# KUBERNETES

## Skill Tree: Color in the Boxes

Color in the boxes of anything you've already completed, visualize your skills and identify your skill gaps. Get inspired to try new things and tailor the skill tree to suit your own journey by swapping in your own goals.

ADVANCED

(set your own goal)
(set your own goal)
(set your own goal)
(set your own goal)
(set your own goal)
Create a canary deployment
Create your own custom admission controller
Create a blue-green deployment
Optimize costs within Kubernetes
Implement cloud-native observability practices
Contribute to Kubernetes community
Implement Advanced Network Policies
Use external storage solutions with Kubernetes
Set up a CI/CD pipeline that deploys in the cluster
Create your own Helm chart
Develop your own Operator
Implement custom admission controllers
Use Kubernetes on Bare Metal
Set up Cluster-wide Logging, Monitoring, and Alerting
Use Persistent Volume Provisioners
Implement Advanced Ingress Configurations
Configure High Availability (HA) clusters
Implement GitOps practices
Implement Kubernetes logging and tracing
Use Cluster API
Perform cluster performance tuning
Optimize resource usage
Monitor node health
Use Kubernetes API directly
Configure storage class
Apply Pod Security Admission
Configure Pod affinity and anti-affinity
Set up a multi-node cluster with kubeadm
Deploy a Service mesh solution, e.g., Istio, Linkerd
Use OPA for policies
Install and configure a networking solution e.g. Calico, Flannel
Upgrade the cluster using kubeadm
Set up a cluster using kubeadm
Use advanced networking solutions like Istio or Calico
Implement storage solutions with CSI drivers
Implement Kustomize
Create your own Custom Resource Definition (CRD)
Use Service Mesh for advanced networking and security
Implement Custom Resource Definitions (CRDs) and Operators
Use Helm for package management
Use DaemonSets to run Pods on all nodes
Configure Jobs to run batch tasks
Configure CronJobs for scheduled tasks
Set up monitoring for Pods
Create StatefulSets for stateful applications
Apply network Policies to control traffic between Pods
Configure Role-Based Access Control (RBAC)
Set resource requests for Pods
Set resource limits for Pods
Set up Persistent Volumes and Claims
Configure horizontal Pod autoscaling
Control Pod scheduling tolerations
Perform rolling updates and rollbacks
Scale Pods within a deployment
Filter resources using Selectors
Expose a Pod using a Service
Set up Ingress for external access e.g. NGINX, Traefik
Expose a Pod using a Service
Apply Labels to organize resources
Secure sensitive data with Secrets
Manage configuration data with ConfigMaps
Create a basic Pod
Check pod logs
Use kubectl to manage resources
Create and organize namespaces
Install and configure kubectl
Set up a container runtime e.g. Containerd, CRI-O
Deploy a local Kubernetes cluster e.g. Minikube, Kind

BASICS

START HERE

1 tile = 1 point

Total Score

Name: _____