

📄 Deploying Nextcloud AIO with NFS Storage

📄 Guide Overview

Title: Deploying Nextcloud AIO with NFS Storage

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Description: This guide walks through deploying Nextcloud All-in-One (AIO) using Docker Compose with NFS-mounted storage on Ubuntu Server. It includes all steps from base OS setup to application deployment.

Difficulty Level: Intermediate 📄

Estimated Time: 20-30 minutes

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☐☐ Purpose

To deploy a fully-featured Nextcloud AIO server using Docker Compose, configured to use NFS storage for persistent data.

☐☐ Requirements

- Ubuntu Server 22.04 LTS or newer
- Static IP assigned (e.g., 192.168.100.19)
- NFS server available at 192.168.100.11
- Two NFS exports:

```
/mnt/hdd-storage/nfs-nextcloud  
/mnt/hdd-storage/nfs-aio-config
```

☐☐ Install Docker and Docker Compose

```
sudo apt update  
sudo apt install -y nfs-common ca-certificates curl gnupg lsb-release  
  
# Add Docker GPG key and repo  
sudo mkdir -p /etc/apt/keyrings  
curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /etc/apt/keyrings/docker.gpg  
echo "deb [arch=$(dpkg --print-architecture) signed-by=/etc/apt/keyrings/docker.gpg]  
https://download.docker.com/linux/ubuntu $(lsb_release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list  
> /dev/null  
  
# Install Docker  
sudo apt update  
sudo apt install -y docker-ce docker-ce-cli containerd.io docker-compose-plugin  
  
# Enable and start Docker  
sudo systemctl enable docker
```

```
sudo systemctl start docker
```

☐☐ Configure NFS Exports on Your NFS Server

Ensure these lines are in your `/etc/exports` file on the NFS server:

```
/mnt/hdd-storage/nfs-nextcloud *(rw,no_root_squash,sync,no_subtree_check)
/mnt/hdd-storage/nfs-aio-config *(rw,no_root_squash,sync,no_subtree_check)
```

Apply the exports:

```
sudo exportfs -ra
```

☐☐ Deploy Nextcloud AIO with Docker Compose

```
mkdir -p ~/nextcloud-aio
cd ~/nextcloud-aio
curl -O https://chat.openai.com/mnt/data/nextcloud-aio-with-nfs-volumes.yml
mv nextcloud-aio-with-nfs-volumes.yml docker-compose.yml
docker compose up -d
```

Once deployed, access the AIO interface via:

```
http://192.168.100.19:8080
```

☐☐ Expected Results

- Access to AIO web interface
- Auto-deployment of subcontainers (db, redis, collabora, cron, etc.)
- Persistent storage on NFS shares

☐ Troubleshooting

Issue	Cause	Fix
Nextcloud fails to initialize	NFS permissions or export missing	Check <code>/etc/exports</code> and re-export
Upload limit too low	PHP or env limits	Check <code>NEXTCLOUD_UPLOAD_LIMIT</code> in compose file
AIO container won't start	Docker permissions	Ensure docker.sock is mounted read-only

☐ Final Notes

- All environment customization is handled via `docker-compose.yml`
- This method is clean, portable, and restart-safe
- Back up your NFS shares regularly via ZFS snapshot or rsync

☐ Docker Compose File Used

Below is the exact `docker-compose.yml` configuration used to deploy Nextcloud AIO with NFS integration:

```
version: "3.8"

volumes:
  nextcloud_aio_mastercontainer:
    name: nextcloud_aio_mastercontainer
  nextcloud_ncdata:
    driver: local
    driver_opts:
      type: "nfs"
      o: "addr=192.168.100.11,nfsvers=4,soft,timeo=900,retrans=5,rw,noatime,nolock"
      device: ":/mnt/hdd-storage/nfs-nextcloud"

services:
  nextcloud:
    image: nextcloud/all-in-one:latest
    restart: unless-stopped
```

```
container_name: nextcloud-aio-mastercontainer
volumes:
  - nextcloud_aio_mastercontainer:/mnt/docker-aio-config
  - nextcloud_ncdata:/mnt/ncdata
  - /var/run/docker.sock:/var/run/docker.sock:ro
ports:
  - 8080:8080
environment:
  - APACHE_PORT=11000
  - APACHE_IP_BINDING=0.0.0.0
  - NEXTCLOUD_DATADIR=/mnt/ncdata
  - NEXTCLOUD_MEMORY_LIMIT=4096M
  - NEXTCLOUD_UPLOAD_LIMIT=50G
  - NEXTCLOUD_MAX_TIME=3600
  - NEXTCLOUD_ADDITIONAL_APKS=imagemagick ocrmypdf
  - NEXTCLOUD_ADDITIONAL_PHP_EXTENSIONS=imagick
  - TALK_PORT=3478
  - NEXTCLOUD_URL=https://cloud.msllspartners.com
  - SKIP_DOMAIN_VALIDATION=true
  - NEXTCLOUD_ADDITIONAL_CONFIG=\
    "trusted_proxies" => ["192.168.100.1"],\n\
    "forwarded_for_headers" => ["HTTP_X_FORWARDED_FOR"],\n\
    "overwrite.cli.url" => "https://cloud.msllspartners.com",\n\
    "overwritehost" => "cloud.msllspartners.com",\n\
    "overwriteprotocol" => "https",\n\
    "default_phone_region" => "US"
```

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