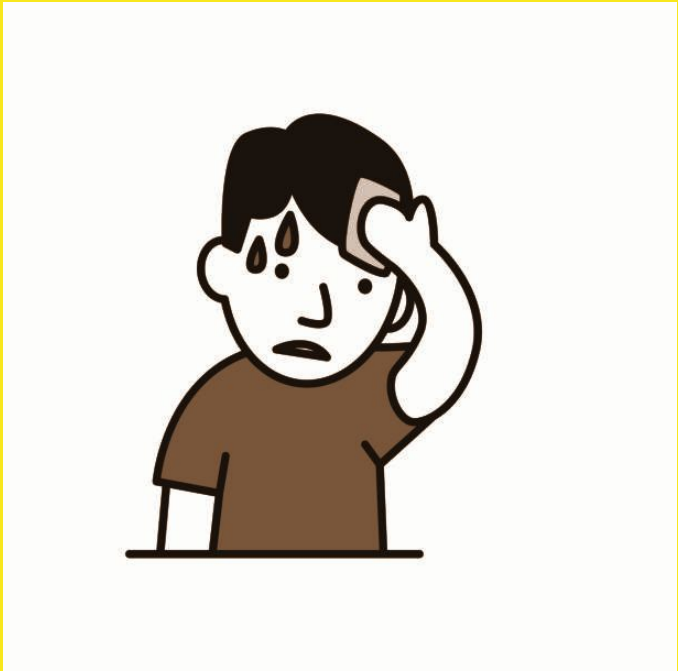
Kubernetes

A Beginners Crash Course

Why do you need Kubernetes?

Managing Cloud Infrastructure optimally is hard. One always has to think about - *Availability, Scalability* and *Integrity* of the whole system.



What does Kubernetes do?

Kubernetes is an orchestration tool to manage your cloud resources. It has a *Declarative API* for Developers to make it easy to interact with the system.

What is a Pod?

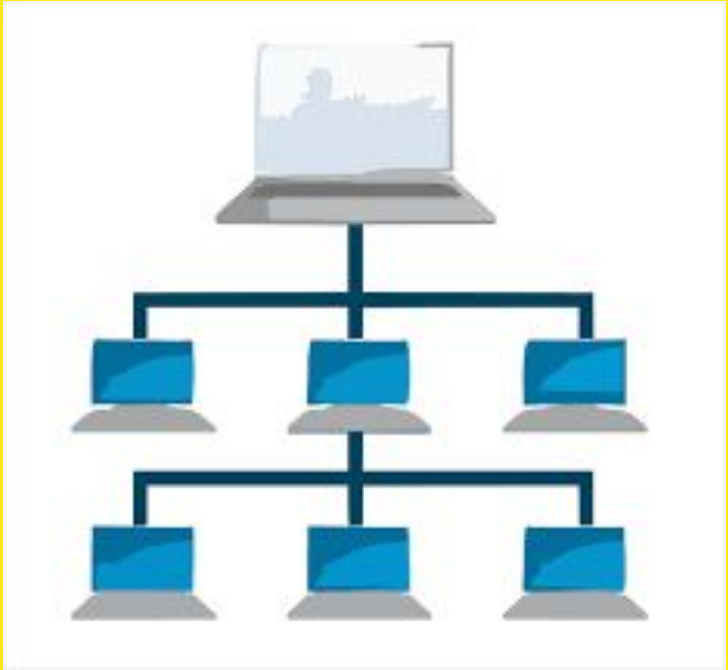
Pod is the smallest unit of computation resource, i.e., CPU and memory inside Kubernetes. It allows you to run one or more *containers* or isolated processes in it.

What's inside a Pod?

Pod have its own file system and a network. Each *pod* is assigned an IP Address. *Containers* within a pod can share files and network since they live on the same.

How to connect with a Pod?

Kubernetes has a resource called *Service* that provide us a Gateway to interact with these *pods*. *Services* always have fixed IP Address making it easy for clients to remember.



All in One

One can wrap all these resources inside a *namespace* that provides *Role-based Access Management* to provide additional security. Separate *namespaces* should be used for each environments, users or applications. If not mentioned, resources are created within *default namespace.*

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