Nanocl
Revolutionizing Container
and
Virtual Machine Management

What is Nanocl?

- **Nanocl** is a portable, extensible, open-source platform for managing workloads, simplifying the management of both containers and virtual machines.

- It facilitates both declarative configuration and automation, ensuring ease of use and efficiency.

Why Nanocl?

Challenges with Existing Solutions:

- **Kubernetes**: Complex setup and management.

- **Docker Swarm**: Limited scalability and features.

Our Vision: Enable everyone to run their own cloud infrastructure at scale, making complex infrastructure management simple and accessible.

Key Features of Nanocl

- **Service Discovery & Load Balancing**: Expose containers using DNS or IP addresses, ensuring load balancing for stability.

- **Storage Orchestration**: Automate mounting of local and cloud storage systems.

- **Automated Rollouts and Rollbacks**: Manage container deployment states effortlessly.

- **Self-Healing**: Automatically restart and replace failed containers for continuous operation.
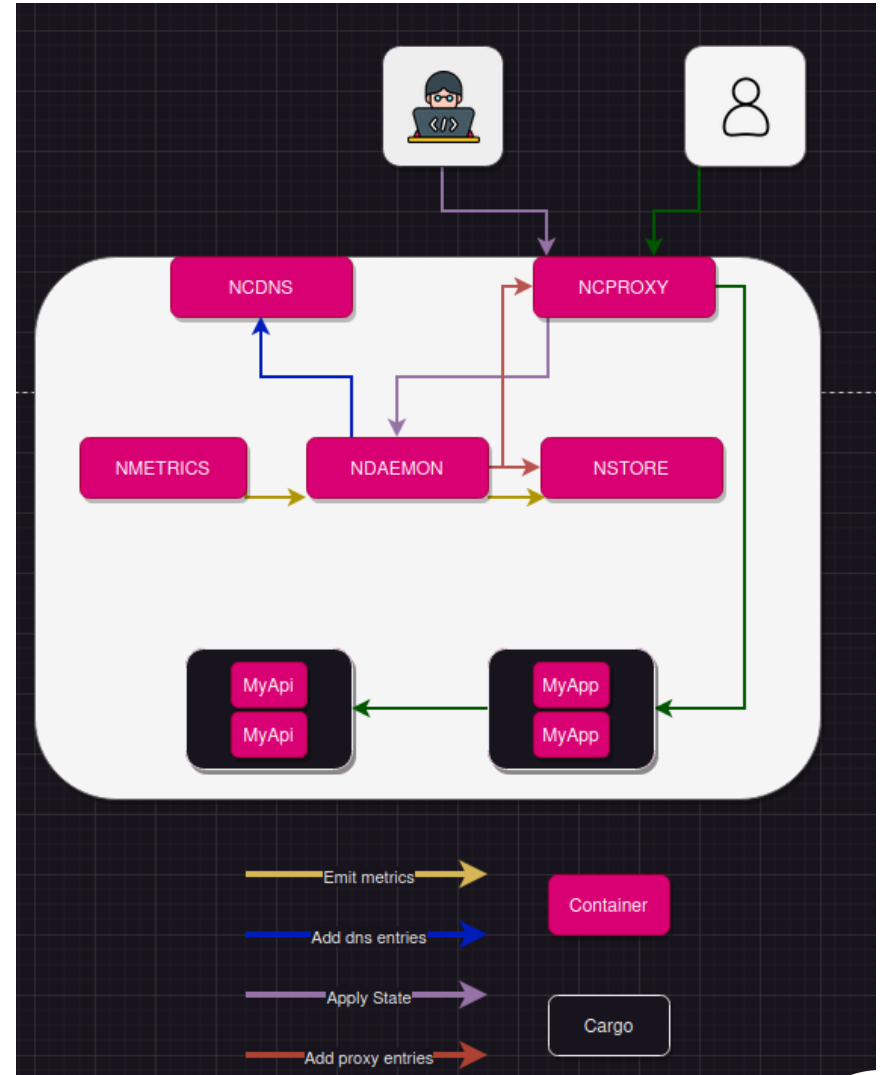
Nanocl Architecture

Client-Server Model: Interaction between Nanocl client and Nanocl daemon.

Components:

- **nstore**: SQL store based on CockroachDB.
- **nmetrics**: Collects node metrics.
- **ndaemon**: Manages containers on each node.
- **nproxy and ncproxy**: Reverse proxy and its controller.
- **ndns and ncdns**: DNS management and its controller.

Benefits of Using Nanocl

- **Resource Efficiency**: Optimal utilization of resources.

- **Scalability**: Effortless horizontal scaling.

- **Portability**: Consistent environments across platforms.

- **Security**: Robust secret and configuration management.

Nanocl Use Cases

- **Development and Deployment**: Consistent environments from local to production.
- **CI/CD**: Efficient container image builds and deployments.
- **Microservices**: Support for loosely coupled, distributed, elastic microservices.

Nanocl vs Traditional PaaS

- **Flexibility**: Not monolithic, supports diverse workloads.
- **Custom Integrations**: User choice in logging, monitoring, and alerting solutions and plugins.
- **Declarative API**: Simplified configuration management.

Getting Started with Nanocl

- **Installation**: https://docs.next-hat.com/manuals/nanocl/install/overview

- **Documentation:** https://next-hat.com/nanocl

- **GitHub:** https://github.com/next-hat/nanocl

- **Discord:** https://discord.gg/WV4Aac8uZg

Call to Action

- **Try Nanocl today** and provide feedback to help us improve.
- **Contribute** to the project.
- **Sponsorships** are highly welcome.