Project:

This project aims to containerize a web application using Docker.

Docker Project: Web Application with MySQL Database

Project Overview:

- **Objective:** Create a Dockerized web application connected to a MySQL database.

- **Components:**

    - Web Application

    - MySQL Database

Steps to Complete the Project:

1. Set Up Web Application:

- **Step 1:** Create a application with any language which one you prefer.

    - Define routes, templates, and required functionalities.

- **Step 2:** Dockerize the application.

    - Create a Dockerfile specifying the app's dependencies and configurations.

    - Build the Docker image for the app.

2. Set Up MySQL Database:

- **Step 3:** Set up a MySQL database.

    - Create a Dockerfile for the MySQL database.

    - Define environment variables for database configuration.

    - Build the MySQL Docker image.

- **Step 4:** Configure app to connect to the MySQL database.

    - Update the app's configuration to use the MySQL database.

    - Configure database connection strings and credentials.

3. Docker Compose for Service Orchestration:

- **Step 5:** Create a Docker Compose file (**docker-compose.yml**).

    - Define services for the app and MySQL database.

    - Specify service configurations (volumes, ports, environment variables).

- **Step 6:** Use Docker Compose to manage services.

- Run **docker-compose up** to start the app and MySQL database together.
- Test the web application functionality.

4. Testing and Debugging:

- **Step 7:** Test the application functionality.
  - Access the web application through the specified port.
  - Ensure the app can interact with the MySQL database.
- **Step 8:** Debug any issues encountered during testing.
  - Check logs, troubleshoot connection issues, or fix any errors.

5. Documentation and Deployment:

- **Step 9:** Document the project setup and configurations.
  - Create a README file explaining how to run the Dockerized the app.
- **Step 10:** Prepare for deployment.
  - Ensure the Docker images are optimized.
  - Secure sensitive information in environment variables or secrets.

Summary:

This project involves creating a web application connected to a MySQL database using Docker containers. The steps include setting up the app, configuring the MySQL database, orchestrating services with Docker Compose, testing, debugging, documenting, and preparing for deployment.

Each step involves specific configuration, coding, and Docker-related tasks to complete the Dockerized project successfully. Adjustments or additional configurations might be necessary based on specific project requirements or application functionalities.