Minikube

Your own local Kubernetes Cluster

Lab 1 - Getting Started with Minikube

🎯 **Objective:**

- Deploy a sample application to Minikube using a test container image
- Run the app, view logs, access via LoadBalancer, and explore dashboard and addons

🛠️ **Steps**

1. **Start Minikube**

```
minikube start
```

2. **Open the Dashboard (optional)**

In a new terminal:

```
minikube dashboard
```

This opens the Kubernetes web UI and runs a proxy.

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3. **Create a Deployment**

```
kubectl create deployment hello-node --image=registry.k8s.io/e2e-test-images/agnhost:2.39 -- /agnhost netexec --http-port=8080
```

Check deployment status:

```
kubectl get deployments
kubectl get pods
```

4. **View Pod Logs**

Get the pod name:

```
kubectl get pods
```

Then:

```
kubectl logs <your-pod-name>
```

You should see:

```
Started HTTP server on port 8080
```

5. **Expose the Pod with a LoadBalancer Service**

```
kubectl expose deployment hello-node --type=LoadBalancer --port=8080
```

Check the service:

```
kubectl get services
```

On Minikube, access the app using:

```
minikube service hello-node
```

6. **View Cluster State and Config**

```
kubectl get events
kubectl config view
```

7. **Enable an Addon**

```
minikube addons enable metrics-server
kubectl get pod,svc -n kube-system
kubectl top pods
```

8. **Clean Up**

```
kubectl delete service hello-node
kubectl delete deployment hello-node
minikube stop
# Optional
minikube delete
```