

# HOMELAB ON NIXOS

DECLARATIVE AND REPRODUCIBLE ❄️

# FOLLOW THIS LIVE



<https://blog.thym.at/glt24>

# WHO AM I?

- Student at Graz University of Technology 
- DevOps Engineer/Automation Specialist at [smaXtec](#)  

- Linux Advocate and Avid User of FOSS 
- Daily Driving NixOS since 2020 

**WHAT IS A HOMELAB?**



# WHAT IS A HOMELAB?



Photo by [National Cancer Institute](#) on [Unsplash](#)

**WHAT IS A HOMELAB?**

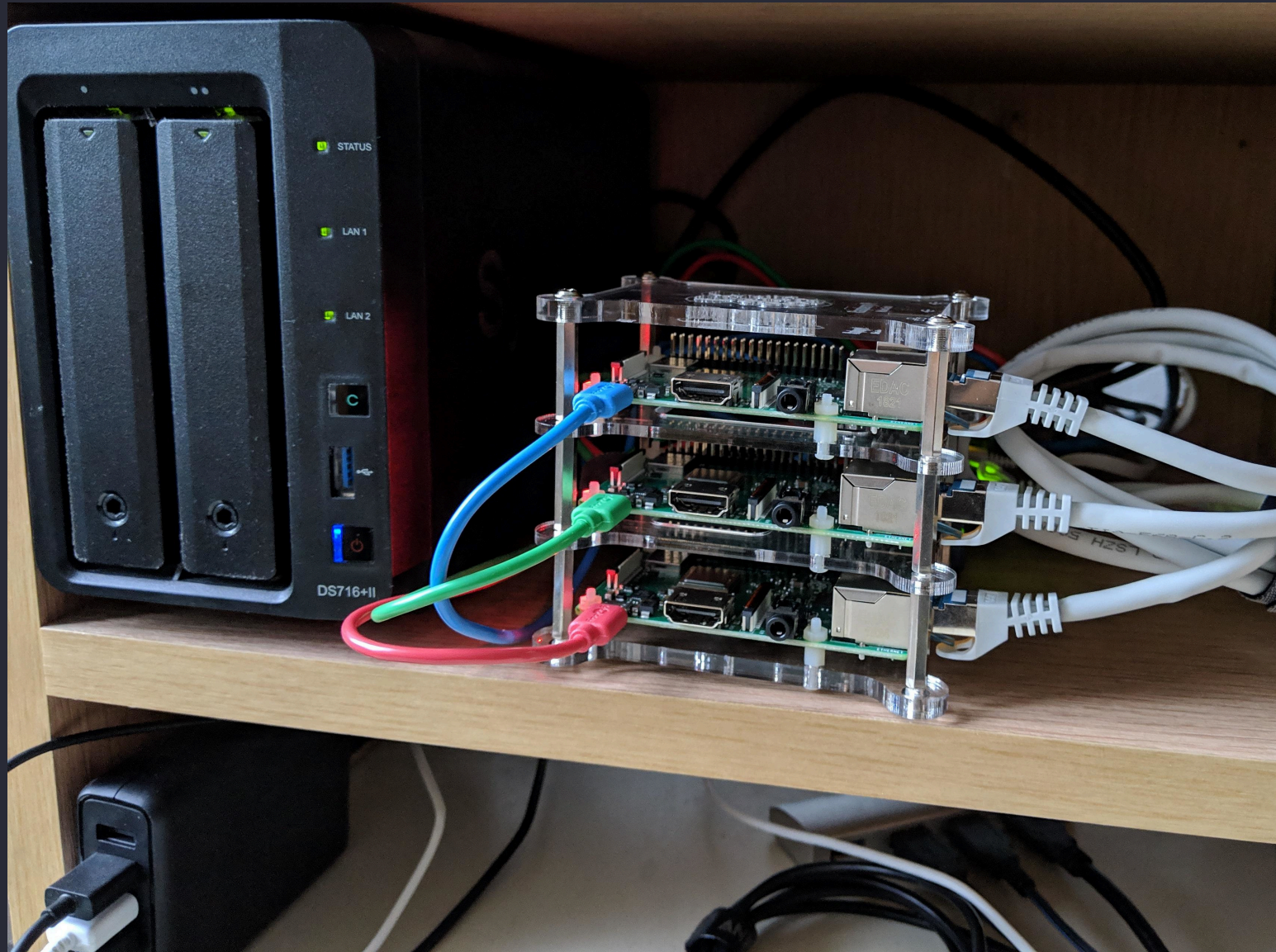


# WHAT IS A HOMELAB?





# WHAT IS A HOMELAB?





# WHAT IS A HOMELAB?



# WHAT IS NIX?

Not to be confused with \*nix

# WHAT IS NIX?

- Nix Language
- Nix Package Manager
- Nix Package Library - Nixpkgs
- Nix Operating System - NixOS
- ...

# WHAT IS NIXOS?



- Started as research project by Eelco Dolstra in 2003
- Took off after first stable release branch in 2013 (13.10)
- Stable releases in May and November (e.g. Raccoon - 22.11)
- Receive bugfixes and security updates for 7 months



# NIXOS

```
services = {  
  
    # Start a systemd service for each incoming SSH connection  
    openssh.startWhenNeeded = true;  
  
    # Enable periodic SSD TRIM to extend life of mounted SSDs  
    fstrim.enable = true;  
  
    # Suspend when power button is short-pressed  
    logind.extraConfig = ''  
        HandlePowerKey=suspend  
    '';  
};
```

# LANDING PAGE



```
{ ... }:  
  
{  
  services.homepage-dashboard = {  
    enable = true;  
    listenPort = 8082;  
  };  
}
```

# LANDING PAGE



3% CPU 51.3 GiB Free 17.8 GB Free

Search...

## My First Group

My First Service  
Homepage is awesome

## My Second Group

My Second Service  
Homepage is the best

## My Third Group

My Third Service  
Homepage is 😊

## Developer

GH Github github.com

## Social

RE Reddit reddit.com

## Entertainment

YT YouTube youtube.com



v0.6.6 (29e0b30, Feb 2, 2023)

# NOTIFICATIONS



```
{ ... }:  
  
let  
  domain = "mydomain.at";  
  ntfyPort = 6780;  
  ntfyMetricsPort = 9095;  
  ntfyHost = "notifications.${domain}";  
in  
{  
  services.ntfy-sh = {  
    enable = true;  
    group = "ntfy";  
    user = "ntfy";  
    settings = {  
      base-url = "https://${ntfyHost}";  
      listen-https = "https://${ntfyHost}:${ntfyPort}";  
    };  
  };  
}
```

# NOTIFICATIONS



phil-backups

Subscribed topics

- All notifications
- announcements
- phil-alerts
- phil-backups**
- stats

Account

Settings

Documentation

Publish notification

Subscribe to topic

4/23/23, 1:12 PM

**Backups completed, some failed**

Backups completed:

- plup succeeded, took 101s
- ntfy.sh succeeded, took 49s
- archive succeeded, took 280s
- schnitzel FAILED: Connection refused

Tags: backups, failure

4/23/23, 1:12 PM

**Offsiting backups successful**

Uploading backups to Hetzner storagebox completed. Took 30m29s.

Tags: backups, offsiting, success

4/23/23, 1:12 PM

**Backups completed successfully**

^ Type a message here

# NOTIFICATIONS



## Notifications

 ntfy • now 



[ntfy.sh/myhome](https://ntfy.sh/myhome)

You left the house. Turn down the A/C?

[OPEN PORTAL](#)

[TURN DOWN](#)

# HOME ASSISTANT

```
{ ... }:  
  
let  
  port = 7901;  
  version = "2023.12.2";  
in  
{  
  virtualisation.oci-containers.containers = {  
    home-assistant = {  
      image = "ghcr.io/home-assistant/home-assistant:${version}";  
      volumes = [  
        "/var/lib/home-assistant:/config"  
        "/etc/localtime:/etc/localtime:ro"  
      ];  
      extraOptions = [  
        "--device=/dev/ttyUSB0"      ];
```





# SOME SERVICE MODULES



# NIXOS USER GROUP AUSTRIA




<https://nixos.at>

# NIXOS USER GROUP AUSTRIA

NixOS User Group Austria 🌐 | DE

Meetups Topics Search Wiki



NixOS User Group Austria

[🔗](#) [| m](#) [📡](#)

Meetups Topics Wiki

© 2023 NixOS User Group Austria. Powered by Hugo & PaperMod

# NIXOS USER GROUP AUSTRIA

Home » Posts

## Nixos & Disks: nixos-anywhere, disko, impermance

April 9, 2024 · Paul Härle | Suggest Changes

### Event

- Date: **2024-04-09**
- Time: **from 18:00**
- Location: **Metalab, Rathausstraße 6, 1010 Vienna** (at least one person will wear a NixOS-themed hoodie or shirt and you can also ping us on matrix if you find it hard to locate us)
- Language: English and/or German, depending on who's present.
- Presenters:
  - @phaer will do an introduction on nixos-anywhere and disko, explain why they are useful & roughly how they work.
  - @Krezzlu will do a demo on impermanence (with disko), explain why you might want to use it and give pointers to further resources.

# MENTIONED RESOURCES

- [My modular, messy NixOS configuration](#)
- [Awesome Self-Hosted](#) - Community-maintained list of Free Software network services and web applications which can be hosted on your own servers
- [Awesome Nix](#) - Community-maintained link list with helpful resources

# ATTRIBUTIONS

- Image of mini homelab of Reddit user buster072 - [Reddit](#)
- Image of sizeable homelab of Reddit user lused1 - [Reddit](#)
- Image of large homelab of Reddit user JaredBanyard - [Reddit](#)
- Image of production-grade “homelab” - [EPM](#)
- Brand Logos - [Simple Icons](#)

# THANKS!

curl -sL <https://matthias.thym.at/card>

<https://blog.thym.at/p/glt24>

