1. Understand what kubernetes doesnt do?

Kubernetes is a powerful container orchestration platform, but there are certain tasks and functions that it doesn't directly handle. Here are some things that Kubernetes doesn't do:

Building Containers: Kubernetes does not provide tools for building container images. Developers typically build containers using tools such as Docker, Podman, or Buildah, and then deploy these container images to Kubernetes.

Logging and Monitoring: While Kubernetes has basic support for logging and monitoring, it does not offer comprehensive solutions out-of-the-box. Users often integrate Kubernetes with dedicated monitoring and logging tools like Prometheus, Grafana, or ELK Stack for advanced monitoring and logging capabilities.

Storage Solutions: Kubernetes does not provide built-in persistent storage solutions. It offers various volumes and plugins for integrating with storage providers, but it does not provide its own storage system. Users typically rely on external storage solutions, such as AWS EBS, Azure Disk, or NFS, and use Kubernetes features for integrating with these solutions.

Continuous Integration/Continuous Deployment (CI/CD): While Kubernetes offers features to support continuous deployment, it does not provide native CI/CD capabilities. Users often rely on CI/CD tools like Jenkins, GitLab CI, or Spinnaker to automate build, test, and deployment workflows in Kubernetes.

Auto-scaling Applications: While Kubernetes provides horizontal pod autoscaling based on CPU utilization, it doesn't directly handle auto-scaling at the application level. Application auto-scaling and self-healing are typically implemented within the applications themselves or using frameworks like the Kubernetes Horizontal Pod Autoscaler and Custom Metrics API.

Authentication and Authorization: Kubernetes provides basic authentication and authorization mechanisms, but it does not include advanced security features out-of-the-box. Organizations often integrate Kubernetes with identity management systems like LDAP, Active Directory, or use third-party solutions for advanced authentication and authorization.

1. What other Orchestration tools are available other than Kubernetes?

In addition to Kubernetes, there are several other popular orchestration tools for managing containerized applications and infrastructure. Some of these tools include:

Docker Swarm: Docker Swarm is a container orchestration tool that is part of the Docker ecosystem. It provides clustering and scheduling capabilities for Docker containers.

Apache Mesos: Apache Mesos is a distributed systems kernel that provides resource isolation and sharing across distributed applications or frameworks, including container orchestration.

Amazon Elastic Container Service (ECS): ECS is a highly scalable, high-performance container management service provided by Amazon Web Services (AWS) for running Docker containers on a managed cluster of EC2 instances.

OpenShift: OpenShift is a Kubernetes-based container platform that provides enterprise-grade container orchestration and management. It is developed by Red Hat.

Nomad: Nomad is a cluster manager and scheduler from HashiCorp that is designed for both microservice and batch workloads. It supports Docker and other container runtimes.

Docker Compose: While not a full orchestration tool, Docker Compose is a tool for defining and running multi-container Docker applications. It allows you to use a YAML file to configure your application's services and dependencies.