | | |



• In order to create the share, confirm with "Yes".

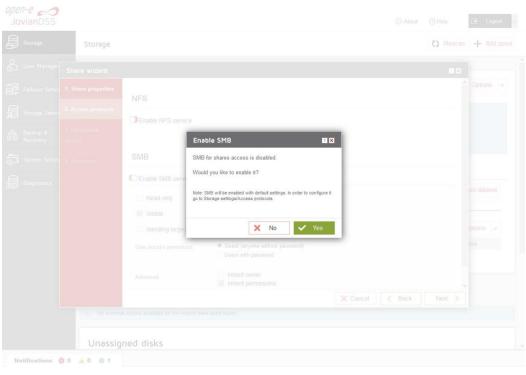
| Storage | | Q Rescan | + Add zpoo |
|---------|-----------|---|------------|
| | | | |
| | | | |
| | | | |
| | | vol00/ share-smb | |
| | | Add share Specified path: vol00/share-smb does not exist. | |
| | | Would you like to create it? | |
| | | X No VYes | |
| | | | |
| | | | |
| | | | |
| | | | |
| Usersia | ned disks | | |

• In "Access protocols" step, check the "Enable SMB service".

| open-e 20 JovianDSS | | | | 🖻 Logout 🗸 |
|--|--------------------------------------|--|-----------|-------------|
| | Storage | | () Rescan | + Add zpool |
| ©_ User Manager | Share wizard | | | - |
| Falover Setter | 1. Share properties | NFS | | Options 🔍 |
| Storage Settin Backup & Recovery | 2. Access protocols 3. User/group | Enable NFS service | | |
| System Settin | access 4. Summary | SMB | | |
| Diagnostics | | Enable SMB service | | dd dataset |
| | | | | ptions 🗸 |
| | | X Cancel A Back | Next > | |
| | Unassign | zpodo unalitate for the import have been found | | |
| Notifications (| 0 40 01 | | | |



• Confirm with the "Yes" button and continue with "Next".



| Storage | Storage | | | 0 | Rescan + Add z |
|------------------|--|--|--|-----------------|----------------|
| Ver Heneye | Share wizard | | | | |
| | . Share properties | NFS | | | Options |
| Backup & 3 | Access protocols . User/group .ccess | Enable NFS service | | | |
| System Setting 4 | . Summary | SMB | | | |
| Diagnostics : | | C Enable SMB service | | | _ |
| | | Read only | | | dd dataset |
| | | Visible | | | |
| | | Handling large directories | S | | ptions 🗸 |
| | | User access permisions: | Guest (anyone without password) Users with password | | 005 |
| | | Advanced: | Inherit owner Inherit permissions | | |
| | | | | X Cancel < Back | Next > |
| | () No externa | I zpools evallable for the import have | been found | | |
| | | | | | |



• In the "Users/groups access" step continue with the "Next" button.

| <i>pen-e "</i> JovianDSS | | | | | 🔄 Logout 🗸 |
|-----------------------------|-------------------------|--|--|-------------|----------------|
| | Storage | | | () Resci | in + Add zpool |
| S User Manager | Share wizard | | | | |
| 🛱 Fallover Settin | 1. Share properties | ∧ User access —————————————————————————————————— | | 70 | Options 🗸 |
| Storage Settin | 2. Access protocols | Guest user access enabled User access configuration is not available | because Guest user access is enabled for SMB protocol. | | |
| Backup & IO Recovery | 3. User/group access | Name | | | |
| System Settin | | Results to engel 10 - 50 | | | |
| Diagnostics | | Group access Guest user access enabled Group access configuration is not availab | e because Guest user access is enabled for SMB protoco | | d dataset |
| | | | | | ptions 🐱 |
| | | Name | | | ons |
| | | Bartash par anna (1) 😒 | | | |
| | | | × Cancel < | Back Next > | d - 1 |
| | () No extern | al zpools available for the Import have been found | | | |
| | Unassig | ned disks | | | |
| Notifications (| 0 40 02 | | | | |

• In the "Summary" step click the "Add" button. Now the SMB share is ready to use.

| Storage | | | | | () Rescan | + Add zpo |
|-------------------------|--|---------------------------------|----------|--------|-----------|------------|
| Share wizard | | | | | | - |
| 1. Share properties | Properties | | | | ^ | Options 🗸 |
| 2. Access protocols | | | | | | |
| 3. User/group access | Name Path Comment | share-smb vol00/share-smb | | | | |
| 4. Summary | | | | | | |
| | NFS | | | | | |
| | NFS service disabled | | | | 2 | dd dataset |
| | SMB | | | | | ptions 🗸 |
| | Read only | × | | | | ons |
| | Visible | ~ | | | | |
| | Handling large directories | × | | | | |
| | User access permisions | Guest (anyone without password) | X Cancel | K Back | 🖌 Add | |
| ① No externa | I zpools available for the import have b | een found | | | | |
| Unassig | ned disks | | | | | |



• In order to change the SMB share settings, click on the "Options" drop-down menu of sharesmb and select "Protocols".

| JovianDSS | ① About | Help | 🕒 Logout 🗸 |
|----------------------|--|------------------|---|
| Storage | Storage | () Rescan | + Add zpool |
| User Management | | | |
| Failover Settings | • Pool-O | | Options v |
| Storage Settings | State: ONLINE Status: Zpool is functioning correctly. Zpool ID: 14248819111874998222 Action: None required. | | |
| Backup & Recovery | Total atorage: 1.63 TiB Disks: 9 | | |
| System Settings | | | |
| Diagnostics | Status Disk groups iSCSI targets Fibre Channel Shares Snapshots Virtual IPs | | |
| | O Shares | | + Add dataset |
| | Vol00 — Shares: 1 — All active — Gearch | | + Add dataset Options |
| | vol00 — Shares: 1 — All active — | Status | |
| | voil00 Shares: 1 All active | | Options v |
| | vol00 — Shares: 1 — All active Bearch Share name Path Access protocol: Comments 1 share-smb / SMB Results per page: 10 ∨ K < | Status Active | Options V Options V Edt share Properties |
| | ◇ vol00 — Shares: 1 — All active Bearch Share name Path Access protocol: Comments 1 share-smb SMB Results per page: 10 ✓ | Status Active | Options V Options V Edt share Properties Protocols |
| | vol00 — Shares: 1 — All active Bearch Share name Path Access protocol: Comments 1 share-smb / SMB Results per page: 10 ∨ K < | Status Active | Options V Options V - Edt share Properties Protocols Vser/group ac |
| | ◇ vol00 — Shares: 1 — All active Bearch Share name Path Access protocol: Comments 1 share-smb SMB Results per page: 10 ✓ | Status Active | Options V Options V Edt share |

3.8. Using local Users and Groups with build-in Lightweight Directory Access Protocol (LDAP)

• In order to enabling local Users and Groups, please go to "User Management" menu and in Lightweight Directory Access Protocol (LDAP) please click on "Enable protocol"

| O の User Management | | | | | | |
|---------------------------|---|--------------------|--|--|--|--|
| Failover Settings | Share users/groups CHAP users Authorization protocols Image: Chap users | | | | | |
| 8. | | | | | | |
| Storage Settings | Only one authorization protocol can be enabled in the same time. Changing the protocol will result in the loss of saved data. | | | | | |
| Backup & | | | | | | |
| System Settings | Enable protocol Apply | | | | | |
| | • сърлу | | | | | |
| Wo ² | Lightweight Directory Access Protocol (LDAP) | | | | | |
| | Enable protocol LDAP settings | | | | | |
| | | | | | | |
| | LDAP domain name: | dc=internal,dc=lan | | | | |
| | Password: | | | | | |
| | Password confirmation: | | | | | |
| | Apply Share users and grou | 25 | | | | |
| | onare users and grou | və | | | | |
| | | | | | | |
| Notifications 🔕 0 🔺 | 1 0 3 | | | | | |

• Next, confirm this action by clicking the "Yes" button.

| User Management | |
|---|--|
| | |
| Lightweight Directory Access Protocol (LDAP) Directory Access Protocol (LDAP) Directory Access Protocol | |
| | |
| EDAP domain n Enable Lightweight Directory Access Protocol (LDAP) | |
| Password Password config | |
| Passwert confine Apply Do you want to continue? | |
| Share users a Yes | |
| | |
| | |
| | |
| | |
| | |
| | |



• Next, in "Share users" click on the "Add user" button in order to create a new user. Please enter name of new user and password, then click Apply button.

| User Management Reset to defaults | |
|--|-------------|
| Add user | 1 |
| User settings | |
| Name: Administrator | |
| Password confirmation: | |
| User groupsTC | + Add user |
| Name | Options |
| A Verse Vers | Options v |
| Results per page: 10 V K K Page 1 of 1 > X Q | |
| X Cancel V Apply | + Add group |
| Mana Densile Uses | opnons - |
| | |

• After this action new user is already added.

| Storage | User Management | |
|----------------------|--|-------------|
| O User Management | ✓ Apply | |
| Failover Settings | Reset to defaults | |
| Storage Settings | To restore default settings and delete current database from local node use the "Reset" button below. It will also remove user and group assignments with shares. | |
| Backup & | Reset | |
| System Settings | Share users and groups | |
| | ↑ Share users | |
| | Search | + Add user |
| | Name | Options |
| | Administrator | Options 🗸 |
| | Results per page: 10 🗸 K < Page 1 of 1 | o k < |
| | Share groups | 70 |
| | Search | + Add group |
| | Name | Options |
| | Domain Users | |
| | Results per page: 10 V K < Page 1 of 1 | > > Q |



• In the Pool menu select the "Shares" tab. On the required share, (in this example" data") click on the "Option" button.

NOTE: How to create a new share is described in subsection 3.7 "Creating SMB shares" in this document.

 Next click on "Option" button and from drop-down menu and next click on the "Protocols" button.

| Storage | Storage | | | 0 | Rescan 🕂 Add zpool |
|----------------------|--|-------------------------------|--|--------------|---------------------------------|
| O User Management | | | | | î |
| Failover Settings | Pool-O | | | | Options v |
| Storage Settings | State: Zpool ID: | ONLINE 8994287197033934590 | Status: Zpool is functioning corre Action: None required. | | |
| | Total storage: 272.00 GiB Resilvering: Last resilvering finished with 0 errors on 5.02.2019, 08. | | | | 08:52:36. |
| System Settings | Disks: | 5 | | | |
| Diagnostics | Status Disk groups O Shares vol00 - Shares: 1 - | All active | Fibre Channel Shares Snapshots | Virtual IPs | + Add dataset |
| | Search | | | | Options 🗸 |
| | Share name Path | | Access pro Comments | Status | Options |
| | 1 data / | | SMB | Active | Options 🗸 |
| | Results per page: 10 | ~ | | K K Page 1 K | of 1 - Edit share Properties |
| | | | ~ | | Protocols |
| | | | | | User/group access |
| | Pool-1 | | | | Deactivate Delete |
| | State: | ONLINE | Status: Zpool is functioning corre | ctly. | |

• In "Edit share protocols, please click "Enable SMB service", and in User access permissions, change option "Guest (anyone without password) to "Users with password". Next, click Apply button.

| Storage | () Rescan + Add zpool |
|---|-----------------------|
| | |
| Edit share protocols | 🕑 Options 🗸 |
| Star Access protocols | |
| Zpr To Enable NFS service | 019, 08, 52, 36 |
| Die CEnable SMB service | |
| Read only | |
| Visible Handling large directories | + Add dataset |
| User access permisions: Guest (anyone without password) | |
| Users with password | Options v |
| Advanced Inherit owner | ve Options 🗸 |
| 🗙 Close 🗸 Apply | 1 of 1 5 3 0 |
| 0.000 V 2001 | |
| Pool-1 | 🕑 Options 🗸 |
| | |



• Again in "Option" drop-down menu, please select "User/group access"

| Storage | Storage | | () Rescan + Add zpool | | | | | | | | | |
|--|---|---|--------------------------------|--|--|--|--|--|--|--|--|--|
| O User Management | | | | | | | | | | | | |
| ← → Failover Settings | Pool-O | | Options v | | | | | | | | | |
| Storage Settings | State: ONLINE Zpool ID: 8994287197033934590 | Action: None required. | | | | | | | | | | |
| Backup & Recovery | Total storage: 272.00 GiB | | 2019, 08:52:36. | | | | | | | | | |
| System Settings | Disks: 5 | | | | | | | | | | | |
| Diagnostics | Status Disk groups iSCSI targets Fibre Channel Shares Snapshots Virtual IPs O Shares + Add dataset ^ vol00 Shares: 1 - All active | | | | | | | | | | | |
| | Search | | Options v | | | | | | | | | |
| | Share name Path | Access pro Comments Sta | tus Options | | | | | | | | | |
| | 1 data / | SMB Act | ive Options v | | | | | | | | | |
| | Results per page: 10 🗸 | | 1 of 1 - Edit share Properties | | | | | | | | | |
| | | <u>^</u> | Protocols | | | | | | | | | |
| | | | User/group access | | | | | | | | | |
| | Pool-1 | | Deactivate | | | | | | | | | |
| | State: ONLINE | Status: Zpool is functioning correctly. | X Delete | | | | | | | | | |

• In "User access" ", please check the box with user name (in this example Administrator), and click Apply button.

| Storage | () Rescan + Add zpool |
|--|-----------------------|
| Edit share user/group access | |
| User/group access | 🛛 Options 🗸 |
| | |
| Search Users with granted access | |
| Name | |
| Administrator | |
| Results per page: 10 V K < Page 1 of 1 > X Q | + Add dataset |
| Group access | |
| Search Groups with granted access | |
| Name | |
| Domain Users | |
| Results per page: 10 V K K Page 1 of 1 > X 3 | |
| Close V Apply | |
| Pool-1 | 🕑 Options 🗸 |
| | |
| | |



• In "File explorer" in Windows system, please open Share folder window.

| | Storage | Storage | | | | | | () Rescan | + Add zpool |
|-----------|----------------------|--|------------------------------|------------|---------|---------------------------------|-------------|----------------------|-------------|
| <u>ي</u> | User Manag | | | 10.15.0.51 | | _ | o x | | |
| | Failover Set | File Home Share | View twork > 10.15.0.51 > | | | ✓ C Search 10.15.0.51 | ¥ 🚱 م | | Options v |
| | Storage Set | 🔆 Favorites 🔳 Desktop | Julia data | | | | | | |
| 8 | Backup & Recovery | Downloads | | | | | | 2019, 08:52:36 | |
| 9 | System Sett | Market Sec Market Sec Market Sec | | | | | | | |
| <u>an</u> | Diagnostics | Documents Downloads Music Pictures Videos | | | | | | | dd dataset |
| | | 🙀 Network | | | | | | opt tatus Opt | ions v |
| | | | | | | | | ctive Or 1 of 1 > | N Q |
| | | 1 item 1 item selected | | | | | ## # | | Options v |
| | | State: | | ONLINE | Status: | Zpool is functioning correctly. | | | |

• Next, please check if there is access to the share (e.g. by creating a new folder)

| | Storage | Storage | | | | | | | | () Rescan | + Add zpool |
|---------|--------------------------|---|---|---|-----------------------------------|------------------|---|-------------|------------|------------------|-----------------|
| | User Manage | nont 1 1 ⊋ 🚹 🖘 l | | | data | | | | x | | |
| | Failover Set | File Home Sha | are View Network > 10.15.0.51 > data | • | | | ~ C | Search data | 9 ب | | Options 🗸 |
| | Storage Sett Backup & | Favorites | Name * | | Date modified 2/6/2019 8:29 AM | Type File fol | Size | | | 2019, 08:52:36. | |
| 9 1 | Recovery System Sett | 둘 Recent places 🐖 This PC 📔 Desktop | | | | | | | | | |
| ELO | Diagnostics | Documents Downloads Music Pictures Videos Local Disk (C:) | | View Sort by Group by Refresh Customize t | his folder | * | | | | s + A | dd dataset |
| | | Vetwork | | Paste Paste shorto Undo New | ut Ctri- | z | | | | Opt tatus Opt | ions 🗸 |
| | | | | Properties | | | Folder Shortcut Bitmap image Contact Iometer Configura Rich Text Document Text Document | | | ctive Op | itions v メ Q |
| | | 1 item State: | | ON | LINE | Statu | Compressed (zipp | ed) Folder | iii E | | Options v |



• Then, go back to the "Pool" menu in "Storage". Click on "Shares" tab.

| Storage | Storage | | | () Reso | an 🕂 Add zpool |
|----------------------|---|-------------------------------|---|-------------------|---------------------------------|
| O User Management | | | | | |
| Failover Settings | Pool-O | | | | Options 🗸 |
| Storage Settings | State: Zpool ID: | ONLINE 8994287197033934590 | Status: Zpool is functioning correctly. Action: None required. | | |
| Backup & | Total storage: | 272.00 GiB | (i) Resilvering: Last resilvering finished with 0 errors on | 5.02.2019, 08:52: | 6. |
| System Settings | Disks: | 5 | | | |
| Diagnostics | Status Disk groups O Shares | iSCSI targets | Fibre Channel Shares Snapshots Virtue | | Add dataset |
| | vol00 — Shares: 1 Search | — All active — | | | Options v |
| | Share name Path | | Access pro Comments | | Options |
| | 1 data / | | SMB | Active | Options V Edit share |
| | Results per page: 10 | ~ | | | Properties Protocols |
| | Pool-1 | | | | User/group access |
| | State: | ONLINE | Status: Zpool is functioning correctly. | 1 | X Delete |

• In "Options" drop-down menu, select "Users/group access", and in "User access" uncheck the check the box with "Administrator" user, and confirm by clicking the Apply button.

| Storage | () Rescan + Add zpool |
|--|-----------------------|
| Edit share user/group access | |
| User/group access | 🗹 Options 🗸 |
| | 019; 00:52:36 |
| To Search Users with granted access Din Name | |
| Administrator | |
| Results per page: 10 V K < Page 1 of 1 > X Q | + Add dataset |
| ∧ Group access1C | |
| Search Groups with granted access | Options v |
| Name Domain Users | re Options |
| Results per page: 10 🗸 K < Page 1 of 1 > 3 O | 1 all > × Q |
| X Close V Apply | |
| Pool-1 | Coptions 🗸 |
| | |



• Next, go back to the Windows system and check if you still have access to Share data. As shown below, access to the share "data" is disabled because the Windows Security prompts for user credentials.

| | Storage | Storage | | () Rescan + Add zpool |
|-----------|----------------------|---|---|-----------------------|
| | User Manager | nant ▶ ⊇ 🚯 ╤ | data 📃 🗖 🗴 | î |
| ţ 101 | Failover Set | File Home Sha | re View | C Options V |
| | Storage Sett | 🚖 Favorites 🔲 Desktop | Name Date modified Type Size This folder is empty. | 2019. 08:52:36. |
| 8 | Backup & Recovery | Downloads | Windows Security | 2019, 06:52:36. |
| 9 | System Sett | PC This PC | Enter network credentials Enter your credentials to connect to: 10.15.0.51 | s |
| <u>an</u> | Diagnostics | Downloads Music Pictures Videos Local Disk (C:) | User name Password | + Add dataset |
| | | 🙀 Network | Domain: LAB Remember my credentials | Options v |
| | | | Connect a smart card | ctive Options V |
| | | | Access is denied. | 1 of1 > > |
| | | 0 items | OK Cancel | C Options v |
| | | State: | ONLINE Status: Zpool is functioning correctly. | |

3.9. Auto-Snapshots and Access to Previous versions

Use Windows Previous Versions to go back in time and access or restore previous versions of files and folders. Windows allows restoring previous versions of a file that was modified or even deleted. Anyone who has ever changed a file and realizes that the previous content was better as it was before, will appreciate the value of being able to retrieve a previous version of a file. Previous versions need auto-snapshot. The auto-snapshot can be set via the GUI.

• To create new auto-snapshots plan, please go to the "Backup & Recovery" menu then Click the "Add replication task" button in the bottom right corner to run the "Backup task wizard".

| open-e JovianDSS | | (i) About | ⊘ Help 💽 Logout 🗸 |
|----------------------|--|-----------|-------------------------------|
| Storage | Backup & Recovery | | |
| O User Management | | | |
| Failover Settings | Tasks Destination servers vCenter / vSphere server | | - |
| Storage Settings | Search Source Source retention Destination path Destination retentio Description VMware int. | | + Add replication task Status |
| Backup & Recovery | No tasks found. Results per page: 10 🗸 K | ¢ Dava | 0 - 10 - X - X |
| System Settings | rossons per page. 10 V | < Page | 0 of0 > > ⊅ |
| Diagnostics | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Notifications 😋 0 | ▲ 0 0 2 | | |

 After starting the "Backup task wizard" will be listed default "Retention-Interval plan for source".

| Backup task wiz | ard | | | | | | | | | | | 7 🗙 | |
|--|-------------------------|---------|------|--|---|--|--|-----|------|----|--------|--------------|-------------|
| 1. Source configuration | Source | | | | | | | | | | | | |
| | Resource path: | | | | | | | Bro | owse | | | | cation task |
| 2. Destination configuration | | | | | | | | | | | | | |
| 3. vCenter / vSphere | Retention-Interval plan | for sou | irce | | | | | | | | | | 1 0 |
| server integration Snapshols from source will be sent every 5 minutes (i.e. the shortest interval from the source retention rules) | | | | | | | | | | | | | |
| 4. Task properties | Retention rules: | | | | | | | | | | | | |
| 5. Summary | A snapshot taken every | | | | | | | | | | | | |
| a. automaty | A snapshot taken every | | | | | | | | | | × | | |
| | A snapshot taken every | | | | ~ | | | | | × | × | | |
| | + Add another r | ule | | | | | | | | | | | |
| | | | | | | | | | | Ĵ | Restor | e to default | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | XC | ancel | Next > | 1 |



• In the "Source configuration" click "Browse".

| <i>open-e "</i> JovianDSS | | | | 🔄 Logout 🖂 |
|------------------------------|------------|--|----------------------|------------|
| | Backup & R | ecovery | | |
| | | | | |
| | | | | |
| | | Resource path. Browse | | |
| | | Browse Zvois Datasets | | |
| | | Search | | |
| | | Resource name No zvols found | | |
| | | Results per page: 10 V K < Page 0 of 0 > X Q | × | |
| | | X Cancel Apply | × | |
| | | | 3 Restore to default | |
| | | | | |
| | | | | |
| | | | | |
| Notifications 🤇 | 30 🔥 0 2 | | | |

• In the "Browse" please select "Datasets" tab, and choose a resource name. Next click on "Apply" button.

| open-e JovianDSS | | | | | 🖻 Logout 🗸 |
|---------------------|------------|-------------------------------|-------------------|---|------------|
| | Backup & F | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | Browse | | | |
| | | Zvols Datasets Search | | | |
| | | Resource name Pool-0/vol00 | • | | |
| | | Results per page: 10 🗸 K K | Page 1 of 1 > > 0 | × | |
| | | | X Cancel V Apply | × | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Notifications (| 0 🔺 0 🛛 2 | | | | |



• After the end selecting "Resource path" please click on "Next" button.

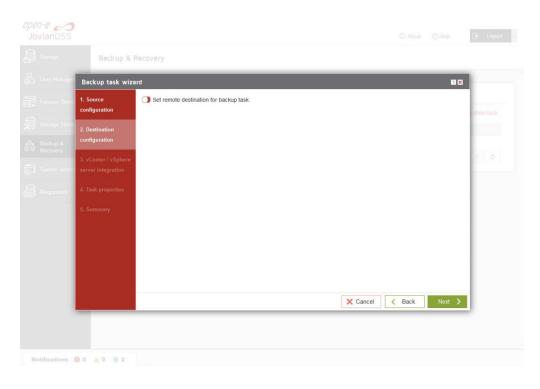
| Manager | Backup task wiza | | | | | | | | | | | | 12 × | |
|--------------|--|-------------------------|--------|------|-------------|---|--------------------|---|-----|---------|----|-------|---------------|-----------|
| ver Siett | configuration | Source | | | | | | | | | | | | cation ta |
| ge Seni i | | Resource path: | | F | 00lov/0-loo | | | | Bro | wse | | | | |
| | | | | | | | | | | | | | | |
| up & very | | Retention-Interval plan | for so | urce | | | | | | | | | | |
| m Source | b. vCenter / vSphere Snapshots from source will be sent every 5 minutes (i.e. the shortest interval from the source retention rules) erver integration | | | | | | | | | | | | | 2 |
| | | Retention rules: | | | | | | | | | | | | |
| 10.01104 | | A snapshot taken every | 5 | ~ | minute(s) | ~ | should be kept for | 1 | ^ | hour(s) | ~ | | | |
| | | A snapshot taken every | 15 | - | minute(s) | ~ | should be kept for | 3 | ^ | day(s) | ~ | × | | |
| | | A snapshot taken every | 1 | * | hour(s) | ~ | should be kept for | 2 | * | week(s) | ~ | × | | |
| | | + Add another r | ule | | | | | | | | | | | |
| | | | | | | | | | | | Ċ | Resto | re to default | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | _ | |
| | | | | | | | | | | | ×c | ancel | Next > | |

In "Destination configuration" please disable "Set remote destination for backup task" option.
 NOTE: If backup need to be configured, you can just continue with the wizard and provide destination volume accordingly.

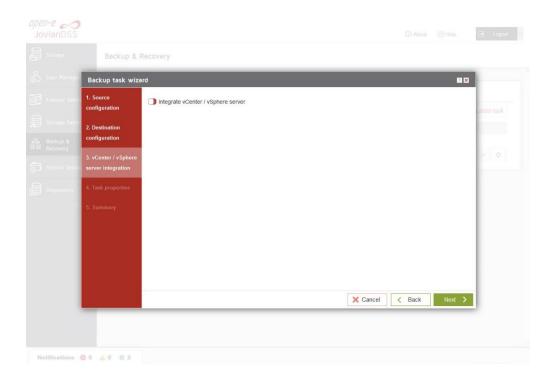
| Backup task wiza | ərd | | | | | | | | | ? 🗙 | <u> </u> |
|--|--|--------------|---------|-----|---|-------|---------|-------|-----------|-----|-------------|
| 1. Source configuration | Set remote destinat Destination 1 — | ion for back | up task | | | | | | | | cation task |
| 2. Destination configuration | | | | | | | × | Remov | e resourc | e | |
| 3. vCenter / vSphere server integration | Destination server and Destination server: | resource pa | ath | | ~ | | | | | | × 0 |
| 4. Task properties | Resource path: | | | | | Brows | | | | | |
| 5. Summary | Retention-Interval plan | or destinati | on | | | | | | | ł | |
| | Snapshots from source (| | | | | | | | | | |
| | Retention rules. A snapshot taken every | | | × 5 | | | ~ | | | | |
| | A snapshot laken every | | | V s | | X Car | < в | | Next | t > | |



• Next, please click on "Next" button.



• In "vCenter / vSphere server integration" please click on "Next" button





• In "Task properties" please enter task description, and click on "Next" button.

| Backup task wiza | ard | | |
|--|------------------|-----------|------------|
| 1. Source configuration | Task description | | cation tas |
| 2. Destination | Description: | auto-snap | |
| configuration | mbuffer | | |
| 3. vCenter / vSphere server integration | Enable mbuffer | | 91.19 |
| 4. Task properties | | | |
| 5. Summary | | | |
| | | | |
| | | | |
| | | | |
| | | | |

• Next, in "Summary" please click on the "Add" button

| Backup task wizz | | | | |
|----------------------|-------------------------------------|-------------------------------|-----------------|---------|
| Buckop tosk with | ard | | | |
| configuration | Properties | | | ce tati |
| 2. Destination | Resource path: Source retention: | Pool-0/vol00 1h every 5min | | |
| 3. vCenter / vSphere | | 3d every 15min 2w every 1h | | 2 |
| 4. Task properties | vCenter / vSphere server int | egration | | |
| 5. Summary | vCenter / vSphere: | disabled | | |
| | Task properties | | | |
| | Description: mbuffer size: | auto-snap disabled | | |
| | | | X Cancel K Back | Add |



• After completion of the "Backup task wizard" return to the "Backup & Recovery". Below you will see the "Task" you are able to see that is "Enabled".

| open-e JovianDSS | ⊙ About ③ Help 🕞 Legout ∨ |
|----------------------------|--|
| Storage | Backup & Recovery |
| O O User Management | ^ |
| Failover Settings | Tasks Destination servers vCenter / vSphere server |
| Storage Settings | Search + Add replication task Source Source retention Destination path Destination retentic Description VMware int. Status |
| Backup & Backup & Recovery | Pool-0xel00 1h every 5min auto-snap Enabled Options v 3d every 15min |
| System Settings | 2w every th Results per page: 10 V K < Page 1 of 1 > X Q |
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| | |
| Notifications 🙁 0 | ▲ 0 0 2 |

• Next, go to the "Storage" menu. Now auto-snapshots are created accordingly to a provided retention-interval plan and can be viewed in pool-menu in "Snapshots" tab.

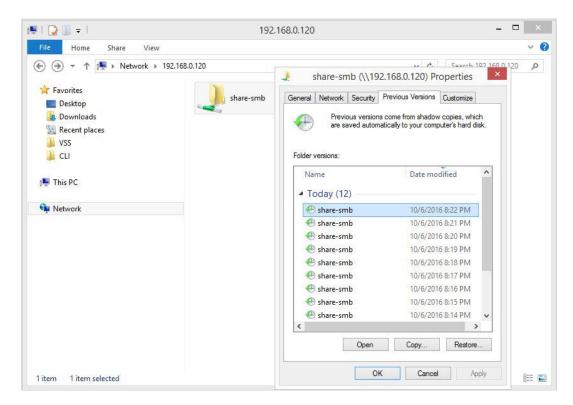
| JovianDSS | | (i) About | () Help | 🕒 Logout 🗸 |
|----------------------|--|----------------------|-----------|-------------|
| Storage | Storage | | () Rescan | + Add zpool |
| O User Management | Total storage: 143.00 GIB Disks: 9 | | | ^ |
| Failover Settings | Status Disk groups iSCSI targets Snapshots | s Shares Virtual IPs | | |
| Storage Settings | O Snapshots | | | |
| Backup & | ∧ Snapshots of zvols | | | |
| System Settings | Search Name | | | |
| | No snapshots found. | | | |
| | Snapshots of datasets Search | | | _ |
| | Name | | | |
| | e vol00 | | Options | ~ |
| | vol00@autosnap_2017-08-14-184500 | | Options | ~ |
| | Zpools available for import | ^ | | |
| | (i) Rescan required Click Rescan button above to scan disks for new zpools. | | | |
| Notifications 😵 0 | ▲ 0 0 2 | | | v |



 In the event of a file being renamed or deleted, you can view the previous version of the containing folder. Just right-click on some white space in the folder and select the "Properties" option. You can also right-click on the folder itself and select the "Properties" option as shown on the screenshot below.

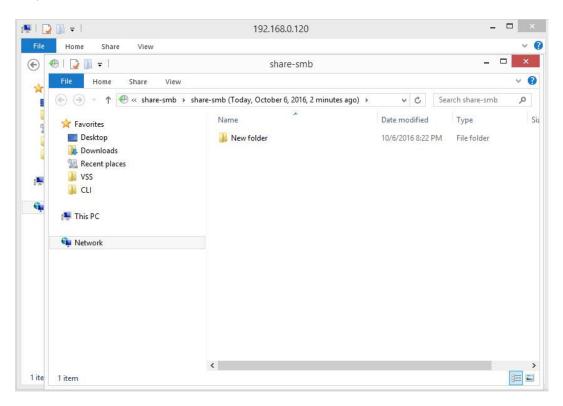
| 🖳 🔂 🗻 = I | 192.168.0.120 – 🗆 | × |
|--|--|------|
| File Home Share View | | ~ () |
| | 20 ► | P |
| Favorites Desktop Downloads Recent places VSS CLI This PC Network | share-smb Open Open in new window Restore previous versions Pin to Start Map network drive Copy Create shortcut Properties | |
| 1 item 1 item selected | l≣= | |

• In the "Previous Versions" tab, all auto-snapshots are listed.





• By double-clicking on a folder in the list, it will show the contents of the folder at the time the snapshot was made.



3.10. Creating NFS shares

• In the Pool menu select "Shares" tab. Click on the "Add dataset" button in order to create new NAS-volume.

| | | | | About He | lp 🕒 Logout |
|----------------------|---|---------------------------------|---------------------------------------|---------------------------------------|-------------------|
| Storage | Storage | | | 0 | Rescan + Add zpoo |
| User Management | - | | | | |
| Failover Settings | Pool-0 | | | | Options v |
| Storage Settings | State: | ONLINE | Status: Zpool is functioning correctl | V. | |
| | Zpool ID: | 14248819111874998222 | Action: None required. | | |
| Backup & Recovery | Total storage: | 1.63 TIB | (\mathbf{I}) | | |
| necovery | Disks: | 9 | | | |
| System Settings | | | | | |
| | Status Disk groups | s iSCSI targets | Snapshots Shares Virtual IPs | | |
| Diagnostics | O Shares | | | | + Add dataset |
| | ∧ vol00 — Shares: 1 | All active | | | |
| | Since Shares. | Anactive | | | |
| | | | | | C Options V |
| | Share name Path | | Access protocc Comments | Status | Options |
| | 1 share-smb /share-sm | ıb | SMB | Active | Options 🗸 |
| | | | ~ | | |
| | Zecols available for | imaart | | | |
| | Zpools available for | import | | | |
| | (i) Rescan required Click Rescan button abov | e to scan disks for new zpools. | | | |
| | | | | | |
| | | | | | |

• In the "Add new dataset" window enter the dataset name and click on "Apply" button.

| Storage | Add new dataset | | 2 C X | 0 | Rescan + Add zpo |
|----------------|--------------------|-------------------------------|---------------|---------|------------------|
| | Dataset properties | | | | |
| Pool-O | Name: | vol01 | | | 🗹 Options 🗸 |
| | Deduplication: | Disabled (default) | ~ | | |
| | Copies: | 1 (default) | ~ | | |
| | | Number of copies of the data. | | | |
| | Compression: | lz4 (default) | ~ | | |
| | Sync: | Always | ~ | | |
| O Shares | Log bias: | Latency (default) | ~ | | + Add dataset |
| | Primary cache: | All (default) | ~ | | |
| | Secondary cache: | All (default) | ~ | | Options V |
| | Access time: | Disabled (default) | ~ | Status | |
| | | | | Active. | |
| | Enable quota | | | _ | |
| Zpools availat | Enable reservation | | | | |
| | | ×c | ancel 🗸 Apply | | |



 Next, select the created dataset and click on the "Add share" button. Enter the share name. Optionally you can enter the subdirectory name in the dataset. If the subdirectory is not entered the share will be pointed directly to the dataset. In order create share click "Next" and confirm this action by clicking the "Yes" button.

| | n-e | | | | | | 💌 Logout 🗸 |
|---|----------------|-------------------------|------------------|---|--------|-----------|-------------|
| | | Storage | | | | () Rescan | + Add zpool |
| | | Share wizard | | | | | ^ ^ |
| | | 1. Share properties | Share properties | | | | |
| | | 2. Access protocols | Name: | share-nfs | | | |
| | | 3. User/group access | Path: | vol01/ share-nfs If you want to share whole dataset leave this input empty. | | | |
| | | 4. Summary | Comment: | n you wan to anare whole oalaase leave ana mput empty. | | | |
| | | | | X | Cancel | | dd dataset |
| | | | | | | | |
| N | otifications (| 0 40 02 | | | | | |

| Storage | () Rescan | + Add zpool |
|---------|--|-------------|
| | | |
| | | |
| | | |
| | vol01/ share-rds | |
| | Add share Specified path: vol01/share-offs does not exist. Would you like to create it? No Ves | |
| | | |



• In the "Access protocols" step, click on "Enable NFS service" confirm this action by clicking the "Yes" button and continue with "Next" button.

| Storage | | () Rescan | + Add zpoo |
|-------------------------|----------------------|-----------|------------|
| storoge | | | |
| Share wizard | | 7 🗙 | |
| 1. Share properties | NFS | | Options V |
| 2. Access protocols | Enable NFS service | | |
| 3. User/group access | C Enable NFS Service | | |
| 4. Summary | SMB | | |
| | Enable SMB service | | |
| | | | dd dataset |
| | | | |
| | | | ptions 🐱 |
| | | | bons v |
| | | | |
| | X Cancel X Back | Next > | ptions 🐱 |
| No strates | bind | | Mrs. |
| | | | |

• Confirm this action by clicking the "Yes" button and continue with "Next" button.

| Storage | | | Q Res | an 🕂 Add zpo |
|---------|-----------------------|---|--|--------------|
| | | | | |
| | NFS | | | |
| | | | | |
| | NFS path | | 8 | |
| | | NFS service for shares access is disabled. | clude correct server name or IP address (see | |
| | Read access (Pa; | Would you like to enable it? Note: NFS service will be enabled with default settings. In order to configure it go to Storage settings/Share access. | | |
| | Read/write access IP. | 🗙 No 🗸 Yes | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |



| Storage | | | | () Rescan | + Add zp |
|---|------------------------|---|-----------------------------|-----------|------------|
| Share wizard | | | | | |
| 1. Share properties | NFS | | | | Options V |
| 2. Access protocols | C Enable NFS service | | | | |
| 3. User/group access | NFS path: | /Pools/Pool-0/vol01/share-nfs | | | |
| Setter 4. Summary In order to get access to the share please make sure to include correct server name or IP address (see Help for more information) | | | | | |
| | Read access IPs: | Read access allowed for all IPs | | | dd dataset |
| | Read/write access IPs: | xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | | | |
| | Redurinite access ins. | xxx xxx xxx xxx xxx xxx xxx xxx xxx xx | | | ptions 🐱 |
| | Additional options: | Insecure connections Synchronous data record Insecure lock requests All squash No root squash | | | ons v |
| | | | X Cancel < Back | Next > | iptions 🗸 |
| No stiares | found. | | hanness and a second second | Sinna Ab | ins |
| | | | | | |

• In the "Users/groups access" step, continue with "Next" button.

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|-----------------------|-------------------------|---|---|---------------|-----------|----------------|
| | Storage | | | | () Resc | an + Add zpool |
| 👶 User Manager | Share wizard | | | | | × |
| Fallover Settin | 1. Share properties | ∧ User access — | | | ? | Options V |
| Storage Settin | 2. Access protocols | (1) SMB service disabled User access configuration is no | t available because SMB service is disab | led. | | |
| | 3. User/group access | Name | | | | |
| 53 System Settin | 4. Summary | | | | | |
| Diagnostics | | Group access | | | | G dd dataset |
| | | (i) SMB service disabled Group access configuration is n | not available because SMB service is disa | bled. | | |
| | | | | | | ptions |
| | | | | | | ons |
| | | | | | | ions 🗸 |
| | | | | X Cancel < Ba | ck Next > | iptions 🗸 |
| | No shares | found. | | | | |
| | | | | | | |
| Notifications (| 9 0 🔺 0 () 3 | | | | | |



• In the "Summary" step, to complete click the "Add" button. Now the NFS share is ready to mount.

| Storage | | | | () Resci | an + Add zpod |
|-------------------------|-----------------------|---|------------------------------|-------------|---------------|
| Share wizard | | | | | |
| 1. Share properties | Properties | | | | ▲ Options ↓ |
| 2. Access protocols | Name | share-nfs | | | |
| 3. User/group access | Path Comment | vol01/share-nfs | | | |
| 4. Summary | | | | | |
| | NFS | | | | |
| | Read access IPs | | | | dd dataset |
| | Read/write access IPs | Insecure connections | | | |
| | Additional options | Insecure connections Synchronous data record | × | | ptions 🗸 🗸 |
| | | Insecure lock requests | × | | 005 |
| | | No root squash | × | | bons 🗸 |
| | | All squash | × | | |
| | | | X Cancel K Back | 🗸 Add | ptions 🗸 |
| No stiares | s found. | | oricosas humana esterminenta | - Aller - A | appending a |
| | | | | | |

• In order to change the NFS share settings, click on the share "Options" drop-down menu. In order to change the dataset setting, click on the "Edit dataset" in dataset "Options" drop-down menu.

| lovianDSS | | ① Abou | t ⑦ Help | 🕒 Logout |
|----------------------|---|---|-----------|-------------|
| Storage | Storage | | () Rescan | + Add zpool |
| User Management | | | | |
| Failover Settings | Pool-O | | | Options v |
| Storage Settings | Zoool ID: 14248819111874998222 | Status: Zpool is functioning correctly. | | |
| Backup & Recovery | Total storage: 1.63 TIB | | | |
| System Settings | Disks: 9 | | | |
| Diagnostics | Status Disk groups iSCSI targets Snapshots O Shares | Shares Virtual IPs | + | Add dataset |
| | ∧ vol00 — Shares: 1 — All active — | | | Options v |
| | Share name Path | Access protocc Comments | | ions |
| | 1 share-smb /share-smb | SMB | | ptions v |
| | ∧ vol01 — Shares: 1 — All active — | | | |
| | | | | Options 🗸 |
| | Share name Path | Access protocc Comments | Status Op | ions |
| | 1 share-nfs /share-nfs | NFS | Active O | ptions v |
| | | ~ | | |



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