Guide Notes

This guide covers the steps to install **Docker Compose v2**, configure user permissions, deploy a **Capture The Flag (CTF)** application, and manage running Docker containers.

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1. Install Docker Compose v2

To install Docker Compose v2, run:

sudo apt install docker-compose-v2

Once installed, verify the installation:

docker compose version

This should return the installed version, confirming that Docker Compose v2 is ready to use.

2. Add User to the Docker Group

By default, Docker requires `sudo` privileges to run. To allow your user to execute Docker commands without `sudo`, add yourself to the `docker` group:

sudo usermod -aG docker $USER

Then, apply the group changes without logging out:

newgrp docker

3. Move the CTF Application to the Web Directory

The CTF project folder (`WVNCC-CTF`) needs to be placed in the web root directory (`/var/www/html`) for deployment.

Move the project folder:

sudo mv WVNCC-CTF/ /var/www/html

You should only copy the files of WVNCC-CTF ~ not the entire directory. I just copied everything inside of WVNCC-CTF and pasted it in ~/html and trashed WVNCC-CTF

4. Deploy the CTF Application

Navigate to the project directory:

cd /var/www/html/

Run the deployment script:

sudo python3 deploy.py

5. Check Running Docker Containers

After deployment, verify the active Docker containers:

sudo docker ps

This command lists all running containers, showing their **Container ID**, **Image**, **Command**, **Status**, and **Ports**.

6. Stop a Running Docker Container

If you need to stop a running container, note its **Container ID** from the `docker ps` output and execute:

sudo docker stop <container_ID>

Replace `<container_ID>` with the actual ID from the previous step.

Database

docker exec -it db mariadb
password: hackme

CREATE DATABASE BreakTheBank
USE DATABASE BreakTheBank
Paste the following:

DROP TABLE IF EXISTS fileUploads;
DROP TABLE IF EXISTS transactions;
DROP TABLE IF EXISTS accounts;
DROP TABLE IF EXISTS users;

/
CIT 291 - CIT Internship & Certification
Break The Bank - Initial Database Design
Initial Draft: February 16th, 2025
/
/
User data.
userId - Unique numeric user ID.
username - Unique username/handle.
password - Plaintext user password.
firstName - User's first name.
firstName - User's last name.
email - User's email.
isAdmin - Whether or not this user is an administrator.
*/
CREATE TABLE users (
userId INT NOT NULL AUTO_INCREMENT PRIMARY KEY,
username VARCHAR(32) NOT NULL UNIQUE,

```
password VARCHAR(256) NOT NULL,
firstName VARCHAR(25) NOT NULL,
lastName VARCHAR(25) NOT NULL,
email VARCHAR(256) NOT NULL,
isAdmin BOOL DEFAULT FALSE
);

/
Account data. Each user may have multiple accounts.
accountNumber - Unique account ID.
userId - User ID of the accountholder.
accountType - Type of account. It may be "Checking", "Saving", etc.
nickname - User-selected account nickname.
/
CREATE TABLE accounts (
accountNumber INT NOT NULL,
userId INT NOT NULL,
accountType VARCHAR(32) NOT NULL,
nickname VARCHAR(25) DEFAULT NULL,
FOREIGN KEY (userId) REFERENCES users(userId)
);

/
Transaction journal.
transactionId - Unique transaction ID.
debitAccountId - Account ID of the account to be debited in this transaction.
creditAccountId - Account ID of the account to be credited in this transaction.
amount - Amount to be credited/debited.
transactionTime - Date/time of the transaction.
postedTime - Date/time that the transaction has cleared. NULL if still pending.
)
/
CREATE TABLE transactions (
transactionId INT NOT NULL AUTO_INCREMENT PRIMARY KEY,
debitAccountId INT,
creditAccountId INT,
amount DECIMAL(30, 2) NOT NULL,
transactionTime DATETIME NOT NULL,
postedTime DATETIME,
description VARCHAR(256)
);

/
Metadata for user-uploaded mobile check pictures. File content is stored on the web server.
fileUploadId - Numeric ID of the file, doubles as the filename.
fileExtention - File extention of the image, should be png, jpeg, webp, etc.
transactionId - ID of the transaction to which this image is attached.
*/
```

```
CREATE TABLE fileUploads (
fileUploadId INT NOT NULL AUTO_INCREMENT PRIMARY KEY,
fileExtention VARCHAR(25) NOT NULL,
transactionId INT NOT NULL,
FOREIGN KEY (transactionId) REFERENCES transactions(transactionId)
);
```

```
INSERT INTO users (username, password, firstName, lastName, email, isAdmin) VALUES ("SeanLauritzen", "hackme", "Sean", "Lauritzen", "splauritzen@mail.wvncc.edu", True);
```

After that, do SHOW TABLES and you should get a list of tables