Docker + CI/CD Cheat Sheet (Express-Redis App)

Dockerfile (Express App)

Defines how to build the Docker image for your app. Example: install Node.js, copy code, install deps, run app.

Build Image

docker build -t express-redis-app .

Run Container

docker run -d -p 3000:3000 --name express-container express-redis-app

Volumes & Bind Mounts

Persist data outside the container.

Example: -v mydata:/data or -v $(pwd):/app

Docker Networks

Connect multiple containers.

Example:

 docker network create my-net

 docker run --network my-net ...

Test Express Redis

Run Redis in same network.

Use: docker exec -it express-container ping redis

Docker Compose

Define multi-container apps in docker-compose.yml.

Run: docker-compose up -d

Push Image to Docker Hub

1. docker login

2. docker tag express-redis-app 5467842/express-redis-app

3. docker push 5467842/express-redis-app

GitHub Secrets

Add DOCKER_USERNAME and DOCKER_TOKEN in GitHub Settings Secrets Actions

GitHub Actions Workflow

Create .github/workflows/docker-publish.yml with build & push steps

Trigger CI/CD

Push to main branch to trigger build and push to Docker Hub

Test Pulled Image

docker pull 5467842/express-redis-app

Run with Redis and network to test