Running Containers on Azure Kubernetes Service

Mark Heath
MICROSOFT AZURE MVP

@mark_heath https://markheath.net

Azure Container Instances (ACI)

Azure Web App for Containers

Azure Service Fabric

Azure Kubernetes Service (AKS)

Overview

Orchestrators

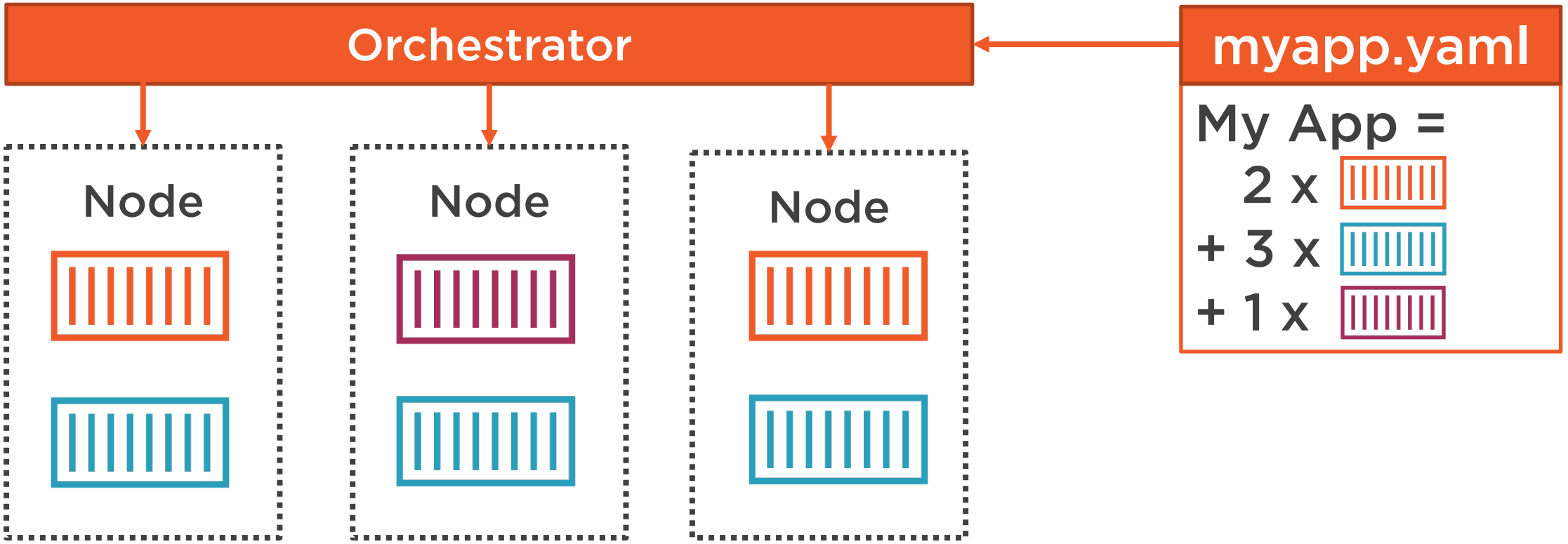
Kubernetes basics

Azure Kubernetes Service (AKS)

Demos

- Create an AKS cluster
- Deploy apps with kubectl
- Scaling

Orchestrators



Health monitoring | Self-healing | Upgrades | Scaling

Resource constraints | Networking | Service discovery | Ingress

Kubernetes Basics

A “production grade container orchestration system”

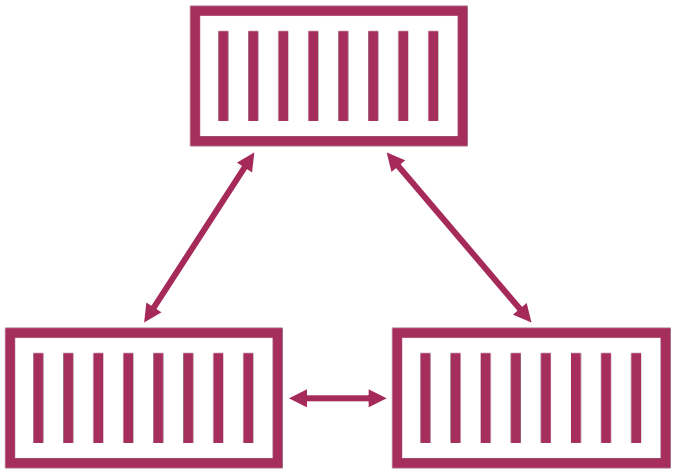
Cluster

- Master nodes schedule containers
- Worker nodes run containers

kubectl

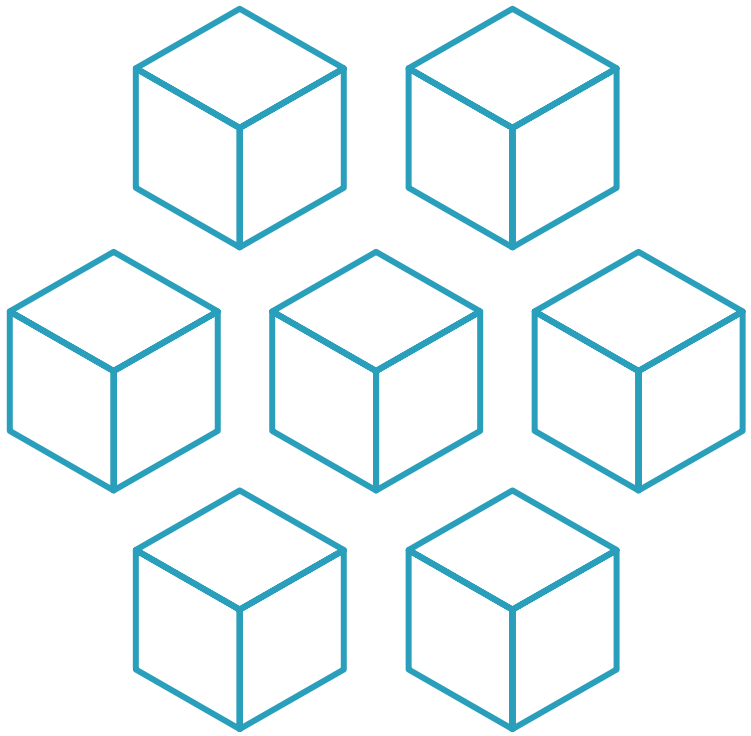
- Command line tooling

Kubernetes Concepts



- Pod – one or more containers
- ReplicaSet – multiple instances of a pod
- Deployment – running code on Kubernetes
- Service - load balancing
- Namespaces – isolation
- YAML – declarative deployments
- Helm – package manager for Kubernetes

Azure Kubernetes Service (AKS)



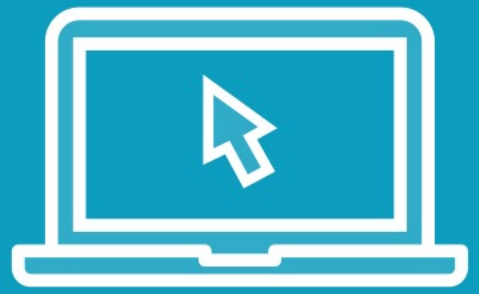
Managed Kubernetes cluster

- Control plane is free
- Only pay for worker nodes
- Simplified version upgrades
- 100% upstream Kubernetes

Integration with Azure Services

- Azure Monitor
- Mount Azure file shares or disks
- Secure with RBAC and AD
- Virtual network integration
- Elastic scale with ACI
- Develop and debug with Dev Spaces

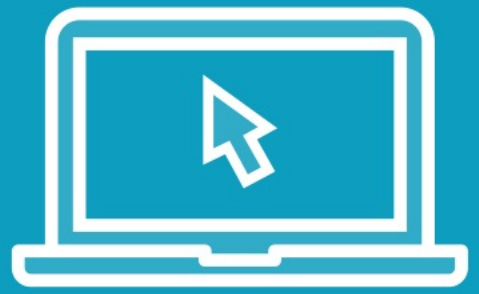
Demo



Create an AKS cluster

- Azure portal
- Azure CLI
- kubectl

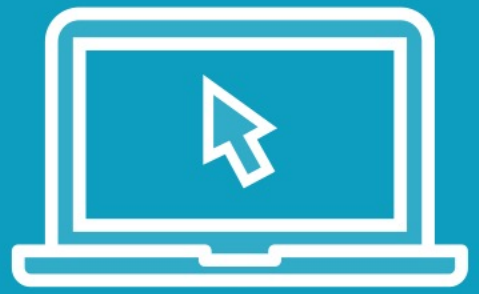
Demo



Deploy an application to AKS

- kubectl
- YAML
- View container logs

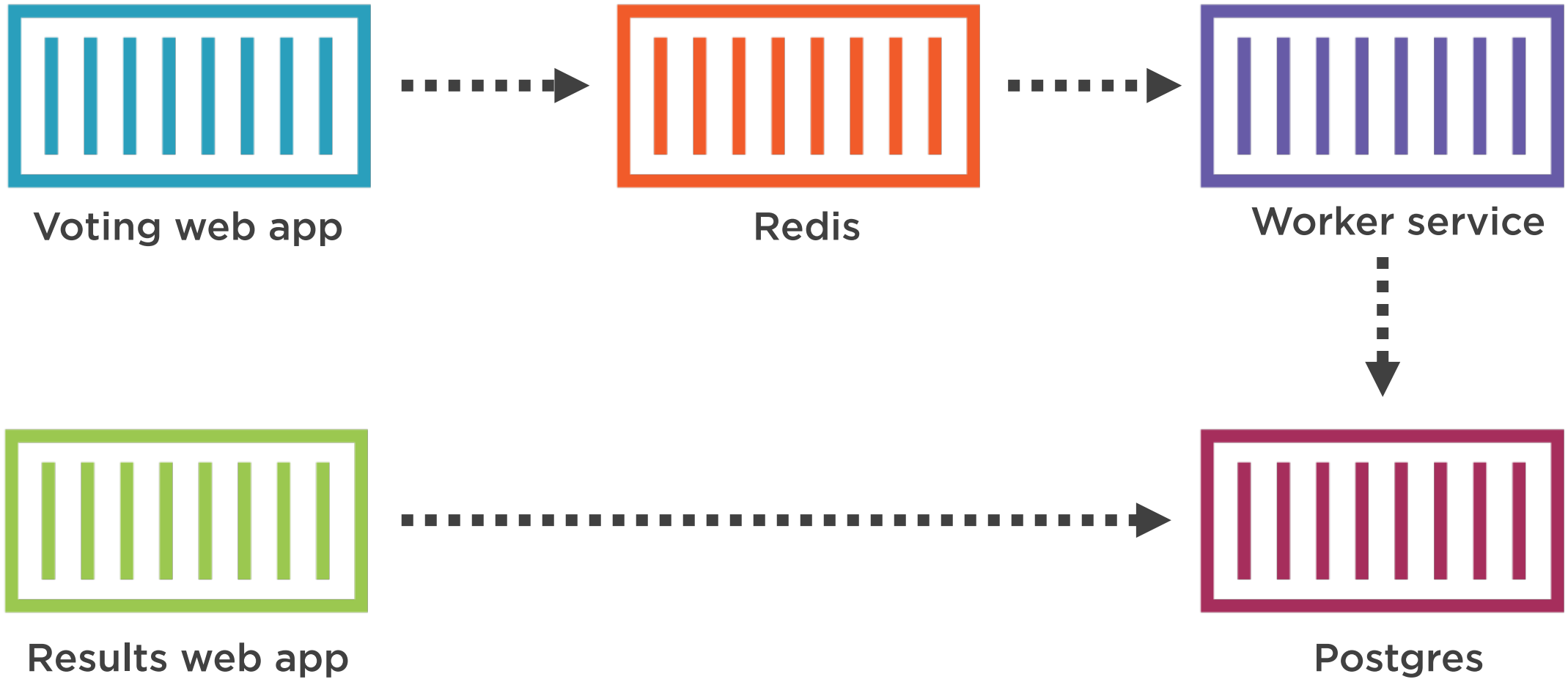
Demo



Scaling AKS

- Scale cluster
- Scale a microservice
- View the Kubernetes dashboard

Demo Voting Application



https://github.com/dockersamples/example-voting-app

Choosing an Orchestrator

Azure Service Fabric

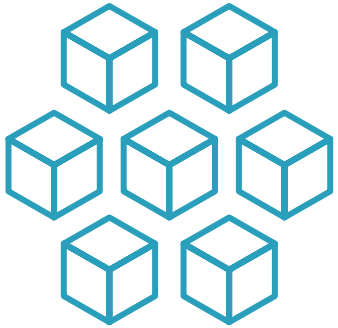
Azure Kubernetes Service

Both are excellent orchestrators!

✓ Scheduling ✓ Upgrades ✓ Health monitoring ✓ Service discovery

- Windows
- Stateful services

- Vast tooling ecosystem
- Other clouds
- Virtual Nodes
- Bridge to Kubernetes



Summary

Azure Kubernetes Service

- Managed Kubernetes cluster
- Pods, deployments, services
- kubectl

Create an AKS cluster

- az aks create

Deploy applications

- kubectl apply

Scale clusters and services

Azure Kubernetes Service (AKS) – The Big Picture

by Manoj Nair

AKS offers a managed Kubernetes Platform on Microsoft Azure. This course will teach you the basics of Kubernetes; deploy an AKS Cluster; and run, scale and update application code in AKS with minimal effort.

Resume Course | Bookmarked | Add to Channel

Table of contents | Description | Transcript | Exercise files | Discussion | Learning Check | Recommended

Expand all

Course Overview	✓		1m 53s
What Is Azure Kubernetes Service (AKS)?	✓		46m 50s

Course author

Manoj Nair

With a Bachelor of Engineering (IT) from Mumbai University, Manoj is currently working with Microsoft Australia as a Cloud Solutions Architect. In his current role, he enables Cloud and Enterprise...

Course info

Level	Beginner
Rating	★★★★½ (40)
My rating	★★★★★
Duration	1h 34m
Released	13 Aug 2018

Share course

Up next:
Securing containers