



kubernetes

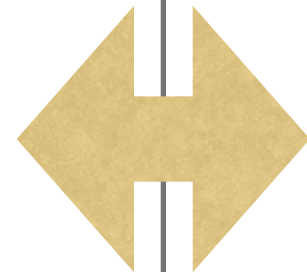
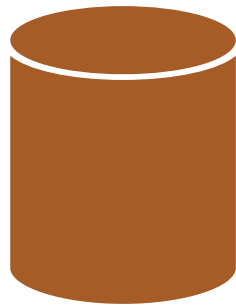
Kubernetes Introduction

Learn Kubernetes by Doing : K8s Hard Way

➤ Kubernetes Introduction-

- Kubernetes is **Open Source** Orchestration system for Docker Containers.
- Kubernetes Implemented by **Google**.
- Kubernetes is a platform that eliminates the manual processes involved in **deploying containerised applications**.
- Kubernetes used to manage the **State of Containers**.
 - Start Containers on Specific Nodes.
 - Restart Containers when gets Killed.
 - Move containers one Node to Another.

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Multiple Services

Running Inside Containers

Increase the Human
Cost of Running
Service

Increase the Bills
from Cloud Service
Provider

Increase Complexity
of Infrastructure

Scaling was very
Difficult

Setting Up Services
Manually

Manual Fix if any
Node is Crashed

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➤ Features of Kubernetes -

- **Automated Scheduling** : Kubernetes provides advanced scheduler to launch container on cluster nodes based on their resource requirements and other constraints.
- **Healing Capabilities**: Kubernetes allows to replaces and reschedules containers when nodes die. Kubernetes doesn't allow Containers to use, until they get ready.
- **Auto Upgrade and RollBack** : Kubernetes rolls out changes to the application or its configuration.
Monitoring Application ensure that Kubernetes doesn't kill all Instance at that time.
If something goes wrong, with Kubernetes you can rollback the change.

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➤ Features of Kubernetes -

- **Horizontal Scaling** : Kubernetes can scale up and scale down the application as per the requirements with a simple command, using a UI, or automatically based on CPU usage.
- **Storage Orchestration** : With Kubernetes, you can mount the storage system of your choice. You can either opt for local storage, or choose a public cloud provider.
- **Secret & Configuration Management** : Kubernetes can help you deploy and update secrets and application configuration without rebuilding your image and without exposing secrets in your stack configuration.

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➤ **You can Run Kubernetes Anywhere:**

On-Premise(Own DataCenter)

Public Cloud(Google, AWS, Azure, DigitalOcean...)

Hybrid Cloud

Will see you in Next Lecture...

Thank you!

A close-up photograph of a hand holding a black marker, completing the cursive word 'Thank you!' on a white surface. The hand is positioned on the right side of the frame, with the index and thumb fingers visible, holding the marker. The marker's tip is just finishing the exclamation mark. The background is a plain, light-colored surface.

See you in next lecture ...