Kubernetes Environment Deployment

Overview

This project aims to deploy three separate environments (Production, Development, and Testing) using Kubernetes. Each environment consists of a deployment with five replicas, each configured with resource limits. Additionally, services are created to expose these deployments for local connections. Finally, a fanout Ingress is established to route traffic to the respective services based on specific rules.

Deployments

 Production Environment

-Name: prod-deployment

- Replicas: 5

- Resource Limits:

  - Memory: 128Mi

  - CPU: 500m

Development Environment

- Name: dev-deployment

- Replicas: 5

- Resource Limits:

  - Memory: 128Mi

  - CPU: 500m

Testing Environment

- Name: test-deployment

- Replicas: 5

- Resource Limits:

  - Memory: 128Mi

  - CPU: 500m

Services

Each deployment has a corresponding service to facilitate local connections.

- Production Service
- Development Service
- Testing Service

Ingress

A fanout Ingress is configured to direct traffic to the appropriate service based on defined rules.

- Ingress Name: my-ingress

- Rules:

 1. Path: /production → Service: prod-service

 2. Path: /development → Service: dev-service

 3. Path: /testing → Service: test-service

Conclusion

This project sets up three distinct Kubernetes environments (Production, Development, and Testing), each with its deployment, service for local connections, and a fanout Ingress

to manage incoming traffic effectively. With resource limits defined for each deployment, the project ensures efficient resource allocation and management within the Kubernetes cluster.