

Proxmox VE Storage

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[How-To] Create and Manage iSCSI Storage on Proxmox VE

Purpose

This How-To will guide you in creating and managing your iSCSI storage in the Proxmox Virtual Environment.

Prerequisites

List of prerequisites:

- Proxmox VE Node (Minimum 1)
- Root Credentials to Proxmox VE Node
- iSCSI LUN created on a remote storage target

Adding iSCSI Storage in Proxmox VE

Step 1: Add the iSCSI Storage in Web UI

The first step is to add the storage iscsi lun in the proxmox web UI. This step assumes you already have the iSCSI lun created, target created, and available/allowed network-wise to get to the proxmox node. Login to proxmox and go to datacenter, storage. Then click add, iSCSI.



Within the Add iSCSI Storage window, give your iscsi storage a name in the ID: field. Then, enter the DNS or IP name of the target the iSCSI storage is available on. Then, use the drop-down list to select the correct target. Leave all nodes selected by default and leave enable checked. Make sure to uncheck Use LUNs directly.

The image shows the 'Add: iSCSI' configuration window. The window has a title bar with a close button. Below the title bar, there are two tabs: 'General' (selected) and 'Backup Retention'. The 'General' tab contains the following fields:

- ID: iscsi-storage-a
- Portal: 192.168.1.10
- Target: (empty dropdown menu)
- Nodes: All (No restrictions)
- Enable:
- Use LUNs directly:

At the bottom of the window, there is a 'Help' button on the left and an 'Add' button on the right.

Checking "Use LUNs directly:" will allow vms disk images to be placed directly on the raw lun storage. This is not sharable to more than 1 PVE node. Unless you have a specific use case, the best practice is to not check this and create LVM with LUN.

Once you have this ready, click Add. This will map the iSCSI storage to each PVE node you have in the cluster. You may notice that the storage shows up as not active or with a "?" next to it on some nodes. You just need to rediscover it. Run this command on the affected nodes shell, the IP address being the IP of the iSCSI storage target:

```
iscsiadm -m discovery -t sendtargets -p 192.168.1.10
```

Once you've done this, it should be available on the PVE node. You can verify with this command:

```
iscsiadm -m session
```

Once your storage has shown up and is working on all PVE nodes, you can move to the next step.

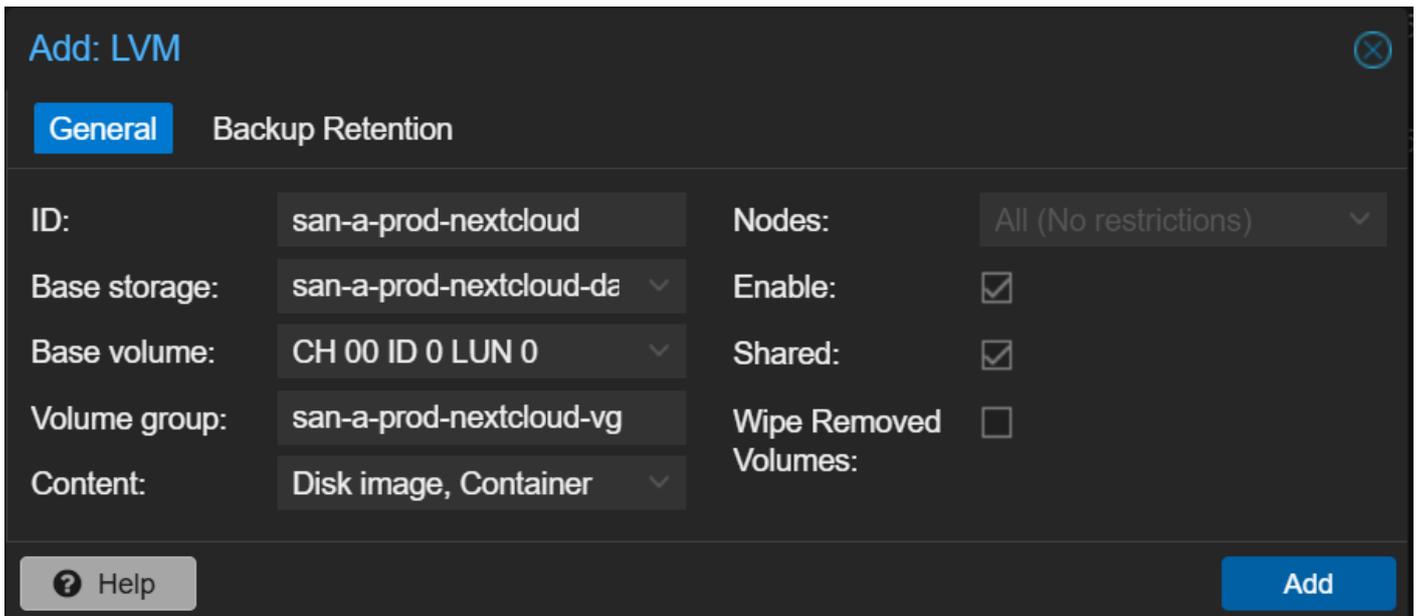
Step 2: Create an LVM on Raw LUN Space

Now that your iSCSI storage is available on all PVE nodes, you need to make it usable for VMs/LXCs. The easiest way to do this is to create an LVM on the raw LUN space. To do this, again go to Datacenter, storage. Then, add, LVM.



Once you are in the Add LVM window, give your iSCSI-backed LVM a name in the ID: field. Then, select the iSCSI storage as the Base storage. In the base volume, select the raw LUN storage on the iSCSI target. In Volume group, give a name. I usually follow what I set for the ID and add -vg to keep it simple. Select what content you want available, leave all nodes default selected, leave

enable selected, check shared, and leave wipe not selected.



The screenshot shows the 'Add: LVM' configuration window in Proxmox VE. The 'General' tab is selected, and the 'Backup Retention' sub-tab is also visible. The configuration fields are as follows:

Field	Value	Field	Value
ID:	san-a-prod-nextcloud	Nodes:	All (No restrictions)
Base storage:	san-a-prod-nextcloud-da	Enable:	<input checked="" type="checkbox"/>
Base volume:	CH 00 ID 0 LUN 0	Shared:	<input checked="" type="checkbox"/>
Volume group:	san-a-prod-nextcloud-vg	Wipe Removed Volumes:	<input type="checkbox"/>
Content:	Disk image, Container		

At the bottom, there is a 'Help' button on the left and an 'Add' button on the right.

Once finished, select Add. This will add the LVM to all PVE nodes. If you see it show up as available storage to some nodes but inactive or with a "?" next to it for others, run this command on the inactive nodes shell:

```
vgcfgrestore new-volume-group
```

Replace new-volume-group with the actual name of your new volume group from above. This should resolve the issues. With storage available on all nodes, you should be finished. Now you can begin to move VMs and LXCs to the new storage over ISCSI. This will allow you to migrate between PVE nodes without changing storage.

Removing ISCSI Storage in Proxmox VE

Step 1: Remove the ISCSI Storage in Web UI

The first step is to remove both the lvm and the iscsi device in the us at the data center level.

Step 2: Remove the ISCSI Storage in Shell on each host

Run the following on each host to discovery/locate the desired iscsi lun to be deleted:

```
iscsiadm -m session
```

Then, run the following on each host shell, inserting the name of the IQN from the last command for the iscsi lun you want deleted:

```
iscsiadm -m node -T iqn.2005-10.org.freenas.cti:test-storage -u
```

After this, run the first command again to verify it isn't there. Then move onto the next host until completed.