

## **What is Kubernetes?**

Kubernetes (K8s) is an open-source container orchestration platform used to automate the deployment, scaling, and management of containerized applications.

### **In Short**

Kubernetes helps run containers across many machines automatically, ensuring:

- High availability
- Scalability
- Self-healing
- Efficient resource usage

### **Key Concepts**

- Cluster – Entire Kubernetes system
- Node – Machine running containers
- Pod – Smallest deployable unit
- Deployment – Controls number of pod replicas
- Service – Provides stable networking

### **Why Companies Use Kubernetes**

- Reliable at scale
- Works across all clouds
- Standardized way to run microservices