ubuntu

CICD Hacks

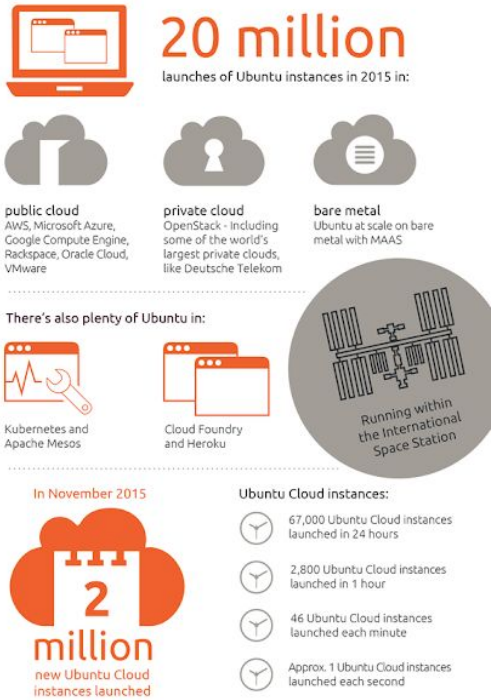
Cloud Native - Ubuntu, Multipass, Microk8s

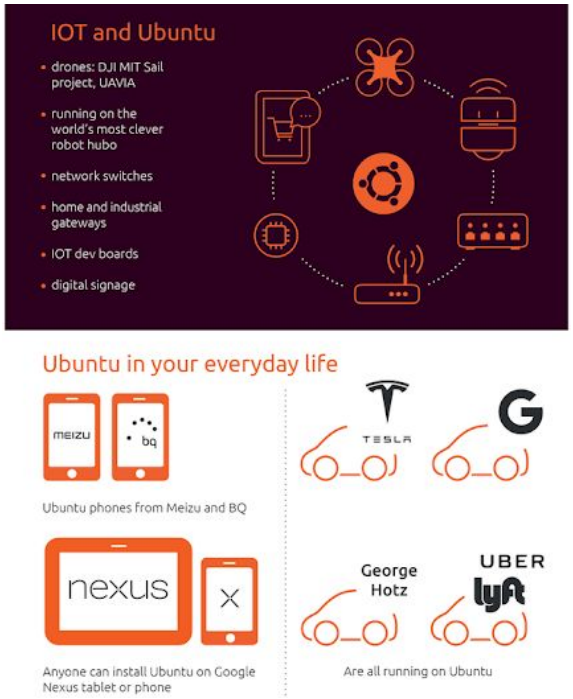
CANONICAL

Agenda

1. Canonical Introduction
2. The Canonical Distribution of Kubernetes
3. CICD in Cloud Native
4. Questions and Answer

Introduction - Ubuntu





Canonical is a company behind Ubuntu

Canonical introduction

2004
FOUNDED

600+
EMPLOYEES

34+
COUNTRIES

Canonical's distribution of

Kubernetes

Why Canonical Kubernetes?

Pure upstream, latest & greatest versions

Operates on AWS, Azure, GCE, OpenStack, VMWare, bare metal

Bare metal operations with MAAS

100% compatible with Google’s Kubernetes

Secured. TLS, Kernel Live patching, confinement

Upgradable between each Kubernetes Release

Cost effective at scale

extensible by design

NFS

any CPU architecture

x86

s390x

enterprise traction

CICD in Cloud Native

What are the basics?
What are the problem areas?

CICD : A Basic Setup - Logical

1. Source Code (Repo)
2. Continuous Integration (CI)
3. Continuous Delivery (Cd)
4. Continuous Deployment (CD)
5. Runtime Environment

CICD : A Basic Setup - Example Resources

UBUNTU

GitLab GitHub

git

Werker JenkinsX

Jenkins CircleCI

OCI registry Harbor

DockerHub GCR

Spinnaker Argo

Juju Snap

Developer

Laptop

Code Repo

Continuous Integration

Continuous Delivery

Continuous Deployment

Runtime

CICD : A Basic Setup - Specific Thread

Developer

Laptop

Code Repo

Continuous Integration

Continuous Delivery

Continuous Deployment

Runtime

CICD : A Basic Setup - Problem?

The Problem?

- Eliminate Internet Access
  - Large Images Slows build-deploy-test loop
- Empower “Airplane Mode”

The Benefit?

- Fast Builds
- Fast Deploys
- Fast build-deploy-test loop

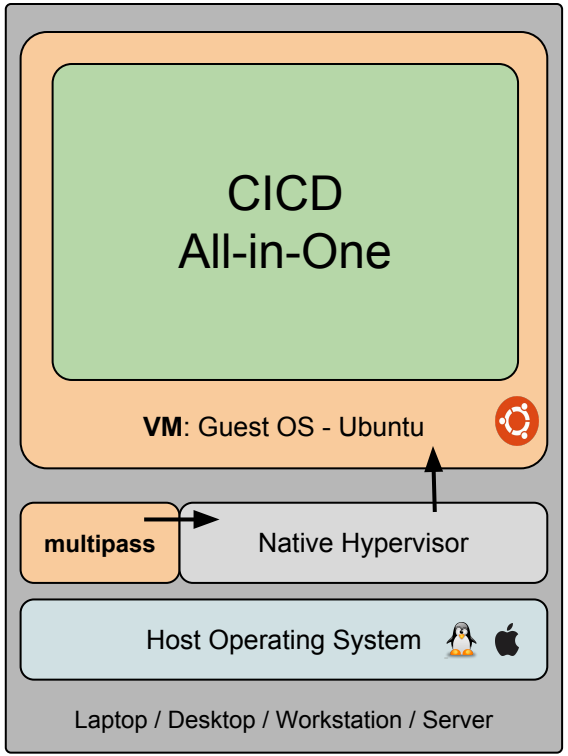
CICD : A Basic Setup - All-in-One

Goals:

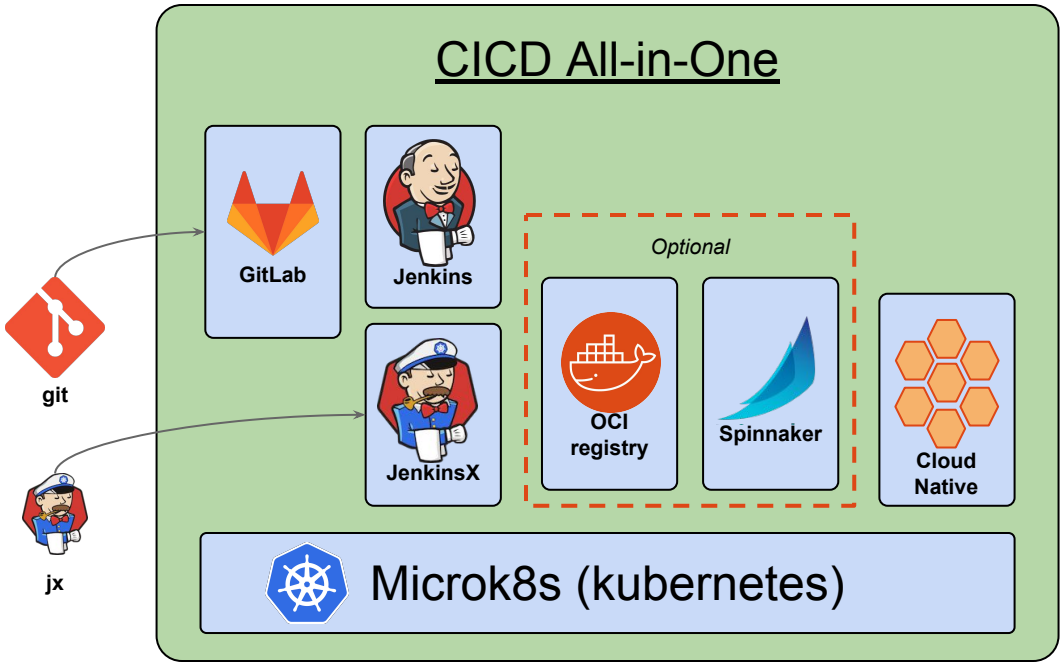
1. Build Self Sufficient VM
2. Allow VM to be Ephemeral
3. Restart VM and keep State

Key Tools:

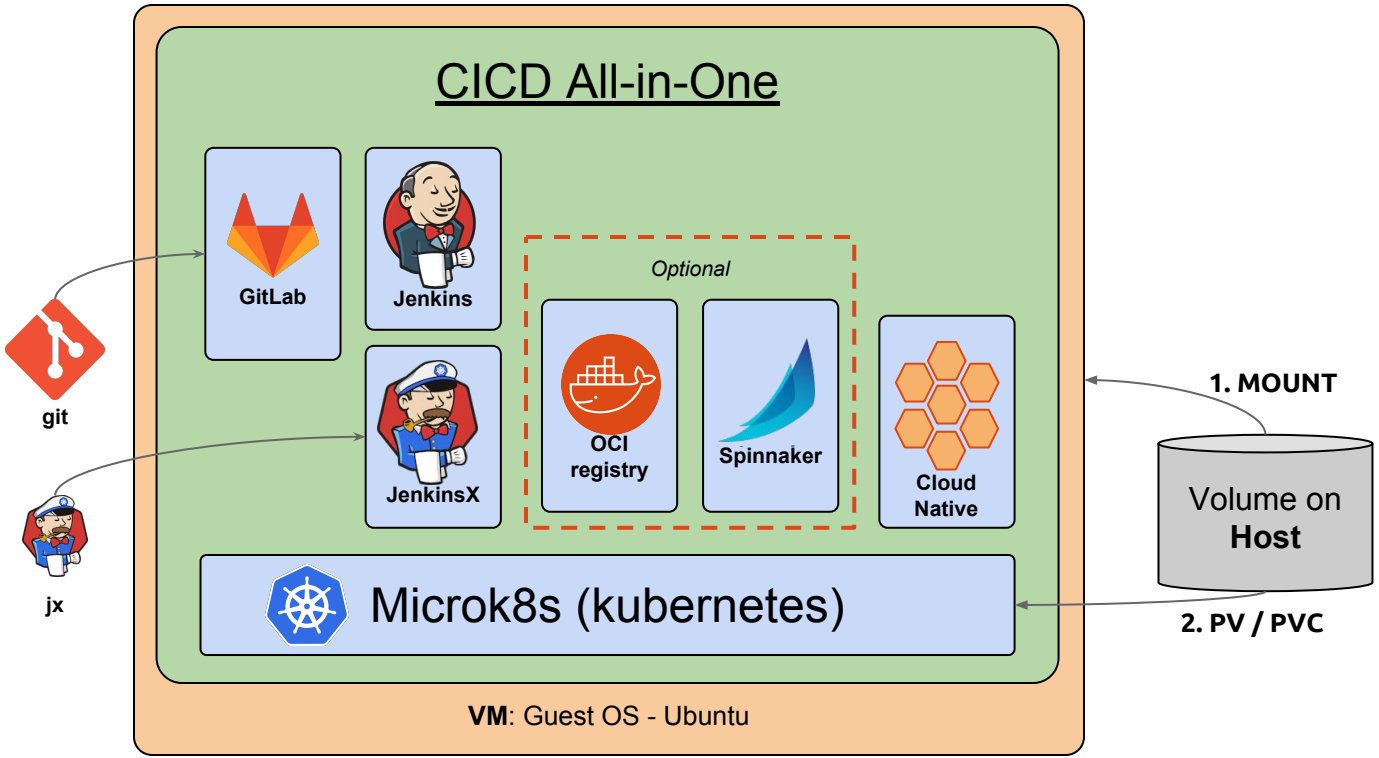
1. Multipass - launch vms
2. Microk8s - launch kubernetes



CICD : A Basic Setup - All-in-One

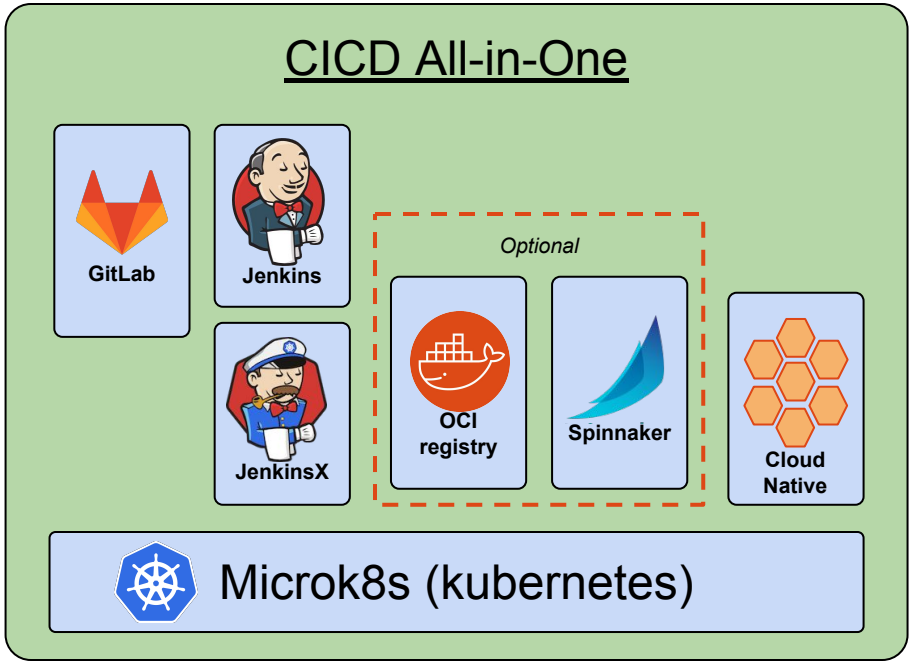


CICD : A Basic Setup - Storage ..

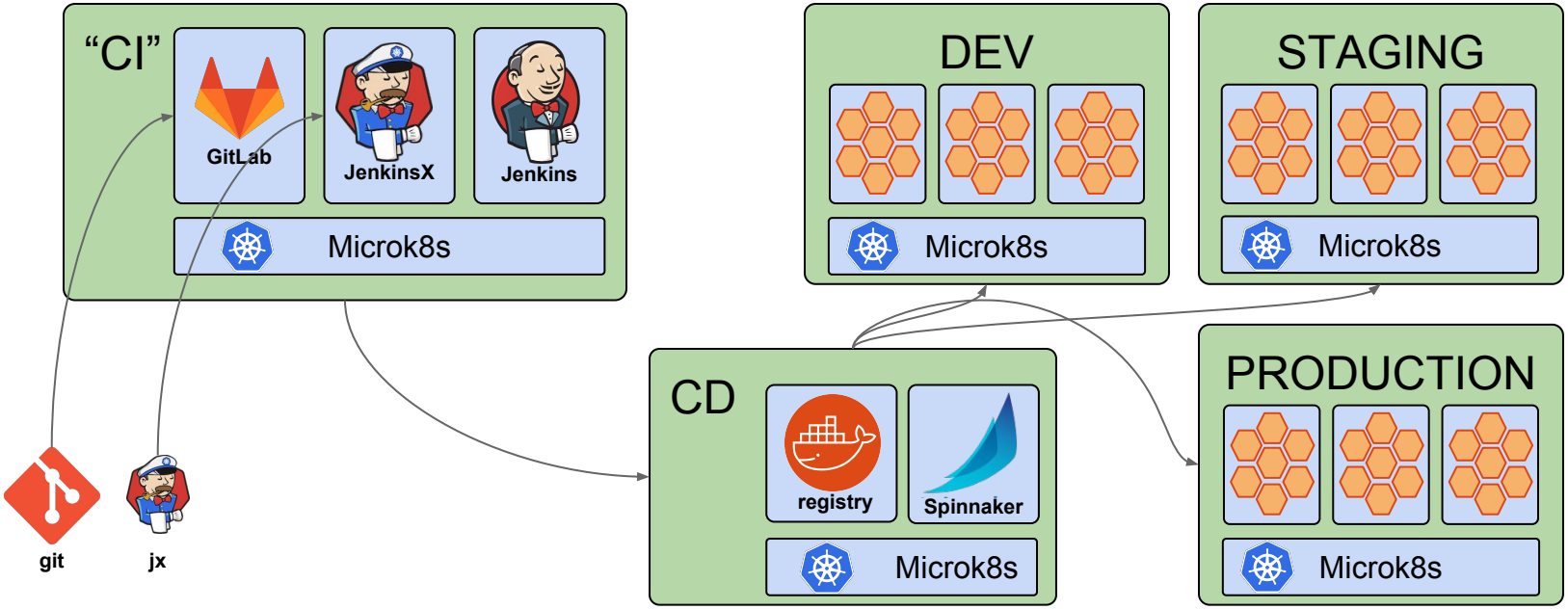


CICD : A Basic Setup - Demo

➔ https://github.com/canonical-labs/cicd-microk8s-basic



CICD : A Basic Setup - **Distributed**



ubuntu

Thank you!

More info:

https://microk8s.io
https://www.ubuntu.com/ai
https://discourse.ubuntu.com/c/multipass
https://www.ubuntu.com/kubernetes
https://github.com/canonical-labs/cicd-microk8s-basic