

Lima v2.0

Plugins!
GPU! MCP!

Linux virtual machines
for running containers, AI agents, etc.

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- Automatic host filesystem sharing
- Automatic port forwarding
- Built-in integration for containerd

(and Docker, Podman, Kubernetes, Apptainer, ...)

```
$ brew install lima
$ limactl start
$ lima nerdctl run -p 80:80 nginx
```



<https://lima-vm.io/>



Promoted to CNCF Incubating Project



A screenshot of a web browser displaying the CNCF project page for Lima. The URL in the address bar is www.cncf.io/projects/lima/. The page content includes the Lima logo, a brief description of the project, and links to the project website and GitHub.

Linux virtual machines, typically on macOS, for running containerd

Lima was accepted to CNCF on September 14, 2022 and moved to the **Incubating** maturity level on October 14, 2025.

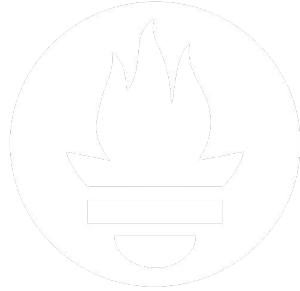
VISIT PROJECT WEBSITE





v2.0 (November 2025)

- Plugin infrastructure to allow implementing new features without modifying Lima
 - VM driver plugins
 - CLI plugins
 - URL schema plugins
- GPU acceleration with krunkit VM driver
- MCP server for protecting AI agents such as Gemini
- Lots of CLI improvements



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Extending the focus to AI

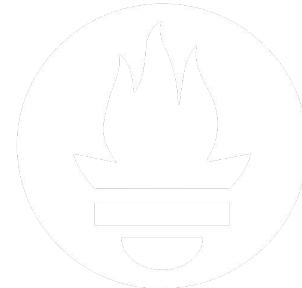


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- Original goal in 2021 was to facilitate running containerd on macOS
- Turned out to be highly useful for securing AI agents too
- AI inside Lima
 - Just run Codex, Copilot, Claude, Gemini, etc. inside Lima
 - LLM inference can be done inside Lima, using GPU acceleration
- AI outside Lima
 - Lima's MCP server can be connected from AI agents running on the host
 - VScode + Remote SSH + Copilot works well too with Lima

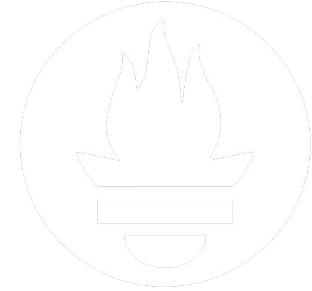
NEW

GPU acceleration in action



```
lima
$ lima --version
limactl version 2.0.0
$ lima llama-cli --version
ggml_vulkan: Found 1 Vulkan devices:
ggml_vulkan: 0 = Virtio-GPU Venus (Apple M4 Max) (venus) | uma: 1 | fp16: 1 | bf
16: 0 | warp size: 32 | shared memory: 32768 | int dot: 0 | matrix cores: none
version: 6962 (230d1169e)
built with cc (GCC) 15.2.1 20251022 (Red Hat 15.2.1-3) for aarch64-redhat-linux
$
```

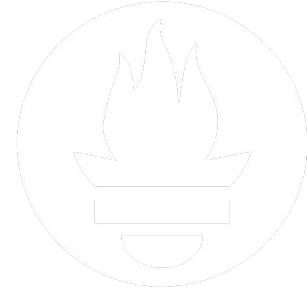
How it works



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- **Hypervisor**
Virtualization.framework aka vz, QEMU, or krunkit
- **Intel-on-ARM binary executor**
Rosetta 2 (vz) or QEMU-user
- **Filesystem sharing**
virtiofs (vz, krunkit), virtio-9p (QEMU), or reverse-sshfs

How it works



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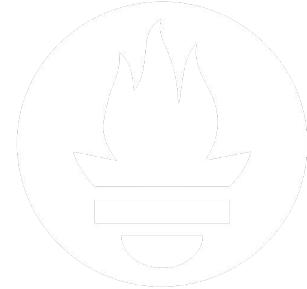
- **Network**

- user mode networking (default)
- socket_vmnet (for direct access to the IP, etc. with sudo)
- vzNAT (for faster direct access to the IP, with vz)

- **Port forwarding**

- NETLINK_SOCK_DIAG watcher (for most services)
- Kubernetes service watcher (for Kubernetes services)

Built-in templates



- **Distros**

almalinux, alpine, archlinux, centos-stream, debian, PromCon
opensuse, oraclelinux, rocky, ubuntu, ... North America 2021

- **Container engines**

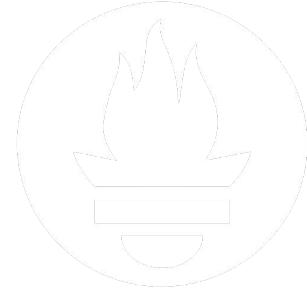
apptainer, docker, docker-rootful, podman, podman-rootful,
...

- **Container orchestration**

faasd, k3s, k8s

```
$ limactl start --name=default template://docker
```

Future ideas



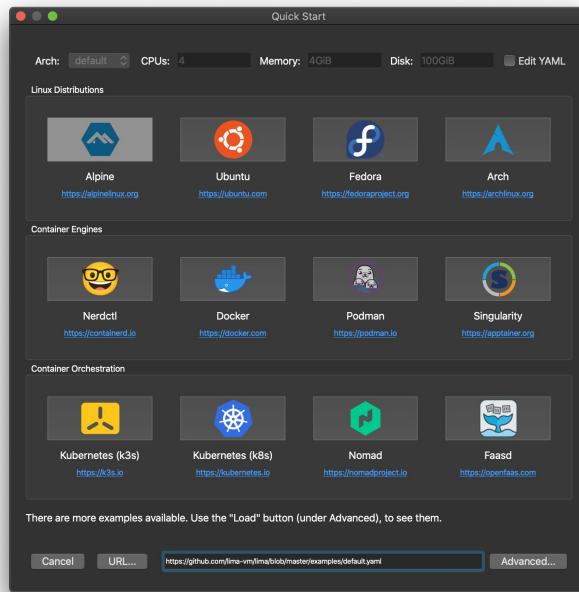
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- More VM drivers
 - e.g., for managing IaaS instances
- Rsync instead of mounts
 - e.g., for cancelling file modifications committed by AI
- Menu-based text user interface
- UX improvement for composing multiple VMs

Third party FLOSS projects based on Lima



Lima-GUI	https://github.com/afbjorklund/lima-gui
Colima	https://github.com/abiosoft/colima
Rancher Desktop	https://rancherdesktop.io/
Finch	https://github.com/runfinch/finch

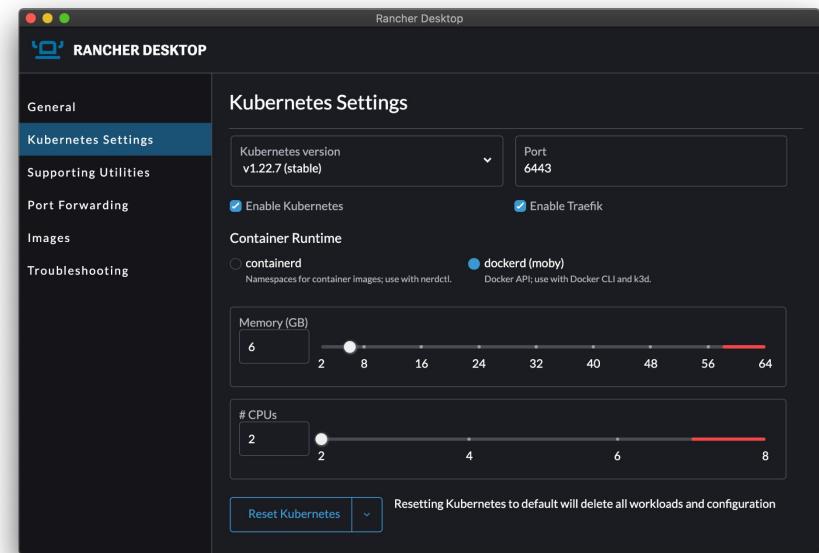


```
$ docker ps
Cannot connect to the Docker daemon at unix:///var/run/docker.sock. Is the docker daemon running?

$ colima start
INFO[0000] using docker runtime
INFO[0000] starting colima
INFO[0000] starting ...
INFO[0019] provisioning ...
INFO[0020] starting ...
INFO[0021] done

~ 21s
$ docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

~
```



Join the community!

- Web site: <https://lima-vm.io/>
- GitHub: <https://github.com/lima-vm/lima>
- Slack: <https://slack.cncf.io/> (Channel: #lima)



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