Final Project– Technical Proposal

Description:

Create WordPress Site with A MySQL Database Then Using Kubernetes To Deploy On AWS. This project focuses on building a dynamic, containerized WordPress website connected to a MySQL database, and deploying the entire stack using **Kubernetes** on **Amazon Web Services (AWS)**. The aim is to leverage containerization and orchestration to achieve **scalability**, **high availability**, and **efficient management** of web application resources in the cloud.

The project demonstrates the use of **Docker**, **Kubernetes**, and **AWS** services (such as **EKS**, **S3**, **IAM**, and **Elastic Load Balancing**) to manage the lifecycle, networking, and persistence of the application components.

Group Members & Roles:

1. Abeer Mahrous: WordPress & Kubernetes.
2. Nayra Ahmed: WordPress & Kubernetes.
3. Mina Issac: infrastructure
4. Omar Ashraf: pipelines
5. Mahmoud Ashraf: Cloud.
6. Mohamed Mohamed : monitoring & virtualization.

Team Leader:

Abeer Mahrous Elsayed Ali.

Objectives:

To design and deploy a scalable, highly available WordPress website backed by a MySQL database, leveraging Kubernetes orchestration and AWS cloud infrastructure. The goal is to containerize the application stack, manage it using Kubernetes, and deploy it on AWS to ensure efficient resource utilization, automated scaling, and robust fault tolerance.

Tools & Technologies:

1. Docker.
2. Kubernetes & GITHUB.
3. Terraform.
4. Jenkins.
5. AWS
6. Prometheus & Grafana

Milestones & Deadlines:

This timeline assumes a 4-week project cycle but can be compressed or expanded depending on team size, experience, and resource availability.

Week	Focus	Deliverables
Week 1	Local setup & Docker	Local WordPress + MySQL working
Week 2	Kubernetes + AWS setup	WordPress running on EKS
Week 3	Networking & Storage	External access, EBS storage, HPA
Week 4	Finalization & CI/CD	Secure, monitored, and documented site