

Kubernetes Curriculum

1. Kubernetes Orchestration and Features

- Introduction with Kubernetes
- Core features of Kubernetes
- Difference between Docker Swarm and Kubernetes

2. Kubernetes Architecture

- Master and Worker Nodes
- Master Node components | etcd | apiserver | controllers | Scheduler
- Worker Node components kubelet and kubeproxy
- Understand Container and Pod and Docker dependency

3. Installation of Kubernetes

- Installation Process for Kubernetes - Kubeadm | kubectl | kubelet
- Cluster Initialization – certificates | Tokens | Bootstrapping | Master Node Setup with Token and then join the worker node into the cluster.
- Kubernetes Command-line utility -**kubectl** and validate Cluster.

4. Kubernetes Pod Creation and deploy on Worker Node

- Basics and Hands-on experience – create | describe | delete Pods.
- Understanding YAML and creating Pod multiple containers
- Life-cycle of Pod deployment
- Labels and Selectors (Types)

5. Kubernetes Replica Set and Deployments

- Create Replica Set (multi-pod deployment)
- Understanding of Controllers
- Continuous monitoring of Pods
- Pod Scaling Up/Down
- Deployment Controllers and Monitoring Replica Sets



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- Auto-scaling (HPA)
- Rolling Updates, Rollback, Cluster Revisions
- Handling Service Objects through deployments.
- Resource Quota
- Namespaces – How multiple teams work on same cluster w/o interference.

6. Kubernetes Services

- Understanding Types of Internal and External Services
- Cluster IP | NodePort | Load Balancing | External Name
- Network Endpoints
- Access the Cluster from outside over Services.
- Hands-on experience with Services (YAML based etc)

7. Kubernetes Jobs and Configurations

- Jobs and Cronjobs
- ConfigMaps
- DaemonSets
- StatefulSets

8. Storage types in Kubernetes

- Persistent Volumes
- Persistent Volume Claims



9. Node Affinity and Node Selectors

- Upgrading KubernetesCluster
- Node Affinity and Importance
- Node Selectors and real-time examples



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10. Overview on Helm-Charts and Other Troubleshooting Skills

- Helm-Charts (Helm3) Installation and understand it
- Best Practices
- Certification Tips and mock test
- Helping links and lab-access

KEY FEATURES



Instructor-led Sessions



Learn from Experts



Assignments



24 x 7 Support



Real-time Case Studies



Get Certified

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