# Step 1: Install Docker on Ubuntu Desktop (10 points) 1.1 Update System

sudo apt update sudo apt upgrade -y

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# 1.2 Install Required Packages

sudo apt install

ca-certificates nckqe;n curl nckqe;n

gnupg \ lsb-release

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# 1.3 Add Docker’s Official GPG Key

sudo mkdir -p /etc/apt/keyrings

curl -fsSL https://download.docker.com/linux/ubuntu/gpg | \ sudo gpg --dearmor -o /etc/apt/keyrings/docker.gpg A screenshot of a computer

AI-generated content may be incorrect. **1.4 Set up Docker Repository**

echo \

"deb [arch=$(dpkg --print-architecture) \ signed-by=/etc/apt/keyrings/docker.gpg] \

https://download.docker.com/linux/ubuntu \

$(lsb\_release -cs) stable" | \

sudo tee /etc/apt/sources.list.d/docker.list > /dev/null A computer screen shot of a computer screen

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# 1.5 Install Docker Engine

sudo apt update A computer screen with a black background

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sudo apt install docker-ce docker-ce-cli containerd.io docker-buildx-plugin docker-composeplugin -y A computer screen shot of a computer screen

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**1.6 Verify Docker Installation**

sudo docker --version A computer screen shot of a computer screen

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# Step 2: Run Your First Docker Image (5 points)

sudo docker run hello-world

If you see a success message like "Hello from Docker!", it’s working! A screenshot of a computer

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# Step 3: Install PHP and MySQL using Docker (10 points)

3.1 Create a docker-compose.yml File

mkdir php-mysql-app cd php-mysql-app nano docker-compose.yml **Paste this into the file:**

version: '3.8'

services:

php:

image: php:8.1-apache

container\_name: php-container

volumes:

* ./src:/var/www/html/ ports:
* "8080:80"

mysql:

image: mysql:5.7

container\_name: mysql-container

restart: always

environment:

MYSQL\_ROOT\_PASSWORD: rootpass

MYSQL\_DATABASE: testdb

MYSQL\_USER: testuser

MYSQL\_PASSWORD: testpass

ports:

* "3306:3306" A computer screen with a black background

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# 3.2 Create a Sample PHP File

mkdir src nano src/index.php **Paste this:**

<?php

phpinfo();

?> A computer screen with a black background

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# 3.3 Start the Containers

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AI-generated content may be incorrect. Go to: http://localhost:8080 You should see the PHP info page. A screenshot of a computer

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# Step 4: Push Your Project to GitHub (10 points) 4.1 Initialize Git

cd php-mysql-app

git init

# 4.2 Add Files

git add .

git commit -m "Initial Docker PHP-MySQL setup"

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# 4.3 Push to GitHub

1. Create a new repository on GitHub (without README). A screenshot of a computer

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2. Copy the remote URL, e.g., https://github.com/yourusername/php-mysql-app.git git remote add origin https://github.com/yourusername/php-mysql-app.git git branch -M main git push -u origin main A computer screen shot of a computer screen

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   AI-generated content may be incorrect.