napp-it cs Client Server Edition

ZFS Storageserver GUI for (m)any ZFS server

Proxmox as NAS

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# Howto

- 1. Concept
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- 3. Basic Storage http Web-GUI
- 4. Apache for https Web-GUI

#### 1. Proxmox Concept

Proxmox is a Linux server OS based on Debian. It is optimized as VM server platform for Container or Full OS virtualisation via KVM but as it comes with newest OpenZFS per default you can use it for

- A.) Pure VM server as a replacement for ESXi but with ZFS In this scenario you keep it as minimalistic as possible with all services in a VM
- B.) VM server with NAS services like NFS or SMB installed For https storage management via web-gui add Apache webservices, all other services in VMs
- C.) Common Linux server
  Use it like Debian but with superiour VM options and ZFS preinstalled

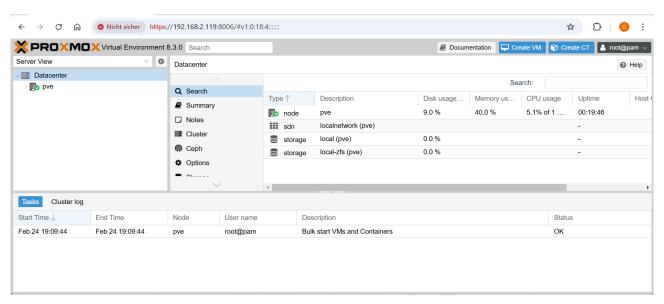
### 2. Setup for Proxmox 8.3 and option B. (Proxmox as basic NAS)

for easier configuration, use Putty and WinSCP (portable Windows Apps)

**2.1. Boot iso and install** (or usb installer created from iso with Rufus) select ZFS (or ext4) for bootdevice in setup options, set a root pw



# 2.1.2 Manage VMs (only very basic storage management options) https://<ip>:8006



for advanced storage management add a ZFS web-gui add-on like Cockpit or napp-it cs

#### 2.2. Connect Proxmox via Putty as root (ip from setup message)

#### 2.3.) install/ enable basic NAS services

Connect Proxmox via Putty remote console as root (Putty can copy/paste via mouse right click)

#### 2.4 update/load available application list

root@pve:~# apt update

A possible message ending with : can be confirmed with a q otherwise confirm with <enter>

### 2.5 install midnight commander (console filebrowser and editor)

root@pve:~# apt install mc

#### 2.6.1 install SAMBA (common SMB server)

root@pve:~# apt-install samba config file: /etc/samba/smb.conf

#### minimal smb.config for a share /tank/data

```
[global]
map to guest = Bad User
guest account = nobody
writeable = yes

[data]
path = /tank/data
; enable either guest ok or valid users (groupmembers)
; valid users = @staff
guest ok = yes
read only = no
```

prior using the share you must make the folder writable root@pve:~# chmod 777 /tank/data

# Start/Stop SAMBA:

root@pve:~# systemctl stop samba
root@pve:~# systemctl start samba
root@pve:~# systemctl restart samba

now you can use the share via SMB and SAMBA anonymously

### 2.6.2 or install ksmbd (kernelbased high performance SMB server)

As an alternative install ksmbd **instead** SAMBA (faster than SAMBA) For ksmbd (kernelbased SMB) you need to add sid repository (sid=newer unstable as ksmbd in bookworm is buggy)

edit sources /etc/apt/sources.list (list of repositories, WinSCP), add deb http://ftp.de.debian.org/debian sid main

```
then reload repositories root@pve:~# apt update
```

A possible message ending with : can be confirmed with a q otherwise confirm with <enter>

root@pve:~# apt install ksmbd-tools
root@pve:~# modprobe ksmbd

#### Then create/edit

/etc/ksmbd/ksmbd.conf (SAMBA smb.conf alike settings), use the example file as template (WinSCP)

#### minimal ksmb.config for a share /tank/data

```
[global]
map to guest = Bad User
guest account = nobody
writeable = yes

[data]
path = /tank/data
; enable either guest ok or valid users (groupmembers)
; valid users = @staff
guest ok = yes
read only = no
```

#### Start/Stop ksmbd:

root@pve:~# systemctl stop ksmbd
root@pve:~# systemctl start ksmbd
root@pve:~# systemctl restart ksmbd

To make a share ex tank/data anonymous writeable root@pve:~# chmod 777 /tank/data now you can use the share via SMB and ksmbd anonymously

## 2.7 install NFS (kernelbased NFS server, optionally)

root@pve:~# apt install nfs-kernel-server edit shares in /etc/exports (WinSCP)

#### Start NFS

root@pve:~# systemctl start/stop/restart nfs-kernel-server

We now have a working NAS server with SMB or NFS

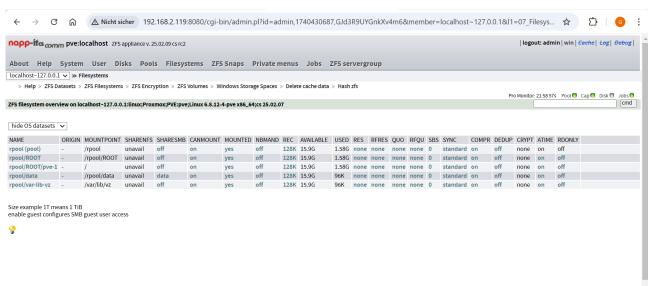
The included Proxmox web-gui https://<IP-Adress>:8006 has VM management options but lacks advanced ZFS storage features. You can solve this with a web-gui add on for storage like Cockpit or napp-it cs (no storage VM needed)

#### 3. add storage related web-gui (napp-it cs release candidate, optionally, free for noncommercial use)

Download https://www.napp-it.org/doc/downloads/napp-it\_cs.zip and unzip

Upload folder csweb-gui to /var (WinSCP) start web-gui (Putty, copy/paste command with a mouse rightclick) sh /var/csweb-gui/data/webserver/mhttpd/linux/mini-httpd.sh

### Open web-gui: http://<ip>:8080 (mini\_httpd, http only)





# 4. use Apache instead mini\_httpd (http and https) on Proxmox /Free-BSD/ OSX (napp-it cs newer 25.02.25)

This allows keymanagement and encrypted https transfers of data root@pve:~# apt install apache2

Apache configuration (webroot, cgi and certificates): /etc/apache2
Apache defaults are in csweb-gui/data/webserver/apache/\*/config.defaults

# **4.1 Enable and start web-gui on Apache and backend services start in napp-it cs** root@pve:~# sh /var/csweb-gui/data/webserver/apache/proxmox/apache\_proxmox.sh

This configures and enables (for reboot) and starts all needed services like Apache and background services auto.pl, monitor.pl and server.pl

Active Apache config: /var/csweb-gui/cfg/apache/proxmox/config.active/ You can modify Apache settings there (update save)

If you use Apache with https, you can remotely manage a servergroup with encrypted transfers for data and keys.