PowerShell Conference Europe

Invoke-BlueSky

Thorsten Butz

Follow along

MALMÖ 25

June 24, 2025
Malmö, Sweden
Room 4
16:00 h

Get the code and follow along!

```
winget install --id Git.Git
git clone https://github.com/thorstenbutz/bsky
```
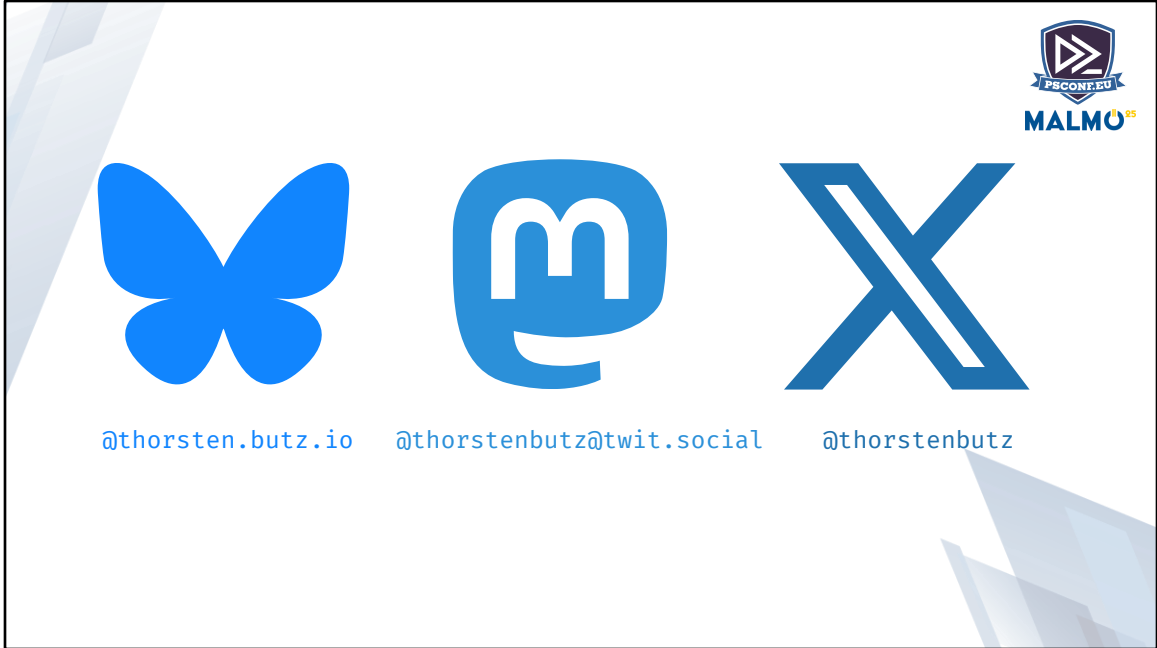
Watch the recording:

```
https://youtu.be/balTrnOsCVg
```

Thanks to all the sponsors and – most important – to all the delegates, that
make/made it possible to come together.

I love cycling and my favourite tour (picture above) is the "11 steden tocht" (11 cities tour): https://www.fietselfstedentocht.frl/

You should definitely try this!

@thorsten.butz.io   @thorstenbutz@twit.social   @thorstenbutz

You can find me an lots of social networks.
https://bsky.app/profile/thorsten.butz.io
https://twit.social/@thorstenbutz
https://x.com/thorstenbutz

X 🇺🇸
- 🟢 (Still) Most user accounts
- 🟡 Politically controversial
- 🔴 No free REST API, centralized

YOUR MILEAGE MAY VARY

Mastodon 🇩🇪
- 🔴 Niche user base
- 🟡 Politically controversial
- 🟢 Free REST API, federated

Bluesky 🇺🇸
- 🟠 "When two quarrel, the third is happy"
- 🟢 Politically relaxed
- 🟡 Free REST API, (yet almost) centralized

https://swat.io/en/learn/x-alternatives-bluesky-threads-mastodon/

I will (try to) update the demo repo from time to time.
https://github.com/thorstenbutz/bsky

You can find all slides and demos from the Malmö conference in the central repo:
https://github.com/psconfeu/2025

https://bsky.app/profile/jay.bsky.team
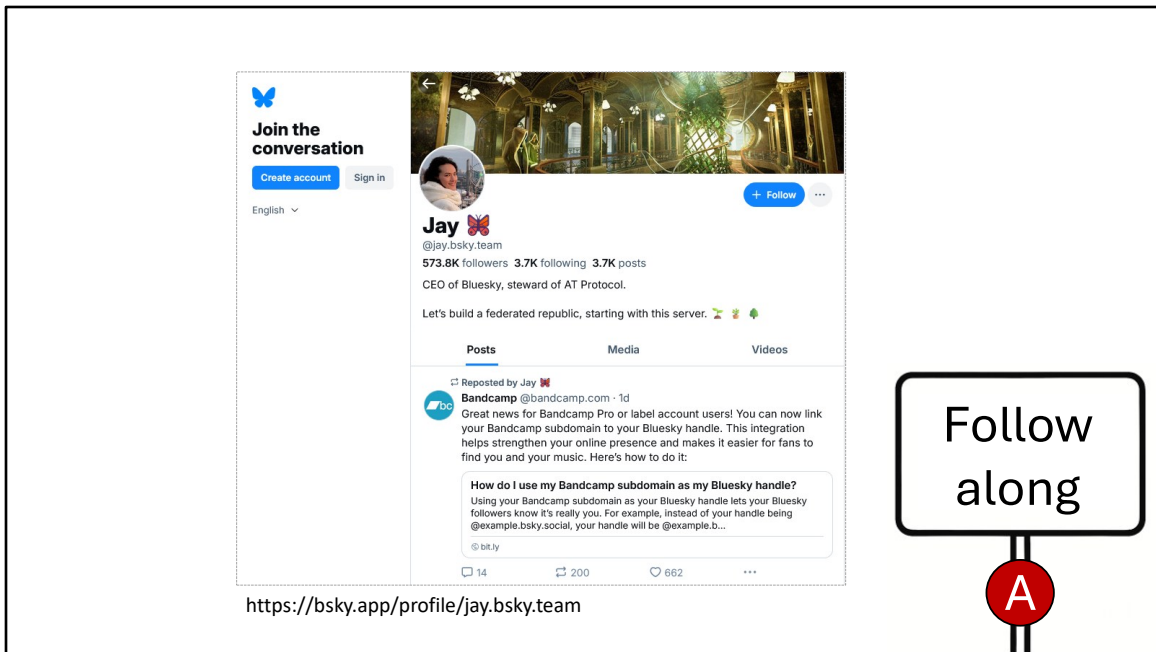
→ A Bluesky user: **Handle** and **DID**

DID stands for Decentralized ID. DIDs are a W3C specification. DIDs are universally-unique identifiers , permanent and non-human-readable.

Handles are domain names which are used to identify users in a simple way. More than one handle may be assigned to a user, handles must not be permanent.

Custom handle

```
# > Resolve-DnsName -Type TXT -Name _atproto.dev.butz.io

Name    : _atproto.dev.butz.io
Type    : TXT
TTL     : 3276
Strings : {did=did:plc:kklrh34ii6m4eunzjsp32api}
```

Change my handle

Cancel

Enter the domain you want to use

@ eg alice.com

Add the following record to your domain:

Domain:
_atproto.

Type:
TXT

Value:
did=did:plc:ewvi7nxzyoun6zhxrhs64oiz

Copy Domain Value

Verify DNS Record

https://bsky.social/about/blog/4-28-2023-domain-handle-tutorial

```
Resolve-DnsName -Type TXT -Name _atproto.thorsten.butz.io

Name    : _atproto.thorsten.butz.io
Type    : TXT
TTL     : 2695
Strings : {did=did:plc:zfubrgofk23trzj7bapmym2d}


TEST-Account

Resolve-DnsName -Type TXT -Name _atproto.dev.butz.io | fl

Name    : _atproto.dev.butz.io
Type    : TXT
TTL     : 3276
Strings : {did=did:plc:kklrh34ii6m4eunzjsp32api}
```
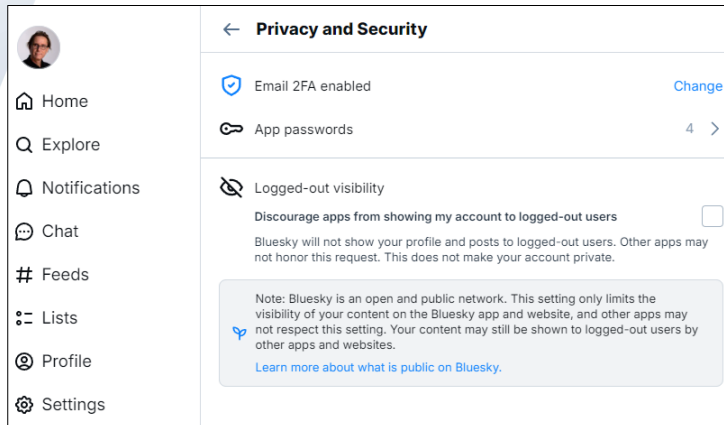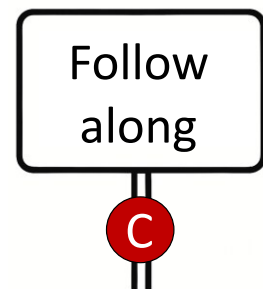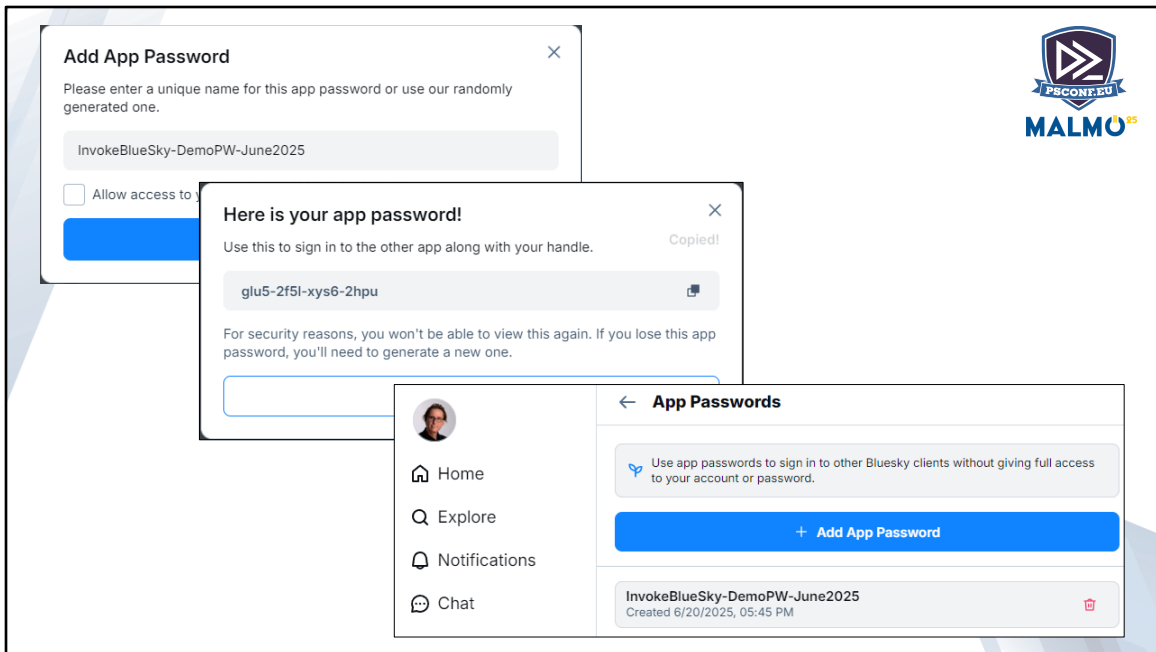
App passwords

@thorsten.butz.io

Follow along

App passwords can also be used to simply login to the website. This way you can use a 2nd factor authentication for the main password while simplifying login with the username/apppassword approach.

This app pw has been revoked.

$mySession.refreshJwt (90 days lifetime)

jwt.ms

Enter token below (it never leaves your browser):

eyJ0eXAiOiJyZWZyZXNoK2p3dCIsImFsZyI6IkVTMjU2SyJ9.eyJzY29wZSI6ImNvbS5hdHByb3RvLnJlZnJlc2giLCJzdWIiOiJkaWQ6cGxjOmtrbHJoMzRpaTZtNGV1bnpqc3AzMmFwaSIsImF1ZCI6ImRpZDp3ZWI6YnNreS5zb2NpYWwiLCJqdGkiOiIyUEdFSmcya2wyYT9mWDFCdFFpZUJXK29hNjRab3hwOVh5VnlWSmR1dmciLCJpYXQiOjE3NDIzODQ4MjgsImV4cCI6MTc1MDE2MDgyOH0.sHHytdwE3J0Y_aKr7sHqgjr--VfkPeQNB8giTW5KntK1wbM3BQMCBya6l8AVoRUKYQ0oqAoA55GwaFVSmd_fWA

Decoded Token   Claims

```
{
  "typ": "refresh+jwt",
  "alg": "ES256K"
}.{
  "scope": "com.atproto.refresh",
  "sub": "did:plc:kklrh34ii6m4eunzjsp32api",
  "aud": "did:web:bsky.social",
  "jti": "2PGEJg2kl2a9fX1BtQieBW+oa64Zoxp9XyVyVJdlvdg",
  "iat": 1742384828,
  "exp": 1750160828
}.[Signature]
```

This is a refresh token.

A website by Microsoft to decode "JSON web tokens" (JWT):
https://jwt.ms

More about JWTs:
https://en.wikipedia.org/wiki/JSON_Web_Token

I used this module during the demo:
https://github.com/darrenjrobinson/JWTDetails
https://www.powershellgallery.com/packages/JWTDetails/1.0.3

$mySession.accessJwt (2 hours lifetime)

jwt.ms

Enter token below (it never leaves your browser):

eyJ0eXAiOiJhdCtqd3QiLCJhbGciOiJFUzI1NksifQ.eyJzY29wZSI6ImNvbS5hdHByb3RvLmFwcFBhc3NQcml2aWxlZ2VkIiwic3ViIjoiZGlkOnBsYzpra2x
yaDM0aWk2bTRldW56anNwMzJhcGkiLCJpYXQiOjE3NDIzODQ4MjgsImV4cCI6MTc0MjM5MjAyOCwiYXVkIjoiZGlkOndlYjpjb3JhbC51cy1lYXN0Lmhvc3QuYnN
nNreS5uZXR3b3JrIn0.vuru3PNghRkyt5xBV_HAKpnFjYRAfGOqY10uloJazAgDcawFpUtu08NuRiwzFHKDw8G1ijuUvkGVMI7GWAM85w

Decoded Token   Claims

```
{
  "typ": "at+jwt",
  "alg": "ES256K"
}.{
  "scope": "com.atproto.appPassPrivileged",
  "sub": "did:plc:kklrh34ii6m4eunzjsp32api",
  "iat": 1742384828,
  "exp": 1742392028,
  "aud": "did:web:coral.us-east.host.bsky.network"
}.[Signature]
```

This is an access token.

Multiple tokens are provided. An ID or refresh token, that might last for a longer time period, while access tokens have a shorter lifetime.

https://auth0.com/blog/refresh-tokens-what-are-they-and-when-to-use-them/

Documentation

https://docs.bsky.app/docs/get-started#create-a-session

https://docs.bsky.app/docs/get-started

Documentation of in terms of Bluesky and the AT protocol is extremely detailed. This makes it also valuable for "vibe coding", the auto-creation of code using AI.

These tokens are provided by the fine people of Token2.
https://token2.com/

Thanks for your support!
Merci pour votre soutien!

https://bsky.app/profile/pshnuts.bsky.social/post/3lbry4dzsb72a

https://bsky.app/profile/pshnuts.bsky.social/post/3lbry4dzsb72a

Bridging the social internet

https://fed.brid.gy

The famous bridge between Copenhagen/Denmark and Malmö/Sweden, the
Öresund bridge
https://en.wikipedia.org/wiki/%C3%98resund_Bridge

The fedi bridge service
https://fed.brid.gy/

This is an independent service that acts a proxy between the fediverse and Bluesky.
You should definitely check this out.

You will find the Bluesky account of @psconf.eu via:
https://twit.social/@psconf.eu@bsky.brid.gy

.. or the other way around (my account):
https://bsky.app/profile/thorstenbutz.twit.social.ap.brid.gy

"What Are Refresh Tokens and How to Use Them Securely"
https://auth0.com/blog/refresh-tokens-what-are-they-and-when-to-use-them/

Highly recommended articles about authentication:
https://syfuhs.net/understanding-windows-auth

"What is Kerberos?"
https://www.vaadata.com/blog/what-is-kerberos-kerberos-authentication-explained/

KEEP
CALM
AND
ENJOY
#PSCONFEU

```
{
  "Venue"   : "PSConfEU 2025",
  "Title"   : "Invoke-BlueSky,
  "Speaker" : "Thorsten Butz",
  "Github"  : "github.com/thorstenbutz",
  "Uri"     : "thorsten-butz.de",
  "BlueSky" : "@thorsten.butz.io",
  "Podcast" : "slidingwindows.de"
}
```

@thorsten.butz.io

Thanks for having me!