

Add
enterprise
2FA to your ownCloud
in 15 minutes

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Cornelius Kölbel



privacy**ID3A**
AUTHENTICATION SYSTEM

about me

- Cornelius Kölbel
- 2FA since 2005
- 2014: privacyIDEA
- cornelius.koelbel@netknights.it
- @cornelinux
- @privacyidea

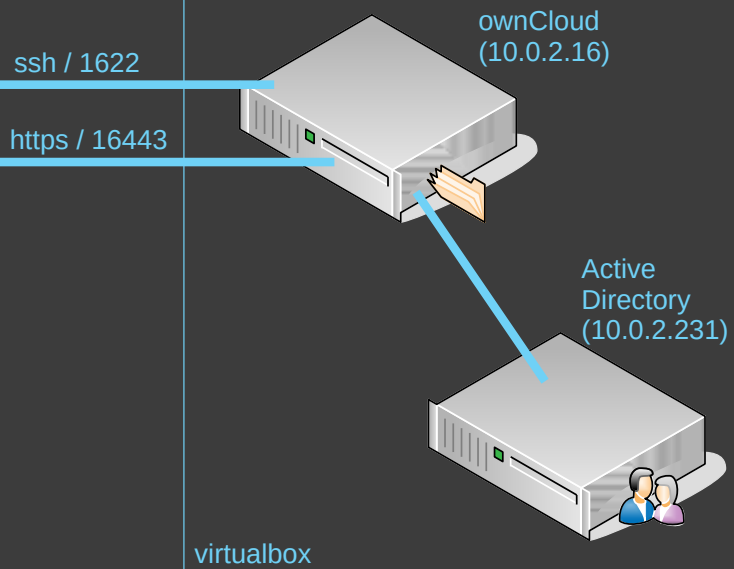


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Status

- ownCloud 10.
- Connected to Active Directory.
- User authenticates with password.





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Massive breach leaks 773 million email addresses, 21 million passwords

The best time to stop reusing old passwords was 10 years ago. The second best time is now.

BY ALFRED NG | JANUARY 17, 2019 8:40 AM PST



source: <https://www.cnet.com/news/massive-breach-leaks-773-million-emails-21-million-passwords/>



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TOTP in ownCloud

- Pro: User is in control.
- Cons: It is TOTP.
- Cons: User is in control!
- Cons: biiiiig keychain.



TOTP Second-factor Auth

✓ Activate TOTP

This is your new TOTP secret: HRUOPP6TXL

Scan this QR code with your TOTP app



To enable second-factor verify authentication

Authentication code

Verify



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Requirements for enterprise 2FA

- Users need to **comply to policies**.
- Choose **token type** that is best for your organization.
- **Central** management
 - Managed by admins or helpdesk.
 - Can be used for lots of applications.



What privacyIDEA can do for you

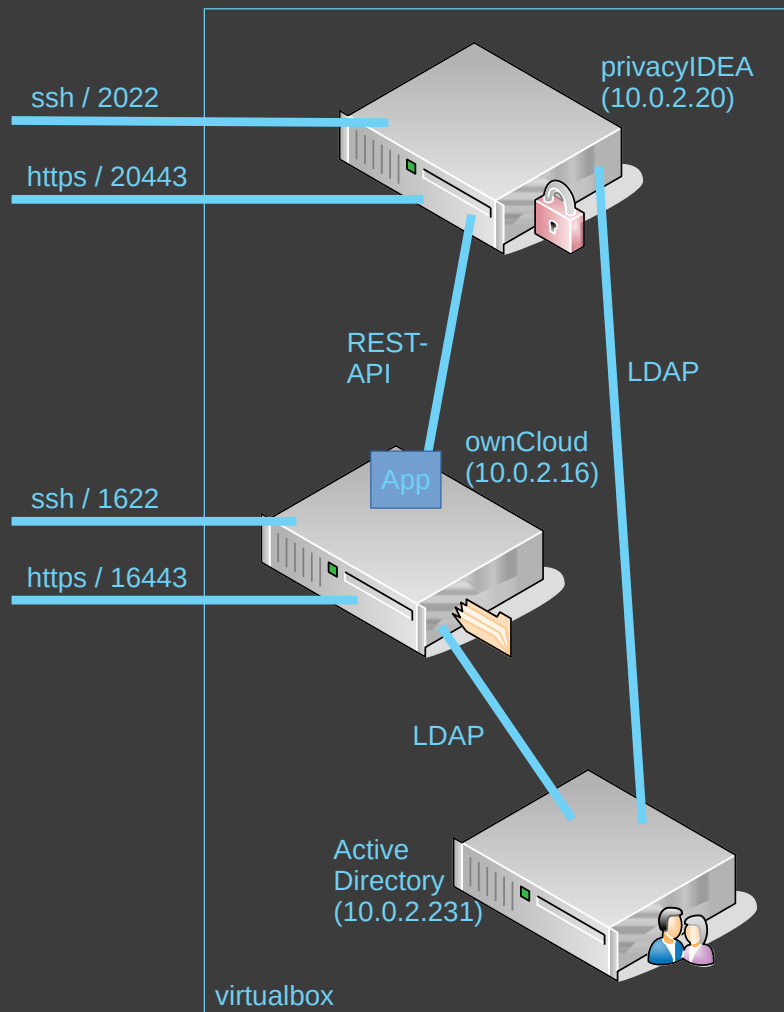
- **Central** Mgmt with admins and service desk.
- Use existing **userstore** (LDAP, SQL, Flatfile, SCIM)
- Many **token types**.
- Policies and events.
- Connect your own Cloud, SSH, Desktop, VPN, Web-Application...



example 2FA setup - enterprise grade

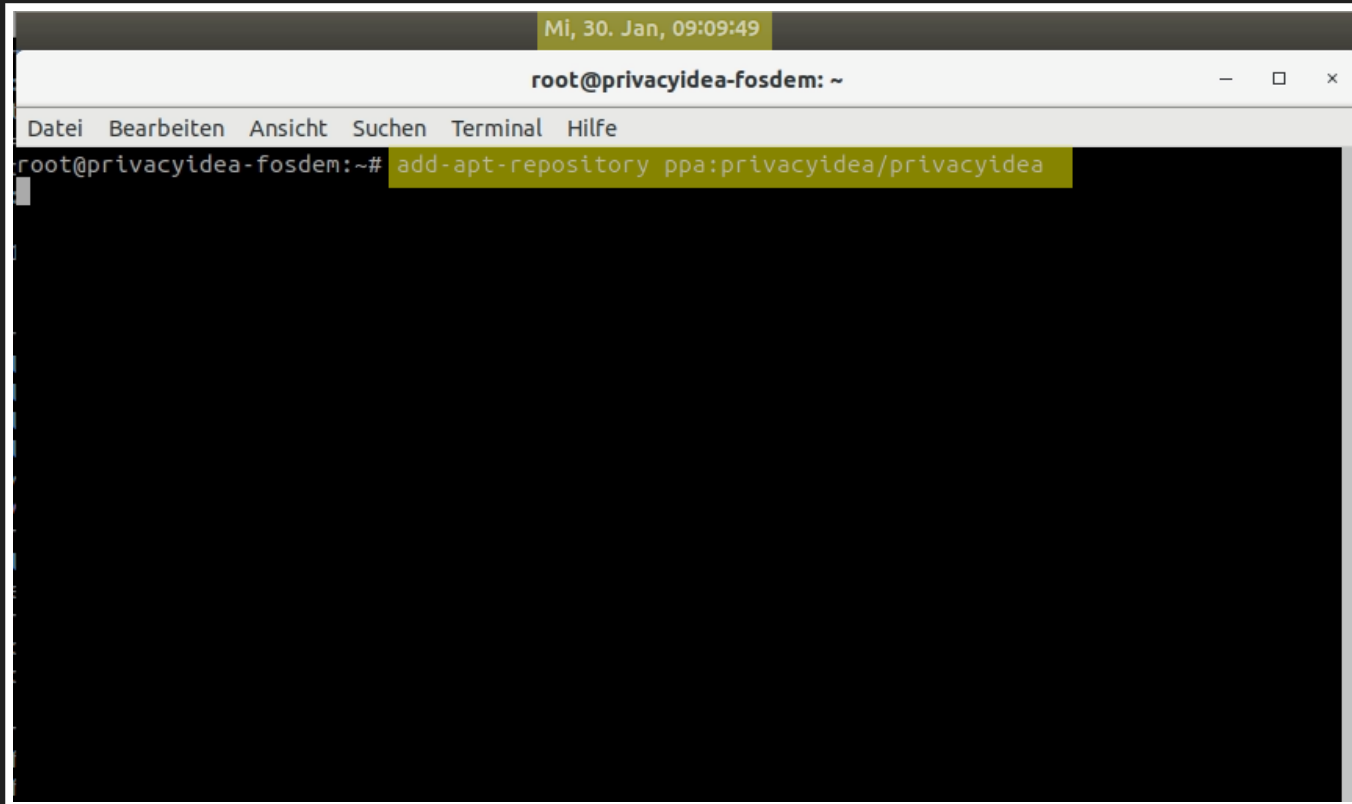
- privacyIDEA reads **users from** AD.
- ...and **assigns** tokens to users.
- Authentication at ownCloud UI:
 1. ownCloud (Active Directory)
 2. privacyIDEA





Installation privacyIDEA on Ubuntu 16.04LTS

Start at 9:09am by adding the launchpad repository.



A terminal window titled "root@privacyidea-fosdem: ~" with a menu bar containing "Datei", "Bearbeiten", "Ansicht", "Suchen", "Terminal", and "Hilfe". The terminal shows the command `add-apt-repository ppa:privacyidea/privacyidea` being entered. The window's title bar also displays the date and time: "Mi, 30. Jan, 09:09:49".

```
root@privacyidea-fosdem:~# add-apt-repository ppa:privacyidea/privacyidea
```



Read new repo data

At 9:10 we update the repository data...

```

Mi, 30. Jan, 09:10:01
root@privacyidea-fosdem: ~
Datei Bearbeiten Ansicht Suchen Terminal Hilfe
apt-get install privacyidea-apache2

Then you need to create your initial administrator via

pi-manage admin add administrator

For more information see https://privacyidea.org
More info: https://launchpad.net/~privacyidea/+archive/ubuntu/privacyidea
Press [ENTER] to continue or ctrl-c to cancel adding it

gpg: keyring `/tmp/tmp17n33t_n/secring.gpg' created
gpg: keyring `/tmp/tmp17n33t_n/pubring.gpg' created
gpg: requesting key C24DCF7D from hkp server keyserver.ubuntu.com
gpg: /tmp/tmp17n33t_n/trustdb.gpg: trustdb created
gpg: key C24DCF7D: public key "Launchpad PPA for privacyidea" imported
gpg: Total number processed: 1
gpg:      imported: 1 (RSA: 1)
OK
root@privacyidea-fosdem:~# apt update
Get:1 http://ppa.launchpad.net/privacyidea/privacyidea/ubuntu xenial InRelease [18.1 kB]
Hit:2 http://security.ubuntu.com/ubuntu xenial-security InRelease
Hit:3 http://de.archive.ubuntu.com/ubuntu xenial InRelease
Hit:4 http://de.archive.ubuntu.com/ubuntu xenial-updates InRelease
Hit:5 http://de.archive.ubuntu.com/ubuntu xenial-backports InRelease
Get:6 http://ppa.launchpad.net/privacyidea/privacyidea/ubuntu xenial/main amd64 Packages [3,072 B]
Get:7 http://ppa.launchpad.net/privacyidea/privacyidea/ubuntu xenial/main i386 Packages [3,072 B]
Get:8 http://ppa.launchpad.net/privacyidea/privacyidea/ubuntu xenial/main Translation-en [1,944 B]
Fetched 26.1 kB in 0s (31.3 kB/s)
Reading package lists... 10%
```



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System update

...and update the system.

```
MI, 30. Jan, 09:10:09
root@privacyidea-fosdem: ~
Datei Bearbeiten Ansicht Suchen Terminal Hilfe
Press [ENTER] to continue or ctrl-c to cancel adding it

gpg: keyring `/tmp/tmp17n33t_n/secring.gpg' created
gpg: keyring `/tmp/tmp17n33t_n/pubring.gpg' created
gpg: requesting key C24DCF7D from hkp server keyserver.ubuntu.com
gpg: /tmp/tmp17n33t_n/trustdb.gpg: trustdb created
gpg: key C24DCF7D: public key "Launchpad PPA for privacyidea" imported
gpg: Total number processed: 1
gpg:      imported: 1 (RSA: 1)
OK
root@privacyidea-fosdem:~# apt update
Get:1 http://ppa.launchpad.net/privacyidea/privacyidea/ubuntu xenial InRelease [18.1 kB]
Hit:2 http://security.ubuntu.com/ubuntu xenial-security InRelease
Hit:3 http://de.archive.ubuntu.com/ubuntu xenial InRelease
Hit:4 http://de.archive.ubuntu.com/ubuntu xenial-updates InRelease
Hit:5 http://de.archive.ubuntu.com/ubuntu xenial-backports InRelease
Get:6 http://ppa.launchpad.net/privacyidea/privacyidea/ubuntu xenial/main amd64 Packages [3,072 B]
Get:7 http://ppa.launchpad.net/privacyidea/privacyidea/ubuntu xenial/main i386 Packages [3,072 B]
Get:8 http://ppa.launchpad.net/privacyidea/privacyidea/ubuntu xenial/main Translation-en [1,944 B]
Fetched 26.1 kB in 0s (31.3 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
All packages are up to date.
root@privacyidea-fosdem:~# apt dist-upgrade
Reading package lists... Done
Building dependency tree
Reading state information... Done
Calculating upgrade... 10%
```



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Install meta package

At 9:10 we choose to install a meta package...

```
Mi, 30. Jan, 09:10:18
root@privacyidea-fosdem: ~
Datei Bearbeiten Ansicht Suchen Terminal Hilfe
gpg: keyring `/tmp/tmp17n33t_n/secring.gpg' created
gpg: keyring `/tmp/tmp17n33t_n/pubring.gpg' created
gpg: requesting key C24DCF7D from hkp server keyserver.ubuntu.com
gpg: /tmp/tmp17n33t_n/trustdb.gpg: trustdb created
gpg: key C24DCF7D: public key "Launchpad PPA for privacyidea" imported
gpg: Total number processed: 1
gpg:         imported: 1 (RSA: 1)
OK
root@privacyidea-fosdem:~# apt update
Get:1 http://ppa.launchpad.net/privacyidea/privacyidea/ubuntu xenial InRelease [18.1 kB]
Hit:2 http://security.ubuntu.com/ubuntu xenial-security InRelease
Hit:3 http://de.archive.ubuntu.com/ubuntu xenial InRelease
Hit:4 http://de.archive.ubuntu.com/ubuntu xenial-updates InRelease
Hit:5 http://de.archive.ubuntu.com/ubuntu xenial-backports InRelease
Get:6 http://ppa.launchpad.net/privacyidea/privacyidea/ubuntu xenial/main amd64 Packages [3,072 B]
Get:7 http://ppa.launchpad.net/privacyidea/privacyidea/ubuntu xenial/main i386 Packages [3,072 B]
Get:8 http://ppa.launchpad.net/privacyidea/privacyidea/ubuntu xenial/main Translation-en [1,944 B]
Fetched 26.1 kB in 0s (31.3 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
All packages are up to date.
root@privacyidea-fosdem:~# apt dist-upgrade
Reading package lists... Done
Building dependency tree
Reading state information... Done
Calculating upgrade... Done
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
root@privacyidea-fosdem:~# apt install privacyidea-apache2
```



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Install meta package

Wow! All batteries included!

```
MI, 30. Jan, 09:10:21
root@privacyidea-fosdem: ~
Datei Bearbeiten Ansicht Suchen Terminal Hilfe
liblua5.1-0 liblwp-mediatypes-perl libmpc3 libmpx0 libmysqlclient20 libpango-1.0-0
libpangocairo-1.0-0 libpangoft2-1.0-0 libpaper-utils libpaper1 libpixmap-1-0 libpython-dev
libpython-stdlib libpython2.7 libpython2.7-dev libpython2.7-minimal libpython2.7-stdlib
libquadmath0 libsnappy1v5 libstdc++-5-dev libsuitesparseconfig4.4.6 libsz2 libtcl8.6
libthai-data libthai0 libtiff5 libtimedate-perl libtk8.6 libtsan0 libubsan0 liburi-perl
libwebp5 libwebpmux1 libxcb-render0 libxcb-shm0 libxcomposite1 libxcursor1 libxdamage1
libxfixes3 libxft2 libxi6 libxinerama1 libxrandr2 libxrender1 libxss1 libyaml-0-2
linux-libc-dev manpages-dev mysql-client mysql-client-5.7 mysql-client-core-5.7
mysql-common mysql-server mysql-server-5.7 mysql-server-core-5.7 privacyidea-apache2
python python-alembic python-antlr python-babel python-babel-localedata python-blinker
python-bs4 python-cairo python-cffi python-cffi-backend python-chardet python-configobj
python-croniter python-crypto python-cryptography python-cvopt python-cycler
python-dateutil python-decorator python-defusedxml python-dev python-docutils python-ecdsa
python-enum34 python-flask python-flask-babel python-flask-migrate python-flask-script
python-flask-sqlalchemy python-funcparserlib python-glade2 python-gnupg python-gobject-2
python-gtk2 python-html5lib python-idna python-imaging python-ipaddress
python-itsdangerous python-jdcal python-jinja2 python-joblib python-jwt python-ldap3
python-lxml python-mako python-markupsafe python-matplotlib python-matplotlib-data
python-minimal python-mysqldb python-ndg-httpsclient python-netaddr python-nose
python-numexpr python-numpy python-openpyxl python-openssl python-pandas python-pandas-lib
python-passlib python-patsy python-pil python-pkg-resources python-ply python-privacyidea
python-py python-pyasn1 python-pycparser python-pygments python-pyinotify python-pymysql
python-pyparsing python-pyrad python-pytest python-qrcode python-requests python-roman
python-scipy python-simplejson python-six python-speaklater python-sqlalchemy
python-sqlalchemy-ext python-sqlsoup python-statsmodels python-statsmodels-lib
python-tables python-tables-data python-tables-lib python-tk python-tz python-urllib3
python-usb python-werkzeug python-xlrd python-xlwt python-yaml python2.7 python2.7-dev
python2.7-minimal rng-tools ssl-cert tk8.6-blt2.5 ttf-bitstream-vera x11-common
0 upgraded, 250 newly installed, 0 to remove and 0 not upgraded.
Need to get 145 MB of archives.
After this operation, 609 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```



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Meta package ships its own database

During installation at 9:11 we set the MySQL root password.



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Package configuration

Configuring mysql-server-5.7

While not mandatory, it is highly recommended that you set a password for the MySQL administrative "root" user.

If this field is left blank, the password will not be changed.

New password for the MySQL "root" user:

<Ok>



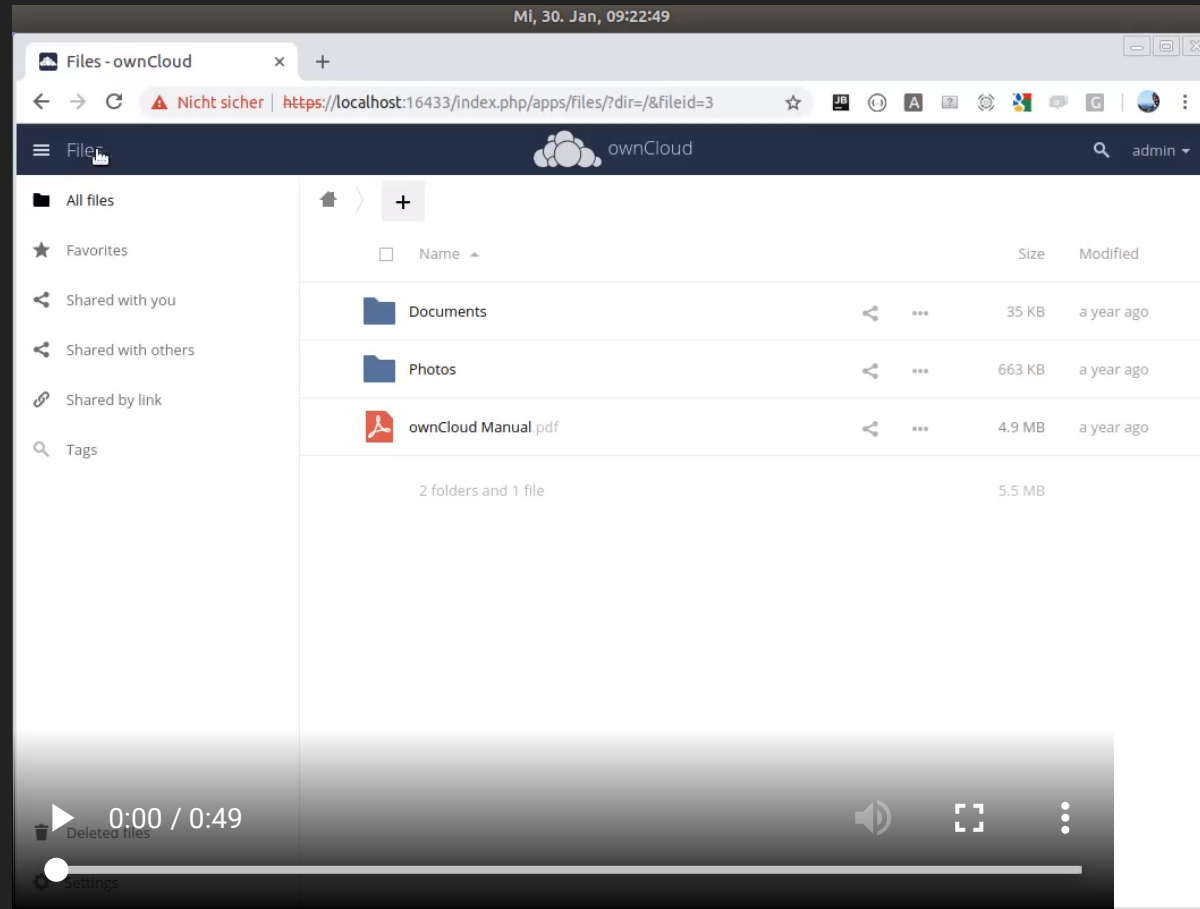
9:13:34: No standard passwords involved!

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Install privacyIDEA ownCloud App in under a minute.



Hands On!

- Connect privacyIDEA to Active Directory.
- Enroll Tokens to users.
 - Smartphone App.
 - OTP Card.
 - Yubikey.
- Configure privacyIDEA ownCloud App.
- Authenticate.
 - Administratively block user.
 - Provide lost token.

Next steps...

- Processes...
- Helpdesk groups...
- Policies for users and admins...
- Workflows...
- Connect more applications...





Thanks a lot!

Star, Clone, Rull Requests:
<https://github.com/privacyidea>

Questions: <https://community.privacyidea.org>
@privacyidea

Enterprise Grade Two Factor Auth