

The local Kubernetes cluster, the developer's best friend

The MicroK8s story

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CANONICAL  ubuntu 



Kubernetes is an open-source platform designed to automate deploying, scaling, and operating application containers

... which we cannot present in 10 minutes!



From the greek word “κυβερνήτης” originally designed by Google and donated to the Cloud Native Computing Foundation.

Presented at "Large-scale cluster management at Google with Borg" Proc EuroSys 2015.

Micro Kubernetes - The idea



Why?

- Local development
- CI/CD
- Reduced resource requirements (eg IoT)

Your options

- Minikube
- MicroK8s
- KinD
- K3s





Demo!



Canonical packages,
distributes and offers support
for Kubernetes.

Charmed Distribution of Kubernetes



- Vanilla Kubernetes
- Clean upgrade path
- Cloud Neutral: AWS, Azure, Google, Oracle, Rackspace, SoftLayer, or private VMware, OpenStack or bare metal.
- Multi-arch: amd64, arm64, s390x (others to come)



Canonical packages,
distributes ... software

Publish your app for Linux users
for desktop, cloud, and Internet of
Things



snapcraft

- Combine containers and apt
- Software distribution with dependencies
- Minus the elasticity
- Immutable software
- IoT/edge devices

Deliver, deliver, deliver



PoC in a week

- A week after we got word we are doing the project
- Demo in front of the company
- Create internal traction
- People said they would now be willing to use K8s

A month later

- First public word in OpenStack Summit 2018, Vancouver
- microk8s.io up in a weekend
- First blog on MicroK8s

Six months later

- Stable release



MicroK8s

How, how, how?



PoC in a week

- Automate smoke test running on every commit
- Compiling speedup hacks
- Work on only one use case, the demo!
- Outsource the demo stress to the manager!

A month later

- Functional tests on every pull request, automation of course
- Establish the active users as the key performance indicator
- Establish the workflow and collaboration tools
- Outsource the site to the product owner!

Six months later

- Follow the upstream Kubernetes releases. Let's say one release per two weeks. **AUTOMATE!**
- Unattended releases of AMD64, ARM64
- Keep blogging
- Make good things and talk about them.

Did it work? YES!



- Appreciate the promotion campaigns!
- Release fast
- Don't let old versions hold you back
- Bad reviews - treasure any feedback



Apr 22

Jun 10

Jul 29

Sep 16

Nov 4

Dec 23

Feb 10

Was this only about MicroK8s?

- Few competitors are needed to validate your sanity
- Know what you are doing. Second time's the charm
- Know how to do it. Trust the team and “outsource”.
- Deliver fast, never look back



Resources



MicroK8s Project: <https://github.com/ubuntu/microk8s>

MicroK8s: <https://microk8s.io>

#microk8s channel on <http://slack.kubernetes.io/>

Snaps: <https://snapcraft.io/>

Charmed Distribution of Kubernetes: <https://www.ubuntu.com/kubernetes/docs/overview>

Kubernetes upstream: <https://kubernetes.io/>