HOMELAB ON NIXOS

DECLARATIVE AND REPRODUCIBLE ❄️

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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?

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Photo by National Cancer Institute on Unsplash

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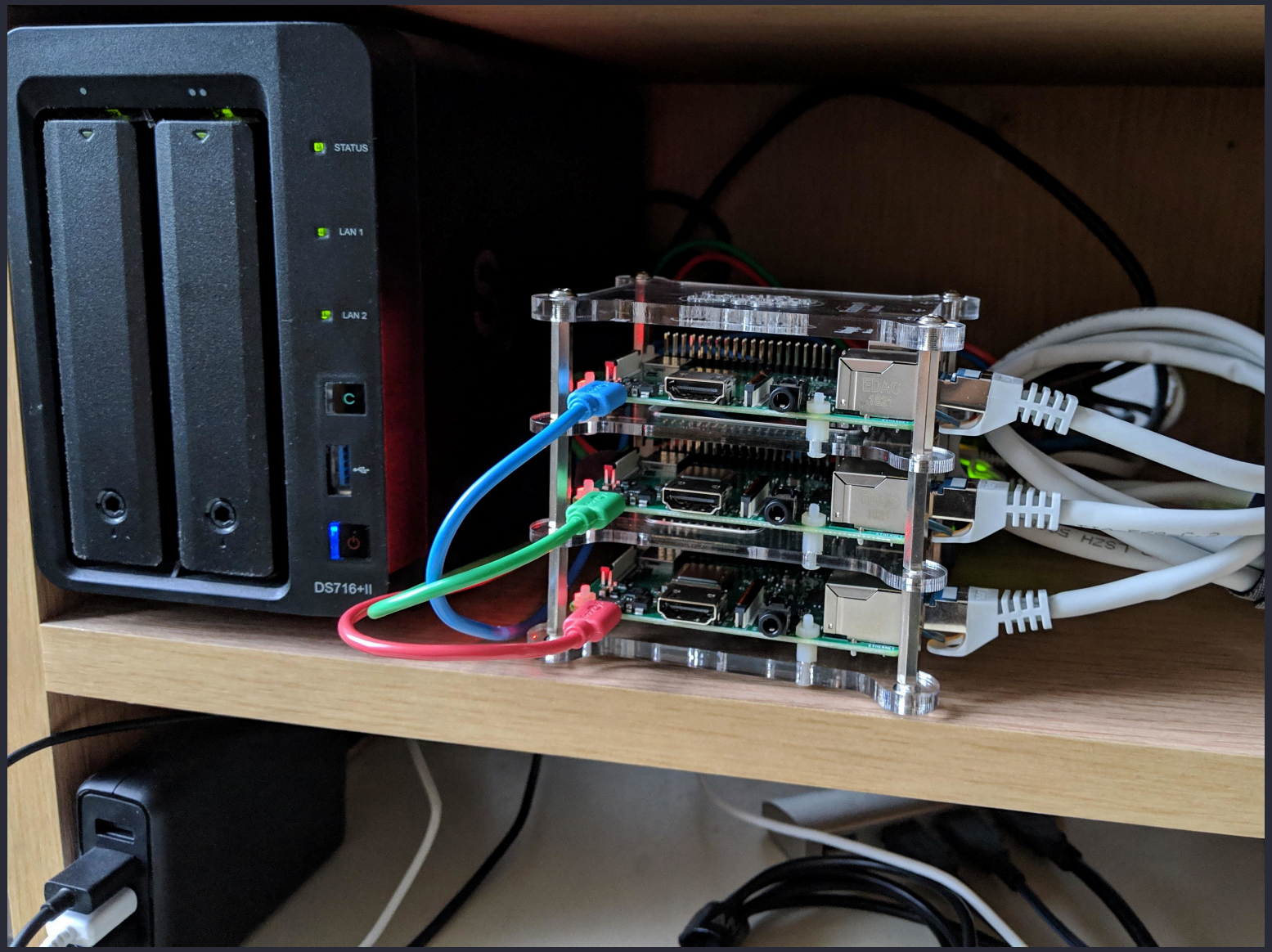


WHAT IS A HOMELAB?

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 Eeelco 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

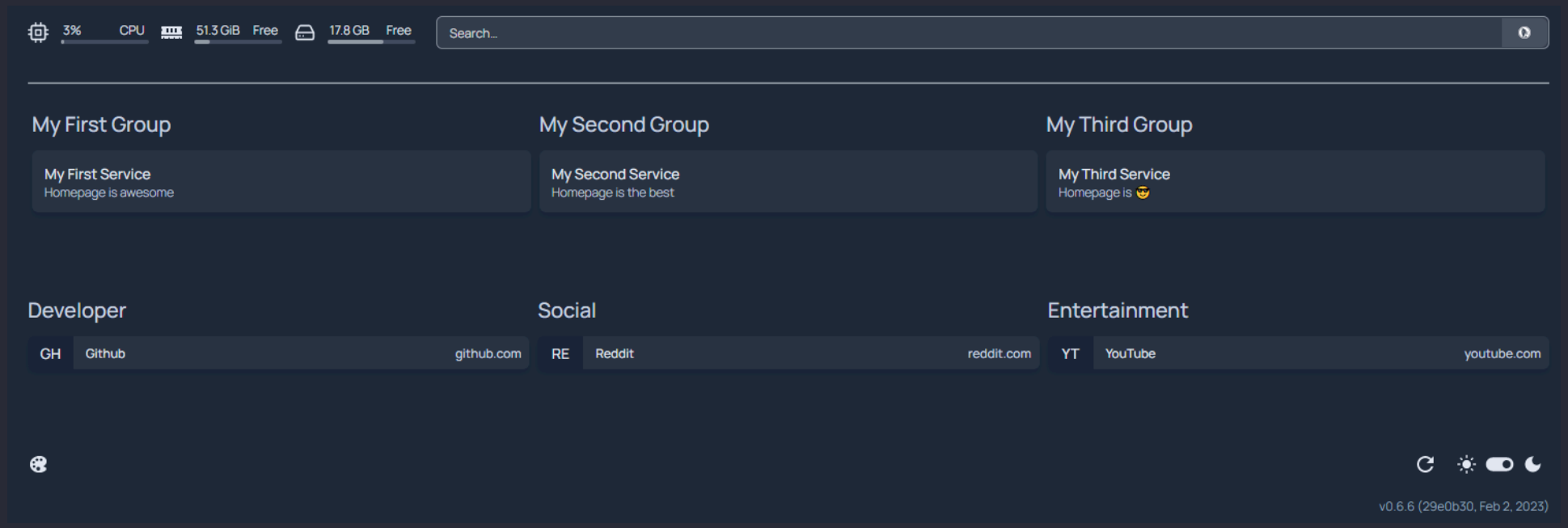
NIXOS

```
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;
  };
}
```

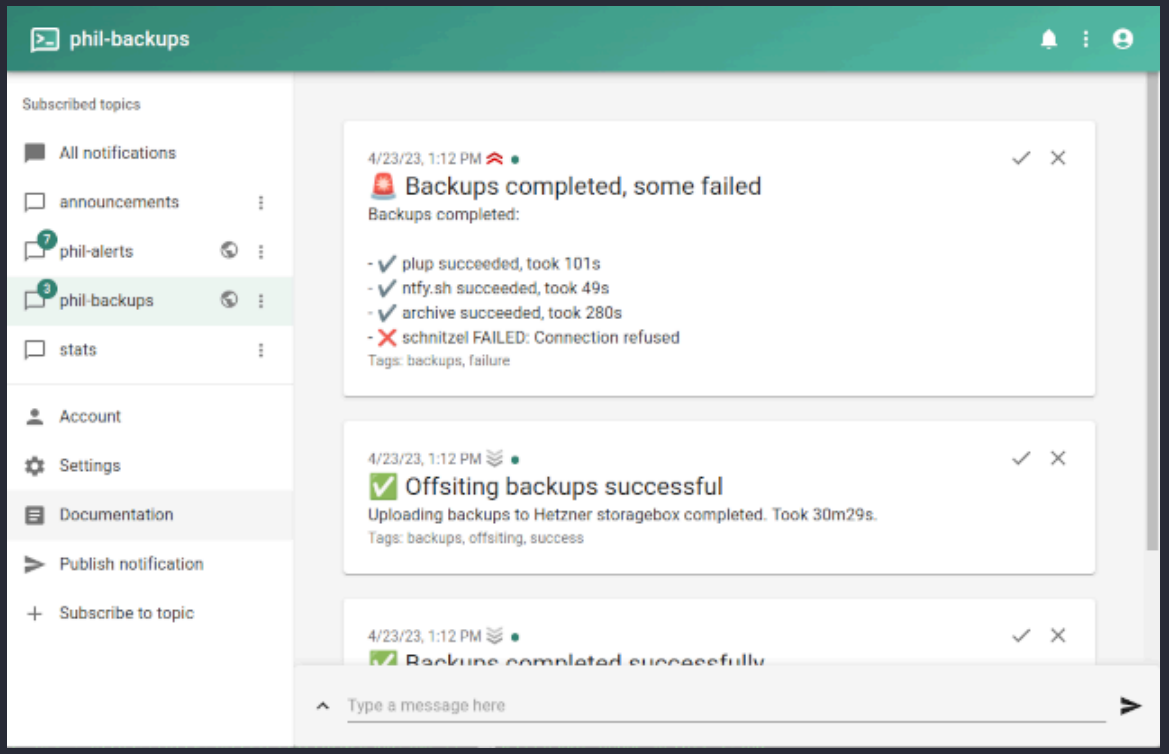
LANDING PAGE



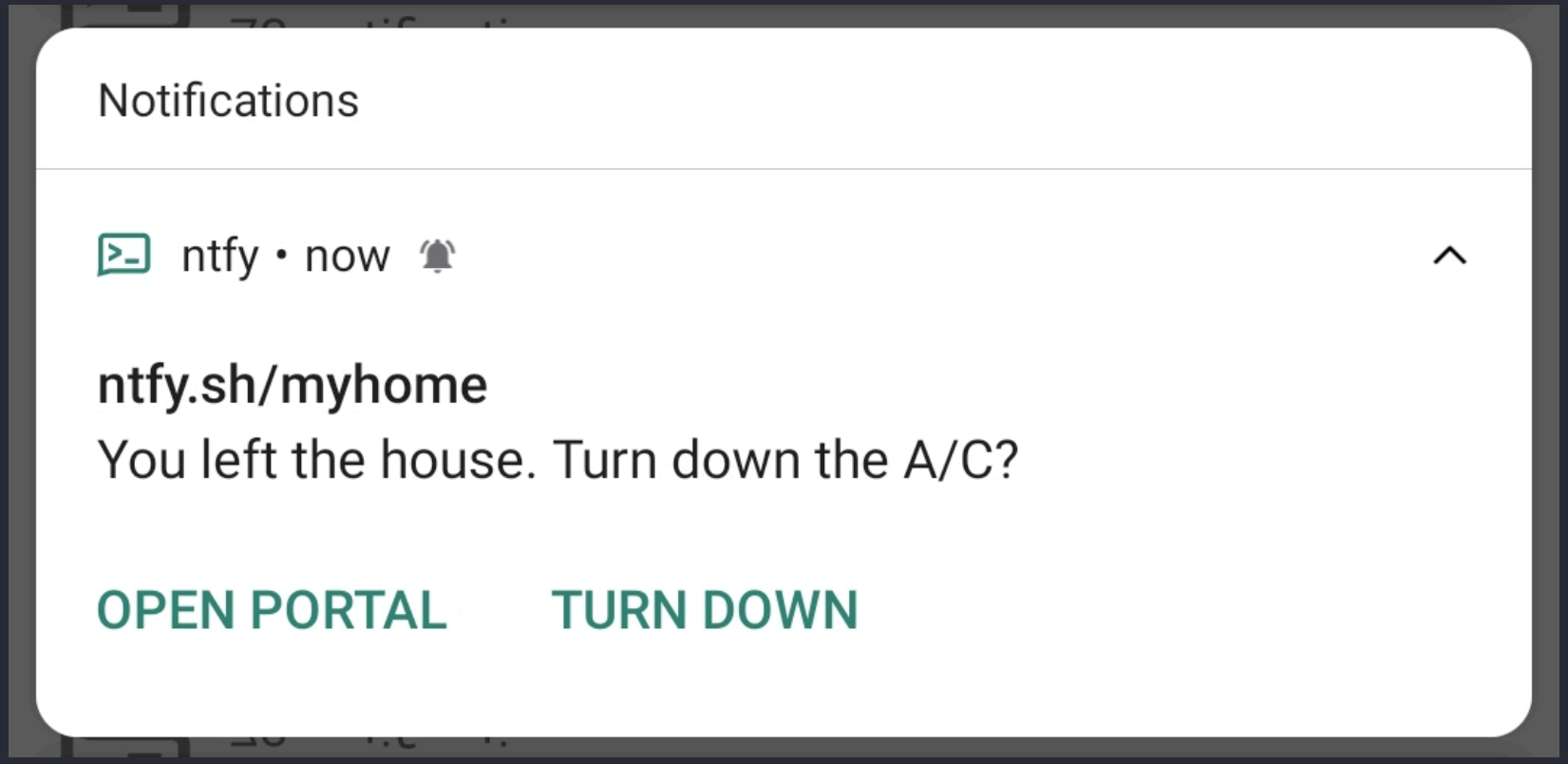
NOTIFICATIONS

```
{ ... }:

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-http = ":${toString ntfyPort}";
```

NOTIFICATIONS



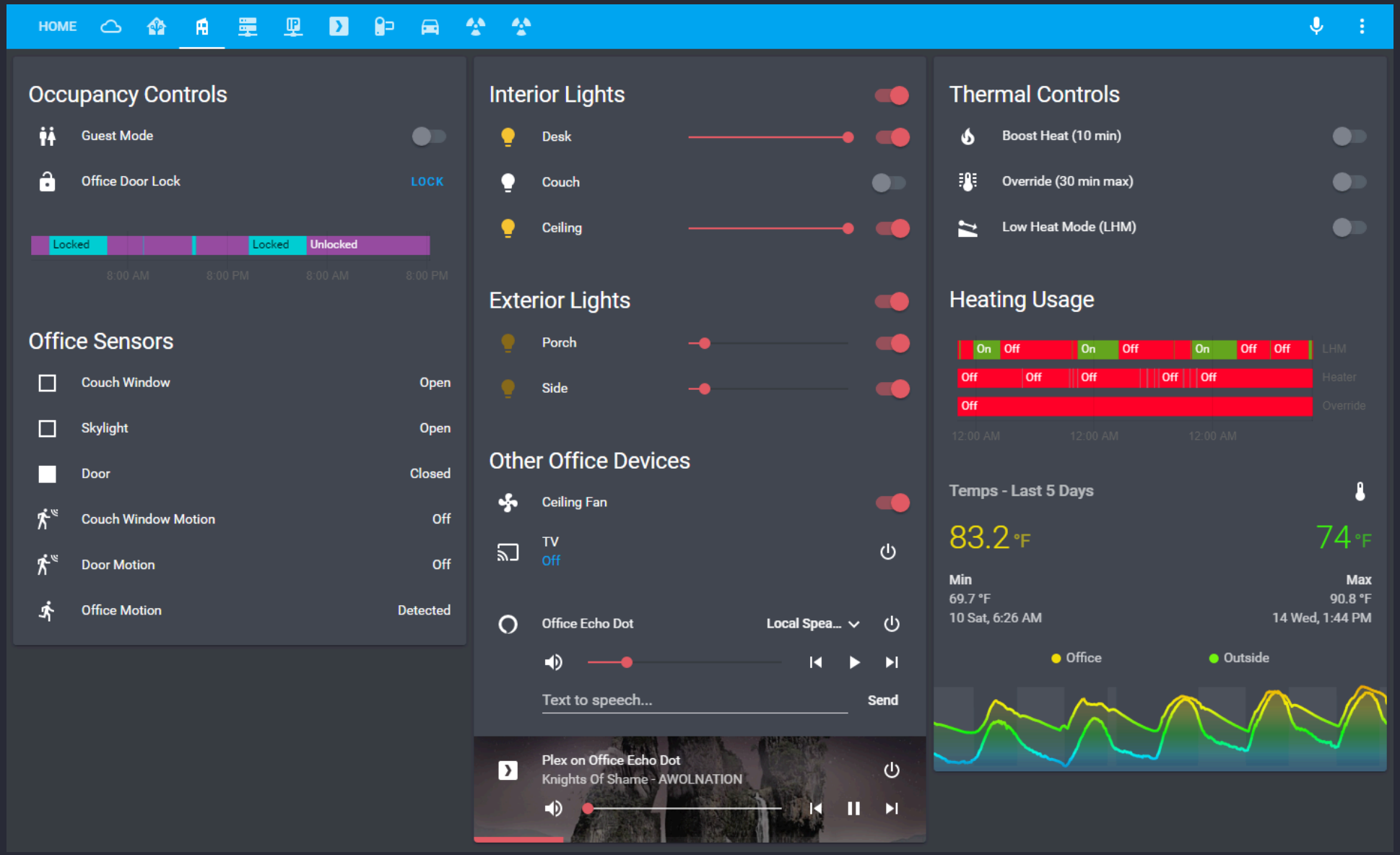
NOTIFICATIONS



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"
```

HOME ASSISTANT

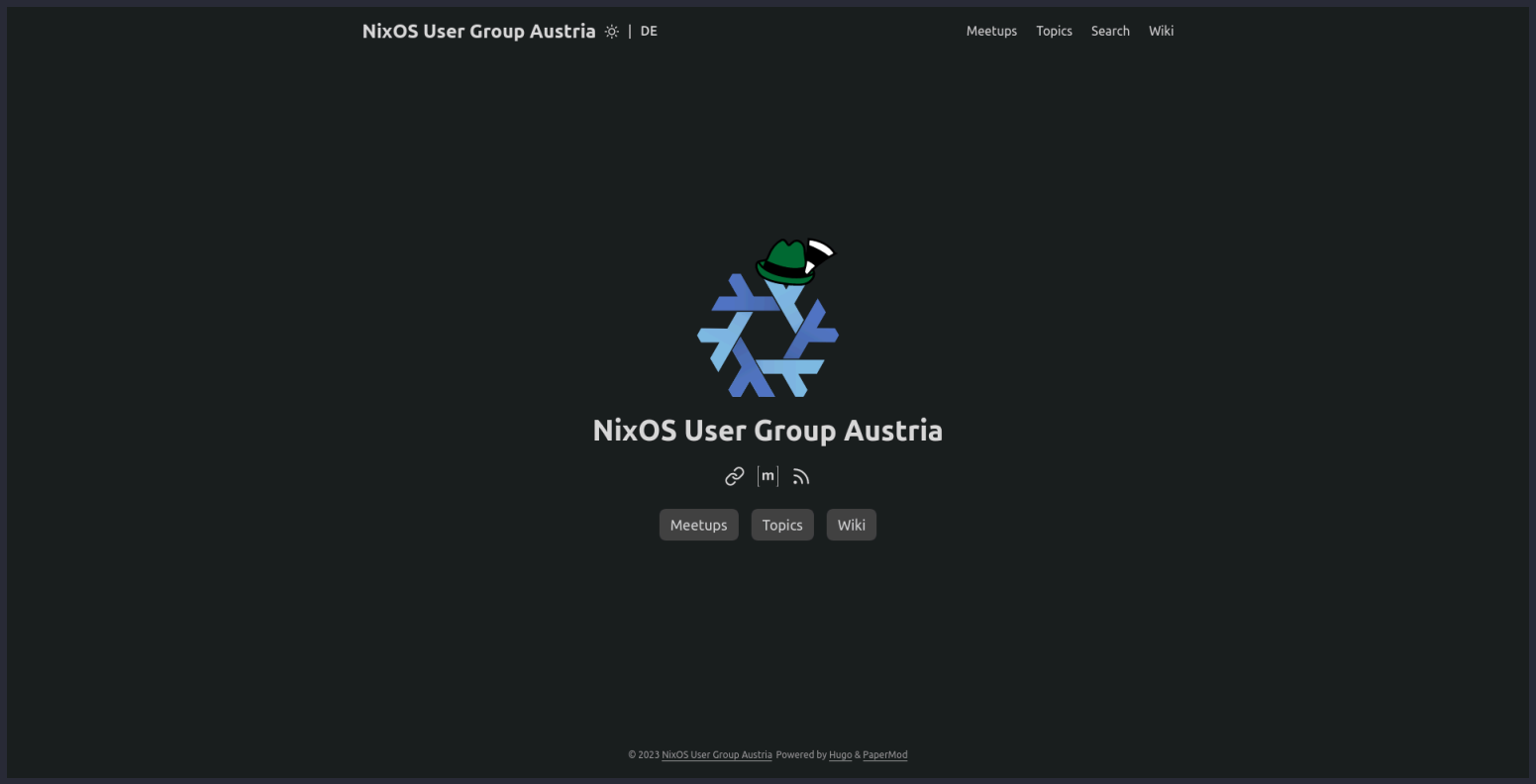


SOME SERVICE MODULES

NIXOS USER GROUP AUSTRIA

https://nixos.at

NIXOS USER GROUP AUSTRIA



NIXOS USER GROUP AUSTRIA

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 lusid1 - 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