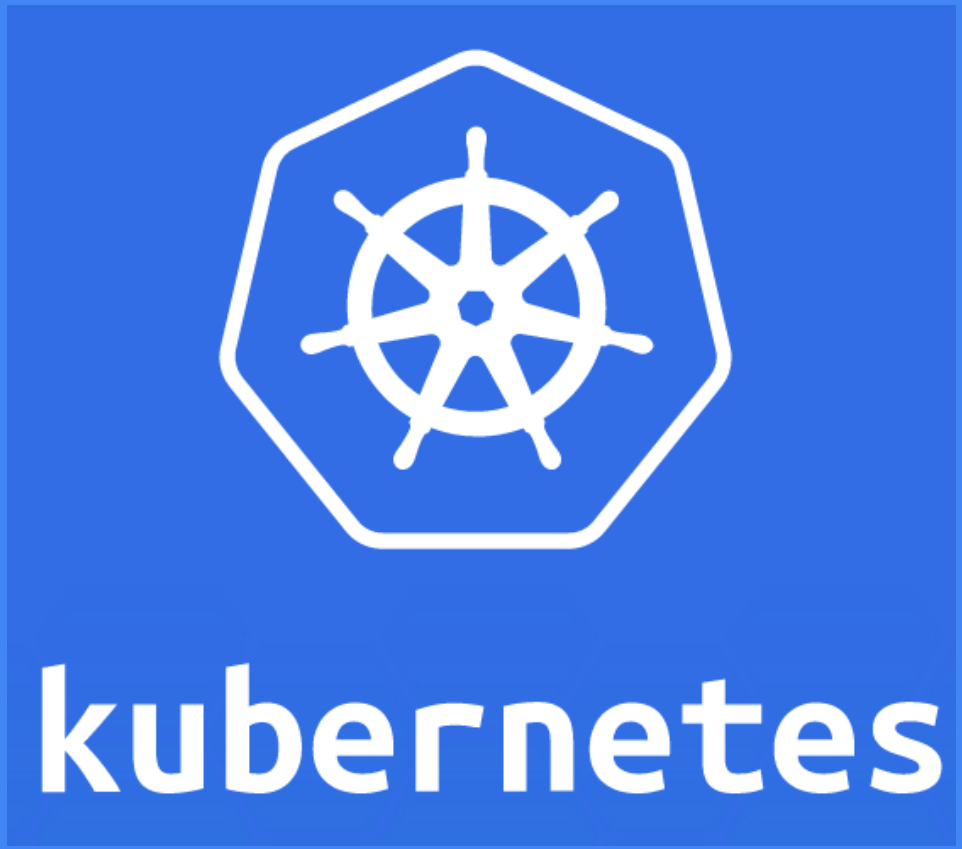

kubernetes

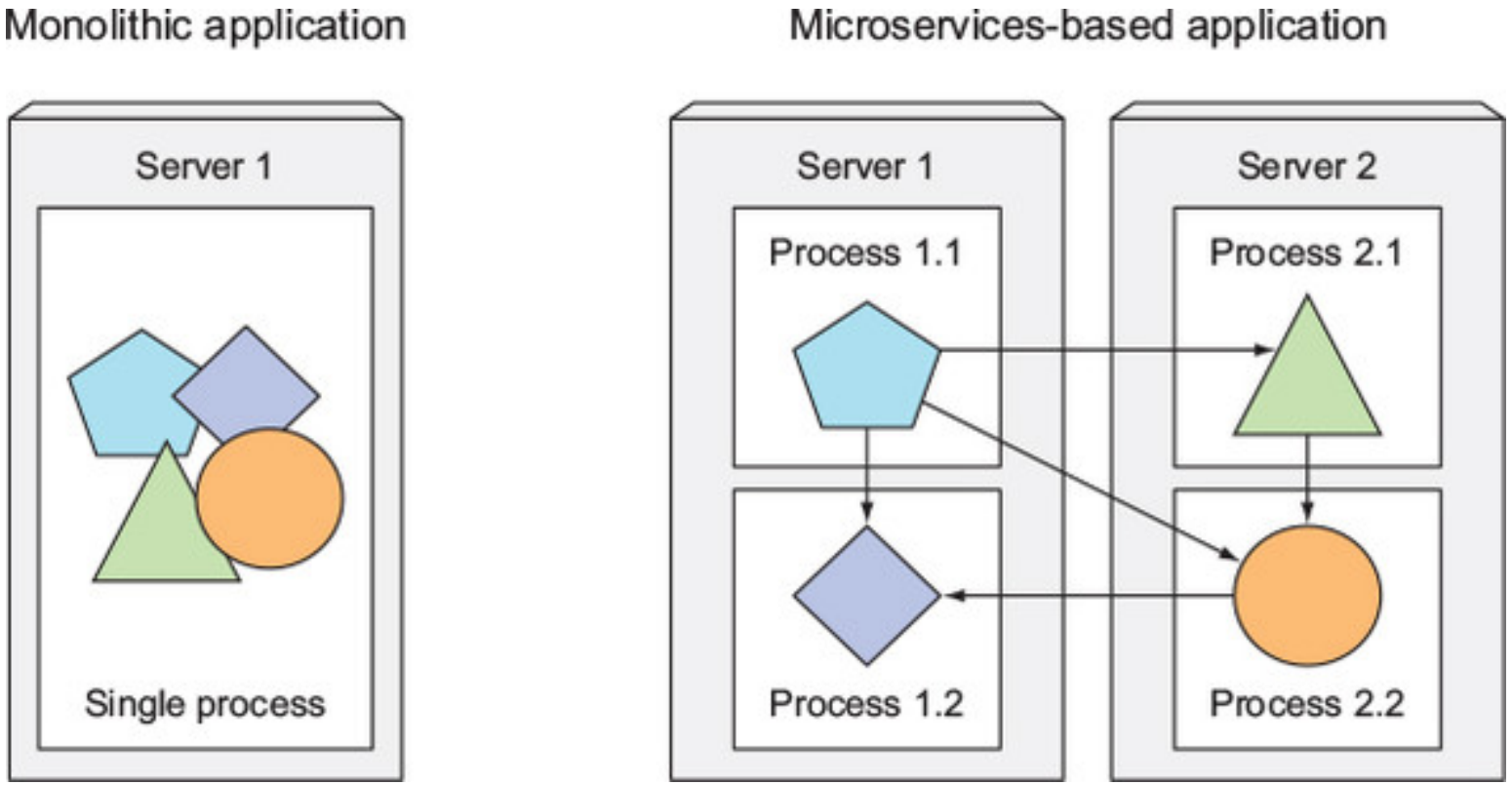
What is Kubernetes

- Kubernetes is a container orchestration tool/platform.
- Used for automating deployment, scaling, and operations of containerized applications.
- Kubernetes is the linux kernel of distributed systems
- Kubernetes supports Containerd (docker), Rkt, Cri-o and other containers

Kubernetes - Overview

- Kubernetes is an open-source system for automating deployment, scaling, and management of containerized applications.
- It groups containers that make up an application into logical units for easy management and discovery.
- Kubernetes automates the distribution and scheduling of application containers across a cluster in a more efficient way.

Evolution on application side



Applications Require:

- Replication of components
- Auto-scaling
- Load balancing
- Rolling updates
- Logging across components
- Monitoring and health checking
- Service discovery
- Authentication

Why Kubernetes ?

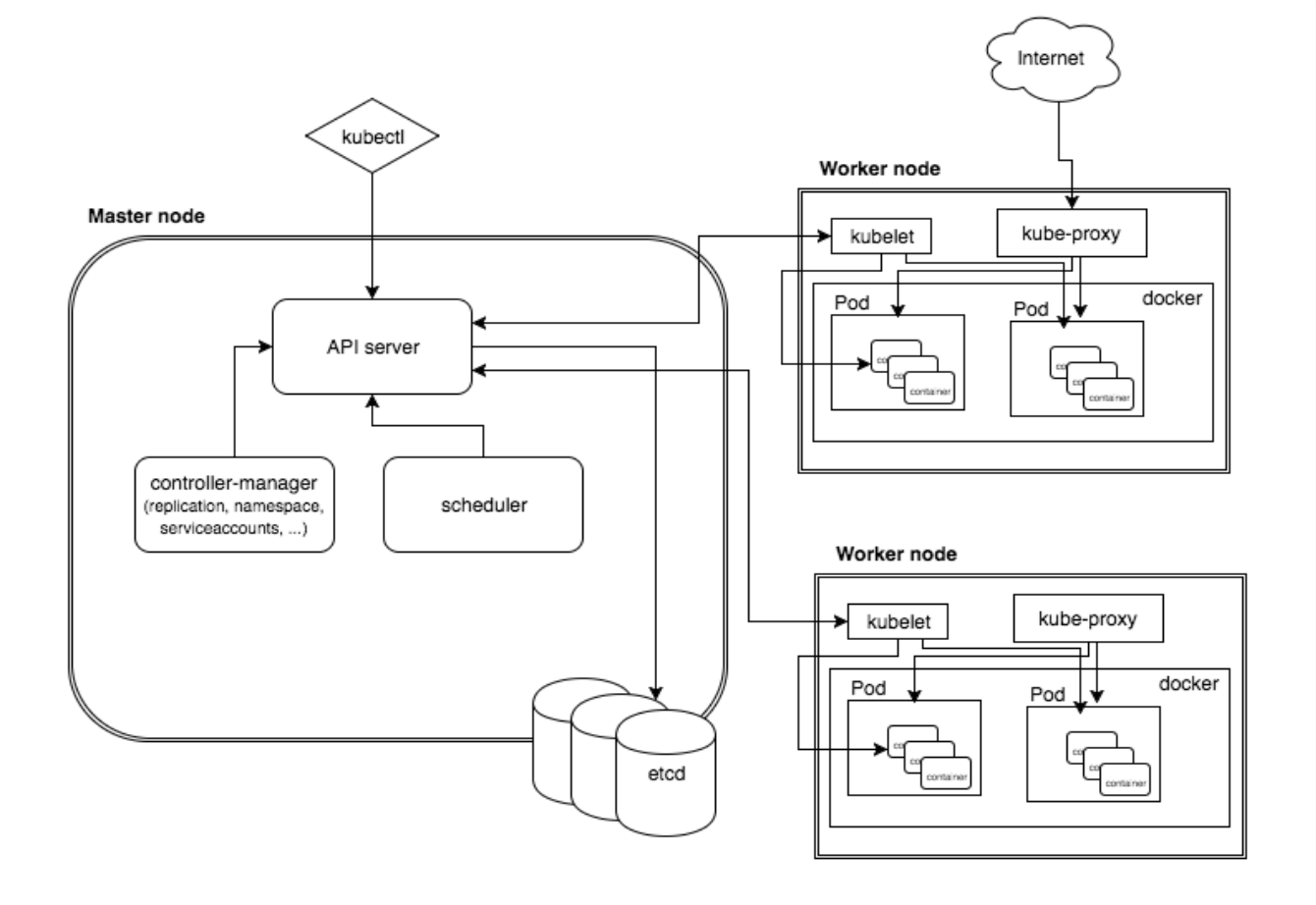
- Free and Open source
- First Graduated project of CNCF
- Community driven
- Running in production
- Modular and extensible
- Hosted and supported by various cloud service providers

Functions of Kubernetes

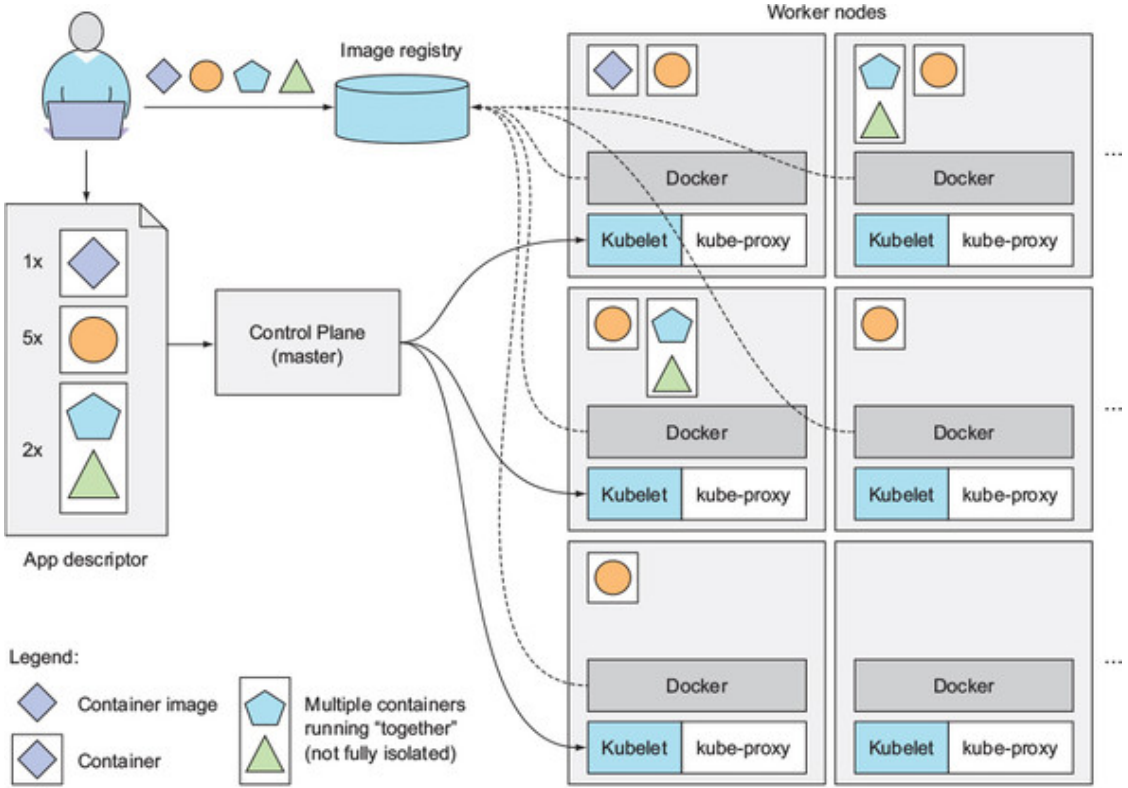
Kubernetes is used to ensure -

- scheduling the deployment of a certain number of containers to a specific node,
- managing networking between the containers,
- following the resource allocation,
- moving them around as they grow and many more.

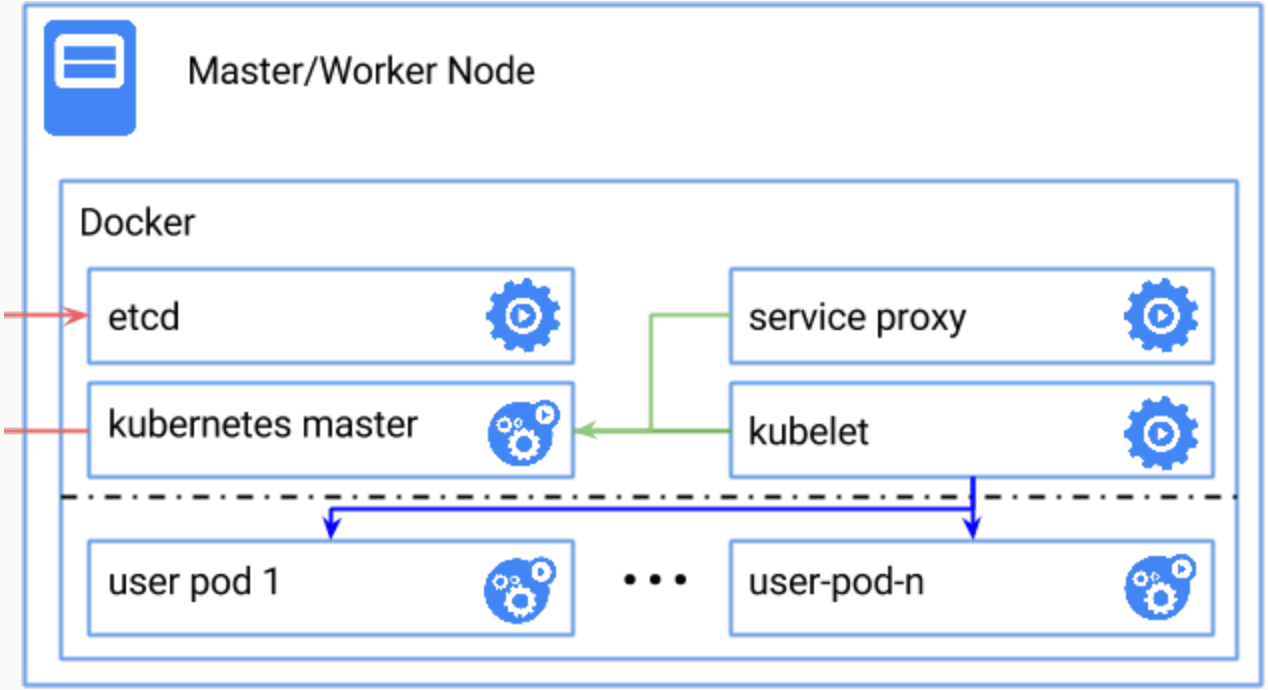
Kubernetes Architecture



How Kubernetes works ?



Kubernetes Single instance setup



Sites

https://dzone.com/articles/kubernetes-twelve-key-features

https://cdn.intellipaat.com/mediaFiles/2019/03/Kubernetes-Cheat-Sheet.jpg

https://dzone.com/articles/terminologies-used-in-kubernetes

https://dzone.com/articles/what-is-kubernetes-container-orchestration-tool?fromrel=true