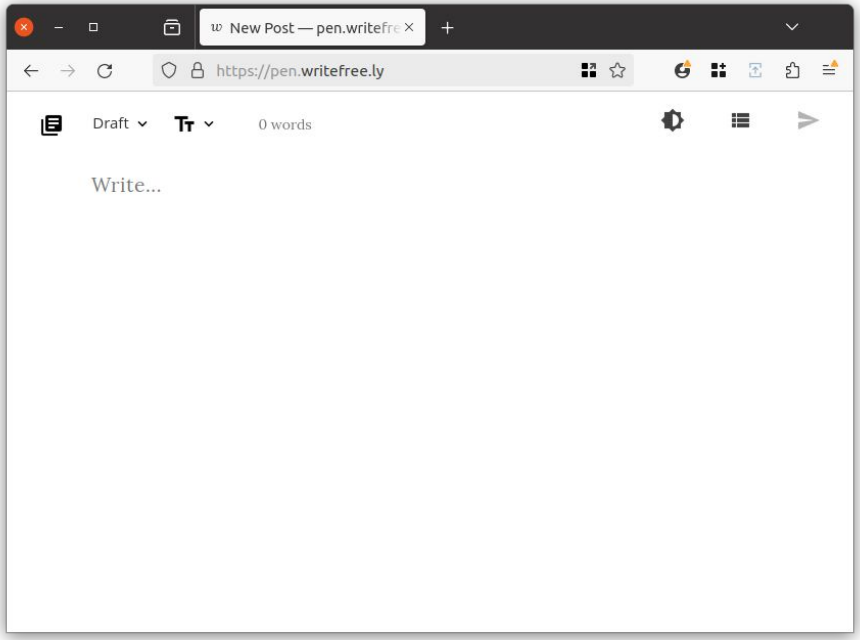
Federated Blogging with WriteFreely

By Matt Baer
Lead developer, WriteFreely

write freely

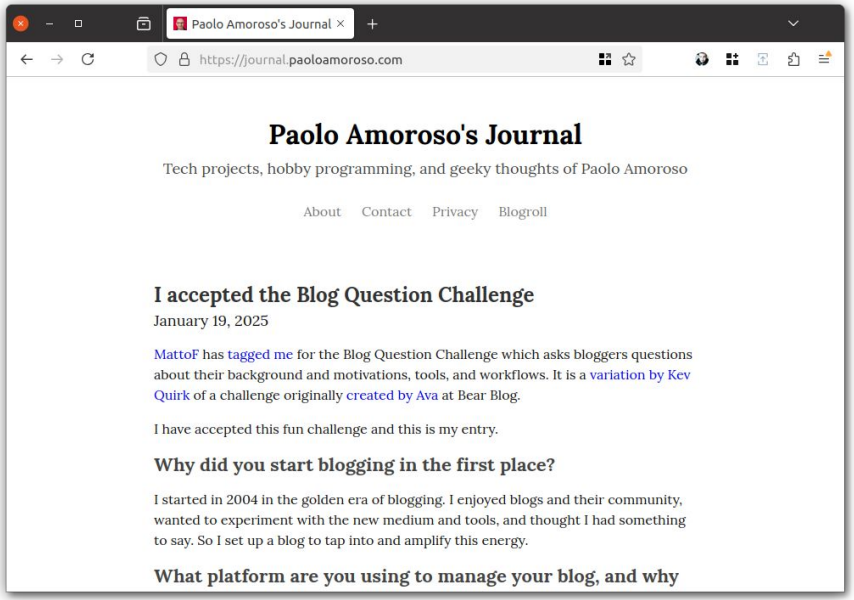


What is WriteFreely?

- Minimalist blogging platform made just for writing
- Licensed AGPL
- Written in Go (golang)
- Easy to install and maintain (single static binary)
- Runs on very limited resources
- Built around plain text / Markdown
- Web, RSS, email subscriptions, ActivityPub, Gopher
- Backed by SQLite or MySQL / MariaDB

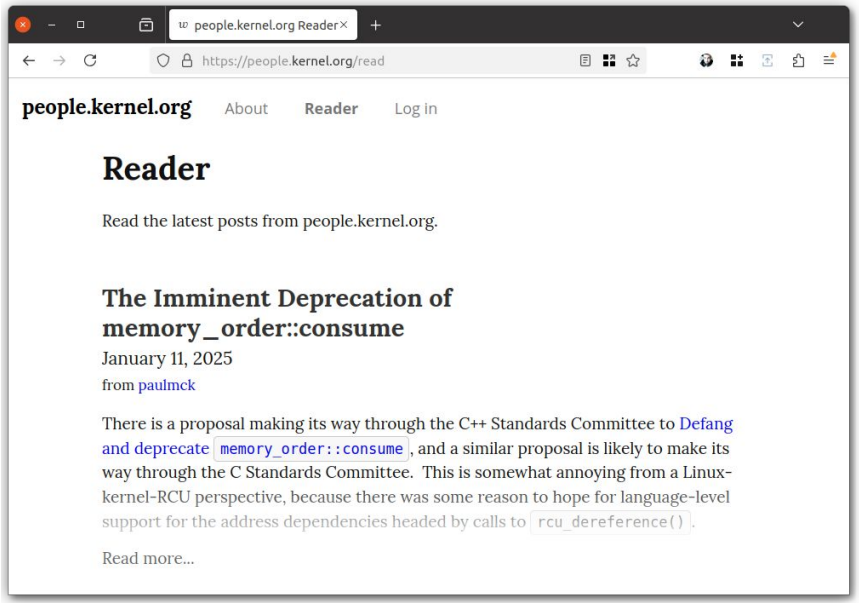
What is WriteFreely?

Can be set up for a single user.



What is WriteFreely?

...or configured for a community, organization, etc.



Set Up

First, **download the latest release** for your operating system. If your OS and system architecture are not listed, you'll need to build from source, instead.

> If you plan to use **MySQL** for your database, separately connect to your MySQL server now and run:
>
> ```
> CREATE DATABASE writefreely CHARACTER SET latin1 COLLATE latin1_swedish_
> ```

Extract the files and go into the project folder. Next, start the configuration process by running the following command. This will walk you through the various ways you can configure your instance:

```
writefreely config start
```

Generate the encryption keys for your instance by running:

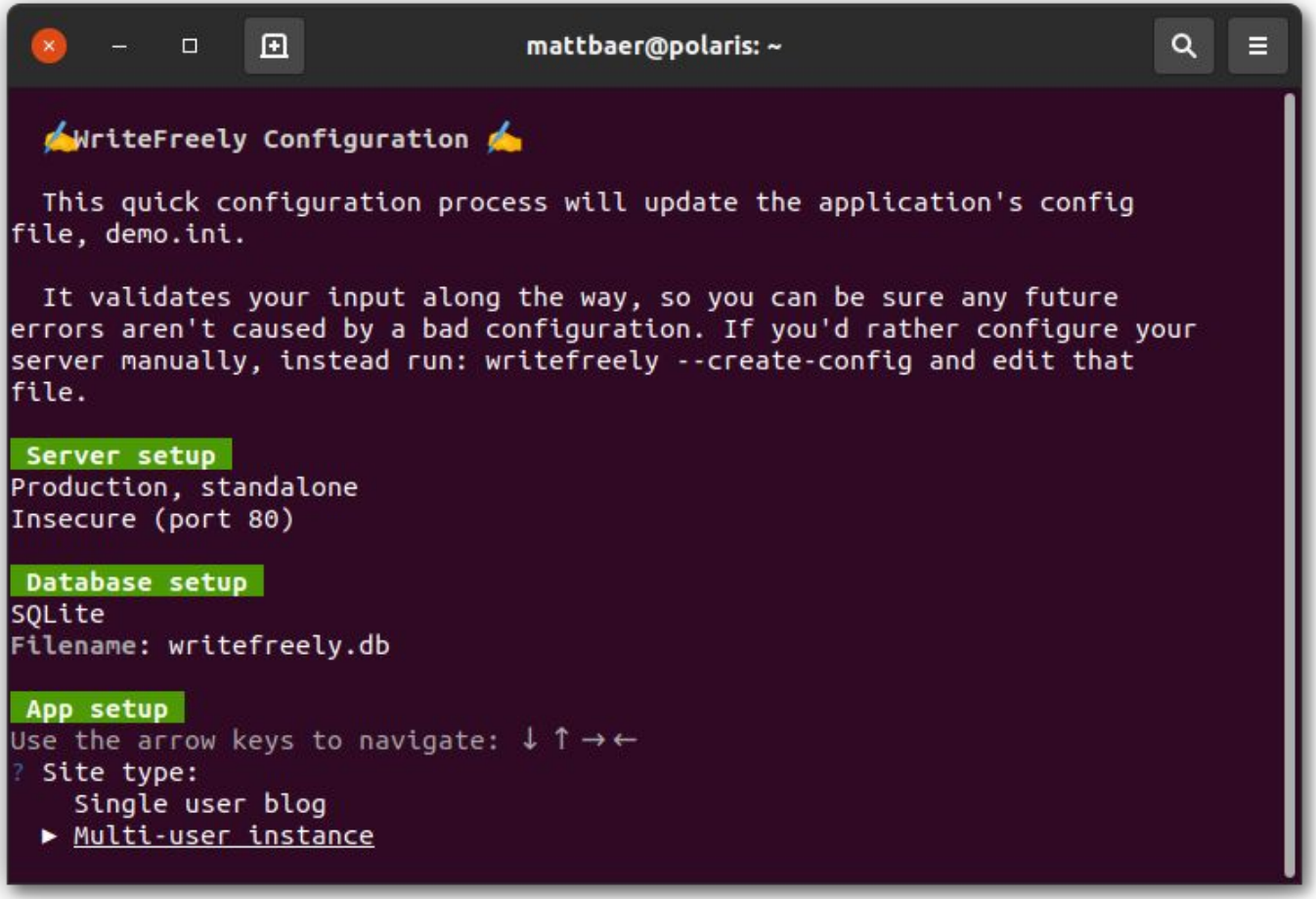
```
writefreely keys generate
```

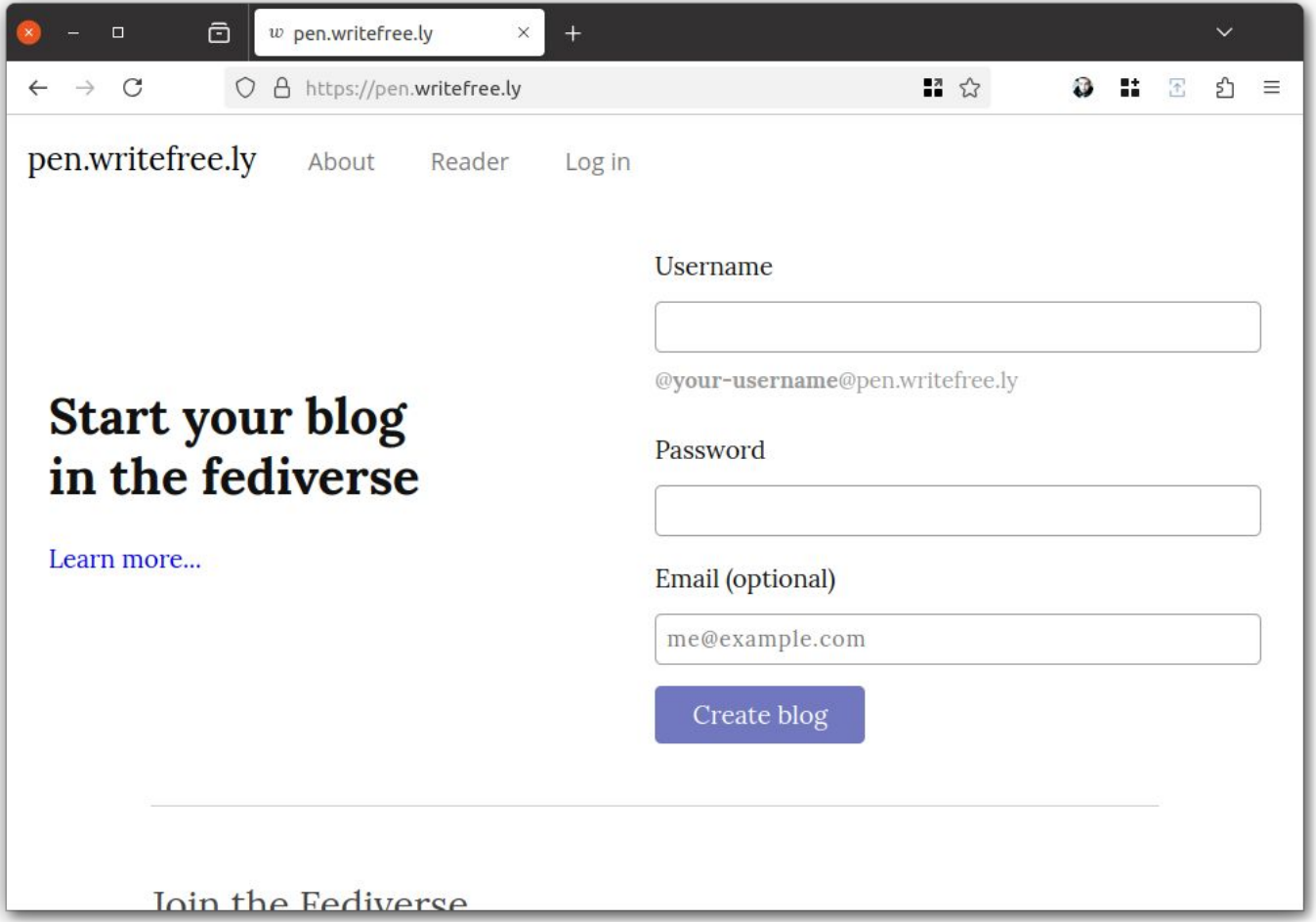
And finally, run:

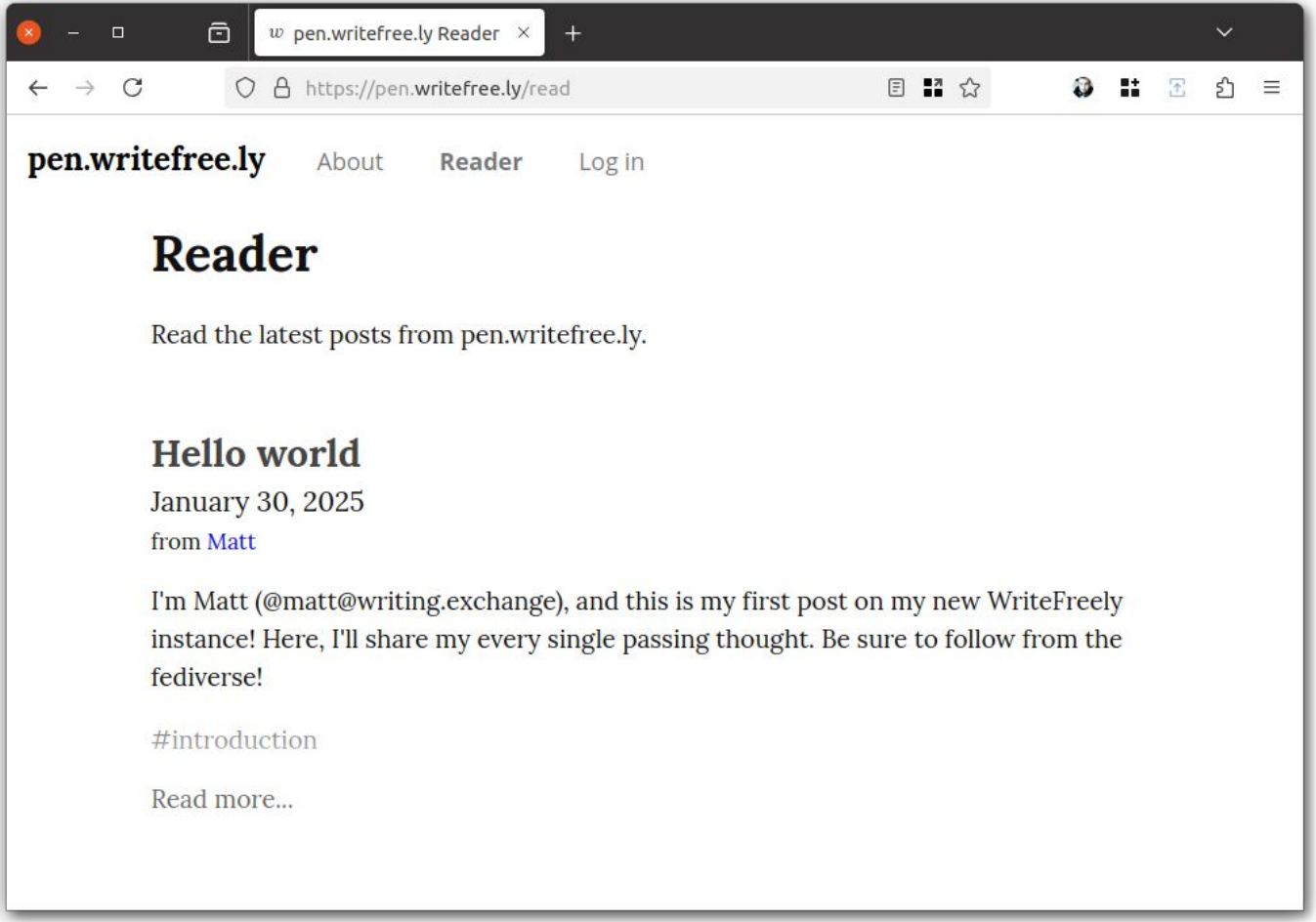
```
writefreely
```

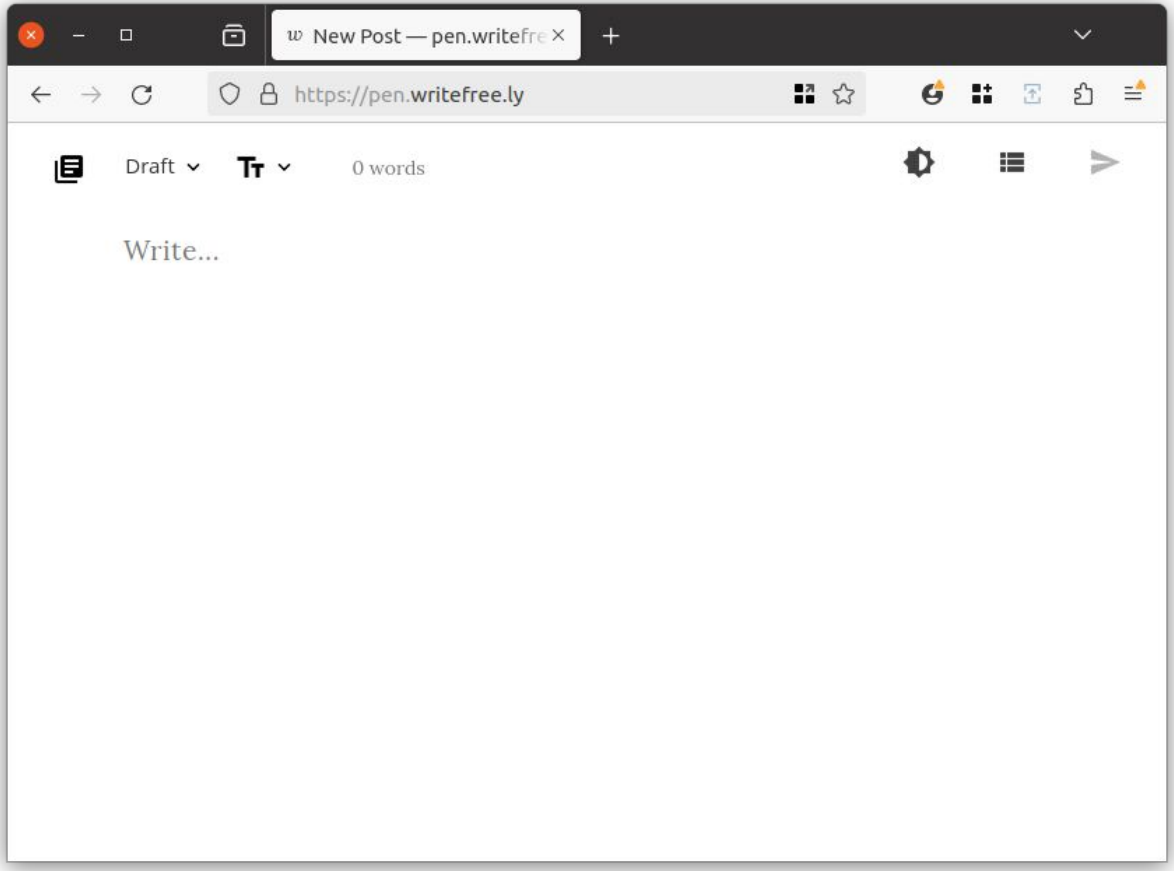
🎉

from: https://writefreely.org/start


mattbaer@polaris: ~
✍WriteFreely Configuration ✍
This quick configuration process will update the application's config file, demo.ini.
It validates your input along the way, so you can be sure any future errors aren't caused by a bad configuration. If you'd rather configure your server manually, instead run: writefreely --create-config and edit that file.
Server setup
Production, standalone
Insecure (port 80)
Database setup
SQLite
Filename: writefreely.db
App setup
Use the arrow keys to navigate: ↓ ↑ → ←
? Site type:
Single user blog
▸ Multi-user instance


pen.writefree.ly
https://pen.writefree.ly
pen.writefree.ly
About
Reader
Log in
Start your blog in the fediverse
Learn more...
Username
@your-username@pen.writefree.ly
Password
Email (optional)
me@example.com
Create blog
Join the Fediverse


pen.writefree.ly Reader
https://pen.writefree.ly/read
pen.writefree.ly
About
Reader
Log in
Reader
Read the latest posts from pen.writefree.ly.
Hello world
January 30, 2025
from Matt
I'm Matt (@matt@writing.exchange), and this is my first post on my new WriteFreely instance! Here, I'll share my every single passing thought. Be sure to follow from the fediverse!
#introduction
Read more...


New Post — pen.writefre
https://pen.writefree.ly
Draft
0 words
Write...

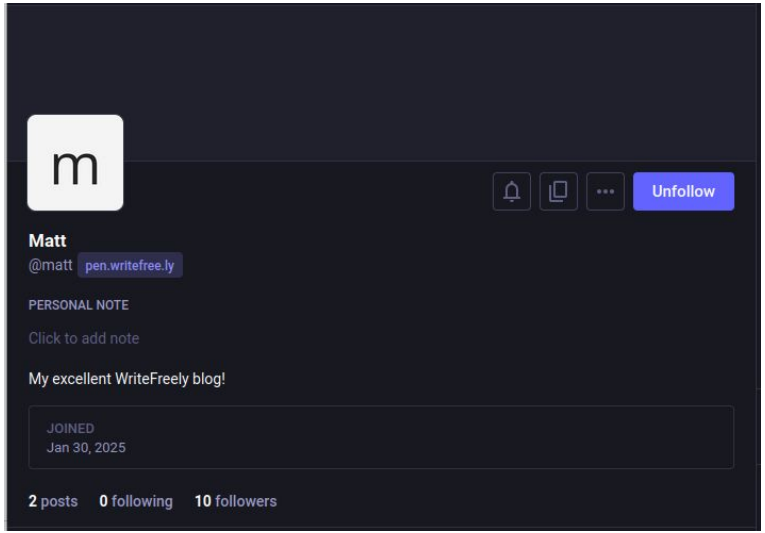
Further configuration

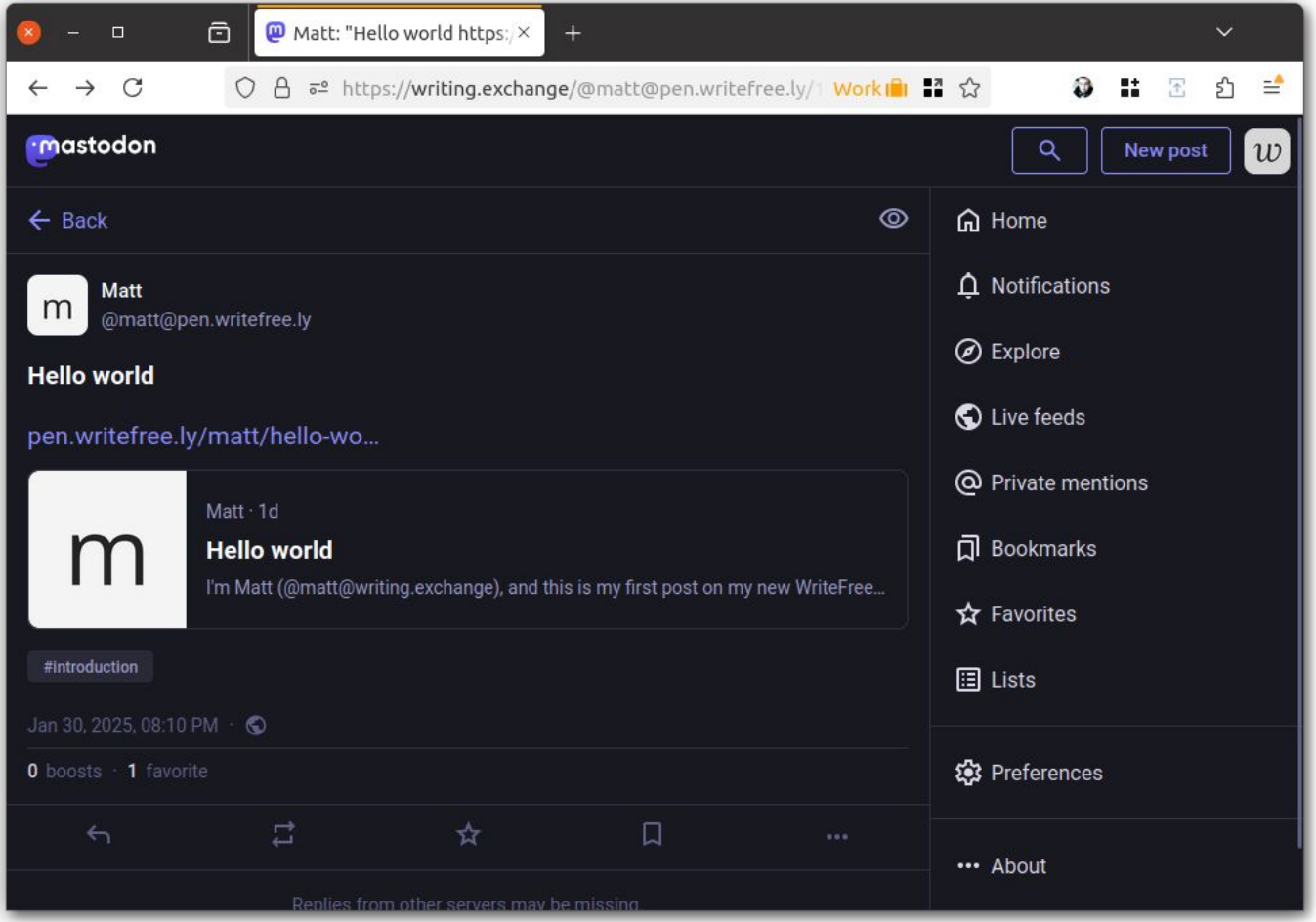
More examples:

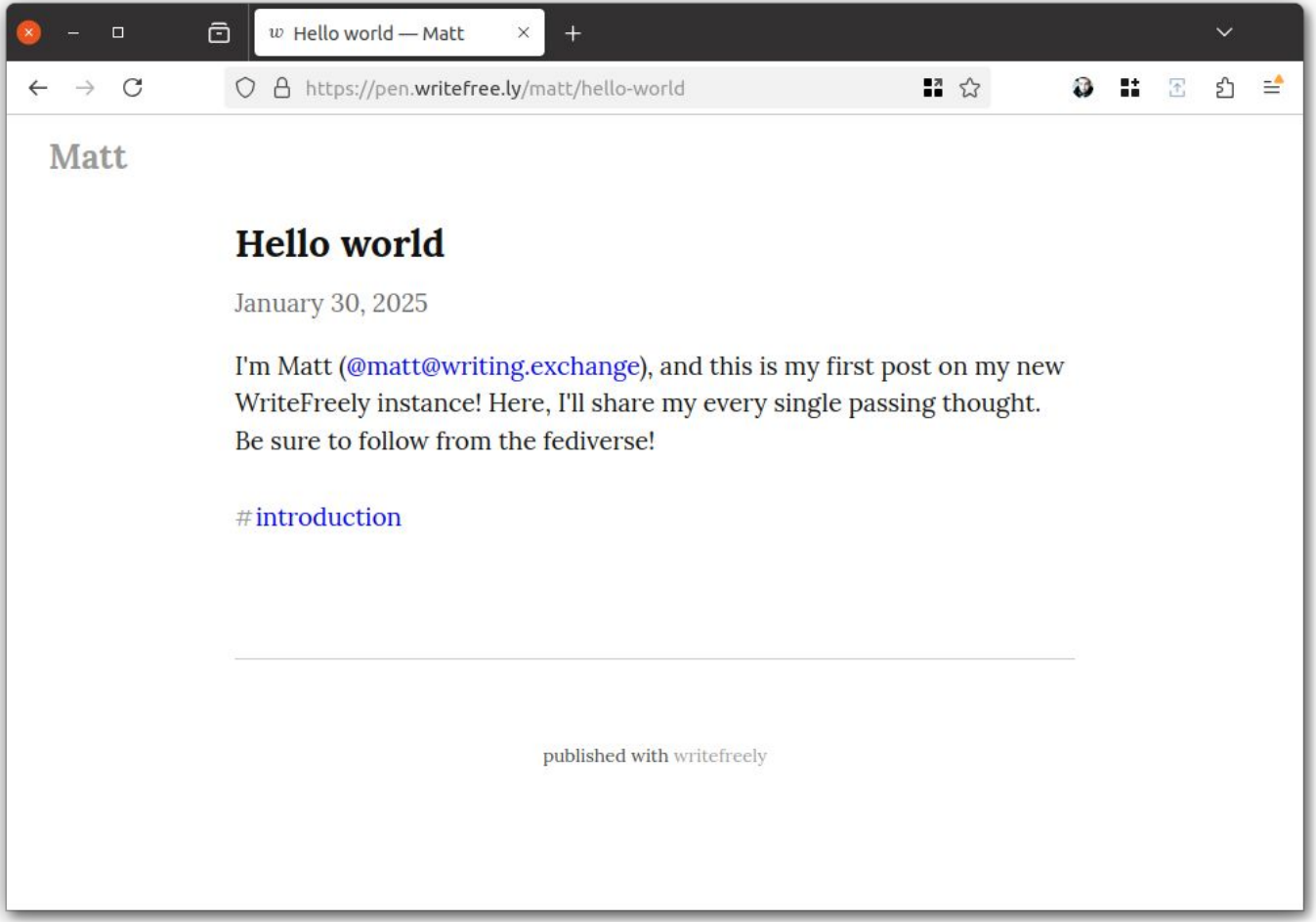
- Switch to rich text editor
- Allow multiple blogs per user
- Federate each post as a `Note` instead of `Article`
- Bulk email provider (currently only Mailgun)
- Sign-ups: open, invite-only, closed
- OAuth provider (Slack, Gitlab, Gitea, generic)
- Completely private

WriteFreely in the fediverse

Anyone on Mastodon, etc. can follow a WriteFreely blog, receive posts in their feed, and interact with it directly.




Matt: "Hello world https:
https://writing.exchange/@matt@pen.writefree.ly/
Work
mastodon
New post
Back
Matt
@matt@pen.writefree.ly
Hello world
pen.writefree.ly/matt/hello-wo...
Matt · 1d
Hello world
I'm Matt (@matt@writing.exchange), and this is my first post on my new WriteFree...
#introduction
Jan 30, 2025, 08:10 PM
0 boosts · 1 favorite
Replies from other servers may be missing
Home
Notifications
Explore
Live feeds
Private mentions
Bookmarks
Favorites
Lists
Preferences
About


Hello world — Matt
https://pen.writefree.ly/matt/hello-world
Matt
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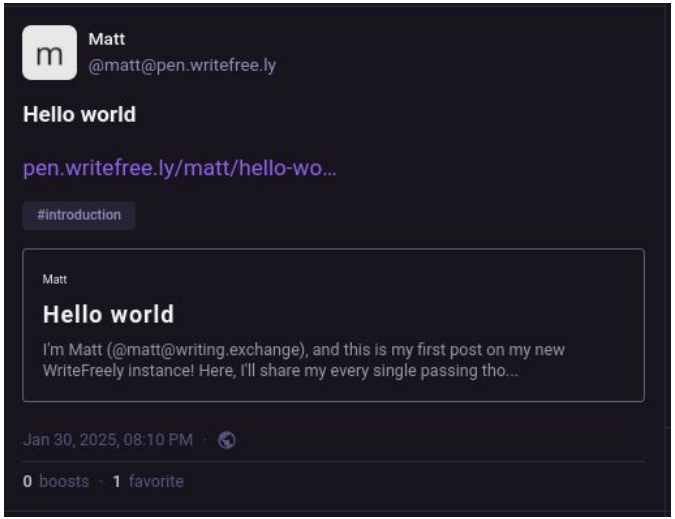
#introduction
published with writefreely

WriteFreely in the fediverse

Hashtagged posts show up in searches on other platforms



WriteFreely in the fediverse

- Images show up on other platforms
- Mention other fediverse users from a WriteFreely post (e.g. `@matt@writing.exchange`) – it'll link to their profile and they'll be notified
- Readers can *like* posts, and author will see a total number of likes on WriteFreely
- Readers can *boost* blog posts if a platform allows, though the author isn't notified on WriteFreely

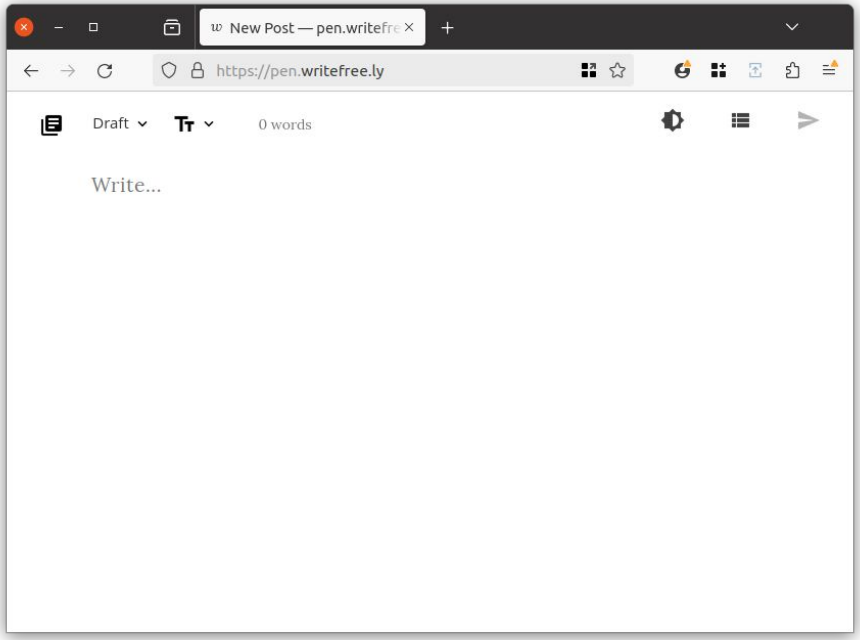
Joining the fediverse

write.as

- Launched in 2015
- Focused on simplicity, privacy
- Foundation for WriteFreely
- Now our flagship instance

Implemented ActivityPub in 2018

write freely



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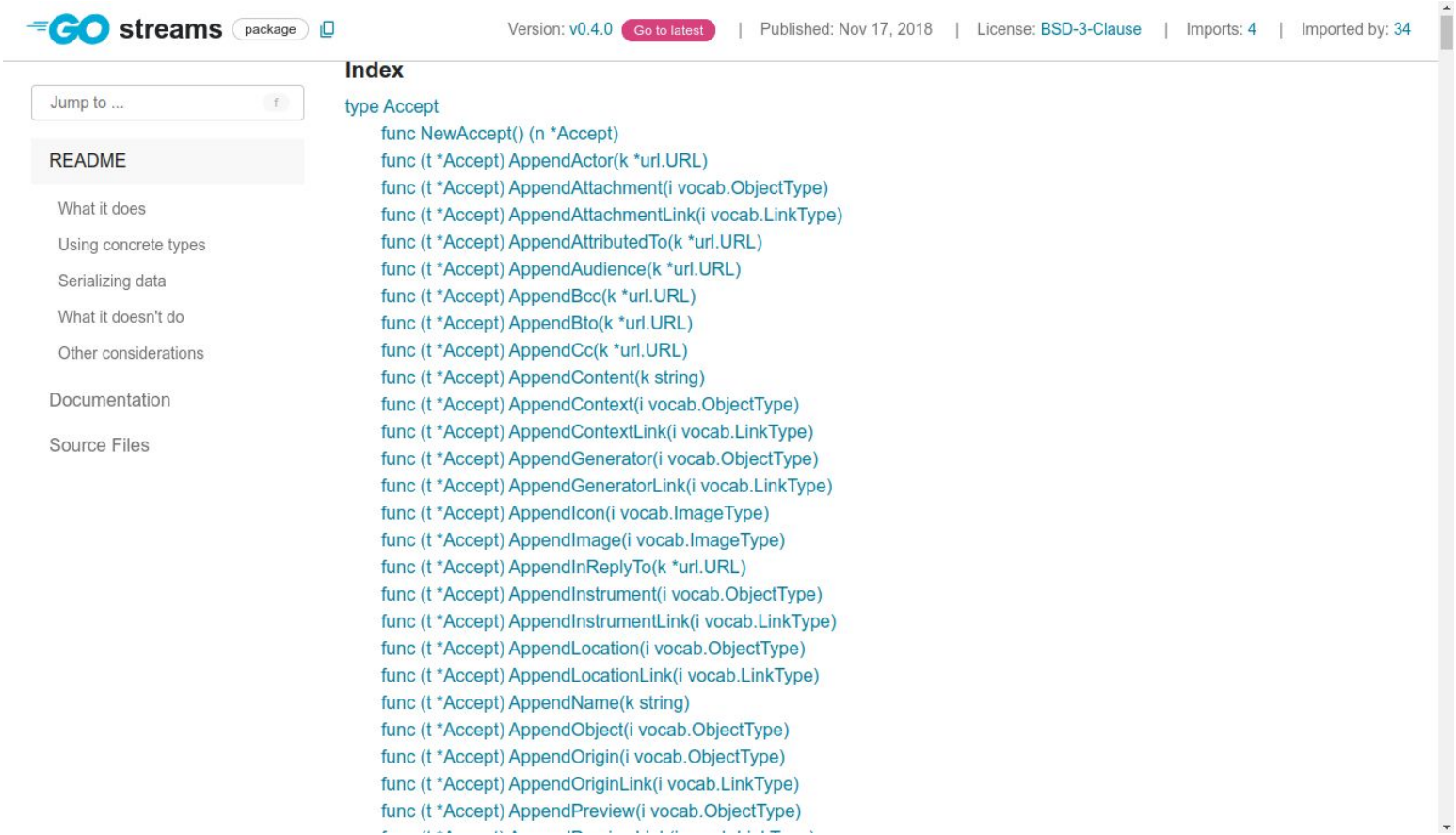
...it was a little painful

Implementing ActivityPub

- Little documentation outside of the spec
- Properties can be any type (string, object, array)
- Most platforms conform to how Mastodon implements ActivityPub
- Few pre-built libraries

Used [go-fed](go-fed) library



A blog post on how to do the basics

← Back Jul 3, 2018 Guides

How to make friends and verify requests

Implementing an ActivityPub inbox

Eugen Rochko
CEO / Founder

In the previous tutorial we have learned how to send a reply to another ActivityPub server, and we have used mostly static parts to do it. Now it's time to talk about how to subscribe to other people and receive messages.

The inbox

Primarily this means having a publicly accessible inbox and validating HTTP signatures. Once that works, everything else is just semantics. Let's use a Sinatra web server to implement the inbox.

In fact, I intend to omit persistence from this tutorial. How you would want to store data in a real application is very much up for debate and depends on your goals and requirements. So, we're going to store data in a variable and implement a simple way to inspect it.

```
require 'sinatra'

INBOX = []

get '/inspect' do
  [200, INBOX.join("\n\n")]
end
```

–

it’s not so simple…

write.as

- Hosts 500k+ users and 5.5 million+ posts
- Subset of federated blogs have 10k+ followers collectively
- ...but they've still managed to take down the entire platform

Growing pains

Fediverse accounts with large followings would cause downtime and dropped requests when boosting WriteFreely posts.

Solution: caching on commonly-requested endpoints (actor, inbox, post)

Growing pains

Blog followers were on instances with different uptimes and slow response times.

Quick solution: slightly longer timeouts, parallel requests instead of serial

Long-term solution: implement a queue for making requests, with retries

Growing pains

New platforms join the fediverse with varying levels of compatibility.

Solution: file a bug report

What’s next?

What's next?

Full two-way communication with the fediverse!

- Can accept replies
- Moderation and safety is huge
- Hope to support short and long-form comments from WriteFreely

What's next?

Better long-form `Article` support?

- Attempted with Read.as in 2018
- Hometown (Mastodon fork)
- Long-form readers: Ghost, Flipboard
- Support from major fediverse platforms

What's next?

Slow, steady improvements

Want to help?

- Join our forum: discuss.write.as
- Contribute: writefreely.org/contribute
- Roadmap: writefreely.org/tasks

Thank you!

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m: @matt@writing.exchange
e: matt@write.as

WriteFreely
https://writefreely.org

Write.as
https://write.as