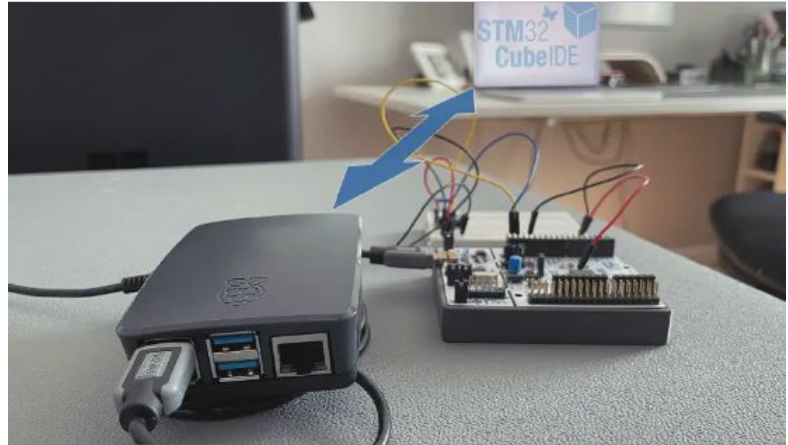


Homelab / Self-Hosting Workshop

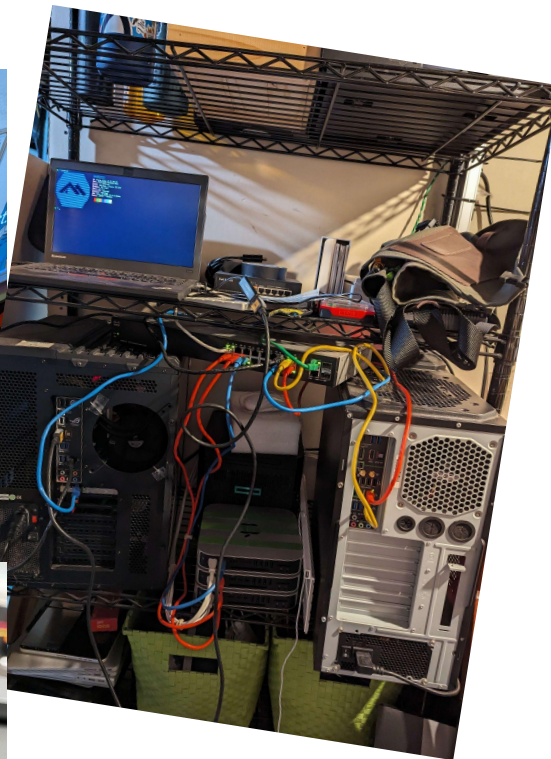
What is a Homelab?

A homelab is your personal sandbox for technology. It's a collection of hardware and software (servers, network gear) at home, used for learning, experimenting, and self-hosting services.

It's completely separate from your main desktop or laptop, so you can break things without worry!

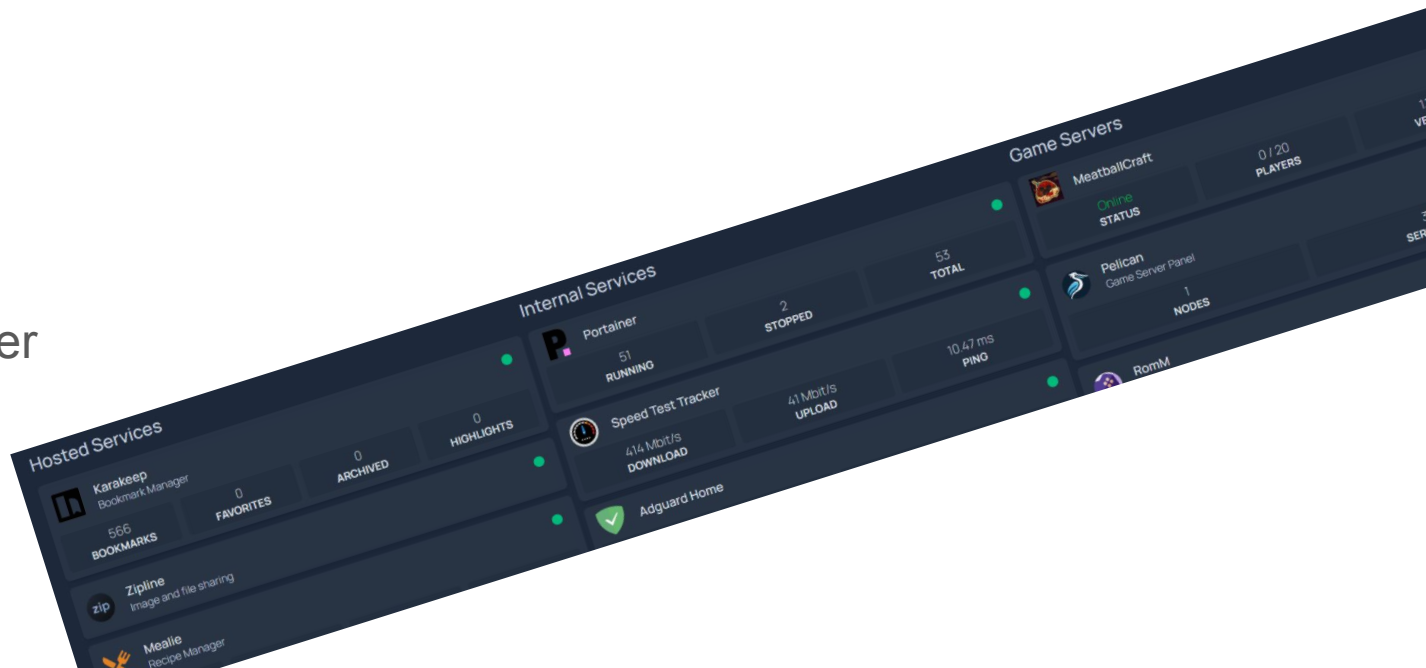


Wide Range of Hardware




Easy Homelab Wins

- Vaultwarden
- Jellyfin / Plex
- Immich
- Nextcloud
- Planka
- Snapdrop
- Gitea/Forgejo
- Minecraft Server
- OpenWebUI
- Website



Why Bother? (It's Your Career!)

-  **Hands-On Experience:** Go beyond theory. Break (and fix) a real network. This is what employers want to see.
-  **Build a Portfolio:** "I built a Kubernetes cluster to host my projects" beats "I took a class on cloud computing" in every interview.
-  **Learn Enterprise Tech:** Get real experience with Linux, Docker, Proxmox, and networking concepts used in the industry.
-  **Privacy & Fun:** Host your own services (media, files, ad-blocking) and take back control of your data from Big Tech.

The Hardware: Start Anywhere



The Old PC/Laptop

The perfect starting point. It already has a CPU, RAM, and storage. Just install a hypervisor and go!



Single-Board Computers

Like a Raspberry Pi. Low power, silent. Great for simple services like Pi-hole or a web server.



Used Enterprise Gear

Old Dell/HP servers from eBay or OSUed.

The Software: Layer by Layer



The Hypervisor (The 'OS')

Manages your hardware. **Proxmox VE** is the free, open-source king for homelabs. Runs on any hardware.



Virtual Machines (VMs)

Full, isolated operating systems. Run Ubuntu, Windows Server, CentOS... all on one physical machine.



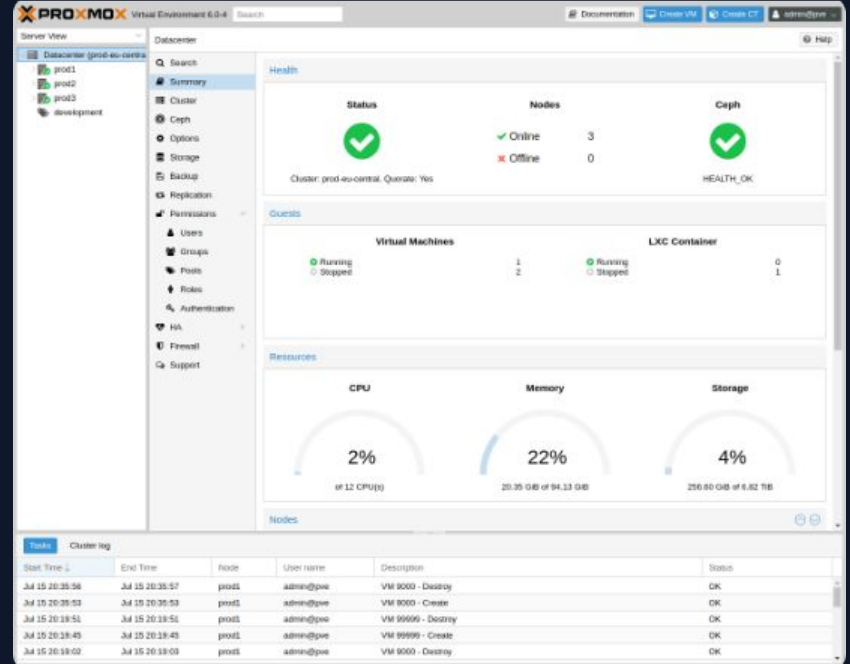
Containers (The Modern Way)

Lightweight, fast apps. **Docker** is the standard. Run 10 apps in the resources of 1 VM.

Your New Best Friend: Proxmox

Why Proxmox? It's free, based on Debian (Linux!), and runs on **anything**. It gives you two technologies in one great web UI:

- **KVM Virtualization:** For all your 'heavy' VMs (Windows, Linux Desktop).
- **LXC Containers:** Super lightweight Linux containers for simple services (like Pi-hole!).



Level Up: Docker

This is what powers modern tech. Instead of a full VM for each app, just run the app. It's faster, lighter, and more efficient.

- **Docker:** The engine that runs 'containers'!
- **Portainer:** A simple, powerful web UI to manage all your Docker containers. A 'must-have' for your Docker VM.
- **The *Arr Suite:** (Sonarr, Radarr...) A popular set of Docker apps for... 'automating' your media library.



Level Up: Tailscale

A "mesh VPN" that connects all your devices (laptop, phone, servers) into one secure private network.

- No more port forwarding! This is the key.
- Securely access your Proxmox or Pi-hole dashboard from campus WiFi as if you were at home.
- Built on WireGuard, it's fast, secure, and has a generous free plan perfect for homelabs.



Demo Stuff