

Nextcloud on Synology DSM 7.2

Assets

- Synology DiskStation DS716+II with 8GB RAM installed and running DSM 7.2
- Linux Web Server running Debian 12

Linux Web Server

We need to install a reverse proxy on the machine exposed to the internet to access Nextcloud.

1. Follow the [Reverse Proxy Documentation](#) and expand the “Apache” instructions
2. Create a subdomain for your domain, for example “cloud.yourdomain.com”. The VirtualHost definition should look like this:

```
<VirtualHost *:80>
    ServerName <cloud.yourdomain.com>

    RewriteEngine On
    RewriteCond %{HTTPS} off
    RewriteRule (.*?) https://%{HTTP_HOST}%{REQUEST_URI}
    RewriteCond %{SERVER_NAME} =<cloud.yourdomain.com>
    RewriteRule ^ https://%{SERVER_NAME}%{REQUEST_URI}
[END,NE,R=permanent]
</VirtualHost>

<VirtualHost *:443>
    ServerName <cloud.yourdomain.com>
    ServerAdmin you@yourdomain.com
    php_value date.timezone "your/timezone"
    ErrorLog ${APACHE_LOG_DIR}/nc-error.log
    CustomLog ${APACHE_LOG_DIR}/nc-access.log combined

    # Reverse proxy based on
    https://httpd.apache.org/docs/current/mod/mod_proxy_wstunnel.html
    RewriteEngine On
    ProxyPreserveHost On
    RequestHeader set X-Real-IP %{REMOTE_ADDR}s
    AllowEncodedSlashes NoDecode
    # Adjust the two lines below to match APACHE_PORT and
    APACHE_IP_BINDING. See
    https://github.com/nextcloud/all-in-one/blob/main/reverse-proxy.md#adap
    ting-the-sample-web-server-configurations-below
    ProxyPass / http://your.nas.ip.addr:11000/ nocanon
    ProxyPassReverse / http://your.nas.ip.addr:11000/
    RewriteCond %{HTTP:Upgrade} websocket [NC]
    RewriteCond %{HTTP:Connection} upgrade [NC]
```

```

RewriteCond %{THE_REQUEST} "^[a-zA-Z]+ /(.*) HTTP/\d+(\.\d+)?$"
RewriteRule .? "ws://your.nas.ip.addr:11000/%1" [P,L,UnsafeAllow3F]
# Adjust to match APACHE_PORT and APACHE_IP_BINDING. See
https://github.com/nextcloud/all-in-one/blob/main/reverse-proxy.md#adap
ting-the-sample-web-server-configurations-below

# Enable h2, h2c and http1.1
Protocols h2 h2c http/1.1
# Solves slow upload speeds caused by http2
H2WindowSize 5242880

# TLS
SSLEngine on
SSLProtocol -all +TLSv1.2 +TLSv1.3
SSLCipherSuite ECDHE-ECDSA-AES128-GCM-SHA256:ECDHE-RSA-
AES128-GCM-SHA256:ECDHE-ECDSA-AES256-GCM-SHA384:ECDHE-RSA-AES256-GCM-
SHA384:ECDHE-ECDSA-CHACHA20-POLY1305:ECDHE-RSA-CHACHA20-POLY1305:DHE-
RSA-AES128-GCM-SHA256:DHE-RSA-AES256-GCM-SHA384:DHE-RSA-CHACHA20-
POLY1305
SSLHonorCipherOrder off
SSLSessionTickets off

# If running apache on a subdomain (eg. nextcloud.example.com) of a
domain that already has an wildcard ssl certificate from certbot on
this machine,
# the <your-nc-domain> in the below lines should be replaced with
just the domain (eg. example.com), not the subdomain.
# In this case the subdomain should already be secured without
additional actions
SSLCertificateFile
/etc/letsencrypt/live/cloud.yourdomain.com/fullchain.pem
SSLCertificateKeyFile
/etc/letsencrypt/live/cloud.yourdomain.com/privkey.pem

# Disable HTTP TRACE method.
TraceEnable off
<Files ".ht*">
    Require all denied
</Files>

# Support big file uploads
LimitRequestBody 0
Timeout 86400
ProxyTimeout 86400
</VirtualHost>

```

3. Enable HTTP/2:

```

sudo a2enmod http2
systemctl restart apache2

```

Installation

1. Follow the detailed instructions in [Nextcloud All-in-One](#)
2. Specific instructions for the reverse proxy are in the [Reverse Proxy Documentation](#)
3. SSH into your NAS and find the API version of your docker instance:

```
sudo docker version
```

4. Find the *API version* from the output and add it to the environment of the docker run command, in this example *1.43*, with `--env DOCKER_API_VERSION=1.43`
5. SSH into your NAS and run the following command:

```
sudo docker run \  
--init \  
--sig-proxy=false \  
--name nextcloud-aio-mastercontainer \  
--restart always \  
--publish 8080:8080 \  
--env DOCKER_API_VERSION=1.43 \  
--env APACHE_PORT=11000 \  
--env APACHE_IP_BINDING=0.0.0.0 \  
--env APACHE_ADDITIONAL_NETWORK="" \  
--env SKIP_DOMAIN_VALIDATION=false \  
--env NEXTCLOUD_DATADIR="/volume1/docker/nextcloud/data" \  
--env NEXTCLOUD_MOUNT="/volume1/" \  
--volume nextcloud_aio_mastercontainer:/mnt/docker-aio-config \  
--volume /var/run/docker.sock:/var/run/docker.sock:ro \  
ghcr.io/nextcloud-releases/all-in-one:latest
```

6. **WARNING:** do not point **NEXTCLOUD_DATADIR** to `/volume1`, as nextcloud will change ownership and permissions of the folder indicated here and break the entire functionality of your NAS. Instead, add **NEXTCLOUD_MOUNT** to later be able to access shared folders.
7. If you need to change any of the options above including environment variables after your first setup of Nextcloud AIO do the following:
 1. Stop the `nextcloud-aio-mastercontainer` in *Container Manager* of your Synology DSM
 2. Remove the `nextcloud-aio-mastercontainer` in *Container Manager*, but not any other container
 3. SSH into your NAS and execute the original *docker run* command with the changed options
 4. Log back into *Nextcloud AIO*, stop and then start again all Containers from within *Nextcloud AIO*

Nextcloud AIO Configuration

- When done, open a web browser and point it to `https://your.nas.ip.addr:8080` and follow the on-screen instructions in *Nextcloud AIO* to setup all related Nextcloud containers
- Select *Whiteboard*, de-select all other containers
- Select "Nextcloud Hub 25 Autumn" and start the installation

- Note that it will take time to download, install, and start all related containers

NextCloud Configuration

- Login to NextCloud as default admin, take the temporary password from the nextcloud-aio interface
- Create a new user with admin permissions and disable the default admin
- Enable TOTP for all users in *Personal Settings* -> *Personal (left pane)* -> *Security*
- Set Email SMTP in *Administration Settings* -> *Administration (left pane)* -> *Basic Settings*
- Enforce two-factor authentication in *Administration Settings* -> *Administration (left pane)* -> *Security*
- Check *Administration Settings* -> *Administration (left pane)* -> *Overview for Security and setup warnings*
 - Login to DSM with SSH and add the php config variable at
/volume1/@docker/volumes/nextcloud_aio_nextcloud/_data/config/config.php
- Enable *External Storage app*
- Check logs and health of running containers: SSH into DSM, then:

```
sudo docker ps
sudo docker logs -f nextcloud-aio-mastercontainer
sudo docker logs -f nextcloud-aio-apache
```

- If your Nextcloud is running and you are logged in as admin in your Nextcloud, you can easily log in to the AIO interface by opening <https://yourdomain.tld/settings/admin/overview> which will show a button on top that enables you to log in to the AIO interface by just clicking on this button.

Security & setup warnings

Mimetype migration

- Login to NextCloud CLI

```
docker exec -it nextcloud-aio-nextcloud bash
```

- Execute

```
sudo -E -u www-data php occ maintenance:repair --include-expensive
```

Email

- Enter your email SMTP credentials

Attach external storage

- SSH into your DSM and add 'nextcloud' as user and group with ID to /etc/passwd and /etc/group
- [Add External Storage On Your Nextcloud: Complete Setup Guide!](#)

Links

- [Nextcloud All-in-One](#)
- [Reverse Proxy Documentation](#)
- [How to allow the Nextcloud container to access directories on the host?](#)
- [Nextcloud-AIO Release v12.1.4](#)
- [How to Install Portainer on a Synology NAS](#)
- [How to Set Up Nextcloud on a Synology NAS! \(Tutorial\)](#)

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