

Online Workshop

# Docker & Kubernetes

Session #4 | @inicipaez



Record

# Session Agenda

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Orchestrators

Kubernetes concepts (part 1)

# Homework recap

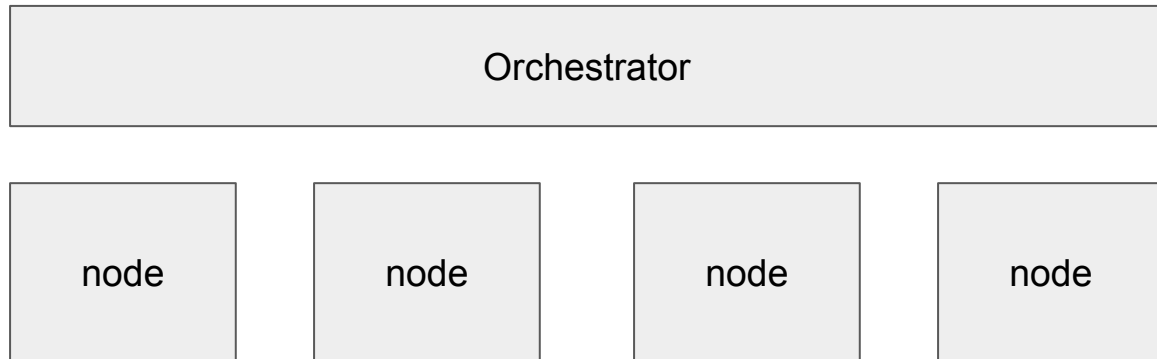
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Ejercicio balanceo nginx

<https://gitlab.com/-/snippets/2088421>

# Docker: Production strategy

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# Orchestrators properties

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Availability

Scalability

Management

# Orchestrators

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Kubernetes

Docker Swarm

Apache Mesos

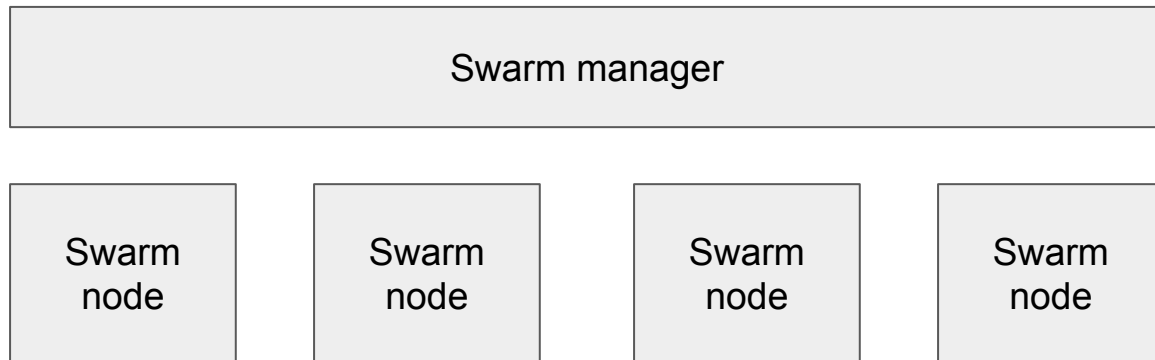
Rancher

Nomad



# Docker Swarm

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# Docker swarm / stack

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```
docker swarm init / join
```

```
docker stack deploy --compose-file myapp.yml myapp
```

```
docker stack ls
```

Kubernetes

# About Kubernetes

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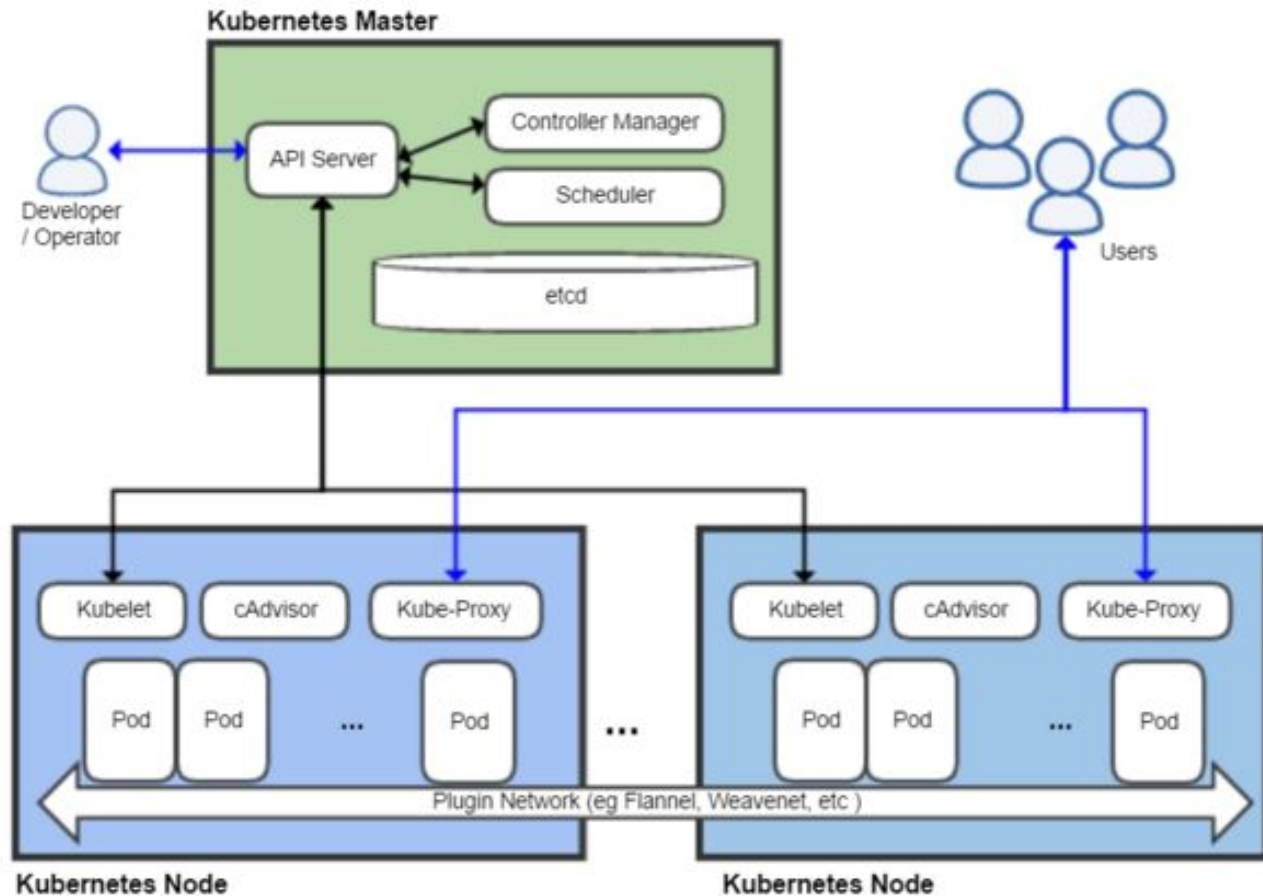
Container Orchestrator

Container Management Solution

Docker => packaging & distribution

K8s => runtime

Kubernetes is an open-source system for automating deployment, scaling and management of containerized applications.



# Kubernetes Architecture

# Kubernetes Solutions

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On Premises

Amazon EKS

Google GKE

Azure AKS

Rackspace KaaS

Red Hat OpenShift

# Kubectl Cheatsheet

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`kubectl version`

`kubectl cluster-info`

`Kubectl get <x>`

`Kubectl describe <x>`

`Kubectl create <x>`

`Kubectl apply <x>`

# Minikube Cheatsheet

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```
minikube start --driver=hyperkit
```

```
minikube status
```

```
minikube ip
```

```
minikube dashboard
```

```
minikube stop
```

```
minikube addons
```



# Running on Kubernetes

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```
kubectl config set-context --current --namespace=session4
```

```
kubectl run pingapp --image=nicopaez/pingapp:2.1.0
```

```
kubectl exec -it pingapp -- bash
```

```
kubectl port-forward pingapp 34567:4567
```

```
kubectl set image pod/pingapp pingapp=nicopaez/pingapp:2.0.1
```

# Minikube: access services

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```
minikube ip
```

```
minikube service pingapp --url (nodePort)
```

```
minikube tunnel (LoadBalancer)
```

# Kubernetes Concepts

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Pod

Namespace

Replica Set

Daemon Set

Service

Jobs / Cron-jobs

Ingress

Volumes

Configmap

Stateful Sets

Secret

Deployments

End of Session 4