Deploying a Microservice Application on AKS & Accessing It Publicly

Prerequisites

- Azure Subscription

- AKS Cluster deployed and kubectl configured

- Docker image of your microservice (public or uploaded to Azure Container Registry)

- Sample microservice image: nginxdemos/hello

Step 1: Connect to AKS Cluster

Open PowerShell or Bash terminal:

az aks get-credentials --resource-group <your-resource-group> --name <your-aks-cluster-name>

Step 2: Create Deployment for Microservice

kubectl create deployment hello-app --image=nginxdemos/hello

Replace the image with your own microservice image if needed.

Step 3: Expose the Deployment Using a LoadBalancer Service

kubectl expose deployment hello-app --type=LoadBalancer --port=80 --target-port=80

This creates a Kubernetes service that exposes the app to the internet.

Step 4: Wait for External IP Allocation

Run the following to check if the external IP is assigned:

kubectl get service hello-app

We'll see output like:

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
hello-app	LoadBalancer	10.0.177.2	20.185.45.113	80:31234/TCP	1m

Note: It may take a few minutes for the EXTERNAL-IP to be assigned.

Step 5: Access the Application

Open your browser and go to:

http://<EXTERNAL-IP>

You should see the response from your microservice (e.g., Hello from Nginx demo).

Step 6: Monitor Deployment & Logs (Optional)

Check the status of pods:

kubectl get pods

View logs of the pod:

kubectl logs <pod-name>

Step 7: Scale the Application (Optional)

To scale to 3 replicas:

kubectl scale deployment hello-app --replicas=3

Step 8: Clean Up (Optional)

To delete the service and deployment:

kubectl delete service hello-app

kubectl delete deployment hello-app

Summary

Task	Command
Create Deployment	kubectl create deployment hello-app --image=nginxdemos/hello
Expose Deployment	kubectl expose deployment hello-app --type=LoadBalancer --port=80
Get External IP	kubectl get service hello-app
Scale Pods	kubectl scale deployment hello-app --replicas=3
Delete Resources	kubectl delete service hello-app && kubectl delete deployment hello-app