TASK4-DevOps

Question 1. What is a Multi-Stage Dockerfile?

A **multi-stage Dockerfile** helps **reduce image size** by separating the build process from the final runtime environment.

Smaller Image > Removes unnecessary files & dependencies
Better Security> Only keeps required files
Faster Deployment > Lightweight and optimized

Example: Multi-Stage Dockerfile for Nginx

```
# First Stage: Build
FROM alpine AS builder
WORKDIR /app
RUN echo "<h1>Hello, Nginx!</h1>" > index.html

# Second Stage: Run
FROM nginx:alpine
COPY--from=builder /app/index.html /usr/share/nginx/html/
CMD ["nginx", "-g", "daemon off;"]
```

Question 2. What Happens to a Volume If a Container Crashes?

- If a **container crashes**, **the volume remains** safe.

- Even if you **restart or remove** the container, **volume data is not lost**.

Example: Run Nginx with a Volume

docker run-d--name mynginx-v myvolume:/usr/share/nginx/html nginx

Question 3. Copy File from Local to a Running Container

Use docker cp to **copy files into a running container.**

Example: Copy index.html to an Nginx Container

docker cp index.html mynginx:/usr/share/nginx/html/