

PROJECT 3: DEPLOY A MULTI-TIER WEB APPLICATION ON KUBERNETES

✂ Prerequisites

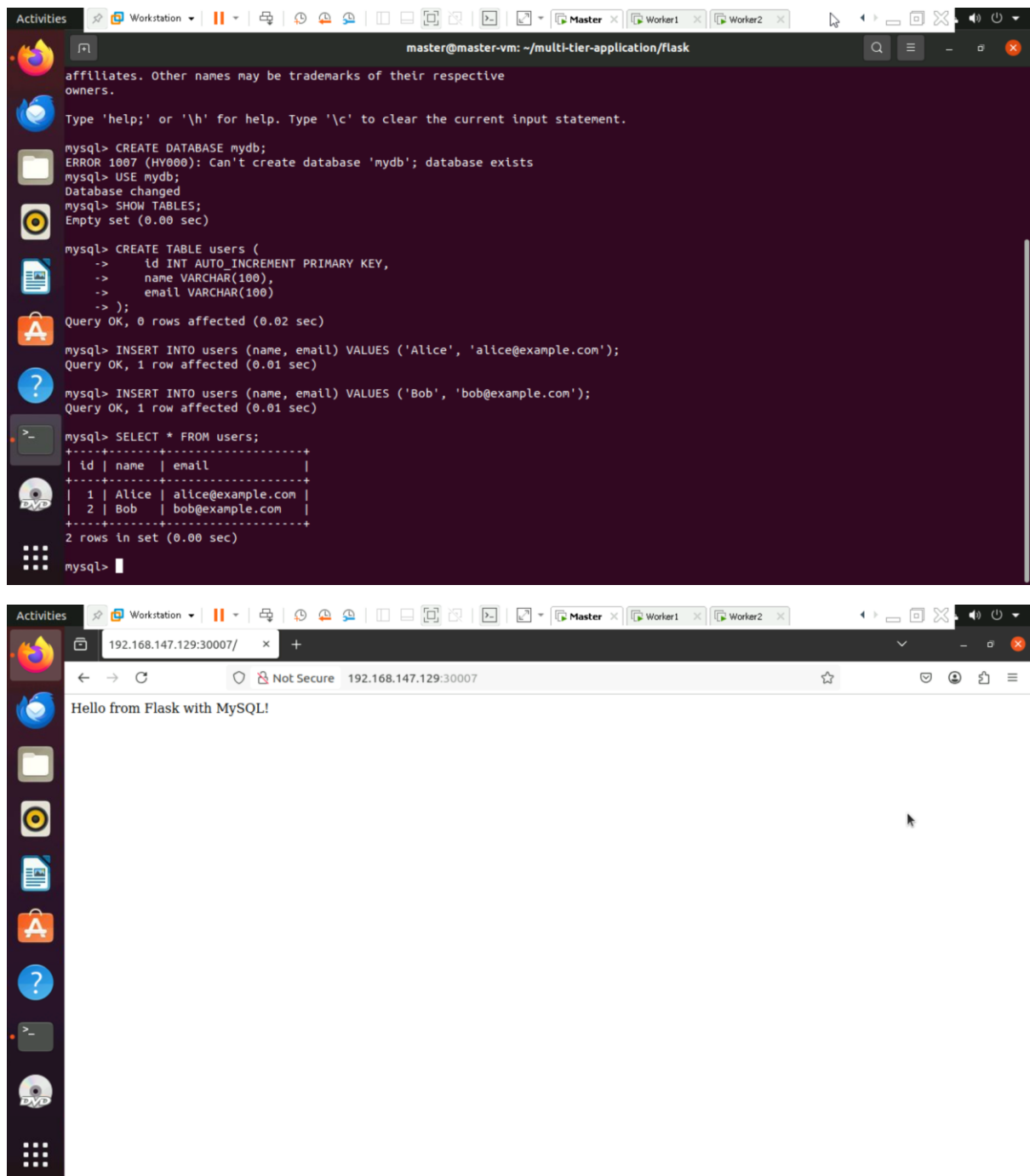
- Kubernetes Cluster (minikube/kubeadm)
- Docker
- kubectl CLI

Folder Structure & File Usages

k8s-project/

- |— mysql/ # MySQL Database Configuration
 - | — mysql-pv.yaml # Persistent Volume for MySQL Data Storage
 - | — mysql-secret.yaml # Stores MySQL Root Password Securely
 - | — mysql-deployment.yaml # Deploys MySQL Database as a StatefulSet
- |— flask/ # Flask Backend Configuration
 - | — app.py # Flask API Code to Handle Requests
 - | — Dockerfile # Flask App Containerization Instructions
 - | — requirements.txt # Dependencies for Flask
 - | — flask-deployment.yaml # Deploys Flask Application
 - | — flask-service.yaml # Exposes Flask App as a Cluster Service
- |— nginx/ # Nginx Configuration
 - | — nginx-configmap.yaml # Reverse Proxy Configuration for Flask
 - | — nginx-deployment.yaml # Deploys Nginx
 - | — nginx-service.yaml # Exposes Nginx via NodePort

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