main | **7** Branches | **166** Tags | Go to file | Go to file | Code | ···

szaimen increase to 9.5.0 ✓ 3ccdd33 · 17 hours ago 4,998 Commits

.github	update bug-report template	20 hours ago
Containers	build(deps): bump clamav/clamav in /…	4 days ago
app	aio-app: increase version	2 months ago
community-containers	caddy community-container: allow to d…	last month
manual-install	manual-install: adjust the docker-comp…	3 weeks ago
nextcloud-aio-helm-chart	Revert "increase to 9.5.0"	17 hours ago
php	increase to 9.5.0	17 hours ago
tests/QA	allow to specify AIO_COMMUNITY_C…	last year
.gitattributes	close #4491	4 months ago
.gitignore	Fix gitignore	last month
LICENSE	Add license file	3 years ago
compose.yaml	update rp wording and add caddy to th…	3 weeks ago
develop.md	add section how to connect to database	9 months ago
docker-ipv6-support.md	update detail	last month
docker-rootless.md	adjust things a bit	last month
local-instance.md	Use codespell instead of reviewdog for…	last year
manual-upgrade.md	Fix spelling	3 months ago
migration.md	Add note ncadmin is a temporary Post…	5 months ago
multiple-instances.md	AIO interface: add note how to reset th…	3 months ago
readme.md	readme: fix mistakes in Cloudflare sect…	2 weeks ago
reverse-proxy.md	Rewrote the instructions to make them…	2 weeks ago

About

📦 The official Nextcloud installation method. Provides easy deployment and maintenance with most features included in this one Nextcloud instance.

hub.docker.com/r/nextcloud/all-in-one

#docker #backup #restore #nextcloud

Readme
AGPL-3.0 license
Security policy
Activity
Custom properties
4.9k stars
46 watching
577 forks
Report repository

Releases 166

v9.4.1 Latest
3 weeks ago

+ 165 releases

Contributors 115

+ 101 contributors

Languages

● **PHP** 55.5% ● **Shell** 25.2%
● **Twig** 12.1% ● **Dockerfile** 5.1%
● **JavaScript** 1.4% ● **CSS** 0.7%

README | AGPL-3.0 license | Security

Nextcloud All-in-One

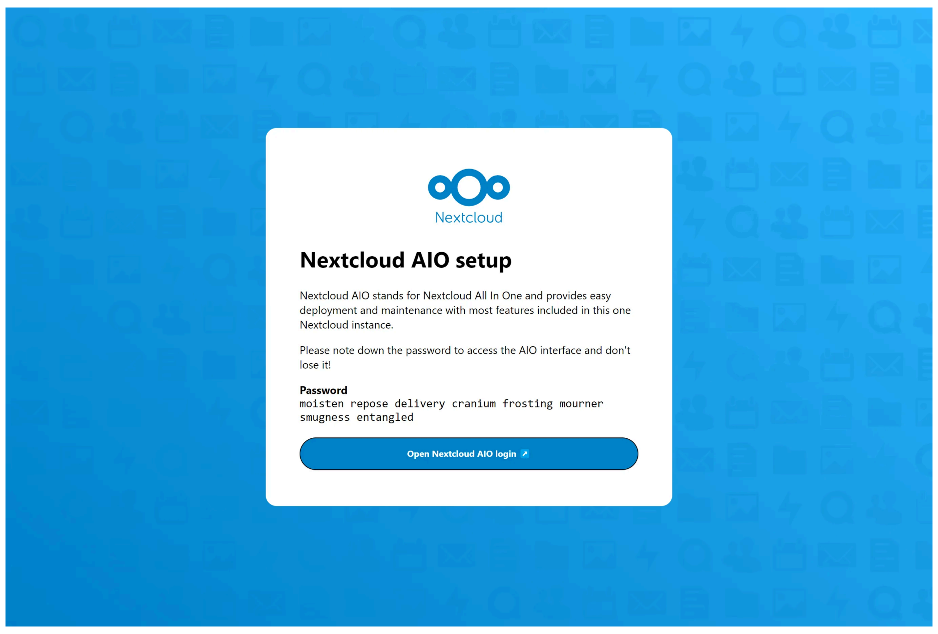
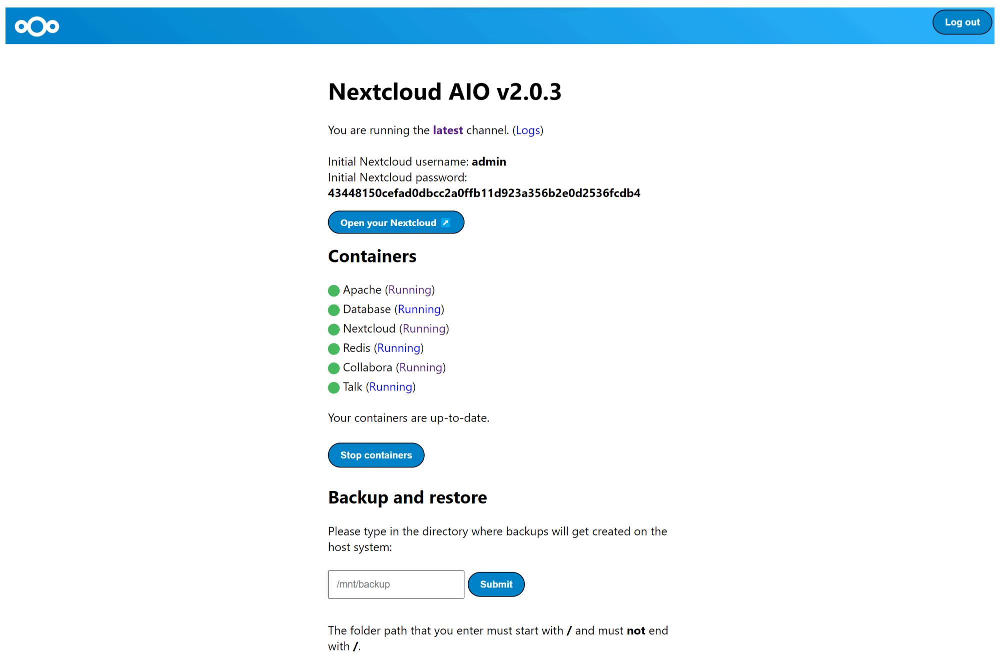
The official Nextcloud installation method. Nextcloud AIO provides easy deployment and maintenance with most features included in this one Nextcloud instance.

Included are:

- Nextcloud
- High performance backend for Nextcloud Files
- Nextcloud Office (optional)
- High performance backend for Nextcloud Talk and TURN-server (optional)
- Nextcloud Talk Recording-server (optional)
- Backup solution (optional, based on BorgBackup)
- Imaginary (optional, for previews of heic, heif, illustrator, pdf, svg, tiff and webp)
- ClamAV (optional, Antivirus backend for Nextcloud)
- Fulltextsearch (optional)

▶ And much more:

Screenshots

First setup	After installation
 Nextcloud AIO setup Nextcloud AIO stands for Nextcloud All In One and provides easy deployment and maintenance with most features included in this one Nextcloud instance. Please note down the password to access the AIO interface and don't lose it! **Password** `moisten repose delivery cranium frosting mourner smugness entangled` 	 Nextcloud AIO v2.0.3 You are running the **latest** channel. (Logs) Initial Nextcloud username: **admin** Initial Nextcloud password: **43448150cefad0dbcc2a0ffb11d923a356b2e0d2536fcdb4** Containers ● Apache (Running) ● Database (Running) ● Nextcloud (Running) ● Redis (Running) ● Collabora (Running) ● Talk (Running) Your containers are up-to-date. Backup and restore Please type in the directory where backups will get created on the host system: /mnt/backup The folder path that you enter must start with **/** and must **not** end with **/**.

How to use this?

The following instructions are meant for installations without a web server or reverse proxy (like Apache, Nginx, Caddy, Cloudflare Tunnel and else) already being in place. If you want to run AIO behind a web server or reverse proxy (like Apache, Nginx, Caddy, Cloudflare Tunnel and else), see the reverse proxy documentation. Also, the instructions below are especially meant for Linux. For macOS see this, for Windows see this and for Synology see this.

1. Install Docker on your Linux installation by following the official documentation: https://docs.docker.com/engine/install/#supported-platforms. The easiest way is installing it by **using the convenience script**:

   ```
   curl -fsSL https://get.docker.com | sudo sh
   ```

2. If you need ipv6 support, you should enable it by following https://github.com/nextcloud/all-in-one/blob/main/docker-ipv6-support.md.
3. Run the command below in order to start the container on Linux and without a web server or reverse proxy (like Apache, Nginx, Caddy, Cloudflare Tunnel and else) already in place:

   ```
   # For Linux and without a web server or reverse proxy (like Apache, Nginx, Caddy, Cloudflare Tunnel and else)
   already in place:
   sudo docker run \
   --init \
   --sig-proxy=false \
   --name nextcloud-aio-mastercontainer \
   --restart always \
   --publish 80:80 \
   --publish 8080:8080 \
   --publish 8443:8443 \
   --volume nextcloud_aio_mastercontainer:/mnt/docker-aio-config \
   --volume /var/run/docker.sock:/var/run/docker.sock:ro \
   nextcloud/all-in-one:latest
   ```

   ▶ Explanation of the command

   Note: You may be interested in adjusting Nextcloud’s datadir to store the files in a different location than the default docker volume. See this documentation on how to do it.

4. After the initial startup, you should be able to open the Nextcloud AIO Interface now on port 8080 of this server.
   E.g. `https://ip.address.of.this.server:8080`
   ⚠️ **Important:** do always use an ip-address if you access this port and not a domain as HSTS might block access to it later! (It is also expected that this port uses a self-signed certificate due to security concerns which you need to accept in your browser)

   If your firewall/router has port 80 and 8443 open/forwarded and you point a domain to your server, you can get a valid certificate automatically by opening the Nextcloud AIO Interface via:
   `https://your-domain-that-points-to-this-server.tld:8443`

5. Please do not forget to open port `3478/TCP` and `3478/UDP` in your firewall/router for the Talk container!

FAQ

How does it work?

Nextcloud AIO is inspired by projects like Portainer that manage the docker daemon by talking to it through the docker socket directly. This concept allows a user to install only one container with a single command that does the heavy lifting of creating and managing all containers that are needed in order to provide a Nextcloud installation with most features included. It also makes updating a breeze and is not bound to the host system (and its slow updates) anymore as everything is in containers. Additionally, it is very easy to handle from a user perspective because a simple interface for managing your Nextcloud AIO installation is provided.

Are reverse proxies supported?

Yes. Please refer to the following documentation on this: reverse-proxy.md

Which CPU architectures are supported?

You can check this on Linux by running: `uname -m`

- x86_64/x64/amd64
- aarch64/arm64/armv8 (Note: ClamAV is currently not supported on this CPU architecture)

Which ports are mandatory to be open in your firewall/router?

Only those (if you access the Mastercontainer Interface internally via port 8080):

- `443/TCP` for the Apache container
- `443/UDP` if you want to enable http3 for the Apache container
- `3478/TCP` and `3478/UDP` for the Talk container

Explanation of used ports:

- `8080/TCP`: Mastercontainer Interface with self-signed certificate (works always, also if only access via IP-address is possible, e.g. `https://ip.address.of.this.server:8080/`) ⚠️ **Important:** do always use an ip-address if you access this port and not a domain as HSTS might block access to it later! (It is also expected that this port uses a self-signed certificate due to security concerns which you need to accept in your browser)
- `80/TCP`: redirects to Nextcloud (is used for getting the certificate via ACME http-challenge for the Mastercontainer)
- `8443/TCP`: Mastercontainer Interface with valid certificate (only works if port 80 and 8443 are open/forwarded in your firewall/router and you point a domain to your server. It generates a valid certificate then automatically and access via e.g. `https://public.domain.com:8443/` is possible.)
- `443/TCP`: will be used by the Apache container later on and needs to be open/forwarded in your firewall/router
- `443/UDP`: will be used by the Apache container later on and needs to be open/forwarded in your firewall/router if you want to enable http3
- `3478/TCP` and `3478/UDP`: will be used by the Turnserver inside the Talk container and needs to be open/forwarded in your firewall/router

How to run AIO on macOS?

On macOS, there is only one thing different in comparison to Linux: instead of using `--volume /var/run/docker.sock:/var/run/docker.sock:ro`, you need to use `--volume /var/run/docker.sock.raw:/var/run/docker.sock:ro` to run it after you installed Docker Desktop (and don't forget to enable ipv6 if you should need that). Apart from that it should work and behave the same like on Linux.

Also, you may be interested in adjusting Nextcloud's Datadir to store the files on the host system. See this documentation on how to do it.

How to run AIO on Windows?

On Windows, install Docker Desktop (and don't forget to enable ipv6 if you should need that) and run the following command in the command prompt:

```
docker run ^
--init ^
--sig-proxy=false ^
--name nextcloud-aio-mastercontainer ^
--restart always ^
--publish 80:80 ^
--publish 8080:8080 ^
--publish 8443:8443 ^
--volume nextcloud_aio_mastercontainer:/mnt/docker-aio-config ^
--volume //var/run/docker.sock:/var/run/docker.sock:ro ^
nextcloud/all-in-one:latest
```

Also, you may be interested in adjusting Nextcloud's Datadir to store the files on the host system. See this documentation on how to do it.

⚠️ **Please note:** Almost all commands in this project's documentation use `sudo docker ...`. Since `sudo` is not available on Windows, you simply remove `sudo` from the commands and they should work.

How to run AIO on Synology DSM

On Synology, there are two things different in comparison to Linux: instead of using `--volume /var/run/docker.sock:/var/run/docker.sock:ro`, you need to use `--volume /volume1/docker/docker.sock:/var/run/docker.sock:ro` to run it. You also need to add `--env WATCHTOWER_DOCKER_SOCKET_PATH="/volume1/docker/docker.sock"` to the docker run command of the mastercontainer (but before the last line `nextcloud/all-in-one:latest`). Apart from that it should work and behave the same like on Linux. Obviously the Synology Docker GUI will not work with that so you will need to either use SSH or create a user-defined script task in the task scheduler as the user 'root' in order to run the command.

⚠️ **Please note**: it is possible that the docker socket on your Synology is located in `/var/run/docker.sock` like the default on Linux. Then you can just use the Linux command without having to change anything - you will notice this when you try to start the container and it says that the bind mount failed. E.g. `docker: Error response from daemon: Bind mount failed: '/volume1/docker/docker.sock' does not exists.`

Also, you may be interested in adjusting Nextcloud's Datadir to store the files on the host system. See this documentation on how to do it.

You'll also need to adjust Synology's firewall, see below:

▶ Click here to expand

How to run AIO with Portainer?

The easiest way to run it with Portainer on Linux is to use Portainer's stacks feature and use this docker-compose file in order to start AIO correctly.

Can I run AIO on TrueNAS SCALE?

On TrueNAS SCALE, there are two ways to run AIO. The preferred one is to run AIO inside a VM. This is necessary since they do not expose the docker socket for containers on the host, you also cannot use docker-compose on it thus and it is also not possible to run custom helm-charts that are not explicitly written for TrueNAS SCALE.

Another but untested way is to install Portainer on your TrueNAS SCALE from here https://truecharts.org/charts/stable/portainer/installation-notes and add the Helm-chart repository https://nextcloud.github.io/all-in-one/ into Portainer by following https://docs.portainer.io/user/kubernetes/helm. More docs on AIOs Helm Chart are available here: https://github.com/nextcloud/all-in-one/tree/main/nextcloud-aio-helm-chart#nextcloud-aio-helm-chart.

Notes on Cloudflare (proxy/tunnel)

- Cloudflare Proxy and Cloudflare Tunnel both require Cloudflare to perform TLS termination on their side and thus decrypt all the traffic on their infrastructure. This is a privacy concern and you will need to look for other solutions if it's unacceptable for you.
- Using Cloudflare Tunnel might potentially slow down Nextcloud since local access via the configured domain is not possible because TLS termination is in that case offloaded to Cloudflare's infrastructure. There is no way to disable this behavior in Cloudflare Tunnel.
- It is known that the domain validation may not work correctly behind Cloudflare since Cloudflare might block the validation attempt. You can simply skip it in that case by following: https://github.com/nextcloud/all-in-one#how-to-skip-the-domain-validation
- Make sure to disable Cloudflares Rocket Loader feature as otherwise Nextcloud's login prompt will not be shown.
- Cloudflare only supports uploading files up to 100 MB in the free plan, if you try to upload bigger files you will get an error (413 - Payload Too Large) if no chunking is used (e.g. for public uploads in the web, or if chunks are configured to be bigger than 100 MB in the clients or the web). If you need to upload bigger files, you need to disable the proxy option in your DNS settings. Note that this will both disable Cloudflare DDoS protection and Cloudflare Tunnel as these services require the proxy option to be enabled.
- If using Cloudflare Tunnel and the Nextcloud Desktop Client Set Chunking on Nextcloud Desktop Client
- Cloudflare only allows a max timeout of 100s for requests which is not configurable. This means that any server-side processing e.g. for assembling chunks for big files during upload that take longer than 100s will simply not work. See nextcloud/server#19223. If you need to upload big files reliably, you need to disable the proxy option in your DNS settings. Note that this will both disable Cloudflare DDoS protection and Cloudflare Tunnel as these services require the proxy option to be enabled.
- It is known that the in AIO included collabora (Nextcloud Office) does not work out of the box behind Cloudflare. To make it work, you need to add all Cloudflare IP-ranges to the wopi-allowlist in `https://yourdomain.com/settings/admin/richdocuments`
- Cloudflare Proxy might block the Turnserver for Nextcloud Talk from working correctly. You might want to disable Cloudflare Proxy thus. See #2463 (reply in thread)
- The built-in turn-server for Nextcloud Talk will not work behind Cloudflare Tunnel since it needs a separate port (by default 3478 or as chosen) available on the same domain. If you still want to use the feature, you will need to install your own turnserver or use a publicly available one and adjust and test your stun and turn settings in `https://yourdomain.com/settings/admin/talk`.
- If you get an error in Nextcloud's admin overview that the HSTS header is not set correctly, you might need to enable it in Cloudflare manually.
- If you are using AIO's built-in Reverse Proxy and don't use your own, then the certificate issuing may possibly not work out-of-the-box because Cloudflare might block the attempt. In that case you need to disable the Proxy feature at least temporarily in order to make it work. Note that this isn't an option if you need Cloudflare Tunnel as disabling the proxy would also disable Cloudflare Tunnel which would in turn make your server unreachable for the verification. See #1101.

How to run Nextcloud behind a Cloudflare Tunnel?

Although it does not seems like it is the case but from AIO perspective a Cloudflare Tunnel works like a reverse proxy. So please follow the reverse proxy documentation where is documented how to make it run behind a Cloudflare Tunnel. However please see the caveats before proceeding.

Disrecommended VPS providers

- *Older* Strato VPS using Virtuozzo caused problems though ones from Q3 2023 and later should work. If your VPS has a `/proc/user_beancounters` file and a low `numproc` limit set in it your server will likely misbehave once it reaches this limit which is very quickly reached by AIO, see here.
- Hostingers VPS seem to miss a specific Kernel feature which is required for AIO to run correctly. See here.

Recommended VPS

In general recommended VPS are those that are KVM/non-virtualized as Docker should work best on them.

Note on storage options

- SD-cards are disrecommended for AIO since they cripple the performance and they are not meant for many write operations which is needed for the database and other parts
- SSD storage is recommended
- HDD storage should work as well but is of course much slower than SSD storage

How to get Nextcloud running using the ACME DNS-challenge?

You can install AIO in reverse proxy mode where is also documented how to get it running using the ACME DNS-challenge for getting a valid certificate for AIO. See the reverse proxy documentation. (Meant is the `Caddy with ACME DNS-challenge` section). Also see https://github.com/dani-garcia/vaultwarden/wiki/Running-a-private-vaultwarden-instance-with-Let%27s-Encrypt-certs#getting-a-custom-caddy-build for additional docs on this topic.

How to run Nextcloud locally?

If you do not want to open Nextcloud to the public internet, you may have a look at the following documentation how to set it up locally: local-instance.md

Can I run AIO offline or in an airgapped system?

No. This is not possible and will not be added due to multiple reasons: update checks, app installs via app-store, downloading additional docker images on demand and more.

Are self-signed certificates supported for Nextcloud?

No and they will not be. If you want to run it locally, without opening Nextcloud to the public internet, please have a look at the local instance documentation.

Can I use an ip-address for Nextcloud instead of a domain?

No and it will not be added. If you only want to run it locally, you may have a look at the following documentation: local-instance.md

Can I use AIO with multiple domains?

No and it will not be added. However you can use this feature in order to create multiple AIO instances, one for each domain.

Are other ports than the default 443 for Nextcloud supported?

No and they will not be. Please use a dedicated domain for Nextcloud and set it up correctly by following the reverse proxy documentation. If port 443 and/or 80 is blocked for you, you may use the a Cloudflare Tunnel if you want to publish it online. You could also use the ACME DNS-challenge to get a valid certificate. However in all cases the Nextcloud interface will redirect you to port 443.

Can I run Nextcloud in a subdirectory on my domain?

No and it will not be added. Please use a dedicated domain for Nextcloud and set it up correctly by following the reverse proxy documentation.

How can I access Nextcloud locally?

Please note that local access is not possible if you are running AIO behind Cloudflare Tunnel since TLS proxying is in that case offloaded to Cloudflares infrastructure. You can fix this by setting up your own reverse proxy that handles TLS proxying locally and will make the steps below work.

Please make sure that if you are running AIO behind a reverse proxy, that the reverse proxy is configured to use port 443 on the server that runs it. Otherwise the steps below will not work.

Now that this is out of the way, the recommended way how to access Nextcloud locally, is to set up a local dns-server like a pi-hole and set up a custom dns-record for that domain that points to the internal ip-adddress of your server that runs Nextcloud AIO. Below are some guides:

- https://www.howtogeek.com/devops/how-to-run-your-own-dns-server-on-your-local-network/
- https://help.nextcloud.com/t/need-help-to-configure-internal-access/156075/6
- https://howchoo.com/pi/pi-hole-setup together with https://web.archive.org/web/20221203223505/https://docs.callitkarma.me/posts/PiHole-Local-DNS/
- https://dockerlabs.collabnix.com/intermediate/networking/Configuring_DNS.html Apart from that there is now a community container that can be added to the AIO stack: https://github.com/nextcloud/all-in-one/tree/main/community-containers/pi-hole

How to skip the domain validation?

If you are completely sure that you've configured everything correctly and are not able to pass the domain validation, you may skip the domain validation by adding `--env SKIP_DOMAIN_VALIDATION=true` to the docker run command of the mastercontainer (but before the last line `nextcloud/all-in-one:latest` ! If it was started already, you will need to stop the mastercontainer, remove it (no data will be lost) and recreate it using the docker run command that you initially used).

How to resolve firewall problems with Fedora Linux, RHEL OS, CentOS, SUSE Linux and others?

It is known that Linux distros that use firewalld as their firewall daemon have problems with docker networks. In case the containers are not able to communicate with each other, you may change your firewalld to use the iptables backend by running:

```
sudo sed -i 's/FirewallBackend=nftables/FirewallBackend=iptables/g' /etc/firewalld/firewalld.conf
sudo systemctl restart firewalld docker
```

Afterwards it should work.

See https://dev.to/ozorest/fedora-32-how-to-solve-docker-internal-network-issue-22me for more details on this. This limitation is even mentioned on the official firewalld website: https://firewalld.org/#who-is-using-it

Are there known problems when SELinux is enabled?

Yes. If SELinux is enabled, you might need to add the `--security-opt label:disable` option to the docker run command of the mastercontainer in order to allow it to access the docker socket (or `security_opt: ["label:disable"]` in compose.yaml). See #485

How to run `occ` commands?

Simply run the following: `sudo docker exec --user www-data -it nextcloud-aio-nextcloud php occ your-command`. Of course `your-command` needs to be exchanged with the command that you want to run.

How to resolve `Security & setup warnings displays the "missing default phone region" after initial install`?

Simply run the following command: `sudo docker exec --user www-data nextcloud-aio-nextcloud php occ config:system:set default_phone_region --value="yourvalue"`. Of course you need to modify `yourvalue` based on your location. Examples are `DE`, `US` and `GB`. See this list for more codes: https://en.wikipedia.org/wiki/ISO_3166-1_alpha-2#Officially_assigned_code_elements

How to run multiple AIO instances on one server?

See [multiple-instances.md]() for some documentation on this.

Bruteforce protection FAQ

Nextcloud features a built-in bruteforce protection which may get triggered and will block an ip-address or disable a user. You can unblock an ip-address by running `sudo docker exec --user www-data -it nextcloud-aio-nextcloud php occ security:bruteforce:reset <ip-address>` and enable a disabled user by running `sudo docker exec --user www-data -it nextcloud-aio-nextcloud php occ user:enable <name of user>`. See https://docs.nextcloud.com/server/latest/admin_manual/configuration_server/occ_command.html#security for further information.

Update policy

This project values stability over new features. That means that when a new major Nextcloud update gets introduced, we will wait at least until the first patch release, e.g. `24.0.1` is out before upgrading to it. Also we will wait with the upgrade until all important apps are compatible with the new major version. Minor or patch releases for Nextcloud and all dependencies as well as all containers will be updated to new versions as soon as possible but we try to give all updates first a good test round before pushing them. That means that it can take around 2 weeks before new updates reach the `latest` channel. If you want to help testing, you can switch to the `beta` channel by following this documentation which will also give you the updates earlier.

How to switch the channel?

You can switch to a different channel like e.g. the beta channel or from the beta channel back to the latest channel by stopping the mastercontainer, removing it (no data will be lost) and recreating the container using the same command that you used initially to create the mastercontainer. You simply need to change the last line `nextcloud/all-in-one:latest` to `nextcloud/all-in-one:beta` and vice versa.

How to update the containers?

If we push new containers to `latest`, you will see in the AIO interface below the `containers` section that new container updates were found. In this case, just press `Stop containers` and `Start and update containers` in order to update the containers. The mastercontainer has its own update procedure though. See below. And don't forget to back up the current state of your instance using the built-in backup solution before starting the containers again! Otherwise you won't be able to restore your instance easily if something should break during the update.

If a new `mastercontainer` update was found, you'll see a note below the `Stop containers` button that allows to show the changelog. If you click that button and the containers are stopped, you will see a new button that allows to update the mastercontainer. After doing so and after the update is gone through, you will have the option again to `Start and update containers`. It is recommended to create a backup before clicking the `Start and update containers` button.

Additionally, there is a cronjob that runs once a day that checks for container and mastercontainer updates and sends a notification to all Nextcloud admins if a new update was found.

How often are update notifications sent?

AIO ships its own update notifications implementation. It checks if container updates are available. If so, it sends a notification with the title `Container updates available!` on saturdays to Nextcloud users that are part of the `admin` group. If the Nextcloud container image should be older than 90 days (~3 months) and thus badly outdated, AIO sends a notification to all Nextcloud users with the title `AIO is outdated!`. Thus admins should make sure to update the container images at least once every 3 months in order to make sure that the instance gets all security bugfixes as soon as possible.

How to easily log in to the AIO interface?

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. **Note:** You can change the domain/ip-address/port of the button by simply stopping the containers, visiting the AIO interface from the correct and desired domain/ip-address/port and clicking once on `Start containers`.

How to change the domain?

⚠️ **Please note:** Editing the configuration.json manually and making a mistake may break your instance so please create a backup first!

If you set up a new AIO instance, you need to enter a domain. Currently there is no way to change this domain afterwards from the AIO interface. So in order to change it, you need to edit the configuration.json manually using `sudo docker run -it --rm --volume nextcloud_aio_mastercontainer:/mnt/docker-aio-config:rw alpine sh -c "apk add --no-cache nano && nano /mnt/docker-aio-config/data/configuration.json"`, substitute each occurrence of your old domain with your new domain and save and write out the file. Afterwards restart your containers from the AIO interface and everything should work as expected if the new domain is correctly configured. If you are running AIO behind a web server or reverse proxy (like Apache, Nginx, Caddy, Cloudflare Tunnel and else), you need to obviously also change the domain in your reverse proxy config.

Additionally, after restarting the containers, you need to open the admin settings and update some values manually that cannot be changed automatically. Here is a list of some known places:

- `https://your-nc-domain.com/settings/admin/talk` for Turn/Stun server and Signaling Server if you enabled Talk via the AIO interface
- `https://your-nc-domain.com/settings/admin/theming` for the theming URL
- `https://your-nc-domain.com/settings/admin/app_api` for the deploy daemon if you enabled the App API via the AIO interface

How to properly reset the instance?

If something goes unexpected routes during the initial installation, you might want to reset the AIO installation to be able to start from scratch.

Please note: if you already have it running and have data on your instance, you should not follow these instructions as it will delete all data that is coupled to your AIO instance.

Here is how to reset the AIO instance properly:

1. Stop all containers if they are running from the AIO interface
2. Stop the mastercontainer with `sudo docker stop nextcloud-aio-mastercontainer`
3. If the domaincheck container is still running, stop it with `sudo docker stop nextcloud-aio-domaincheck`
4. Check that no AIO containers are running anymore by running `sudo docker ps --format {{.Names}}`. If no `nextcloud-aio` containers are listed, you can proceed with the steps below. If there should be some, you will need to stop them with `sudo docker stop <container_name>` until no one is listed anymore.
5. Check which containers are stopped: `sudo docker ps --filter "status=exited"`
6. Now remove all these stopped containers with `sudo docker container prune`
7. Delete the docker network with `sudo docker network rm nextcloud-aio`
8. Check which volumes are dangling with `sudo docker volume ls --filter "dangling=true"`
9. Now remove all these dangling volumes: `sudo docker volume prune --filter all=1` (on Windows you might need to remove some volumes afterwards manually with `docker volume rm nextcloud_aio_backupdir`, `docker volume rm nextcloud_aio_nextcloud_datadir`).
10. If you've configured `NEXTCLOUD_DATADIR` to a path on your host instead of the default volume, you need to clean that up as well. (E.g. by simply deleting the directory).
11. Make sure that no volumes are remaining with `sudo docker volume ls --format {{.Name}}`. If no `nextcloud-aio` volumes are listed, you can proceed with the steps below. If there should be some, you will need to stop them with `sudo docker volume rm <volume_name>` until no one is listed anymore.
12. Optional: You can remove all docker images with `sudo docker image prune -a`.
13. And you are done! Now feel free to start over with the recommended docker run command!

Backup solution

Nextcloud AIO provides a local backup solution based on BorgBackup. These backups act as a local restore point in case the installation gets corrupted. By using this tool, backups are incremental, differential, compressed and encrypted – so only the first backup will take a while. Further backups should be fast as only changes are taken into account.

It is recommended to create a backup before any container update. By doing this, you will be safe regarding any possible complication during updates because you will be able to restore the whole instance with basically one click.

The restore process should be pretty fast as rsync is used to restore the chosen backup which only transfers changed files and deletes additional ones.

If you connect an external drive to your host, and choose the backup directory to be on that drive, you are also kind of safe against drive failures of the drive where the docker volumes are stored on.

▶ How to do the above step for step

Backups can be created and restored in the AIO interface using the buttons `Create Backup` and `Restore selected backup`. Additionally, a backup check is provided that checks the integrity of your backups but it shouldn't be needed in most situations.

The backups themselves get encrypted with an encryption key that gets shown to you in the AIO interface. Please save that at a safe place as you will not be able to restore from backup without this key.

Daily backups can get enabled after the initial backup is done. Enabling this also allows to enable an option that allows to automatically update all containers, Nextcloud and its apps.

Be aware that this solution does not back up files and folders that are mounted into Nextcloud using the external storage app - but you can add further Docker volumes and host paths that you want to back up after the initial backup is done.

What is getting backed up by AIO's backup solution?

Backed up will get all important data of your Nextcloud AIO instance like the database, your files and configuration files of the mastercontainer and else. Files and folders that are mounted into Nextcloud using the external storage app are not getting backed up. There is currently no way to exclude the data directory because it would require hacks like running files:scan and would make the backup solution much more unreliable (since the database and your files/folders need to stay in sync). If you still don't want your datadirectory to be backed up, see https://github.com/nextcloud/all-in-one#how-to-enable-automatic-updates-without-creating-a-backup-beforehand for options (there is a hint what needs to be backed up in which order).

How to adjust borgs retention policy?

The built-in borg-based backup solution has by default a retention policy of `--keep-within=7d --keep-weekly=4 --keep-monthly=6`. See https://borgbackup.readthedocs.io/en/stable/usage/prune.html for what these values mean. You can adjust the retention policy by providing `--env BORG_RETENTION_POLICY="--keep-within=7d --keep-weekly=4 --keep-monthly=6"` to the docker run command of the mastercontainer (but before the last line `nextcloud/all-in-one:latest`! If it was started already, you will need to stop the mastercontainer, remove it (no data will be lost) and recreate it using the docker run command that you initially used) and customize the value to your fitting. ⚠️ Please make sure that this value is valid, otherwise backup pruning will bug out!

Are remote borg backups supported?

Not directly but you have multiple options to achieve this:

- Mount a network FS like SSHFS, SMB or NFS in the directory that you enter in AIO as backup directory
- Use rsync or rclone for syncing the borg backup archive that AIO creates locally to a remote target (make sure to lock the backup archive correctly before starting the sync; search for "aio-lockfile"; you can find a local example script here: https://github.com/nextcloud/all-in-one#sync-the-backup-regularly-to-another-drive)
- You can find a well written guide that uses rclone and e.g. BorgBase for remote backups here: #2247
- Here is another one that utilizes borgmatic and BorgBase for remote backups: #4391

- create your own backup solution using a script and borg, borgmatic or any other to backup tool for backing up to a remote target (make sure to stop and start the AIO containers correctly following https://github.com/nextcloud/all-in-one#how-to-enable-automatic-updates-without-creating-a-backup-beforehand)

Failure of the backup container in LXC containers

If you are running AIO in a LXC container, you need to make sure that FUSE is enabled in the LXC container settings. Also, if using Alpine Linux as host OS, make sure to add fuse via `apk add fuse`. Otherwise the backup container will not be able to start as FUSE is required for it to work.

How to create the backup volume on Windows?

As stated in the AIO interface, it is possible to use a docker volume as backup target. Before you can use that, you need to create it first. Here is an example how to create one on Windows:

```
docker volume create ^
--driver local ^
--name nextcloud_aio_backupdir ^
-o device="/host_mnt/e/your/backup/path" ^
-o type="none" ^
-o o="bind"
```

In this example, it would mount `E:\your\backup\path` into the volume so for a different location you need to adjust `/host_mnt/e/your/backup/path` accordingly. Afterwards enter `nextcloud_aio_backupdir` in the AIO interface as backup location.

Pro-tip: Backup archives access

You can open the BorgBackup archives on your host by following these steps:
(instructions for Ubuntu Desktop)

```
# Install borgbackup on the host
sudo apt update && sudo apt install borgbackup

# Mount the archives to /tmp/borg (if you are using the default backup location /mnt/backup/borg)
sudo mkdir -p /tmp/borg && sudo borg mount "/mnt/backup/borg" /tmp/borg

# After entering your repository key successfully, you should be able to access all archives in /tmp/borg
# You can now do whatever you want by syncing them to a different place using rsync or doing other things
# E.g. you can open the file manager on that location by running:
xhost +si:localuser:root && sudo nautilus /tmp/borg

# When you are done, simply close the file manager and run the following command to unmount the backup archives:
sudo umount /tmp/borg
```

Delete backup archives manually

You can delete BorgBackup archives on your host manually by following these steps:
(instructions for Debian based OS' like Ubuntu)

```
# Install borgbackup on the host
sudo apt update && sudo apt install borgbackup

# List all archives (if you are using the default backup location /mnt/backup/borg)
sudo borg list "/mnt/backup/borg"

# After entering your repository key successfully, you should now see a list of all backup archives
# An example backup archive might be called 20220223_174237-nextcloud-aio
# Then you can simply delete the archive with:
sudo borg delete --stats --progress "/mnt/backup/borg::20220223_174237-nextcloud-aio"

# If borg 1.2.0 or higher is installed, you then need to run borg compact in order to clean up the freed space
sudo borg --version
# If version number of the command above is higher than 1.2.0 you need to run the command below:
sudo borg compact "/mnt/backup/borg"
```

After doing so, make sure to update the backup archives list in the AIO interface!
You can do so by clicking on the `Check backup integrity` button or `Create backup` button.

Sync the backup regularly to another drive

For increased backup security, you might consider syncing the backup repository regularly to another drive.

To do that, first add the drive to `/etc/fstab` so that it is able to get automatically mounted and then create a script that does all the things automatically. Here is an example for such a script:

▶ Click here to expand

You can simply copy and paste the script into a file e.g. named `backup-script.sh` e.g. here: `/root/backup-script.sh`. Do not forget to modify the variables to your requirements!

Afterwards apply the correct permissions with `sudo chown root:root /root/backup-script.sh` and `sudo chmod 700 /root/backup-script.sh`. Then you can create a cronjob that runs e.g. at `20:00` each week on Sundays like this:

1. Open the cronjob with `sudo crontab -u root -e` (and choose your editor of choice if not already done. I'd recommend nano).
2. Add the following new line to the crontab if not already present: `0 20 * * 7 /root/backup-script.sh` which will run the script at 20:00 on Sundays each week.
3. save and close the crontab (when using nano are the shortcuts for this `Ctrl + o` -> `Enter` and close the editor with `Ctrl + x`).

How to stop/start/update containers or trigger the daily backup from a script externally?

⚠️⚠️⚠️ **Warning**: The below script will only work after the initial setup of AIO. So you will always need to first visit the AIO interface, type in your domain and start the containers the first time or restore an older AIO instance from its borg backup before you can use the script.

You can do so by running the `/daily-backup.sh` script that is stored in the mastercontainer. It accepts the following environmental varilables:

- `AUTOMATIC_UPDATES` if set to `1`, it will automatically stop the containers, update them and start them including the mastercontainer. If the mastercontainer gets updated, this script's execution will stop as soon as the mastercontainer gets stopped. You can then wait until it is started again and run the script with this flag again in order to update all containers correctly afterwards.
- `DAILY_BACKUP` if set to `1`, it will automatically stop the containers and create a backup. If you want to start them again afterwards, you may have a look at the `START_CONTAINERS` option.
- `START_CONTAINERS` if set to `1`, it will automatically start the containers without updating them.
- `STOP_CONTAINERS` if set to `1`, it will automatically stop the containers.
- `CHECK_BACKUP` if set to `1`, it will start the backup check. This is not allowed to be enabled at the same time like `DAILY_BACKUP`. Please be aware that this option is non-blocking which means that the backup check is not done when the process is finished since it only start the borgbackup container with the correct configuration.

One example for this would be `sudo docker exec -it --env DAILY_BACKUP=1 nextcloud-aio-mastercontainer /daily-backup.sh`, which you can run via a cronjob or put it in a script.

⚠️ Please note that none of the option returns error codes. So you need to check for the correct result yourself.

How to disable the backup section?

If you already have a backup solution in place, you may want to hide the backup section. You can do so by adding `--env AIO_DISABLE_BACKUP_SECTION=true` to the docker run command of the mastercontainer (but before the last line `nextcloud/all-in-one:latest`! If it was started already, you will need to stop the mastercontainer, remove it (no data will be lost) and recreate it using the docker run command that you initially used).

How to change the default location of Nextcloud's Datadir?

⚠️⚠️⚠️ **Warning:** Do not set or adjust this value after the initial Nextcloud installation is done! If you still want to do it afterwards, see this on how to do it.

You can configure the Nextcloud container to use a specific directory on your host as data directory. You can do so by adding the environmental variable `NEXTCLOUD_DATADIR` to the docker run command of the mastercontainer (but before the last line `nextcloud/all-in-one:latest`! If it was started already, you will need to stop the mastercontainer, remove it (no data will be lost) and recreate it using the docker run command that you initially used). Allowed values for that variable are strings that start with `/` and are not equal to `/`. The chosen directory or volume will then be mounted to `/mnt/ncdata` inside the container.

- An example for Linux is `--env NEXTCLOUD_DATADIR="/mnt/ncdata"`. ⚠️ Please note: If you should be using an external BTRFS drive that is mounted to `/mnt/ncdata`, make sure to choose a subfolder like e.g. `/mnt/ncdata/nextcloud` as datadir, since the root folder is not suited as datadir in that case. See #2696.
- On macOS it might be `--env NEXTCLOUD_DATADIR="/var/nextcloud-data"`
- For Synology it may be `--env NEXTCLOUD_DATADIR="/volume1/docker/nextcloud/data"`.
- On Windows it might be `--env NEXTCLOUD_DATADIR="/run/desktop/mnt/host/c/ncdata"`. (This path is equivalent to `C:\ncdata` on your Windows host so you need to translate the path accordingly. Hint: the path that you enter needs to start with `/run/desktop/mnt/host/`. Append to that the exact location on your windows host, e.g. `c/ncdata` which is equivalent to `C:\ncdata`.) ⚠️ **Please note**: This does not work with external drives like USB or network drives and only with internal drives like SATA or NVME drives.
- Another option is to provide a specific volume name here with: `--env NEXTCLOUD_DATADIR="nextcloud_aio_nextcloud_datadir"`. This volume needs to be created beforehand manually by you in order to be able to use it. e.g. on Windows with:

  ```
  docker volume create ^
  --driver local ^
  --name nextcloud_aio_nextcloud_datadir ^
  -o device="/host_mnt/e/your/data/path" ^
  -o type="none" ^
  -o o="bind"
  ```

  In this example, it would mount `E:\your\data\path` into the volume so for a different location you need to adjust `/host_mnt/e/your/data/path` accordingly.

Can I use a CIFS/SMB share as Nextcloud's datadir?

Sure. Add this to the `/etc/fstab` file:
`<your-storage-host-and-subpath> <your-mount-dir> cifs rw,mfsymlinks,seal,credentials=<your-credentials-file>,uid=33,gid=0,file_mode=0770,dir_mode=0770 0 0`
(Of course you need to modify `<your-storage-host-and-subpath>`, `<your-mount-dir>` and `<your-credentials-file>` for your specific case.)

One example could look like this:
`//your-storage-host/subpath /mnt/storagebox cifs rw,mfsymlinks,seal,credentials=/etc/storage-credentials,uid=33,gid=0,file_mode=0770,dir_mode=0770 0 0`
and add into `/etc/storage-credentials`:

```
username=<smb/cifs username>
password=<password>
```

(Of course you need to modify `<smb/cifs username>` and `<password>` for your specific case.)

Now you can use `/mnt/storagebox` as Nextcloud's datadir like described in the section above above this one.

How to allow the Nextcloud container to access directories on the host?

By default, the Nextcloud container is confined and cannot access directories on the host OS. You might want to change this when you are planning to use local external storage in Nextcloud to store some files outside the data directory and can do so by adding the environmental variable `NEXTCLOUD_MOUNT` to the docker run command of the mastercontainer (but before the last line `nextcloud/all-in-one:latest`! If it was started already, you will need to stop the mastercontainer, remove it (no data will be lost) and recreate it using the docker run command that you initially used). Allowed values for that variable are strings that start with `/` and are not equal to `/`.

- Two examples for Linux are `--env NEXTCLOUD_MOUNT="/mnt/"` and `--env NEXTCLOUD_MOUNT="/media/"`.
- On macOS it might be `--env NEXTCLOUD_MOUNT="/Volumes/your_drive/"`
- For Synology it may be `--env NEXTCLOUD_MOUNT="/volume1/"`.
- On Windows it might be `--env NEXTCLOUD_MOUNT="/run/desktop/mnt/host/d/your-folder/"`. (This path is equivalent to `D:\your-folder` on your Windows host so you need to translate the path accordingly. Hint: the path that you enter needs to start with `/run/desktop/mnt/host/`. Append to that the exact location on your windows host, e.g. `d/your-folder/` which is equivalent to `D:\your-folder`.) ⚠️ **Please note**: This does not work with external drives like USB or network drives and only with internal drives like SATA or NVME drives.

After using this option, please make sure to apply the correct permissions to the directories that you want to use in Nextcloud. E.g. `sudo chown -R 33:0 /mnt/your-drive-mountpoint` and `sudo chmod -R 750 /mnt/your-drive-mountpoint` should make it work on Linux when you have used `--env NEXTCLOUD_MOUNT="/mnt/"`. On Windows you could do this e.g. with `docker exec -it nextcloud-aio-nextcloud chown -R 33:0 /run/desktop/mnt/host/d/your-folder/` and `docker exec -it nextcloud-aio-nextcloud chmod -R 750 /run/desktop/mnt/host/d/your-folder/`.

You can then navigate to `https://your-nc-domain.com/settings/apps/disabled`, activate the external storage app, navigate to `https://your-nc-domain.com/settings/admin/externalstorages` and add a local external storage directory that will be accessible inside the container at the same place that you've entered. E.g. `/mnt/your-drive-mountpoint` will be mounted to `/mnt/your-drive-mountpoint` inside the container, etc.

Be aware though that these locations will not be covered by the built-in backup solution - but you can add further Docker volumes and host paths that you want to back up after the initial backup is done.

Please note: If you can't see the type "local storage" in the external storage admin options, a restart of the containers from the AIO interface may be required.

How to adjust the Talk port?

By default will the talk container use port `3478/UDP` and `3478/TCP` for connections. You can adjust the port by adding e.g. `--env TALK_PORT=3478` to the docker run command of the mastercontainer (but before the last line `nextcloud/all-in-one:latest`! If it was started already, you will need to stop the mastercontainer, remove it (no data will be lost) and recreate it using the docker run command that you initially used) and adjusting the port to your desired value. Best is to use a port over 1024, so e.g. 3479 to not run into this: #2517

How to adjust the upload limit for Nextcloud?

By default, public uploads to Nextcloud are limited to a max of 10G (logged in users can upload much bigger files using the webinterface or the mobile/desktop clients, since chunking is used in that case). You can adjust the upload limit by providing `--env NEXTCLOUD_UPLOAD_LIMIT=10G` to the docker run command of the mastercontainer (but before the last line `nextcloud/all-in-one:latest`! If it was started already, you will need to stop the mastercontainer, remove it (no data will be lost) and recreate it using the docker run command that you initially used) and customize the value to your fitting. It must start with a number and end with `G` e.g. `10G`.

How to adjust the max execution time for Nextcloud?

By default, uploads to Nextcloud are limited to a max of 3600s. You can adjust the upload time limit by providing `--env NEXTCLOUD_MAX_TIME=3600` to the docker run command of the mastercontainer (but before the last line `nextcloud/all-in-one:latest`! If it was started already, you will need to stop the mastercontainer, remove it (no data will be lost) and recreate it using the docker run command that you initially used) and customize the value to your fitting. It must be a number e.g. `3600`.

How to adjust the PHP memory limit for Nextcloud?

By default, each PHP process in the Nextcloud container is limited to a max of 512 MB. You can adjust the memory limit by providing `--env NEXTCLOUD_MEMORY_LIMIT=512M` to the docker run command of the mastercontainer (but before the last line `nextcloud/all-in-one:latest`! If it was started already, you will need to stop the mastercontainer, remove it (no data will be lost) and recreate it using the docker run command that you initially used) and customize the value to your fitting. It must start with a number and end with `M` e.g. `1024M`.

What can I do to fix the internal or reserved ip-address error?

If you get an error during the domain validation which states that your ip-address is an internal or reserved ip-address, you can fix this by first making sure that your domain indeed has the correct public ip-address that points to the server and then adding `--add-host yourdomain.com:<public-ip-address>` to the docker run command of the mastercontainer (but before the last line `nextcloud/all-in-one:latest`! If it was started already, you will need to stop the mastercontainer, remove it (no data will be lost) and recreate it using the docker run command that you initially used) which will allow the domain validation to work correctly. And so that you know: even if the `A` record of your domain should change over time, this is no problem since the mastercontainer will not make any attempt to access the chosen domain after the initial domain validation.

Can I run this with Docker swarm?

Yes. For that to work, you need to use and follow the manual-install documentation.

Can I run this with Kubernetes?

Yes. For that to work, you need to use and follow the helm-chart documentation.

How to run this with Docker rootless?

You can run AIO also with docker rootless. How to do this is documented here: docker-rootless.md

Can I run this with Podman instead of Docker?

Since Podman is not 100% compatible with the Docker API, Podman is not supported (since that would add yet another platform where the maintainer would need to test on). However you can use and follow the manual-install documentation to get AIO's containers running with Podman or use Docker rootless, as described in the above section. Also there is this now: #3487

How to change the Nextcloud apps that are installed on the first startup?

You might want to adjust the Nextcloud apps that are installed upon the first startup of the Nextcloud container. You can do so by adding `--env NEXTCLOUD_STARTUP_APPS="deck twofactor_totp tasks calendar contacts notes"` to the docker run command of the mastercontainer (but before the last line `nextcloud/all-in-one:latest`! If it was started already, you will need to stop the mastercontainer, remove it (no data will be lost) and recreate it using the docker run command that you initially used) and customize the value to your fitting. It must be a string with small letters a-z, 0-9, spaces and hyphens or '_'. You can disable shipped and by default enabled apps by adding a hyphen in front of the appid. E.g. `-contactsinteraction`.

How to add OS packages permanently to the Nextcloud container?

Some Nextcloud apps require additional external dependencies that must be bundled within Nextcloud container in order to work correctly. As we cannot put each and every dependency for all apps into the container - as this would make the project quickly unmaintainable - there is an official way in which you can add additional dependencies into the Nextcloud container. However note that doing this is disrecommended since we do not test Nextcloud apps that require external dependencies.

You can do so by adding `--env NEXTCLOUD_ADDITIONAL_APKS="imagemagick dependency2 dependency3"` to the docker run command of the mastercontainer (but before the last line `nextcloud/all-in-one:latest`! If it was started already, you will need to stop the mastercontainer, remove it (no data will be lost) and recreate it using the docker run command that you initially used) and customize the value to your fitting. It must be a string with small letters a-z, digits 0-9, spaces, dots and hyphens or '_'. You can find available packages here: https://pkgs.alpinelinux.org/packages?branch=v3.20. By default `imagemagick` is added. If you want to keep it, you need to specify it as well.

How to add PHP extensions permanently to the Nextcloud container?

Some Nextcloud apps require additional php extensions that must be bundled within Nextcloud container in order to work correctly. As we cannot put each and every dependency for all apps into the container - as this would make the project quickly unmaintainable - there is an official way in which you can add additional php extensions into the Nextcloud container. However note that doing this is disrecommended since we do not test Nextcloud apps that require additional php extensions.

You can do so by adding `--env NEXTCLOUD_ADDITIONAL_PHP_EXTENSIONS="imagick extension1 extension2"` to the docker run command of the mastercontainer (but before the last line `nextcloud/all-in-one:latest`! If it was started already, you will need to stop the mastercontainer, remove it (no data will be lost) and recreate it using the docker run command that you initially used) and customize the value to your fitting. It must be a string with small letters a-z, digits 0-9, spaces, dots and hyphens or '_'. You can find available extensions here: https://pecl.php.net/packages.php. By default `imagick` is added. If you want to keep it, you need to specify it as well.

What about the pdlib PHP extension for the facerecognition app?

The facerecognition app requires the pdlib PHP extension to be installed. Unfortunately, it is not available on PECL nor via PHP core, so there is no way to add this into AIO currently. However you can use this community container in order to run facerecognition.

How to enable hardware-transcoding for Nextcloud?

⚠️⚠️⚠️ Warning: this only works if the `/dev/dri` device is present on the host! If it does not exists on your host, don't proceed as otherwise the Nextcloud container will fail to start! If you are unsure about this, better do not proceed with the instructions below.

The memories app allows to enable hardware transcoding for videos. In order to use that, you need to add `--env NEXTCLOUD_ENABLE_DRI_DEVICE=true` to the docker run command of the mastercontainer (but before the last line `nextcloud/all-in-one:latest`! If it was started already, you will need to stop the mastercontainer, remove it (no data will be lost) and recreate it using the docker run command that you initially used) which will mount the `/dev/dri` device into the container. There is now a community container which allows to easily add the transcoding container of Memories to AIO: https://github.com/nextcloud/all-in-one/tree/main/community-containers/memories

How to keep disabled apps?

In certain situations you might want to keep Nextcloud apps that are disabled in the AIO interface and not uninstall them if they should be installed in Nextcloud. You can do so by adding `--env NEXTCLOUD_KEEP_DISABLED_APPS=true` to the docker run command of the mastercontainer (but before the last line `nextcloud/all-in-one:latest` ! If it was started already, you will need to stop the mastercontainer, remove it (no data will be lost) and recreate it using the docker run command that you initially used). ⚠️⚠️⚠️ **Warning** doing this might cause unintended problems in Nextcloud if an app that requires an external dependency is still installed but the external dependency not for example.

Huge docker logs

If you should run into issues with huge docker logs, you can adjust the log size by following https://docs.docker.com/config/containers/logging/local/#usage. However for the included AIO containers, this should usually not be needed because almost all of them have the log level set to warn so they should not produce many logs.

Access/Edit Nextcloud files/folders manually

The files and folders that you add to Nextcloud are by default stored in the following docker directory: `nextcloud_aio_nextcloud:/mnt/ncdata/` (usually `/var/lib/docker/volumes/nextcloud_aio_nextcloud_data/_data/` on linux host systems). If needed, you can modify/add/delete files/folders there but **ATTENTION**: be very careful when doing so because you might corrupt your AIO installation! Best is to create a backup using the built-in backup solution before editing/changing files/folders in there because you will then be able to restore your instance to the backed up state.

After you are done modifying/adding/deleting files/folders, don't forget to apply the correct permissions by running: `sudo docker exec nextcloud-aio-nextcloud chown -R 33:0 /mnt/ncdata/` and `sudo docker exec nextcloud-aio-nextcloud chmod -R 750 /mnt/ncdata/` and rescan the files with `sudo docker exec --user www-data -it nextcloud-aio-nextcloud php occ files:scan --all`.

How to store the files/installation on a separate drive?

You can move the whole docker library and all its files including all Nextcloud AIO files and folders to a separate drive by first mounting the drive in the host OS (NTFS is not supported and ext4 is recommended as FS) and then following this tutorial: https://www.guguweb.com/2019/02/07/how-to-move-docker-data-directory-to-another-location-on-ubuntu/
(Of course docker needs to be installed first for this to work.)

⚠️ If you encounter errors from richdocuments in your Nextcloud logs, check in your Collabora container if the message "Capabilities are not set for the coolforkit program." appears. If so, follow these steps:

1. Stop all the containers from the AIO Interface.
2. Go to your terminal and delete the Collabora container (`docker rm nextcloud-aio-collabora`) AND the Collabora image (`docker image rm nextcloud/aio-collabora`).
3. You might also want to prune your Docker (`docker system prune`) (no data will be lost).
4. Restart your containers from the AIO Interface.

This should solve the problem.

How to edit Nextclouds config.php file with a texteditor?

You can edit Nextclouds config.php file directly from the host with your favorite text editor. E.g. like this: `sudo docker run -it --rm --volume nextcloud_aio_nextcloud:/var/www/html:rw alpine sh -c "apk add --no-cache nano && nano /var/www/html/config/config.php"` . Make sure to not break the file though which might corrupt your Nextcloud instance otherwise. In best case, create a backup using the built-in backup solution before editing the file.

How to change default files by creating a custom skeleton directory?

All users see a set of default files and folders as dictated by Nextcloud's configuration. To change these default files and folders a custom skeleton directory must first be created; this can be accomplished by copying your skeleton files `sudo docker cp --follow-link /path/to/nextcloud/skeleton/ nextcloud-aio-nextcloud:/mnt/ncdata/skeleton/` , applying the correct permissions with `sudo docker exec nextcloud-aio-nextcloud chown -R 33:0 /mnt/ncdata/skeleton/` and `sudo docker exec nextcloud-aio-nextcloud chmod -R 750 /mnt/ncdata/skeleton/` and setting the skeleton directory option with `sudo docker exec --user www-data -it nextcloud-aio-nextcloud php occ config:system:set skeletondirectory --value="/mnt/ncdata/skeleton"` . Further information is available in the Nextcloud documentation on configuration parameters for the skeleton directory.

Fail2ban

You can configure your server to block certain ip-addresses using fail2ban as bruteforce protection. Here is how to set it up: https://docs.nextcloud.com/server/stable/admin_manual/installation/harden_server.html#setup-fail2ban. The logpath of AIO is by default `/var/lib/docker/volumes/nextcloud_aio_nextcloud/_data/data/nextcloud.log` . Do not forget to add `chain=DOCKER-USER` to your nextcloud jail config (`nextcloud.local`) otherwise the nextcloud service running on docker will still be accessible even if the IP is banned. Also, you may change the blocked ports to cover all AIO ports: by default `80,443,8080,8443,3478` (see this). Apart from that there is now a community container that can be added to the AIO stack: https://github.com/nextcloud/all-in-one/tree/main/community-containers/fail2ban

LDAP

It is possible to connect to an existing LDAP server. You need to make sure that the LDAP server is reachable from the Nextcloud container. Then you can enable the LDAP app and configure LDAP in Nextcloud manually. If you don't have a LDAP server yet, recommended is to use this docker container: https://hub.docker.com/r/nitnelave/lldap. Make sure here as well that Nextcloud can talk to the LDAP server. The easiest way is by adding the LDAP docker container to the docker network `nextcloud-aio` . Then you can connect to the LDAP container by its name from the Nextcloud container. There is now a community container which allows to easily add LLDAP to AIO: https://github.com/nextcloud/all-in-one/tree/main/community-containers/lldap

Netdata

Netdata allows you to monitor your server using a GUI. You can install it by following https://learn.netdata.cloud/docs/agent/packaging/docker#create-a-new-netdata-agent-container. Apart from that there is now a way for the community to add containers: #392 (comment)

USER_SQL

If you want to use the user_sql app, the easiest way is to create an additional database container and add it to the docker network `nextcloud-aio`. Then the Nextcloud container should be able to talk to the database container using its name.

phpMyAdmin, Adminer or pgAdmin

It is possible to install any of these to get a GUI for your AIO database. The pgAdmin container is recommended. You can get some docs on it here: https://www.pgadmin.org/docs/pgadmin4/latest/container_deployment.html. For the container to connect to the aio-database, you need to connect the container to the docker network `nextcloud-aio` and use `nextcloud-aio-database` as database host, `oc_nextcloud` as database username and the password that you get when running `sudo docker exec nextcloud-aio-nextcloud grep dbpassword config/config.php` as the password. Apart from that there is now a way for the community to add containers: #3061 (comment)

Mail server

You can configure one yourself by using either of these four recommended projects: Docker Mailserver, Mailu, Maddy Mail Server, Mailcow or Stalwart. There is now a community container which allows to easily add Stalwart Mail server to AIO: https://github.com/nextcloud/all-in-one/tree/main/community-containers/stalwart

How to migrate from an already existing Nextcloud installation to Nextcloud AIO?

Please see the following documentation on this: migration.md

Requirements for integrating new containers

For integrating new containers, they must pass specific requirements for being considered to get integrated in AIO itself. Even if not considered, we may add some documentation on it. Also there is this now: https://github.com/nextcloud/all-in-one/tree/main/community-containers#community-containers

What are the requirements?

1. New containers must be related to Nextcloud. Related means that there must be a feature in Nextcloud that gets added by adding this container.
2. It must be optionally installable. Disabling and enabling the container from the AIO interface must work and must not produce any unexpected side-effects.
3. The feature that gets added into Nextcloud by adding the container must be maintained by the Nextcloud GmbH.
4. It must be possible to run the container without big quirks inside docker containers. Big quirks means e.g. needing to change the capabilities or security options.
5. The container should not mount directories from the host into the container: only docker volumes should be used.
6. The container must be usable by more than 90% of the users (e.g. not too high system requirements and such)
7. No additional setup should be needed after adding the container - it should work completely out of the box.
8. If the container requires being exposed, only subfolders are supported. So the container should not require its own (sub-)domain and must be able to run in a subfolder.

How to trust user-defined Certification Authorities (CA)?

For some applications it might be necessary to establish a secure connection to another host/server which is using a certificate issued by a Certification Authority that is not trusted out of the box. An example could be configuring LDAPS against a domain controller (Active Directory or Samba-based) of an organization.

You can make the Nextcloud container trust any Certification Authority by providing the environmental variable `NEXTCLOUD_TRUSTED_CACERTS_DIR` to the docker run command of the mastercontainer (but before the last line `nextcloud/all-in-one:latest`! If it was started already, you will need to stop the mastercontainer, remove it (no data will be lost) and recreate it using the docker run command that you initially used). The value of the variables should be set to the absolute paths of the directory on the host, which contains one or more Certification Authorities certificates. You should use X.509 certificates, Base64 encoded. (Other formats may work but have not been tested!) All the certificates in the directory will be trusted.

When using `docker run`, the environmental variable can be set with `--env NEXTCLOUD_TRUSTED_CACERTS_DIR=/path/to/my/cacerts`.

In order for the value to be valid, the path should start with `/` and not end with `/` and point to an existing **directory**. Pointing the variable directly to a certificate **file** will not work and may also break things.

How to disable Collabora's Seccomp feature?

The Collabora container enables Seccomp by default, which is a security feature of the Linux kernel. On systems without this kernel feature enabled, you need to provide `--env COLLABORA_SECCOMP_DISABLED=true` to the initial docker run command in order to make it work.

How to enable automatic updates without creating a backup beforehand?

If you have an external backup solution, you might want to enable automatic updates without creating a backup first. However note that doing this is disrecommended since you will not be able to easily create and restore a backup from the AIO interface anymore and you need to make sure to shut down all the containers properly before creating the backup, e.g. by stopping them from the AIO interface first.

But anyhow, is here a guide that helps you automate the whole procedure:

▶ Click here to expand

You can simply copy and paste the script into a file e.g. named `shutdown-script.sh` e.g. here: `/root/shutdown-script.sh`.

Afterwards apply the correct permissions with `sudo chown root:root /root/shutdown-script.sh` and `sudo chmod 700 /root/shutdown-script.sh`. Then you can create a cronjob that runs it on a schedule e.g. runs the script at `04:00` each day like this:

1. Open the cronjob with `sudo crontab -u root -e` (and choose your editor of choice if not already done. I'd recommend nano).
2. Add the following new line to the crontab if not already present: `0 4 * * * /root/shutdown-script.sh` which will run the script at 04:00 each day.
3. save and close the crontab (when using nano the shortcuts for this are `Ctrl + o` and then `Enter` to save, and close the editor with `Ctrl + x`).

After that is in place, you should schedule a backup from your backup solution that creates a backup after AIO is shut down