



Kubernetes Course Content

- **Module 1: Core Concepts**
 - ETCD
 - Kube-API Server
 - Controller Manager
 - Scheduler
 - Kubelet
 - Kube Proxy
 - PODs
 - Replica Sets
 - Deployments
 - Services, Service Cluster IP

- **Module 2: Scheduling Pods**
 - manual Scheduling
 - Labels and Selectors
 - Resource Requirements and limits
 - Daemon Sets
 - Static Pods
 - Multiple Scheduler

- **Module 3: Logging and Monitoring**
 - Monitor Cluster Components
 - Managing Application Logs

- **Module 4: Application Lifecycle Management**
 - Rolling Updates and Rollbacks
 - Configure Applications
 - Commands and Arguments
 - Configure Environmental variables in applications
 - Configuring ConfigMaps in Applications
 - Scale Applications

- Multi-container PODs
- Multi-container PODs Design patterns
- InitContainers
- Self Healing Applications

- **Module 5: Cluster Management**
 - OS Upgrades
 - Kubernetes Software versions
 - Cluster Upgrades Process
 - Backup and Restore Methods

- **Module 6: Security & Authentication**
 - Kubernetes Security Primitives
 - Authentication
 - TLS
 - Certificates API
 - Kubeconfig
 - Persistent Key/Value store
 - API Groups
 - Role-Based Access Controls
 - Cluster Roles and Role Bindings
 - Image Security
 - Network policy

- **Module 7: Storage & Volumes**
 - Volumes
 - Persistent Volumes
 - Persistent Volume Claims
 - Application Configuration

- **Module 8: DNS Networking ,Core DNS & CNI**
 - Switching and Routing
 - DNS
 - Core DNS
 - Network Namespaces
 - Docker Networking
 - CNI
 - Cluster Networking
 - CNI in Kubernetes
 - CNI in weave
 - IP Address Management - weave

- Service Networking
- DNS in Kubernetes
- Core DNS in Kubernetes
- Ingress

- **Module 9: Trouble Shooting-Application Failures**
 - Control Panel Failures and Network Failures
 - Application Failure
 - Control Panel Failure
 - Worker Node Failure
 - Networking Failure



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