31. Create a LAMP Stack container and host a web application of your own.

# Setting up LAMP Stack Container with Student Registration Application

## Step 1: Project Setup

1. Create a project directory:

```bash

mkdir lampstack

cd lampstack

```

2. Create app directory and copy the application files (index.php, style.css, form.php)

```bash

mkdir app

```

## Step 2: Docker Setup

1. Pull the LAMP stack Docker image:

```bash

docker pull mattrayner/lamp:latest-1604

```

2. Run Docker container with volume bindings and port mapping:

```bash

docker run -d -p 80:80 -v ${PWD}/app:/app -v ${PWD}/mysql:/var/lib/mysql mattrayner/lamp:latest-1604

```

## Step 3: Database Setup

1. Get container ID and access bash:

```bash

docker ps # Note the container ID

docker exec -it <container\_id> /bin/bash

```

2. Access MySQL:

```bash

mysql -u root

```

3. Set up database and table:

```sql

-- Create database

CREATE DATABASE student\_db;

-- Switch to database

USE student\_db;

-- Create students table

CREATE TABLE students (

id INT AUTO\_INCREMENT PRIMARY KEY,

name VARCHAR(100),

prn VARCHAR(50)

);

-- Create admin user

CREATE USER 'admin'@'localhost' IDENTIFIED BY 'your\_password';

-- Grant privileges

GRANT ALL PRIVILEGES ON \*.\* TO 'admin'@'localhost' WITH GRANT OPTION;

-- Apply privileges

FLUSH PRIVILEGES;

```

4. Verify setup:

```sql

-- Check data (after adding records)

SELECT \* FROM students;

```

## Step 4: Access Application

1. Open web browser and navigate to:

```

http://localhost:80

```

2. You can now:

- Register new students

- Data will be stored in MySQL database

- View entries using the SELECT command in MySQL

Note: Remember to replace 'your\_password' with your chosen password in both:

- MySQL user creation command

- Database connection settings in form.php