Lima v2.0

Plugins!
GPU! MCP!

PromCon
North America 2021

Linux virtual machines

for running containers, AI agents, etc.

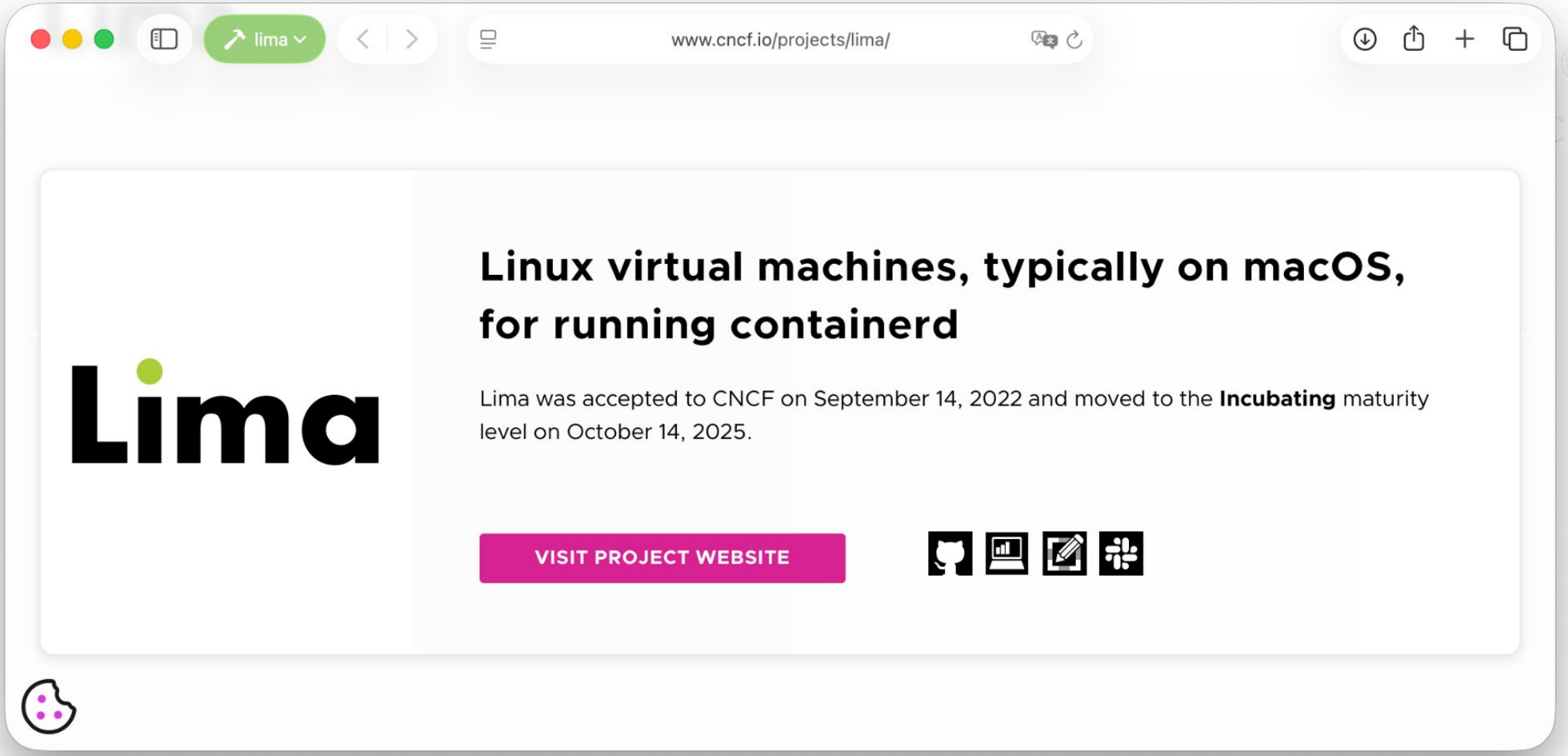
- Automatic host filesystem sharing
- Automatic port forwarding
- Built-in integration for containerd

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

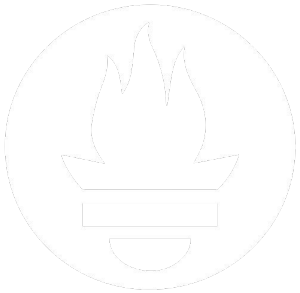
```
$ brew install lima
$ limactl start
$ lima nerdctl run -p 80:80 nginx
```

https://lima-vm.io/

🆕 Promoted to CNCF Incubating Project 🎉



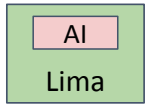
🆕 v2.0 (November 2025)



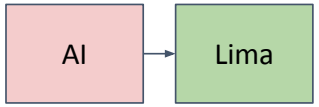
- Plugin infrastructure to allow implementing new features without modifying Lima
  - VM driver plugins
  - CLI plugins
  - URL schema plugins
- GPU acceleration with krunkit VM driver
- MCP server for protecting AI agents such as Gemini
- Lots of CLI improvements

🆕 Extending the focus to AI

- 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

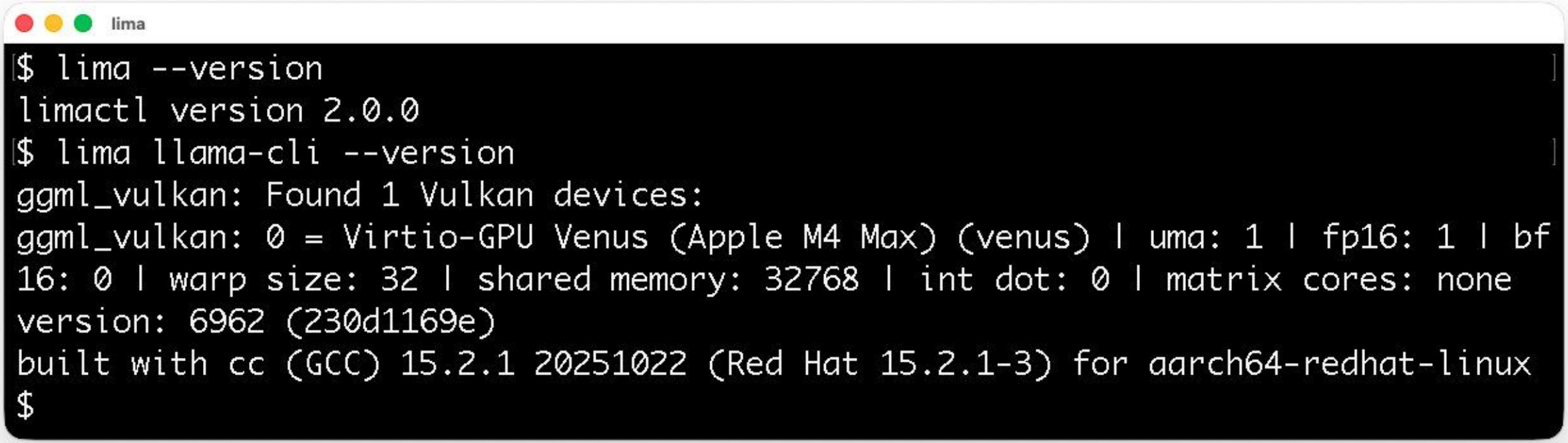


  - Just run Codex, Copilot, Claude, Gemini, etc. inside Lima
  - LLM inference can be done inside Lima, using GPU acceleration
- AI outside Lima

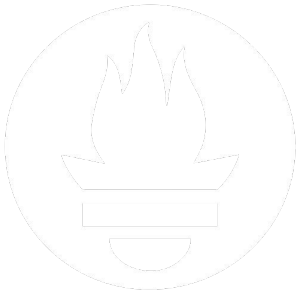


  - Lima's MCP server can be connected from AI agents running on the host
  - VScode + Remote SSH + Copilot works well too with Lima

🆕 GPU acceleration in action



How it works



- **Hypervisor**

  Virtualization.framework aka vz, QEMU, or krunkit

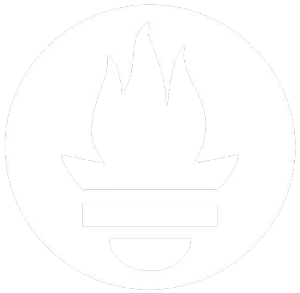
- **Intel-on-ARM binary executor**

  Rosetta 2 (vz) or QEMU-user

- **Filesystem sharing**

  virtiofs (vz, krunkit), virtio-9p (QEMU), or reverse-sshfs

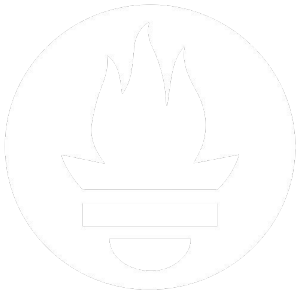
How it works



- **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, opensuse, oraclelinux, rocky, ubuntu, ...`

- **Container engines**

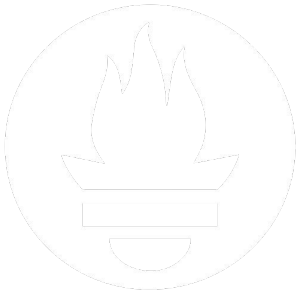
  `apptainer, docker, docker-rootful, podman, podman-rootful, ...`

- **Container orchestration**

  `faasd, k3s, k8s`

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

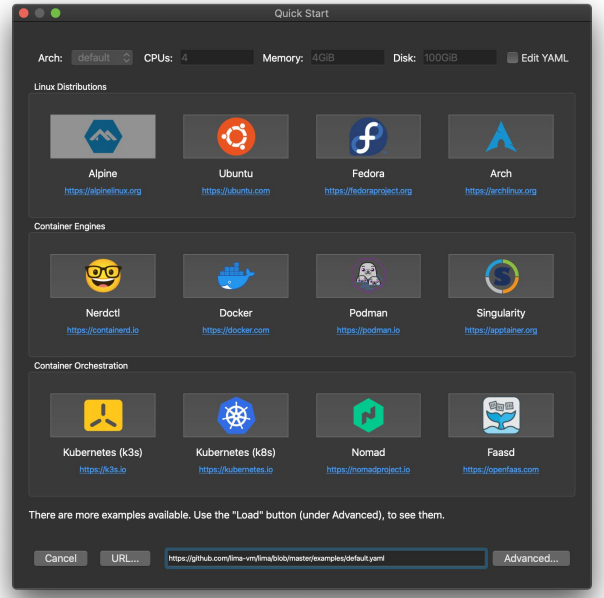
Future ideas

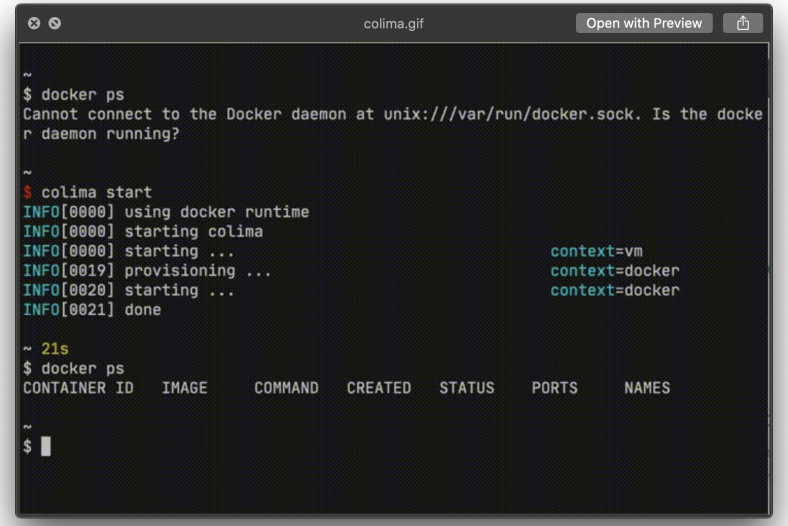


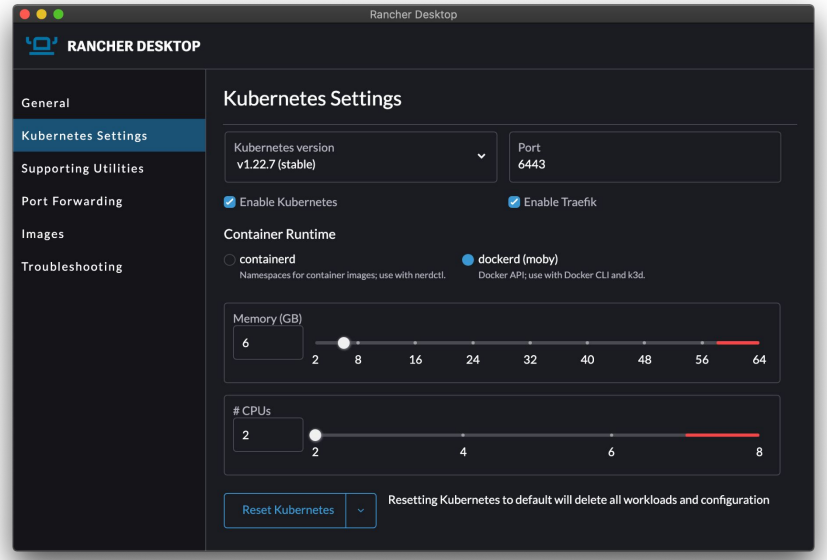
- More VM drivers
  - e.g., for managing IaaS instances
- Rsync instead of mounts
  - e.g., for cancelling file modifications committed by AI
- Menu-based text user interface
- UX improvement for composing multiple VMs

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

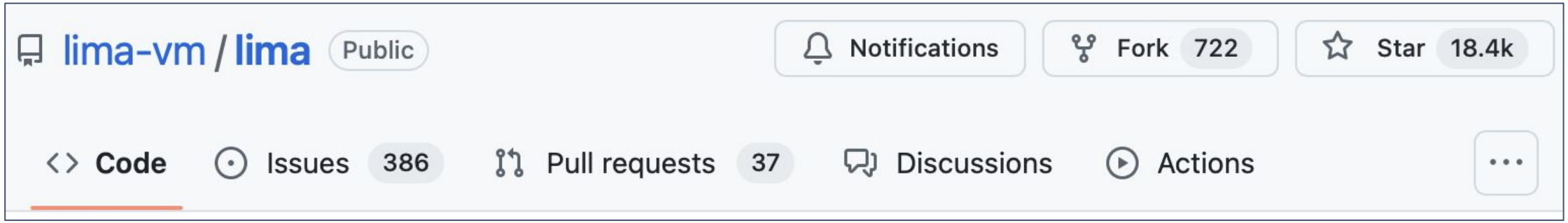






Join the community!

- **Web site:** https://lima-vm.io/
- **GitHub:** https://github.com/lima-vm/lima



- **Slack**: https://slack.cncf.io/ (Channel: #lima)