Docker-based multi-container application setup on a cloud server (EC2) literally like website hosting:

- Set up EC2
- Installed Docker & Docker Compose
- Created 3 containers using a YAML file
- Verified logs
- Accessed them from the internet
- Cleaned up afterward

Step 1: Create ec2 – server – connect – install docker – check status – start docker

Step 2:

1. sudo curl -L "https://github.com/docker/compose/releases/latest/download/docker-compose-linux-x86_64" -o /usr/local/bin/docker-compose

2. sudo chmod +x /usr/local/bin/docker-compose

3. sudo ln -s /usr/local/bin/docker-compose /usr/bin/docker-compose

4. docker-compose version

step 3: create directory :

mkdir (directory name)

eg : mkdir testdirectory

step 4: change to the directory :

cd test directory

step 5: create yaml file :

touch docker-compose.yml

step 6: put some yaml file content inside this file :

vi docker-compose.yml

step 7: insert this content :

by using this code it creates 3 containers

```
version: '3.8'

services:
  nginx:
    image: nginx:latest
    container_name: nginx_server
    ports:
      - "8081:80"

  apache:
    image: httpd:latest
    container_name: apache_server
    ports:
      - "8082:80"

  alpine:
    image: alpine:latest
    container_name: alpine_box
    command: ["sh", "-c", "while true; do echo Hello from Alpine!;
sleep 5; done"]
```
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Once inserted code save and quit by using esc+ :wq

Step 8: enter this cmd to run docker compose :

docker-compose up -d

Step 9: enter cmd: docker images

Step 10: enter cmd: docker-compose logs -f alpine

(this cmd checks the logs for particular container)

step 11:

- security group >> inbound >> all traffic >> anywhere 0.0.0.0

step 12: copy pub ip >> paste in chrome and add port number

EG: http://<your-ec2-public-ip>:8081

step 13: check for apache

enter same ip and but port no is : 8082

step 14: to stop and remove everything

docker-compose down

step 15: docker ps

At the end You have successfully,

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defined and run multi-container Docker applications using a single YAML file (docker-compose.yml)