**Project 4**

In this project, A web application will be deployed to leveraging multiple Docker images. We will orchestrate a multi-container setup using Docker Compose, hosting the web application containers environment on the AWS cloud to make it accessible via the public internet.

**Project Setup**

**Web App Selection:** Use a suitable web application or find one on GitHub that meets the project requirements.

**Microservices Architecture:** Design the microservices architecture for the web application, ensuring they communicate effectively.

**Dockerization:** Write Dockerfiles for each component of the web application, specifying the build instructions and dependencies.

**DockerHub Account:** Create a DockerHub account if you don't have one already, and configure Docker to authenticate with DockerHub.

**Multi-Architecture Build:** Use Docker Buildx or similar tools to build Docker images for both x86\_64 and arm64 architectures, and push these images to DockerHub.

**AWS Deployment:** Set up an AWS account and navigate to the EC2 dashboard to launch a new EC2 instance.

**EC2 Instance Setup:** Launch a new EC2 instance, selecting an appropriate instance type and ensuring it meets the requirements for hosting Docker containers.

**Docker Engine and Docker Compose Installation:** Connect to the EC2 instance via SSH and install Docker Engine and Docker Compose following the official documentation.

**Compose Configuration:** Create a docker-compose.yaml file in your project directory, defining the services, networks, and volumes for your multi-container setup.

**Container Launch:** Use Docker Compose to deploy and start the containers on the EC2 instance, and verify accessibility via the public internet.