Self hosting your side projects with Django and duct tape

PyCon Portugal

Anže Pečar, Oct 17, 2024

dashboard

Last Updated: 2024-05-24 11:24:25 +0100

OVERALL ANALYZED REQUESTS

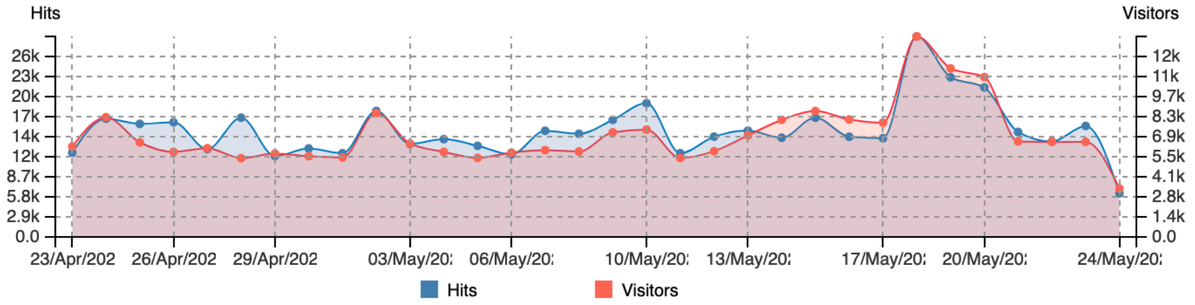
23/APR/2024 — 24/MAY/2024

Total Requests 490,931	Valid Requests 490,931	Failed Requests 0	Log Parsing Time 00:00:40	Unique Visitors 223,791	Requested Files 139,331
Excl. IP Hits 0	Referrers 0	Not Found 7,413	Static Files 629	Log Size 0 Byte	Tx. Amount 3.76 GiB

UNIQUE VISITORS PER DAY - INCLUDING SPIDERS

Panel Options

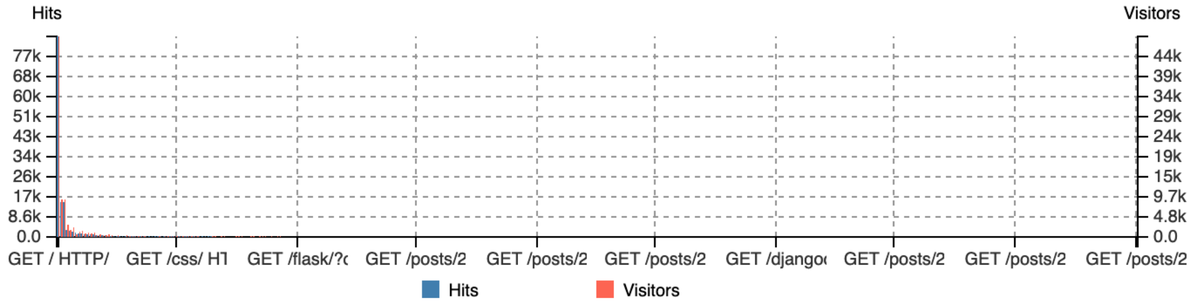
HITS HAVING THE SAME IP, DATE AND AGENT ARE A UNIQUE VISIT.



REQUESTED FILES (URLS)

Panel Options

TOP REQUESTS SORTED BY HITS [, AVGTS, CUMTS, MAXTS, MTHD, PROTO]



fedidevs.com

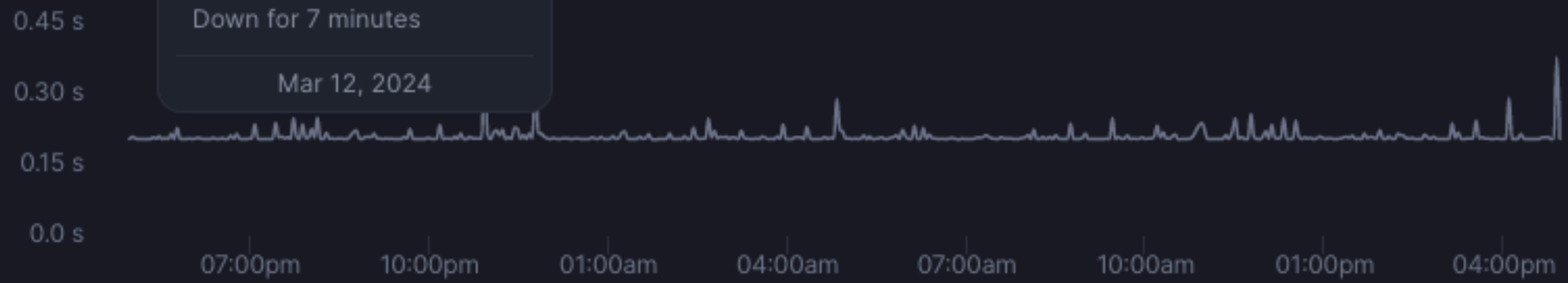
99.994% uptime

Response ti

Downtime

Down for 7 minutes

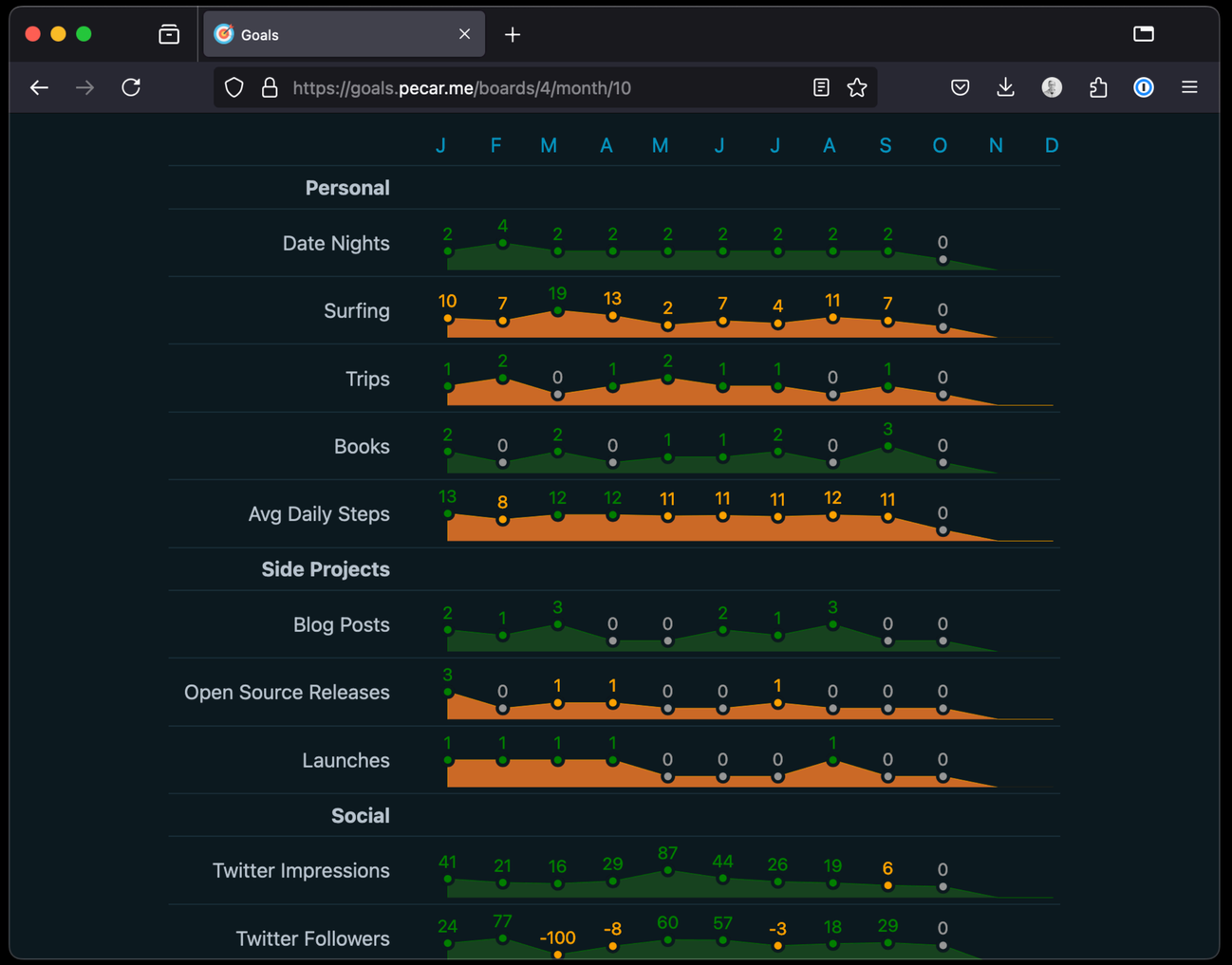
Mar 12, 2024

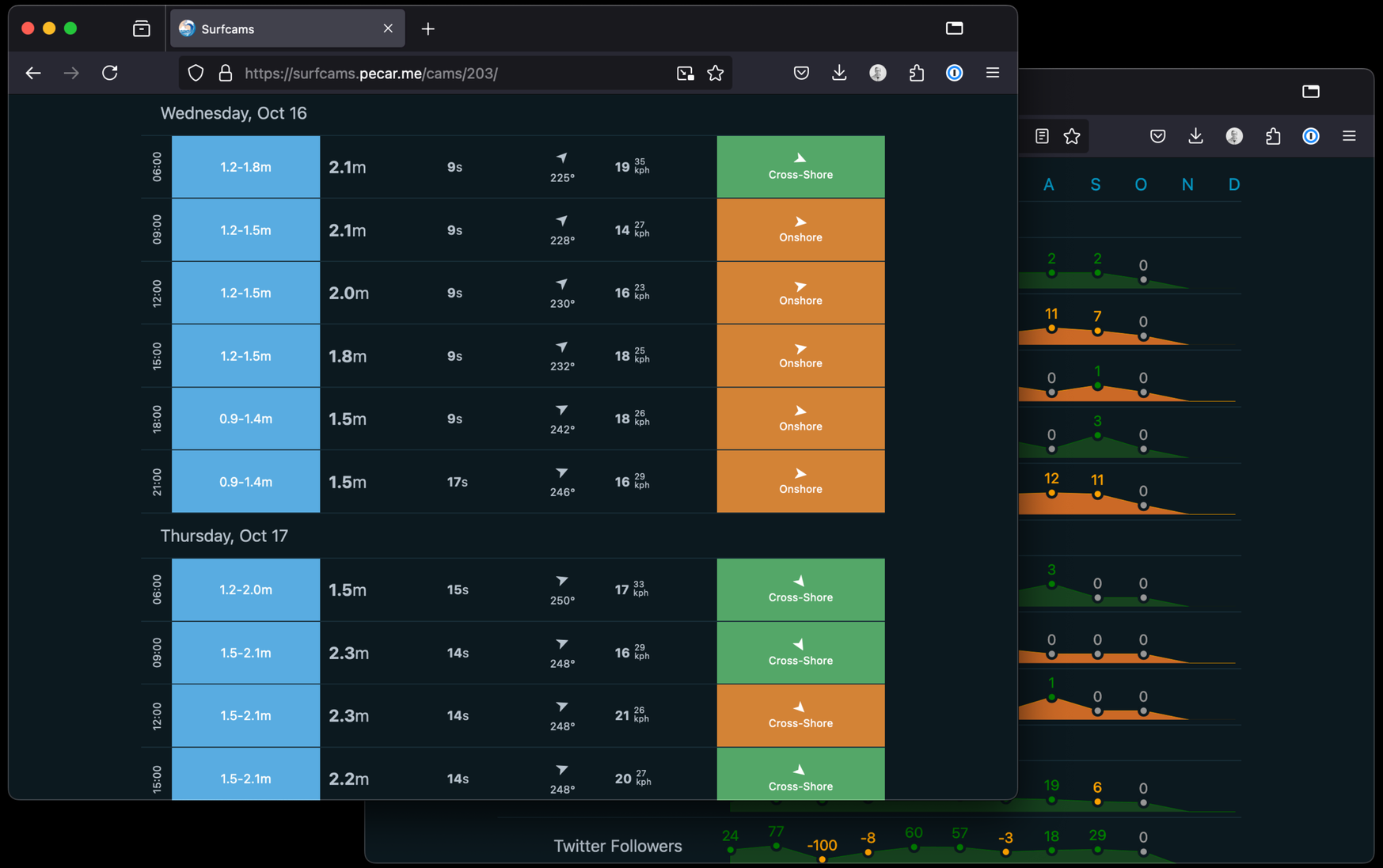


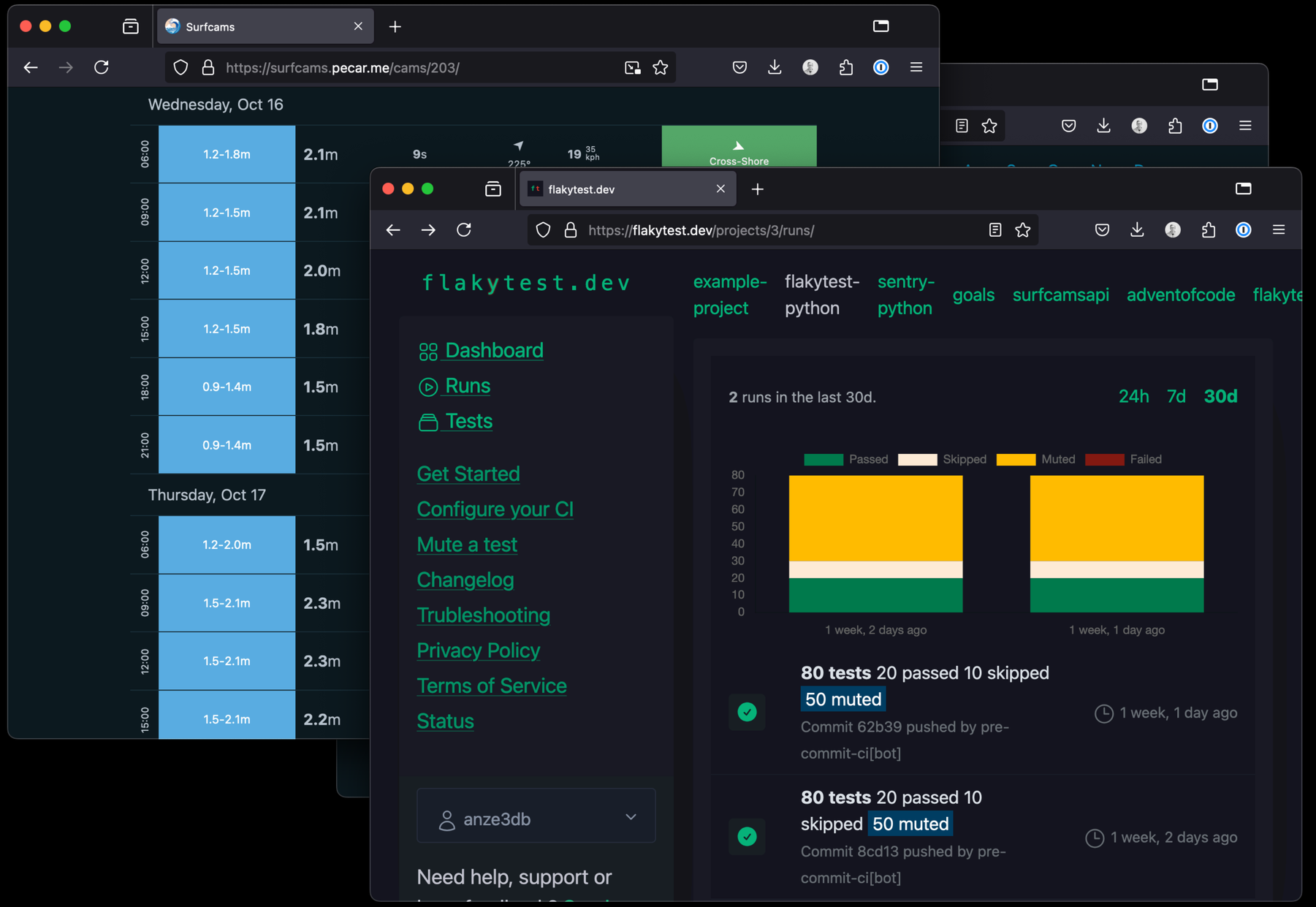
surfcams.pecar.me

99.991% uptime

Response times


Goals
https://goals.pecar.me/boards/4/month/10
J F M A M J J A S O N D
Personal
Date Nights 2 4 2 2 2 2 2 2 2 0
Surfing 10 7 19 13 2 7 4 11 7 0
Trips 1 2 0 1 2 1 1 0 1 0
Books 2 0 2 0 1 1 2 0 3 0
Avg Daily Steps 13 8 12 12 11 11 11 12 11 0
Side Projects
Blog Posts 2 1 3 0 0 2 1 3 0 0
Open Source Releases 3 0 1 1 0 0 1 0 0 0
Launches 1 1 1 1 0 0 0 1 0 0
Social
Twitter Impressions 41 21 16 29 87 44 26 19 6 0
Twitter Followers 24 77 -100 -8 60 57 -3 18 29 0


Surfcams
https://surfcams.pecar.me/cams/203/
Wednesday, Oct 16
06:00 1.2-1.8m 2.1m 9s 225° 19 35 kph Cross-Shore
09:00 1.2-1.5m 2.1m 9s 228° 14 27 kph Onshore
12:00 1.2-1.5m 2.0m 9s 230° 16 23 kph Onshore
15:00 1.2-1.5m 1.8m 9s 232° 18 25 kph Onshore
18:00 0.9-1.4m 1.5m 9s 242° 18 26 kph Onshore
21:00 0.9-1.4m 1.5m 17s 246° 16 29 kph Onshore
Thursday, Oct 17
06:00 1.2-2.0m 1.5m 15s 250° 17 33 kph Cross-Shore
09:00 1.5-2.1m 2.3m 14s 248° 16 29 kph Cross-Shore
12:00 1.5-2.1m 2.3m 14s 248° 21 26 kph Cross-Shore
15:00 1.5-2.1m 2.2m 14s 248° 20 27 kph Cross-Shore
A S O N D
Twitter Followers
24 77 -100 -8 60 57 -3 18 29 0


Surfcams
https://surfcams.pecar.me/cams/203/
Wednesday, Oct 16
06:00 1.2-1.8m 2.1m
09:00 1.2-1.5m 2.1m
12:00 1.2-1.5m 2.0m
15:00 1.2-1.5m 1.8m
18:00 0.9-1.4m 1.5m
21:00 0.9-1.4m 1.5m
9s
19 35 kph
Cross-Shore
Thursday, Oct 17
06:00 1.2-2.0m 1.5m
09:00 1.5-2.1m 2.3m
12:00 1.5-2.1m 2.3m
15:00 1.5-2.1m 2.2m
flakytest.dev
https://flakytest.dev/projects/3/runs/
flakytest.dev
example-project
flakytest-python
sentry-python
goals
surfcamsapi
adventofcode
Dashboard
Runs
Tests
Get Started
Configure your CI
Mute a test
Changelog
Trubleshooting
Privacy Policy
Terms of Service
Status
anze3db
Need help, support or
2 runs in the last 30d.
24h 7d 30d
Passed Skipped Muted Failed
80 70 60 50 40 30 20 10 0
1 week, 2 days ago
1 week, 1 day ago
80 tests 20 passed 10 skipped 50 muted
Commit 62b39 pushed by pre-commit-ci[bot]
1 week, 1 day ago
80 tests 20 passed 10 skipped 50 muted
Commit 8cd13 pushed by pre-commit-ci[bot]
1 week, 2 days ago

Surfcams

https://surfcams.pecar.me/cams/203/

Awesome accounts on Mastodo

https://fedidevs.com

FEDIDEVS

Accounts | Conferences | Stats

13015 awesome accounts on Mastodon.

Order by: Followers | All time

Smart Filters ✨

Best | Popular | Human | Project | Recently posted

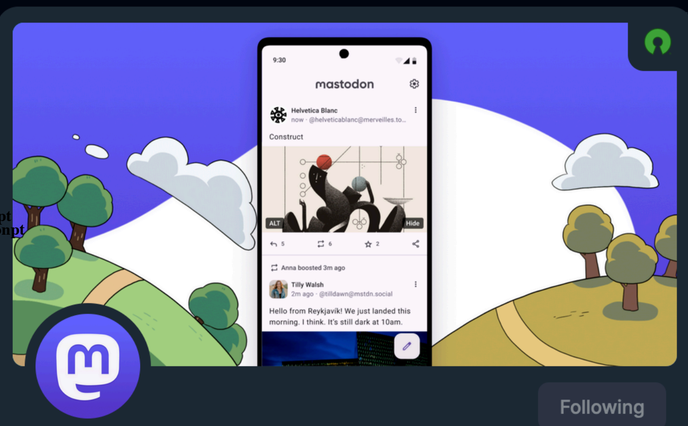
Programming Language

Python (1658) | Rust (867)

JavaScript (832) | PHP (571)

Ruby (549) | Java (530)

Swift (521) | TypeScript (456)



Following

Mastodon

@Mastodon@mastodon.social

Free, open-source decentralized social media platform.

Switch to Human

sapi adventofcode flakyte

24h 7d 30d

Failed

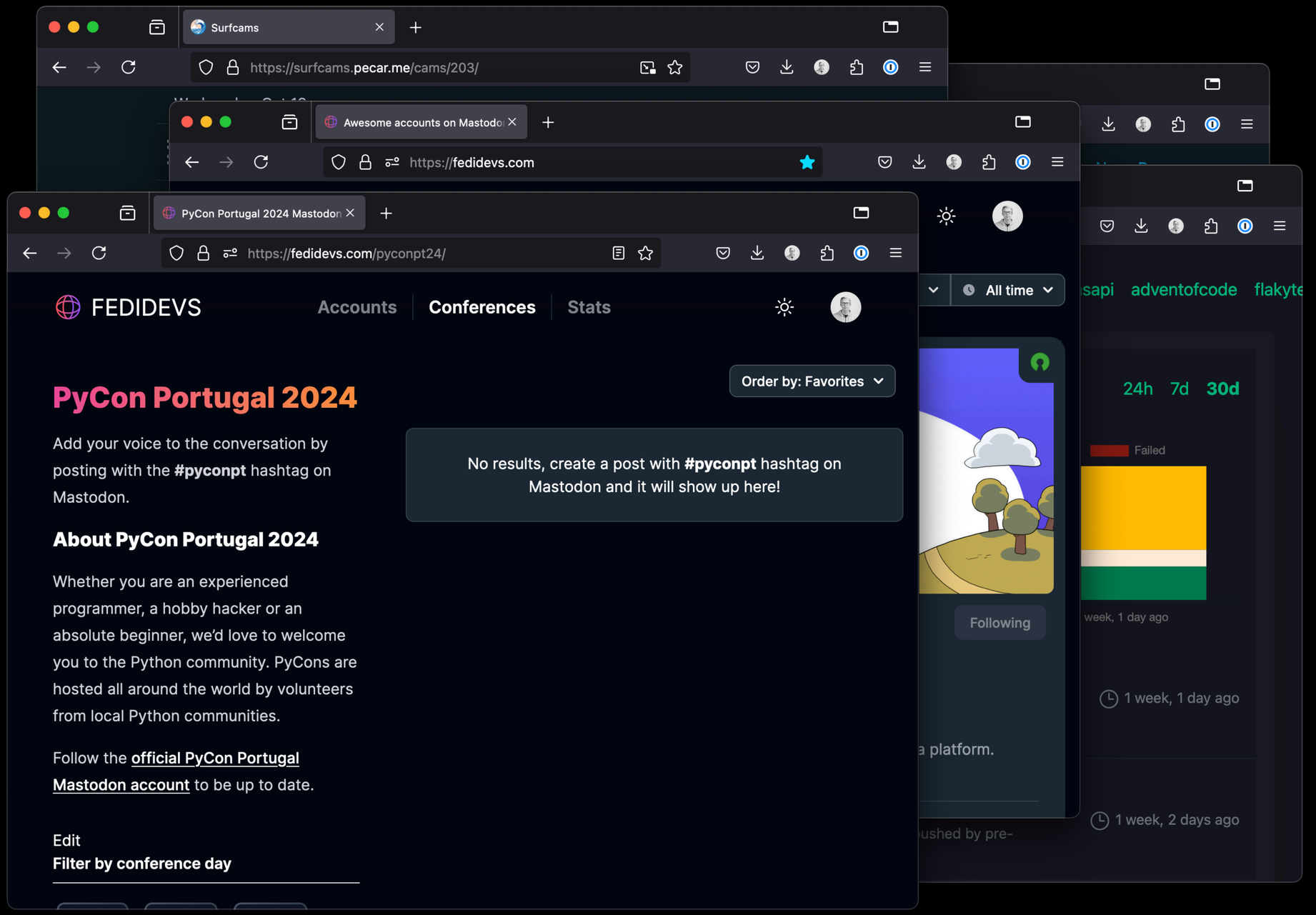
week, 1 day ago

1 week, 1 day ago

1 week, 2 days ago

Need help, support or

Commit 8cd13 pushed by pre-commit-ci[bot]


Surfcams
https://surfcams.pecar.me/cams/203/
Awesome accounts on Mastodo
https://fedidevs.com
PyCon Portugal 2024 Mastodon
https://fedidevs.com/pyconpt24/
FEDIDEVS
Accounts
Conferences
Stats
PyCon Portugal 2024
Add your voice to the conversation by posting with the #pyconpt hashtag on Mastodon.
About PyCon Portugal 2024
Whether you are an experienced programmer, a hobby hacker or an absolute beginner, we'd love to welcome you to the Python community. PyCons are hosted all around the world by volunteers from local Python communities.
Follow the official PyCon Portugal Mastodon account to be up to date.
Edit
Filter by conference day
Order by: Favorites
No results, create a post with #pyconpt hashtag on Mastodon and it will show up here!
All time
Following
a platform.
ushed by pre-
sapi
adventofcode
flakyte
24h
7d
30d
Failed
week, 1 day ago
1 week, 1 day ago
1 week, 2 days ago

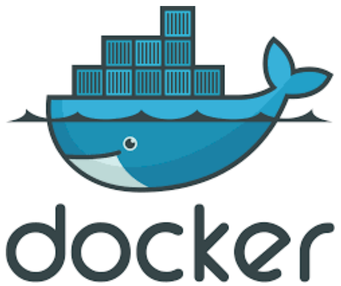

Google Cloud


kubernetes


Azure


NEXT.JS


Kamal
2.2.2

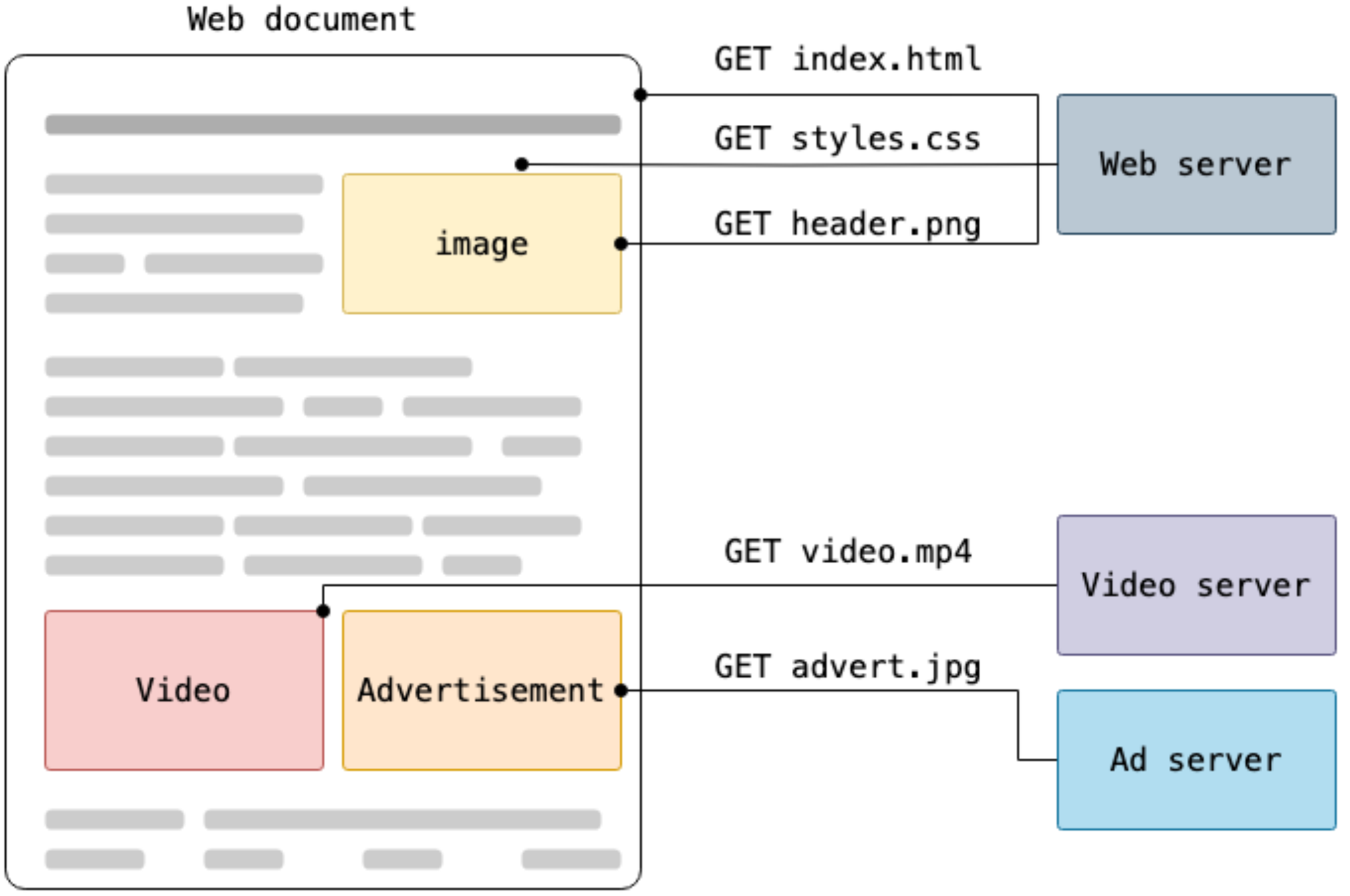

docker


Render

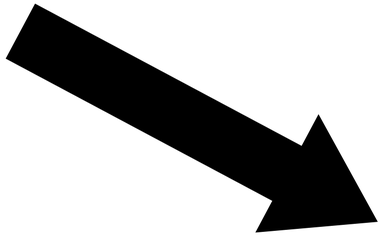

Fly.io


aws


HEROKU


Web document
GET index.html
GET styles.css
GET header.png
Web server
image
GET video.mp4
Video server
Video
Advertisement
GET advert.jpg
Ad server

```
GET / HTTP/1.1
Host: developer.mozilla.org
Accept-Language: en
```



```
HTTP/1.1 200 OK
Date: Sat, 09 Oct 2010 14:28:02 GMT
Server: nginx
Last-Modified: Tue, 01 Dec 2009 20:18:22 GMT
ETag: "51142bc1-7449-479b075b2891b"
Accept-Ranges: bytes
Content-Length: 29769
Content-Type: text/html

<!doctype html>…
```

python™

NGINX

Raspberry Pi

django

NOS

Hardware

Raspberry Pi

SD Cards

Limited number of write-and-erase cycles

```
[    1.752891] EXT4-fs (mmcblk0p2): write access unavailable, cannot proceed (try mounting with noloa
[    1.753842] Kernel panic - not syncing: VFS: Unable to mount root fs on unknown-block(179,2)
[    1.753920] CPU: 0 PID: 1 Comm: swapper/0 Not tainted 6.1.21-v8+ #1642
[    1.753984] Hardware name: Raspberry Pi 4 Model B Rev 1.1 (DT)
[    1.754038] Call trace:
[    1.754067]  dump_backtrace+0x120/0x130
[    1.754117]  show_stack+0x20/0x30
[    1.754157]  dump_stack_lvl+0x8c/0xb8
[    1.754205]  dump_stack+0x18/0x34
[    1.754248]  panic+0x1a4/0x37c
[    1.754289]  mount_block_root+0x140/0x21c
[    1.754338]  mount_root+0x1e8/0x21c
[    1.754380]  prepare_namespace+0x134/0x174
[    1.754427]  kernel_init_freeable+0x2a0/0x2cc
[    1.754474]  kernel_init+0x2c/0x138
[    1.754521]  ret_from_fork+0x10/0x20
[    1.754569] SMP: stopping secondary CPUs
[    1.754619] Kernel Offset: 0x2aad400000 from 0xffffffc008000000
[    1.754672] PHYS_OFFSET: 0x0
[    1.754704] CPU features: 0x20000,2013c080,0000421b
[    1.754752] Memory Limit: none
[    1.754792] ---[ end Kernel panic - not syncing: VFS: Unable to mount root fs on unknown-block(179
```

Software

Raspberry Pi OS

Python

```
python3 -m pip
/usr/bin/python3: No module named pip
```

```
sudo apt install python-full
```

python.org

```
./configure
make
make test
sudo make install
```

```
curl -LsSf https://astral.sh/uv/install.sh | sh

uv python install 3.13
```

```
python -m http.server 9000
```

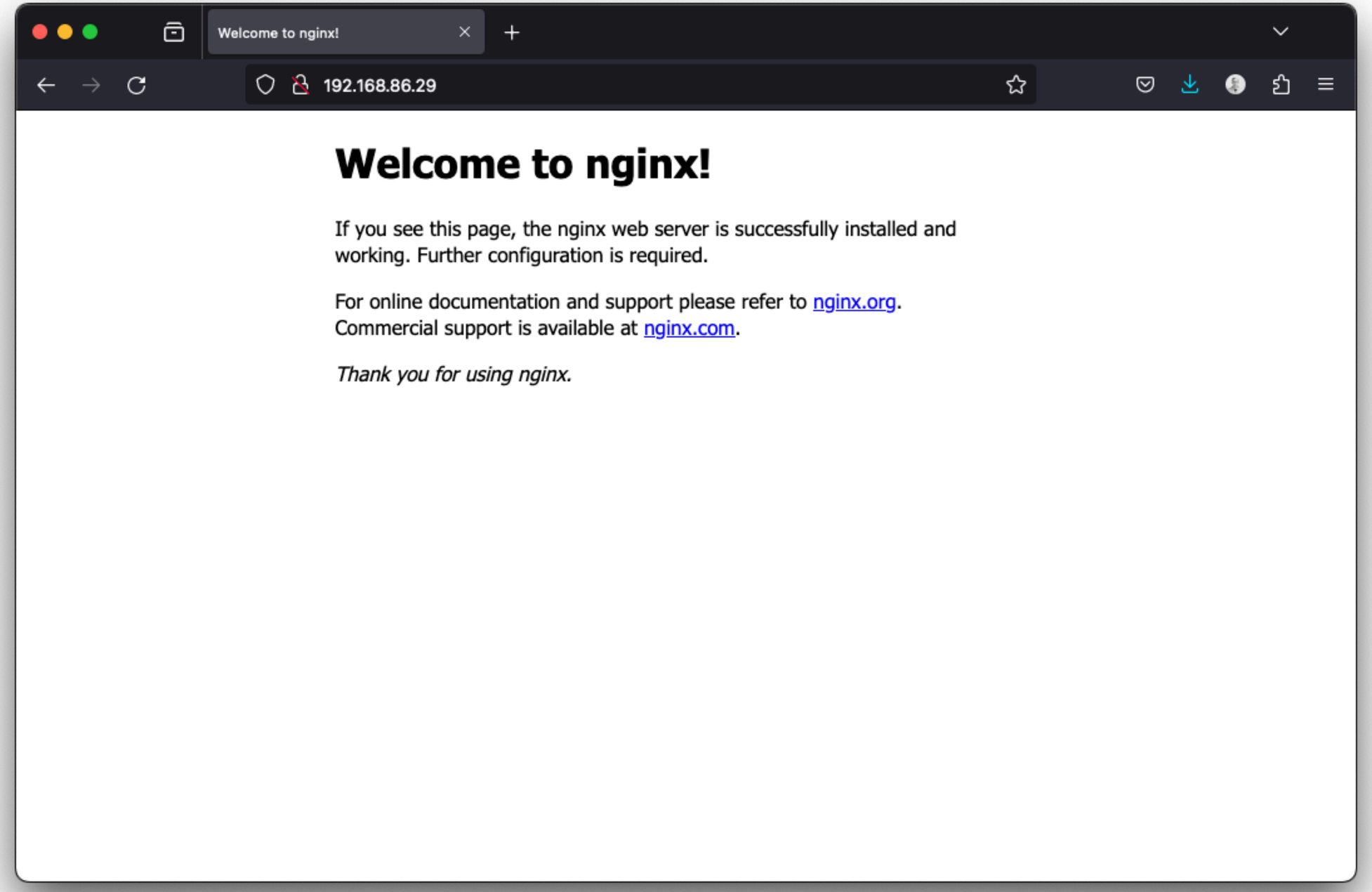
`http.server` — HTTP servers

Source code: Lib/http/server.py

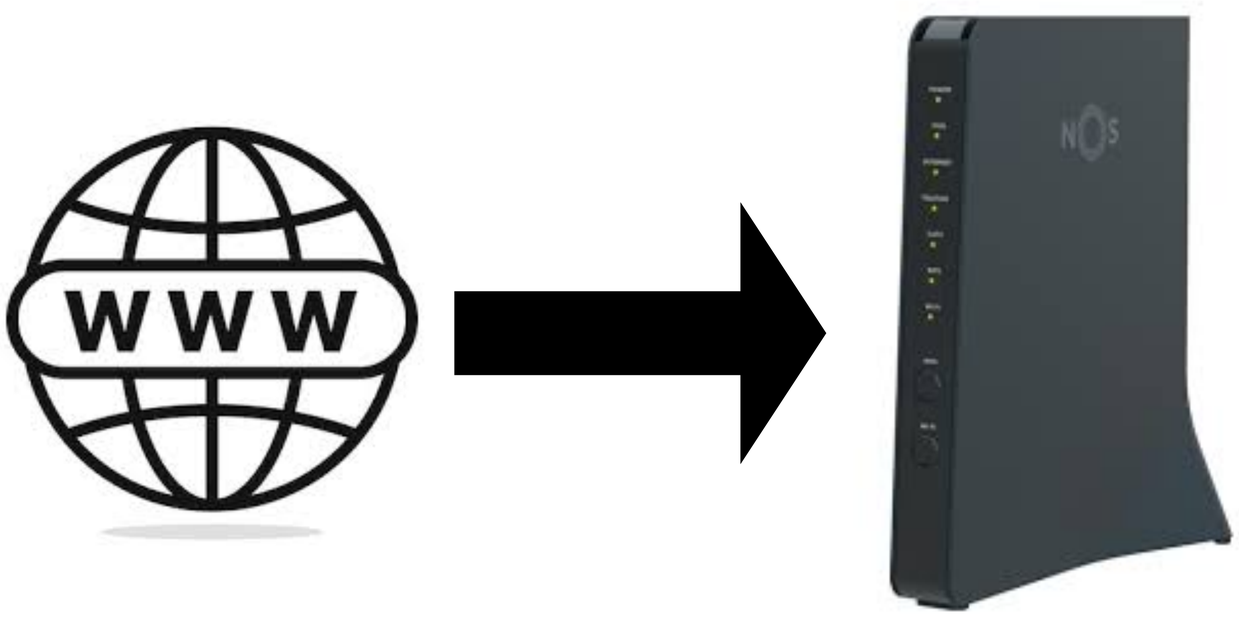
This module defines classes for implementing HTTP servers.

Warning: `http.server` is not recommended for production. It only implements basic security checks.

```
sudo apt install nginx
```


Welcome to nginx!
192.168.86.29
Welcome to nginx!
If you see this page, the nginx web server is successfully installed and working. Further configuration is required.
For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.
Thank you for using nginx.

Internet


WWW


WWW
NOS

Port forwarding

NOS Net

- Início
- Wi-Fi
- Gerir Acessos
- Mais
- Configuração LAN
- DMZ
- DNS Dinâmico
- Port Forwarding

Port Forwarding

Configure redirecionamento de portas da rede WAN para equipamentos ligados na sua rede LAN

Criar regra

As suas regras — Editar

192.168.1.3
80
TCP 80

192.168.1.3
443
TCP 443

192.168.1.3
ssh
TCP 22

Enter Keywords or IP Address...

Search

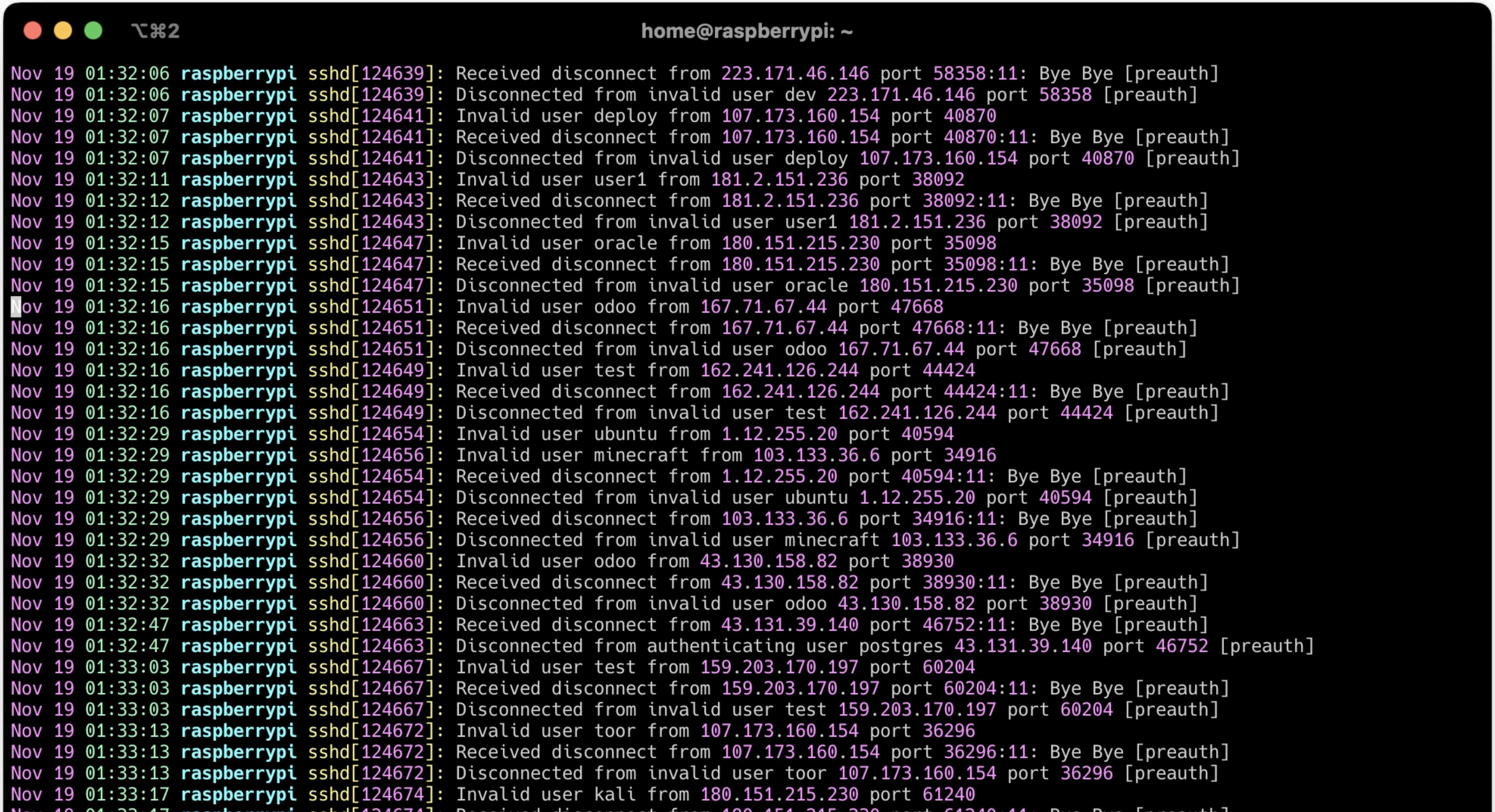
MY IP | IP LOOKUP | HIDE MY IP | VPNS ▾

My IP Address is:

IPv4: 95.93.89.106

IPv6: Not detected

Danger


⌥⌘2
home@raspberrypi: ~
Nov 19 01:32:06 raspberrypi sshd[124639]: Received disconnect from 223.171.46.146 port 58358:11: Bye Bye [preauth]
Nov 19 01:32:06 raspberrypi sshd[124639]: Disconnected from invalid user dev 223.171.46.146 port 58358 [preauth]
Nov 19 01:32:07 raspberrypi sshd[124641]: Invalid user deploy from 107.173.160.154 port 40870
Nov 19 01:32:07 raspberrypi sshd[124641]: Received disconnect from 107.173.160.154 port 40870:11: Bye Bye [preauth]
Nov 19 01:32:07 raspberrypi sshd[124641]: Disconnected from invalid user deploy 107.173.160.154 port 40870 [preauth]
Nov 19 01:32:11 raspberrypi sshd[124643]: Invalid user user1 from 181.2.151.236 port 38092
Nov 19 01:32:12 raspberrypi sshd[124643]: Received disconnect from 181.2.151.236 port 38092:11: Bye Bye [preauth]
Nov 19 01:32:12 raspberrypi sshd[124643]: Disconnected from invalid user user1 181.2.151.236 port 38092 [preauth]
Nov 19 01:32:15 raspberrypi sshd[124647]: Invalid user oracle from 180.151.215.230 port 35098
Nov 19 01:32:15 raspberrypi sshd[124647]: Received disconnect from 180.151.215.230 port 35098:11: Bye Bye [preauth]
Nov 19 01:32:15 raspberrypi sshd[124647]: Disconnected from invalid user oracle 180.151.215.230 port 35098 [preauth]
Nov 19 01:32:16 raspberrypi sshd[124651]: Invalid user odoo from 167.71.67.44 port 47668
Nov 19 01:32:16 raspberrypi sshd[124651]: Received disconnect from 167.71.67.44 port 47668:11: Bye Bye [preauth]
Nov 19 01:32:16 raspberrypi sshd[124651]: Disconnected from invalid user odoo 167.71.67.44 port 47668 [preauth]
Nov 19 01:32:16 raspberrypi sshd[124649]: Invalid user test from 162.241.126.244 port 44424
Nov 19 01:32:16 raspberrypi sshd[124649]: Received disconnect from 162.241.126.244 port 44424:11: Bye Bye [preauth]
Nov 19 01:32:16 raspberrypi sshd[124649]: Disconnected from invalid user test 162.241.126.244 port 44424 [preauth]
Nov 19 01:32:29 raspberrypi sshd[124654]: Invalid user ubuntu from 1.12.255.20 port 40594
Nov 19 01:32:29 raspberrypi sshd[124656]: Invalid user minecraft from 103.133.36.6 port 34916
Nov 19 01:32:29 raspberrypi sshd[124654]: Received disconnect from 1.12.255.20 port 40594:11: Bye Bye [preauth]
Nov 19 01:32:29 raspberrypi sshd[124654]: Disconnected from invalid user ubuntu 1.12.255.20 port 40594 [preauth]
Nov 19 01:32:29 raspberrypi sshd[124656]: Received disconnect from 103.133.36.6 port 34916:11: Bye Bye [preauth]
Nov 19 01:32:29 raspberrypi sshd[124656]: Disconnected from invalid user minecraft 103.133.36.6 port 34916 [preauth]
Nov 19 01:32:32 raspberrypi sshd[124660]: Invalid user odoo from 43.130.158.82 port 38930
Nov 19 01:32:32 raspberrypi sshd[124660]: Received disconnect from 43.130.158.82 port 38930:11: Bye Bye [preauth]
Nov 19 01:32:32 raspberrypi sshd[124660]: Disconnected from invalid user odoo 43.130.158.82 port 38930 [preauth]
Nov 19 01:32:47 raspberrypi sshd[124663]: Received disconnect from 43.131.39.140 port 46752:11: Bye Bye [preauth]
Nov 19 01:32:47 raspberrypi sshd[124663]: Disconnected from authenticating user postgres 43.131.39.140 port 46752 [preauth]
Nov 19 01:33:03 raspberrypi sshd[124667]: Invalid user test from 159.203.170.197 port 60204
Nov 19 01:33:03 raspberrypi sshd[124667]: Received disconnect from 159.203.170.197 port 60204:11: Bye Bye [preauth]
Nov 19 01:33:03 raspberrypi sshd[124667]: Disconnected from invalid user test 159.203.170.197 port 60204 [preauth]
Nov 19 01:33:13 raspberrypi sshd[124672]: Invalid user toor from 107.173.160.154 port 36296
Nov 19 01:33:13 raspberrypi sshd[124672]: Received disconnect from 107.173.160.154 port 36296:11: Bye Bye [preauth]
Nov 19 01:33:13 raspberrypi sshd[124672]: Disconnected from invalid user toor 107.173.160.154 port 36296 [preauth]
Nov 19 01:33:17 raspberrypi sshd[124674]: Invalid user kali from 180.151.215.230 port 61240

PasswordAuthentication no

CVE-2024-47177 Detail

AWAITING ANALYSIS

This vulnerability is currently awaiting analysis.

Description

CUPS is a standards-based, open-source printing system, and cups-filters provides backends, filters, and other software for CUPS 2.x to use on non-Mac OS systems. Any value passed to `FoomaticRIPCommandLine` via a PPD file will be executed as a user controlled command. When combined with other logic bugs as described in CVE_2024-47176, this can lead to remote command execution.

Metrics

CVSS Version 4.0 | CVSS Version 3.x | CVSS Version 2.0

NVD enrichment efforts reference publicly available information to associate vector strings. CVSS information contributed by other sources is also displayed.

CVSS 3.x Severity and Vector Strings:

NIST: NVD	**Base Score:** N/A	NVD assessment not yet provided.	
CNA: GitHub, Inc.	**Base Score:** 9.0 CRITICAL	**Vector:** CVSS:3.1/AV:N/AC:H/PR:N/UI:N/S:C/C:H/I:H/A:H	

CVE-2024-3094 Detail

MODIFIED

This vulnerability has been modified since it was last analyzed by the NVD. It is awaiting reanalysis which may result in further changes to the information provided.

Description

Malicious code was discovered in the upstream tarballs of xz, starting with version 5.6.0. Through a series of complex obfuscations, the liblzma build process extracts a prebuilt object file from a disguised test file existing in the source code, which is then used to modify specific functions in the liblzma code. This results in a modified liblzma library that can be used by any software linked against this library, intercepting and modifying the data interaction with this library.

Metrics

CVSS Version 4.0 | CVSS Version 3.x | CVSS Version 2.0

NVD enrichment efforts reference publicly available information to associate vector strings. CVSS information contributed by other sources is also displayed.

CVSS 3.x Severity and Vector Strings:

CNA: Red Hat, Inc. **Base Score:** 10.0 CRITICAL **Vector:** CVSS:3.1/AV:N/AC:L/PR:N/UI:N/S:C/C:H/I:H/A:H

```
apt update && apt upgrade
```

DNS

SSL/TLS

```
sudo certbot --nginx
```

Dynamic IP

README

ipster

`ipster` is a command line tool that keeps your CloudFlare DNS record in sync with your Raspberry Pi's IP 🤝

Install and Run

```
wget https://github.com/anze3db/ipster/releases/download/24.1/ipster.pi
chmod +x ./ipster.pi
./ipster.pi
```

`ipster` will need access to your CloudFlare account so you'll have to create an API_TOKEN (use the Edit Zone DNS template).

Run with the necessary environment variables:

```
IPSTER_CLOUDFLARE_API_TOKEN=xxxxxxxxx_yyyyyyyyyyyyyyyyyyyyyyyyyyyyyyy IPSTER_CLOUDFLARE_ZONE_NA
```

Required environmental variables:

- `IPSTER_CLOUDFLARE_API_TOKEN` - your CloudFlare API_TOKEN (Use the Edit zone DNS template).
- `IPSTER_CLOUDFLARE_ZONE_NAME` - your CloudFlare zone name. Usually your domain name e.g. `example.com`.
- `IPSTER_CLOUDFLARE_DNS_RECORD_NAME` - the CloudFlare DNS record that you want to keep in sync e.g. `home.example.com`.

Django

```
python -m venv .venv
source .venv/bin/activate
pip install django
django-admin startproject
python manage.py runserver
```

```
uv init
uv add django
uv run django-admin startproject
uv run python manage.py runserver
```

WSGI/ASGI Server

```
uv add gunicorn
uv run --locked --no-dev gunicorn site.wsgi
```

SystemD

/etc/systemd/system/site.service

```
[Unit]
Description=YourSite

[Service]
User=anze
Type=simple
Restart=always
RestartSec=1
ExecStart=/bin/bash uv run --locked --no-dev gunicorn site.wsgi

[Install]
WantedBy=multi-user.target
```

/etc/systemd/system/site.service

```
[Unit]
Description=YourSite

[Service]
User=anze
Type=simple
Restart=always
RestartSec=1
ExecStart=/bin/bash uv run --locked --no-dev gunicorn site.wsgi

[Install]
WantedBy=multi-user.target
```

```
sudo systemctl enable site.service
sudo systemctl start site.service
```

nginx config

```
server {

    server_name fedidevs.com;

    location / {
        proxy_set_header Host $http_host;
        proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
        proxy_set_header X-Forwarded-Proto $scheme;
        proxy_set_header Upgrade $http_upgrade;
        proxy_set_header Connection $connection_upgrade;
        proxy_redirect off;
        proxy_buffering off;
        proxy_pass http://site_gunicorn;
    }
}
upstream site_gunicorn {
    server unix:///home/site/gunicorn.sock;
}
```

```
server {

    server_name fedidevs.com;

    location / {
        proxy_set_header Host $http_host;
        proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
        proxy_set_header X-Forwarded-Proto $scheme;
        proxy_set_header Upgrade $http_upgrade;
        proxy_set_header Connection $connection_upgrade;
        proxy_redirect off;
        proxy_buffering off;
        proxy_pass http://site_gunicorn;
    }
}
upstream site_gunicorn {
    server unix:///home/site/gunicorn.sock;
}
```

Deployments

appleboy/ssh-action

```
deploy:
  runs-on: ubuntu-latest
  needs: test
  if: github.ref == 'refs/heads/main'
  steps:
  - name: Deploy
    uses: appleboy/ssh-action@master
    with:
      host: ${{ secrets.SSH_HOST }}
      username: ${{ secrets.SSH_USERNAME }}
      key: ${{ secrets.SSH_KEY }}
      port: ${{ secrets.SSH_PORT }}
      script: |
        bash projects/site/.deploy/update.sh
```

```
deploy:
  runs-on: ubuntu-latest
  needs: test
  if: github.ref == 'refs/heads/main'
  steps:
  - name: Deploy
    uses: appleboy/ssh-action@master
    with:
      host: ${{ secrets.SSH_HOST }}
      username: ${{ secrets.SSH_USERNAME }}
      key: ${{ secrets.SSH_KEY }}
      port: ${{ secrets.SSH_PORT }}
      script: |
        bash projects/site/.deploy/update.sh
```

```
git pull
uv sync --locked --no-dev
uv run python manage.py collectstatic --noinput
uv run python manage.py migrate
kill -hup `cat gunicorn.pid`
```

Databases

SQLite or Postgres

Summary

- Raspberry Pi + a fast SD card
- Raspberry Pi OS and install Python (with uv)
- Nginx for the webserver
- Gunicorn to serve your Django
- SystemD to make sure your services keep running
- GitHub Actions with SSH to do deployments
- SQLite or Postgres for data

Questions?