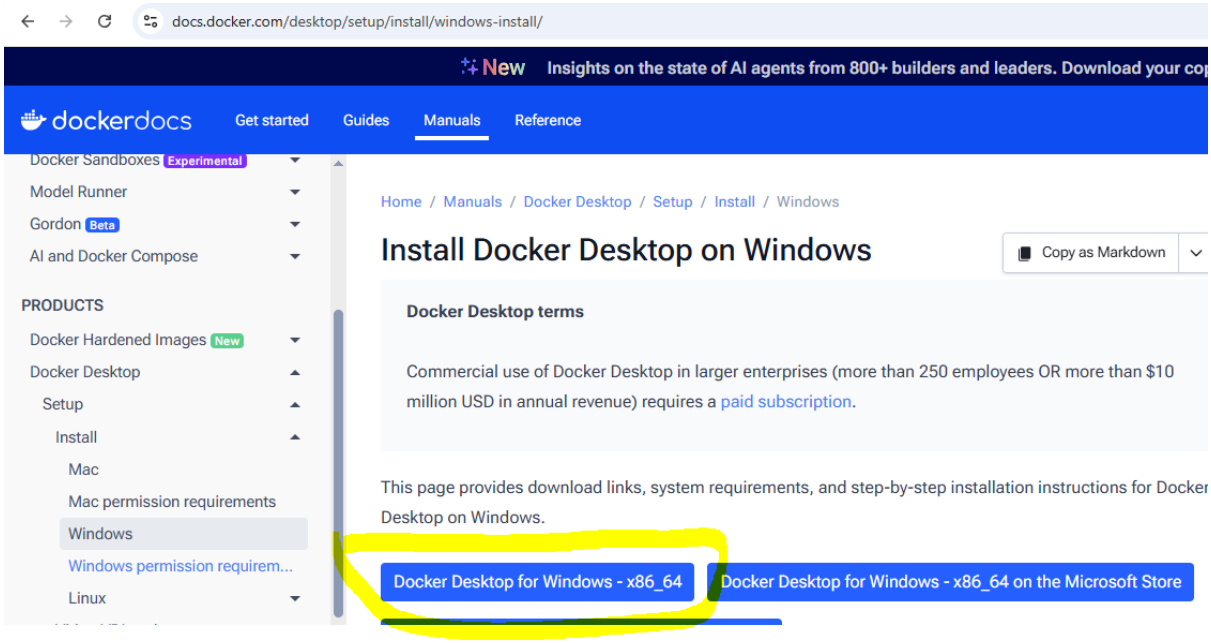
First download docker desktop on your pc:-

Form

https://docs.docker.com/desktop/setup/install/windows-install/



Download and install it .

Now how to crate your react js with vite project image using docker?

1. Vite React runs differently

Vite dev server runs on:

```
http://localhost:5173
```

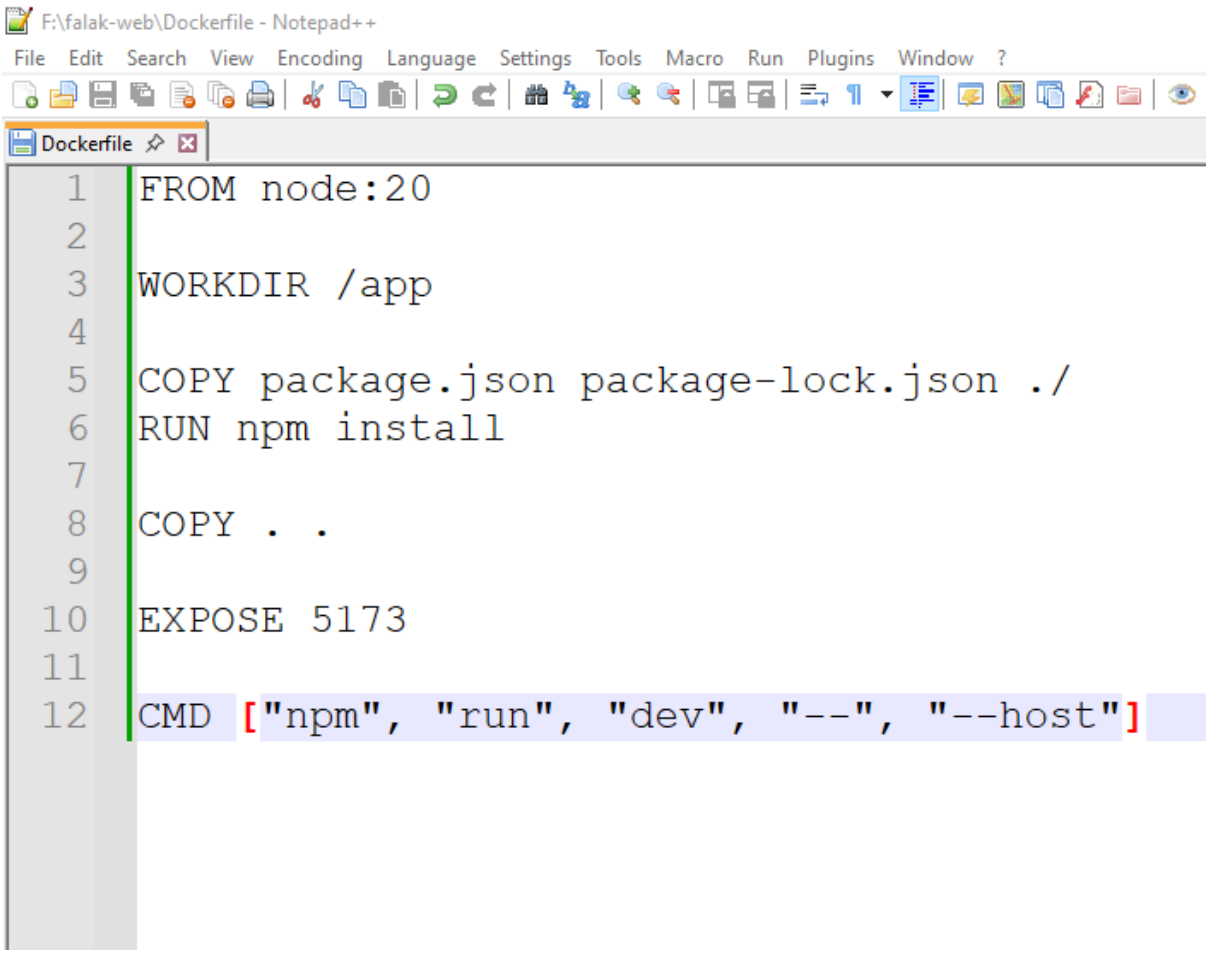
So your Docker must expose **5173**, not 3000.

□ 2. Create `Dockerfile` (Development mode)

In your project root:

```
FROM node:20

WORKDIR /app

COPY package.json package-lock.json ./
RUN npm install

COPY . .

EXPOSE 5173

CMD ["npm", "run", "dev", "--", "--host"]
```

As shown below in notepad++ :-



3. Create `.dockerignore`

```
node_modules
dist
.git
npm-debug.log
```

Why `--host` is required

```
npm run dev -- --host
```

- Without `--host`, Vite only works inside container
- With it, you can access from browser

---

4. Build Docker image

```
docker build -t vite-react-app .
```

▶ 5. Run container

```
docker run -p 5173:5173 vite-react-app
```

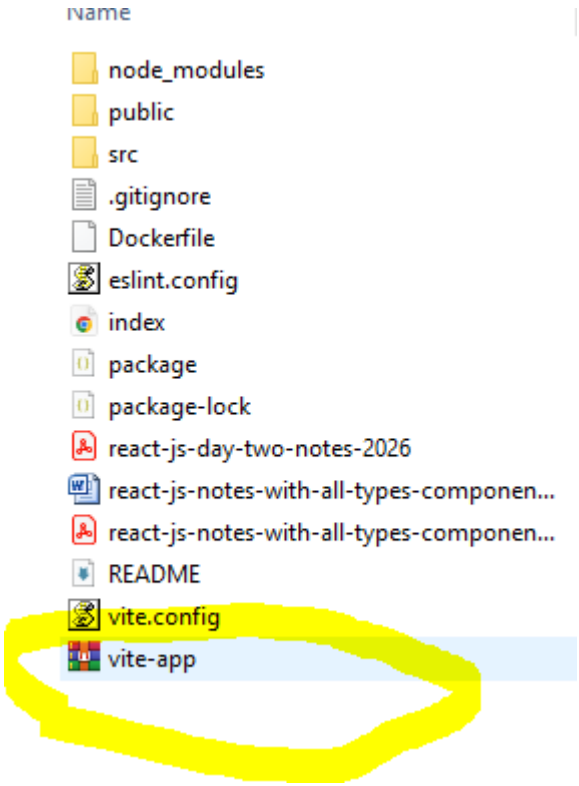
6. Open in browser

```
http://localhost:5173
```

and save it on locally :-

docker save -o vite-app.tar vite-react-app

then your project fodler you will see vite-app.tar



Production setup (best practice for Vite + React)

In production, you should NOT use:

- `npm run dev`
- Node server running Vite
- large dev images (~400MB+)

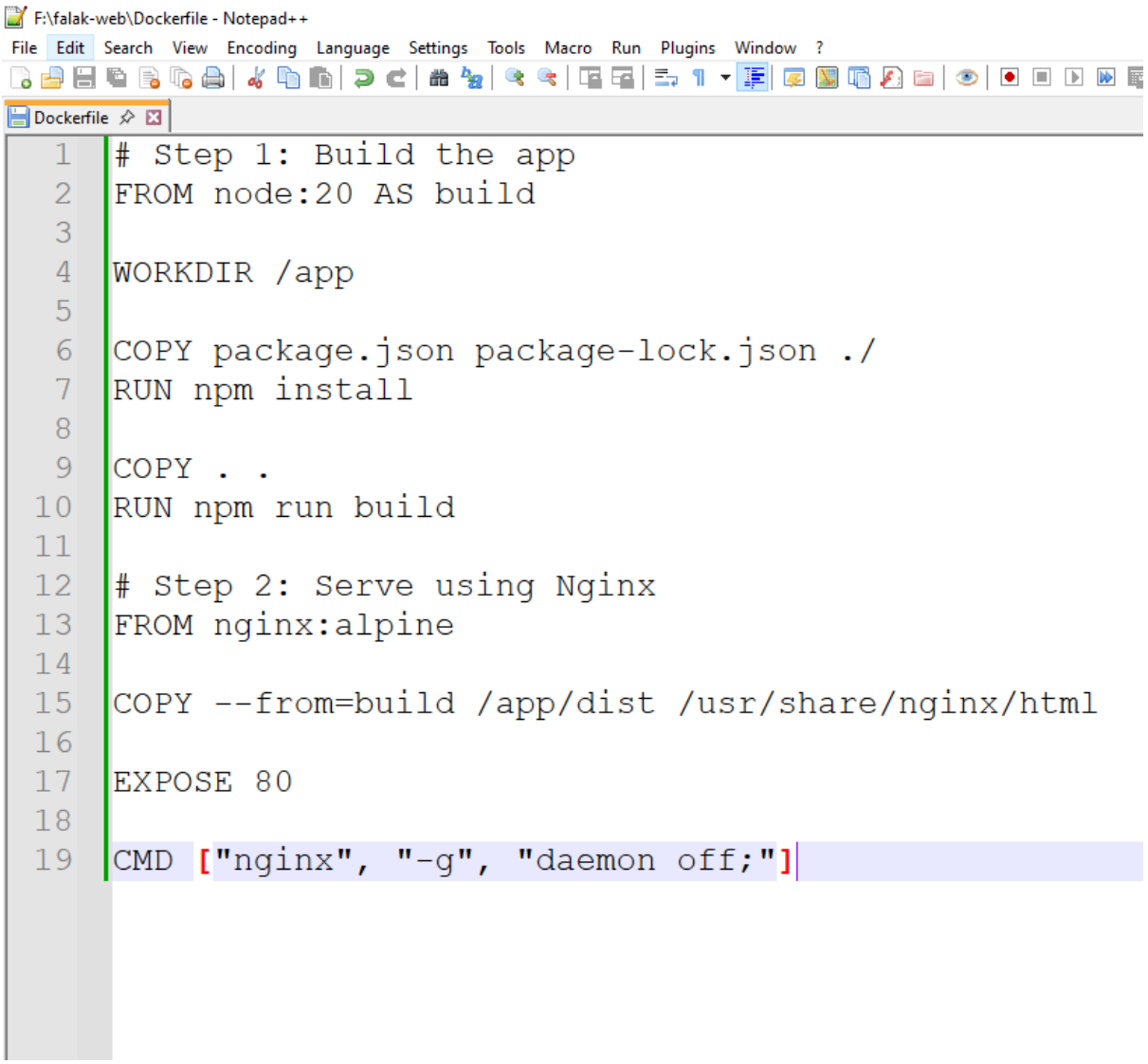
Instead you use:

 Build once → Serve static files with Nginx

□ 1. Final Production Dockerfile

```
# Step 1: Build the app
FROM node:20 AS build

WORKDIR /app

COPY package.json package-lock.json ./
RUN npm install

COPY . .
RUN npm run build

# Step 2: Serve using Nginx
FROM nginx:alpine

COPY --from=build /app/dist /usr/share/nginx/html

EXPOSE 80

CMD ["nginx", "-g", "daemon off;"]
```

As shown below in notepad++



What this setup does

Build stage

- Uses Node only to build React app
- Output: `/dist` folder

Production stage

- Uses lightweight Nginx server
- Serves only static files

□ Result (important)

Setup type	Size	Performance
Dev (your current)	~400–500MB □	slower
Production (nginx)	~30–80MB □	fast

□ 2. Build production image

```
docker build -t vite-prod .
```

```
F:\falak-web>docker build -t vite-prod .
[+] Building 147.1s (14/14) FINISHED
 => [internal] load build definition from Dockerfile
 => => transferring dockerfile: 345B
```

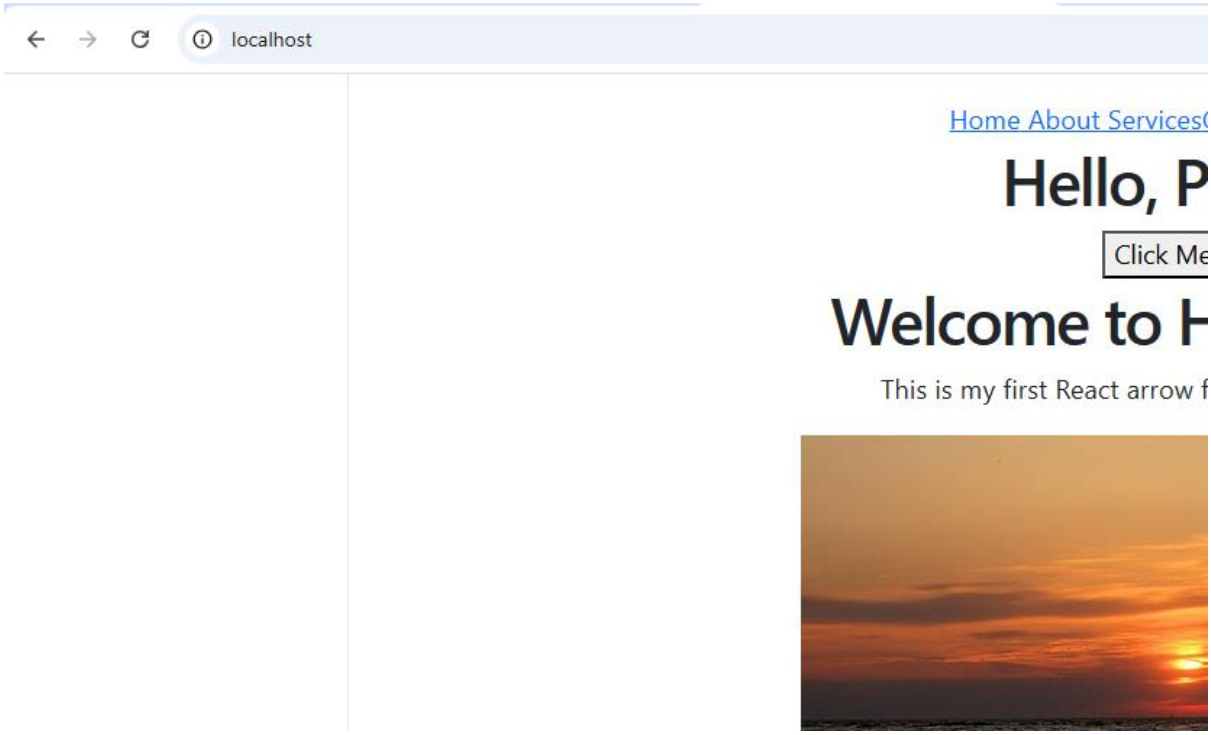
▶□ 3. Run production container

```
docker run -p 80:80 vite-prod
```

```
F:\falak-web>docker run -p 80:80 vite-prod
/docker-entrypoint.sh: /docker-entrypoint.d/ is not empty,
/docker-entrypoint.sh: Looking for shell scripts in /docke
/docker-entrypoint.sh: Launching /docker-entrypoint.d/10-li
10-listen-on-ipv6-by-default.sh: info: Getting the checksu
10-listen-on-ipv6-by-default.sh: info: Enabled listen on I
/docker-entrypoint.sh: Sourcing /docker-entrypoint.d/15-lo
/docker-entrypoint.sh: Launching /docker-entrypoint.d/20-e
/docker-entrypoint.sh: Launching /docker-entrypoint.d/30-t
/docker-entrypoint.sh: Configuration complete; ready for s
2026/04/14 12:17:03 [notice] 1#1: using the "epoll" event
2026/04/14 12:17:03 [notice] 1#1: nginx/1.29.8
2026/04/14 12:17:03 [notice] 1#1: built by gcc 15.2.0 (Alp
2026/04/14 12:17:03 [notice] 1#1: OS: Linux 6.6.87.2-micro
2026/04/14 12:17:03 [notice] 1#1: getrlimit(RLIMIT_NOFILE)
2026/04/14 12:17:03 [notice] 1#1: start worker processes
2026/04/14 12:17:03 [notice] 1#1: start worker process 30
2026/04/14 12:17:03 [notice] 1#1: start worker process 31
2026/04/14 12:17:03 [notice] 1#1: start worker process 32
2026/04/14 12:17:03 [notice] 1#1: start worker process 33
```

Open:

http://localhost



□ 4. Why this is “production setup”

Because in real companies:

- React is NOT run with `npm run dev`
- Vite dev server is NOT exposed
- Only static files are served

They use:

□ Nginx

□ 5. Optional upgrades (real-world setup)

✔ **Add caching headers**

✔ **Enable gzip compression**

✔ **Add HTTPS (reverse proxy)**

✔ **Use Docker Compose with backend**

□ Simple explanation

Your app becomes:

```
React + Vite → build → static files → Nginx → browser
```

Think like this

Thing	Meaning
Image	Blueprint (template) □
Container	Running app □

□ Example in your case

When you ran:

```
docker run -p 5173:5173 vite-react-app
```

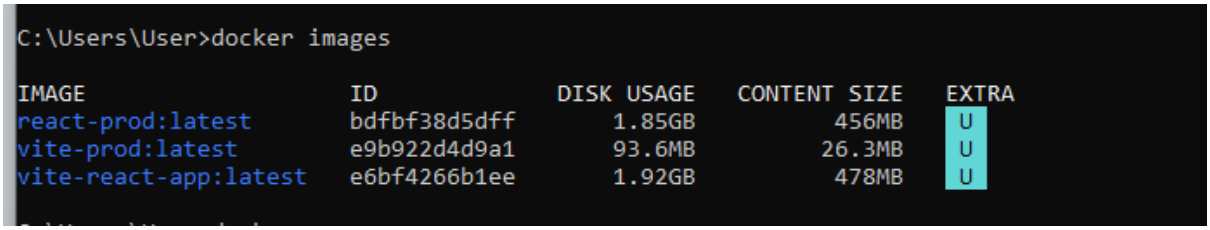
Docker did this:

1. Took your **vite-react-app image**
2. Created a **container from it**
3. Started running your Vite app inside it

How to check container vs image

? See images:

```
docker images
```



See running containers:

```
docker ps
```

```
C:\Users\User>docker ps
CONTAINER ID   IMAGE        COMMAND                  CREATED          STATUS          PORTS
   NAMES
efcff2c43cf1   vite-prod    "/docker-entrypoint.…"   21 minutes ago   Up 21 minutes   0.0.0.0:80->80/tcp,
   mystifying_yalow

C:\Users\User>
```

```
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 10.0.19045.6466]
(c) Microsoft Corporation. All rights reserved.

C:\Users\User>docker images
                                                                                    Info →
IMAGE                  ID             DISK USAGE   CONTENT SIZE   EXTRA
react-prod:latest      bdfbf38d5dff       1.85GB         456MB     U
vite-prod:latest       e9b922d4d9a1       93.6MB         26.3MB    U
vite-react-app:latest  e6bf4266b1ee       1.92GB         478MB     U

C:\Users\User>docker ps
CONTAINER ID   IMAGE        COMMAND                  CREATED          STATUS          PORTS
   NAMES
efcff2c43cf1   vite-prod    "/docker-entrypoint.…"   21 minutes ago   Up 21 minutes   0.0.0.0:80->80/tcp, [::]:80
   mystifying_yalow

C:\Users\User>
```