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TECHX 3.0 ASSIGNMENT

DOCKER ASSIGNMENT

ASSIGNMENT OVERVIEW:

This assignment aims to introduce you to Docker, a powerful tool for containerizing applications. You will learn to use Docker for pulling existing images from Docker Hub, building your own images, and pushing them to Docker Hub.
This experience will help you understand how Docker simplifies the process of running applications across different environments.

DESCRIPTION

The assignment is divided into two main tasks:

Task 1: Pulling and Running an Existing Docker Image

In this task, you will pull an image from Docker Hub and run it on your machine. This will familiarize you with how Docker allows you to quickly run pre-built applications.

- You will pull a pre-built image from Docker Hub (like the 'Hello World' or 'Node.js').
- After pulling the image, you will run it to see how Docker executes the container.

Task 2: Building and Running Your Own Docker Image

In this task, you will build your own Docker image from a simple code project in Python, Javascript, Java, or C++. You will create a Dockerfile that defines how Docker will package your application, and then you'll run the image locally.

- You will write or use provided example code in Python (Flask), JS(Node.js), Java, or C++.
- Using a Dockerfile, you will define the necessary environment and steps for Docker to run the application.
- Build the Docker image and run it on your local machine.

__Additional tip:__ You can use Docker Compose if you want to add database as well to your application.

Optional Task: Pushing the Image to Docker Hub

For those interested, there's an optional task where you can push your custom-built Docker image to Docker Hub. This will allow you to make your image accessible publicly or privately to other developers.

SUBMISSION GUIDELINES

For Task 1:

Submit screenshots of the terminal showing that you successfully pulled and ran the Docker image (e.g., the 'Hello World' image).

For Task 2:

Submit screenshots of your Docker image build process and the running container.
Also, include the Dockerfile and source code used to create the image.
If you completed the optional task, include a link to your Docker Hub repository with your custom image.

GitHub Repository:

If you are using your own code, provide a link to your GitHub repository containing the project code and Dockerfile.

DEADLINE

Submit the Github Repo by the specified timeline

So what is limiting you from reaching the Clouds. Use your creative ideas and host your own application anywhere.

RESOURCES

A GitHub repository containing boilerplate codes and Dockerfile. You can reference these examples as a starting point or use them directly in your assignment. Make sure to review the repository for guidance on structuring your own code and Dockerfiles

- ◯ Github Repo
- ◯ Docker Documentation
- ◯ Video Tutorials:
  - ● Docker Tutorial for Beginners
  - ● Build Flask app with Docker
  - ● Learn Docker Step by Step