

Open Notebook

Overview

Open Notebook is a self-hosted AI research notebook application — a local alternative to Google NotebookLM. It allows structured AI-assisted research sessions where sources (documents, URLs, text) are ingested into a notebook and queried via an LLM for synthesis, summaries, and question-answering.

It uses SurrealDB as its backend database for storing notebooks, sources, and conversation state.

Access

Type	URL	Notes
Internal	<code>https://notebook.home.local</code>	LAN access via Step-CA TLS
External	<code>https://notebook.jeeves5454.ddns.net</code>	Authentik SSO + GeoBlock + CrowdSec

Containers in This Stack

Container	Image	Role
<code>open-notebook</code>	<code>lfnovo/open_notebook:v1-latest</code>	Application server (Streamlit)
<code>open-notebook-db</code>	<code>surrealdb/surrealdb:v2</code>	SurrealDB database backend

Configuration

Compose project: `ai-stack`

Environment Variables

Variable	Value / Notes
API_URL	https://notebook.home.local
CORS_ORIGINS	https://notebook.home.local,https://notebook.jeeves5454.ddns.net
INTERNAL_API_URL	http://localhost:5055
SURREAL_URL	ws://open-notebook-db:8000/rpc
SURREAL_NAMESPACE	open_notebook
SURREAL_DATABASE	open_notebook
SURREAL_USER	root
SURREAL_PASSWORD	REDACTED
HOSTNAME	0.0.0.0

Traefik Labels

```
# External route
traefik.http.routers.open-notebook-ext.rule: Host(`notebook.jeeves5454.ddns.net`)
traefik.http.routers.open-notebook-ext.entrypoints: websecure
traefik.http.routers.open-notebook-ext.tls.certresolver: letsencrypt
traefik.http.routers.open-notebook-ext.middlewares: authentik-auth@docker,plex-geoblock@file,crowdsec-bouncer@file
traefik.http.routers.open-notebook-ext.service: open-notebook-ui-svc
traefik.http.routers.open-notebook-ext.priority: 1

# Internal route
traefik.http.routers.open-notebook-int.rule: Host(`notebook.home.local`)
traefik.http.routers.open-notebook-int.entrypoints: websecure
traefik.http.routers.open-notebook-int.tls.certresolver: step-ca
traefik.http.routers.open-notebook-int.service: open-notebook-ui-svc
traefik.http.routers.open-notebook-int.priority: 1

traefik.http.services.open-notebook-ui-svc.loadbalancer.server.port: 8502
```

Volumes / Bind Mounts

Host Path	Container Path	Purpose
/media/jeeves/1TB_Vol1/docker/open-notebook/notebook_data	/app/data	Notebook content and uploads (Ceph OSD)
/home/jeeves/docker/open-notebook/surreal_data	/mydata	SurrealDB data files

Notebook data (uploaded sources, generated content) is stored on the Ceph OSD volume (1TB_Vol1) to keep large research files off the system NVMe.

Sub-section: SurrealDB

open-notebook-db runs SurrealDB v2, a multi-model database used by Open Notebook to store all notebook definitions, source metadata, embeddings, and conversation history.

SurrealDB is connected to open-notebook via WebSocket at ws://open-notebook-db:8000/rpc over the ai-internal network. It is not exposed to traefik-net — no external access.

Networks

Network	Purpose
ai-stack_ai-internal	open-notebook ↔ open-notebook-db communication
traefik-net	Exposes the Open Notebook UI via Traefik

open-notebook-db is on ai-internal only and never on traefik-net .

Dependencies

- open-notebook-db (SurrealDB must be running before the app starts)
- Ollama or an external LLM API configured within the app settings
- Authentik for SSO on the external route
- Ceph OSD volume mounted at /media/jeeves/1TB_Vol1

Notes / Gotchas

- The v1-latest image tag tracks the latest v1 stable release. Breaking changes between major versions may require a database migration.

- SurrealDB stores its data in the bind-mounted `surreal_data` directory. This must be backed up before upgrades to SurrealDB v3+ as schema changes are not automatically reversible.
 - LLM provider settings (which Ollama model to use, API keys for external providers) are configured inside the Open Notebook UI, not via environment variables.
 - `CORS_ORIGINS` must include both the internal and external URLs — missing one will cause browser CORS errors for the corresponding route.
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