Services

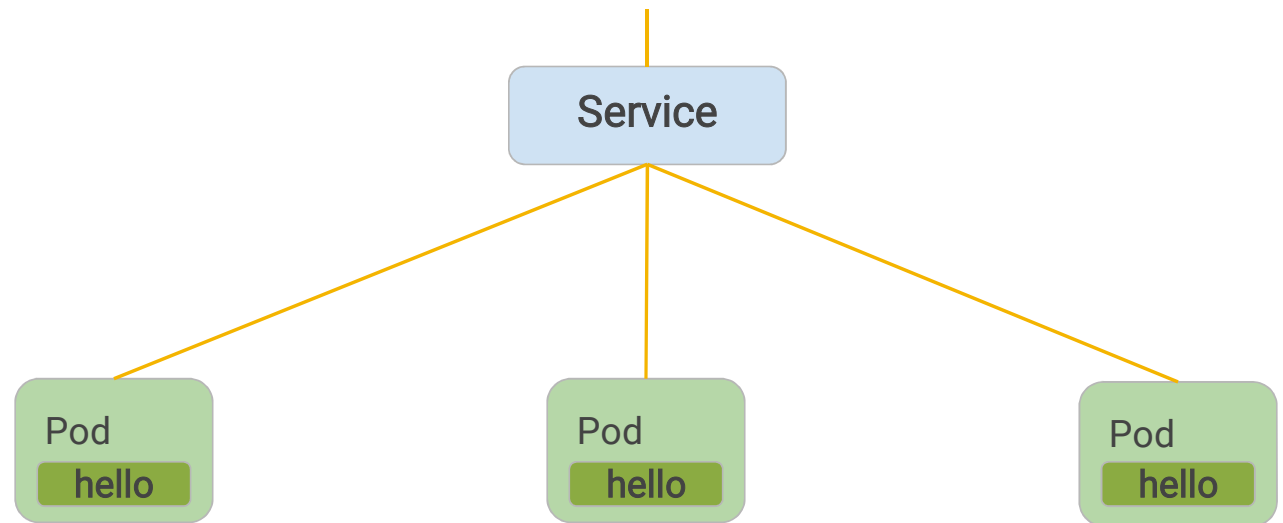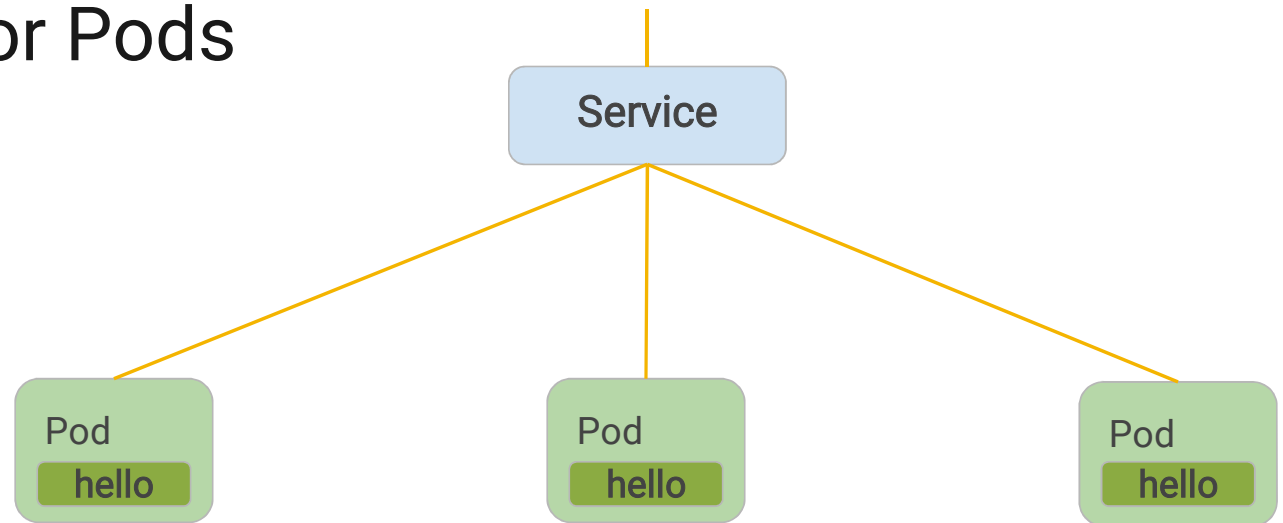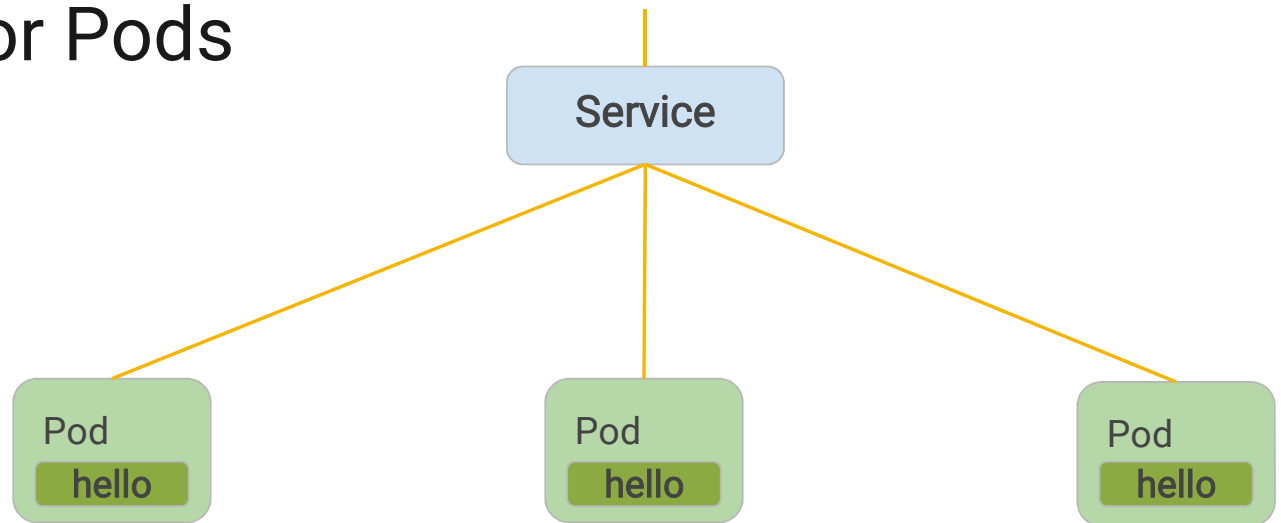# Services

Services

Persistent Endpoint for Pods

Services

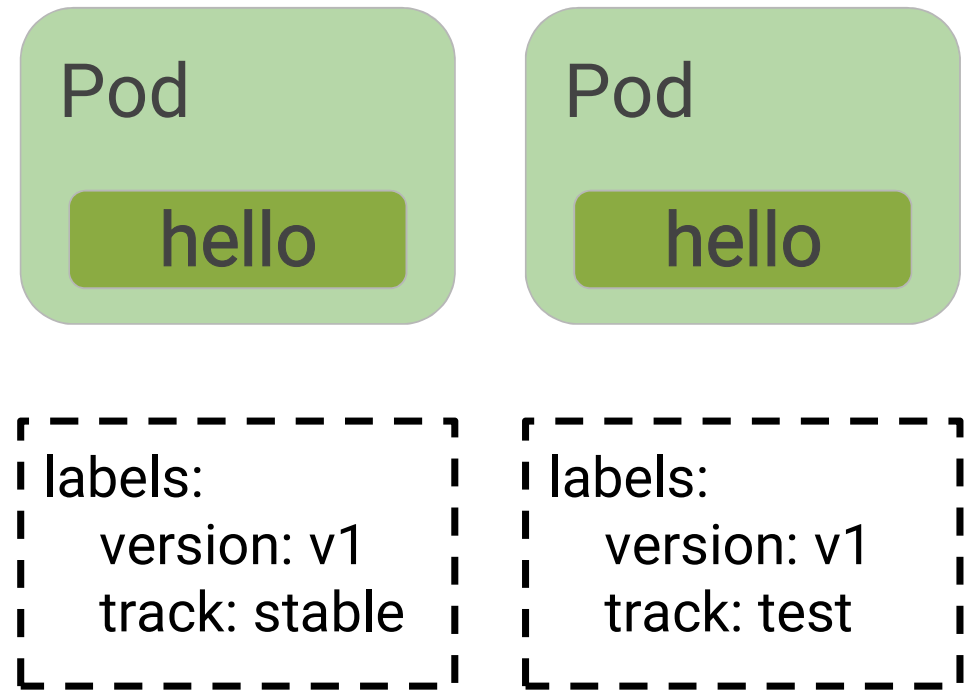Persistent Endpoint for Pods

- Use Labels to
  Select Pods

Labels

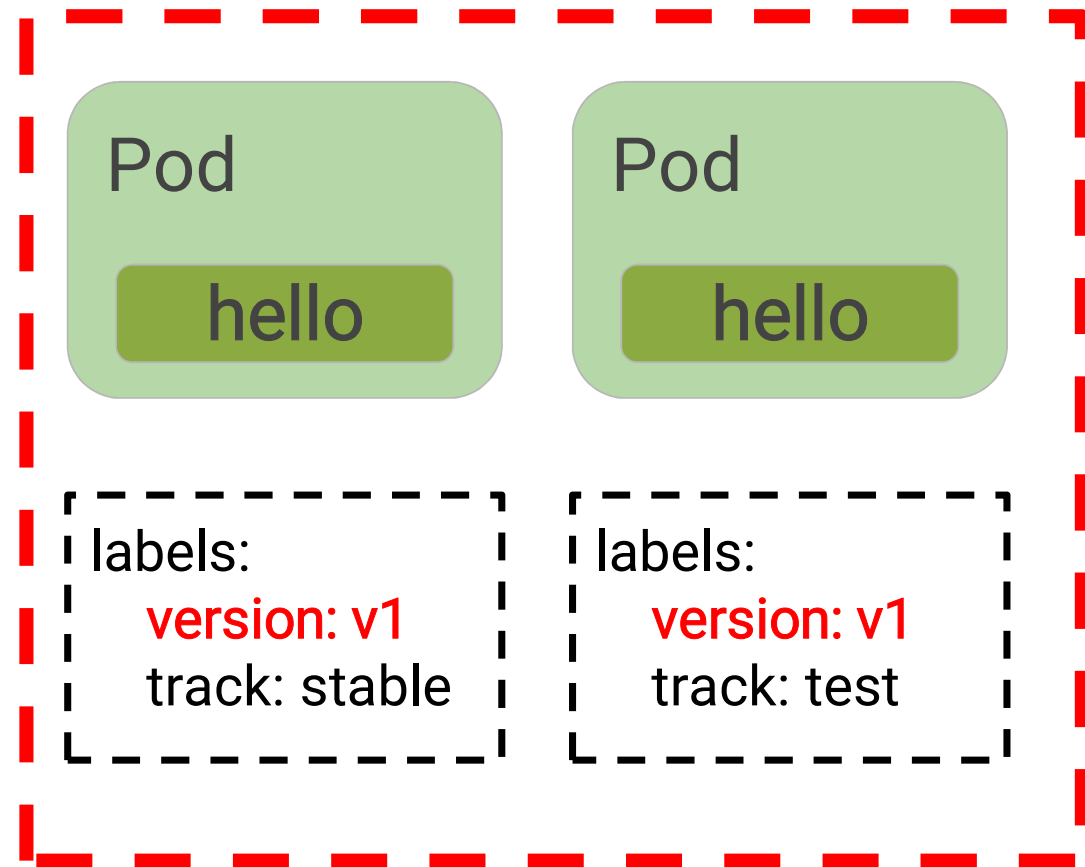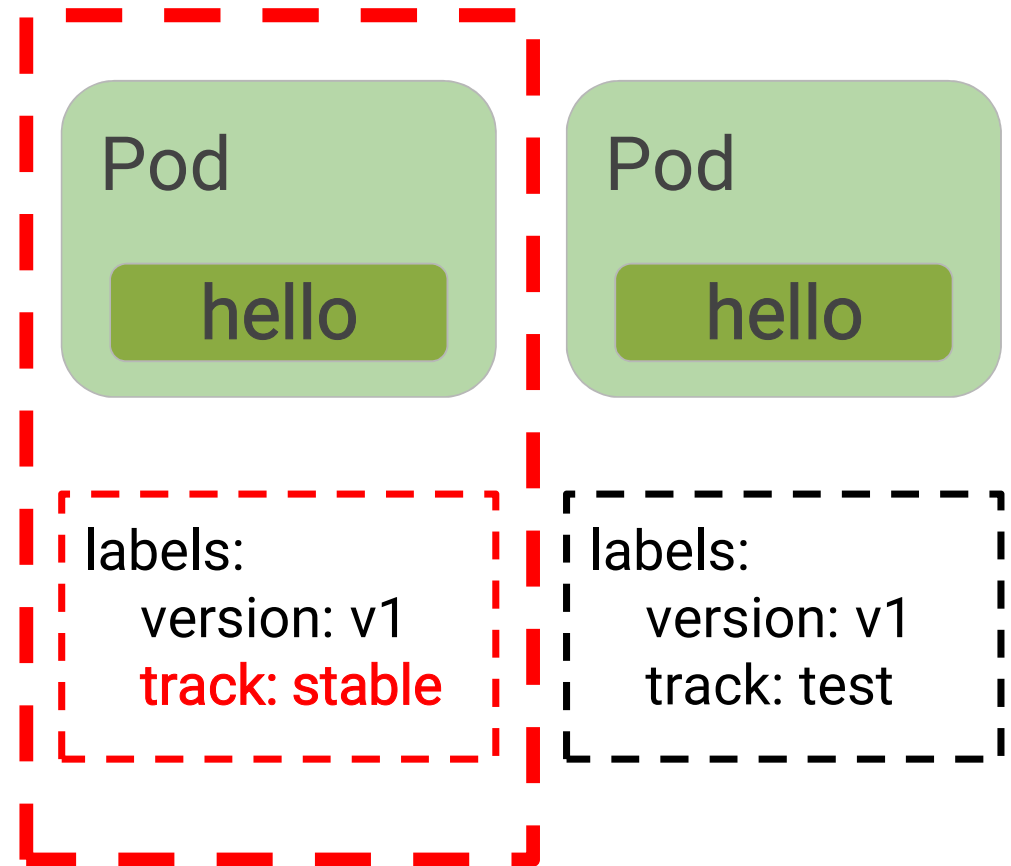Arbitrary meta-data attached
to Kubernetes object

Pod

hello

Pod

hello

labels:
    version: v1
    track: stable

labels:
    version: v1
    track: test

Labels

selector: "version=v1"

Pod

hello

labels:
version: v1
track: stable

Pod

hello

labels:
version: v1
track: test

Labels

selector: "track=stable"

Pod

hello

Pod

hello

labels:
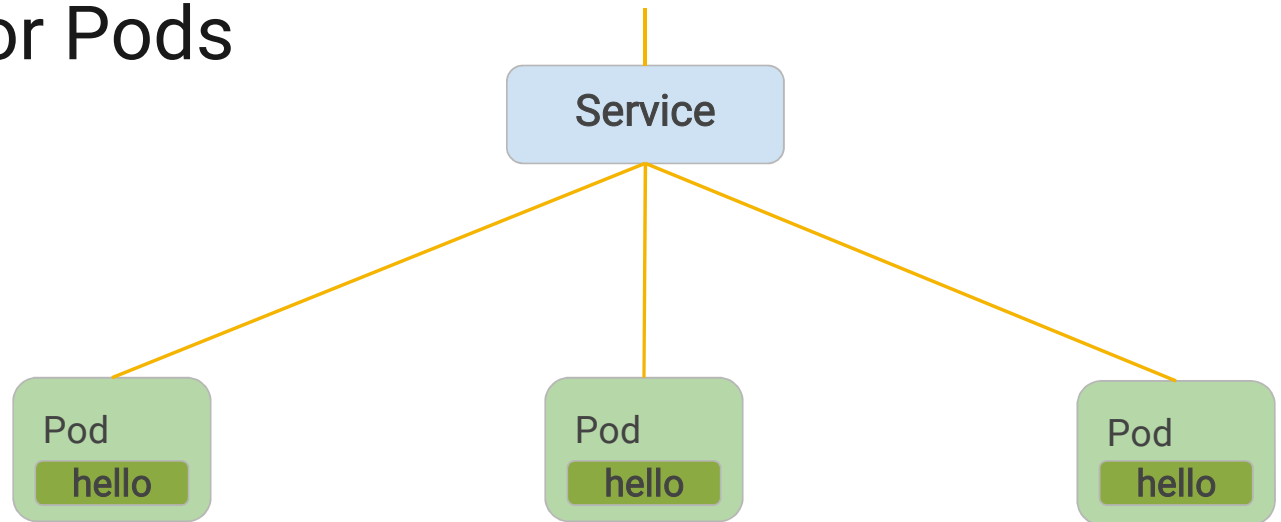   version: v1
   track: stable

labels:
   version: v1
   track: test

Services

Persistent Endpoint for Pods

- Use Labels to Select Pods

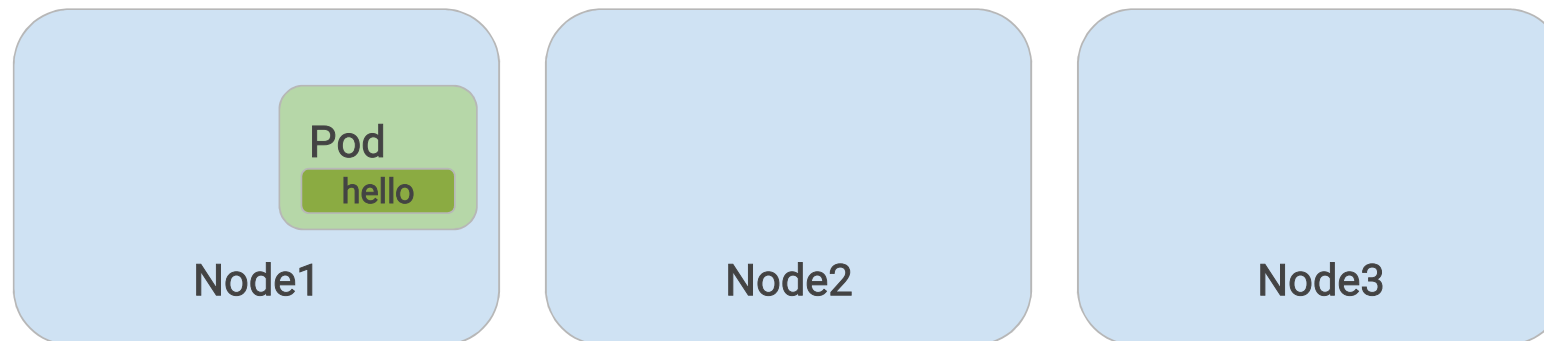- Internal or External IPs

Lab

Creating and managing services

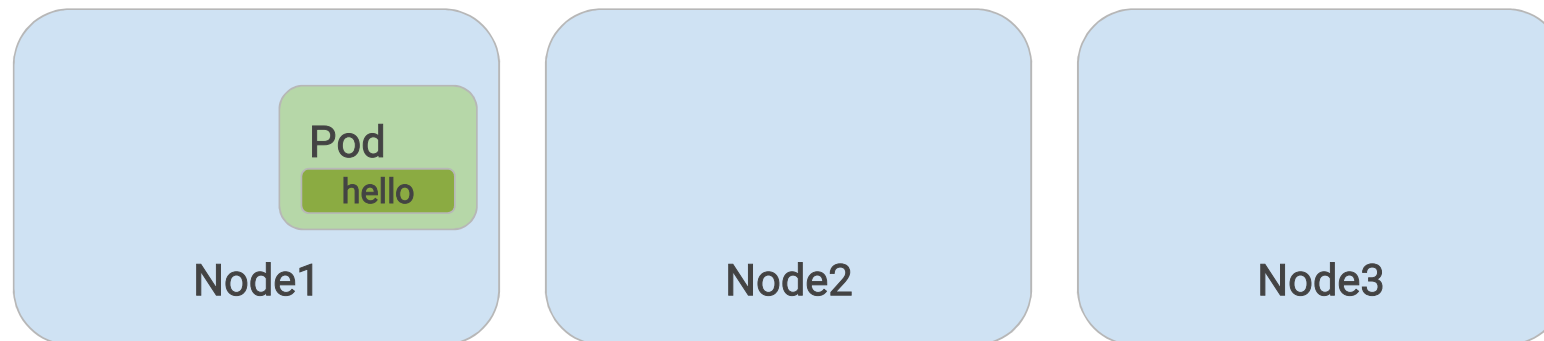# Deployments

Deployments

Drive current state towards desired state

app: hello
replicas: 1

Deployments

Drive current state towards desired state

app: hello
replicas: 3

Pod		
hello		
Node1	Node2	Node3

Deployments

Drive current state towards desired state

app: hello
replicas: 3

Deployments
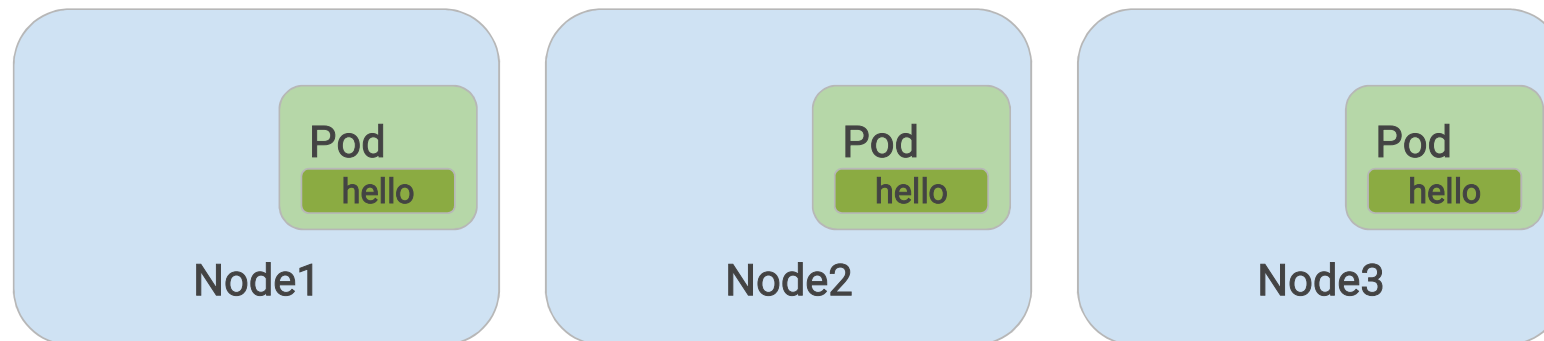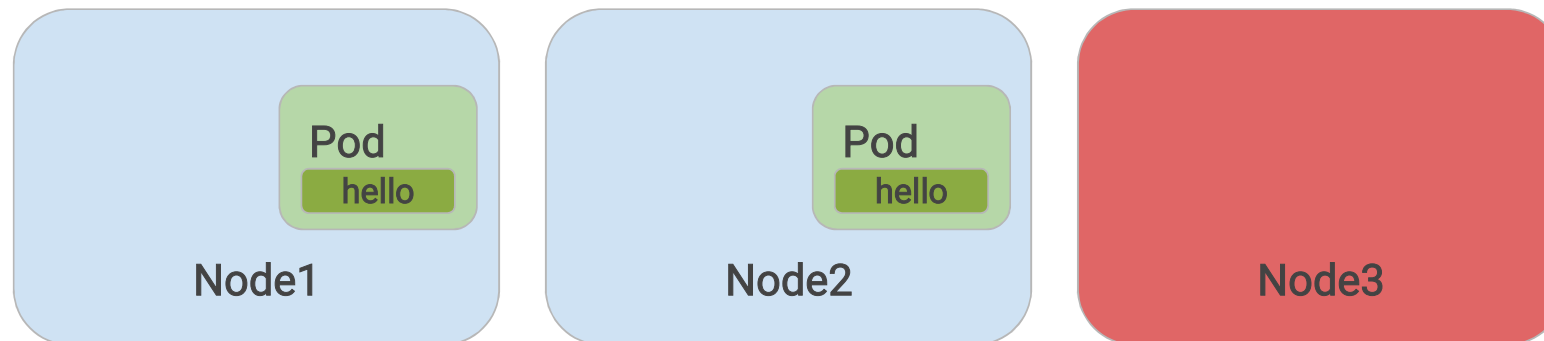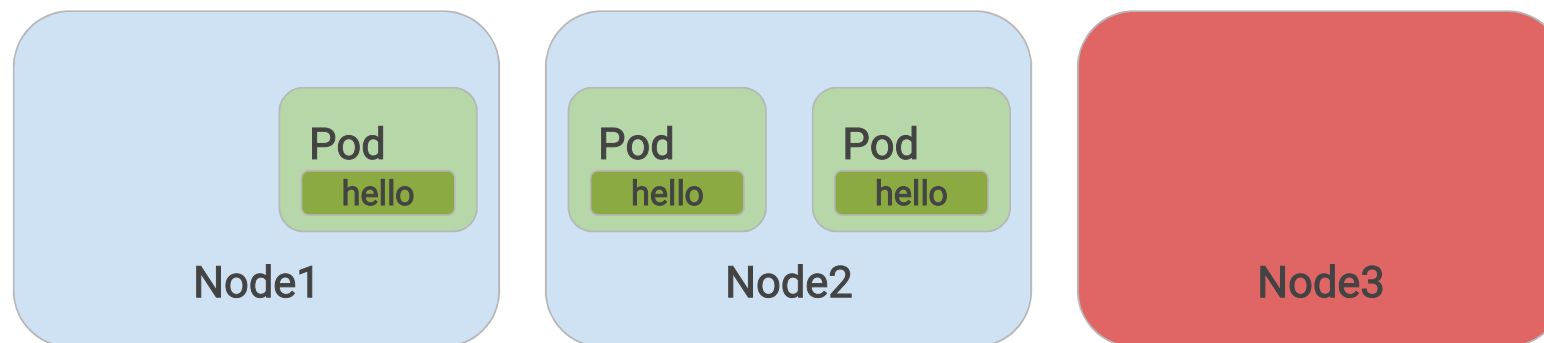
Drive current state towards desired state
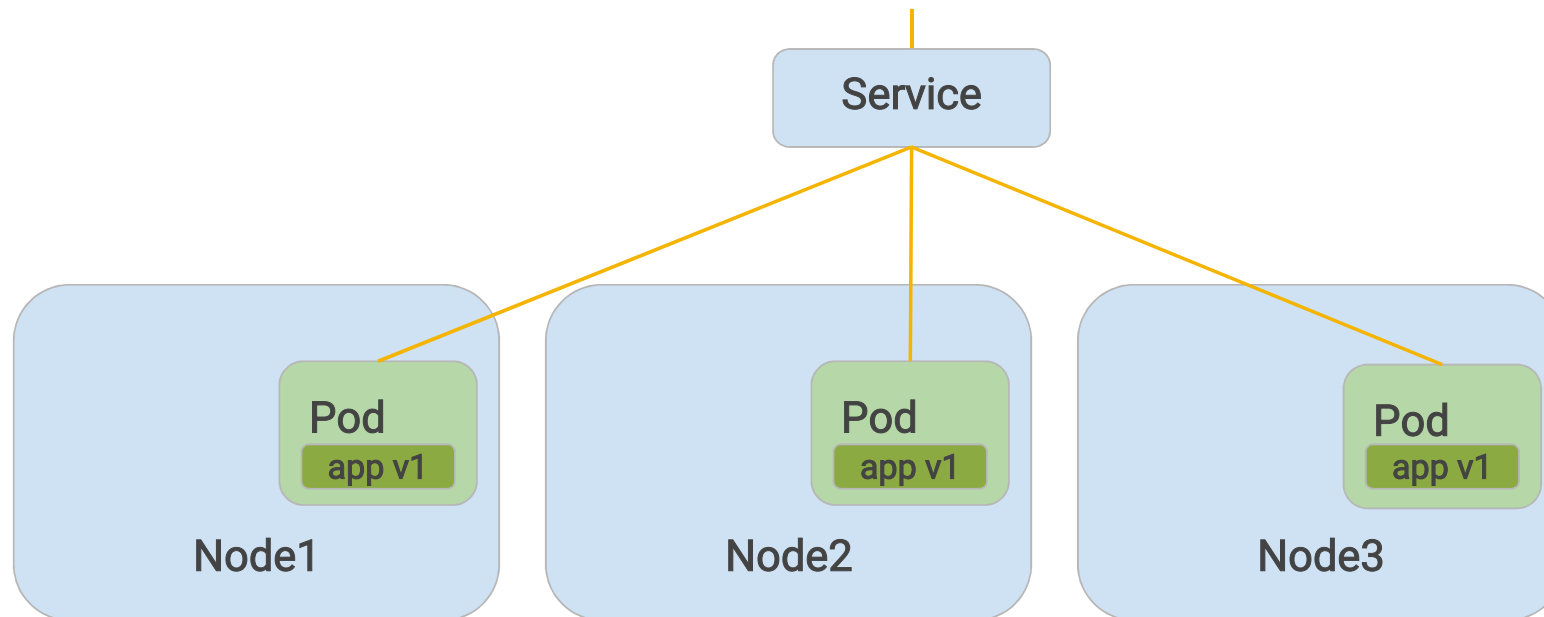
app: hello
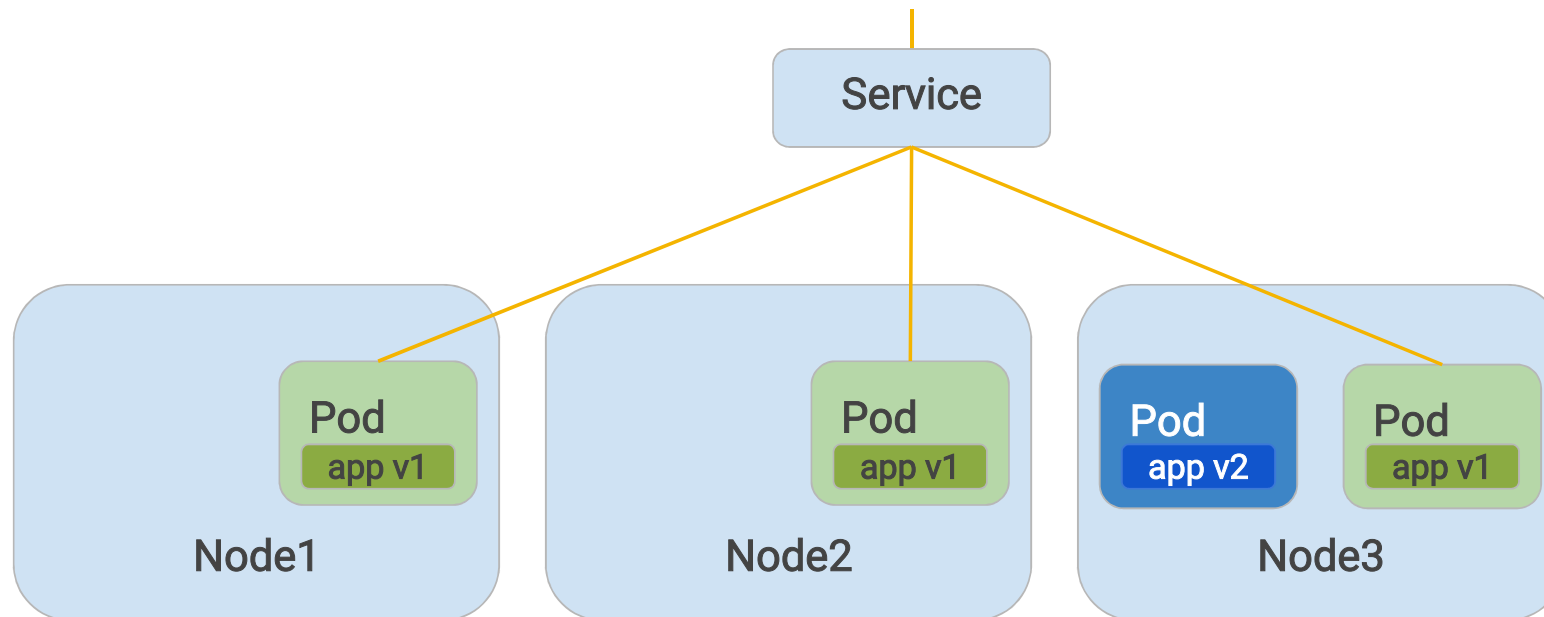replicas: 3

Node1	Node2	Node3
Pod hello	Pod hello	

Deployments

Drive current state towards desired state

app: hello
replicas: 3
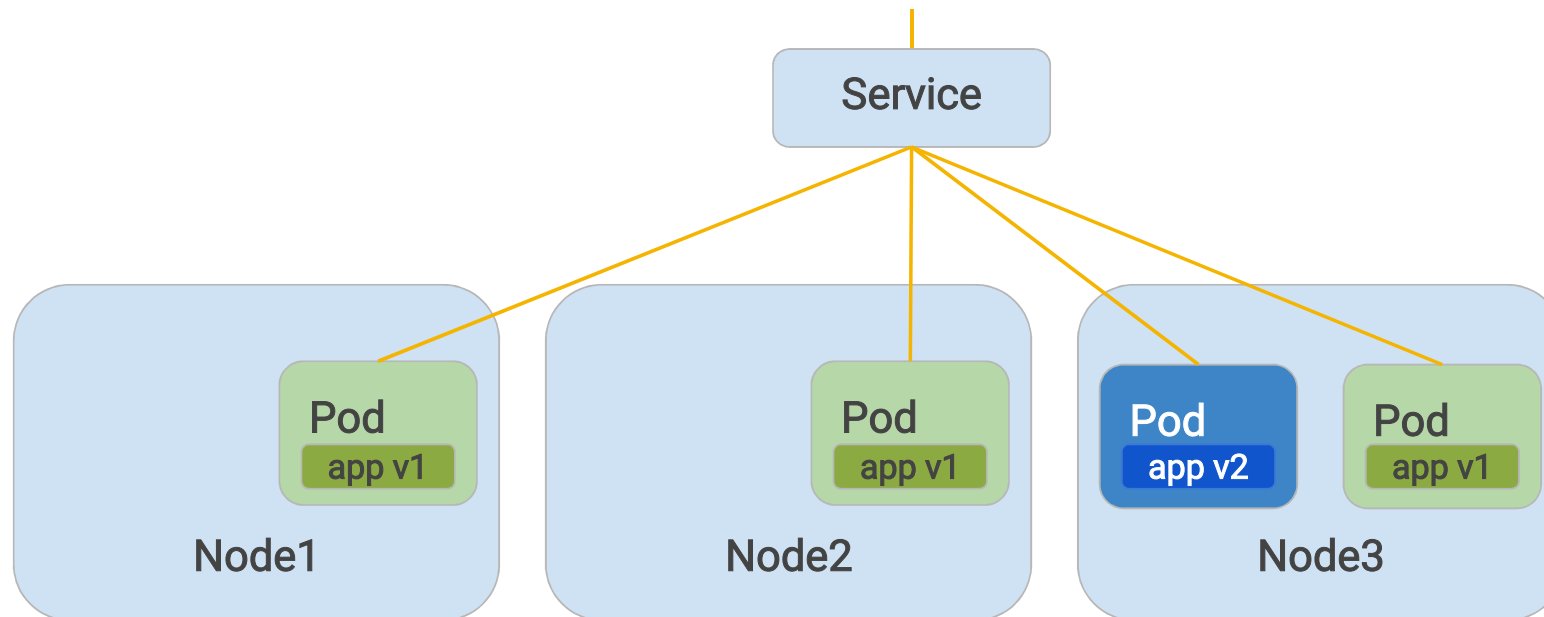
Lab

Creating and managing deployments

Rolling Updates

Google Cloud Platform

Rolling Update

Rolling Update

Rolling Update

Service
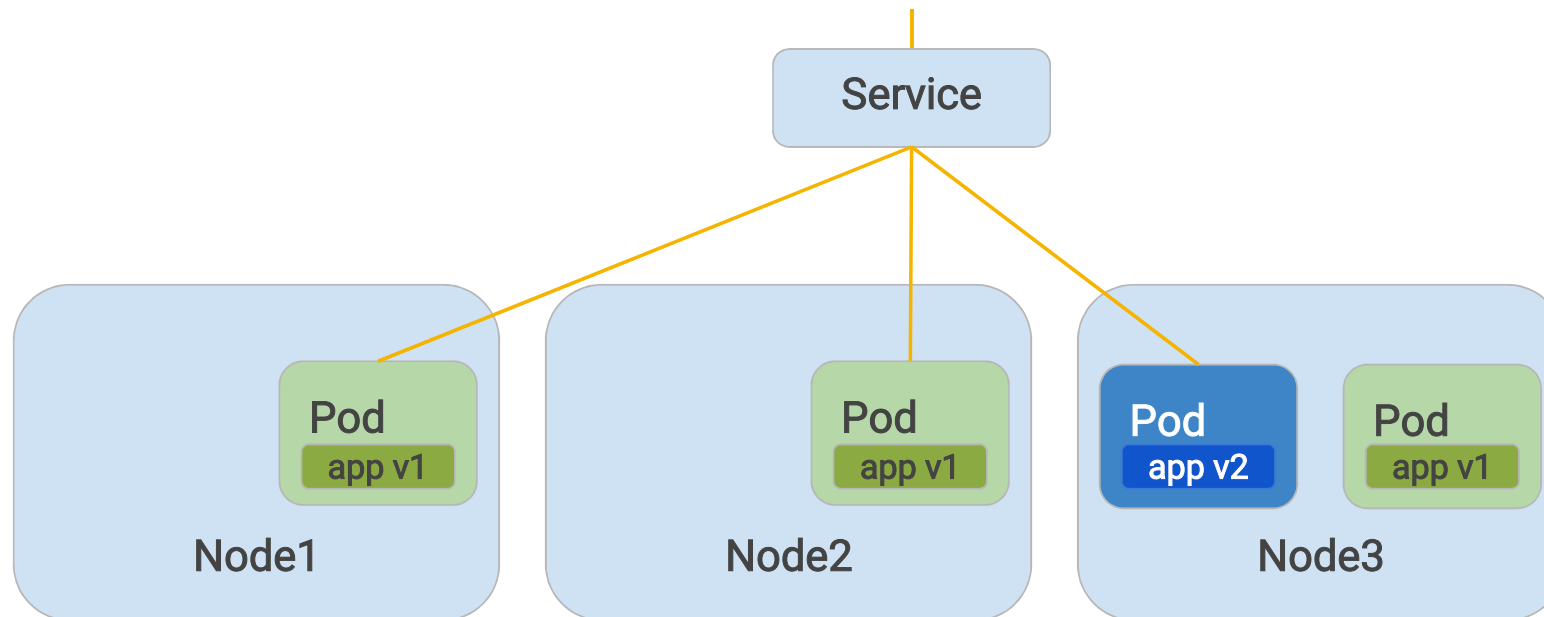
Pod
app v1

Node1
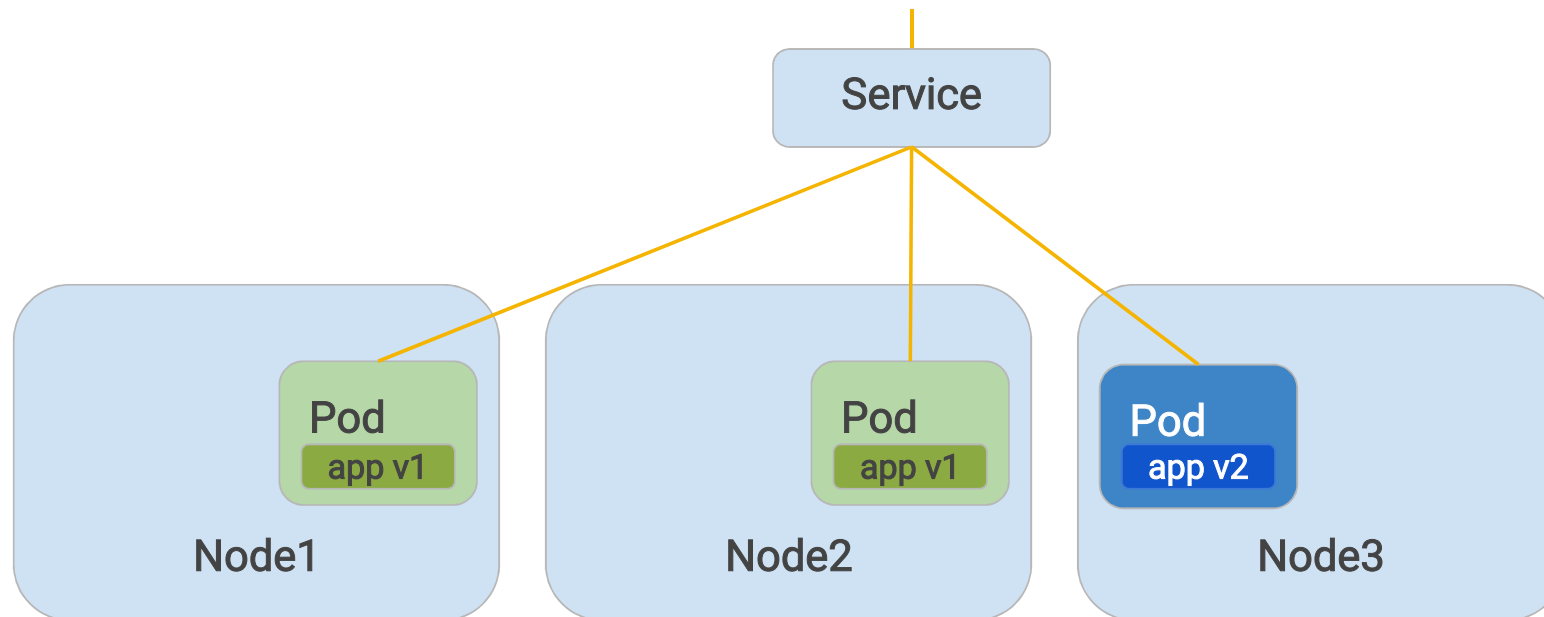
Pod
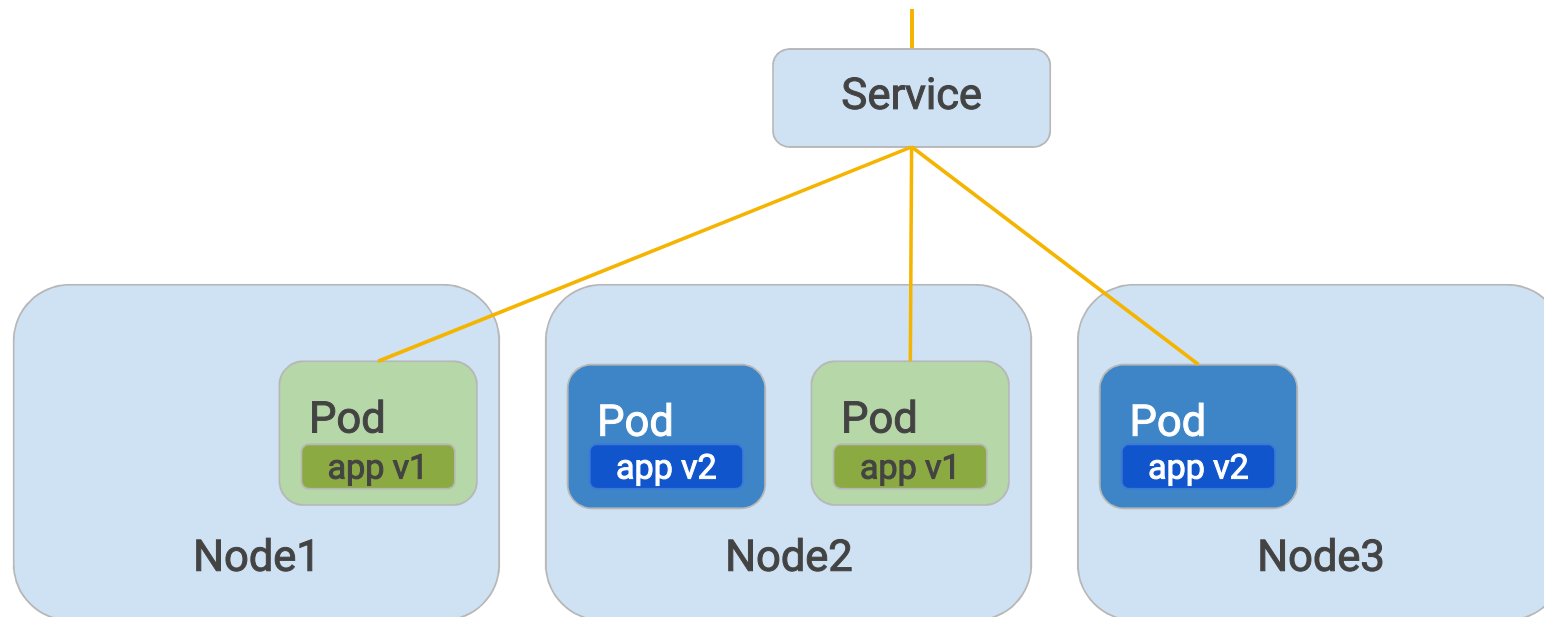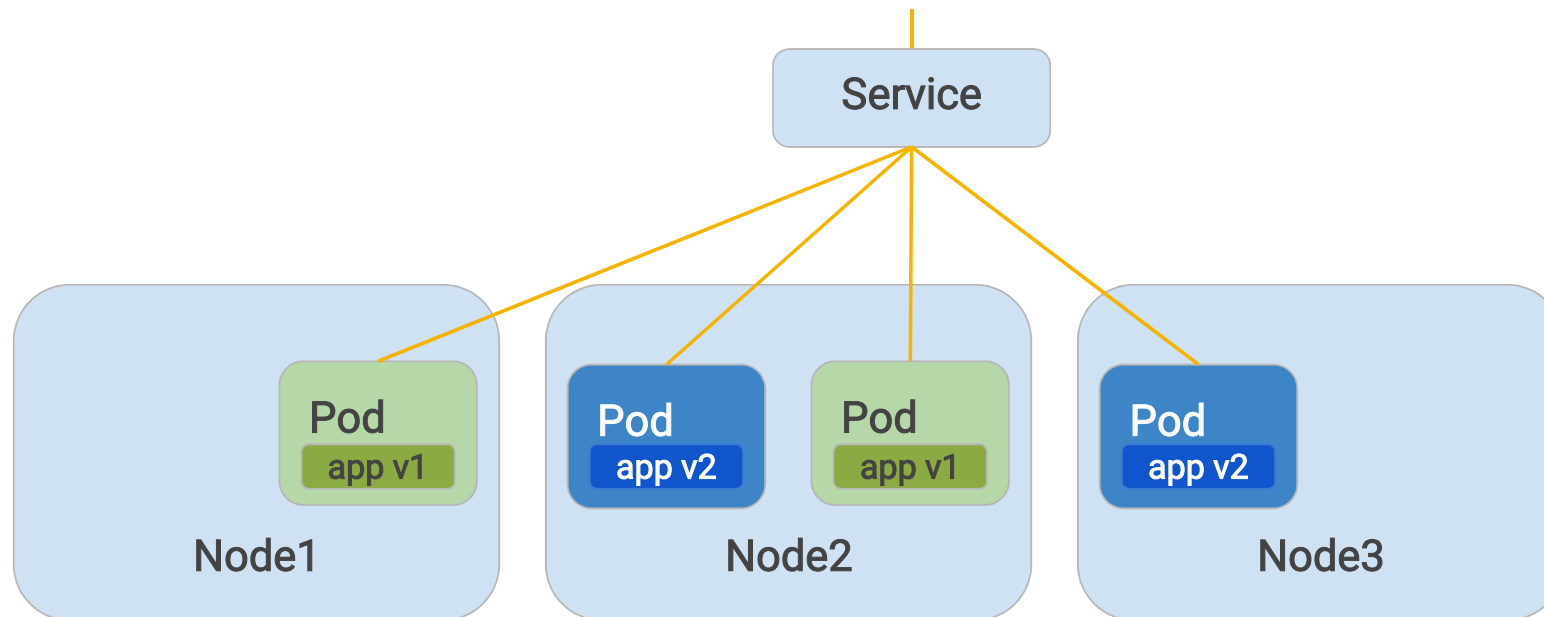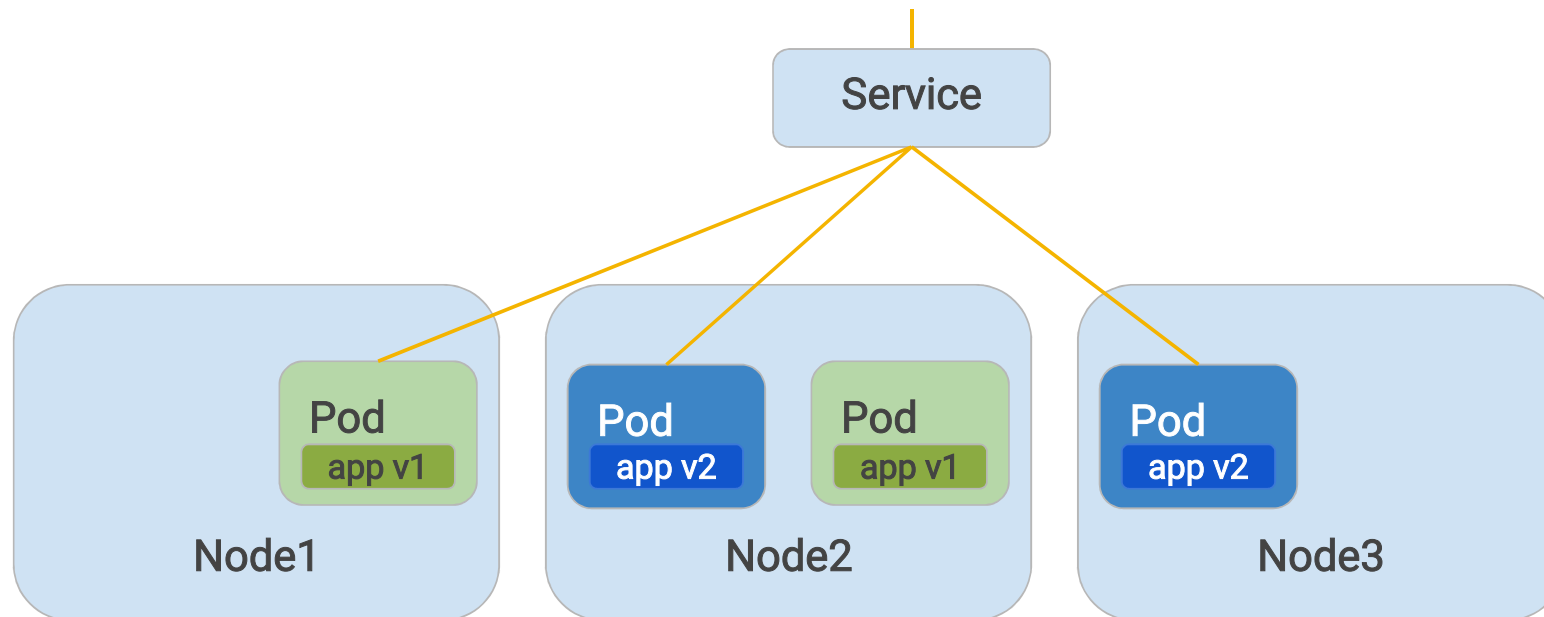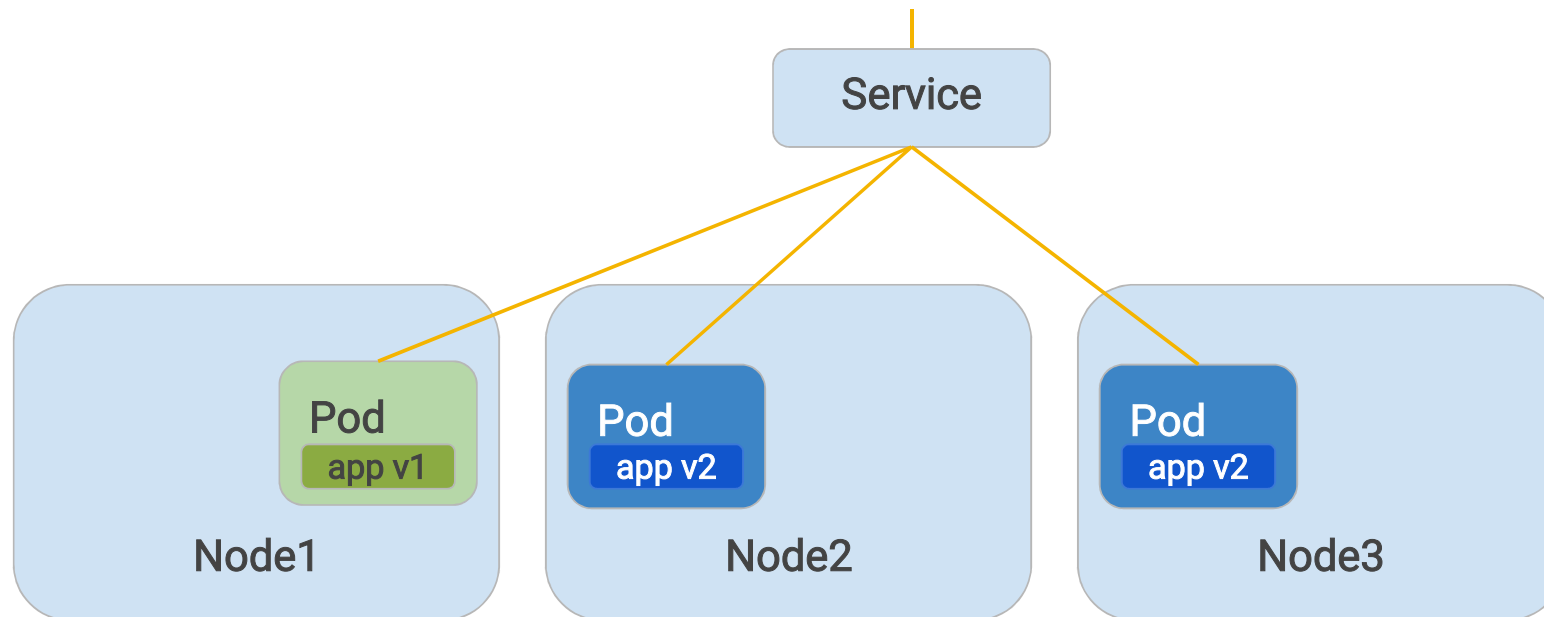app v1

Node2

Pod
app v2

Pod
app v1

Node3

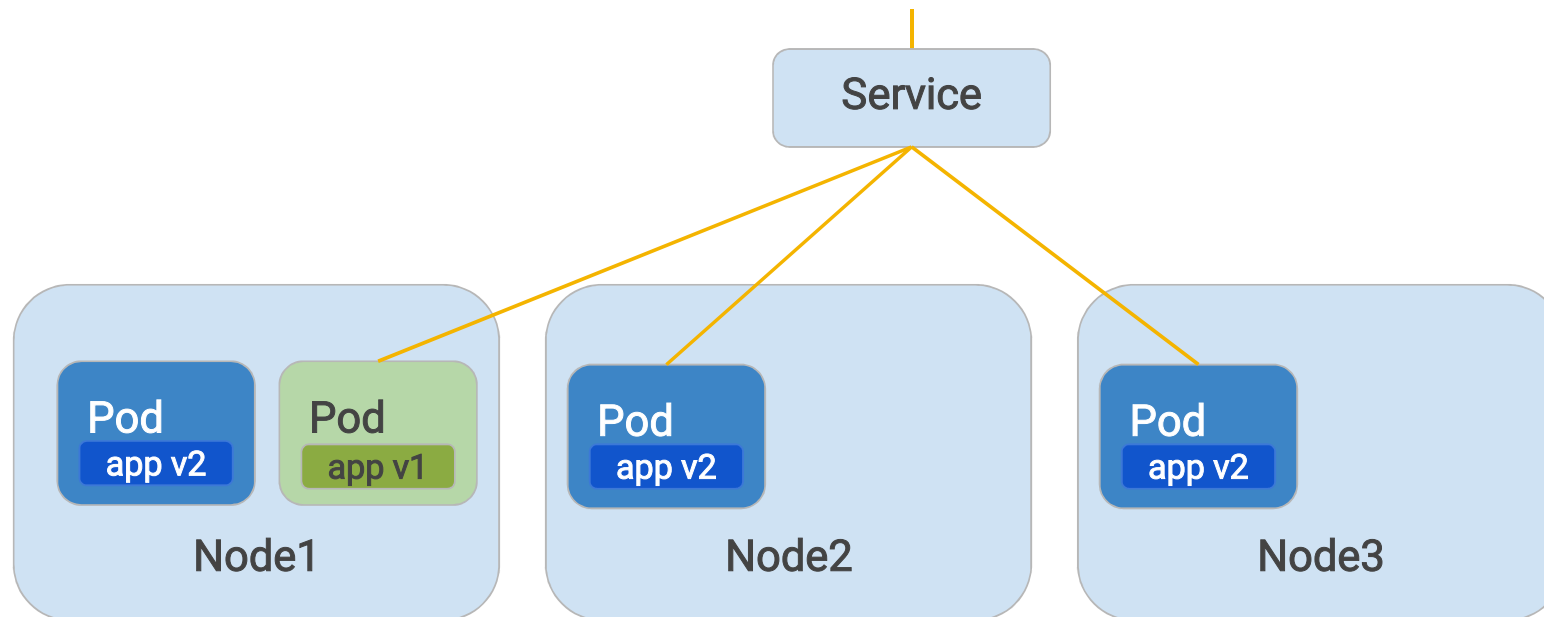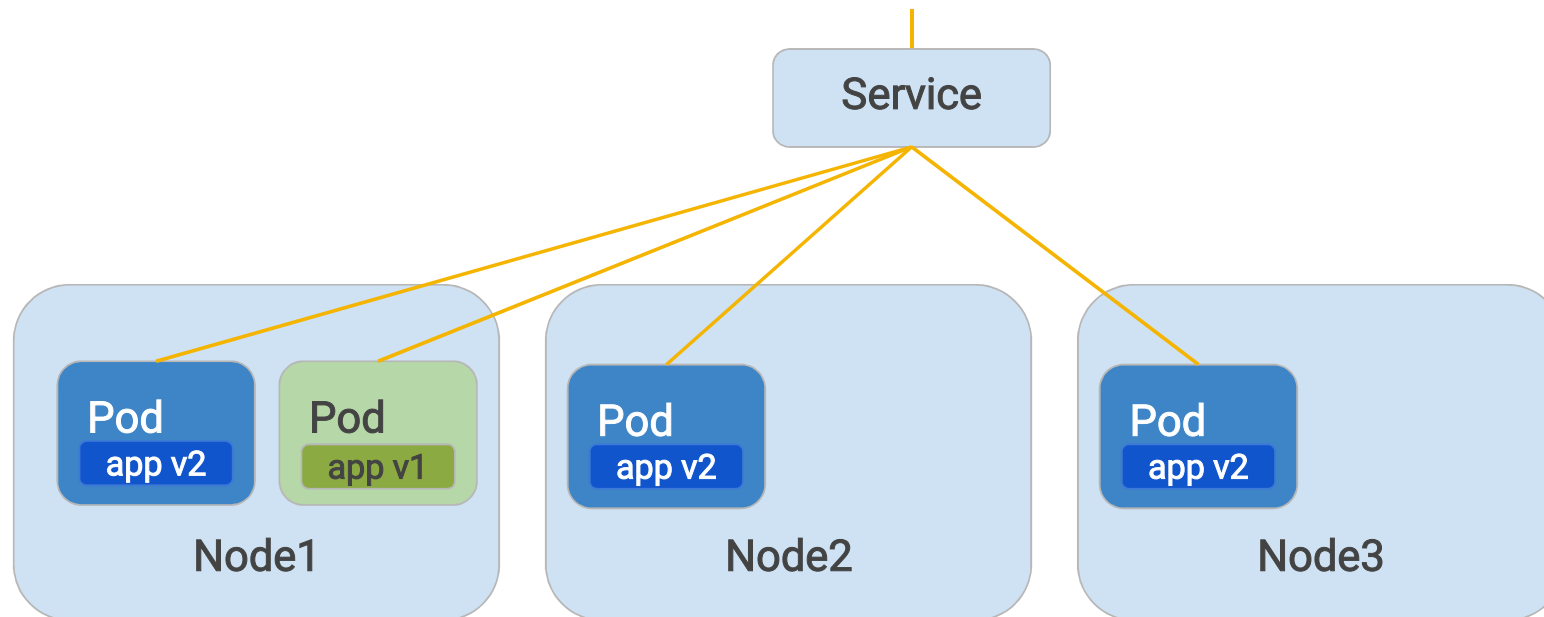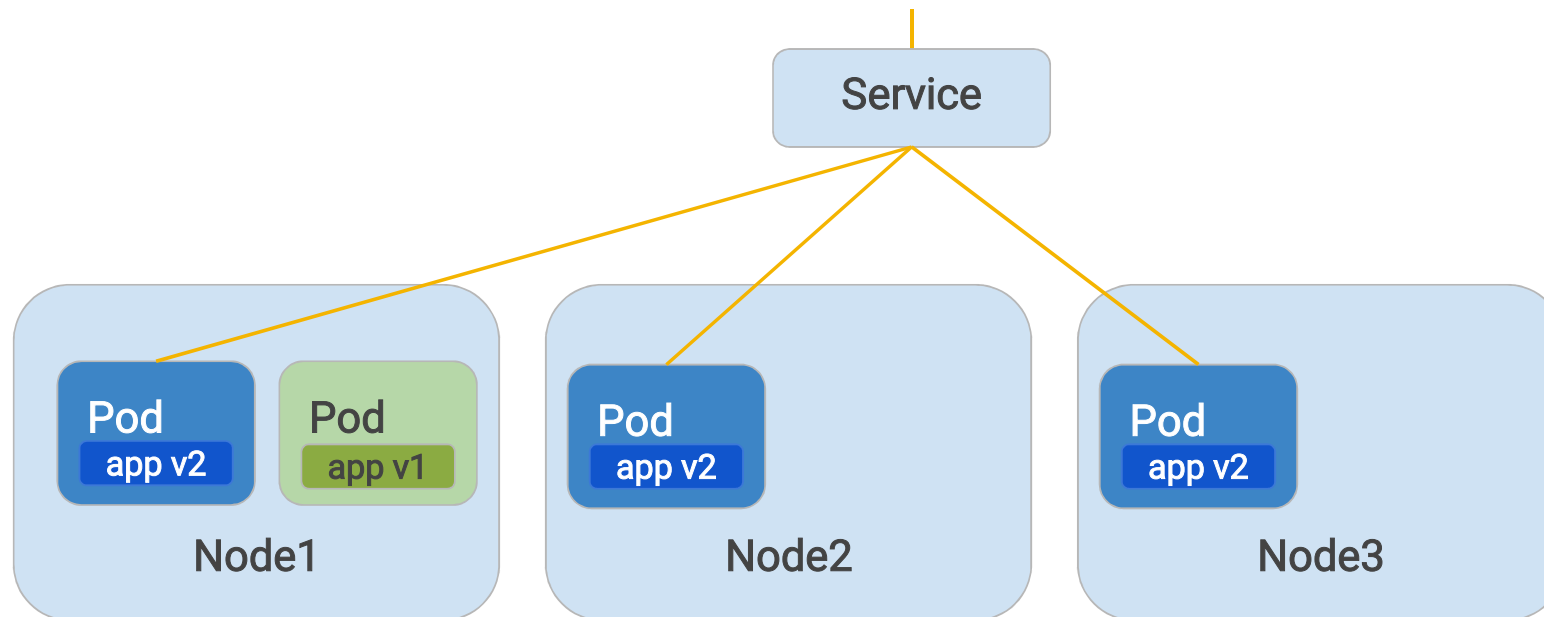# Rolling Update

Rolling Update

Rolling Update

Rolling Update

Rolling Update

Rolling Update

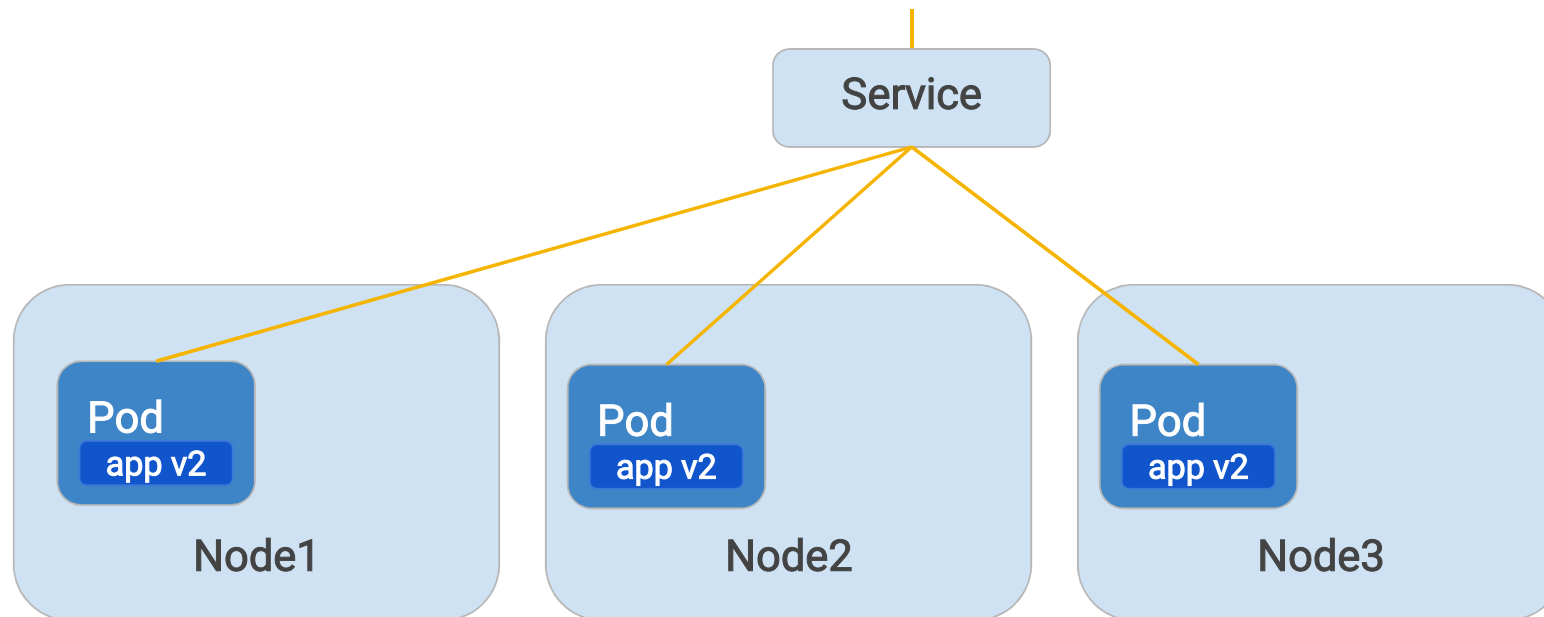# Rolling Update

Rolling Update

Rolling Update

Rolling Update

Lab

Rolling out updates

Recap

Kubernetes

Manage applications, not machines

Open source, Open API container
orchestrator

Supports **multiple cloud** and **bare-metal**
environments

Inspired and informed by Google's
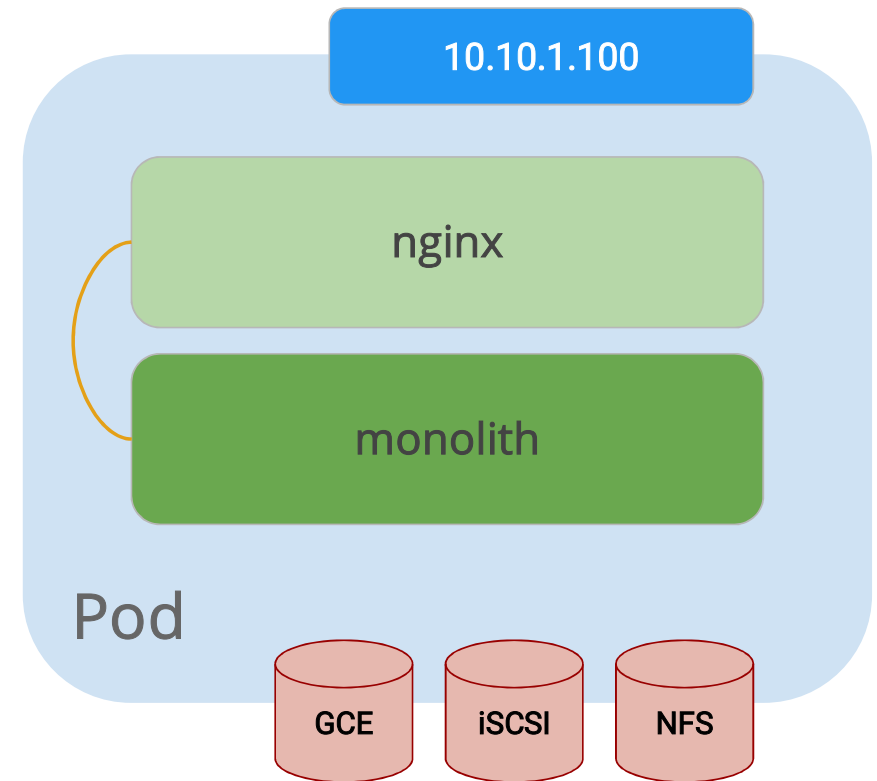experiences and internal systems

Container

- Subatomic unit in Kubernetes
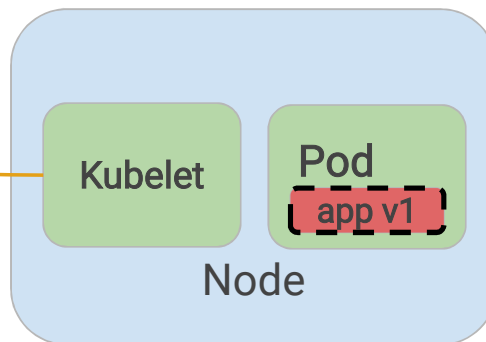- Can use Dockerfile just like you're used to

Pods

Logical Application

- One or more containers and volumes

- Shared namespaces
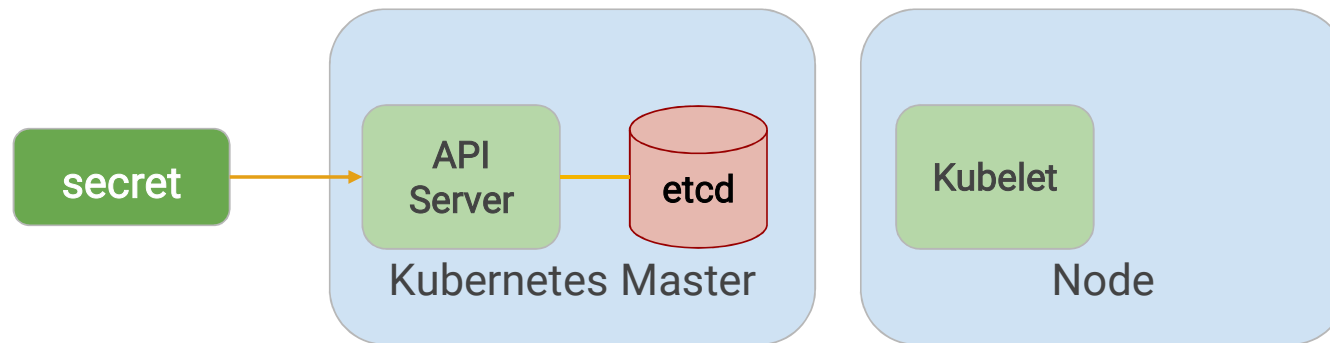- One IP per pod

10.10.1.100

nginx

monolith

Pod

GCE   iSCSI   NFS

Monitoring and Health Checks

Hey, app v1... You alive?
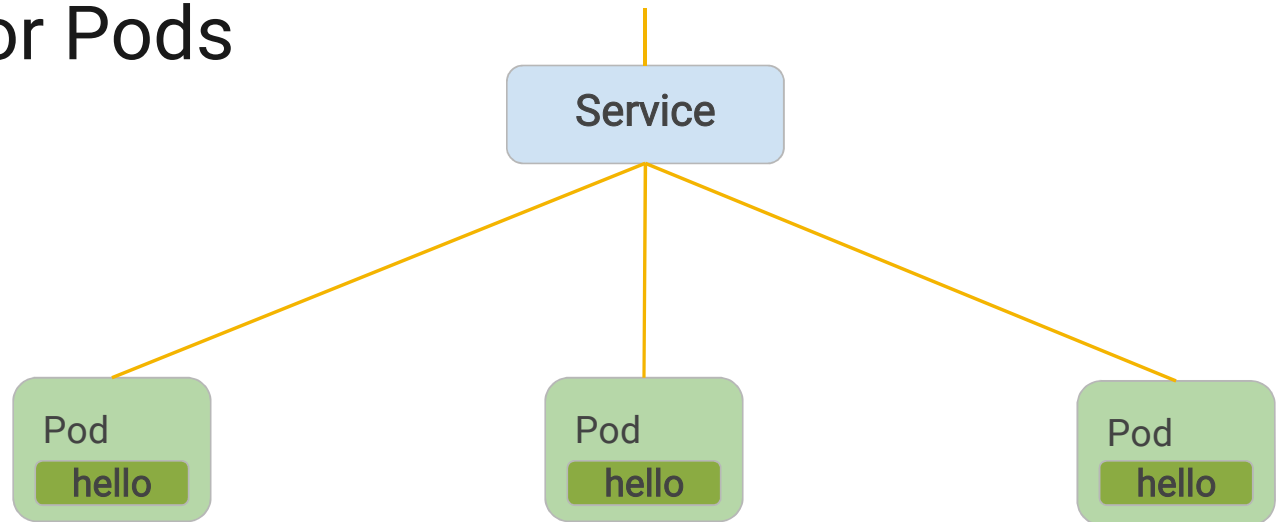
Kubelet

Pod

app v1

Node

Secrets and Configmaps

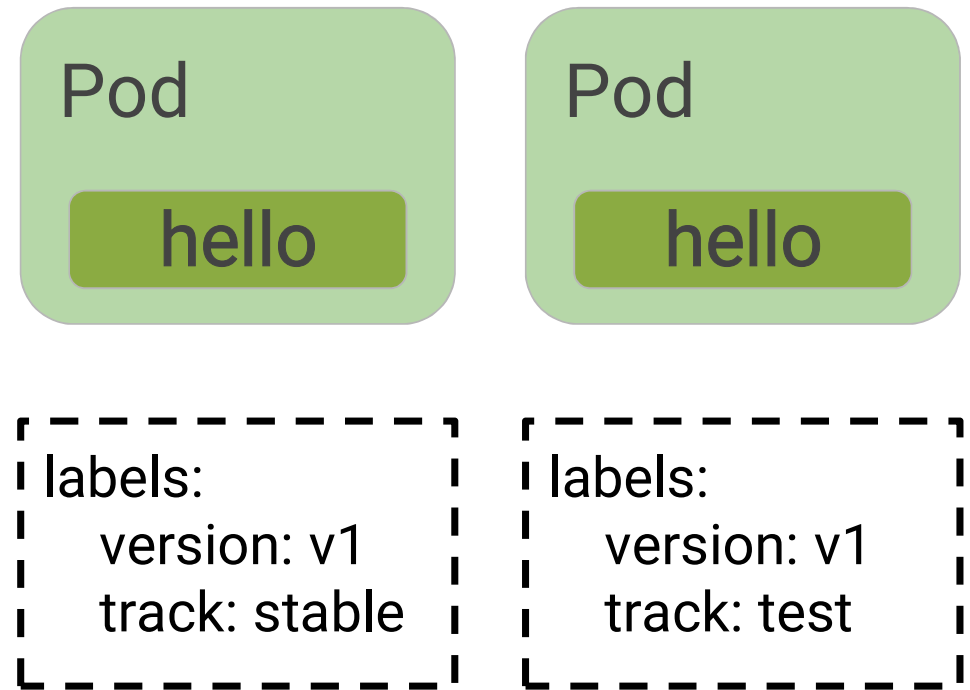$ kubectl create secret generic tls-certs --from-file=tls/

Services

Persistent Endpoint for Pods

- Use Labels to Select Pods

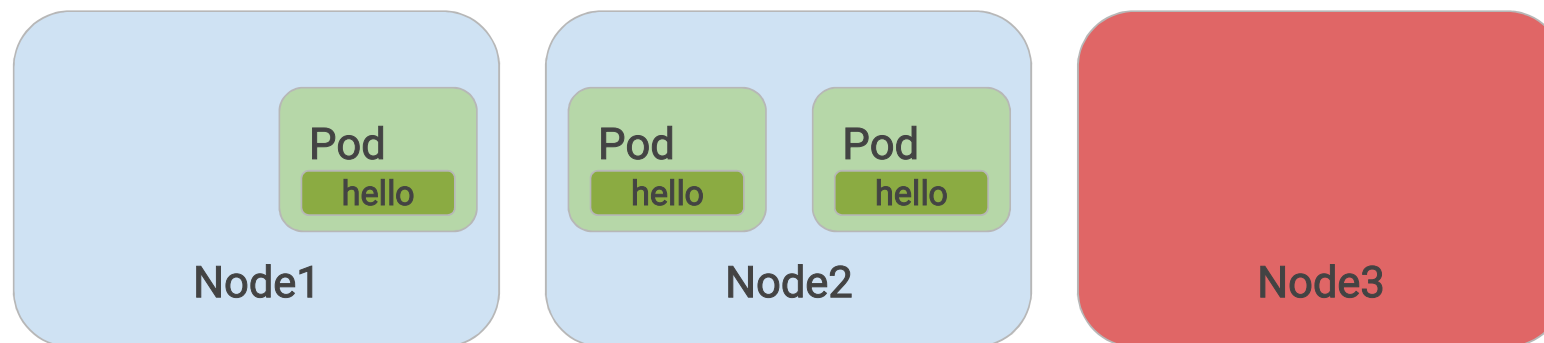- Internal or External IPs

Labels

Arbitrary meta-data attached
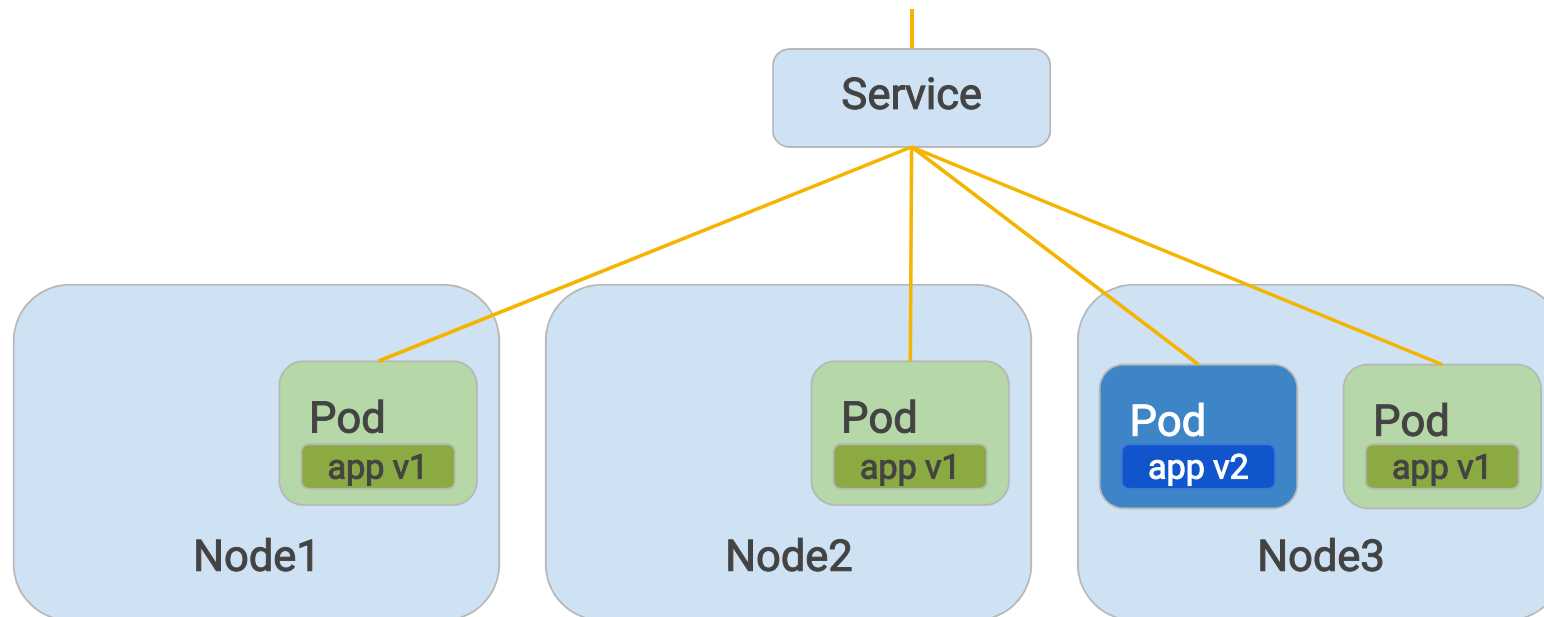to Kubernetes object

Pod	Pod
hello	**hello**

labels:
    version: v1
    track: stable

labels:
    version: v1
    track: test

Deployments

Drive current state towards desired state

app: hello
replicas: 3

Rolling Update

YOUR TURN

Orchestrating the cloud with Kubernetes

https://codelabs.developers.google.com/codelabs/cloud-orchestrate-with-kubernetes/#0

Google Cloud Platform