Réponses questions TP01 :

**Question 01:**   Why Do We Need a Volume? (Question 1-2)

if we dont use a volume the data is stored in a container, so if we will have problemsn in the contaoiner, or it will be deleted, we will loss the data, so by using the volume,     data is stored persistenly.

**Question 02 :** Why do we need a multistage build? And explain each step of this dockerfile?

to be sure that the image is lightweight, secure, and contains only the files necessary to run the application.

**Question 03 :** Why do we need a reverse proxy?

A reverse proxy is an intermediary server that receives client requests and forwards them to backend servers, we need it beacause:

1. **Security:** It hides the internal architecture and IP addresses of backend servers, protecting the internal network.

2. **Load balancing**: It distributes incoming traffic across multiple servers to prevent any single server from being overloaded.

3. **SSL/TLS termination:** It handles HTTPS encryption/decryption, offloading this work from backend servers.

4. **access control:** It allows filtering requests and consolidating logs for easier management.

**Question 04:**   Why is docker-compose so important?

Docker Compose is a tool for defining and running multi-container Docker applications using a YAML file.

Docker Compose is importantn since:

1. **Simplified management :** It automates starting, stopping, and configuring multiple containers with a single command.

2. **Reproducibility:** It ensures the same environment everywhere (development, testing, production), reducing environment-related errors.

3. **Clear stack definition:** All services, networks, and volumes are defined in a single, easy-to-read file.

4. **Easy local orchestration :** It manages service dependencies (e.g., database starts before backend).

5. **Easier maintenance :** Updating, scaling, restarting, or stopping containers is much easier.