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 | Schedular
- 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.
- Understating 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

- 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

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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