

Introduction to Kubernetes and its Architecture

- What is Kubernetes
- Why Kubernetes
- Kubernetes features
- Kubernetes Architecture
- Kubernetes Cluster
- Kubernetes Master
 - API Server
 - Etcd
 - Scheduler
 - Controller Manager
- Worker nodes
- Container Runtime
 - Kubelet
 - Kube-proxy
 - cAdvisor
- Kubernetes Objects Overview
 - Kubernetes Pods
 - Replication Controllers and Replication sets
 - Deployments
 - Services
 - Volumes and Persistent Volumes
 - Stateful Sets
 - Daemon Sets
 - Jobs and Cron Jobs

Installing Kubernetes Installation

- Docker
- Minikube
- AKS

Working with Pods and Kubectl Commands

- Create out first pod with kubectl
- Basic Kubectl Commands
- Inspecting Kubernetes Objects using kubectl

- About Kubernetes Generators
- Imperative vs Declarative Commands
- Exploring YAML Syntax
 - Name and Metadata
 - Labels and Label Selectors
- Kubernetes Namespace
- Kubernetes Generators
- Working with Dashboard

Working with Kubernetes Objects

- Pods
- Replication Controller
- Replica Sets
- Creating Deployment

Services and Ingress

- Service Types
 - Creating a ClusterIP Service
 - Creating a NodePort
 - LoadBalancer Service
- Working with Ingress
- Kubernetes Services DNS
- Network Policies
- Working with Probes

Advanced Kubernetes Objects

- configMap and Environment Variables
- Working with Secrets and sensitive information
- Kubernetes Volumes
- Persistent Volumes and Persistent Volume Claims
- StatefulSet
- DaemonSets
- Jobs
- Scheduling using Cron Jobs

- Monitoring and Probes

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