

Nextcloud ist eine auf einem ownCloud-Fork basierende in PHP entwickelte freie Software für das Speichern von Daten (z. B. Dateien, Kalendern, Kontakten etc.) auf einem Server.

Auf die Daten kann der Anwender sowohl über eine Weboberfläche als auch mit Client-Applikationen (Smartphone und Desktop) zugreifen.

Server und Clients können sich dabei synchronisieren.

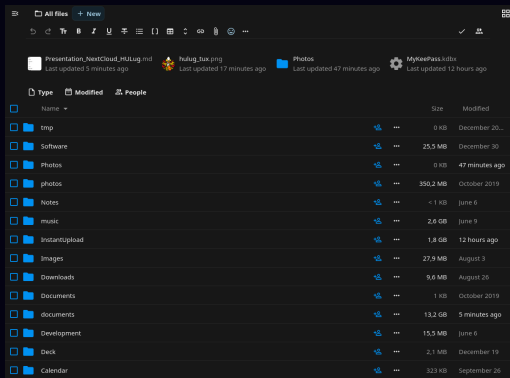
Nextcloud ermöglicht dem Anwender dadurch, auf einen zentralen und konsistenten Datenbestand von vielen Endgeräten aus zuzugreifen und diesen mit anderen Anwendern optional zu teilen.

Neben der Datenhaltung bietet Nextcloud Funktionalitäten für Videokonferenzen und verschiedene Office-Applikationen über die Weboberfläche.



Datei 1/

List



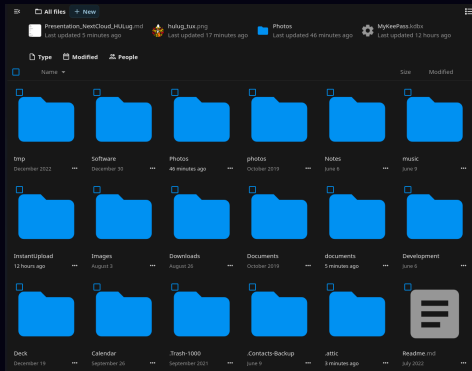
The image shows a screenshot of the Nextcloud file manager interface. At the top, there's a navigation bar with 'All files' and a '+ New' button. Below it is a toolbar with various icons for file operations. The main area displays a list of files and folders. At the top of this list are four items: 'Presentation_NextCloud_HUlug.md' (Last updated 5 minutes ago), 'hufug_tux.png' (Last updated 17 minutes ago), 'Photos' (Last updated 47 minutes ago), and 'MyKeePass.kdbx' (Last updated 12 hours ago). Below these is a table with columns for 'Type', 'Name', 'Modified', 'Size', and 'People'. The table lists several folders: 'tmp', 'Software', 'Photos', 'photos', 'Notes', 'music', 'Instantupload', 'Images', 'Downloads', 'Documents', 'documents', 'Development', 'Deck', and 'Calendar'. Each folder entry includes a checkbox, a folder icon, the name, a dropdown arrow, a share icon, a three-dot menu icon, the size, and the modification date.

Type	Name	Modified	Size	People
☐	tmp		0 KB	December 20...
☐	Software		25,5 MB	December 30
☐	Photos		0 KB	47 minutes ago
☐	photos		350,2 MB	October 2019
☐	Notes		< 1 KB	June 6
☐	music		2,6 GB	June 9
☐	Instantupload		1,8 GB	12 hours ago
☐	Images		27,9 MB	August 3
☐	Downloads		9,6 MB	August 26
☐	Documents		1 KB	October 2019
☐	documents		13,2 GB	5 minutes ago
☐	Development		15,5 MB	June 6
☐	Deck		2,1 MB	December 19
☐	Calendar		323 KB	September 26



Datei 2/

Grid



Nextcloud plus Security

3 / 30

Kalender 1/

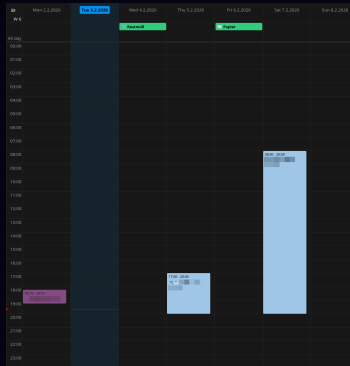
Monat

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
WS	26	27	28	29	30	31	1
		📅 Breakfast	📅 Breakfast	📅 19:00	📅 11:45	📅 08:30	
WS	2	3	4	5	6	7	8
📅 18:15			📅 Breakfast	📅 17:00 📅	📅 Papier	📅 08:30	
WS	9	10	11	12	13	14	15
📅 07:30	📅 Breakfast	📅 Breakfast	📅 19:00	📅 08:30	📅 08:30		
		📅 Birthday			📅 Birthday		
WS	16	17	18	19	20	21	22
			📅 Breakfast	📅 19:00		📅 14:30 📅	
WS	23	24	25	26	27	28	1
📅 18:30	📅 Breakfast	📅 Breakfast	📅 19:00	📅 18:00			
			📅 19:00				



Kalender 2/

Woche



Tasks, Deck, ... können eingeblendet werden
Nextcloud plus Security




Phone

Home x v


Email

Home x v


Address

Home x v


 Phone


 Email


 Address


 Birthday


 Website


 Social network


 Notes


 More fields

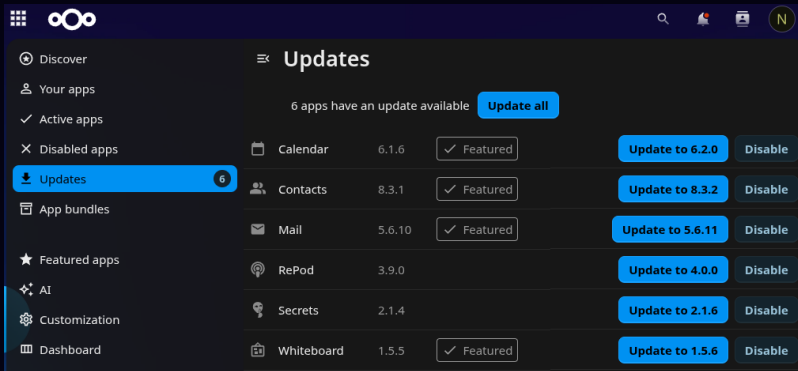

 Address book


 Line manager


 Notes


 More fields





App	Version	Status	Update Button	Action
Calendar	6.1.6	✓ Featured	Update to 6.2.0	Disable
Contacts	8.3.1	✓ Featured	Update to 8.3.2	Disable
Mail	5.6.10	✓ Featured	Update to 5.6.11	Disable
RePod	3.9.0		Update to 4.0.0	Disable
Secrets	2.1.4		Update to 2.1.6	Disable
Whiteboard	1.5.5	✓ Featured	Update to 1.5.6	Disable



Enterprise bundle		Download and enable all
	Auditing / Logging	1.22.0 ✓ Featured
	File access control	3.0.2 ✓ Featured
	Files automated tagging	3.0.3 ✓ Featured
	LDAP user and group backend	1.23.0 ✓ Featured
	Retention	3.0.0 ✓ Featured
	SSO & SAML authentication	7.1.3 ✓ Featured
	Terms of service	4.6.1



Hub bundle		Download and enable all
 Calendar	6.1.6	✓ Featured
 Collabora Online - Built-in CODE Server	25.4.802	
 Contacts	8.3.1	✓ Featured
 Mail	5.6.10	✓ Featured
 Nextcloud Office	9.0.2	✓ Featured
 Talk	22.0.8	✓ Featured



Groupware bundle		Disable all
 Calendar	6.1.6	✓ Featured
 Contacts	8.3.1	✓ Featured
 Deck	1.16.3	✓ Featured
 Mail	5.6.10	✓ Featured



Social sharing bundle		Download and enable all
⚙	Social sharing via Diaspora	4.0.1
⚙	Social sharing via Facebook	4.0.1
⚙	Social sharing via Twitter	4.0.1
⚙	Social sharing via email	4.0.1



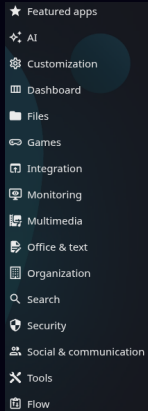
Education bundle		Download and enable all	
	Announcement center	7.3.0	✓ Featured
	Dashboard	7.12.0	✓ Featured
	Quota warning	1.23.0	
	SSO & SAML authentication	7.1.3	✓ Featured
	Team Folders	20.1.10	✓ Featured
	Teams	32.0.0	✓ Featured
	Whiteboard	1.5.5	✓ Featured



App Bundle Public Sector

Public sector bundle			Download and enable all
⚙️	Antivirus for files	6.1.0	
⚙️	Auditing / Logging	1.22.0	✓ Featured
⚙️	Collectives	3.5.0	✓ Featured
⚙️	Confidential files	4.0.0	
⚙️	Forms	5.2.4	✓ Featured
⚙️	Nextcloud Office	9.0.2	✓ Featured
⚙️	Retention	3.0.0	✓ Featured
⚙️	Tables	1.0.3	✓ Featured
🔔	Two-Factor Authentication via Nextcloud notification	6.0.0-dev.0	✓ Featured
🏠	Whiteboard	1.5.5	✓ Featured





■ weitere Apps

- Tasks (To-Do's)
- Mail-Interface
 - Web-Interface (IMAP / SMTP im Backend)
- Bookmark Manager/Sync
- Keeweb (keepass Frontend)
- Deck (Kanban)
- Secrets
 - versenden von einmal-URLs
- Suche (in Daten)
- Editor
 - Text / Markdown
 - Onlyoffice
 - Nextcloud Office
- ...
 - App Store: **apps.nextcloud.com/** (<https://apps.nextcloud.com/>)



■ Einstellmöglichkeiten

- Gruppen
 - Berechtigungen (Kalender, Kontakte, Dateien, ...)
- Quota
- Revisionen
- Retention



Endgeräte(software)

Basis-Funktion

- Datei Synchronisation
 - beide Richtungen

Unterstützte Betriebssysteme

- Linux
 - Thunderbird (CalDAV, CardDAV)
- Windows
- Android
 - DAVx5 (CalDAV, CardDAV)
- macOS
- iOS



■ Server

■ Docker Image

■ Pi Image

■ Software für bestehende Landschaft

■ Erforderlich

- php
- web-server (`apache`, `nginx`, `lighttpd`, ...)

■ Optional

- Datenbank (`mariadb`, `postgres`)



Sicherheits-Komponenten auf dem Server

- SSL Verschlüsselung des Web-Verkehrs
 - Zertifikate: z.B. Let's Encrypt (**certbot**), ...
 - SNI (Server Name Indication)
- Firewall
 - dynamische Whitelist/Blacklist (Länder, ...)
- fail2ban
 - steuert dynamische Einträge der Firewall
- (Geo-)Filter auf dem Web-Server
 - GeoIP (GeoLite)
- Backup der Daten -- rsync
 - Export der Datenbank!



■ Dynamische Firewall Filter 1/

■ firehol

■ nftables

```
table ip blackhole {  
    set blackhole_firehol_level2 {  
        type ipv4_addr  
        flags interval  
        auto-merge  
    }  
    ...  
    chain input {  
        type filter hook input priority filter - 2; policy  
accept;  
        ip saddr @blackhole_firehol_level2 counter drop  
    }  
}
```



■ Dynamische Firewall Filter 2/

■ firehol

■ Update Script

```
#!/usr/bin/env bash

/usr/sbin/nft 'flush set blackhole blackhole_firehol_level2'
curl -s -q '
https://iplists.firehol.org/files/firehol_level2.netset'
    | grep -E '
^[0-9][0-9]*\.[0-9][0-9]*\.[0-9][0-9]*\.[0-9][0-9]*([/][1-9][
0-9]*)$'
    | awk '{print "add element ip blackhole
blackhole_firehol_level2 { " $1 " }"}'
    | /usr/sbin/nft --file -
```



■ Dynamische Firewall Filter 3/

■ Länder (wenig dynamisch)

■ nftables

```
table ip blackhole {  
    set blackhole_cn {  
        type ipv4_addr  
        flags interval  
        auto-merge  
    }  
    ...  
    chain input {  
        type filter hook input priority filter - 2; policy  
accept;  
        ip saddr @blackhole_cn counter drop  
    }  
}
```



■ Dynamische Firewall Filter 4/

■ Länder (wenig dynamisch)

■ Update Script

```
#!/usr/bin/env bash

${HOME}/bin/geoip --database
/var/lib/GeoIP/GeoLite2-Country.mmdb --country China \
| sed -e 's$/ }/'
-e 's/^/add element ip blackhole blackhole_cn { /'
| /usr/sbin/nft --file -
```



fail2ban 1/

jail.local

```
[DEFAULT]  
bantime  = 3600  
chain    = input  
banaction = nftables-multiport
```



fail2ban 2/

jail.local

```
# JAILS
[sshd]
port      = ssh,http,https
logpath   = %(sshd_log)s
backend   = systemd
bantime   = 86400

[nextcloud]
enabled    = false
port       = http,https
filter     = nextcloud
logpath    = /var/log/nextcloud/nextcloud.log
maxretry   = 6
```



```
http {
    geoip2 /var/lib/GeoIP/GeoLite2-Country.mmdb {
        $geoip2_data_country_iso_code country iso_code;
    }
    map $geoip2_data_country_iso_code $allowed_country {
        default yes;
        # 🇩🇪
        DE yes;
        # 🇷🇺
        RU no;
        # 🇨🇳
        CN no;
    }
}
```



■ GeoIP auf Webserver 2/

■ sites-enabled/...

```
if ($allowed_country = no) {  
    return 444;  
}
```



 Backup 1/

 rsync

```
#!/bin/bash
```

```
DST='/data/vserver/latest'
```

```
SRC='root@server-name.tld'
```

```
LOG='/var/log/rsync-vserver.log'
```



```
rsync --itemize-changes --bwlimit=4m --archive --compress  
--one-file-system --no-specials --no-devices --delete-delay  
--delete-excluded --protocol=29 --owner --group  
--exclude '/var/lib/postgresql/'  
--exclude '/var/lib/php/sessions/'  
--exclude '/var/log/'  
--exclude '/tmp/'  
--exclude '/usr/lib/'  
--exclude '/usr/share/locale/'  
--exclude '/usr/share/doc/'  
--rsh "ssh -4 -i ${HOME}/.ssh/id_ed25519 -x"  
    ${SRC}:/ ${DST}/ >> ${LOG}
```



- **presenterm** -- github.com/mfontanini/presenterm (<https://github.com/mfontanini/presenterm>)
- **wezterm** -- wezterm.org/ (<https://wezterm.org/>)
 - **presentation** plugin -- gitlab.com/xarvex/presentation.wez (<https://gitlab.com/xarvex/presentation.wez>)
 - CTRL + ALT + P for presentation mode
 - CTRL + ALT + SHIFT + P for fullscreen presentation
- Markdown -- en.wikipedia.org/wiki/Markdown (<https://en.wikipedia.org/wiki/Markdown>)

