🚢 What is Kubernetes

- Kubernetes is an open-source container orchestration platform

- It manages, runs, scales, and heals containers automatically

- Used to deploy Docker containers in production

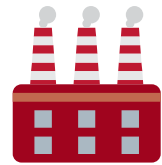- Handles load balancing, scaling, and self-healing

☁️ What is AKS

(Azure Kubernetes Service)

- AKS is Microsoft Azure's managed Kubernetes service

- Azure manages the control plane for you

- Easy integration with ACR, Azure DevOps, and Azure Monitor

- Secure, scalable, and production-ready Kubernetes

🏭 **Why Industry Uses AKS**

- No need to manage Kubernetes master nodes

- Auto-scaling for pods and nodes

- High availability and fault tolerance

- Secure integration with Azure services

- Faster deployments with CI/CD pipelines

🧩 **Cluster, Nodes, Pods**

- **Cluster**: Complete Kubernetes environment
- **Node**: A VM that runs containerized workloads

- **Node Count:** Number of VMs in the cluster
- **Pod:** Smallest unit in Kubernetes (runs containers)

- One pod can have one or multiple containers