Kubernetes Concepts Explained

Pod

Pod refers to one or more containers that should be controlled as a single application. A pod encapsulates application containers, storage resources, a unique network ID and other configuration on how to run the containers.

Node

A Node is a worker machine in Kubernetes and may be either a virtual or a physical machine, depending on the cluster. Each Node is managed by the control plane. A Node can have multiple pods, and the Kubernetes control plane automatically handles scheduling the pods across the Nodes in the cluster.

Cluster

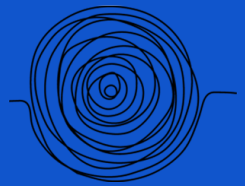
A Kubernetes cluster is a set of nodes that run containerized applications. Kubernetes clusters allow containers to run across multiple machines and environments: virtual, physical, cloud-based, and on-premises. Kubernetes containers are not restricted to a specific operating system, unlike virtual machines. Instead, they are able to share operating systems and run anywhere.

Namespaces

Namespaces are a way to organize clusters into virtual sub-clusters, they can be helpful when different teams or projects share a Kubernetes cluster.

Service

A Kubernetes service is a logical abstraction for a deployed group of pods in a cluster which all perform the same function. Since pods are ephemeral, a service enables a group of pods, which provide specific functions to be assigned a name and unique IP address.



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