DevOps Assignment

Multi-Container Application Deployment with Docker Compose and Kubernetes

Here is the repo :

- Backend: https://github.com/Anand-1432/Techdome-backend
- Frontend: https://github.com/Anand-1432/Techdome-frontend

Task:

- Build a multi-container application with at least 3 containers (e.g., frontend, backend, database).
- Use Docker Compose to define the application and its dependencies.
- Deploy the application to a local Kubernetes cluster using Minikube or through docker.
- Demonstrate the application functionality and explain your deployment strategy.

Requires knowledge of Docker Compose, Kubernetes deployments, and container networking.

Tools: Docker, Docker Compose, Minikube, Kubernetes

Deliverables:

- Docker Compose file: A properly formatted Docker Compose file defining the application architecture and its dependencies.
- Kubernetes deployment manifests: YAML files defining the deployment of each container in the Kubernetes cluster (Optional).
- Documentation: A document explaining the application architecture, deployment strategy, and instructions for building, deploying, and managing the application.
- Demonstration: A recording or screenshot showcasing the application's functionality and providing a detailed explanation of the deployment approach

Bonus points:

- Automate infrastructure scaling based on load or resource utilization Terraform .
- Implement unit tests for your Terraform code and automation scripts.
- Demonstrate a rollback strategy for infrastructure changes.

These tasks can be completed using free tools and resources, making them accessible for everyone. **Remember to document your approach, solutions implemented, and**

challenges faced. Upload your completed work to a public GitHub repository and be prepared to discuss your solutions. Good luck!