Kubernetes Introduction: Hands-on

This hands-on session introduces participants to Kubernetes, the industry-standard platform for deploying, scaling, and managing containerized applications. The workshop focuses on core concepts, architecture, and practical deployment methods suitable for engineers working with both on-premises and cloud-based environments.

Instructors

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Level:

Basic to Intermediate — open to anyone interested in Kubernetes.

Topics Covered

- What is Kubernetes?
An introduction to container orchestration, Kubernetes use cases, and why it has become essential for modern infrastructure management.

- Core Components of Kubernetes (k8s)
Understanding the architecture:

- Nodes
- Pods
- Deployments
- Services
- etcd
- Control Plane components (API server, scheduler, controller manager)
- Add-ons and networking basics

- On-Premises vs Cloud Kubernetes
Comparison of running Kubernetes clusters on your own infrastructure versus managed services:

- Operational complexity
- Cost considerations
- Scalability and availability
- Popular cloud offerings (EKS, GKE, AKS)

- Deployment Methods
A practical look at how to deploy Kubernetes clusters:

- Minikube / kind (local)
- kubeadm
- Managed cloud clusters
- GitOps-based deployment workflows
- Basic application deployment on k8s during the hands-on lab

Session Recording

https://drive.google.com/file/d/147iQN6c-dFs2zzTX0eVdb5cR2KWjOrNs/view?usp=share_link

Slides

https://drive.google.com/file/d/19M8KTjn3KuDwgdmWTCg9uy3Cw7HwMiMI/view?usp=share_link

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