



CDW Documentation

Kubernetes Cheat Sheet

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Kubernetes Architecture Overview

Control Plane (management layer)

- **kube-apiserver:** central access point for all operations
- **etcd:** persistent state store
- **kube-scheduler:** assigns Pods to nodes
- **controller-manager:** maintains cluster state (replicas, jobs, nodes)
- **cloud-controller-manager:** cloud provider integration

Node Components (worker layer)

- **kubelet:** ensures Pods run as instructed
- **kube-proxy:** networking and load balancing rules
- **container runtime:** runs containers

Networking

- Each Pod gets a unique IP
- Pods can reach each other without NAT
- Services provide stable virtual IPs
- CNIs implement the network model

etcd

- Source of truth for the entire cluster
- Stores cluster configuration, secret data, and runtime state

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