README

Ingress Controller Project This folder contains Kubernetes manifests for: - `nginx` Deployment with 3 replicas - `apache` Deployment with 3 replicas - `vinodhconnects/node-app-website` Deployment with 3 replicas (container port `3000`) - ClusterIP Services for all three apps - One Ingress resource to expose all three services Files `nginx-deployment.yaml` `apache-deployment.yaml` `node-app-website-deployment.yaml` `nginx-service.yaml` `apache-service.yaml` `node-app-website-service.yaml` `ingress.yaml` Apply `bash kubectl apply -f nginx-deployment.yaml kubectl apply -f apache-deployment.yaml kubectl apply -f node-app-website-deployment.yaml kubectl apply -f nginx-service.yaml kubectl apply -f apache-service.yaml kubectl apply -f node-app-website-service.yaml kubectl apply -f ingress.yaml` Or apply all at once: `bash kubectl apply -f .` Ingress paths `/nginx` -> `nginx-service:80` `/apache` -> `apache-service:80` `/node` -> `node-app-website-service:3000` Verify `bash kubectl get deploy,svc,ingress` If you are using NGINX Ingress Controller, ensure it is installed and running before applying `ingress.yaml`. Connect Ingress Controller to MetalLB (`first-pool`) `Ingress` objects do not get external IPs directly. The external IP is assigned to the ingress controller Service (`ingress-nginx-controller`). Patch ingress controller service to `LoadBalancer`: `bash kubectl patch svc ingress-nginx-controller -n ingress-nginx -p "{\"spec\":{\"type\":\"LoadBalancer\"}}"` Attach the controller Service to MetalLB pool `first-pool`: `bash kubectl annotate svc ingress-nginx-controller -n ingress-nginx metallb.universe.tf/address-pool=first-pool --overwrite` Optional: request a fixed external IP from your pool (example): `bash kubectl patch svc ingress-nginx-controller -n ingress-nginx -p "{\"spec\":{\"loadBalancerIP\":\"192.168.49.110\"}}"` Check external IP assignment: `bash kubectl get svc -n ingress-nginx` Test routes: `bash curl http://<EXTERNAL-IP>/nginx curl http://<EXTERNAL-IP>/apache curl http://<EXTERNAL-IP>/node`