

# MLOX — MLOps-in-a-Box

Open-source ML infrastructure for everyone

# The Problem

MLOps is complex, expensive, and built for big players

- **Small teams lack access to production-grade ML infrastructure** → setting up and running tools like MLflow, Airflow, or feature stores requires deep cloud engineer & DevOps skills and dedicated staff that are often not available.
- **Cloud platforms = costly & hard to manage** → vendor lock-in, unpredictable pricing, and steep learning curves block early adoption.
- **High entry barriers slow down innovation** → instead of building ML applications, teams spend resources just on re-inventing the MLOps infrastructure wheel.

# Our Solution

MLOX bundles proven open-source tools into one accessible package

- **Simple install & manage complete MLOps stacks** → Web-UI and CLI let teams provision servers, deploy services, and monitor infrastructure without deep DevOps expertise.
- **On-premise and hybrid cloud** → runs on local machines, dedicated servers, or in the cloud (incl. GCP integration) enabling flexible on-premise and hybrid setups.
- **100% open source & community-driven** → lowers costs, avoids vendor lock-in, ensures transparency and extensibility — and just feels good ❤️.

# MLOX User Interface

Not just an idea — a real product

- **Web UI & CLI** → manage servers and services in no time — without breaking a sweat
- **Monitoring** → keep track of what matters: telemetry, databases, Git repos, ML models

MLOX

Home

mlox01

Settings

Infrastructure

Services

Secret Management

Models

Monitor

Help and Documentation

Security and News

Documentation

Installed

Templates

Total

8

Running

7

Stopped

0

Search services

Search by name or IP...

State

all

Name	Version	State	Groups
<input type="checkbox"/> redis-8-bookworm	8-bookworm	Running	service, database, backend
<input type="checkbox"/> tsm	0.1-beta	Running	service, secret-manager, backend
<input type="checkbox"/> otel-0.127.0	0.127.0	Running	service, monitor
<input type="checkbox"/> mlflow-2.22.0	2.22.0	Running	service, model-server, experiment-tracking, backend
<input checked="" type="checkbox"/> live/1@mlflow-mlserver-2.22.0	2.22.0	Pending	service, model-server, backend
<input type="checkbox"/> k8s-dashboard	7.13.0	Running	service, dashboard, kubernetes, docker, native
<input type="checkbox"/> headlamp	newest	Running	service, dashboard, kubernetes, docker, native
<input type="checkbox"/> gcp-secret-manager-0.1.0	0.1.0	Running	service, secret-manager, cloud, backend

Templates

Search for services...

Docker only

Kubernetes only

Feast Feature Store · vlatest

Feast is an open-source feature store for managing and serving machine learning features.

feature-store

Backends: docker

Pending

Unknown

Add Service

InfluxDB · v1.11.8

InfluxDB is a time-series database designed for high-performance data storage and retrieval.

database

Backends: docker

Add Service

Redis · v8-bookworm

Redis is an open-source, in-memory data structure server.

database

Backends: docker

Add Service

OpenTelemetry Collector · v0.127.0

OpenTelemetry Collector is a service for collecting and exporting telemetry data.

monitor

all

Backends: docker

Add Service

TinySecretManager (TSM) · v0.1-beta

TinySecretManager is a lightweight, file-based secret management service.

secret-manager

Backends: kubernetes, docker, native

Add Service

GCP Storage · v0.1.0

GCP Storage is a secure and scalable service for managing storage in Google Cloud Platform.

storage

cloud

Add Service

GCP Secret Manager · v0.1.0

GCP Secret Manager is a secure and scalable service for managing secrets in Google Cloud Platform.

secret-manager

cloud

Add Service

MLFlow · v2.22.0

MLFlow is an open-source platform for managing the machine learning lifecycle, including experimentation, reproducibility, and deployment.

model-registry

experiment-tracking

Backends: docker

Add Service

GCP Sheets · v0.1.0

Google Spreadsheets is a secure and scalable service for managing sheets in Google Cloud Platform.

cloud

database

Add Service

Server Management

Templates

Structure your servers and view their status. Select a server row to see details and perform actions. A server is a physical or virtual machine (e.g., Ubuntu VM, Kubernetes cluster) that can host one or more services. Add new servers in the "Templates" tab: choose a backend, tweak settings, then click "Add Server".

Servers

4

Running

2

Stopped

0

Pending

2

Services

8

CPU/RAM/Storage

12 • 24...

Name	Backend	State	Tags	Services	Specs
<input type="checkbox"/> sartre	docker	Running	mlox.debug	5	6.0 CPUs, 12.0 GB RAM, 145.0 GB Storage, Ubuntu 24.04.3 LTS
<input type="checkbox"/> wittgenstein	kubernetes, k3s	Running		3	6.0 CPUs, 12.0 GB RAM, 145.0 GB Storage, Ubuntu 24.04.3 LTS
<input type="checkbox"/> beauvoir	kubernetes-agent, k3s-agent	Pending		0	0 CPUs, 0 GB RAM, 0 GB Storage, Unknown
<input checked="" type="checkbox"/> poincare	docker	Pending	dev	0	0 CPUs, 0 GB RAM, 0 GB Storage, Unknown

Search

Tags

dev x

Update

Refresh Status

Enable debug access

poincare - Ubuntu (Docker)

server:git

server:initial\_auth\_password

backend:docker

Ubuntu is a popular Linux distribution based on Debian. It is known for its ease of use, stability, and strong community support. This YAML file defines the configuration for the base Ubuntu stack which is necessary for the installation and management of MLOX stacks.

Find out more: <https://ubuntu.com/>

# Achievements

Early users confirm the need

- **Core infrastructure up & running** → tested deployments of key services (e.g. Airflow, MLflow, MLServer, Redis, Influx, Postgres, MinIO, Kafka, Github) show stability in real scenarios.
- **Multiple backends supported** → run MLOX natively, on localhost, with Docker, or Kubernetes (k3s) for flexible setups.
- **PyPI package released** → integrates directly with user code, enabling config & secret management and first end-to-end workflows right out of the box

\*Current focus: most services are Docker-ready; Kubernetes (k3s) support is being expanded.

# Vision

Democratizing MLOps in Europe and beyond

- **No barriers** → production-grade ML infrastructure without heavy costs or DevOps overhead
- **Sustainable ecosystem** → building open-source MLOps in Europe and beyond
- **Empower innovators** → Open-source ML infrastructure for everyone

*“From prototype to **platform**”*