Kubernetes

Related Roadmaps

- Docker Roadmap
- Backend Roadmap
- DevOps Roadmap
- System Design Roadmap

Find the interactive version of this roadmap and more roadmaps at

roadmap.sh

- Introduction
  - Overview of Kubernetes
  - Why use Kubernetes?
  - Key Concepts and Terminologies
  - Kubernetes Alternatives
- Containers
- Setting up Kubernetes
  - Deploying your First Application
  - Choosing a Managed Provider
  - Installing a Local Cluster
- Running Applications
  - Pods
  - ReplicaSets
  - Deployments
  - StatefulSets
  - Jobs
- Services and Networking
  - External Access to Services
  - Load Balancing
  - Networking & Pod-to-Pod Communication
- Configuration Management
  - Injecting Pod Config with ConfigMaps
  - Using Secrets for Sensitive Data
- Security
  - Role Based Access Control (RBAC)
  - Network Security
  - Container and Pod Security
  - Container and Pod Security
- Resource Management
  - Setting Resource Requests and Limits
  - Assigning Quotas to Namespaces
  - Monitoring & Optimizing Resource Usage
- Monitoring and Logging
  - Logs
  - Metrics
  - Traces
  - Resource Health
  - Observability Engines
- Storage and Volumes
  - CSI Drivers
  - Stateful Applications
- Scheduling
  - Basics
  - Taints and Tolerations
  - Topology Spread Constraints
  - Pod Priorities
  - Evictions
- Autoscaling
  - Horizontal Pod Autoscaler (HPA)
  - Vertical Pod Autoscaler (VPA)
  - Cluster Autoscaling
- Deployment Patterns
  - CI / CD Integration
  - GitOps
  - Helm Charts
  - Canary Deployments
  - Blue-Green Deployments
  - Rolling Updates / Rollbacks
- Cluster Operations
  - Creating Custom Controllers
  - Custom Schedulers and Extenders
  - Custom Resource Definitions (CRDs)
  - Kubernetes Extensions and APIs
  - Should you manage your own Cluster?
  - Installing the Control Plane
  - Adding and Managing Worker Nodes
  - Multi-Cluster Management
- Advanced Topics

Continue learning with following roadmaps

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