

Kubernetes (k8s)



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



Why we need K8s?



- Before Kubernetes, developers used Docker to run containers but managing 100s of containers manually was hard.
- Kubernetes helps you run containers across multiple machines automatically.



Real Life Example



- It can restart failed containers, scale apps up/down, and manage load balancing.
- Companies like Google, Netflix, Amazon use Kubernetes for large-scale application management.



Architecture



- Kubernetes works on a cluster-based architecture: one Master Node controls multiple Worker Nodes.
- Each application is deployed as a Pod (smallest unit in Kubernetes).



Cloud Independent



- Kubernetes is cloud-neutral—you can use it on any platform: AWS, GCP, Azure, or even your own laptop.

