Docker Commands Guide

Basic Docker Commands

1. Check Docker Version: docker --version
2. Pull NGINX Image: docker pull nginx
3. Run an NGINX Container (Foreground): docker run nginx
4. Run in Background: docker run -d nginx
5. List Running Containers: docker ps
6. Stop a Running Container: docker stop <container_name>
7. List All Containers: docker ps -a
8. Restart a Stopped Container: docker start <container_name>
9. Remove a Container (Force Remove with -f): docker rm <container_name>

Running Containers with Additional Options

1. Auto-remove After Stopping: docker run -d --rm --name <container_name> nginx
2. Run with Port Binding: docker run -d --rm --name <container_name> -p 8080:80 nginx
3. View Container Logs: docker logs -f <container_name>
4. Attach to Running Container: docker attach <container_name>
5. Inspect Container Details: docker inspect <container_name>
6. Execute Commands Inside: docker exec -it <container_name> bash

Copying Files to/from Containers

1. Copy from Host to Container: docker cp <local_file> <container_name>:<path>

2. Copy from Container to Host: docker cp <container_name>:<file_in_container> <local_path>

Creating Custom Docker Images

1. Dockerfile Example:

FROM node

WORKDIR /app

COPY . .

RUN npm install

ENV PORT 3000

CMD ["node", "app.js"]

2. Build the Image: docker build -t <image_name> .

3. Check Images: docker images

4. Run Locally: docker run -d --rm --name <container_name> -p 3000:3000 <image_name>

Using Volumes

1. Run with Volume Mapping: docker run -d -v /host/path:/container/path --name <container_name>

<image_name>

2. Remove Volume: docker volume rm <volume_name>

Push to Docker Repository

1. Build Image: docker build -t <dockerhub_username>/<repo_name>:<tag> .

2. Login: docker login

3. Push: docker push <dockerhub_username>/<repo_name>:<tag>

Using Docker Compose

1. Compose File Example:

version: '3'

services:

app:

image: email-submit-app

ports:

- "9000:9000"

volumes:

- /host/path:/container/path

2. Start Services: docker-compose up -d

3. Stop Services: docker-compose down

Networking Between Containers

1. List Networks: docker network ls

2. Run in Custom Network: docker run -it --network <network_name> <image_name> /bin/bash

3. Ping Another Container: ping <container_name>