

# Kubernetes + DC/OS

The best way to run Kubernetes in production

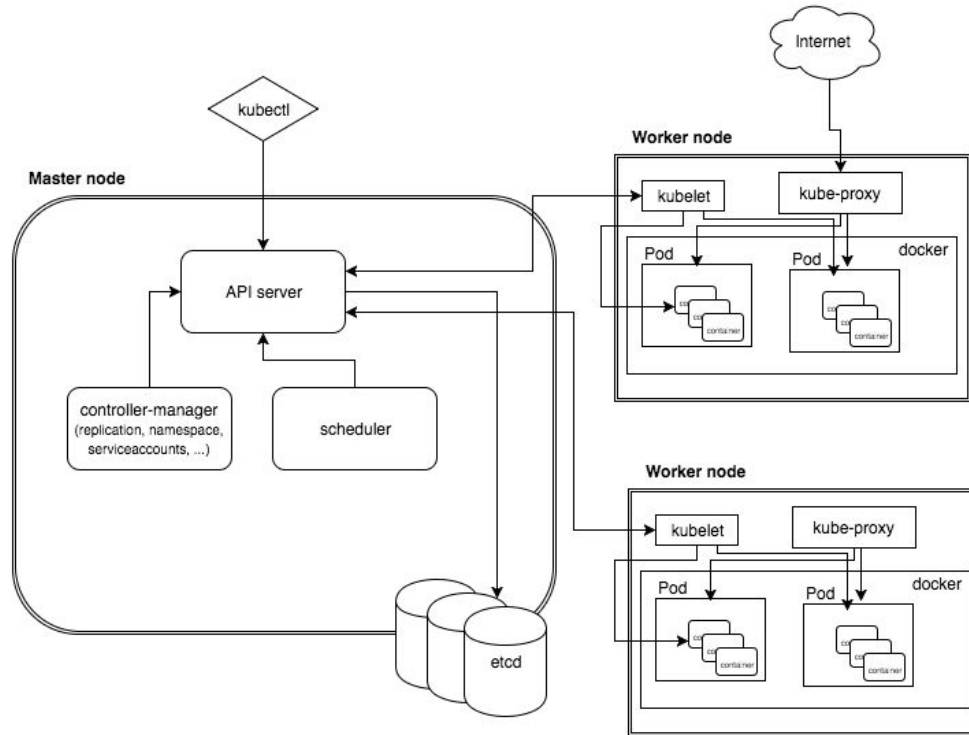
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## Kubernetes Overview

- Kubernetes is a popular open source container orchestration tool for Docker containers, developed by Google, open sourced to the CNCF.
- Developers want Kubernetes, but standing up a production K8s cluster, especially on-premise, is a complex time consuming project



# Kubernetes Architecture



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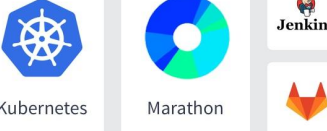
## Do It Yourself (DYI) Kubernetes

- Requires significant time, hard to find expertise, and likely to result in snowflake implementations
- Running Stateful services on K8s will require more effort, and will be built on beta and incomplete features
- Who's supporting you?



# Mesosphere DC/OS

## CONTAINER ORCHESTRATION & DEV TOOLS

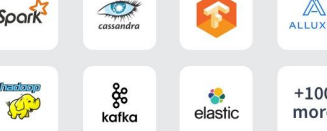


Kubernetes

Marathon

Jenkins

## DATA SERVICES, MACHINE LEARNING & AI



Spark

cassandra

Hadoop

ALLUXIO

Tez

kafka

elastic

+100 more

## MESOSPHERE DC/OS

App-Aware scheduling

Security & Compliance

Multitenancy

Management & Operations



MESOS Apache Mesos Cluster Management



Physical Servers



Virtual Servers



Private Cloud



Public Cloud Providers

# Kubernetes on DC/OS

## The best way to run Kubernetes outside of GKE

### Easy Operations

*Simplify the operator's experience and accelerate Kubernetes initiatives*

- One-click install & upgrades
- Highly available & secure by default
- Built-in monitoring & metrics
- Load balancing, overlay and ingress integration

### 100 % Pure


*Maximize developer productivity and integrate with community tools and resources*

- Run community tool and examples
- Full stack support for Kubernetes and DC/OS
- No proprietary CLI or APIs


### Containers and Data Services, United

*Dramatically cut costs by running all your data services and containers on shared resources*



- Run Kubernetes alongside production data services and traditional apps, on the same cluster
- Multiple isolated Kubernetes clusters
- Run on any environment / OS

 Dashboard Services Jobs Catalog

## RESOURCES

 Nodes Networking Secrets

## SYSTEM

 Overview Components Settings Organization

Users

Groups

Service Accounts



# beta-kubernetes

COMMUNITY 0.4.0-1.9.0-beta

[REVIEW & RUN](#)By deploying you agree to the [terms and conditions](#)

## Description

Highly Available Kubernetes

## Pre-Install Notes

Kubernetes on DC/OS is currently in Beta and should not be used in production.

Documentation: <https://docs.mesosphere.com/service-docs/beta-kubernetes> Issues: <https://github.com/mesosphere/dcos-kubernetes-quickstart/issues>

## Information

Maintainer: [support@mesosphere.com](mailto:support@mesosphere.com)

Dashboard

Services

Jobs

Catalog

RESOURCES

Nodes

Networking

Secrets

SYSTEM

Overview

Components

Settings

Organization

Users

Groups

Service Accounts

Instances Configuration Debug

Showing 21 of 24 tasks [\[Clean\]](#)

Filter

ALL 24

ACTIVE 21

COMPLETED 3

<input type="checkbox"/>	ID	NAME	HOST	STATUS	HEALTH		CPU	MEM
<input type="checkbox"/>	etcd-0-peer_ebb64ab1-fe6a-4713-ac20-5eb...	etcd-0-peer	10.0.0.12	Running	<span style="color: green;">●</span>		0.5	1 GiB
<input type="checkbox"/>	etcd-1-peer_7141cd21-63c4-4cde-b652-3c...	etcd-1-peer	10.0.3.51	Running	<span style="color: green;">●</span>		0.5	1 GiB
<input type="checkbox"/>	etcd-2-peer_ed7c5ea8-850a-4e81-8c84-e2...	etcd-2-peer	10.0.2.44	Running	<span style="color: green;">●</span>		0.5	1 GiB
<input type="checkbox"/>	kube-apiserver-0-instance_a4fd4305-bfbc...	kube-apiser...	10.0.2.44	Running	<span style="color: green;">●</span>		0.5	1 GiB
<input type="checkbox"/>	kube-apiserver-1-instance_5f18e5a5-c89b...	kube-apiser...	10.0.3.51	Running	<span style="color: green;">●</span>		0.5	1 GiB
<input type="checkbox"/>	kube-apiserver-2-instance_473f7e9b-b5fa...	kube-apiser...	10.0.3.15	Running	<span style="color: green;">●</span>		0.5	1 GiB
<input type="checkbox"/>	kube-controller-manager-0-instance_d8905...	kube-control...	10.0.1.198	Running	<span style="color: green;">●</span>		0.5	512 MiB
<input type="checkbox"/>	kube-controller-manager-1-instance_1c7371...	kube-control...	10.0.0.186	Running	<span style="color: green;">●</span>		0.5	512 MiB
<input type="checkbox"/>	kube-controller-manager-2-instance_22b48...	kube-control...	10.0.3.51	Running	<span style="color: green;">●</span>		0.5	512 MiB
<input type="checkbox"/>	kube-node-0-kube-proxy_15f8669a-03ca-4...	kube-node-...	10.0.3.218	Running	<span style="color: green;">●</span>		0.1	512 MiB
<input type="checkbox"/>	kube-node-0-kubelet_b269d58a-990a-4f88...	kube-node-...	10.0.3.218	Running	<span style="color: green;">●</span>		3	3 GiB
<input type="checkbox"/>	kube-node-1-kube-proxy_2104e0b3-1859-4...	kube-node-1...	10.0.0.186	Running	<span style="color: green;">●</span>		0.1	512 MiB
<input type="checkbox"/>	kube-node-1-kubelet_cc2f25dd-725e-4f95-...	kube-node-1...	10.0.0.186	Running	<span style="color: green;">●</span>		3	3 GiB
<input type="checkbox"/>	kube-node-2-kube-proxy_d81ccd3c-9027-4...	kube-node-...	10.0.1.236	Running	<span style="color: green;">●</span>		0.1	512 MiB
<input type="checkbox"/>	kube-node-2-kubelet_6b7e11de-d477-4514-...	kube-node-...	10.0.1.236	Running	<span style="color: green;">●</span>		3	3 GiB
<input type="checkbox"/>	kube-node-public-0-kube-proxy_5b563f58-...	kube-node-...	10.0.5.181	Running	<span style="color: green;">●</span>		0.1	512 MiB
<input type="checkbox"/>	kube-node-public-0-kubelet_5b2b49ca-596...	kube-node-...	10.0.5.181	Running	<span style="color: green;">●</span>		3	3 GiB
<input type="checkbox"/>	kube-scheduler-0-instance_6a12a63d-6f71-...	kube-sched...	10.0.1.236	Running	<span style="color: green;">●</span>		0.5	512 MiB
<input type="checkbox"/>	kube-scheduler-1-instance_d19ea278-8d4e-...	kube-sched...	10.0.2.156	Running	<span style="color: green;">●</span>		0.5	512 MiB
<input type="checkbox"/>	kube-scheduler-2-instance_38c3c694-c82a-...	kube-sched...	10.0.3.51	Running	<span style="color: green;">●</span>		0.5	512 MiB
<input type="checkbox"/>	kubernetes.30aff5d3-04c0-11e8-8c62-d6b8...	kubernetes	10.0.1.198	Running	<span style="color: green;">●</span>		1	1 GiB



# Cluster

## Cluster

- Namespaces
- Nodes
- Persistent Volumes
- Roles
- Storage Classes

### Namespace

default ▾

### Overview

### Workloads

- Daemon Sets
- Deployments
- Jobs
- Pods
- Replica Sets
- Replication Controllers
- Stateful Sets

### Discovery and Load Balancing

- Ingresses
- Services

### Config and Storage

- Config Maps
- Persistent Volume Claims
- Secrets

About

## Namespaces

Name	Labels	Status	Age
✓ default	-	Active	an hour
✓ kube-public	-	Active	an hour
✓ kube-system	-	Active	an hour

## Nodes

Name	Labels	Ready	CPU requests (cores)	CPU limits (cores)	Memory requests (bytes)	Memory limits (bytes)	Age
✓ kube-node-p...	beta.kube... beta.kube... kubernet... kubernet... name: ku...	True	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	an hour
✓ kube-node-2...	beta.kube... beta.kube... kubernet... name: ku...	True	0.26 (6.50%)	0 (0.00%)	110 Mi (0.69%)	170 Mi (1.06%)	an hour
✓ kube-node-0...	beta.kube... beta.kube... kubernet... name: ku...	True	0.1 (2.50%)	0.1 (2.50%)	100 Mi (0.62%)	300 Mi (1.87%)	an hour
✓ kube-node-1...	beta.kube... beta.kube... kubernet... name: ku...	True	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	an hour



Learn more at [mesosphere.com](https://mesosphere.com)



Cloud  
Infrastructure