# Backup

- Synology Hyper Backup
- Syncthing
- Proxmox Backup Server 4
- iCloud
- BorgBackup
- Nextcloud
- Restic

# Synology Hyper Backup

## Links

Language can be changed on bottom right
Supported Models

https://www.synology.com/en-global/dsm/packages/HyperBackup

Hyper Backup Technical Specifications

https://www.synology.com/en-global/dsm/7.2/software_spec/hyper_backup

Hyper Backup Quick Start Guide

https://kb.synology.com/en-global/DSM/tutorial/Quick_Start_Hyper_Backup

Hyper Backup Data Backup

https://kb.synology.com/en-global/DSM/help/HyperBackup/data_backup?version=7

# Syncthing

Syncthing is generally not a backup tool. But as we use snapshots on the ZFS pool, which can't be destroyed from syncthing, it's not a plain syncing tool which in the worst case would sync ransomware encrypted files in real time and cause data loss on all devices.

The Syncthing GUI will be available through the provided link after deployment.

To prefill the Syncthing dataset on your ZFS pool before sending it, install as described in Install Syncthing. You don't need to do this if you don't want to prefill the pool on your site.

# Proxmox Backup Server 4

The use of a separate Proxmox Backup Server for uploading backups from another Proxmox Backup Server on HDD-Housing may offer greater security against ransomware and attackers. The Proxmox Backup Server connected to HDD-Housing should be operated in pull mode. If operating in push mode is necessary, you can find the necessary permissions here:

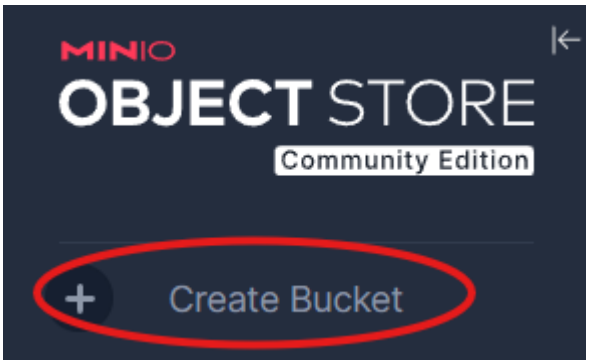
https://pbs.proxmox.com/docs/managing-remotes.html#sync-direction-push

If you want to backup multiple Proxmox Backup Server, use namespaces or create seperate buckets and a Datastore for each bucket.

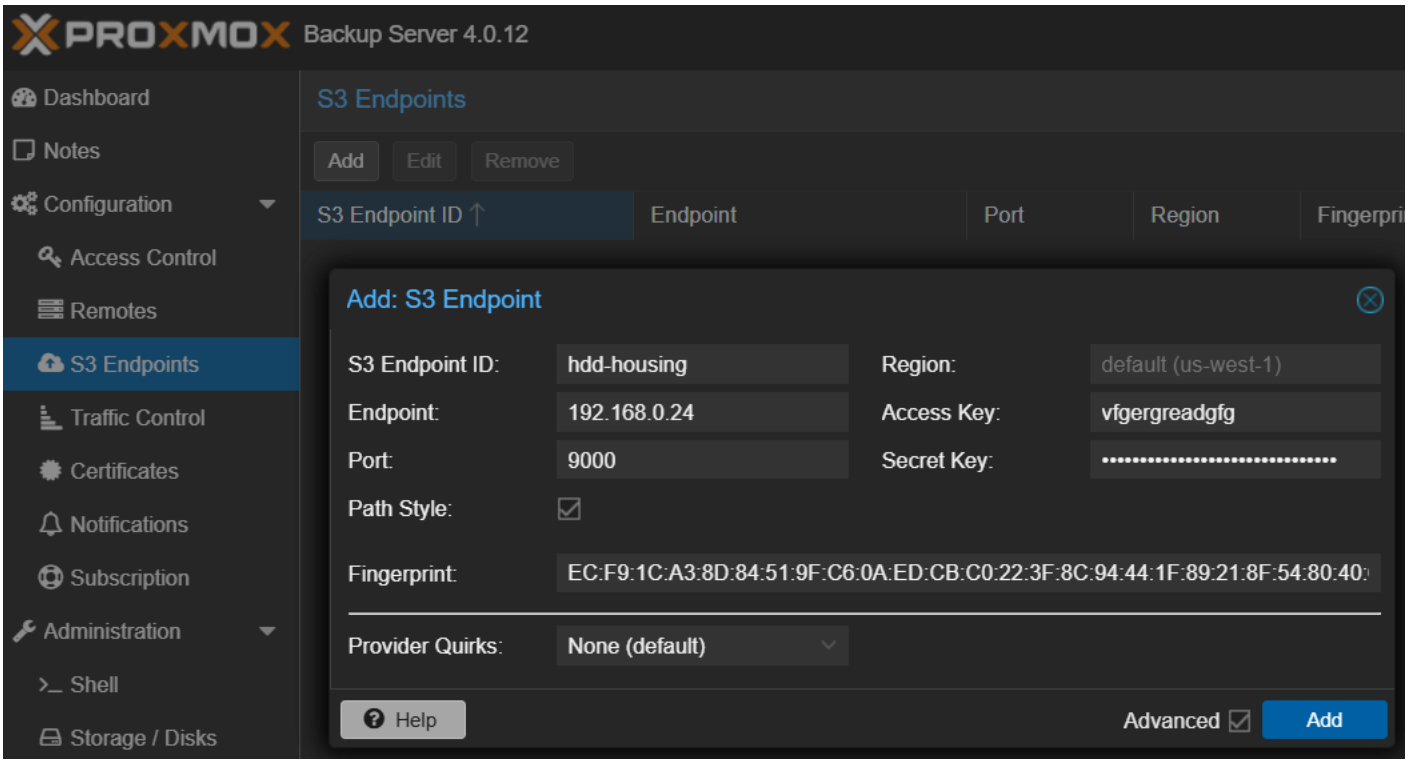
Documentation Proxmox Backup Server: https://pbs.proxmox.com/docs/index.html

# Create a bucket in Minio

By clicking `Create Bucket` in Webgui on the top left and name it `pbs`:




# Configure HDD-Housing S3 Storage in Proxmox Backup Server 4

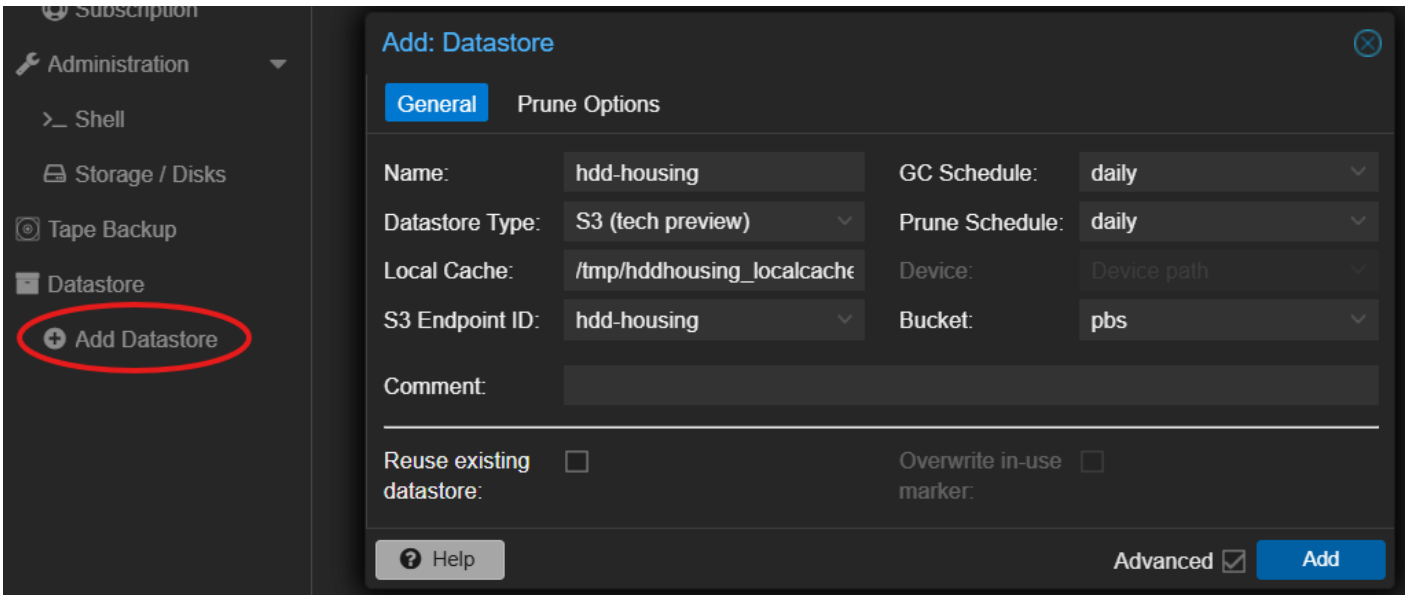



> Note: How to get the fingerprint from self signed certificate is shown in Install Minio S3 Storage Server on Debian/Ubuntu

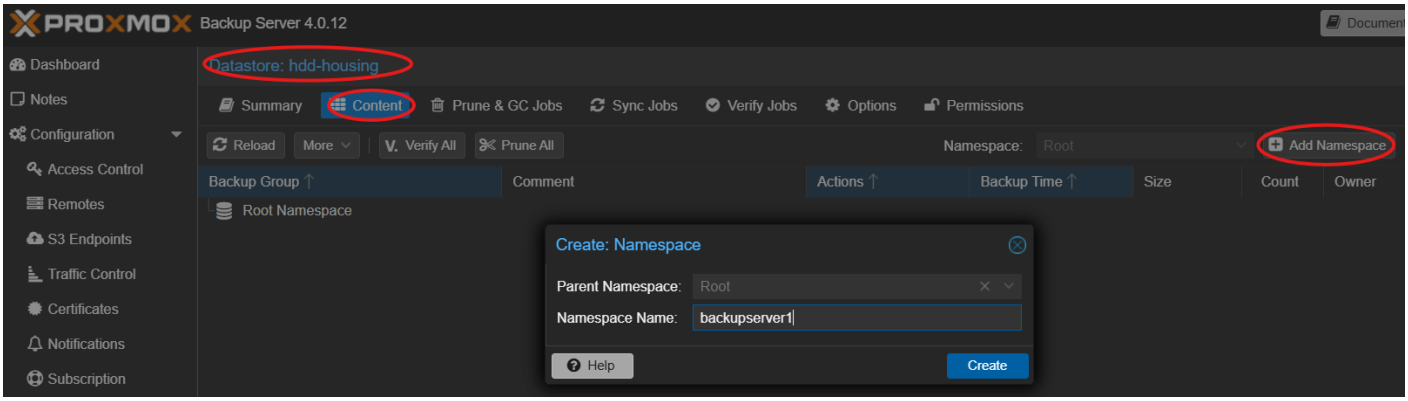
# Create Datastore

```
mkdir /tmp/hddhousing_localcache
```

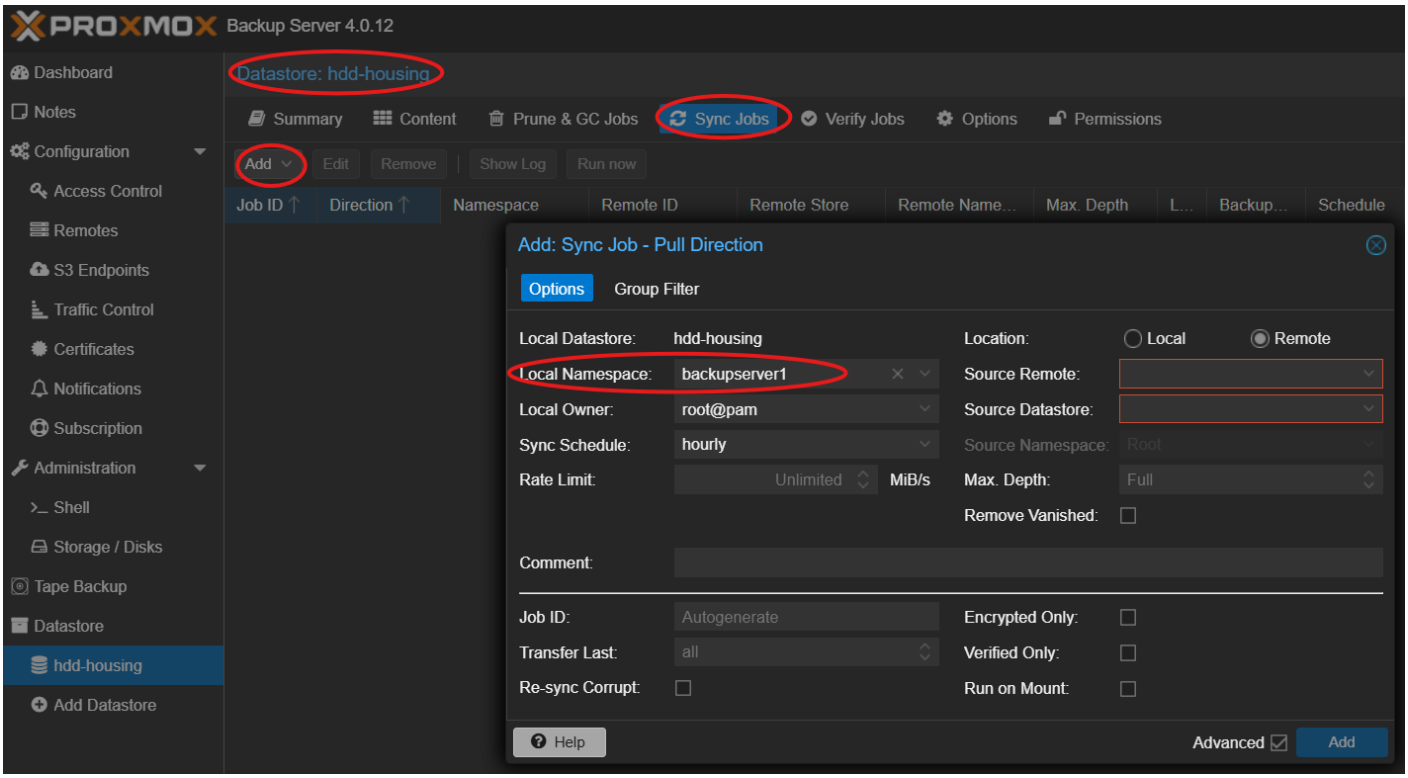
Click `Add Datastore` and configure to your needs, example:



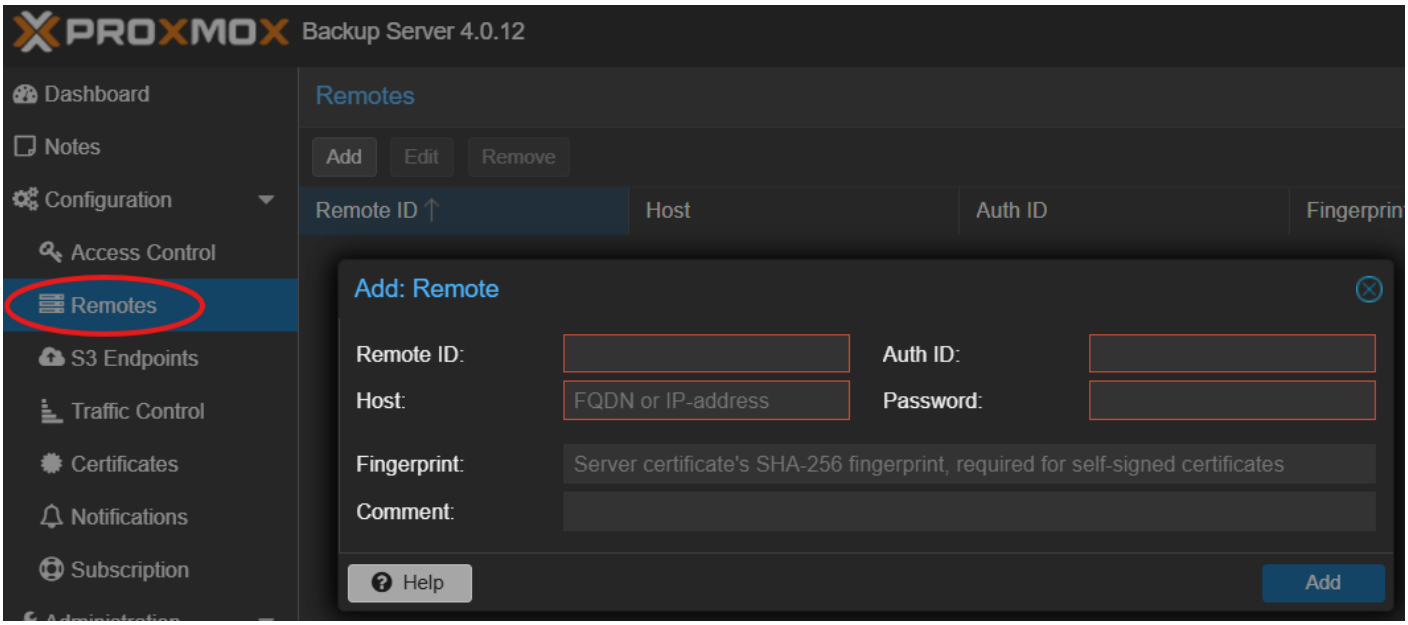
# Create namespaces




# Use namespaces for Pull Sync Jobs




> Remotes must be configured first, see screenshot below. Click the Help button for further assistance.


PROXMOX Backup Server 4.0.12
Dashboard
Notes
Configuration
Access Control
Remotes
S3 Endpoints
Traffic Control
Certificates
Notifications
Subscription
Remotes
Add
Edit
Remove
Remote ID
Host
Auth ID
Fingerprin
Add: Remote
Remote ID:
Auth ID:
Host:
FQDN or IP-address
Password:
Fingerprint:
Server certificate's SHA-256 fingerprint, required for self-signed certificates
Comment:
Help
Add

# iCloud

This article https://www.heise.de/news/iCloud-Daten-Mac-App-sichert-Drive-und-Fotos-10508960.html (for macOS, behind paywall and in german) describes some options like https://www.parachuteapps.com/parachute
and
https://support.bombich.com/hc/en-us/articles/20686419951767-Backing-up-the-content-of-cloud-storage-volumes

Currently we have no Apple devices to try them out ourselves.

# BorgBackup

BorgBackup (Borg for short) provides:

- Space-efficient storage of backups.
- Secure, authenticated encryption.
- Compression: lz4, zstd, zlib, lzma, or none.
- Mountable backups with FUSE.
- Easy installation on multiple platforms: Linux, macOS, BSD, ...
- Free software (BSD license).
- Backed by a large and active open-source community.

It is available for

- Linux
- FreeBSD
- MacOS

https://www.borgbackup.org/

# Configure HDD-Housing S3 Storage in BorgBackup

# Nextcloud

This articel describes how to backup Nextcloud to S3 Storage hosted by HDD-Housing.

# Configure HDD-Housing S3 Storage in Rclone

## 1. Configure S3 Remote

Install rclone and run:

```
rclone config
```

Follow the prompts to create a new remote (name it mys3) using the s3 provider.

## 2. Create a Backup Script

A proper backup requires a database dump before the transfer. Create a script (backup.sh):

```
# 1. Put Nextcloud in maintenance mode
sudo -u www-data php /var/www/nextcloud/occ maintenance:mode --on

# 2. Dump the database (example for MariaDB)
mysqldump --single-transaction -u [user] -p[password] [db_name] > /tmp/nextcloud-db.sql

# 3. Sync to S3 (Data + Config + DB Dump)
rclone sync /var/www/nextcloud/data mys3:my-bucket/data/
rclone sync /var/www/nextcloud/config mys3:my-bucket/config/
rclone copy /tmp/nextcloud-db.sql mys3:my-bucket/database/

# 4. Turn off maintenance mode
sudo -u www-data php /var/www/nextcloud/occ maintenance:mode --off
```

# Restic

## Install Restic

```
apt update
apt install restic
```

## Configure

Create `restic_env.sh` with content:

```
export AWS_ACCESS_KEY_ID="access_key"
export AWS_SECRET_ACCESS_KEY="secret_key"

export RESTIC_REPOSITORY="s3:http://IP-OR-DNS:7070/bucket"

# Password for Restic-Encryption (DO NOT LOOSE! MANDATORY FOR RESTORE!)
export RESTIC_PASSWORD="good_password_that_you_never_forget"
```

Then init the repo

```
source restic_env.sh
restic init
```

## Backup Script

Create `restic_backup.sh` with content:

```
export AWS_ACCESS_KEY_ID="access_key"
export AWS_SECRET_ACCESS_KEY="secret_key"
export RESTIC_REPOSITORY="s3:http://IP-OR-DNS:7070/bucket"
export RESTIC_PASSWORD="good_password_that_you_never_forget"
```

```
#Backups all listed paths to one restic snapshot
restic backup /etc /var/www /home/user/data
```