Kubernetes for Developers: Moving to the Cloud

MOVING KUBERNETES TO THE CLOUD

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Cloud Service Provider

Physical building, power, cooling

Machines, network infrastructure

Physical and virtual security

Staff to monitor and maintain

Kubernetes in the Cloud

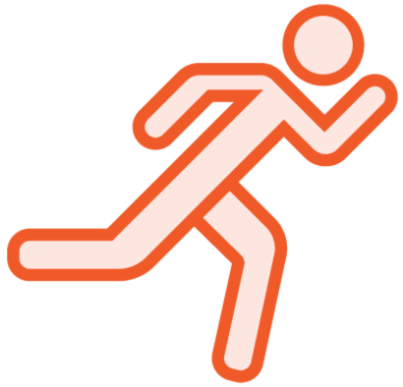
Kubernetes on Cloud Machines

Set up and manage the Kubernetes infrastructure yourself

Managed Kubernetes

Cloud provider manages Kubernetes infrastructure—you simply use it

Why Managed Kubernetes?



Speed

Simplicity

Scale

Cloud

- Pay as you go
- No upfront cost
- Scale down as needed

Managed Kubernetes

- No charge for Master on some providers

Serverless Node Pool

- Pods given resources on demand
- No VMs to manage

Reserved Instances

- Reduced hourly rate for nodes
- Can significantly reduce costs

Cloud Providers

Covered in alphabetical order by the name of their Managed Kubernetes service

Azure

Azure Kubernetes Service (AKS)

AWS

Elastic Kubernetes Service (EKS)

Google

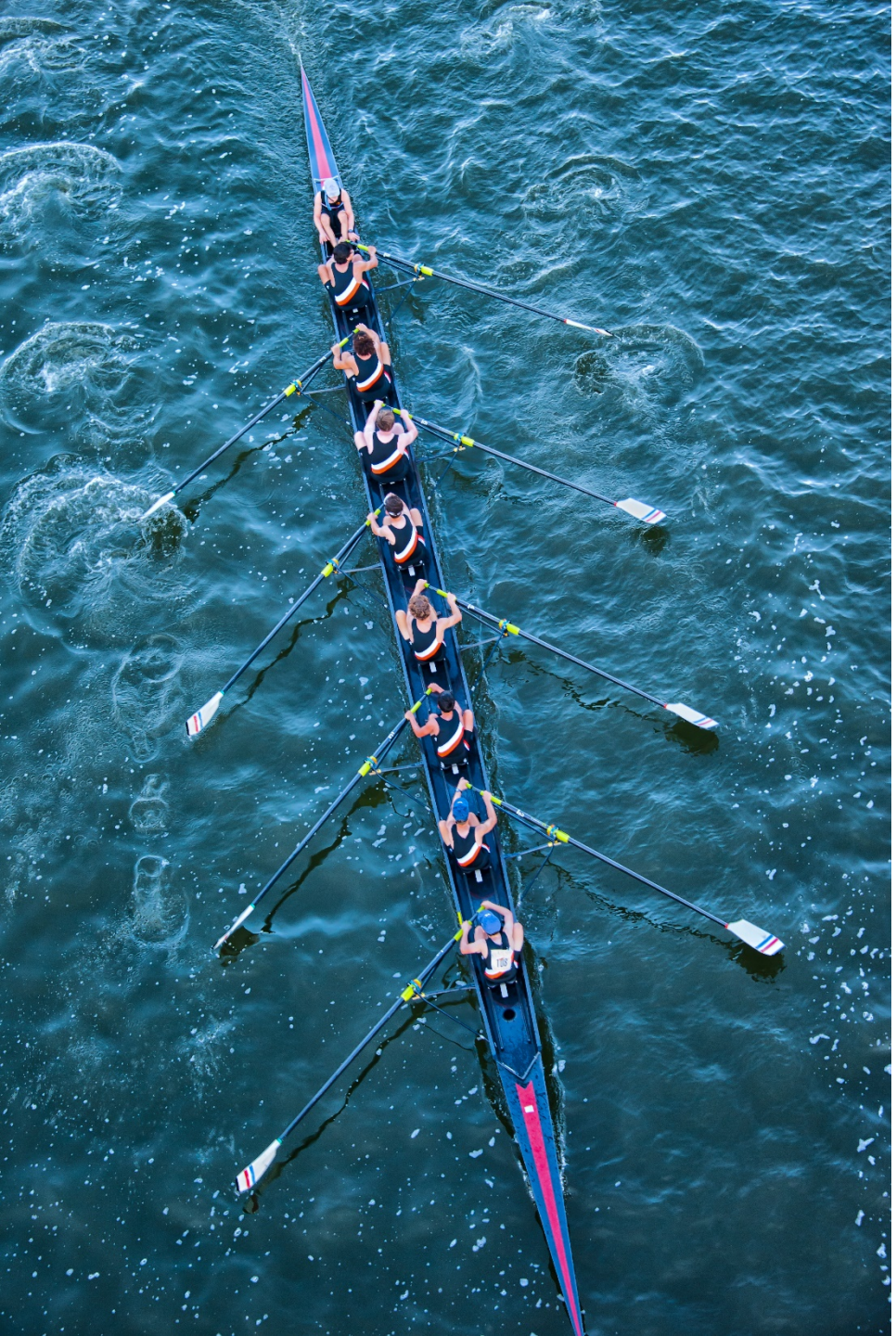
Google Kubernetes Engine (GKE)

Demo

Download and run the sample app

Build Docker image

Run container locally



Are you already using a cloud provider?

- Leverage and expand existing skills

Is there a unique requirement?

- Geographic locations
- High availability configurations
- Specialized node types
- Storage options

Prototype and compare!

Ease of Use

How easy is it for you to:

- Create cluster
- Configure kubectl
- Manage node pools
- Push and update images
- Monitor
- Delete cluster

Features of Command Line Interface (CLI)

Demo Flow

Prepare & Create

Create account

Set up CLI

Create cluster

Configure kubectl

Use & Update

Push image to registry

Deployment

Scale pods and nodes

Update app

Web Console

Container Registry

Cluster and node pools

Monitoring

Billing

Summary

Running in the cloud

Evaluating cloud options

Ready to see it in action

- AKS
- EKS
- GKE