Application Sprawl

Applications

Once the foundation and all the supporting systems were in place, I thought — this is it, now I can actually start running applications. Up until that point, the only non-administrative thing running was my SearXNG search engine. The whole idea of a homelab is partly to self-host applications and tools you'd otherwise pay for or hand off to a cloud provider, but it's also a space for learning and expanding your skills. Most of what I'd built up to this point was infrastructure I *needed* in order to run things — now it was finally time to plug in the rest.

Administration & Monitoring

These applications run primarily on the Overseer VM and form the operational backbone of the homelab — the tools that keep everything else visible, manageable, and healthy.

Started with:

- **Authentik** — Identity Provider used for OIDC-based Single Sign-On across most applications, with proxy authentication configured for apps that don't natively support SSO.
- **NGINX Proxy Manager** — Reverse proxy with DNS-01 challenge support, enabling valid TLS certificates for internal-only domains across all my services, without exposing anything to the public internet.
- **Uptime Kuma** — Lightweight monitoring and notification platform for health checks across services, servers, and other homelab systems. It sends alerts the moment something goes down or becomes unreachable.
- **Dockeep** — A simple application port monitor for keeping track of which ports are in use across the environment, useful for avoiding conflicts as the number of containers grows.
- **Portainer** — Docker container management UI that gave me a visual interface for managing containers across multiple VMs from one place. Over time this was replaced by Komodo, and eventually by Dockge, as I found each to be a better fit for how my workflow had evolved.

Later added:

- **Termix** — A multi-platform server management interface that consolidates SSH terminal access, remote desktop control via RDP and VNC, SSH tunneling, and remote file management into a single web-based UI. It replaced the need to juggle multiple tools for reaching different systems.

- **Nutify** — A UPS monitoring and management platform built on top of Network UPS Tools (NUT). It provides real-time power status, historical telemetry, configurable alerts, and interactive charts through a modern web interface — essential for knowing when power events occur and how long battery runtime remains.
- **Linux Update Dash** — A simple dashboard for tracking and managing pending system updates across all Linux servers in the homelab, making it easy to stay on top of patch status without SSHing into each machine individually.
- **Forgejo** — A self-hosted Git repository platform, used for version-controlling Docker Compose stacks, configuration files, and scripts. Keeps everything backed up and tracked locally without relying on GitHub.
- **Pangolin** — A zero-trust tunneling service that allows secure remote access to internal homelab resources without port forwarding. Used for exposing private services over WireGuard-based tunnels through a lightweight agent called Newt.

Documentation & Knowledge Management

Good documentation is the cornerstone of a successful homelab — especially as the number of services grows and the details of past setups start to blur together.

- **BookStack** — A wiki-style documentation platform organized around books, chapters, and pages. This is where I keep runbooks, setup notes, network diagrams, and anything else I'll need to reference later.
- **Karakeep** — A bookmark management platform for saving and organizing useful websites, guides, and resources I want to return to. Replaces browser bookmarks with something searchable, tagged, and accessible from anywhere.
- **Paperless-ngx** — A document management system for ingesting, OCR-processing, tagging, and searching scanned documents. Later replaced with Papra, which better fit my workflow for organizing personal records and paperwork.

Productivity & Utilities

These are the applications I've found genuinely useful as self-hosted alternatives to proprietary or cloud-based tools — covering everything from diagramming and task management to media and file conversion.

- **Draw.io** — A web-based diagramming tool for creating network diagrams, flowcharts, and architecture visuals. Used regularly for documenting homelab topology.
- **IT Tools** — A collection of handy developer and sysadmin utilities in a single web interface — things like hash generators, encoders, formatters, and network calculators. A surprisingly useful all-in-one toolbox.
- **Bento PDF Editor** — A full-featured PDF editor with 20+ tools for annotating, merging, splitting, compressing, and manipulating PDFs, comparable to what Adobe Acrobat offers but fully self-hosted.

- **Stirling Image** — An image processing platform with 30+ tools for editing, converting, and batch-processing images, similar in scope to Adobe Photoshop and Bridge but running entirely locally.
- **Vikunja** — A project management and task tracking platform. Used for organizing notes and keeping track of ongoing projects across the homelab and beyond.
- **Mini QR Code** — A simple, self-hosted QR code generator. Small utility, but it comes up more often than you'd expect.
- **Transmute** — A privacy-focused file conversion platform that handles images, video, audio, documents, spreadsheets, subtitles, and fonts — all processed locally without uploading anything to an external service.
- **ConvertX** — A complementary file conversion tool with broad format support. Where Transmute covers most conversions, ConvertX fills the gaps.
- **Enclosed** — A minimalist web application for sending self-destructing, encrypted notes and files. Useful for sharing sensitive information without it living in email or a chat log indefinitely.
- **Gharmonize** — A media processing tool for downloading content from multiple platforms. Useful for archiving videos and audio locally for offline access.
- **Jellyfin** — An open-source media server for streaming a personal library of movies and TV shows, similar to Netflix but entirely under your control. No subscriptions, no licensing restrictions, no tracking.
- **Umami** — A privacy-respecting web analytics platform similar to Google Analytics, but without the data collection or third-party tracking. Used for monitoring traffic on self-hosted web properties.
- **Notifuse** — A self-hosted email platform for sending newsletters and transactional emails. A fraction of the cost of services like Mailchimp or SendGrid, with full control over deliverability settings.
- **Gramps Web** — A self-hosted genealogy and family tree platform, serving as a private alternative to Ancestry.com. All family history data stays local.

All self-hosted applications run in Docker containers, managed through whichever container management tool is current at the time. Most were discovered through YouTube channels focused on self-hosting, or through community newsletters like selfh.st, which curates new and updated open-source projects on a regular basis.

It's worth noting that this list represents what stuck. There are many more applications I tried along the way that either failed to deploy cleanly, didn't perform the way I expected, or simply didn't find a purpose in my workflow. That trial-and-error process is part of the homelab experience — and half the learning happens in the ones that don't work out.

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