# Docker Basics and MongoDB Setup - Notes

## Basic Docker Commands

Pull an image from Docker Hub:

docker pull <image\_name>

docker pull hello-world

Run a container (prints hello-world message):

docker run hello-world

Run an Ubuntu container in interactive mode:

docker run -it ubuntu

Exit from the interactive container session:

exit

List all running containers:

docker ps

List all containers (including stopped ones):

docker ps -a

Stop a running container:

docker stop <container\_id\_or\_name>

Remove a container:

docker rm <container\_id\_or\_name>

Remove an image:

docker rmi <image\_id\_or\_name>

Start a stopped container:

docker start <container\_id\_or\_name>

Attach to a running container:

docker attach <container\_id\_or\_name>

Run a command inside a running container:

docker exec -it <container\_id\_or\_name> <command>

## Step-by-Step Docker + MongoDB Setup

1. Create a custom Docker network:

docker network create mongo-network

2. List available Docker networks:

docker network ls

3. Run MongoDB container on the network:

docker run -d \  
 --name mongo \  
 --network mongo-network \  
 -p 27017:27017 \  
 -e MONGO\_INITDB\_ROOT\_USERNAME=admin \  
 -e MONGO\_INITDB\_ROOT\_PASSWORD=admin \  
 mongo

4. Inspect the network to see connected containers:

docker network inspect mongo-network

5. Run Mongo Express container connected to MongoDB:

docker run -d \  
 --name mongo-express \  
 --network mongo-network \  
 -p 8081:8081 \  
 -e ME\_CONFIG\_MONGODB\_ADMINUSERNAME=admin \  
 -e ME\_CONFIG\_MONGODB\_ADMINPASSWORD=admin \  
 -e ME\_CONFIG\_MONGODB\_URL="mongodb://admin:admin@mongo:27017/" \  
 mongo-express

## Verify Setup

Open http://localhost:8081 in your browser — you should see the Mongo Express dashboard.

Mongo Express connects to MongoDB via the Docker network using container names.