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BASIC KUBERNETES PART 2

- GET A PRODUCTION-READY APPLICATION.

QUICK RECAP

- Kubernetes Architecture
 - Etcd
 - API Server
 - Controller Management
 - Scheduler
 - Kubelet
 - Kubeproxy?
- Objects we used to get a application properly deployed
 - Pods -> Abstraction of containers
 - Services -> Communication
 - Ingress -> Route traffic into cluster
 - ConfigMaps -> External configuration
 - Secrets -> External configuration
 - Volumes -> Data persistence
 - Deployments -> Pod blueprints and replication
 - Statefulsets -> Pod blueprints and replication

OVERVIEW

K8S MANAGEMENT TOOLS

- Kubectl
- Kompose
- Minikube
- Kustomize
- Helm
- K9s
- GA
- AddOns

NAMESPACES

- What are namespaces?
- Using and creating them

MULTI CONTAINER PODS

- Cross container interaction
- Init containers

DRAINING NODES

- Safely Draining a node
- Ignoring daemon sets
- Uncordon

RBAC & SERVICE ACCOUNTS

Schools want something that's easy to adopt and simple to use for their students

NETWORKING

- Network model
- CNI Plugin
- DNS

KUBECTL

- What is kubectl?
- Most used commands

K8S RESOURCES MANAGEMENT

- Kubectl top
- Managing containers resources
- Probes, what are they and when to use
- Self Healing

HPA

- Setup
- Using it

K8S MANAGEMENT TOOLS

Kubectl

Kompose

Minikube

Kostomize

Helm

K9s

GA

K9s



DRAINING NODES

Why would you use this?

When do I need to use --force and why

Ignoring daemon sets?

Uncordon

Hands-on



KUBECTL

Kubectl get

Kubectl describe

Kubectl create

Kubectl apply

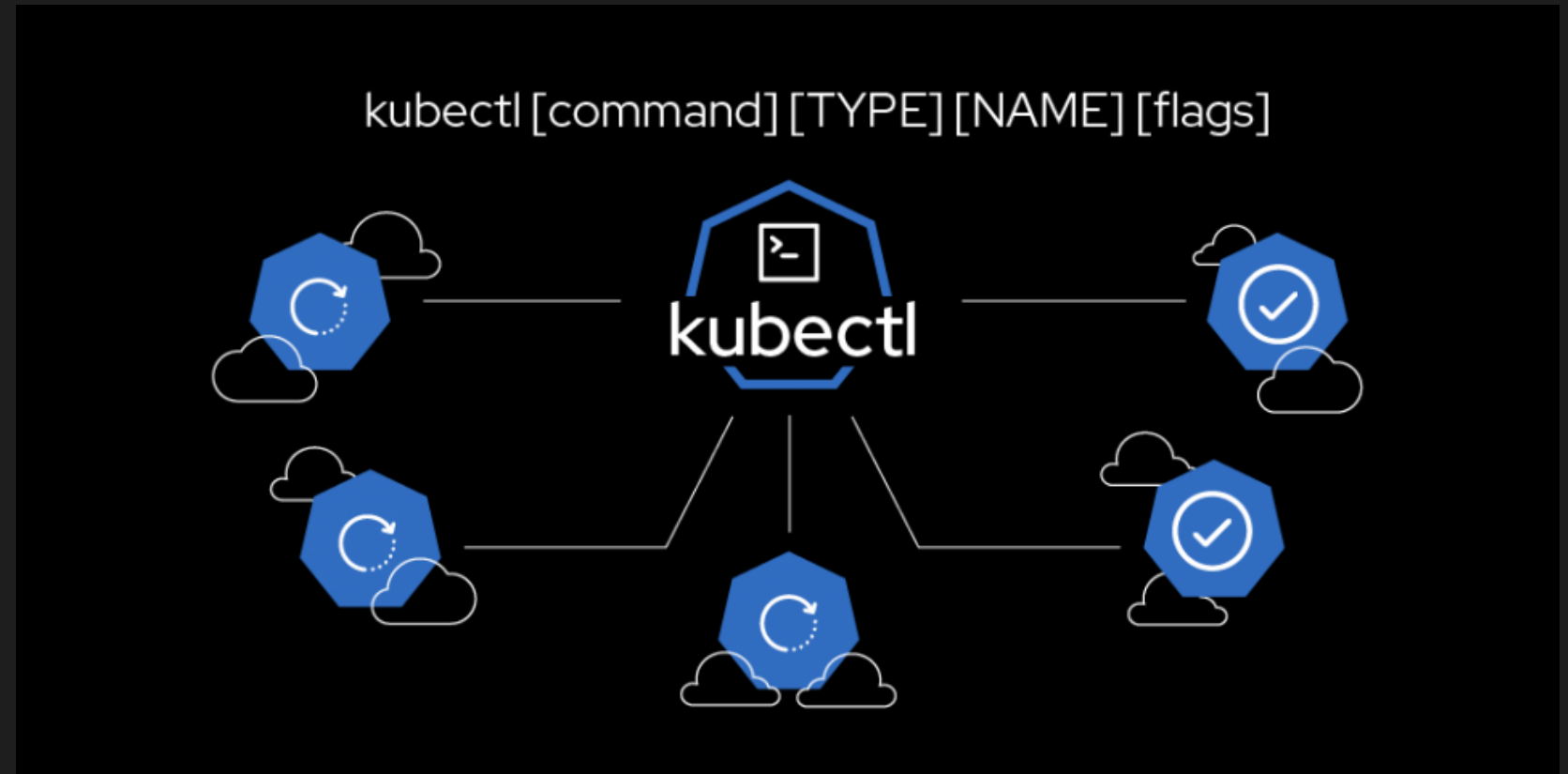
Kubectl delete

Kubectl exec

Kubectl explain

Kubectl logs

Hands-on



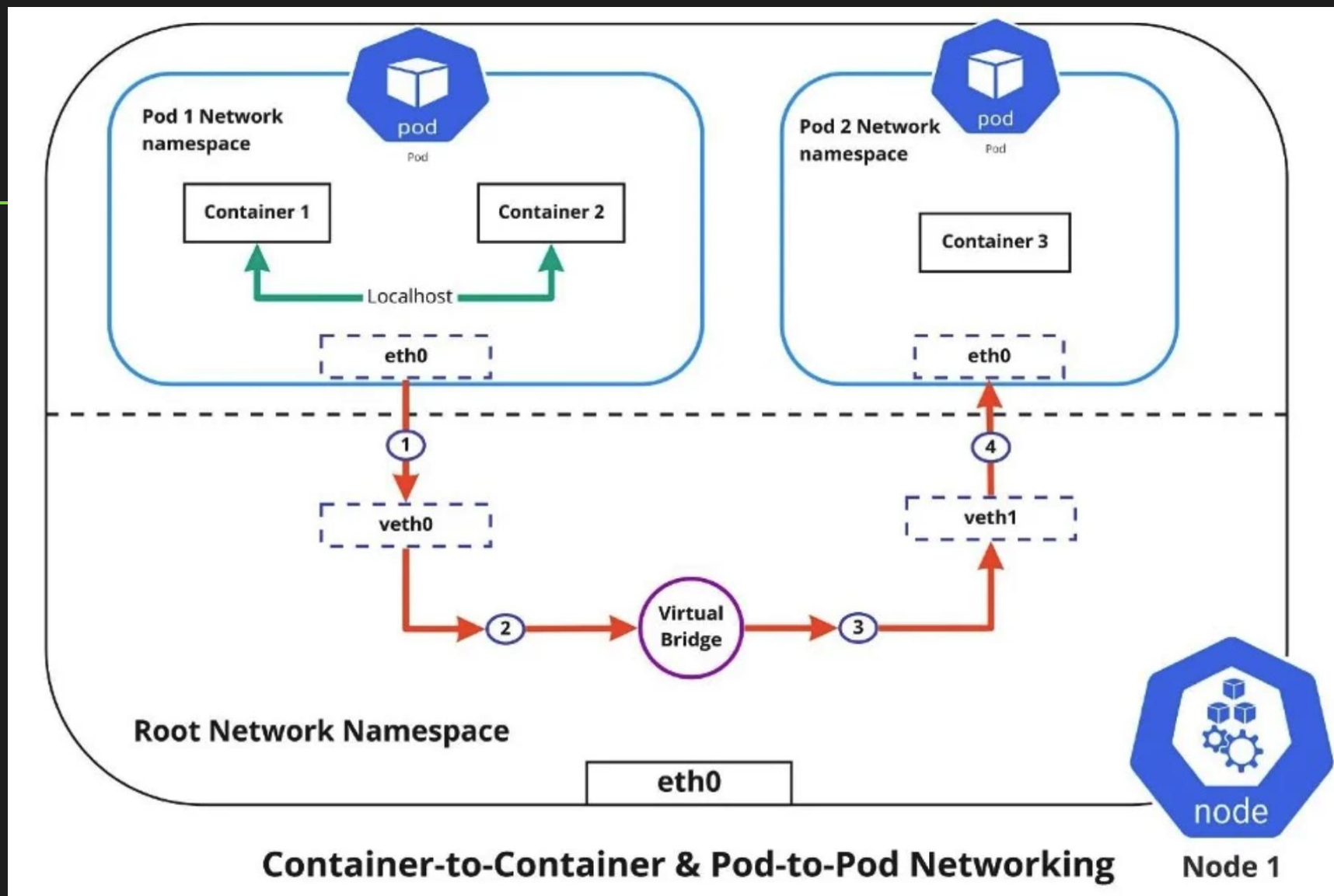
NETWORKING

Network model

Cni plugin

Dns

Hands-on



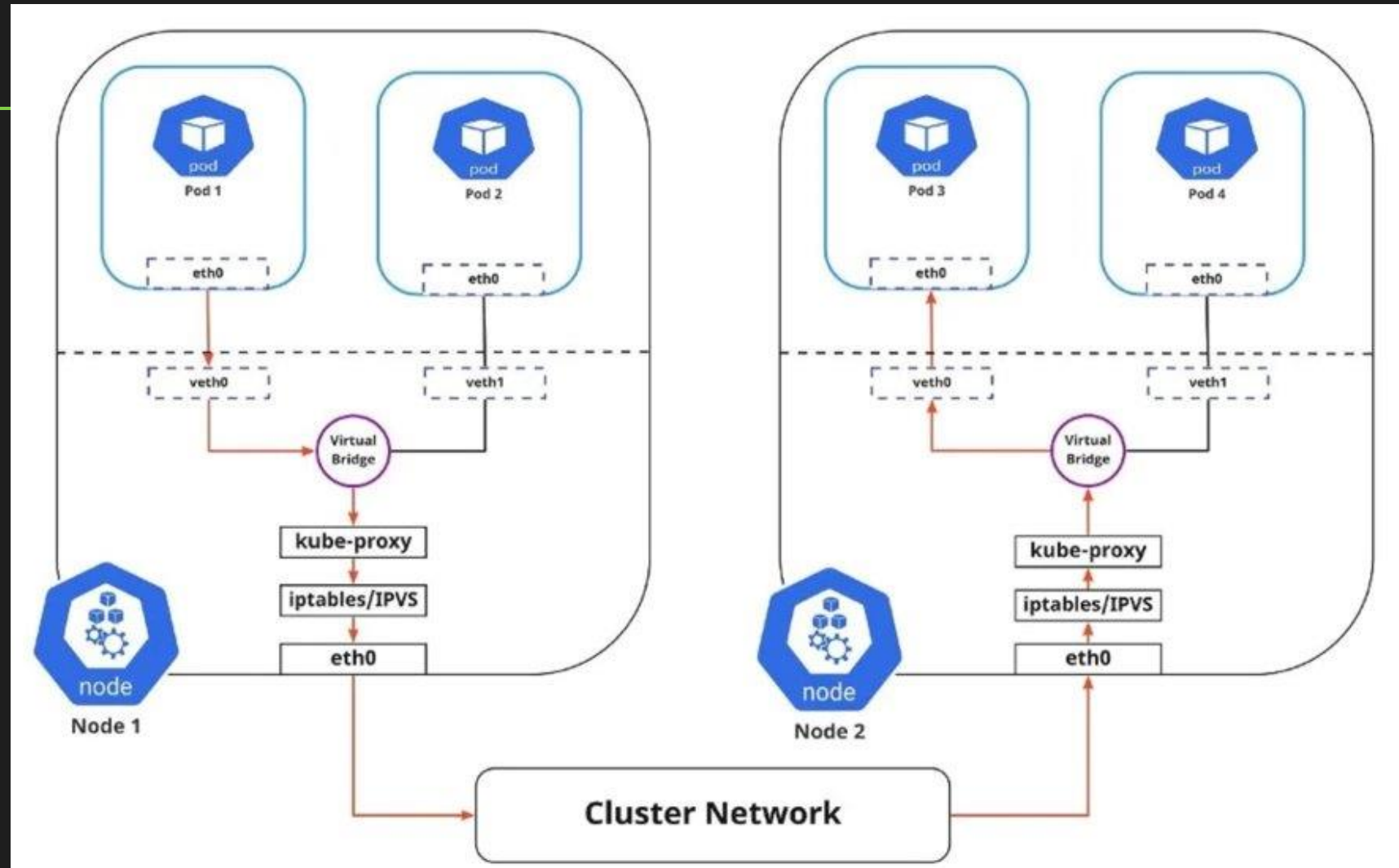
NETWORKING

Network model

Cni plugin

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Hands-on



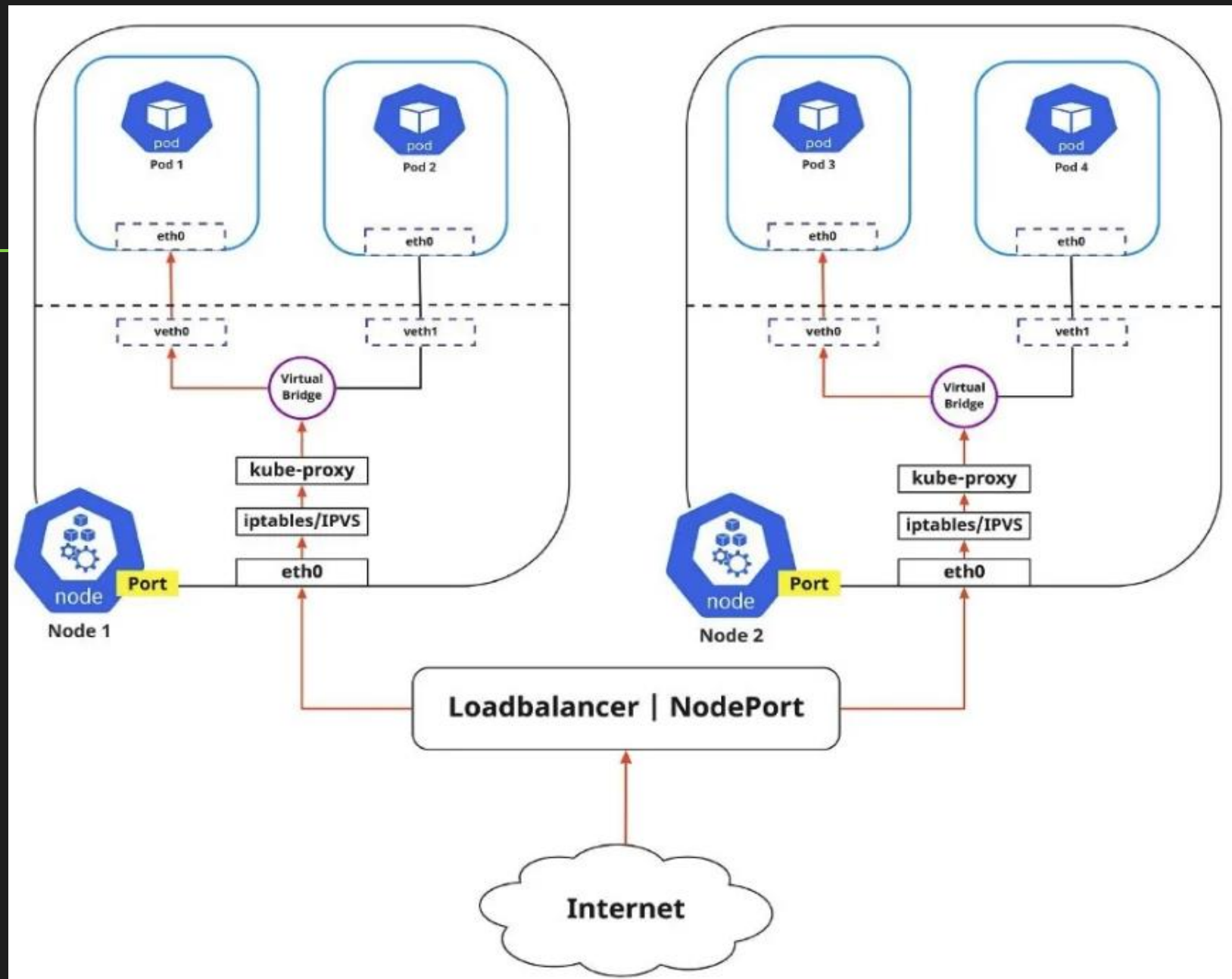
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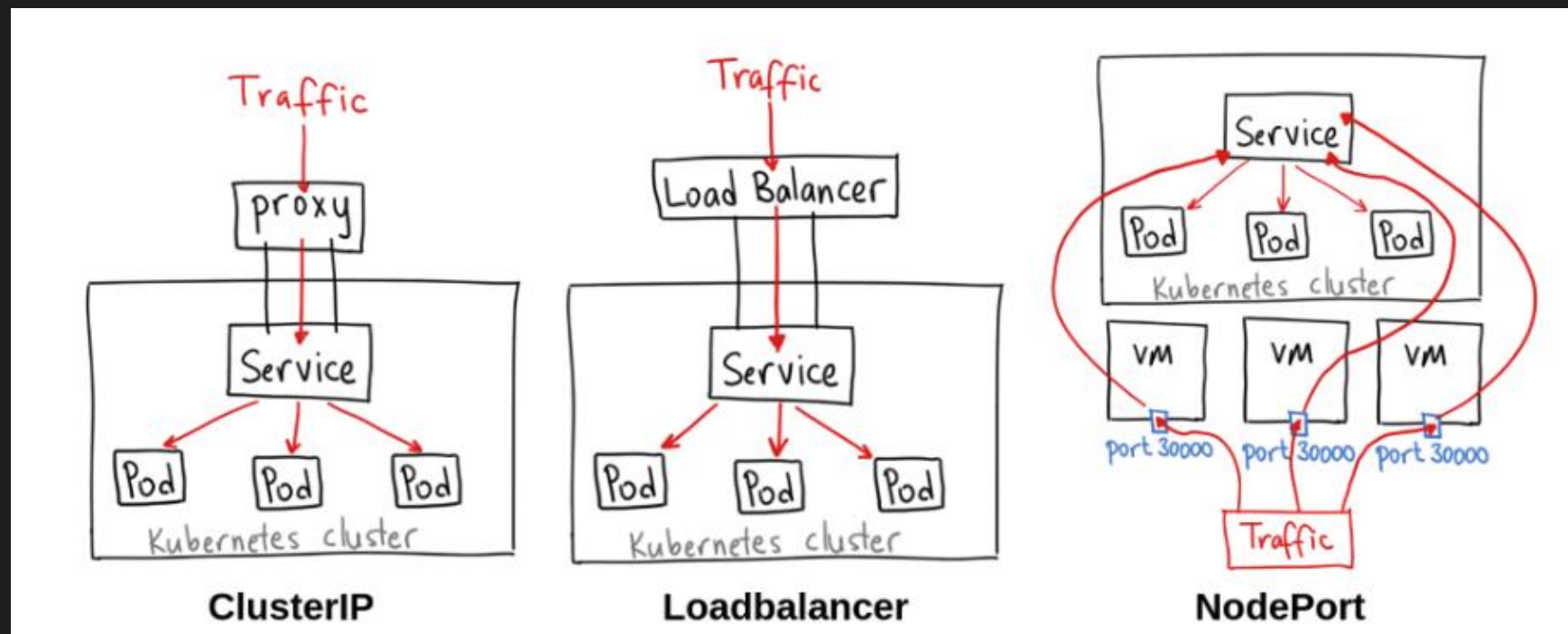
NETWORKING

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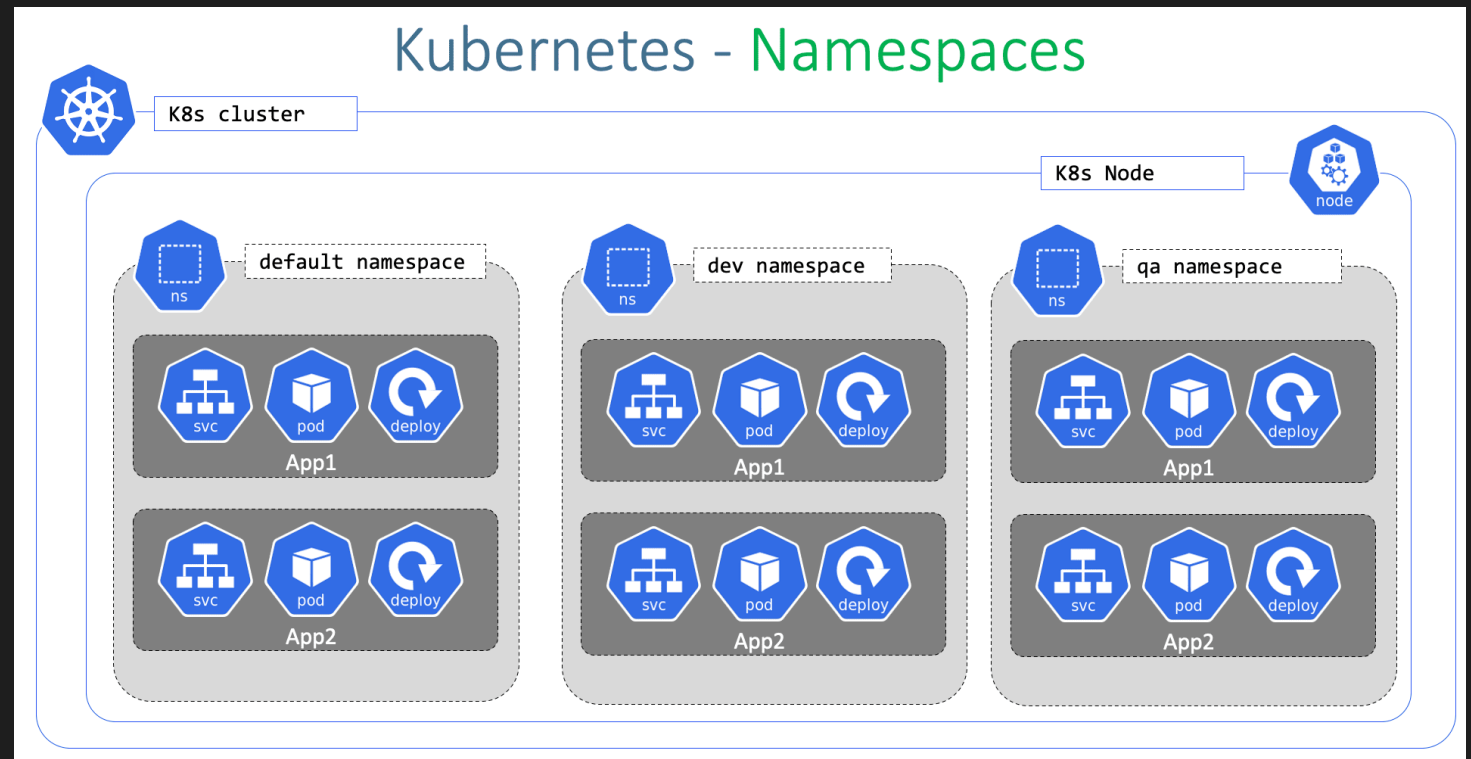
Hands-on



NAMESPACES

What are namespaces?

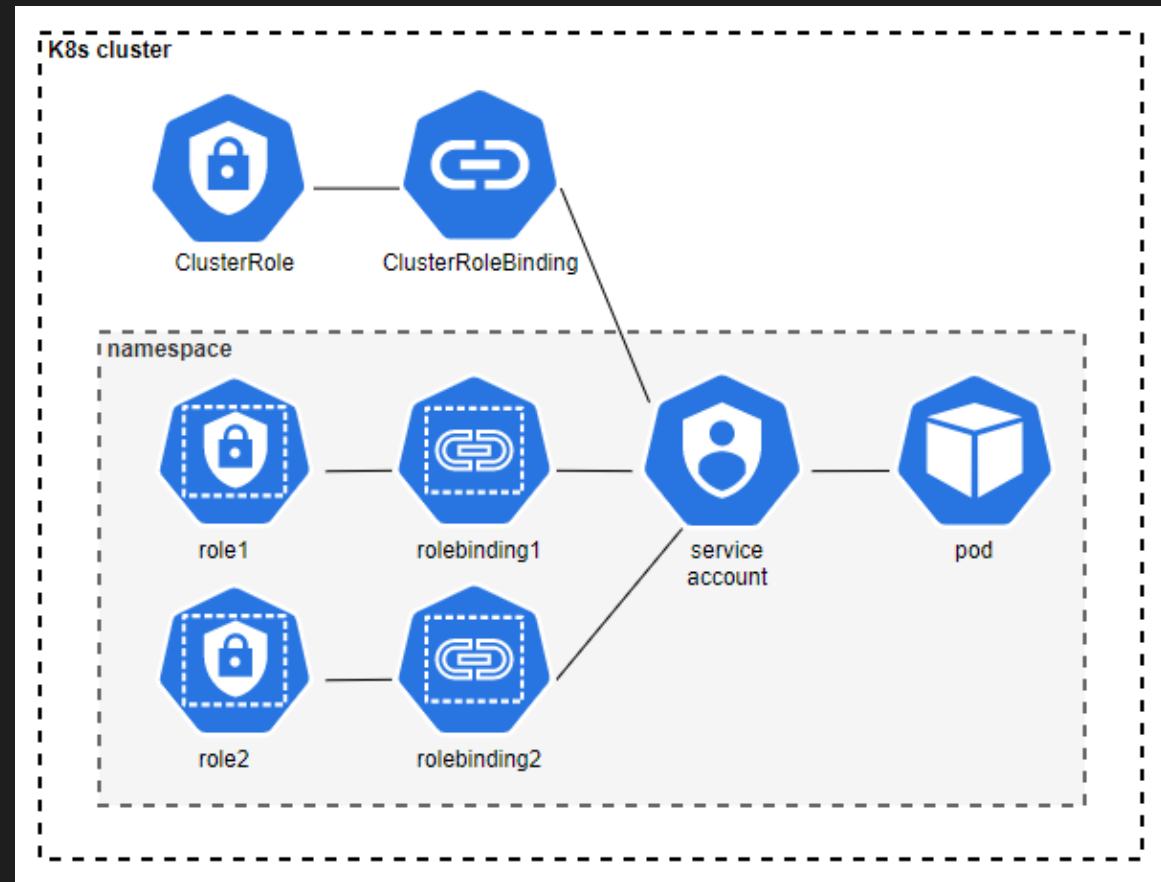
Hands-on



RBAC AND SERVICE ACCOUNTS

RBAC in K8s
RBAC Objects
HANDS-ON

Service Accounts, what is it?
HANDS-ON



KUBERNETES RESOURCES MANAGEMENT

Kubectl top

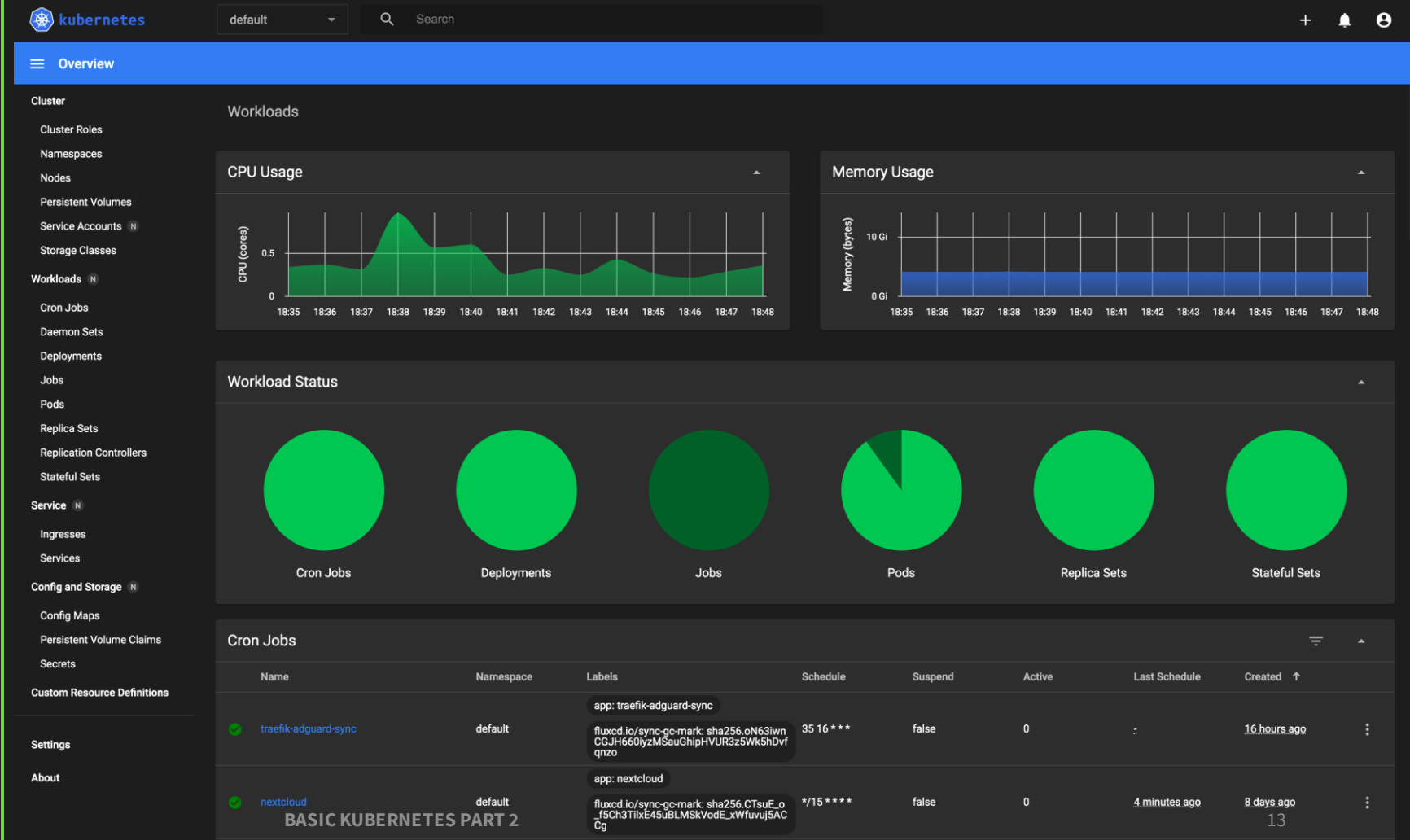
Managing container resources

Probes

Self-healing

Lifecycle hooks

Hands-on



MULTI CONTAINER PODS

Cross-container interactions

Init containers

Hands-on



HORIZONTAL POD AUTO-SCALE (HPA)

Setup

Using it

