Accessing Applications Deployed in AKS

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Course Overview

Designing and Configuring Networking in AKS

Accessing Applications Deployed in AKS

Designing and Configuring AKS for Business Continuity

Overview

Deploy Services To Access Applications in AKS

Create Services for Application Access

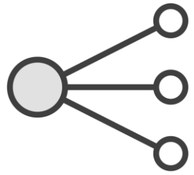
Ingress Controllers

Deploy Services To Access Applications in AKS

Persistent endpoint access for clients

Adds persistency to the ephemerality of Pods

Networking abstraction providing persistent virtual IP and DNS



Load balances to the backend Pods

Automatically updated during Pod controller operations

Service Types

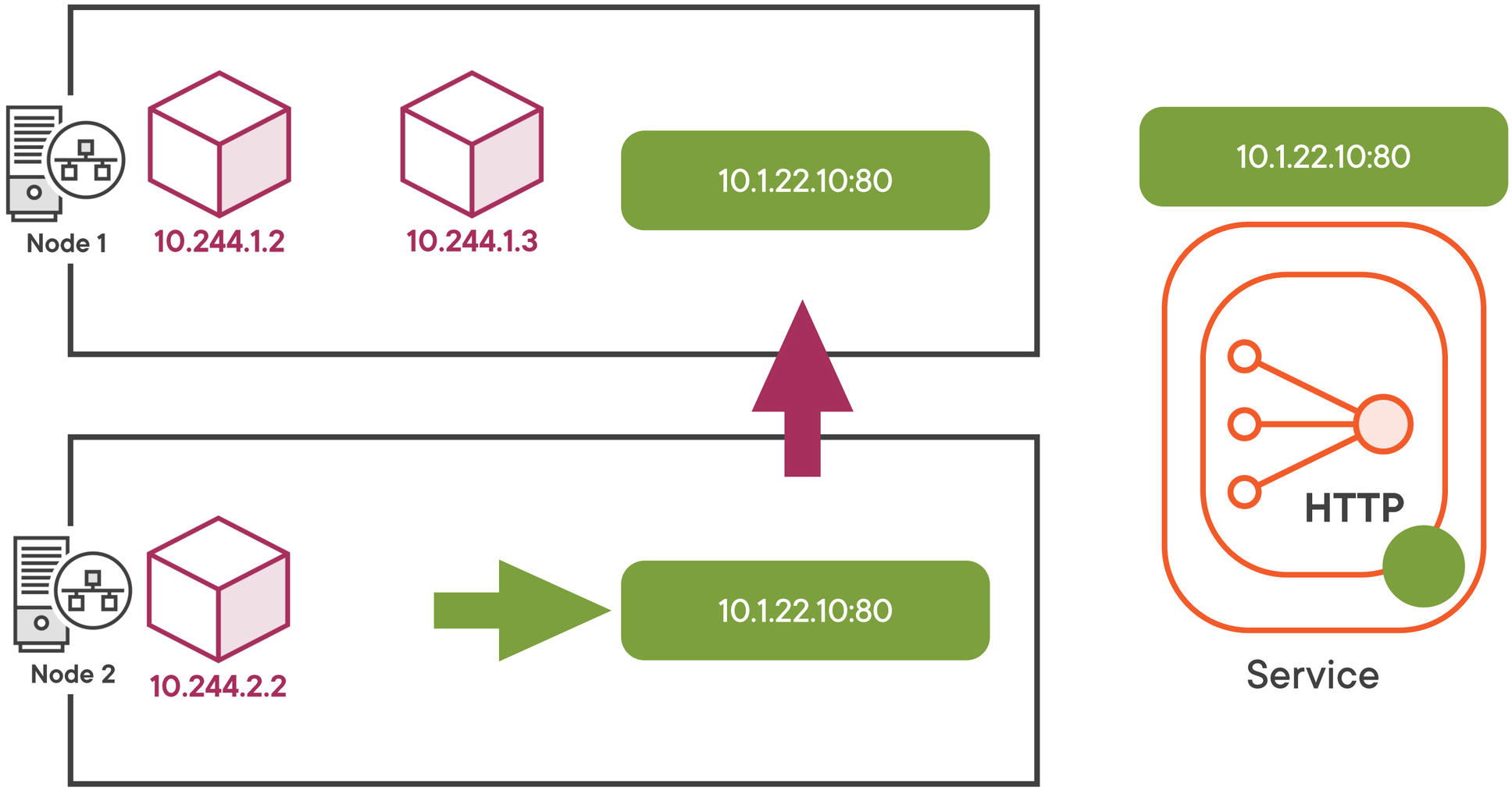
ClusterIP

NodePort

LoadBalancer

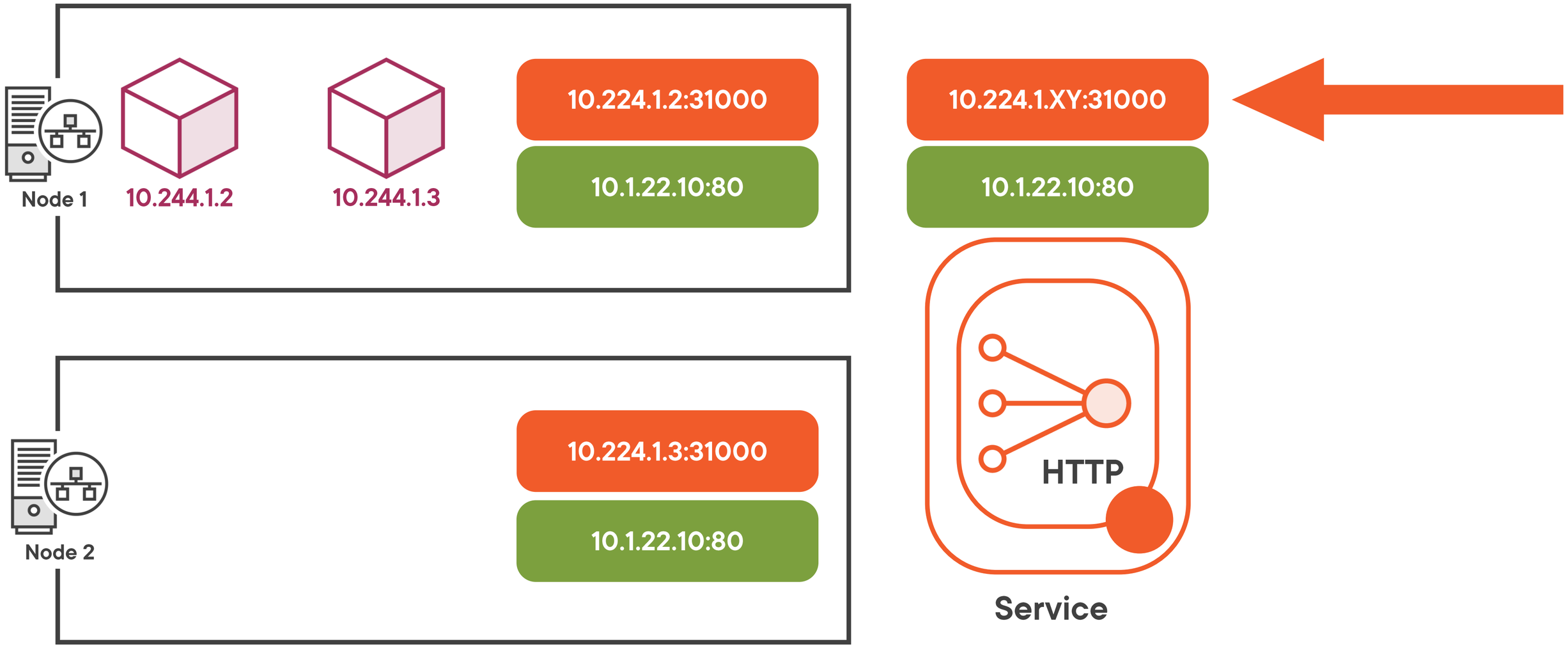
ExternalName

ClusterIP

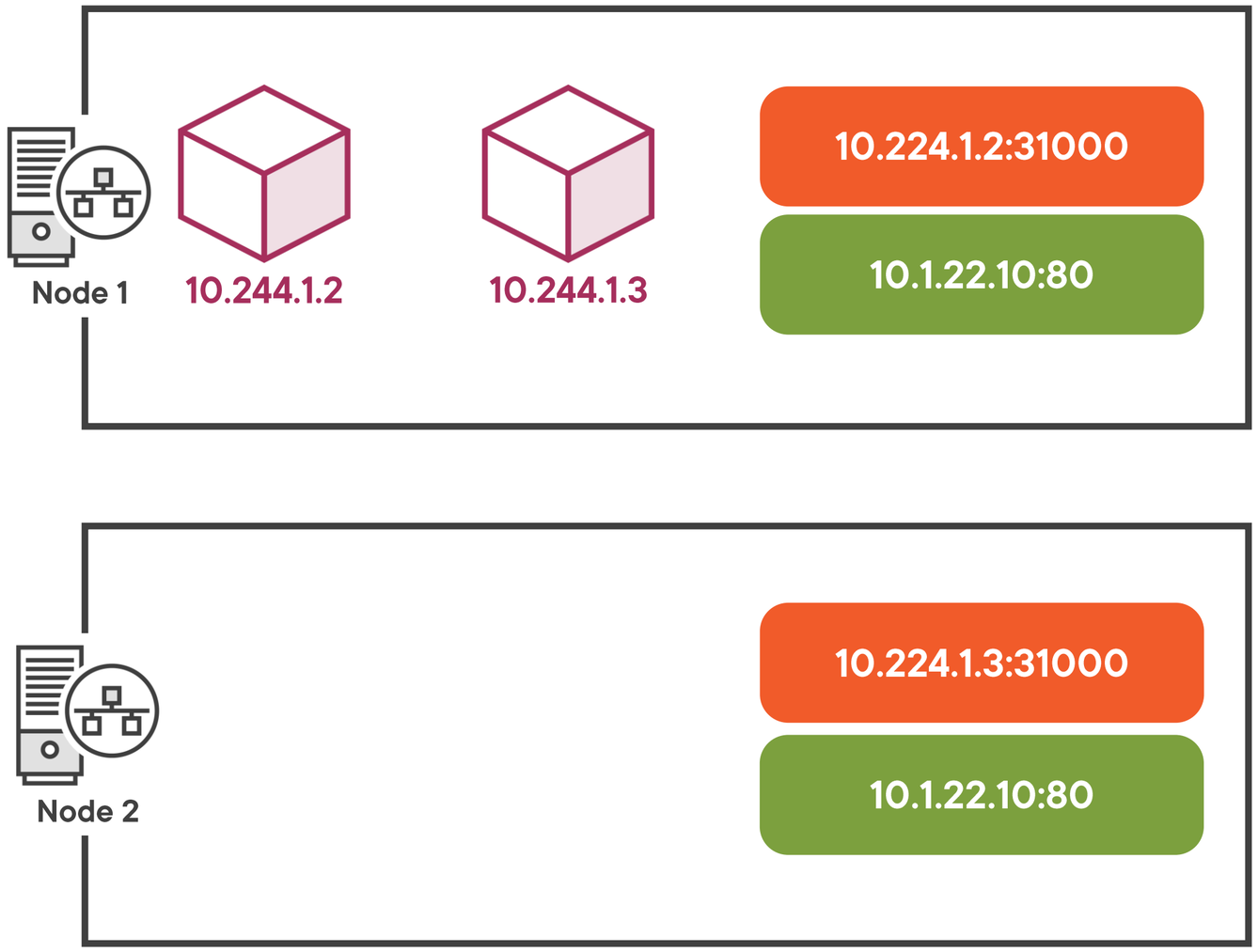

Node 1
10.244.1.2
10.244.1.3
10.1.22.10:80
Node 2
10.244.2.2
10.1.22.10:80

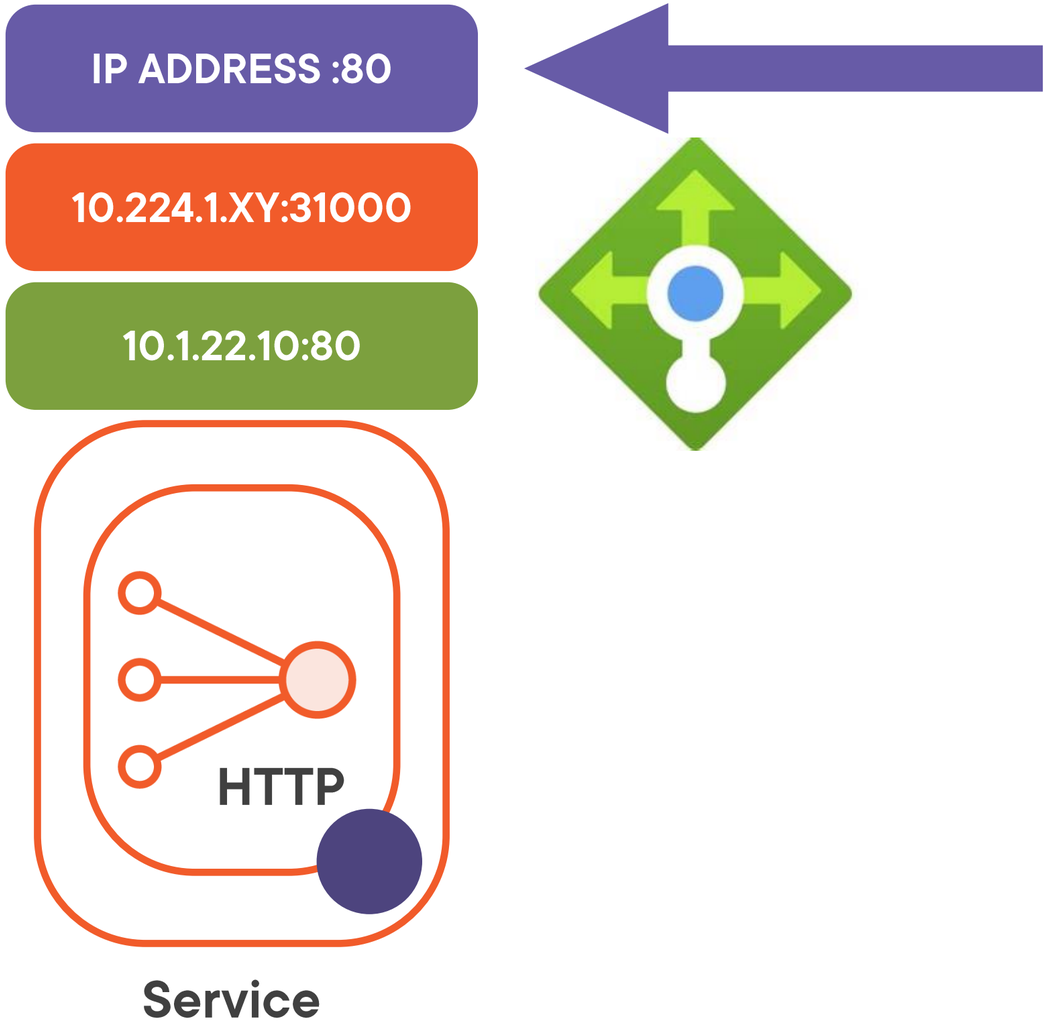
10.1.22.10:80
HTTP
Service

NodePort


Node 1
10.244.1.2
10.244.1.3
10.224.1.2:31000
10.1.22.10:80
10.224.1.XY:31000
10.1.22.10:80
HTTP
Service
Node 2
10.224.1.3:31000
10.1.22.10:80

LoadBalancer



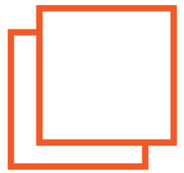


Demo

Create a Load Balancer Service for application access

Investigating Azure Load Balancer in AKS

Accessing Applications with Ingress

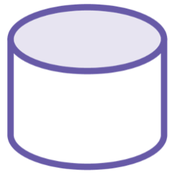


Layer 7

Higher level capabilities

URL and Path-based Routing

Name-based Virtual Hosts



Single Resource

Ingress Choices in AKS

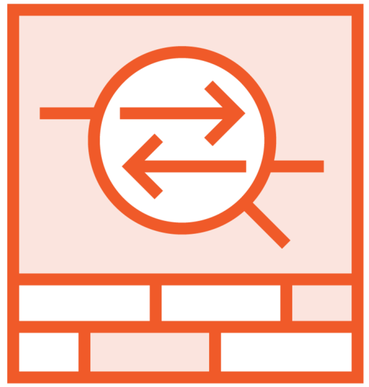
Application Gateway Ingress Controller (AGIC)

HTTP Routing

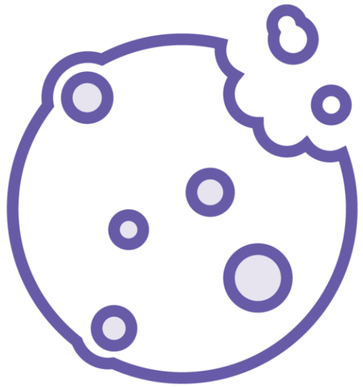
NGINX (and others)

Key Features of Application Gateway (AppGW)

TLS Termination



Web Application Firewall

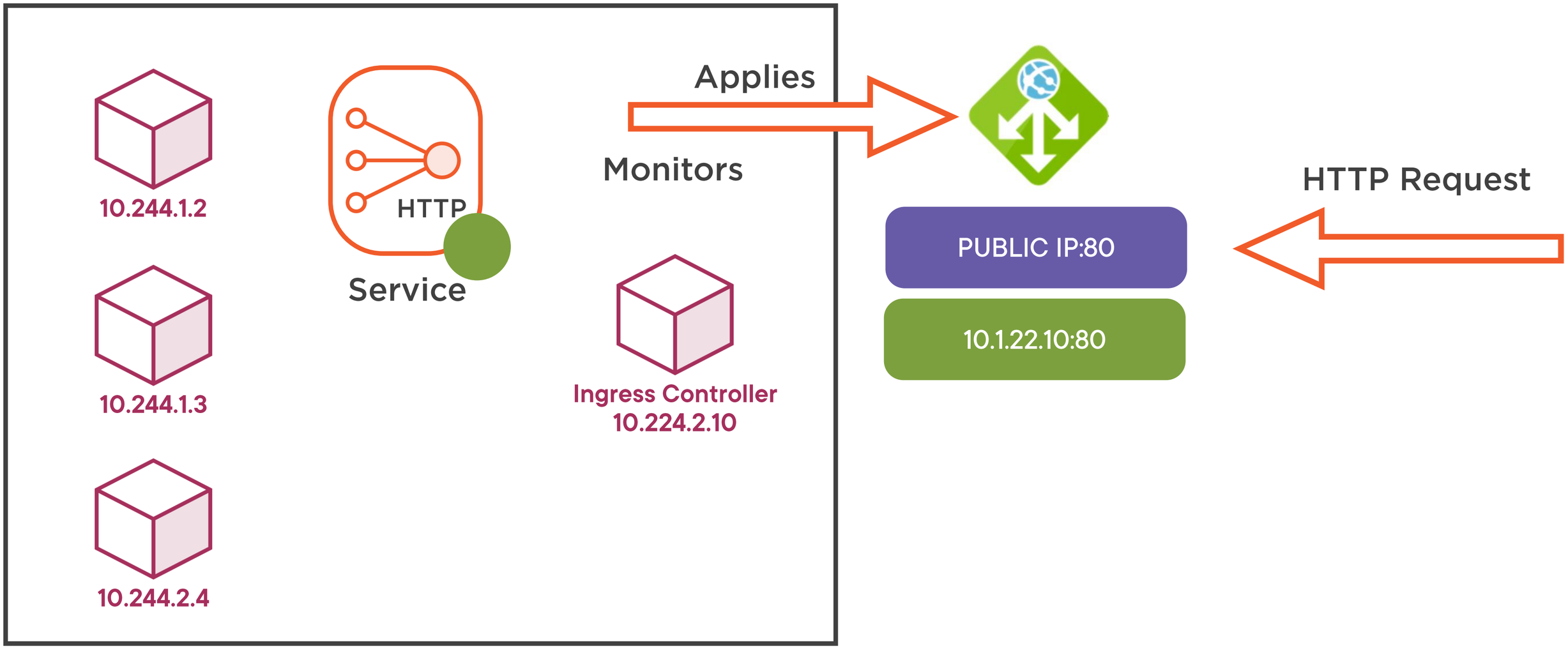


Cookie-based Affinity

Higher Performance

https://docs.microsoft.com/en-us/azure/application-gateway/overview

Application Gateway Ingress Controller



Deploy AppGW Ingress Controller

```
az aks create \
    --resource-group AKS-AppGW  \
    --name AKSClusterAppGW \
    --network-plugin azure \
    --enable-managed-identity \
    --enable-addon ingress-appgw \
    --appgw-name aks-appgw \
    --appgw-subnet-cidr "10.225.0.0/16" \
    --generate-ssh-keys
```

Virtual Network 10.224.0.0/12

Node Subnet 10.224.0.0/16

https://docs.microsoft.com/en-us/azure/application-gateway/tutorial-ingress-controller-add-on-existing

Demo

Deploy a cluster with an AppGW Ingress Controller

Deploy and access and application using Ingress

Summary

Deploy Services To Access Applications in AKS

Create Services for Application Access

Ingress Controllers

Up Next:

Designing and Configuring AKS for Business Continuity